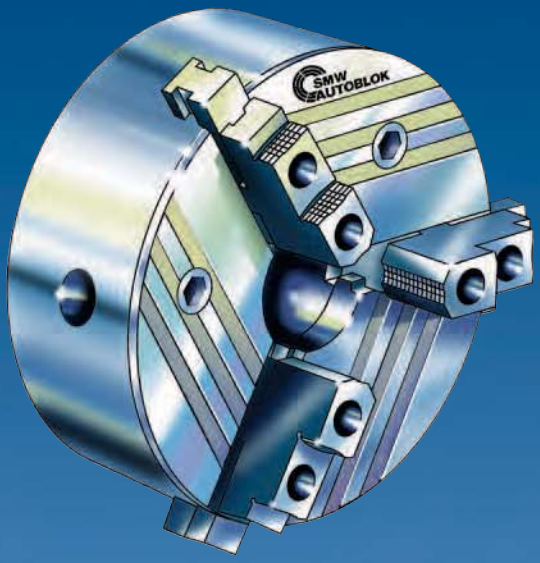
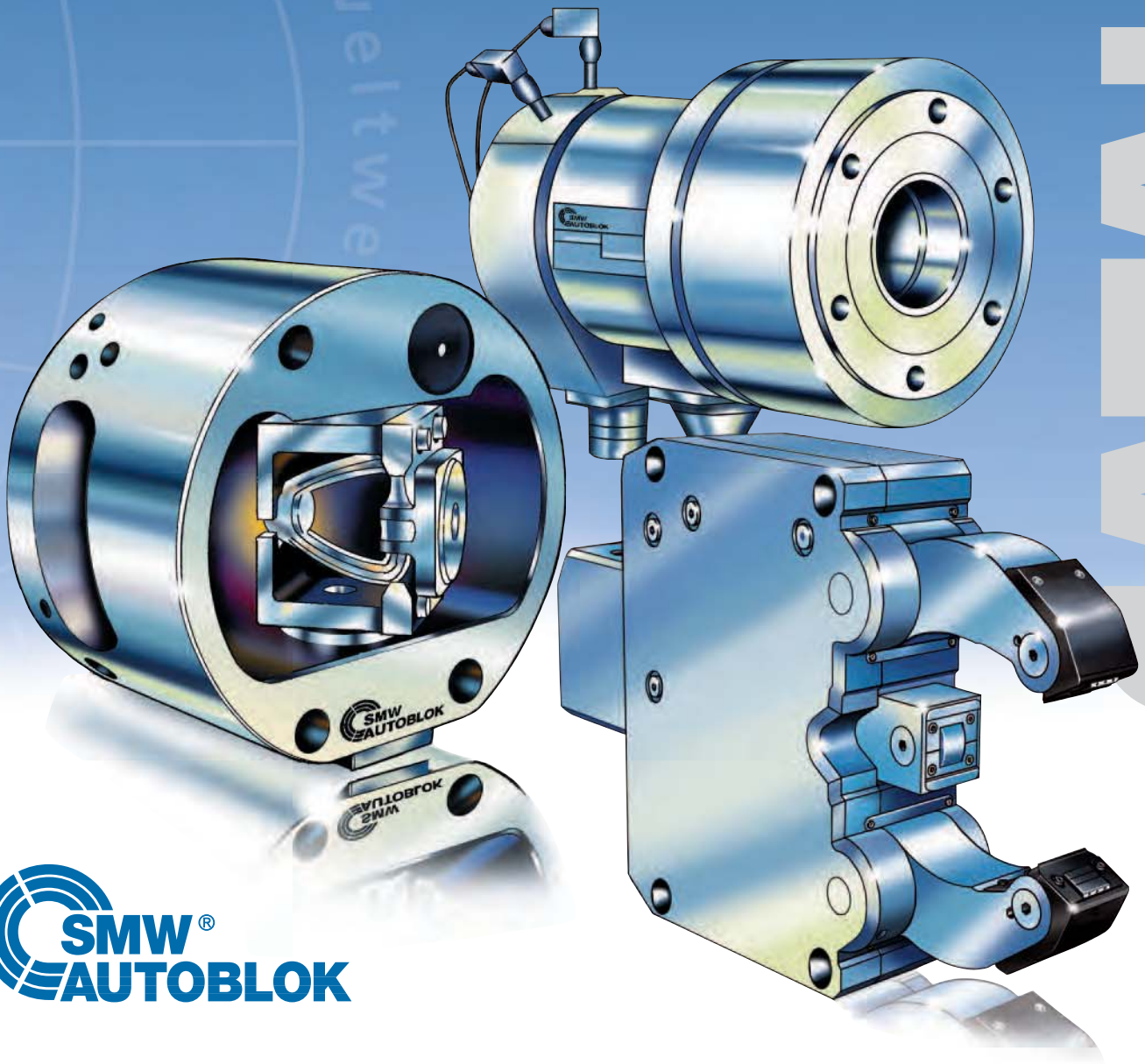
CATALOG 10E

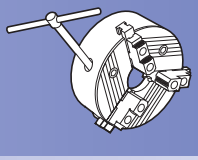
worldwide • weltweit



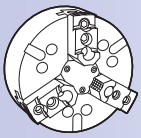


SMW®
AUTOBLOK

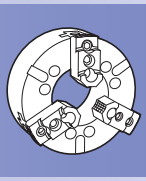
0 Manual chucks



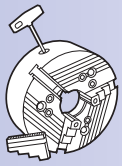
1 Closed center power chucks



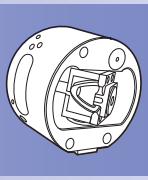
2 Open center power chucks



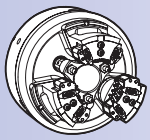
3 Quick jaw change power chucks



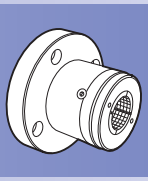
4 Pull-down chucks ■ Compensating chucks
Indexing chucks ■ Shaft chucks ■ Column chucks
6 jaw 2+2+2 chucks



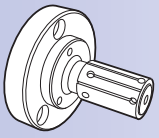
5 Diaphragm chucks



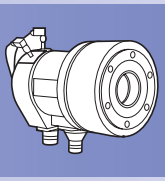
6 Collet chucks ■ Bar pulling chucks



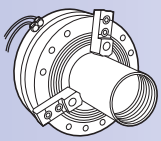
7 Manual or power operated expanding mandrels
Adapter flanges



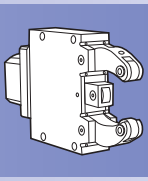
8 Closed center cylinders ■ Open center cylinders
Double piston cylinders



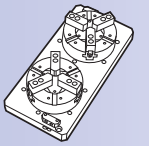
9 Pneumatic/hydraulic front-end chucks
Control units



10 Self-centering steady rests



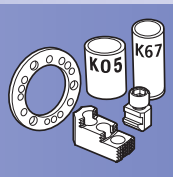
11 Static chucks pneumatic/hydraulic



12 Chuck adapters ■ Clamping jaws ■ T-nuts ■ Grippers
Gripping force meter ■ Grease ■ Accessories



For further jaws and accessories please ask for our 150 pages special catalogue!



Manual chucks



Page 6

HG-N

Tongue & groove
Jaw system original SMW
Manual chucks Ø 160 - 630 mm

- with through-hole – QUICK JAW CHANGE
- 3 jaws



Page 12

HG-F

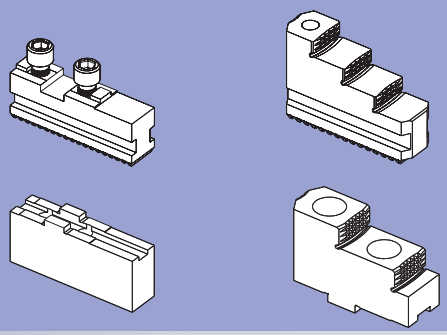
Tongue & groove
Jaw system FORKARDT
Manual chucks Ø 160 - 400 mm

- with through-hole – QUICK JAW CHANGE
- 3 jaws

Quick jaw change ma

JAWS

Chuck takes same jaws as KNCS-N

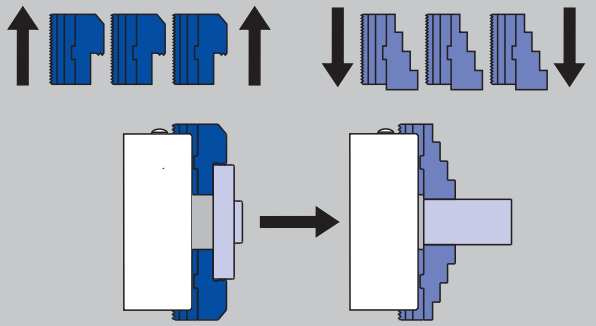


ORIGINAL SMW

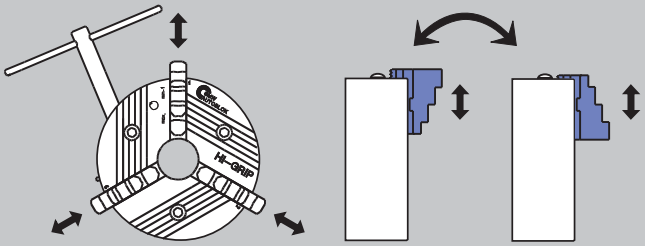
HG-N



■ Jaw change in less than 1 minute

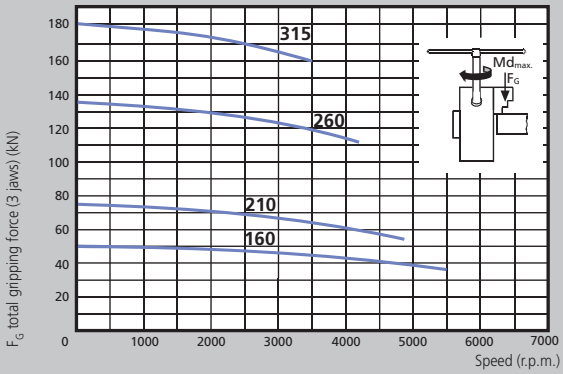


■ Universal, because jaws can be radially adjusted and reversed = less jaw sets

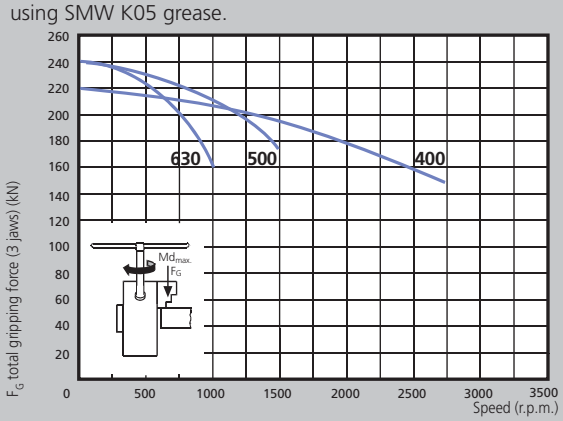


Jaws radially adjustable Jaws 180° reversed

For highest speeds
Flat gripping force curve



■ The max. gripping force is the total, acting on the 3 jaws, obtained by applying to the chuck the max. allowed driving torque. The data refers to a chuck newly maintained accordingly to their service manual, using SMW K05 grease.

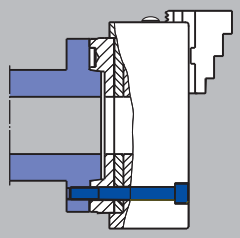


■ The dynamic gripping forces have been measured using hardened standard stepped monoblock jaws type GST placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/havier jaws and/or clamping on a more external position reduce driving torque/rotating speed accordingly.

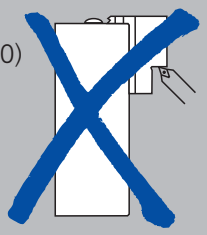
nual chuck HI-GRIP®

Direct mounting



Recess and bolt circle to
DIN 55026 / ISO-A 702/1

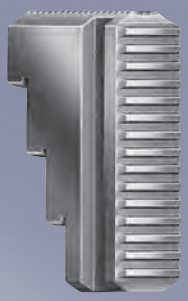
- No reboring of already machined jaws necessary, because of runout < 0.02 (e.g. HG-N 210)



Wedge bar design guarantees highest precision, concentricity and repeat-ability as well as highest gripping forces

Safety jaw release with interlock

Jaw system SMW



Safety pin indicates correct jaw stroke position

Chuck body is case hardened for highest rigidity, precision and durability

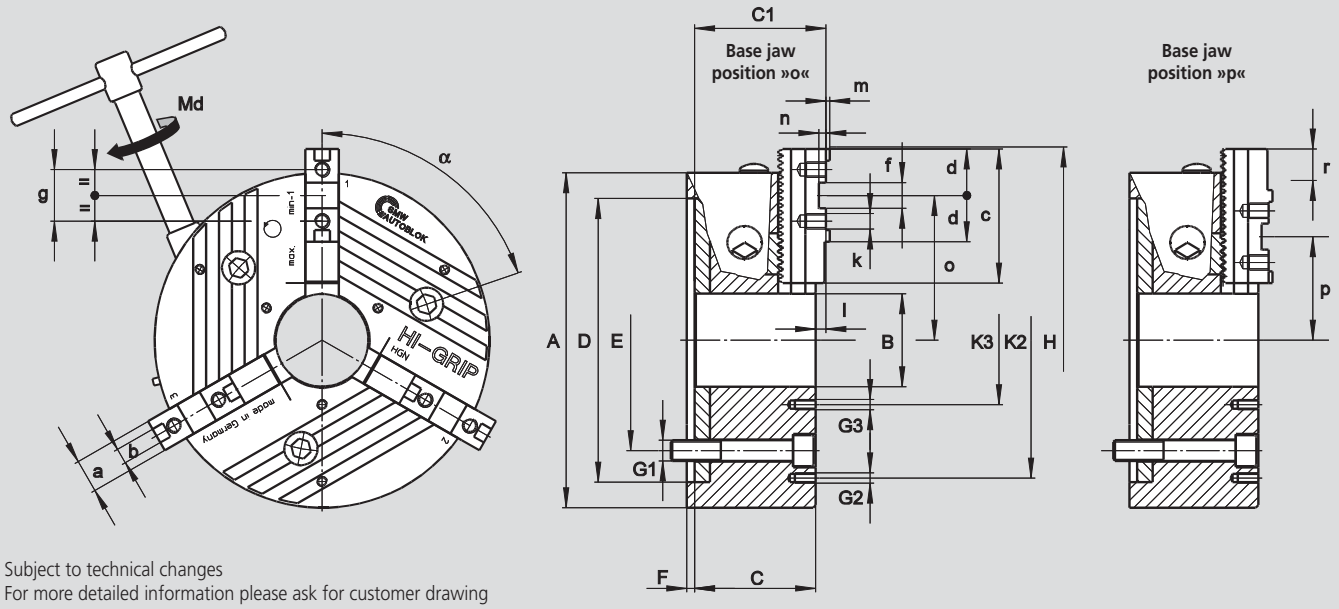
HG-N

QUICK JAW CHANGE
Jaw system original SMW

Manual chucks Ø 160 - 630 mm

Main dimensions and technical data

Jaw position: open position for external clamping



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type HG-N		160-46	210-60	260-81	315-102	400-128	500-165	630-254
Mounting	**Size**	**Z140**	**Z170**	**Z220**	**Z300**	**Z380**	**Z380**	**Z380**
	A	165	210	260	315	400	500	630
	B	46	60	81	102	128	165	254
	C	64	85.5	93.7	110.8	125	136	143
	C1	71	90.4	102	120.1	134.3	146	153
H6	**D**	140	170	220	300	380	380	380
	E	104.8	133.4	171.4	235	330.2	330.2	330.2
	F	5	6	6	6	6	8	8
	G1	M10	M12	M16	M20	M24	M24	M24
	G2	-	M10/3 x 120°	M10/3 x 120°	M10/3 x 120°	M12/3 x 120°	M16/9 x 40°	M16/6 x 60°
	G3	M5/3 x 120°	M6/3 x 120°	M8/3 x 120°	M10/3 x 120°	M12/3 x 120°	M12/3 x 120°	M12/3 x 120°
Swing dia.	**H**	194	244	300	358	426	530	685
	K2	-	168	210	268	330	420	550
	K3	75	75	95	120	152	195	290
	α°	76	74	71	71	71	71	74
	β°	-	60	60	60	60	20	30
Master jaw		GBK 160	GBK 200	GBK 250	GBK 315	GBK 400	GBK 500	GBK 630
	a	20	22	26	32	32	45	45
f7	**b**	8	10	12	12	12	18	18
	c	65	85	104	115	125	160	200
	d	28	33	36	36	43	50	50
H7	**f**	18	20	20	20 (26)	26	30	30
	g	32	40	40	40 (54)	54	60	60
Thread/thread depth	**k**	M8/12	M8/13	M12/15	M12/17	M12/17	M16/34	M16/34
	l	6	4.9	8.3	9.3	9.3	10	10
	m	2.5	2.5	3	3	3	4	4
	n	5	4.5	5.5	6	7	9	9
max./min.	**o**	69/51.2	88/64.5	112.4/79.4	141.3/102.8	168.8/113.8	211/141	291.5/200.5
max./min.	**p**	59.3/40.5	69/45.5	80.6/47.6	97.3/58.8	129.8/74.8	150/80	191.5/100.5
Base jaw tooth pitch	**-**	4.7	4.7	5.5	5.5	5.5	7	13
Master jaw offset	**r**	18.8	23.5	33	38.5	55	70	91
Master jaw offset	teeth	4	5	6	7	10	10	10
Usable jaw stroke	mm	5.9	6.4	7.4	9.6	11.4	11.5	13
max. total gripping force	kN	60	75	130	180	220	250	250
at max. torque Md	Nm	80	120	160	200	250	260	260
Speed	r.p.m	5500	4800	4200	3500	2700	1500	1000
Mass without jaws	kg	8.3	19	32	53	103	161	270
Moment of inertia	kg·m²	0.03	0.09	0.25	0.60	1.9	4.5	12

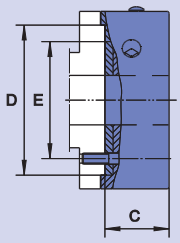
Manual chucks Ø 160 - 630 mm

Ordering review

HG-N

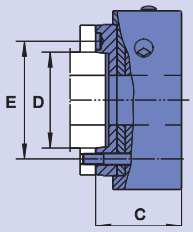
QUICK JAW CHANGE
Jaw system original SMW

Chuck with center mounting DIN 6350



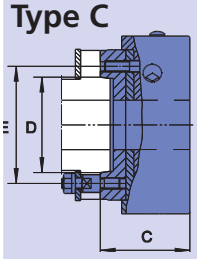
HG-N	160-46	210-60	260-81	315-102	400-128	500-165	630-254
Mounting	Z140	Z170	Z220	Z300	Z380	Z380	Z380
C	64	85.5	94	111	125	136	136
D	140	170	220	300	380	380	380
E	104.8	133.4	171.4	235	330.2	330.2	330.2
Chuck with GBK + WAK							
	Id. No. 089310	Id. No. 089538	Id. No. 089550	Id. No. 089562	Id. No. 089574	Id. No. 089584	Id. No. 089708
	Id. No. 089312	Id. No. 089313	Id. No. 089317	Id. No. 089321	Id. No. 089325	Id. No. 089328	Id. No. 089709
	Id. No. 089331	Id. No. 089539	Id. No. 089551	Id. No. 089563	Id. No. 089575	Id. No. 089585	Id. No. 089710

Chuck with ISO-A mounting DIN 55026



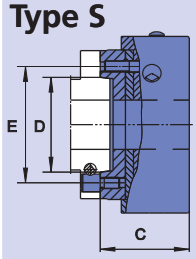
HG-N	160-46		210-60			260-81		315-102		400-128		500-165		630-254	
Mounting	A4	A5	A5	A6	A8	A6	A8	A8	A11	A11	A15	A11	A15	A11	A15
C	84	79	109.5	107.5	125.5	118	119	141	141	165	161	176	172	176	172
D	63.52	82.57	82.57	106.39	139.73	106.39	139.73	139.73	196.88	196.88	285.77	196.88	285.77	196.88	285.77
E	82.6	104.8	104.8	133.4	171.4	133.4	171.4	171.4	235.0	235.0	330.2	235.0	330.2	235.0	330.2
Chuck with GBK + WAK															
	Id. No. 089332	Id. No. 089342	Id. No. 090458	Id. No. 089540	Id. No. 089542	Id. No. 089552	Id. No. 089554	Id. No. 089564	Id. No. 089566	Id. No. 089576	Id. No. 089578	Id. No. 089586	Id. No. 089588	Id. No. 089711	Id. No. 089713
Chuck with GST															
	Id. No. 089962	Id. No. 089346	Id. No. 090459	Id. No. 089314	Id. No. 089315	Id. No. 089318	Id. No. 089319	Id. No. 089322	Id. No. 089323	Id. No. 089326	Id. No. 089327	Id. No. 089329	Id. No. 089330	Id. No. 089715	Id. No. 089732
Chuck with GBK + GUA															
	Id. No. 089427	Id. No. 089434	Id. No. 090460	Id. No. 089541	Id. No. 089543	Id. No. 089553	Id. No. 089555	Id. No. 089565	Id. No. 089567	Id. No. 089577	Id. No. 089579	Id. No. 089587	Id. No. 089589	Id. No. 089749	Id. No. 089760

Chuck with bayonet mounting DIN 55027 Type C



HG-N	160-46		210-60			260-81		315-102		400-128		500-165		630-254	
Mounting	C4	C5	C5	C6	C8	C6	C8	C8	C11	C11	C15	C11	C15	C11	C15
C	84	84	107.5	107.5	125.5	119	119	141	141	161	161	172	172	172	172
D	63.52	82.57	82.57	106.39	139.73	106.39	139.73	139.73	196.88	196.88	285.77	196.88	285.77	196.88	285.77
E	85	104.8	104.8	133.4	171.4	133.4	171.4	171.4	235.0	235.0	330.2	235.0	330.2	235.0	330.2
Chuck with GBK + WAK															
	Id. No. 089464	Id. No. 089487	Id. No. 090461	Id. No. 089544	Id. No. 089546	Id. No. 089556	Id. No. 089558	Id. No. 089568	Id. No. 089570	Id. No. 089580	Id. No. 089582	Id. No. 089590	Id. No. 089592	Id. No. 089761	Id. No. 089762
Chuck with GST															
	Id. No. 089488	Id. No. 089489	Id. No. 090462	Id. No. 089478	Id. No. 089479	Id. No. 089480	Id. No. 089476	Id. No. 089481	Id. No. 089482	Id. No. 089483	Id. No. 089484	Id. No. 089485	Id. No. 089486	Id. No. 089765	Id. No. 089766
Chuck with GBK + GUA															
	Id. No. 089518	Id. No. 089519	Id. No. 090463	Id. No. 089545	Id. No. 089547	Id. No. 089557	Id. No. 089559	Id. No. 089569	Id. No. 089571	Id. No. 089581	Id. No. 089583	Id. No. 089591	Id. No. 089593	Id. No. 089786	Id. No. 089802

Chuck with camlock mounting DIN 55029 Type S



HG-N	160-46		210-60			260-81		315-102		400-128		500-165		630-254	
Mounting	S4	S5	S5	S6	S8	S6	S8	S8	S11	S11	S15	S11	S15	S11	S15
C	92	92	118.5	118.5	125.5	132	132	154	154	175	175	186	186	186	186
D	63.52	82.57	82.57	106.39	139.73	106.39	139.73	139.73	196.88	196.88	285.77	196.88	285.77	196.88	285.77
E	82.6	104.8	104.8	133.4	171.4	133.4	171.4	171.4	235.0	235.0	330.2	235.0	330.2	235.0	330.0
Chuck with GBK + WAK															
	Id. No. 089520	Id. No. 089528	Id. No. 090464	Id. No. 089901	Id. No. 089905	Id. No. 089909	Id. No. 089913	Id. No. 089917	Id. No. 089921	Id. No. 089925	Id. No. 089929	Id. No. 089933	Id. No. 089937	Id. No. 089803	Id. No. 089832
Chuck with GST															
	Id. No. 089602	Id. No. 089663	Id. No 089996	Id. No. 089899	Id. No. 089903	Id. No. 089907	Id. No. 089911	Id. No. 089915	Id. No. 089919	Id. No. 089923	Id. No. 089927	Id. No. 089931	Id. No. 089935	Id. No. 089843	Id. No. 089897
Chuck with GBK + GUA															
	Id. No. 089668	Id. No. 089674	Id. No. 090466	Id. No. 089902	Id. No. 089906	Id. No. 089910	Id. No. 089914	Id. No. 089918	Id. No. 089922	Id. No. 089926	Id. No. 089930	Id. No. 089934	Id. No. 089938	Id. No. 089942	Id. No. 089955

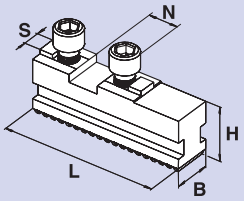
Parts included: Fixing elements (screws resp. studs resp. camlock bolts)

HG-N

QUICK JAW CHANGE

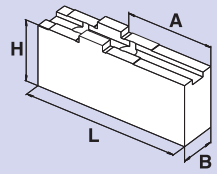
JAWS

GBK
Hardened base jaws



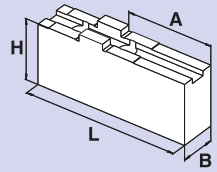
Chuck	HG-N 160	HG-N 210	HG-N 260	HG-N 315	HG-N 400	HG-N 500	HG-N 630
Jaw type	GBK 160	GBK 200	GBK 250	GBK 315	GBK 400	GBK 500	GBK 630
Id. No.	012439	012440	012441	012442	012443	012444	012445
B	20	22	26	32	32	45	45
H	27.5	29.5	37	43	43	57	57
L	65	85	104	115	125	160	200
N	18	20	20	20	26	30	30
S	8	10	12	12	12	18	18
kg/set	0.7	1.0	1.8	2.7	3.0	7.1	9.0

WAK
Soft top jaws



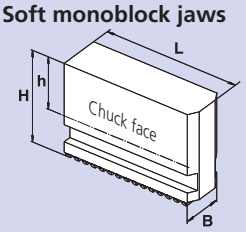
Chuck	HG-N 160	HG-N 210	HG-N 260	HG-N 315	HG-N 400	HG-N 500	HG-N 630
Jaw type	WAK 160-10	WAK 200-10	WAK 250-10	WAK 250-10	WAK 400-10	WAK 500-10	WAK 500-10
Id. No.	012491	012492	012493	012493	012494	012495	012495
B	20	22	30	30	35	50	50
H	35.5	42	50	50	54	75.5	75.5
L	85	105	125	125	145	180	180
A	42	50	70	70	74	100	100
kg/set	1.2	2.0	3.6	3.6	5.8	13.7	13.7

WAKS
Wide soft top jaws



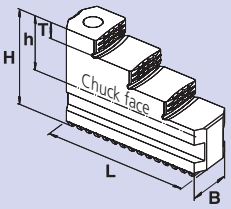
Chuck	HG-N 160	HG-N 210	HG-N 260	HG-N 315	HG-N 400	HG-N 500	HG-N 630
Jaw type	WAKS 140-10	WAKS 200-30	WAKS 250-20	WAKS 250-30	WAKS 400-30	WAKS 500-30	WAKS 500-30
Id. No.	012496	012497	012498	012499	012500	012501	012501
B	35	40	60	80	80	90	90
H	35.5	36	55	55	64	73	73
L	63	70	90	90	100	130	130
A	25	27	44	44	44	65	65
kg/set	1.5	1.9	6.2	8.5	11.0	16.4	16.4

UVB
Soft monoblock jaws

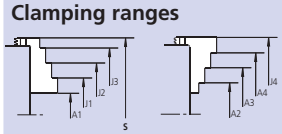


Chuck	HG-N 160	HG-N 210	HG-N 260	HG-N 315	HG-N 400	HG-N 500	HG-N 630
Jaw type	UVB 160	UVB 200	UVB 250	UVB 315	UVB 400	UVB 500	UVB 630
Id. No.	012447	012448	012449	012450	012451	012452	012453
B	20	22	26	32	32	45	45
H	60	70	90	100	100	134	134
h	40	45	61	66	66	87	87
L	69	83	107	119	146.5	175	230
kg/set	1.7	2.8	4.2	6.9	10	23	30

GST
Hardened stepped monoblock jaws



Clamping ranges



Chuck	HG-N 160	HG-N 210	HG-N 260	HG-N 315	HG-N 400	HG-N 500	HG-N 630
Jaw type	GST 170	GST 210	GST 260	GST 315	GST 400	GST 500	GST 500
Id. No.	035867	035863	037623	012457	012458	012459	012459
B	20	22	26	32	32	45	45
H	43.5	51	60	66	70	93	93
h	23	26	31	32	36	46	46
L	65	84	100	117	137	175	175
T	7	8	10	10	11	20	20
kg/set	0.7	1.3	1.9	3.4	4.4	11.7	11.7
A1	6-59	10-96	10-98	20-115	48-173	65-195	153-313
A2	42-89	56-130	62-150	85-180	116-238	160-285	241-401
A3	73-120	96-170	111-200	140-235	184-308	310-435	391-551
A4	104-151	136-210	161-250	195-290	252-378	-	-
J1	44-78	70-147	63-149	80-170	118-243	-	-
J2	74-110	109-187	112-199	135-225	186-310	170-295	254-414
J3	105-141	149-228	161-249	190-282	253-378	320-445	404-564
J4	135-182	186-260	212-300	255-350	328-448	-	-
S	198	244	303	350	456	540	660

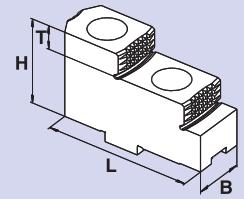


For further jaws and accessories please ask for our 150 pages special catalogue!

HG-N

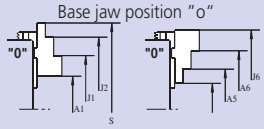
QUICK JAW CHANGE

GUA
Hardened reversible stepped top jaws

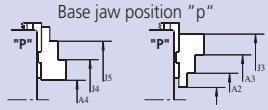


Clamping ranges

Base jaw position "o"



Base jaw position "p"



Chuck	HG-N 160	HG-N 210	HG-N 260	HG-N 315	HG-N 400	HG-N 500	HG-N 630
Jaw type	GUA 160	GUA 200	GUA 250	GUA 250	GUA 400	GUA 500	GUA 630
Id. No.	012484	012485	012486	012486	012487	012488	012489
B	20	22	30	30	36	45	45
H	36.5	38	50	50	56	70	70
L	63	72	90	90	105	130	150
T	7.5	10	14	14	15	20	20
kg/set	0.6	0.8	1.9	1.9	3.2	10.8	12.0
A1	32-69	55-111	73-161	120-205	138-258	190-336	192-385
A2	60-98	69-125	45-101	48-120	78-188	80-200	85-220
A3	85-123	96-152	125-181	130-200	186-298	200-320	205-340
A4	13-51	17-73	20-97	36-188	60-183	55-200	60-192
A5	78-116	104-163	76-165	120-205	143-268	190-335	225-425
A6	103-141	131-190	156-245	205-285	253-378	315-455	345-545
J1	91-129	117-174	152-240	202-285	218-338	305-450	345-540
J2	116-154	144-201	233-321	280-365	328-448	425-570	465-660
J3	144-181	158-215	204-259	208-280	263-380	335-450	355-490
J4	74-111	80-136	101-177	110-200	138-263	170-310	200-345
J5	99-136	107-163	180-257	198-280	248-373	290-430	320-465
J6	162-200	193-253	235-323	276-365	333-458	425-570	495-695
S	198	196-253/255	333	390	-	590	700



For further jaws and accessories please ask for our 150 pages special catalogue!

Important for maintenance and safe operation, to be ordered with the chuck

Grease K05®

Special grease for manual and power chuckss



Cartridge 14 Oz. (DIN 1284)
Grease content 500 g
Id. No. 016440

Can 1000 g
Id. No. 011881



- High adhesion
- High resistance against coolant
- High load bearing capacity
- Low friction coefficient
- High gripping force
- Avoids tribocorrosion

Grease gun

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).

- **Also refillable from grease can 1000 g.**

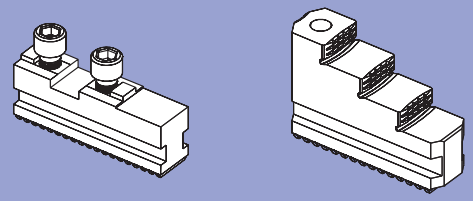


Lubrication set Id. No. 083726
Supply range

- Grease gun
- 1 Adapter flexible for high pressure grease nipple
- 1 Adapter for cone grease nipple

Quick jaw change ma

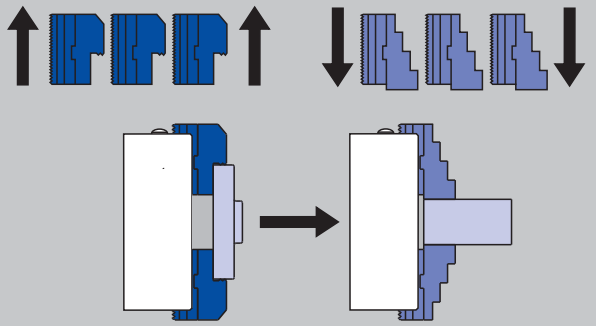
JAWS SYSTEM FORKARDT



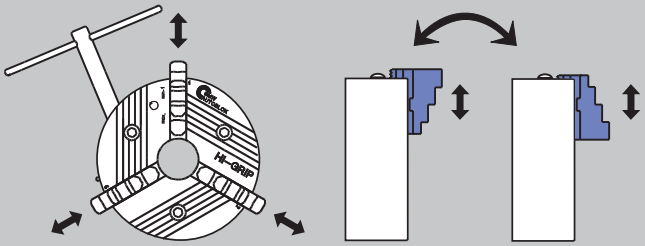
HG-F



■ Jaw change in less than 1 minute

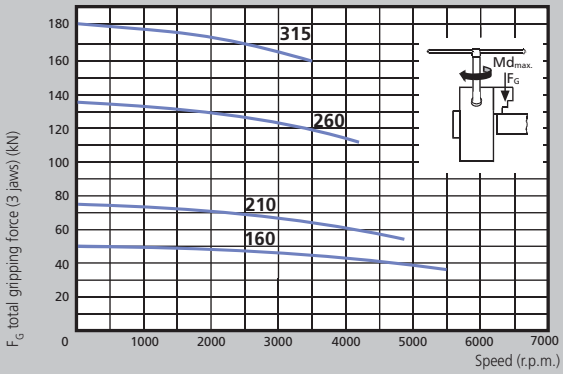


■ Universal, because jaws can be radially adjusted and reversed = less jaw sets

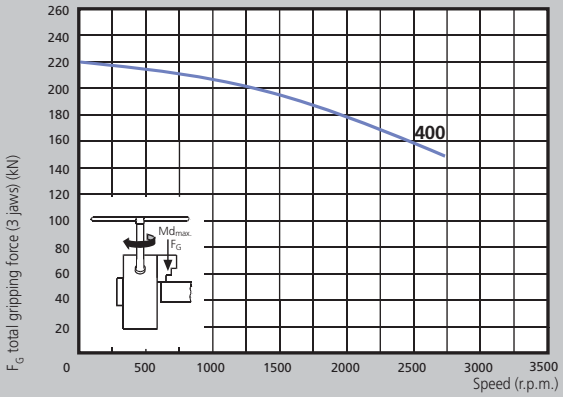


Jaws radially adjustable Jaws 180° reversed

For highest speeds
Flat gripping force curve



■ The max. gripping force is the total, acting on the 3 jaws, obtained by applying to the chuck the max. allowed driving torque. The data refers to a chuck newly maintained accordingly to their service manual, using SMW K05 grease.

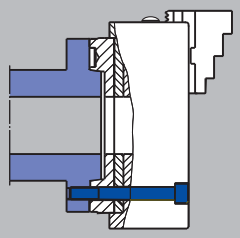


■ The dynamic gripping forces have been measured using hardened standard stepped monoblock jaws type GST placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/havier jaws and/or clamping on a more external position reduce driving torque/rotating speed accordingly.

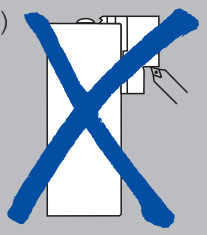
nual chuck HI-GRIP®

Direct mounting



Recess and bolt circle to
DIN 55026 / ISO-A 702/1

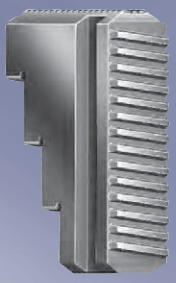
- No reboring of already machined jaws necessary, because of runout < 0.02 (e.g. HG-F 210)



Wedge bar design guarantees highest precision, concentricity and repeat-ability as well as highest gripping forces

Safety jaw release with interlock

Jaw system "F" (compatible with Forkardt jaws)



Safety pin indicates correct jaw stroke position

Chuck body is case hardened for highest rigidity, precision and durability

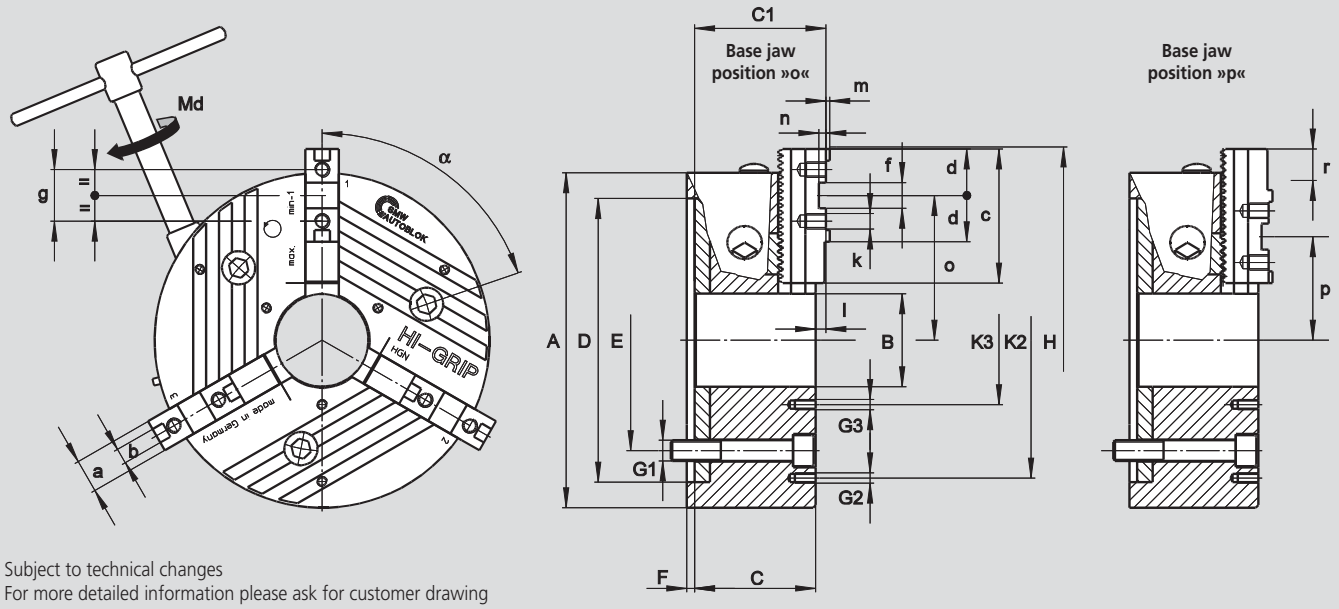
HG-F

QUICK JAW CHANGE
Jaw system Forkardt

Manual chucks Ø 160 - 400 mm

Main dimensions and technical data

Jaw position: open position for external clamping



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type HG-F		160-46	210-60	260-81	315-102	400-128
Mounting	**Size**	**Z140**	**Z170**	**Z220**	**Z300**	**Z380**
	A	165	210	260	315	400
	B	46	60	81	102	128
	C	64	85.5	94	111	132
	C1	71	92.7	101.7	120.1	141.9
H6	**D**	140	170	220	300	380
	E	104.8	133.4	171.4	235	330.2
	F	5	6	6	6	6
	G1	M10	M12	M16	M20	M24
	G2	-	M10/3 x 120°	M10/3 x 120°	M10/3 x 120°	M12/3 x 120°
	G3	M5/3 x 120°	M6/3 x 120°	M8/3 x 120°	M10/3 x 120°	M12/3 x 120°
Swing dia.	**H**	195	250	300	372	492
	K2	-	168	210	268	330
	K3	75	75	95	120	160
	α°	68	64	66	65.5	64.5
	β°	-	60	60	55	45
Master jaw		MFG 160	MFG 200	MFG 250	MFG 315	MFG 400
	a	20	22	26	32	45
f7	**b**	8	10	12	12	18
	c	74	90	110	125	160
	d	28	33	36	36	50
H7	**f**	18	20	20	26	30
	g	32	40	40	54	60
Thread/thread depth	**k**	M8x1/12	M8x1/13	M12x1.5/15	M12x1.5/17	M16/30
	l	6	7.2	7.7	9.3	9.9
	m	2.5	3	3	3	4
	n	5	6	6	8	9
max./min.	**o**	69.5/55.1	86.5/62	112.2/82.4	149/93	193.6/125.6
max./min.	**p**	51.5/37.1	67.3/42.8	74.3/44.3	103/54	134.3/66.3
Base jaw tooth pitch	**-**	4.8	4.9	6	7	8.5
Master jaw offset	**r**	14.4	24.5	30	56	68
Master jaw offset	teeth	3	5	5	8	8
Usable jaw stroke	mm	5.9	6.2	7.4	9.6	11.4
max. total gripping force	kN	60	75	130	180	220
at max. torque Md	Nm	80	120	160	200	250
Speed	r.p.m.	5500	4800	4200	3500	2700
Mass without jaws	kg	8.3	19	32	53	103
Moment of inertia	kg·m²	0.03	0.09	0.25	0.60	1.9

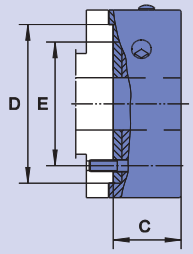
Manual chucks Ø 160 - 400 mm

Ordering review

HG-F

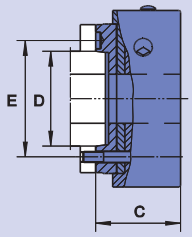
QUICK JAW CHANGE
Jaw system Forkardt

Chuck with center mounting DIN 6350



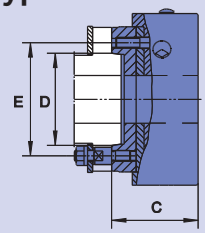
HG-F	160-46	210-60	260-81	315-102	400-128
Mounting	Z140	Z170	Z220	Z300	Z380
C	64	85.5	94	111	132
D	140	170	220	300	380
E	104.8	133.4	171.4	235	330.2
Chuck with MFG + WAK					
	Id. No. 090521	Id. No. 090026	Id. No. 090058	Id. No. 090090	Id. No. 090122
Chuck with FST					
	Id. No. 090523	Id. No. 090028	Id. No. 090060	Id. No. 090092	Id. No. 090124
Chuck with MFG + GUA					
	Id. No. 090522	Id. No. 090027	Id. No. 090059	Id. No. 090091	Id. No. 090123

Chuck with ISO-A mounting DIN 55026



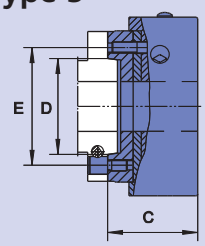
HG-F	160-46		210-60			260-81		315-102		400-128	
Mounting	A4	A5	A5	A6	A8	A6	A8	A8	A11	A11	A15
C	84	79	109.5	107.5	125.5	118	119	141	141	168	168
D	63.51	82.56	82.56	106.39	139.73	106.39	139.73	139.73	196.88	196.88	285.77
E	82.6	104.8	104.8	133.4	171.4	133.4	171.4	171.4	235.0	235.0	330.2
Chuck with MFG + WAK											
	Id. No. 090524	Id. No. 090527	Id. No. 090543	Id. No. 090030	Id. No. 090034	Id. No. 090062	Id. No. 090066	Id. No. 090094	Id. No. 090098	Id. No. 090126	Id. No. 090130
Chuck with FST											
	Id. No. 090526	Id. No. 090529	Id. No. 090545	Id. No. 090032	Id. No. 090036	Id. No. 090064	Id. No. 090068	Id. No. 090096	Id. No. 090100	Id. No. 090128	Id. No. 090132
Chuck with MFG + GUA											
	Id. No. 090525	Id. No. 090528	Id. No. 090544	Id. No. 090031	Id. No. 090035	Id. No. 090063	Id. No. 090067	Id. No. 090095	Id. No. 090099	Id. No. 090127	Id. No. 090131

Chuck with bayonet mounting DIN 55027 Type C



HG-F	160-46		210-60			260-81		315-102		400-128	
Mounting	C4	C5	C5	C6	C8	C6	C8	C8	C11	C11	C15
C	84	84	107.5	107.5	125.5	119	119	141	141	168	168
D	63.51	82.56	82.56	106.39	139.73	106.39	139.73	139.73	196.88	196.88	285.77
E	85	104.8	104.8	133.4	171.4	133.4	171.4	171.4	235.0	235.0	330.2
Chuck with MFG + WAK											
	Id. No. 090530	Id. No. 090533	Id. No. 090546	Id. No. 090038	Id. No. 090042	Id. No. 090070	Id. No. 090074	Id. No. 090102	Id. No. 090106	Id. No. 090134	Id. No. 090138
Chuck with FST											
	Id. No. 090532	Id. No. 090535	Id. No. 090548	Id. No. 090040	Id. No. 090044	Id. No. 090072	Id. No. 090076	Id. No. 090104	Id. No. 090108	Id. No. 090136	Id. No. 090140
Chuck with MFG + GUA											
	Id. No. 090531	Id. No. 090534	Id. No. 090547	Id. No. 090039	Id. No. 090043	Id. No. 090071	Id. No. 090075	Id. No. 090103	Id. No. 090107	Id. No. 090135	Id. No. 090139

Chuck with camlock mounting DIN 55029 Type S



HG-F	160-46		210-60			260-81		315-102		400-128	
Mounting	S4	S5	S5	S6	S8	S6	S8	S8	S11	S11	S15
C	92	92	118.5	118.5	125.5	132	132	154	154	182	182
D	63.51	82.56	82.56	106.39	139.73	106.39	139.73	139.73	196.88	196.88	285.77
E	82.6	104.8	104.8	133.4	171.4	133.4	171.4	171.4	235.0	235.0	330.2
Chuck with MFG + WAK											
	Id. No. 090536	Id. No. 090539	Id. No. 090549	Id. No. 090046	Id. No. 090050	Id. No. 090078	Id. No. 090082	Id. No. 090110	Id. No. 090114	Id. No. 090142	Id. No. 090146
Chuck with FST											
	Id. No. 090538	Id. No. 090541	Id. No. 090551	Id. No. 090048	Id. No. 090052	Id. No. 090080	Id. No. 090084	Id. No. 090112	Id. No. 090116	Id. No. 090144	Id. No. 090148
Chuck with MFG + GUA											
	Id. No. 090537	Id. No. 090540	Id. No. 090550	Id. No. 090047	Id. No. 090051	Id. No. 090079	Id. No. 090083	Id. No. 090111	Id. No. 090115	Id. No. 090143	Id. No. 090147

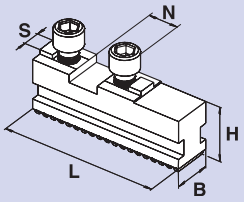
Parts included: Fixing elements (screws resp. studs resp. camlock bolts)

HG-F

QUICK JAW CHANGE
Jaw system Forkardt

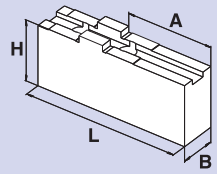
JAWS

MFG
Hardened base jaws



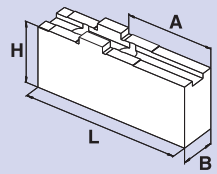
Chuck	HG-F 160	HG-F 210	HG-F 260	HG-F 315	HG-F 400
Jaw type	MFG 160	MFG 200	MFG 250	MFG 315	MFG 400
Id. No.	081303	081304	081305	081306	081307
B	20	22	26	32	45
H	29.5	35	40	46	55
L	74	90	110	125	160
N	18	20	20	26	30
S	8	10	12	12	18
kg/set	0.8	1.2	2.0	3.3	7.3

WAK
Soft top jaws



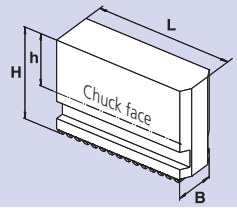
Chuck	HG-F 160	HG-F 210	HG-F 260	HG-F 315	HG-F 400
Jaw type	WAK 160-10	WAK 200-10	WAK 250-10	WAK 400-10	WAK 500-10
Id. No.	012491	012492	012493	012494	012495
B	20	22	30	35	50
H	35.5	42	50	54	75.5
L	85	105	125	145	180
A	42	50	70	74	100
kg/set	1.2	2.0	3.6	5.8	13.7

WAKS
Wide soft top jaws



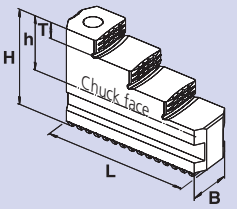
Chuck	HG-F 160	HG-F 210	HG-F 260	HG-F 315	HG-F 400
Jaw type	WAKS 140-10	WAKS 200-30	WAKS 250-20	WAKS 400-30	WAKS 500-30
Id. No.	012496	012497	012498	012500	012501
B	35	40	60	80	90
H	35.5	36	55	64	73
L	63	70	90	100	130
A	25	27	44	44	65
kg/set	1.5	1.9	6.2	11.0	16.4

BFR
Soft monoblock jaws

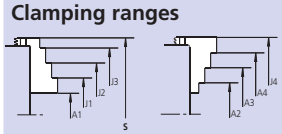


Chuck	HG-F 160	HG-F 210	HG-F 260	HG-F 315	HG-F 400
Jaw type	BFR 160	BFR 200	BFR 250	BFR 315	BFR 400
Id. No.	081272	081273	081274	081275	081276
B	20	22	26	32	45
H	45	60	70	81	93
h	24	35	40	46	53
L	79	94	115	140	176
kg/set	1.4	2.6	4.4	7.3	15.7

FST
Hardened stepped monoblock jaws



Clamping ranges



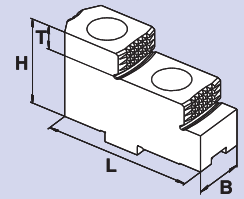
Chuck	HG-F 160	HG-F 210	HG-F 260	HG-F 315	HG-F 400
Jaw type	FST 170	FST 210	FST 250	FST 315	FST 400
Id. No.	081282	081283	081284	081285	081286
B	20	22	26	32	45
H	45	60	70	79	93
h	24	35	40	46	53
L	79	94	114	130	167
T	7.5	1.0	14	15	20
kg/set	1.1	1.9	3.3	5.2	10.8
A1	6-59	10-96	19-99	20-115	48-173
A2	42-89	56-130	76-142	85-180	116-238
A3	73-120	96-170	120-186	140-235	184-308
A4	104-151	136-210	164-230	195-290	252-378
J1	44-78	70-147	81-147	80-170	118-243
J2	74-110	109-187	125-191	135-225	186-310
J3	105-141	149-228	169-235	190-282	253-378
J4	135-182	186-260	211-278	255-350	328-448
S	198	244	280	350	456



HG-F

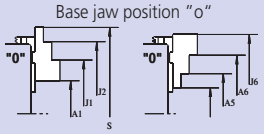
QUICK JAW CHANGE
Jaw system Forkardt

GUA
Hardened reversible stepped top jaws

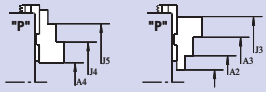


Clamping ranges

Base jaw position "o"



Base jaw position "p"



Chuck	HG-F 160	HG-F 210	HG-F 260	HG-F 315	HG-F 400
Jaw type	GUA 160	GUA 200	GUA 250	GUA 400	GUA 500
Id. No.	012484	012485	012486	012487	012488
B	20	22	30	36	45
H	36.5	38	50	56	70
L	63	72	90	105	130
T	7.5	10	14	15	20
kg/set	0.6	0.8	1.9	2.3	10.8
A1	32-69	55-111	73-161	64-194	108-264
A2	60-98	69-125	45-101	44-108	70-158
A3	85-123	96-152	125-181	156-220	171-259
A4	13-51	17-73	20-97	22-100	24-146
A5	78-116	104-163	76-165	72-202	121-277
A6	103-141	131-190	156-245	134-314	222-378
J1	91-129	117-174	152-240	140-270	223-379
J2	116-154	144-201	233-321	256-382	324-480
J3	144-181	158-215	204-259	323-296	286-374
J4	74-111	80-136	101-177	93-176	138-260
J5	99-136	107-163	180-257	210-288	239-361
J6	162-200	193-253	235-323	260-390	336-492
S	198	196-253/255	333	372	492



For further jaws and accessories please ask for our 150 pages special catalogue!

Important for maintenance and safe operation, to be ordered with the chuck

Grease K05®

Special grease for manual and power chuckss



Cartridge 14 Oz. (DIN 1284)
Grease content 500 g
Id. No. 016440

Can 1000 g
Id. No. 011881



- High adhesion
- High resistance against coolant
- High load bearing capacity
- Low friction coefficient
- High gripping force
- Avoids tribocorrosion

Grease gun

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).
■ Also refillable from grease can 1000 g.



Lubrication set Id. No. 083726
Supply range:
- Grease gun
- 1 Adapter flexible for high pressure grease nipple
- 1 Adapter for cone grease nipple

Closed center power chucks (page 1 of 2)



Page 22

AN-D / AN-M

INCH serration / **METRIC serration**

High precision power chucks
Ø 125 - 400 mm

- closed center
- 2 and 3 jaws (4 jaws only Ø 400 mm)



Page 24

AL-D / AL-M

INCH serration / **METRIC serration**

High precision power chucks
Ø 125 - 400 mm

- closed center – LONG STROKE
- 2 and 3 jaws (4 jaws only Ø 400 mm)



Page 26

AN-C

Tongue & groove

High precision power chucks
Ø 165 - 400 mm

- closed center
- 2 and 3 jaws (4 jaws only Ø 400 mm)



Page 28

AP®-D / AP®-M

INCH serration / **METRIC serration**

High precision fully sealed power chucks
Ø 170 - 400 mm

- closed center
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



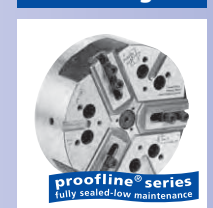
Page 30

AP®-C

Tongue & groove

High precision fully sealed power chucks
Ø 170 - 400 mm

- closed center
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 32

APL-D / APL-M

INCH serration / **METRIC serration**

High precision fully sealed power chucks
Ø 215 - 400 mm

- closed center
- 3 jaws – LONG STROKE
- **proofline® chucks** = fully sealed – low maintenance



Page 34

APL-C

Tongue & groove

High precision fully sealed power chucks
Ø 215 - 400 mm

- closed center
- 3 jaws – LONG STROKE
- **proofline® chucks** = fully sealed – low maintenance



Page 36

NT-D / NT-M

INCH serration / **METRIC serration**

High precision fully sealed power chucks
Ø 170 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 38

NTL-D / NTL-M

INCH serration / **METRIC serration**

High precision fully sealed power chucks
Ø 260 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws – LONG STROKE
- **proofline® chucks** = fully sealed – low maintenance



Page 40

NT-C

Tongue & groove

High precision fully sealed power chucks
Ø 170 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 42

NTL-C

Tongue & groove

High precision fully sealed power chucks
Ø 260 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws – LONG STROKE
- **proofline® chucks** = fully sealed – low maintenance



Page 44

IN-D / IN-C

INCH serration / **Tongue & groove**

High precision power chucks
Ø 500 - 800 mm

- closed center
- 3 and 4 jaws



Page 46

IL-D / IL-C

INCH serration / **Tongue & groove**

High precision power chucks – LONG STROKE
Ø 500 - 800 mm

- closed center
- LONG STROKE
- 3 and 4 jaws



Page 48

IN-D / IR-C

Module 2 serration / **Tongue & groove**

High precision power chucks
Ø 1000 - 2000 mm

- closed center
- 3 and 6 jaws (all diameters)
- radial setting of jaws (IR-C only)

Continuation on the next page

Closed center power chucks (page 2 of 2)

Continuation from previous page



Page 50

IN-D
Module 2 serration

IL-D
Module 2 serration Long stroke serration

High precision power chucks
Ø 1000 - 1600 mm
- closed center
- 4 jaws (all diameters)



Page 52

IR-C
Tongue & groove serration

High precision power chucks
Ø 1000 - 2000 mm
- closed center
- 4 jaws (all diameters)
- radial setting of jaws



Page 54

RAN
Pull down effect
Tongue & groove

High precision pull-down chucks
Ø 160 - 400 mm
- pull-down effect of inclined master jaws
- 3 jaws



Page 56

CL-C
Tongue & groove

CL-D
INCH serration

High precision power chucks – LONG STROKE
Ø 80 - 315 mm
- closed center
- LONG STROKE
- 2 jaws

AN-D
INCH serration

AN-M
METRIC serration

High precision power chucks Ø 125 - 400 mm

■ closed center
■ 2 and 3 jaws (4 jaws only Ø 400 mm)



Application/customer benefits

- For chucking parts
- Suitable for vertical machines

AN-D: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
AN-M: Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese jaws)

Technical features

- Gripping force transmission via wedge hook
- Sealed against swarf and chips
- Case hardened body to assure greatest precision and long chuck life

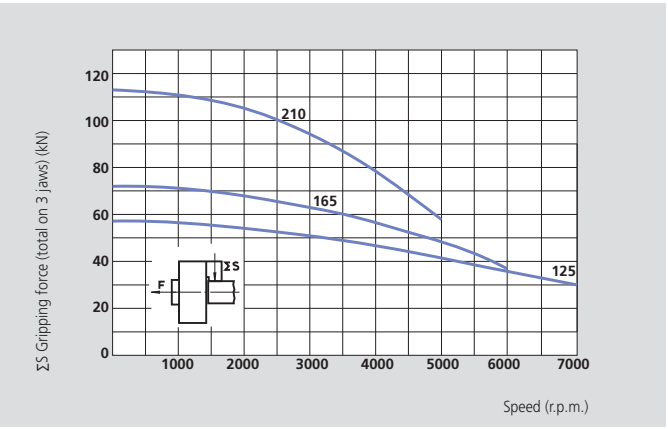
Standard equipment

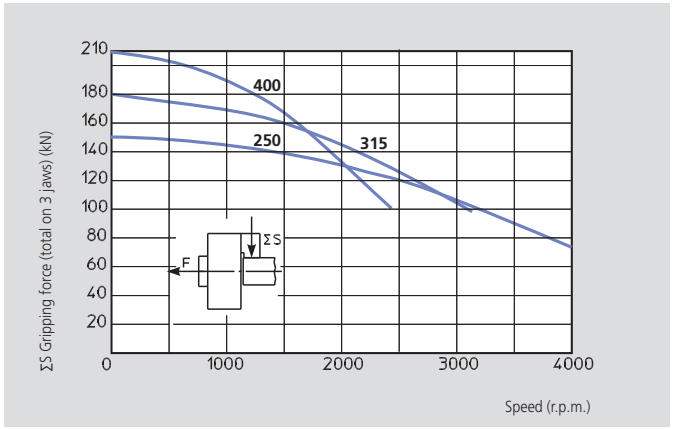
2, 3 or 4 jaw chuck
1 set T-nuts with bolts
Mounting bolts
Grease gun

Ordering example

3 jaw chuck AN-D 210/A6
or
2 jaw chuck AN-M 250/Z220

Actual gripping force diagrams



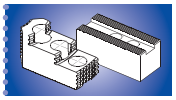
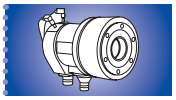


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AN-D 125 AN-M 125		AN-D 165 AN-M 165		AN-D 210 AN-M 210		AN-D 250 AN-M 250		AN-D 315 AN-M 315		AN-D 400 AN-M 400		
Number of jaws		2	3	2	3	2	3	2	3	2	3	2	3	4
Radial jaw stroke	mm	3.2		3.6		4.4		5		6.3		7		
Axial piston stroke	mm	15		17		21		24		30		33		
Max. draw pull	kN	14	20	17	25	25	38	33	50	40	60	50	70	70
Max. gripping force	kN	40	56	50	72	75	115	100	150	120	180	150	210	210
Max. speed	r.p.m.	7000		6000		5000		4000		3200		2400		2000
Mass (without top jaws)	kg	5.5		9.5		19		32		56		84		
Moment of inertia	kg·m²	0.011		0.032		0.105		0.26		0.69		1.6		
Recommended actuating cylinders		SIN-S 85/100		SIN-S 100		SIN-S 100/125		SIN-S 125/150		SIN-S 125/150		SIN-S 150/175		

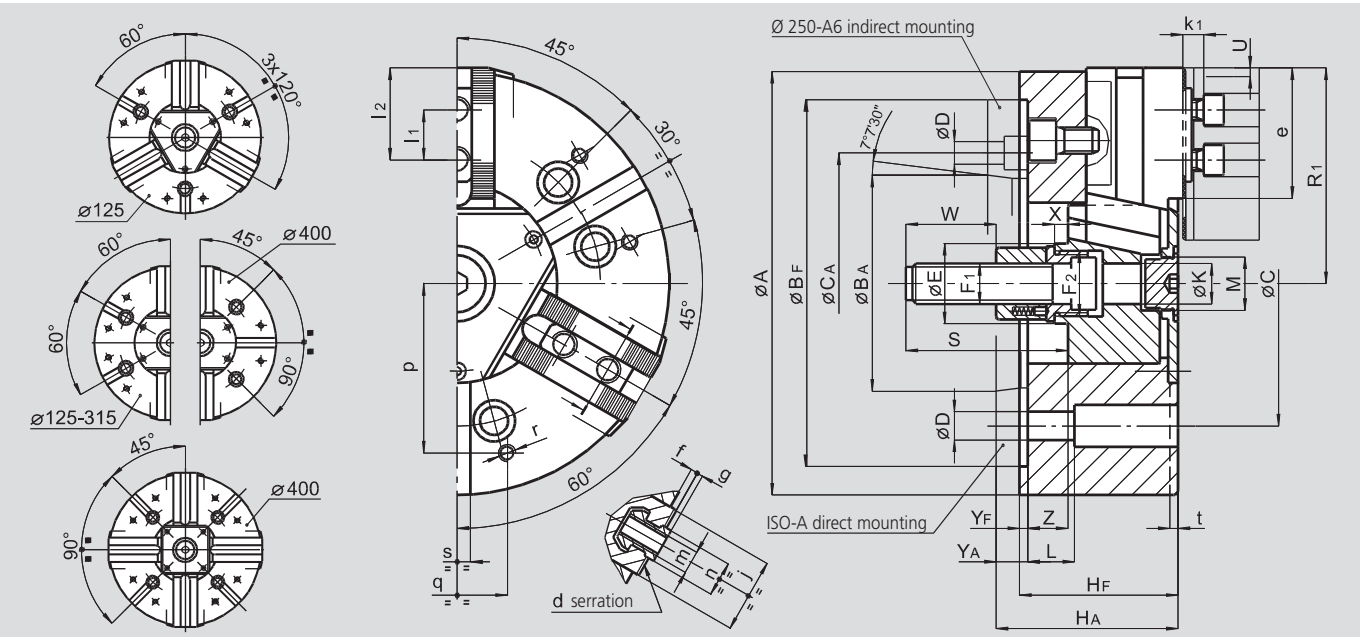

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Page 284

Page 197

High precision power chucks Ø 125 - 400 mm

■ closed center
■ 2 and 3 jaws (4 jaws only Ø 400 mm)

AN-D INCH serration

AN-M METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				AN-D 125 AN-M 125		AN-D 165 AN-M 165		AN-D 210 AN-M 210		AN-D 250 AN-M 250			AN-D 315 AN-M 315		AN-D 400 AN-M 400	
Mounting				Z115	A4	Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A		mm	127		165		210		254			315		390	
	BF/BA	H6	mm	115	63.513	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	82.6		104.8		133.4		171.4	–	171.4	171.4		235	
	CA		mm	–	–	–	–	–	–	–	133.4	–	–	–	–	–
	D		mm	11.5		11.5		13.5		17	13.5	17	17		21	
	E		mm	25		32		41		47			47		86	
	F1		mm	M12 x 1.25		M16		M20		M24			M24		M24	
	F2		mm	M18 x 1.5		M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M75 x 2	
	HF/HA		mm	59	67	71	81	85	97	95	114	109	105	119	116	131
	K		mm	10		17		20		25			25		65	
	L		mm	32		23		32		28			38		54	
	M		mm	M16 x 1.5		M24 x 1.5		M32 x 1.5		M32 x 1.5			M38 x 1.5		M68 x 2	
Chuck open	R1		mm	64		83		105		128			158		196	
	S		mm	77		104		97		103			103		105	
Jaw stroke	U		mm	3.2		3.6		4.4		5			6.3		7	
	W		mm	40		52		55		60			60		60	
	X		mm	12		17		8		8			8		8	
	YF/YA		mm	5	13	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z		mm	15/0		17/0		21/0		24/0			30/0		33/0	
AN-D	d		inch	1/16" x 90°		1/16" x 90°		1/16" x 90°		1/16" x 90°			1/16" x 90°		3/32" x 90° (1)	
AN-M	d		mm	1.5 x 60°		1.5 x 60°		1.5 x 60°		1.5 x 60°			1.5 x 60°		1.5 x 60°	
	e		mm	37		48		60		77			99		116	
	f		mm	3		4		3		4			4		6	
	g		mm	2.5		2.5		3		3.5			3.5		3.5	
	j		mm	26		30		36		45			45		62	
	k1		mm	10		10		11		12			12		14	
AN-D	l1		mm	16		16.5		23		30			30		38	
AN-M	l1		mm	16		20		25		30			30		38	
max./min.	l2		mm	30/23		40/24		50/33		62/43			84/43		90/49	
AN-D	m		mm	M8		M10		M12		M16			M16		M20	
AN-M	m		mm	M8		M10		M12		M12			M16		M20	
AN-D	n	h8	mm	12		14		17		21			21		25.5	
AN-M	n	h8	mm	12		12		14		16			21		22	
	p		mm	52		65		80		102			120		150	
	q		mm	30		36		45		60			60		80	
	r		mm	M6		M8		M8		M10			M10		M12	
	s		mm	12		16		16		16			16		20	
	t		mm	5		5		5		5			5		5	

AL-D
INCH serration

AL-M
METRIC serration

High precision power chucks Ø 125 - 400 mm

- closed center
- LONG STROKE
- 2 and 3 jaws (4 jaws only Ø 400 mm)



Application/customer benefits

- For chucking parts
- Suitable for vertical machines
- Long clamping stroke (possibility to clamp 1st and 2nd operation with the same jaws)

AL-D: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
AL-M: Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese jaws)

Technical features

- Extra long stroke per jaw
- Gripping force transmission via wedge hook
- Case hardened body to assure greatest precision and long chuck life

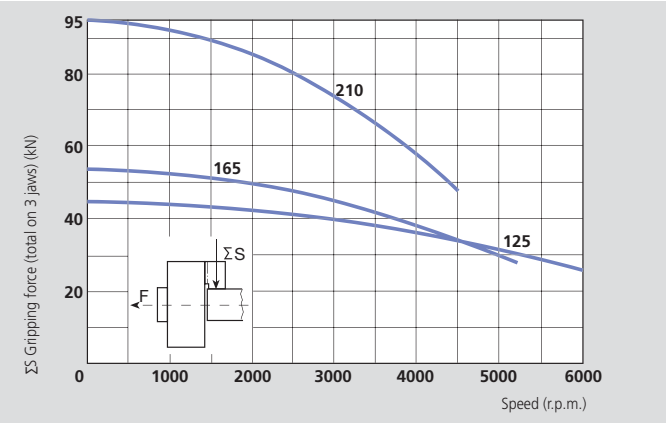
Standard equipment

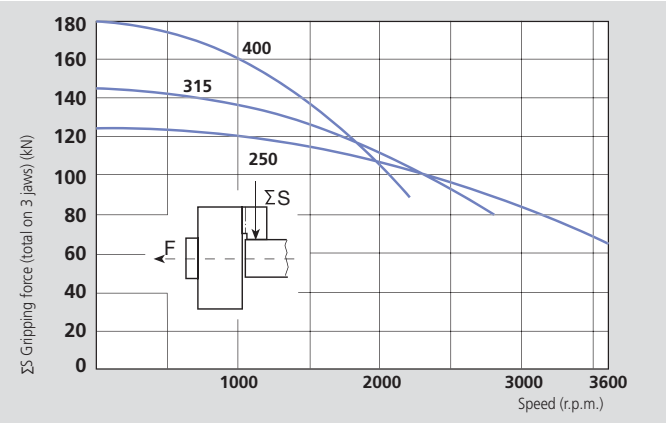
2, 3 or 4 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws
Mounting bolts
Grease gun

Ordering example

3 jaw chuck AL-D 210/A6
or
2 jaw chuck AL-M 250/Z220

Actual gripping force diagrams



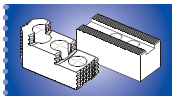
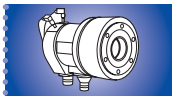


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AL-D 125 AL-M 125		AL-D 165 AL-M 165		AL-D 210 AL-M 210		AL-D 250 AL-M 250		AL-D 315 AL-M 315		AL-D 400 AL-M 400		
Number of jaws		2	3	2	3	2	3	2	3	2	3	2	3	4
Radial jaw stroke	mm	6		7		8.5		10		12		13		
Axial piston stroke	mm	15		17		21		25		30		33		
Max. draw pull	kN	17	25	20	30	35	53	45	68	54	80	67	100	100
Max. gripping force	kN	30	45	36	54	63	95	83	125	97	145	120	180	180
Max. speed	r.p.m.	6000		5200		4500		3600		2800		2000		1700
Mass (without top jaws)	kg	5.5		9.5		19		32		56		84		
Moment of inertia	kg·m²	0.011		0.032		0.105		0.26		0.69		1.6		
Recommended actuating cylinders		SIN-S 85/100		SIN-S 100		SIN-S 100/125		SIN-S 125/150		SIN-S 125/150		SIN-S 150/175		

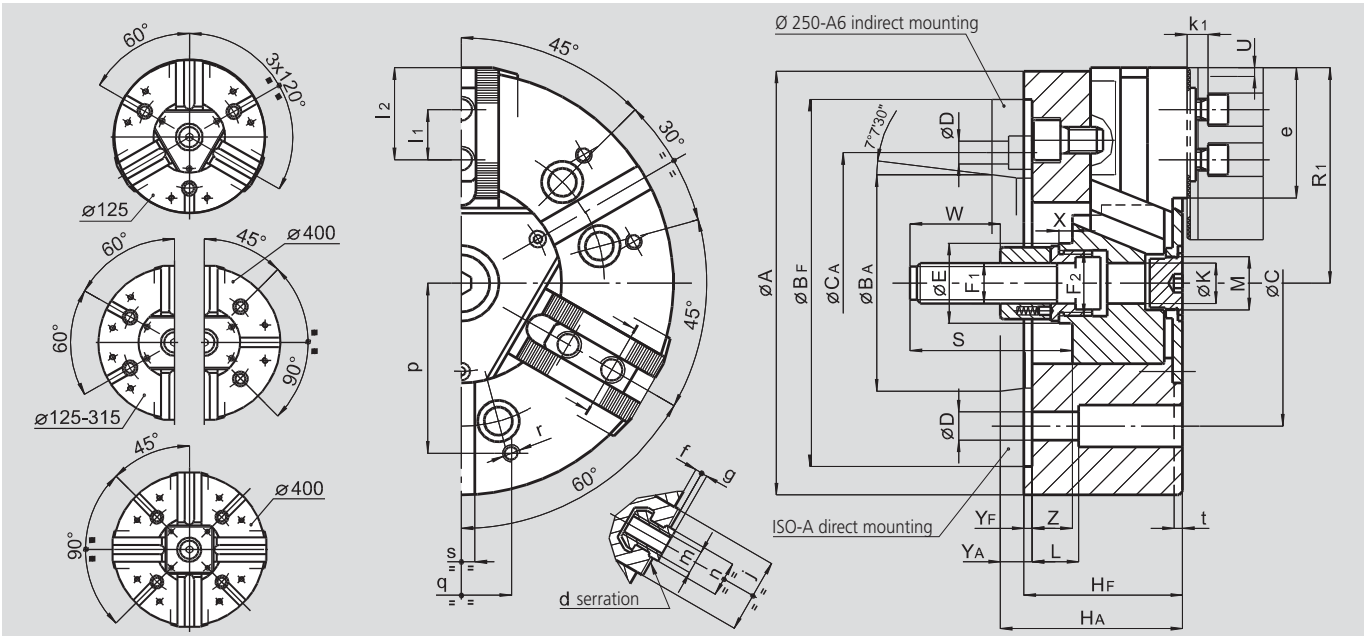

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High precision power chucks Ø 125 - 400 mm

- closed center
- LONG STROKE
- 2 and 3 jaws (4 jaws only Ø 400 mm)

AL-D INCH serration

AL-M METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			AL-D 125 AL-M 125		AL-D 165 AL-M 165		AL-D 210 AL-M 210		AL-D 250 AL-M 250			AL-D 315 AL-M 315		AL-D 400 AL-M 400	
Mounting			Z115	A4	Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A	mm	127		165		210		254			315		390	
	BF/BA H6	mm	115	63.513	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C	mm	82.6		104.8		133.4		171.4	–	171.4	171.4		235	
	CA	mm	–	–	–	–	–	–	–	133.4	–	–	–	–	–
	D	mm	11.5		11.5		13.5		17	13.5	17	17		21	
	E	mm	25		32		41		47			47		86	
	F1	mm	M12 x 1.25		M16		M20		M24			M24		M24	
	F2	mm	M18 x 1.5		M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M75 x 2	
	HF/HA	mm	59	67	71	81	85	97	95	114	109	105	119	116	131
	K	mm	10		17		20		25			25		65	
	L	mm	32		23		32		28			38		54	
	M	mm	M16 x 1.5		M24 x 1.5		M32 x 1.5		M32 x 1.5			M38 x 1.5		M68 x 2	
Chuck open	R1	mm	67		86		109		133			164		202	
	S	mm	77		104		97		103			103		105	
Jaw stroke	U	mm	6		7		8.5		10			12		13	
	W	mm	40		52		55		60			60		60	
	X	mm	12		17		8		8			8		8	
	YF/YA	mm	5	13	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z	mm	15/0		17/0		21/0		24/-1			30/0		33/0	
AL-D	d	inch	1/16" x 90°		1/16" x 90°		1/16" x 90°		1/16" x 90°			1/16" x 90°		3/32" x 90° (1)	
AL-M	d	mm	1.5 x 60°		1.5 x 60°		1.5 x 60°		1.5 x 60°			1.5 x 60°		1.5 x 60°	
	e	mm	37		49		61		77			99		116	
	f	mm	3		4		3		4			4		6	
	g	mm	2.5		2.5		3		3.5			3.5		3.5	
	j	mm	26		30		36		45			45		62	
	k1	mm	10		10		11		12			12		14	
AL-D	l1	mm	16		16.5		23		30			30		38	
AL-M	l1	mm	16		20		25		30			30		38	
max./min.	l2	mm	30/23		40/24		50/33		62/43			84/43		90/49	
AL-D	m	mm	M8		M10		M12		M16			M16		M20	
AL-M	m	mm	M8		M10		M12		M12			M16		M20	
AL-D	n h8	mm	12		14		17		21			21		25.5	
AL-M	n h8	mm	12		12		14		16			21		22	
	p	mm	52		65		80		102			120		150	
	q	mm	30		36		45		60			60		80	
	r	mm	M6		M8		M8		M10			M10		M12	
	s	mm	12		16		16		16			16		20	
	t	mm	5		5		5		5			5		5	

AN-C

Tongue & groove

High precision power chucks Ø 165 - 400 mm

■ closed center
■ 2 and 3 jaws (4 jaws only Ø 400 mm)



Application/customer benefits

- For chucking parts
- Suitable for vertical machines
- Tongue & groove master jaws for heavy or very high profile special top jaws

AN-C: Tongue & groove master jaws (American Standard)

Technical features

- Gripping force transmission via wedge hook
- Case hardened body to assure greatest precision and long chuck life

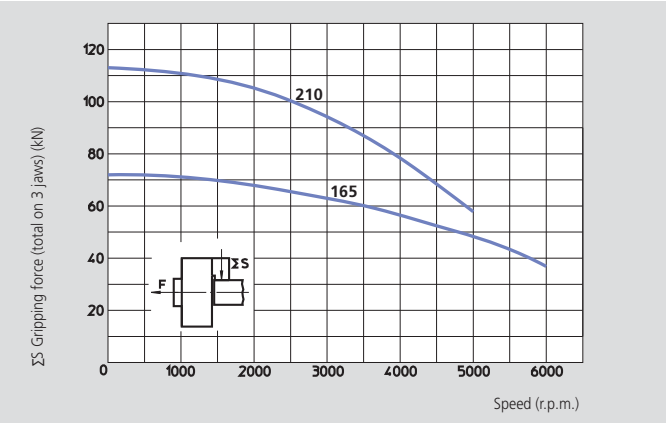
Standard equipment

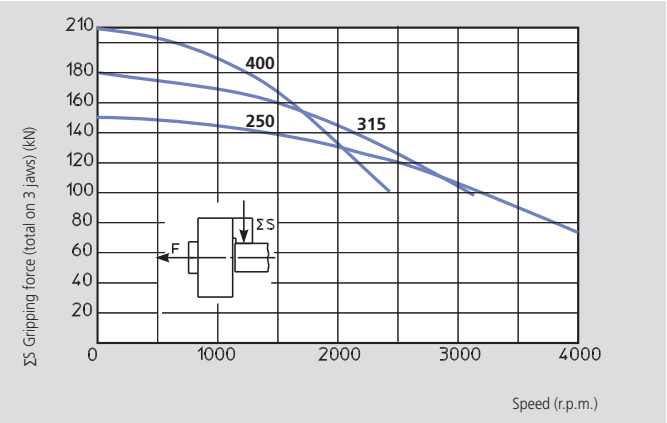
2, 3 or 4 jaw chuck
Mounting bolts
Grease gun

Ordering example

3 jaw chuck AN-C 250/Z220
or
2 jaw chuck AN-C 315/A8

Actual gripping force diagrams



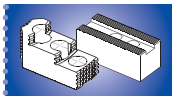
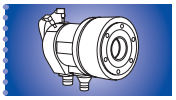


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AN-C 165		AN-C 210		AN-C 250		AN-C 315		AN-C 400		
Number of jaws		**2**	**3**	**2**	**3**	**2**	**3**	**2**	**3**	**2**	**3**	**4**
Radial jaw stroke	mm	3.6		4.4		5		6.3		7		
Axial piston stroke	mm	17		21		24		30		33		
Max. draw pull	kN	17	25	25	38	33	50	40	60	50	70	70
Max. gripping force	kN	50	72	75	115	100	150	120	180	150	210	210
Max. speed	r.p.m.	6000		5000		4000		3200		2400		2000
Mass (without top jaws)	kg	10		19.5		33		57		84		
Moment of inertia	kg·m²	0.034		0.11		0.27		0.70		1.6		
Recommended actuating cylinders		**SIN-S 100**		**SIN-S 100/125**		**SIN-S 125/150**		**SIN-S 125/150**		**SIN-S 150/175**		

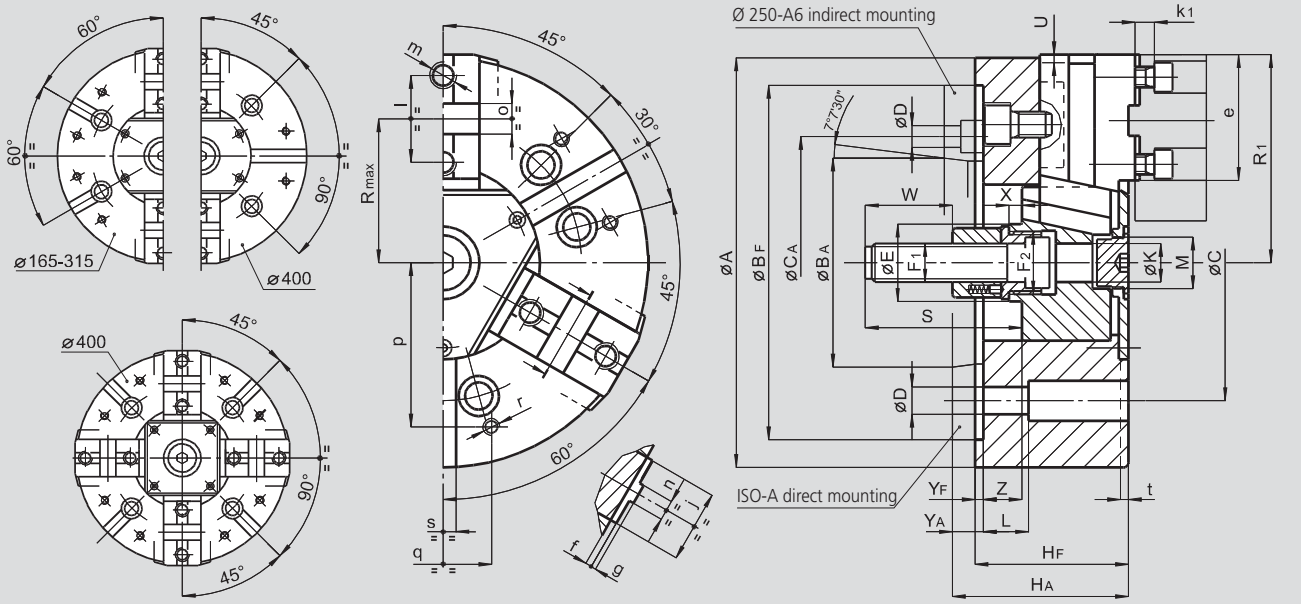

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High precision power chucks Ø 165 - 400 mm

AN-C

- closed center
- 2 and 3 jaws (4 jaws only Ø 400 mm)

Tongue & groove



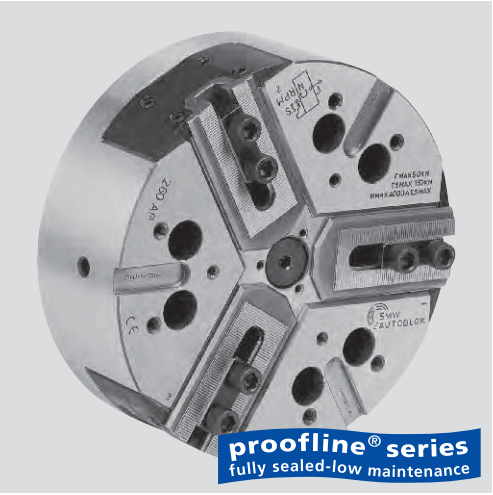
Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			AN-C 165		AN-C 210		AN-C 250			AN-C 315		AN-C 400	
Mounting			Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A	mm	165		210		254			315		390	
	BF/BA H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C	mm	104.8		133.4		171.4	–	171.4	171.4		235	
	CA	mm	–	–	–	–	–	133.4	–	–	–	–	–
	D	mm	11.5		13.5		17	13.5	17	17		21	
	E	mm	32		41		47			47		86	
	F1	mm	M16		M20		M24			M24		M24	
	F2	mm	M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M75 x 2	
	HF/HA	mm	71	81	85	97	95	114	109	105	119	116	131
	K	mm	17		20		25			25		65	
	L	mm	23		32		28			38		54	
	M	mm	M24 x 1.5		M32 x 1.5		M32 x 1.5			M38 x 1.5		M68 x 2	
Chuck open	R1	mm	83		105		128			158		196	
max.	R	mm	56		72		88			105		133.5	
	S	mm	104		97		103			103		105	
Jaw stroke	U	mm	3.6		4.4		5			6.3		7	
	W	mm	52		55		60			60		60	
	X	mm	17		8		8			8		8	
	YF/YA	mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z	mm	17/0		21/0		24/0			30/0		33/0	
	e	mm	54		71		77			99		116	
	f	mm	4		4		4			4		7	
	g	mm	3		3		3			3		3	
	j	mm	30		36		45			45		62	
	k1	mm	10		11		12			12		14	
	l	mm	38		44.4		54			63.5		76.2	
	m	mm	M10		M12		M16			M16		M20	
	n h8	mm	7.94		7.94		12.70			12.70		12.70	
	o H7	mm	12.68		12.68		19.03			19.03		19.03	
	p	mm	65		80		102			120		150	
	q	mm	36		45		60			60		80	
	r	mm	M8		M8		M10			M10		M12	
	s	mm	16		16		16			16		20	
	t	mm	5		5		5			5		5	

AP®-D
INCH serration

AP®-M
METRIC serration

High precision power chucks Ø 170 - 400 mm
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits
- For mid to large batch production
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

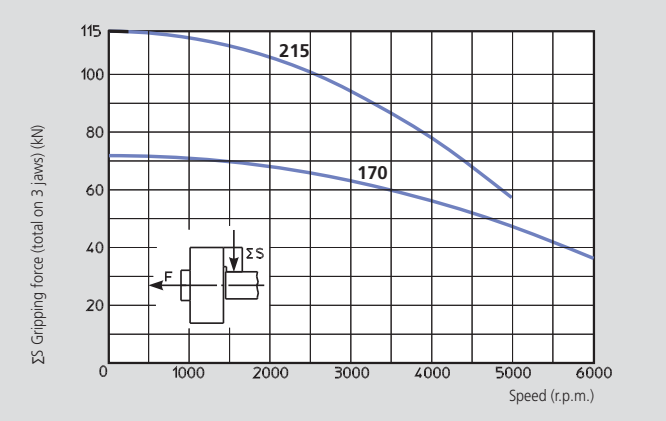
AP-D: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
AP-M: Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese chuck jaws)

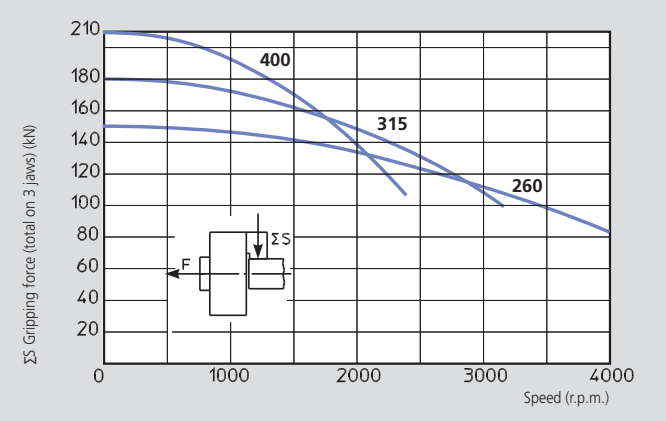
Technical features
- Constant gripping force with permanent grease lubrication
- Central bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
3 jaw chuck
1 set T-nuts and bolts
1 set soft top jaws
mounting bolts

Ordering example
3 jaw chuck AP-D 215/A6
or
3 jaw chuck AP-M 260/Z220

Actual gripping force diagrams



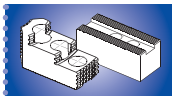
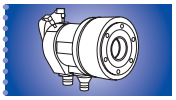


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AP-D 170 AP-M 170	AP-D 215 AP-M 215	AP-D 260 AP-M 260	AP-D 315 AP-M 315	AP-D 400 AP-M 400
Number of jaws		**3**	**3**	**3**	**3**	**3**
Radial jaw stroke	mm	3.6	4.6	5	6.3	7
Axial piston stroke	mm	17	22	24	30	33
Max. draw pull	kN	30	42	55	65	75
Max. gripping force	kN	72	112	150	180	210
Max. speed	r.p.m.	6000	5000	4000	3200	2400
Mass (without top jaws)	kg	10	19.5	32.5	56	90
Moment of inertia	kg·m²	0.037	0.113	0.28	0.69	1.7
Recommended actuating cylinders		**SIN-S 100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**

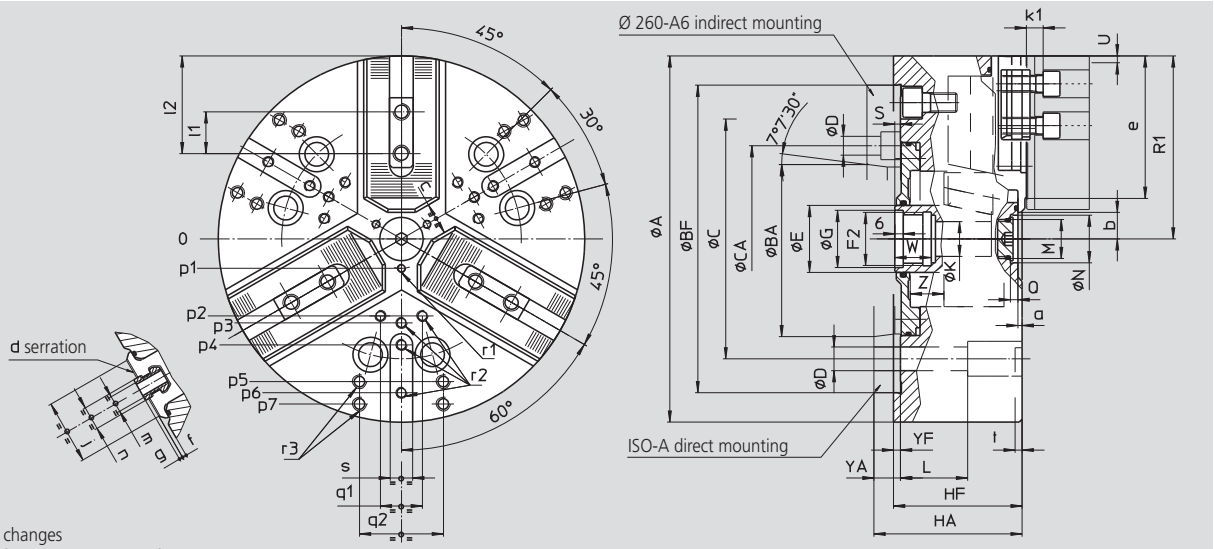

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High precision power chucks Ø 170 - 400 mm

- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance

AP®-D INCH serration

AP®-M METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				AP-D 170 AP-M 170		AP-D 215 AP-M 215		AP-D 260 AP-M 260			AP-D 315 AP-M 315		AP-D 400 AP-M 400	
Mounting				Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A		mm	172		216		262			315		390	
	BF/BA	H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	104.8		133.4		171.4		171.4	171.4		235	
	CA		mm	-	-	-	-	-	133.4	-	-	-	-	-
	D		mm	11.5		13.5		17	13.5	17	17		21	
	E		mm	32		42		48			48		75	
	F2		mm	M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M60 x 1.5	
	G	H8	mm	25		33		39			39		61	
	HF/HA		mm	68	78	81	93	92	111	106	101	115	112	127
	K		mm	18.5		20		25			25		48	
	L		mm	23		32		38			38		54	
	M		mm	M22 x 1.5		M22 x 1.5		M28 x 1.5			M28 x 1.5		M52 x 1.5	
	N	H9	mm	24		24		34			34		60	
	Q		mm	5.5		5.5		5.5			5.5		9	
Chuck open	**R1**		mm	86.5		108		131			157.5		195	
max./min.	**S**		mm	21/4		26/4		28/4			34/4		37/4	
Jaw stroke	**U**		mm	3.6		4.6		5			6.3		7	
	W		mm	22		26		26			26		38	
	YF/YA		mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	**Z**		mm	17/0		22/0		24/0			30/0		33/0	
	a		mm	3		3		3			3		3	
min.	**b**		mm	8.5		12		14			16.5		31	
min.	**c**		mm	9		13		14			16		38	
AP-D	**d**		inch	1/16" x 90°		1/16" x 90°		1/16" x 90°			1/16" x 90°		3/32" x 90°	
AP-M	**d**		mm	1.5 x 60°		1.5 x 60°		1.5 x 60°			1.5 x 60°		1.5 x 60°	
	e		mm	67		82		102			123		144	
	f		mm	3		3		3			3		6	
	g		mm	2.5		2.5		2.5			3.5		3.5	
	j		mm	34		46		48			58		63	
	k1		mm	10		11		12			12		14	
AP-D	**l1**		mm	16.5		23		30			30		38	
AP-M	**l1**		mm	20		25		30			30		38	
max./min.	**l2**		mm	43/24		53/33		70/41			84/43		98/54	
AP-D	**m**		mm	M10		M12		M12			M16		M20	
AP-M	**m**		mm	M10		M12		M12			M16		M20	
AP-D	**n**	h8	mm	14		17		17			21		25.5	
AP-M	**n**	h8	mm	12		14		16			21		22	
	p1		mm	16		16		21			21		37.5	
	p2		mm	-		-		-			60		80	
	p3		mm	38		49		55			62.5		83	
	p4		mm	-		80		70			80		110	
	p5		mm	65		80		102			102		140	
	p6		mm	70		-		102			120		155	
	p7		mm	-		-		-			135		170	
	q1		mm	-		-		-			30		36	
	q2		mm	36		45		60			60		80	
	r1		mm	M5/7		M5/8		M6/10			M6/10		M6/12	
	r2		mm	M6/14		M8/17		M8/17			M8/17		M10/19	
	r3		mm	M8/17		M8/17		M10/19			M10/19		M12/22	
	s		mm	16		16		16			16		20	
	t		mm	5		5		5			5		5	

AP®-C

Tongue & groove

High precision power chucks Ø 170 - 400 mm

- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits

- For large batch production
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

AP-C: Tongue & groove master jaws (American Standard)

Technical features

- Constant gripping force with permanent grease lubrication
- Central bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

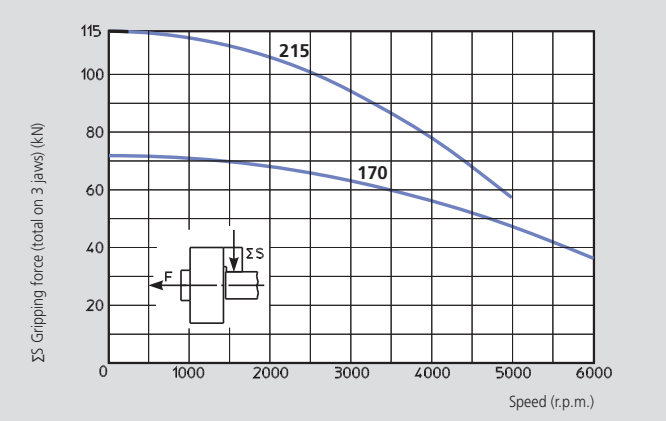
Standard equipment

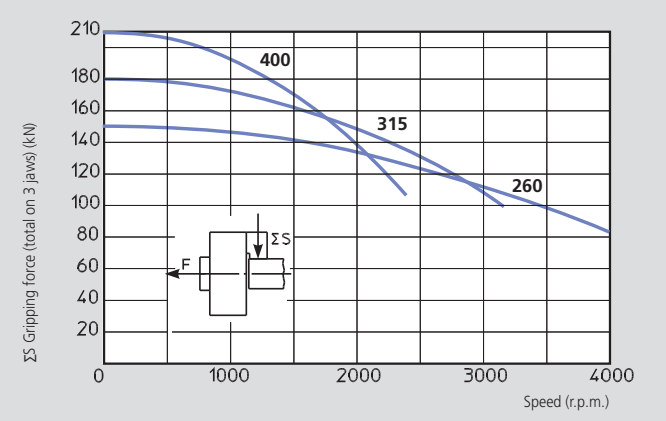
3 jaw chuck
mounting bolts

Ordering example

3 jaw chuck AP-C 215/A6

Actual gripping force diagrams



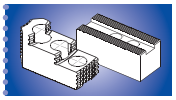
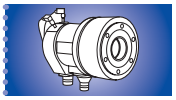


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease.The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AP-C 170	AP-C 215	AP-C 260	AP-C 315	AP-C 400
Number of jaws		**3**	**3**	**3**	**3**	**3**
Radial jaw stroke	mm	3.6	4.6	5	6.3	7
Axial piston stroke	mm	17	22	24	30	33
Max. draw pull	kN	30	42	55	65	75
Max. gripping force	kN	72	112	150	180	210
Max. speed	r.p.m.	6000	5000	4000	3200	2400
Mass (without top jaws)	kg	10	19.5	32.5	56	90
Moment of inertia	kg·m²	0.037	0.113	0.28	0.69	1.7
Recommended actuating cylinders		**SIN-S 100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**

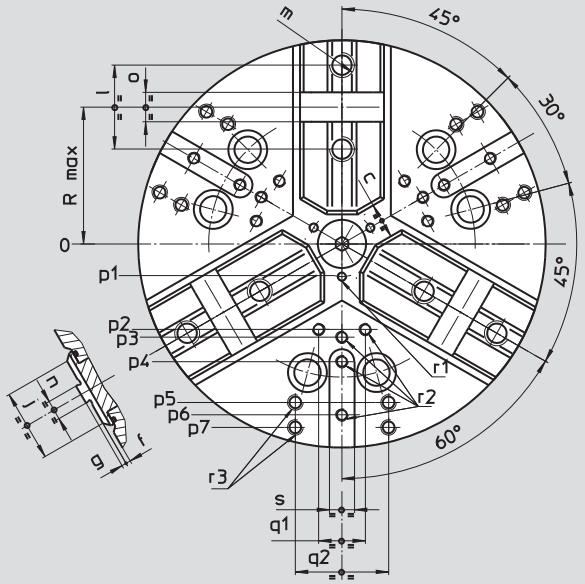

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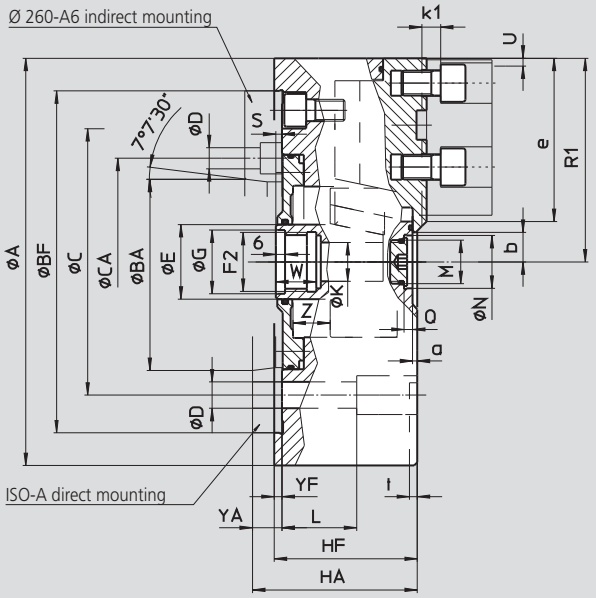
High precision power chucks Ø 170 - 400 mm

- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance

AP®-C

Tongue & groove





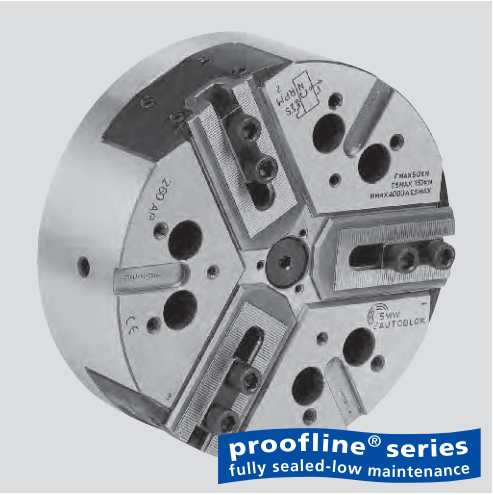
Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			AP-C 170		AP-C 215		AP-C 260			AP-C 315		AP-C 400	
Mounting			Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A	mm	172		216		262			315		390	
	BF/BA H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C	mm	104.8		133.4		171.4		171.4	171.4		235	
	CA	mm	-	-	-	-	-	133.4	-	-	-	-	-
	D	mm	11.5		13.5		17	13.5	17	17		21	
	E	mm	32		42		48			48		75	
	F2	mm	M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M60 x 1.5	
	G H8	mm	25		33		39			39		61	
	HF/HA	mm	68	78	81	93	92	111	106	101	115	112	127
	K	mm	18.5		20		25			25		48	
	L	mm	23		32		38			38		54	
	M	mm	M22 x 1.5		M22 x 1.5		M28 x 1.5			M28 x 1.5		M52 x 1.5	
	N H9	mm	24		24		34			34		60	
	Q	mm	5.5		5.5		5.5			5.5		9	
Chuck open	R1	mm	86.5		108		131			157.5		195	
max.	R	mm	56		72		88			105		133.5	
max./min.	S	mm	21/4		26/4		28/4			34/4		37/4	
Radial jaw stroke	U	mm	3.6		4.6		5			6.3		7	
	W	mm	22		26		26			26		38	
	YF/YA	mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z	mm	17/0		22/0		24/0			30/0		33/0	
	a	mm	3		3		3			3		3	
min.	b	mm	8.5		12		14			16.5		31	
min.	c	mm	9		13		14			16		38	
	e	mm	70		87		107			129		150	
	f	mm	3		3		3			3		6	
	g	mm	3		3		3			3		3	
	j	mm	34		46		48			58		63	
	k1	mm	10		11		12			12		14	
	l	mm	38		44.4		54			63.5		76.2	
	m	mm	M10		M12		M16			M16		M20	
	n h8	mm	7.94		7.94		12.70			12.70		12.70	
	o H7	mm	12.68		12.68		19.03			19.03		19.03	
	p1	mm	16		16		21			21		37.5	
	p2	mm	-		-		-			60		80	
	p3	mm	38		49		55			62.5		83	
	p4	mm	-		80		70			80		110	
	p5	mm	65		80		102			102		140	
	p6	mm	70		-		102			120		155	
	p7	mm	-		-		-			135		170	
	q1	mm	-		-		-			30		36	
	q2	mm	36		45		60			60		80	
	r1	mm	M5/7		M5/8		M6/10			M6/10		M6/12	
	r2	mm	M6/14		M8/17		M8/17			M8/17		M10/19	
	r3	mm	M8/17		M8/17		M10/19			M10/19		M12/22	
	s	mm	16		16		16			16		20	
	t	mm	5		5		5			5		5	

APL-D
INCH serration

APL-M
METRIC serration

High precision power chucks Ø 215 - 400 mm
- LONG STROKE
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits
- For mid to large batch production
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used
- Large clamping range

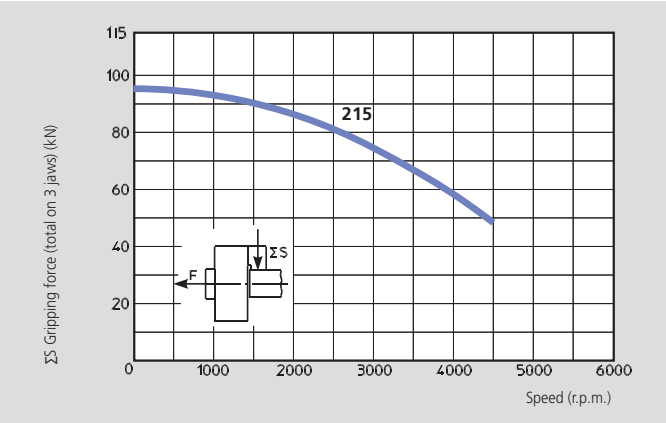
APL-D: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
APL-M: Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese chuck jaws)

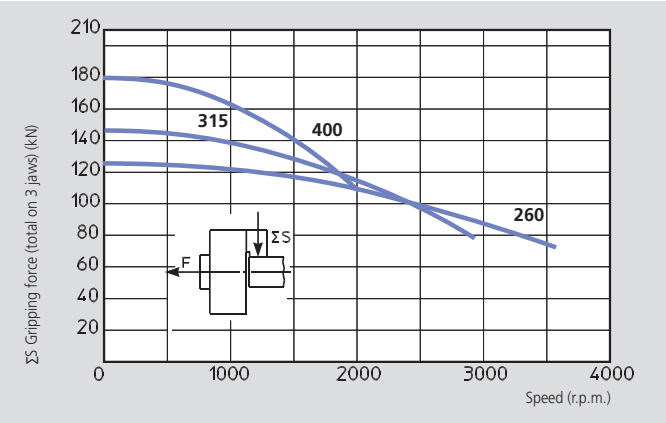
Technical features
- Long jaw stroke
- Constant gripping force with permanent grease lubrication
- Central bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
3 jaw chuck
1 set T-nuts and bolts
1 set soft top jaws
mounting bolts

Ordering example
3 jaw chuck APL-D 215/A6
or
3 jaw chuck APL-M 260/Z220

Actual gripping force diagrams



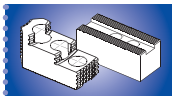
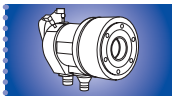


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease.The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		APL-D 215 APL-M 215	APL-D 260 APL-M 260	APL-D 315 APL-M 315	APL-D 400 APL-M 400
Radial jaw stroke	mm	8.5	9.7	12.1	13.3
Axial piston stroke	mm	21	24	30	33
Max. draw pull	kN	53	68	80	100
Max. gripping force	kN	95	125	145	180
Max. speed	r.p.m.	4500	3600	2800	2000
Mass (without top jaws)	kg	19.5	32.5	56	90
Moment of inertia	kg·m²	0.113	0.28	0.69	1.7
Recommended actuating cylinders		**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**


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High precision power chucks Ø 215 - 400 mm

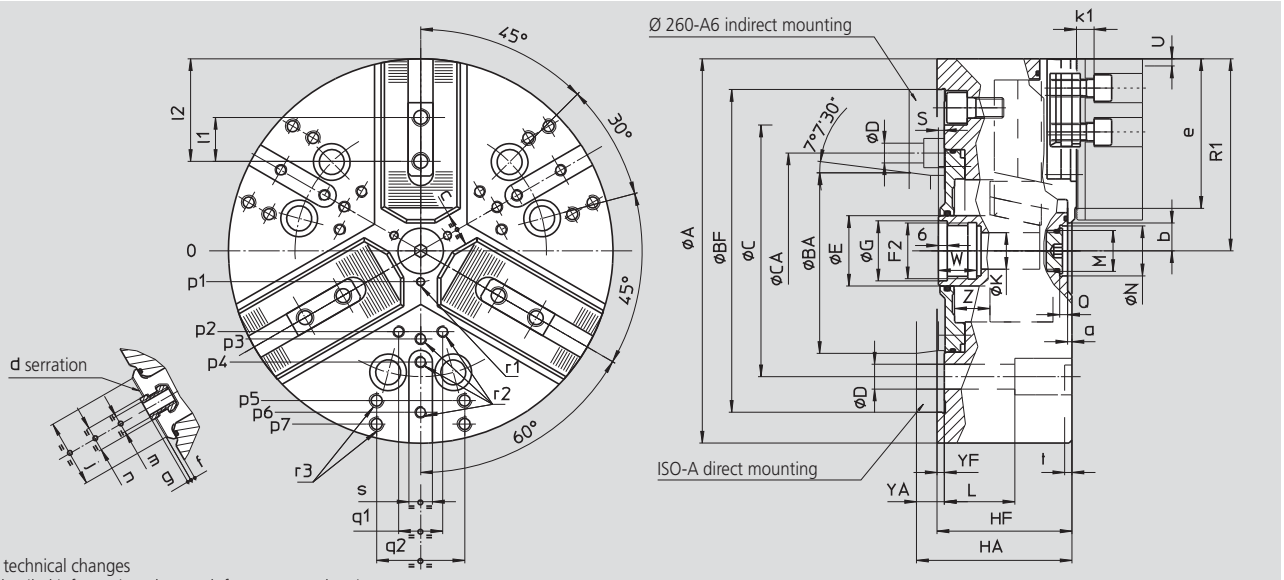
- LONG STROKE
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance

APL-D

INCH serration

APL-M

METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				APL-D 215 APL-M 215		APL-D 260 APL-M 260			APL-D 315 APL-M 315		APL-D 400 APL-M 400	
Mounting				Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A		mm	216		262			315		390	
	BF/BA	H6	mm	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	133.4		171.4		171.4	171.4		235	
	CA		mm	-	-	-	133.4	-	-	-	-	-
	D		mm	13.5		17	13.5	17	17		21	
	E		mm	42		48			48		75	
	F2		mm	M32 x 1.5		M38 x 1.5			M38 x 1.5		M60 x 1.5	
	G	H8	mm	33		39			39		61	
	HF/HA		mm	81	93	92	111	106	101	115	112	127
	K		mm	20		25			25		48	
	L		mm	32		38			38		54	
	M		mm	M22 x 1.5		M28 x 1.5			M28 x 1.5		M52 x 1.5	
	N	H9	mm	24		34			34		60	
	Q		mm	5.5		5.5			5.5		9	
Chuck open	R1		mm	112.5		136			163.5		202	
max./min.	S		mm	25/4		28/4			34/4		37/4	
Radial jaw stroke	U		mm	8.5		9.7			12.1		13.3	
	W		mm	26		26			26		38	
	YF/YA		mm	5	17	5	24	19	5	19	6	21
max./min.	Z		mm	21/0		24/0			30/0		33/0	
	a		mm	3		3			3		3	
min.	b		mm	8.5		9			11		24.5	
min.	c		mm	6.2		6			6		28	
APL-D	d		inch	1/16" x 90°		1/16" x 90°			1/16" x 90°		1/32" x 90°	
APL-M	d		mm	1.5 x 60°		1.5 x 60°			1.5 x 60°		1.5 x 60°	
	e		mm	82.5		102			123.5		145.5	
	f		mm	3		3			3		6	
	g		mm	2.5		2.5			3.5		3.5	
	j		mm	46		48			58		63	
	k1		mm	11		12			12		14	
APL-D	l1		mm	23		30			30		38	
APL-M	l1		mm	25		30			30		38	
max./min.	l2		mm	53/33		73/41			88/43		102/54	
APL-D	m		mm	M12		M12			M16		M20	
APL-M	m		mm	M12		M12			M16		M20	
APL-D	n	h8	mm	17		17			21		25.5	
APL-M	n	h8	mm	14		16			21		22	
	p1		mm	16		21			21		37.5	
	p2		mm	-		-			60		80	
	p3		mm	49		55			62.5		83	
	p4		mm	80		70			80		110	
	p5		mm	80		102			102		140	
	p6		mm	-		102			120		155	
	p7		mm	-		-			135		170	
	q1		mm	-		-			30		36	
	q2		mm	45		60			60		80	
	r1		mm	M5/8		M6/10			M6/10		M6/12	
	r2		mm	M8/17		M8/17			M8/17		M10/19	
	r3		mm	M8/17		M10/19			M10/19		M12/22	
	s		mm	16		16			16		20	
	t		mm	5		5			5		5	

APL-C

Tongue & groove

High precision power chucks Ø 215 - 400 mm

- LONG STROKE
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits

- For large batch production
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used
- Large clamping range

APL-C: Tongue & groove master jaws (American Standard)

Technical features

- Long jaw stroke
- Constant gripping force with permanent grease lubrication
- Center bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

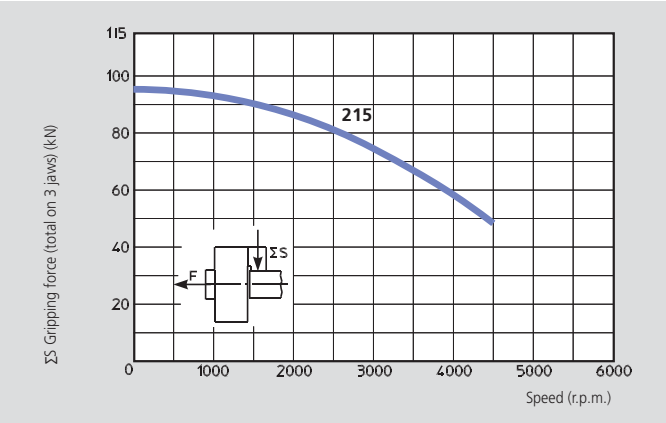
Standard equipment

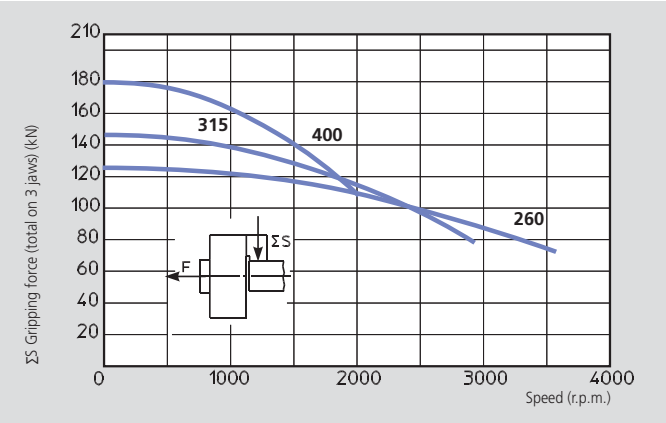
3 jaw chuck
mounting bolts

Ordering example

3 jaw chuck APL-C 215/A6

Actual gripping force diagrams



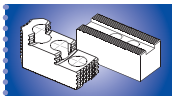
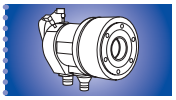


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		APL-C 215	APL-C 260	APL-C 315	APL-C 400
Radial jaw stroke	mm	8.5	9.7	12.1	13.3
Axial piston stroke	mm	21	24	30	33
Max. draw pull	kN	53	68	80	100
Max. gripping force	kN	95	125	145	180
Max. speed	r.p.m.	4500	3600	2800	2000
Mass (without top jaws)	kg	19.5	32.5	56	90
Moment of inertia	kg·m²	0.113	0.28	0.69	1.7
Recommended actuating cylinders		**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**

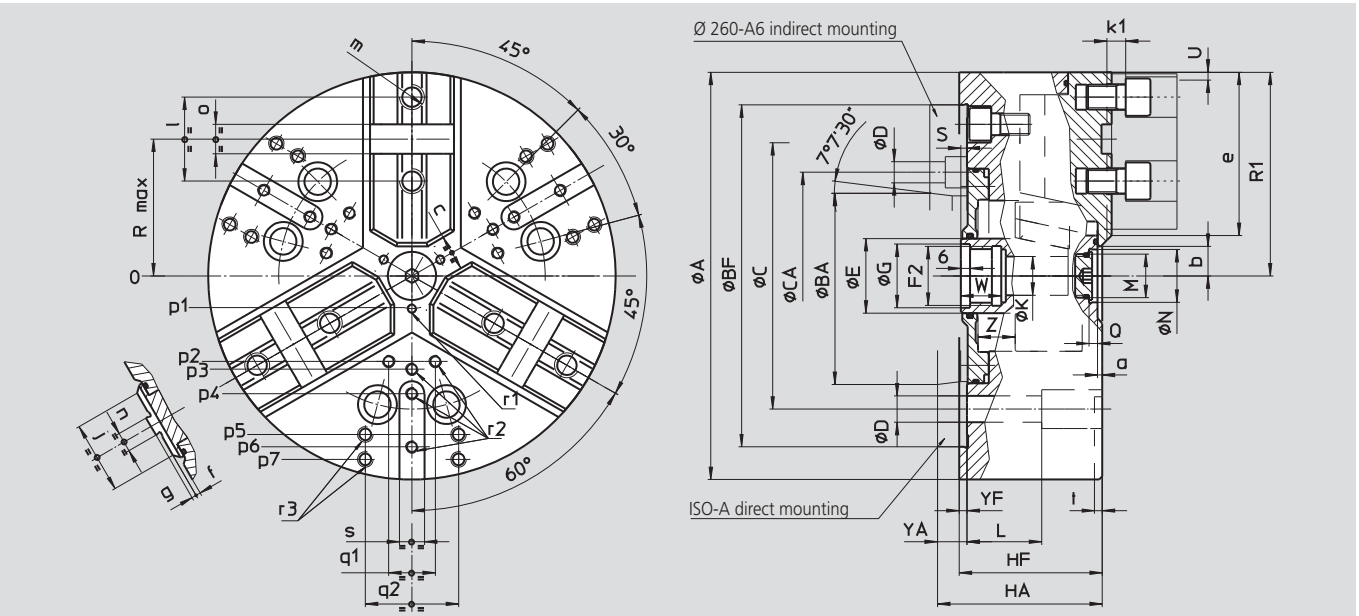

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High precision power chucks Ø 215 - 400 mm

- LONG STROKE
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance

APL-C

Tongue & groove



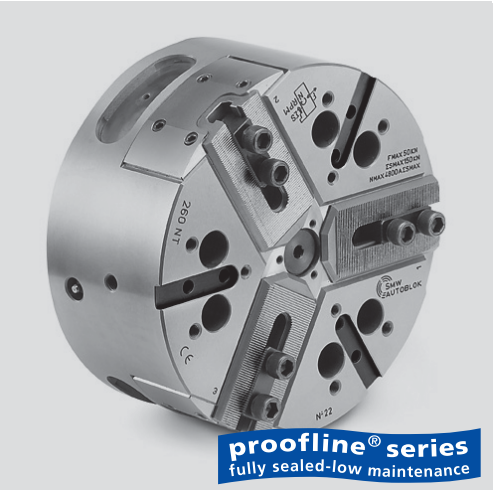
Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				APL-C 215		APL-C 260			APL-C 315		APL-C 400	
Mounting				Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A		mm	216		262			315		390	
	BF/BA	H6	mm	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	133.4		171.4		171.4	171.4		235	
	CA		mm	-	-	-	133.4	-	-	-	-	-
	D		mm	13.5		17	13.5	17	17		21	
	E		mm	42		48			48		75	
	F2		mm	M32 x 1.5		M38 x 1.5			M38 x 1.5		M60 x 1.5	
	G	H8	mm	33		39			39		61	
	HF/HA		mm	81	93	92	111	106	101	115	112	127
	K		mm	20		25			25		48	
	L		mm	32		38			38		54	
	M		mm	M22 x 1.5		M28 x 1.5			M28 x 1.5		M52 x 1.5	
	N	H9	mm	24		34			34		60	
	Q		mm	5.5		5.5			5.5		9	
Chuck open	R1		mm	112.5		136			163.5		202	
max.	R		mm	76		92.5			111		139	
max./min.	S		mm	26/4		28/4			34/4		37/4	
Radial jaw stroke	U		mm	8.5		9.7			12.1		13.3	
	W		mm	26		26			26		38	
	YF/YA		mm	5	17	5	24	19	5	19	6	21
max./min.	Z		mm	22/0		24/0			30/0		33/0	
	a		mm	3		3			3		3	
min.	b		mm	8.5		9			11		24.5	
min.	c		mm	6.2		6			6		28	
	e		mm	87		107			129		150	
	f		mm	3		3			3		6	
	g		mm	3		3			3		3	
	j		mm	46		48			58		63	
	k1		mm	11		12			12		14	
	l		mm	44.4		54			63.5		76.2	
	m		mm	M12		M16			M16		M20	
	n	h8	mm	7.94		12.70			12.70		12.70	
	o	H7	mm	12.68		19.03			19.03		19.03	
	p1		mm	16		21			21		37.5	
	p2		mm	-		-			60		80	
	p3		mm	49		55			62.5		83	
	p4		mm	80		70			80		110	
	p5		mm	80		102			102		140	
	p6		mm	-		102			120		155	
	p7		mm	-		-			135		170	
	q1		mm	-		-			30		36	
	q2		mm	45		60			60		80	
	r1		mm	M5/8		M6/10			M6/10		M6/12	
	r2		mm	M8/17		M8/17			M8/17		M10/19	
	r3		mm	M8/17		M10/19			M10/19		M12/22	
	s		mm	16		16			16		20	
	t		mm	5		5			5		5	

NT-D
INCH serration

NT-M
METRIC serration

High precision power chucks Ø 170 - 400 mm
- centrifugal force compensation
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits
- For mid to large batch production/high speed machining and for fragile parts
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

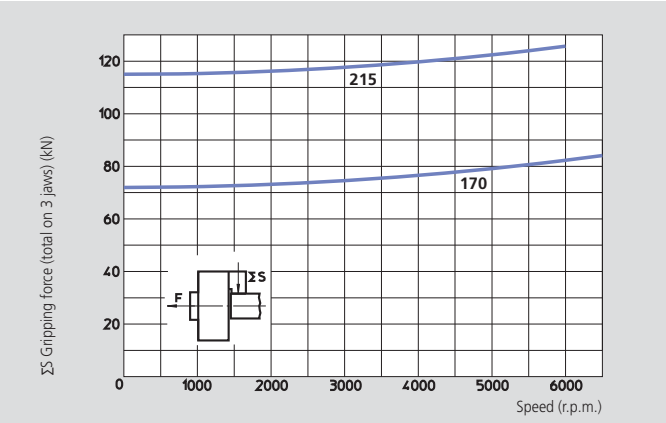
NT-D: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
NT-M: Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese chuck top jaws)

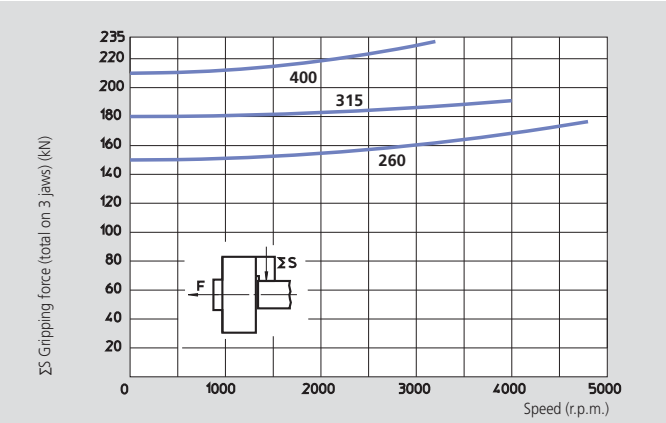
Technical features
- Centrifugal force compensation
- Constant gripping force with permanent grease lubrication
- Center bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
3 jaw chuck
1 set T-nuts and bolts
1 set soft top jaws

Ordering example
3 jaw chuck NT-D 215/A6
or
3 jaw chuck NT-M 260/Z220

Actual gripping force diagrams



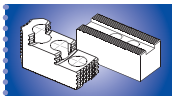
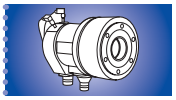


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		NT-D 170 NT-M 170	NT-D 215 NT-M 215	NT-D 260 NT-M 260	NT-D 315 NT-M 315	NT-D 400 NT-M 400
Number of jaws		**3**	**3**	**3**	**3**	**3**
Radial jaw stroke	mm	3.6	4.6	5	6.3	7
Axial piston stroke	mm	17	22	24	30	33
Max. draw pull	kN	30	42	55	65	75
Max. gripping force	kN	72	112	150	180	210
Max. speed	r.p.m.	6500	6000	4800	4000	3200
Mass (without top jaws)	kg	13	25	40	68	112
Moment of inertia	kg·m²	0.048	0.146	0.34	0.84	2.15
Recommended actuating cylinders		**SIN-S 100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**

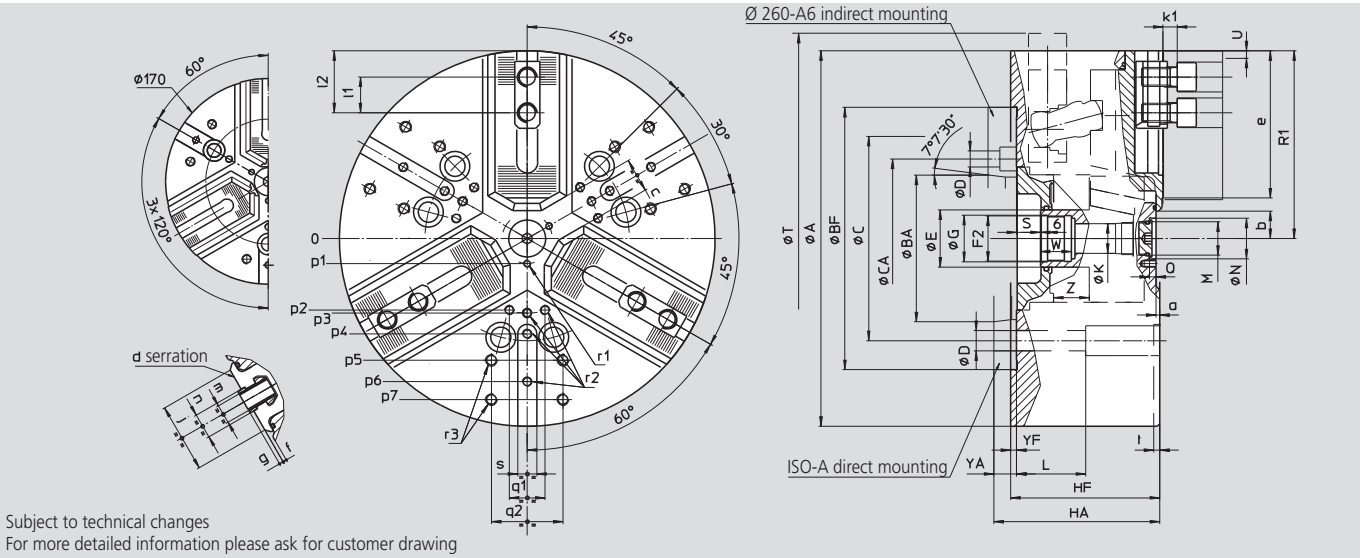

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High precision power chucks Ø 170 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance

NT-D INCH serration

NT-M METRIC serration



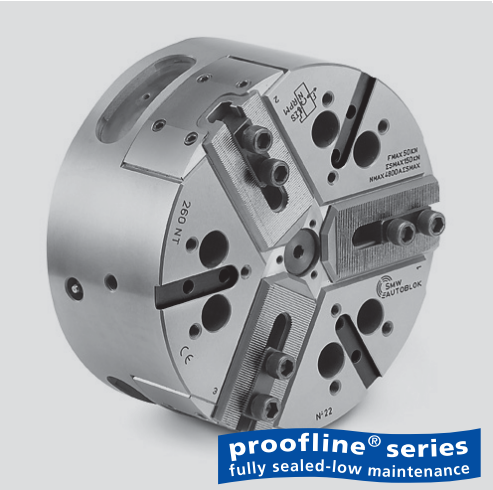
Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				NT-D 170 NT-M 170		NT-D 215 NT-M 215		NT-D 260 NT-M 260			NT-D 315 NT-M 315		NT-D 400 NT-M 400	
Mounting				**Z140**	**A5**	**Z170**	**A6**	**Z220**	**A6**	**A8**	**Z220**	**A8**	**Z300**	**A11**
	A		mm	172		216			262			315		390
	BF/BA	H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	104.8		133.4		171.4	-	171.4	171.4		235	
	CA		mm	-	-	-	-	-	133.4	-	-	-	-	-
	D		mm	11.5		13.5		17	13.5	17	17		21	
	E		mm	32		42			48		48		75	
	F2		mm	M24 x 2		M32 x 1.5			M38 x 1.5		M38 x 1.5		M60 x 1.5	
	G	H8	mm	25		33			39		39		61	
	HF/HA		mm	92	102	104	116	118	137	132	125	139	149	164
	K		mm	18.5		20			25		25		48	
	L		mm	43		52			58		58		74	
	M		mm	M22 x 1.5		M22 x 1.5			M28 x 1.5		M28 x 1.5		M52 x 1.5	
	N	H9	mm	24		24			34		34		60	
	Q		mm	5.5		5.5			5.5		5.5		9	
Chuck open	**R1**		mm	86.5		108			131		157.5		195	
max./min.	**S**		mm	20/3		19/-3			22/-2		20/-10		33/0	
Chuck fully closed	**T**		mm	175		220			-		-		-	
Radial jaw stroke	**U**		mm	3.6		4.6			5		6.3		7	
	W		mm	22		26			26		26		38	
	YF/YA		mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	**Z**		mm	17/0		22/0			24/0		30/0		33/0	
	a		mm	3		3			3		3		3	
min.	**b**		mm	8.5		12			14		16.5		31	
min.	**c**		mm	9		13			14		16		38	
serration	**NT-D**	**d**	inch	1/16" x 90°		1/16" x 90°			1/16" x 90°		1/16" x 90°		3/32" x 90°	
serration	**NT-M**	**d**	mm	1.5 x 60°		1.5 x 60°			1.5 x 60°		1.5 x 60°		1.5 x 60°	
	e		mm	67		82			102		123		144	
	f		mm	3		3			3		3		6	
	g		mm	2.5		2.5			2.5		3.5		3.5	
	j		mm	34		46			48		58		63	
	k1		mm	10		11			12		12		14	
NT-D	**l1**		mm	16.5		23			30		30		38	
NT-M	**l1**		mm	20		25			30		30		38	
	l2		mm	43/24		53/33			70/41		84/43		98/54	
NT-D	**m**		mm	M10		M12			M12		M16		M20	
NT-M	**m**		mm	M10		M12			M12		M16		M20	
NT-D	**n**		mm	14		17			17		21		25.5	
NT-M	**n**		mm	12		14			16		21		22	
	p1		mm	16		16			21		21		37.5	
	p2		mm	-		-			-		60		80	
	p3		mm	38		49			55		62.5		83	
	p4		mm	-		80			70		80		110	
	p5		mm	65		80			102		102		140	
	p6		mm	70		-			102		120		155	
	p7		mm	-		-			-		135		170	
	q1		mm	-		-			-		30		36	
	q2		mm	36		45			60		60		80	
	r1		mm	M5/7		M5/8			M6/10		M6/10		M6/12	
	r2		mm	M6/14		M8/17			M8/17		M8/17		M10/19	
	r3		mm	M8/17		M8/17			M10/19		M10/19		M12/22	
	s		mm	16		16			16		16		20	
	t		mm	5		5			5		5		5	

NTL-D
INCH serration

NTL-M
METRIC serration

High precision power chucks Ø 260 - 400 mm
- centrifugal force compensation
- closed center
- 3 jaws - LONG STROKE
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits
- For mid to large batch production/high speed machining and for fragile parts
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

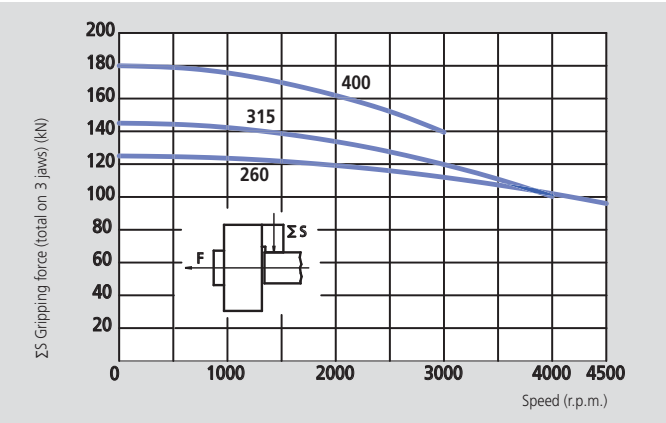
NTL-D: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
NTL-M: Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese chuck top jaws)

Technical features
- Long jaw stroke
- Centrifugal force compensation
- Constant gripping force with permanent grease lubrication
- Center bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
3 jaw chuck
1 set T-nuts and bolts
1 set soft top jaws

Ordering example
3 jaw chuck NTL-D 260/A6
or
3 jaw chuck NTL-M 260/Z220

Actual gripping force diagram

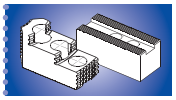
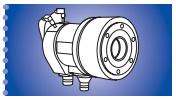


The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		NTL-D 260 NTL-M 260	NTL-D 315 NTL-M 315	NTL-D 400 NTL-M 400
Number of jaws		**3**	**3**	**3**
Radial jaw stroke	mm	9	11	12
Axial piston stroke	mm	22.3	27.3	30
Max. draw pull	kN	68	80	100
Max. gripping force	kN	125	145	180
Max. speed	r.p.m.	4400	3700	3000
Mass (without top jaws)	kg	44	69	114
Moment of inertia	kg·m²	0.35	0.85	2.15
Recommended actuating cylinders		**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**

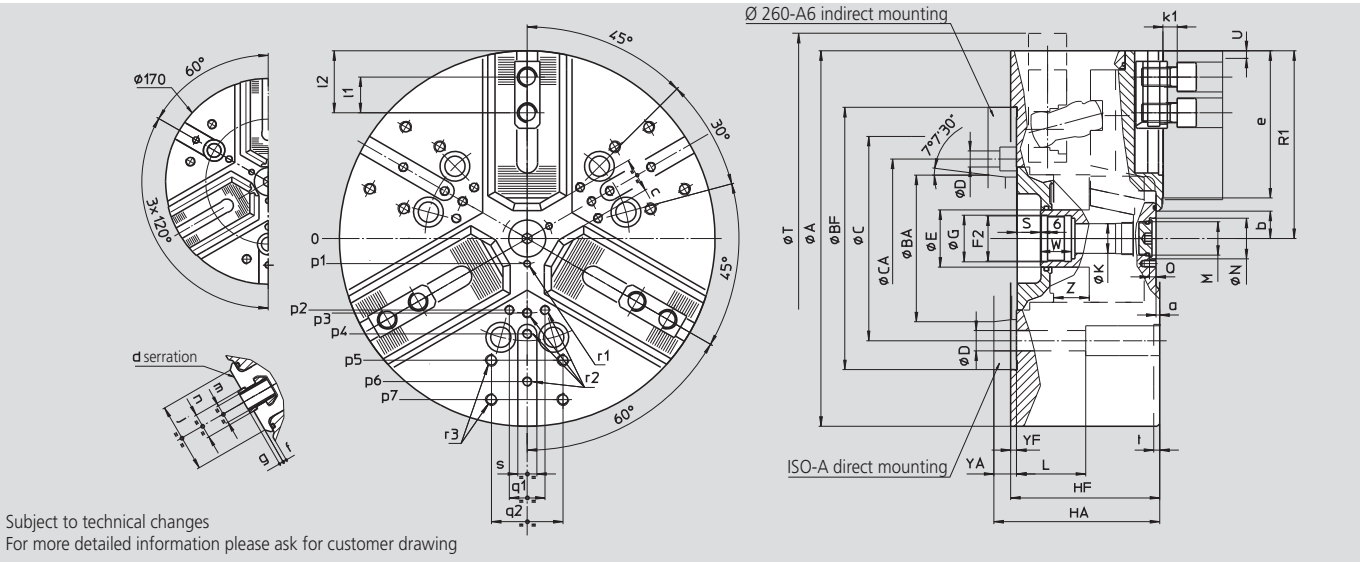

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High precision power chucks Ø 260 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws - LONG STROKE
- proofline® chucks = fully sealed – low maintenance

NTL-D INCH serration

NTL-M METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

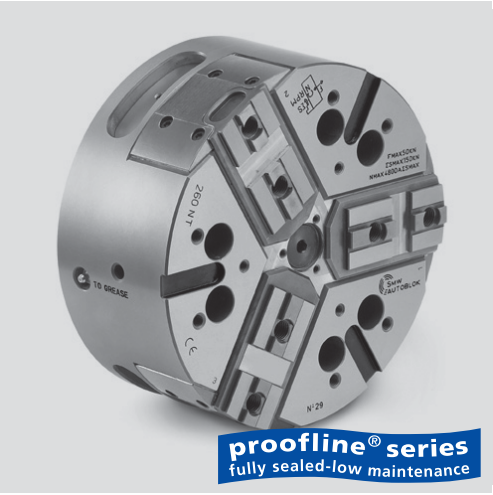
SMW-AUTOBLOK Type				NTL-D 260 NTL-M 260			NTL-D 315 NTL-M 315		NTL-D 400 NTL-M 400	
Mounting				**Z220**	**A6**	**A8**	**Z220**	**A8**	**Z300**	**A11**
	A		mm		262		315		390	
	BF/BA	H6	mm	220	106.375	139.719	220	139.719	300	196.869
	C		mm	171.4	-	171.4	171.4		235	
	CA		mm	-	133.4	-	-	-	-	-
	D		mm	17	13.5	17	17		21	
	E		mm		48		48		75	
	F2		mm		M38 x 1.5		M38 x 1.5		M60 x 1.5	
	G	H8	mm		39		39		61	
	HF/HA		mm	118	137	132	125	139	149	164
	K		mm		25		25		48	
	L		mm		58		58		74	
	M		mm		M28 x 1.5		M28 x 1.5		M52 x 1.5	
	N	H9	mm		34		34		60	
	Q		mm		5.5		5.5		9	
Chuck open	**R1**		mm		136		163.6		202	
max./min.	**S**		mm		22/-0.3		20/-7.3		33/3	
Chuck fully closed	**T**		mm		275		328		412	
Radial jaw stroke	**U**		mm		9		11		12	
	W		mm		26		26		38	
	YF/YA		mm	5	24	19	5	19	6	21
max./min.	**Z**		mm		22.3/0		27.3/0		30/0	
	a		mm		3		3		3	
min.	**b**		mm		10		12		26	
min.	**c**		mm		7.4		7.9		30	
serration **NTL-D**	**d**		inch		1/16" x 90°		1/16" x 90°		3/32" x 90°	
serration **NTL-M**	**d**		mm		1.5 x 60°		1.5 x 60°		1.5 x 60°	
	e		mm		102		123		144	
	f		mm		3		3		6	
	g		mm		2.5		3.5		3.5	
	j		mm		48		58		63	
	k1		mm		12		12		14	
NTL-D	**l1**		mm		30		30		38	
NTL-M	**l1**		mm		30		30		38	
	l2		mm		70/41		88/43		102/54	
NTL-D	**m**		mm		M12		M16		M20	
NTL-M	**m**		mm		M12		M16		M20	
NTL-D	**n**		mm		17		21		25.5	
NTL-M	**n**		mm		16		21		22	
	p1		mm		21		21		37.5	
	p2		mm		-		60		80	
	p3		mm		55		62.5		83	
	p4		mm		70		80		110	
	p5		mm		102		102		140	
	p6		mm		102		120		155	
	p7		mm		-		135		170	
	q1		mm		-		30		36	
	q2		mm		60		60		80	
	r1		mm		M6/10		M6/10		M6/12	
	r2		mm		M8/17		M8/17		M10/19	
	r3		mm		M10/19		M10/19		M12/22	
	s		mm		16		16		20	
	t		mm		5		5		5	

NT-C

Tongue & groove

High precision power chucks Ø 170 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits

- For large batch production/high speed machining and for fragile parts
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

NT-C: Tongue & groove master jaws (American Standard)

Technical features

- Centrifugal force compensation
- Constant gripping force with permanent grease lubrication
- Center bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

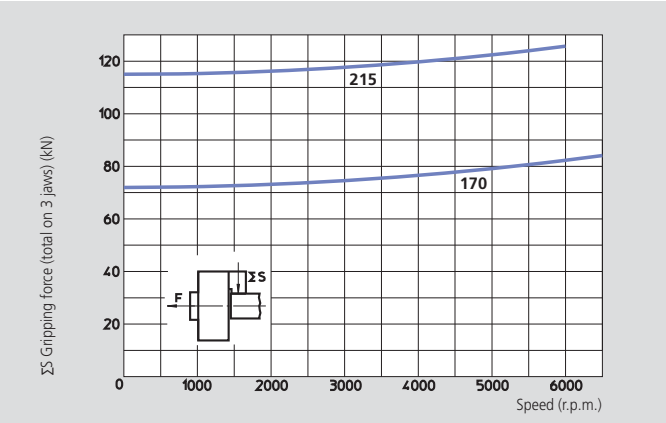
Standard equipment

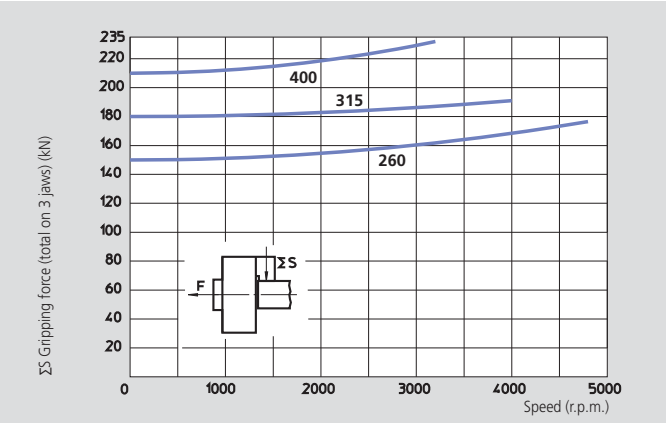
3 jaw chuck
mounting bolts

Ordering example

3 jaw chuck NT-C 215/A6

Actual gripping force diagrams



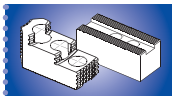
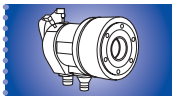


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		NT-C 170	NT-C 215	NT-C 260	NT-C 315	NT-C 400
Number of jaws		**3**	**3**	**3**	**3**	**3**
Radial jaw stroke	mm	3.6	4.6	5	6.3	7
Axial piston stroke	mm	17	22	24	30	33
Max. draw pull	kN	30	42	55	65	75
Max. gripping force	kN	72	112	150	180	210
Max. speed	r.p.m.	6500	6000	4800	4000	3200
Mass (without top jaws)	kg	13	25	40	68	112
Moment of inertia	kg·m²	0.048	0.146	0.34	0.84	2.15
Recommended actuating cylinders		**SIN-S 100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**

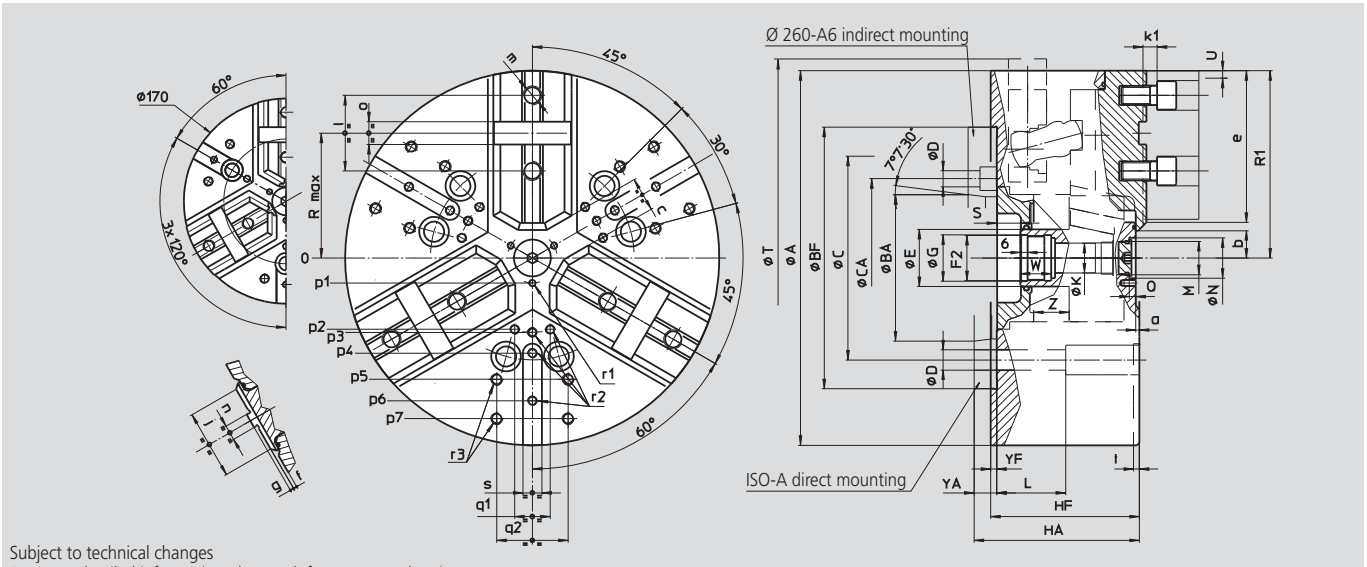

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High precision power chucks Ø 170 - 400 mm

- centrifugal force compensation
- closed center
- 3 jaws
- proofline® chucks = fully sealed – low maintenance

NT-C

Tongue & groove



Subject to technical changes
For more detailed information please ask for customer drawing

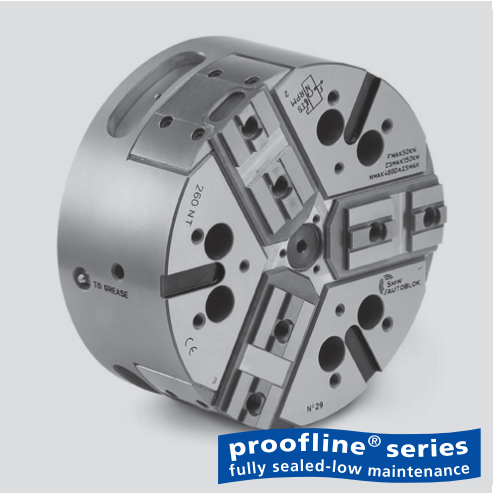
SMW-AUTOBLOK Type			NT-C 170		NT-C 215		NT-C 260			NT-C 315		NT-C 400	
Mounting			Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A	mm	172		216		262			315		390	
	BF/BA H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C	mm	104.8		133.4		171.4	-	171.4	171.4		235	
	CA	mm	-	-	-	-	-	133.4	-	-	-	-	-
	D	mm	11.5		13.5		17	13.5	17	17		21	
	E	mm	32		42		48			48		75	
	F2	mm	M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M60 x 1.5	
	G H8	mm	25		33		39			39		61	
	HF/HA	mm	92	102	104	116	118	137	132	125	139	149	164
	K	mm	18.5		20		25			25		48	
	L	mm	43		52		58			58		74	
	M	mm	M22 x 1.5		M22 x 1.5		M28 x 1.5			M28 x 1.5		M52 x 1.5	
	N H9	mm	24		24		34			34		60	
	Q	mm	5.5		5.5		5.5			5.5		9	
max.	R	mm	56		72		88			105		133.5	
Chuck open	R1	mm	86.5		108		131			157.5		195	
max./min.	S	mm	20/3		19/-3		22/-2			20/-10		33/0	
Chuck fully closed	T	mm	175		220		-			-		-	
Radial jaw stroke	U	mm	3.6		4.6		5			6.3		7	
	W	mm	22		26		26			26		38	
	YF/YA	mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z	mm	17/0		22/0		24/0			30/0		33/0	
	a	mm	3		3		3			3		3	
min.	b	mm	8.5		12		14			16.5		31	
min.	c	mm	9		13		14			16		38	
	e	mm	70		87		107			129		150	
	f	mm	3		3		3			3		6	
	g	mm	3		3		3			3		3	
	j	mm	34		46		48			58		63	
	k1	mm	10		11		12			12		14	
	l	mm	38		44.4		54			63.5		76.2	
	m	mm	M10		M12		M16			M16		M20	
	n	mm	7.94		7.94		12.7			12.7		12.7	
	o	mm	12.68		12.68		19.03			19.03		19.03	
	p1	mm	16		16		21			21		37.5	
	p2	mm	-		-		-			60		80	
	p3	mm	38		49		55			62.5		83	
	p4	mm	-		80		70			80		110	
	p5	mm	65		80		102			102		140	
	p6	mm	70		-		102			120		155	
	p7	mm	-		-		-			135		170	
	q1	mm	-		-		-			30		36	
	q2	mm	36		45		60			60		80	
	r1	mm	M5/7		M5/8		M6/10			M6/10		M6/12	
	r2	mm	M6/14		M8/17		M8/17			M8/17		M10/19	
	r3	mm	M8/17		M8/17		M10/19			M10/19		M12/22	
	s	mm	16		16		16			16		20	
	t	mm	5		5		5			5		5	

NTL-C

Tongue & groove

High precision power chucks Ø 260 - 400 mm

- LONG STROKE
- centrifugal force compensation
- closed center - 3 jaws
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits

- For large batch production/high speed machining and for fragile parts
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

NTL-C: Tongue & groove master jaws (American Standard)

Technical features

- Long jaw stroke
- Centrifugal force compensation
- Constant gripping force with permanent grease lubrication
- Center bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

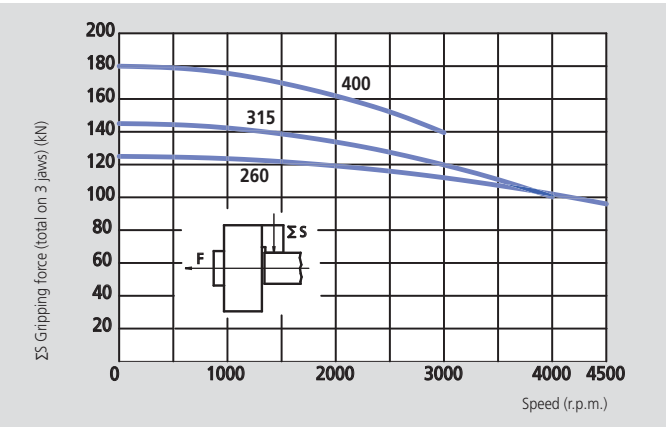
Standard equipment

3 jaw chuck
mounting bolts

Ordering example

3 jaw chuck NTL-C 260/A6

Actual gripping force diagram

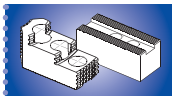
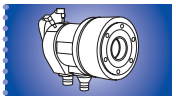


The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		NTL-C 260	NTL-C 315	NTL-C 400
Number of jaws		**3**	**3**	**3**
Radial jaw stroke	mm	9	11	12
Axial piston stroke	mm	22.3	27.3	30
Max. draw pull	kN	68	80	100
Max. gripping force	kN	125	145	180
Max. speed	r.p.m.	4400	3700	3000
Mass (without top jaws)	kg	44	69	114
Moment of inertia	kg·m²	0.35	0.85	2.15
Recommended actuating cylinders		**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**

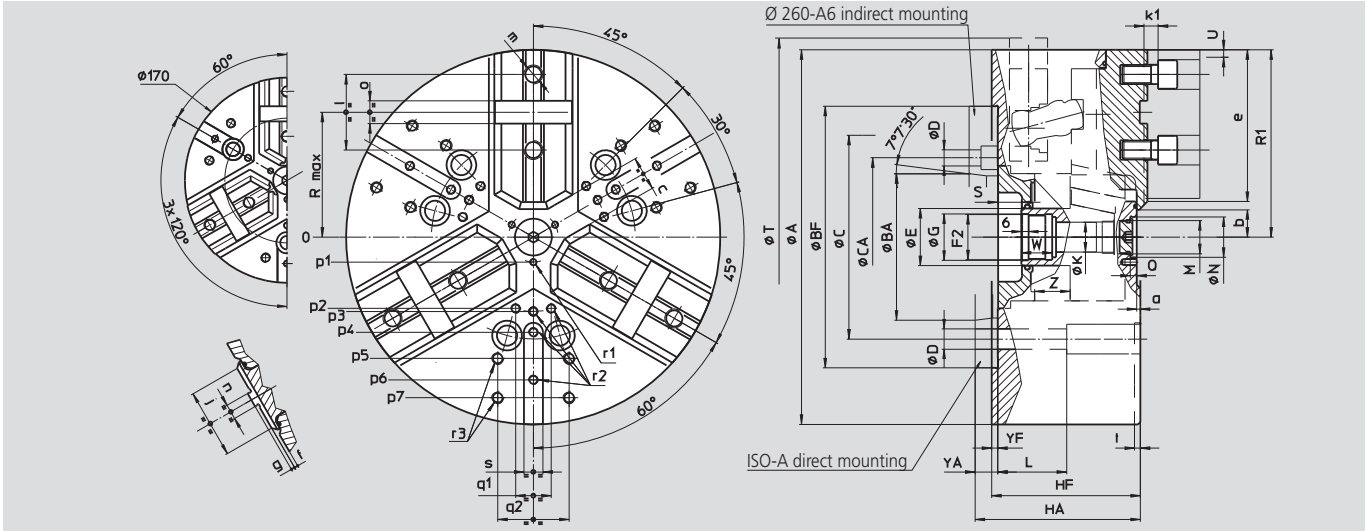

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High precision power chucks Ø 260 - 400 mm

- LONG STROKE
- centrifugal force compensation
- closed center - 3 jaws
- proofline® chucks = fully sealed – low maintenance

NTL-C

Tongue & groove



Subject to technical changes
For more detailed information please ask for customer drawing

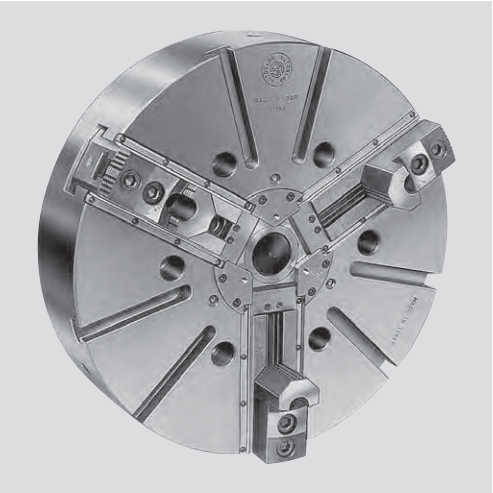
SMW-AUTOBLOK Type				NTL-C 260			NTL-C 315		NTL-C 400	
Mounting				Z220	A6	A8	Z220	A8	Z300	A11
	A		mm		262		315		390	
	BF/BA	H6	mm	220	106.375	139.719	220	139.719	300	196.869
	C		mm	171.4	-	171.4	171.4		235	
	CA		mm	-	133.4	-	-	-	-	-
	D		mm	17	13.5	17	17		21	
	E		mm		48		48		75	
	F2		mm		M38 x 1.5		M38 x 1.5		M60 x 1.5	
	G	H8	mm		39		39		61	
	HF/HA		mm	118	137	132	125	139	149	164
	K		mm		25		25		48	
	L		mm		58		58		74	
	M		mm		M28 x 1.5		M28 x 1.5		M52 x 1.5	
	N	H9	mm		34		34		60	
	Q		mm		5.5		5.5		9	
	R		mm		92.5		111		139	
Cuck open	R1		mm		136		163.6		202	
max./min.	S		mm		22/-0.3		20/-7.3		33/3	
Chuck fully closed	T		mm		275		328		412	
Radial jaw stroke	U		mm		9		11		12	
	W		mm		26		26		38	
	YF/YA		mm	5	24	19	5	19	6	21
max./min.	Z		mm		22.3/0		27.3/0		30/0	
	a		mm		3		3		3	
min.	b		mm		10		12		26	
min.	c		mm		7.4		7.9		30	
	e		mm		110		134		154	
	f		mm		3		3		6	
	g		mm		3		3		3	
	j		mm		48		58		63	
	k1		mm		12		12		14	
	l		mm		54		63.5		76.2	
	m		mm		M16		M16		M20	
	n		mm		12.7		12.7		12.7	
	o		mm		19.03		19.03		19.03	
	p1		mm		21		21		37.5	
	p2		mm		-		60		80	
	p3		mm		55		62.5		83	
	p4		mm		70		80		110	
	p5		mm		102		102		140	
	p6		mm		102		120		155	
	p7		mm		-		135		170	
	q1		mm		-		30		36	
	q2		mm		60		60		80	
	r1		mm		M6/10		M6/10		M6/12	
	r2		mm		M8/17		M8/17		M10/19	
	r3		mm		M10/19		M10/19		M12/22	
	s		mm		16		16		20	
	t		mm		5		5		5	

IN-D
INCH serration

IN-C
Tongue & groove

High precision power chucks Ø 500 - 800 mm

■ closed center
■ 3 and 4 jaws



Application/customer benefits

- For large parts
- Suitable for vertical machines

IN-D: Master jaws with INCH serration (3/32" x 90°)
IN-C: Tongue & groove master jaws

Technical features

- Gripping force transmission via wedge hook
- Sealed against swarf and chips

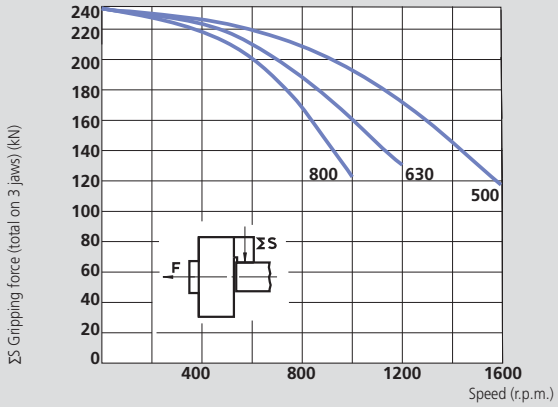
Standard equipment

3 or 4 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws (not IN-C)
Mounting bolts
Grease gun

Ordering example

3 jaw chuck IN-D 500/A15
or
4 jaw chuck IN-C 630/Z380

Actual gripping force diagram

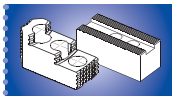
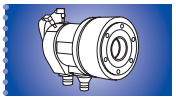


The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		IN-D 500 IN-C 500		IN-D 630 IN-C 630		IN-D 800 IN-C 800	
Number of jaws		**3**	**4**	**3**	**4**	**3**	**4**
Radial jaw stroke	mm	8.5	8.5	10	10	10	10
Axial piston stroke	mm	32	32	38	38	38	38
Max. draw pull	kN	100	100	100	100	100	100
Max. gripping force	kN	240	240	240	240	240	240
Max. speed	r.p.m.	1500	1200	1100	850	900	750
Mass (without top jaws)	kg	130	180	220	325	320	550
Moment of inertia	kg·m²	4.2	5.9	10.8	16	23.8	44
Recommended actuating cylinders		SIN-S 150/175/200		SIN-S 150/175/200		SIN-S 150/175/200	

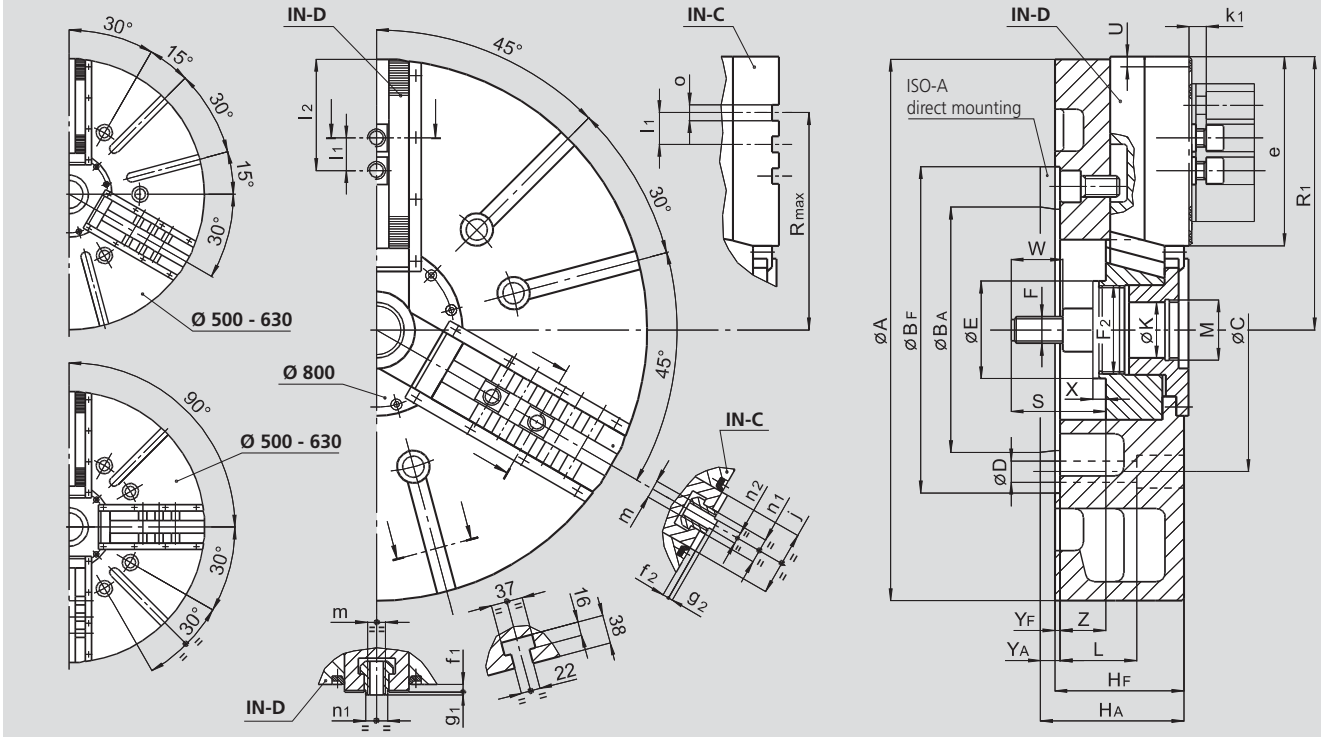

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High precision power chucks Ø 500 - 800 mm

- closed center
- 3 and 4 jaws

IN-D INCH serration

IN-C Tongue & groove



Subject to technical changes
For more detailed information please ask for customer drawing

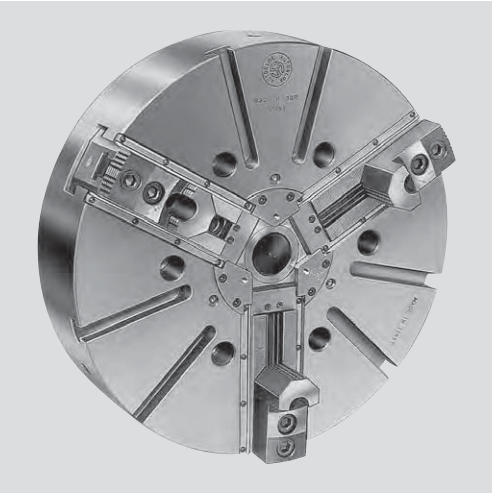
SMW-AUTOBLOK Type			IN-D 500 IN-C 500		IN-D 630 IN-C 630		IN-D 800 IN-C 800	
Mounting			Z380	A15	Z380	A15	Z380	A15
	A	mm	510		630		800	
	BF/BA H6	mm	380	285.775	380	285.775	380	285.775
	C	mm	330.2		330.2		330.2	
	D	mm	25		25		25	
	E	mm	114		114		114	
	F	mm	M30		M30		M30	
	F2	mm	M102 x 2		M102 x 2		M102 x 2	
	HF/HA	mm	130	147	150	167	150	167
	K	mm	65		65		65	
	L	mm	89		89		89	
	M	mm	M68 x 2		M68 x 2		M68 x 2	
Chuck open	R1	mm	263		318		405	
	Rmax	mm	209.5		247.5		349	
	S	mm	110		110		110	
Stroke per jaw	U	mm	8.5		10		10	
	W	mm	60		60		60	
	X	mm	15		15		15	
	YF/YA	mm	6	23	6	23	6	23
max./min.	Z	mm	33/1		53/15		53/15	
	e	mm	165		220		307	
	f1	mm	9		9		9	
	f2	mm	8		8		8	
	g1	mm	4		4		4	
	g2	mm	3		3		3	
	j	mm	75		75		75	
	k1	mm	16		16		16	
	l1	mm	38.1		38.1		38.1	
max./min.	l2	mm	135/48		190/48		277/48	
	m	mm	M20		M20		M20	
	n1 h8	mm	25.5		25.5		25.5	
	n2 h8	mm	12.7		12.7		12.7	
	o H7	mm	19.03		19.03		19.03	

IL-D
INCH serration

IL-C
Tongue & groove

High precision power chucks Ø 500 - 800 mm

■ LONG STROKE
■ closed center
■ 3 and 4 jaws



Application/customer benefits

- For large parts
- Suitable for vertical machines
- Long clamping stroke (possibility to clamp 1st and 2nd operation with the same jaws)

IL-D: Master jaws with INCH serration (3/32" x 90°)
IL-C: Tongue & groove master jaws

Technical features

- Extra long stroke per jaw
- Gripping force transmission via wedge hook
- Sealed against swarf and chips

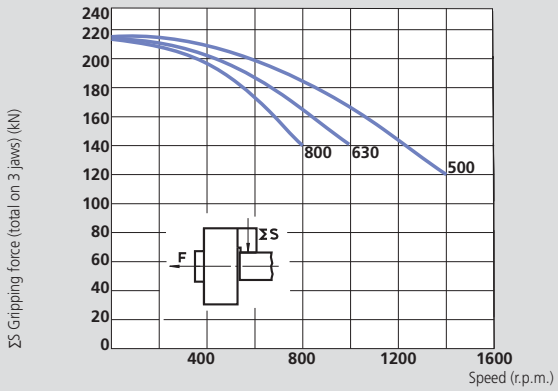
Standard equipment

3 or 4 jaws chuck
1 set T-nuts with bolts
1 set soft top jaws (not in IL-C)
Mounting bolts
Grease gun

Ordering example

3 jaw chuck IL-D 500/A15
or
4 jaw chuck IL-C 630/Z380

Actual gripping force diagram

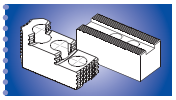
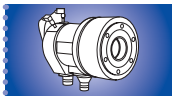


The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		IL-D 500 IL-C 500		IL-D 630 IL-C 630		IL-D 800 IL-C 800	
Number of jaws		**3**	**4**	**3**	**4**	**3**	**4**
Radial jaw stroke	mm	13	13	15	15	15	15
Axial piston stroke	mm	33	33	38	38	38	38
Max. draw pull	kN	120	120	120	120	120	120
Max. gripping force	kN	215	215	215	215	215	215
Max. speed	r.p.m.	1400	1100	1000	800	800	650
Mass (without top jaws)	kg	130	180	220	325	320	550
Moment of inertia	kg·m²	4.2	5.9	10.8	16	23.8	44
Recommended actuating cylinders		SIN-S 150/175/200		SIN-S 150/175/200		SIN-S 150/175/200	

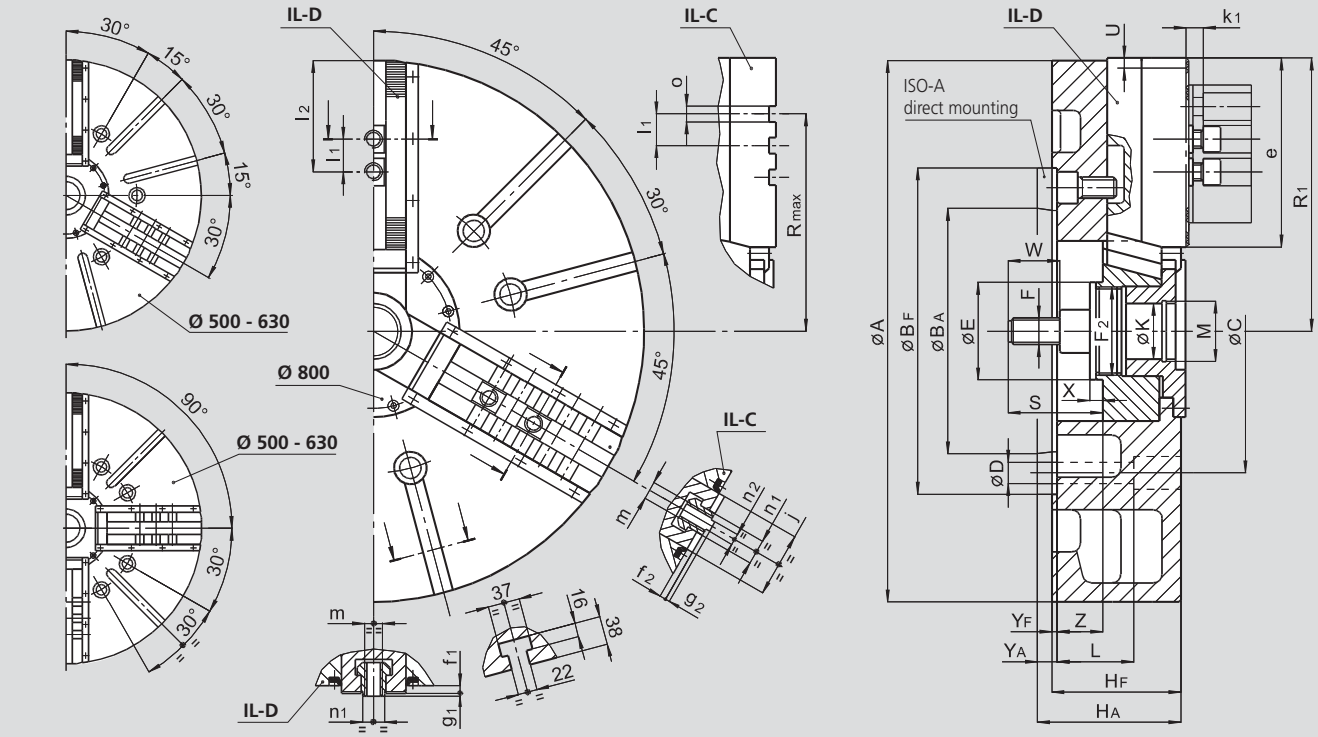

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High precision power chucks Ø 500 - 800 mm

- LONG STROKE
- closed center
- 3 and 4 jaws

IL-D INCH serration

IL-C Tongue & groove



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			IL-D 500 IL-C 500		IL-D 630 IL-C 630		IL-D 800 IL-C 800	
Mounting			Z380	A15	Z380	A15	Z380	A15
	A	mm	510		630		800	
	BF/BA H6	mm	380	285.775	380	285.775	380	285.775
	C	mm	330.2		330.2		330.2	
	D	mm	25		25		25	
	E	mm	114		114		114	
	F	mm	M30		M30		M30	
	F2	mm	M102 x 2		M102 x 2		M102 x 2	
	HF/HA	mm	130	147	150	167	150	167
	K	mm	65		65		65	
	L	mm	89		89		89	
	M	mm	M68 x 2		M68 x 2		M68 x 2	
Chuck open	R1	mm	265		321		408	
	R	mm	212		250		352	
	S	mm	110		110		110	
Jaw stroke	U	mm	13		15		15	
	W	mm	60		60		60	
	X	mm	15		15		15	
	YF/YA	mm	6	23	6	23	6	23
max./min.	Z	mm	33/0		53/15		53/15	
	e	mm	164		220		307	
	f1	mm	9		9		9	
	f2	mm	8		8		8	
	g1	mm	4		4		4	
	g2	mm	3		3		3	
	j	mm	75		75		75	
	k1	mm	16		16		16	
	l1	mm	38.1		38.1		38.1	
max./min.	l2	mm	135/48		190/48		277/48	
	m	mm	M20		M20		M20	
	n1 h8	mm	25.5		25.5		25.5	
	n2 h8	mm	12.7		12.7		12.7	
	o H7	mm	19.03		19.03		19.03	

IN-D

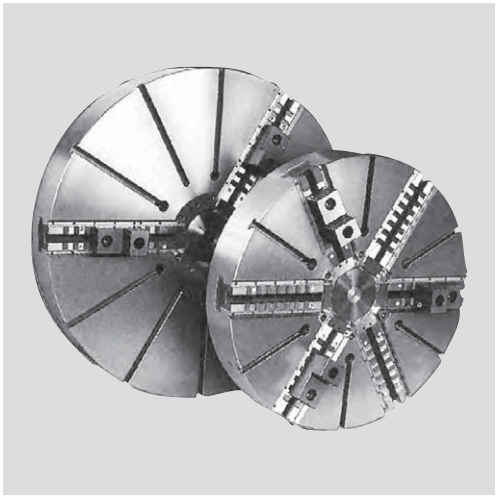
MODULE 2
serrations

IR-C

Tongue & groove
Radial setting of jaws

High precision power chucks Ø 1000 - 2000 mm

■ closed center
■ 3 and 6 jaws (all diameters)



Application/customer benefits

- Chucking operations of very large components
- Suitable for vertical machines thanks to the front protection of the slide ways

IN-D: MODULE 2 serrated master jaws (pitch 6.28 mm) (Ø 1000 and 1250 mm)
IR-C: manual radial setting of master jaws, tongue & groove (type "American Standard") (all diameters)

Technical features

- Gripping force transmission via wedge hook
- Front protection of the slide ways against swarf and chips penetration
- IR-C chucks with manual radial setting of master jaws for the workpiece centering

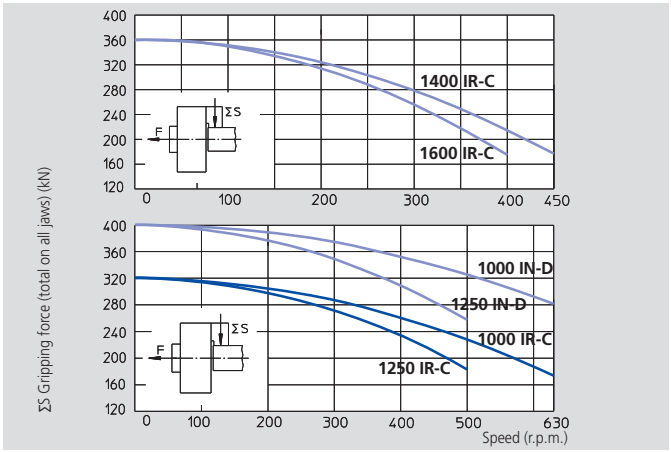
Standard equipment

3 or 6 jaws chuck
1 set T-nuts with bolts (not in IR-C)
1 set soft top jaws (not in IR-C) with cross keys, mounting bolts and grease gun

Ordering example

3 jaw chuck IN-D 1000/A20
or
6 jaw chuck IR-C 1600/Z720

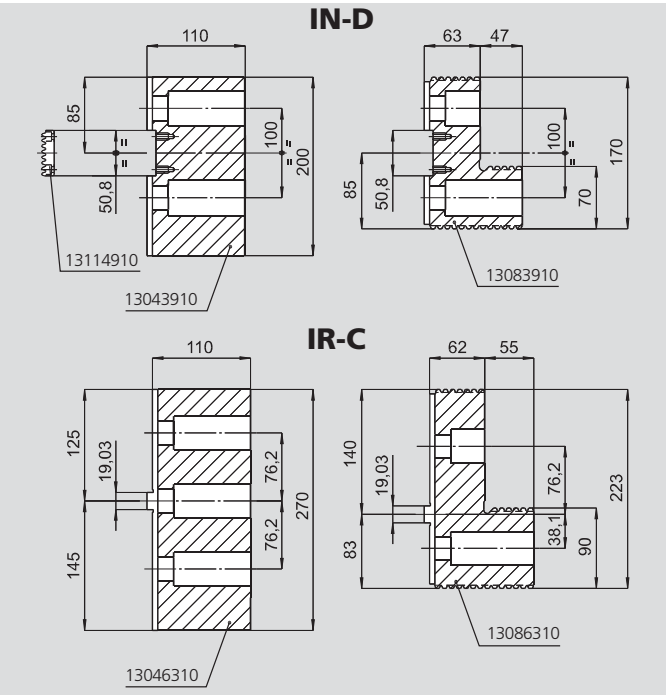
Actual gripping force diagrams



The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Soft and hard top jaws for IN-D and IR-C



Technical data

SMW-AUTOBLOK Type		IN-D 1000		IN-D 1250		IR-C 1000		IR-C 1250		IR-C 1400		IR-C 1600		IR-C 2000	
Number of jaws		3	6	3	6	3	6	3	6	3	6	3	6	3	6
Radial jaw stroke + (manual setting)	mm	15		15		23 + (30)		23 + (30)		24 + (40)		24 + (40)		24 + (40)	
Axial piston stroke	mm	57		57		57		57		60		60		60	
Max. draw pull	kN	180		180		180		180		200		200		200	
Max. gripping force	kN	400		400		320		320		360		360		360	
Max. speed	r.p.m.	630	500	500	450	630	450	500	360	450	320	400	280	320	230
Mass (without top jaws)	kg	600		800		600		800		1200		1600		2500	
Moment of inertia	kg·m²	68		145		68		145		280		500		1250	
Hard top jaw (piece)	p/n	13083910		13083910		13086310		13086310		13086310		13086310		13086310	
Soft top jaw (piece)	p/n	13043910		13043910		13046310		13046310		13046310		13046310		13046310	
Recommended actuating cylinders		SIN-S 250		SIN-S 250		SIN-S 250		SIN-S 250		SIN-S 250		SIN-S 250		SIN-S 250	

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High precision power chucks Ø 1000 - 2000 mm

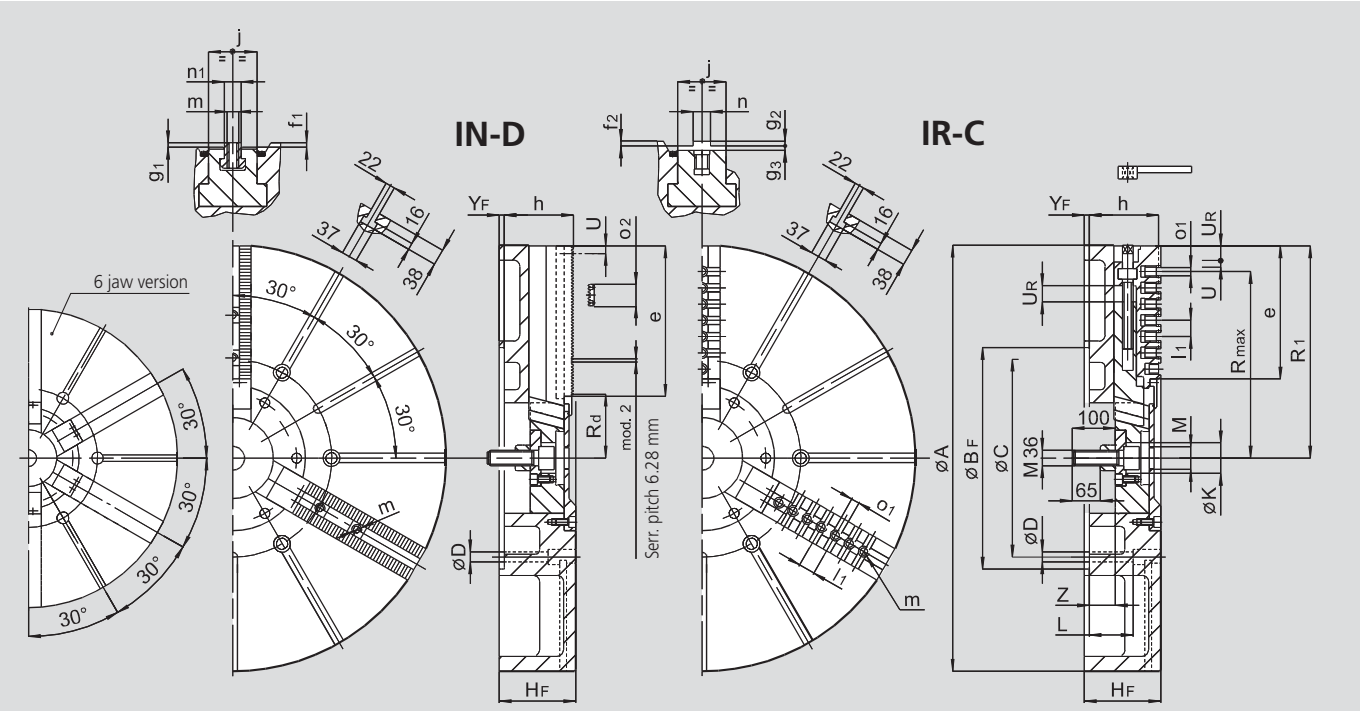
- closed center
- 3 and 6 jaws (all diameters)

IN-D

MODULE 2
serrations

IR-C

Tongue & groove
Radial setting of jaws



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			IN-D 1000		IN-D 1250		IR-C 1000		IR-C 1250		IR-C 1400	IR-C 1600	IR-C 2000
Mounting			Z520	A20	Z520	A20	Z520	A20	Z520	A20	Z720	Z720	Z720
	A	mm	1005		1250		1005		1250		1400	1600	2000
	BF H6	mm	520		520		520		520		720	720	720
	C	mm	463.6		463.6		463.6		463.6		647.6	647.6	647.6
	D	mm	27		27		27		27		33	33	33
	HF	mm	184		184		184		184		222	222	240
	K	mm	72		72		72		72		72	72	72
	L	mm	108		108		108		108		144	144	159
	M	mm	M52 x 1.5		M52 x 1.5		M52 x 1.5		M52 x 1.5		M52 x 1.5	M52 x 1.5	M52 x 1.5
Chuck open	R1	mm	498		623		502		623		696	796	996
Chuck open	Rmax	mm	-		-		457		563		651	738	914
Chuck open	Rd	mm	148.5		148.5		-		-		-	-	-
Radial stroke	U	mm	15		15		23		23		24	24	24
Setting stroke	UR	mm	-		-		30		30		40	40	40
	YF	mm	8		8		8		8		8	8	8
max.	Z	mm	65		65		59		59		82	82	100
min.	Z	mm	8		8		2		2		22	22	40
	e	mm	353		478		295		416		446	546	739
	f1	mm	8		8		-		-		-	-	-
	f2	mm	-		-		8		8		8	8	8
	g1	mm	4		4		-		-		-	-	-
	g2	mm	-		-		4		4		4	4	4
	g3	mm	-		-		7		7		7	7	7
	h	mm	168		168		168		168		206	206	224
	j	mm	85		85		85		85		110	110	110
	l1	mm	-		-		38.1		38.1		38.1	38.1	38.1
	m	mm	M24		M24		M24		M24		M24	M24	M24
	n/n1 h8	mm	30		30		30		30		30	30	30
	o1 H7	mm	-		-		19.03		19.03		19.03	19.03	19.03
	o2 h6	mm	50.8		50.8		-		-		-	-	-
Number of 01 cross grooves (IR-C)			-		-		6		9		10	12	16
Number of "m" thraeds (IR-C)			-		-		7		10		11	13	17

* 4 jaws versions on request

IN-D

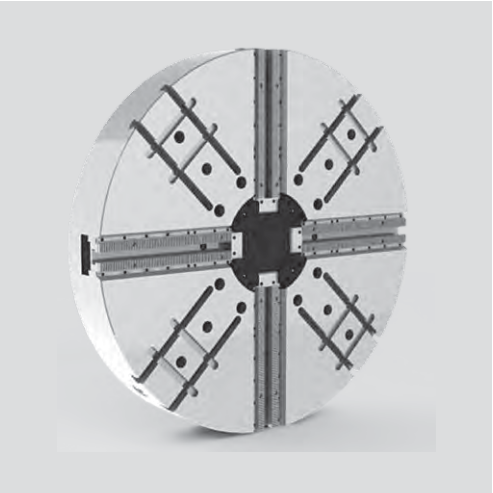
MODULE 2 serrations

IL-D

Long jaw stroke
MODULE 2 serration

High precision power chucks Ø 1000 - 1600 mm

■ closed center
■ 4 jaws (all diameters)



Application/customer benefits

- Clamping of large square and irregular shaped parts, using 2 or 4 jaws self centering
- Suitable for vertical machines thanks to the front protection of the slide ways

IN-D/IL-D: MODULE 2 serrated master jaws (pitch 6.28 mm) (Ø 1000 to 1600 mm)

Technical features

- Gripping force transmission via wedge hook
- Protection from contamination with seals along the master jaw profiles
- Possibility to use jaw boxes for manual clamping mounted on the T-slots between the master jaws

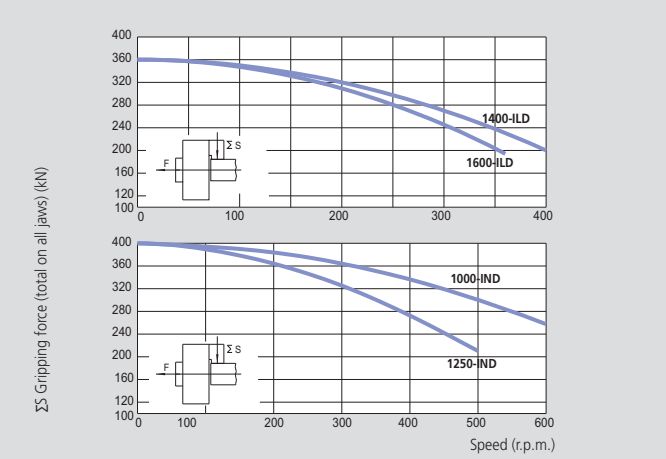
Standard equipment

4 jaws chuck
1 set T-nuts with bolts
1 set soft top jaws with cross keys
mounting bolts and grease gun

Ordering example

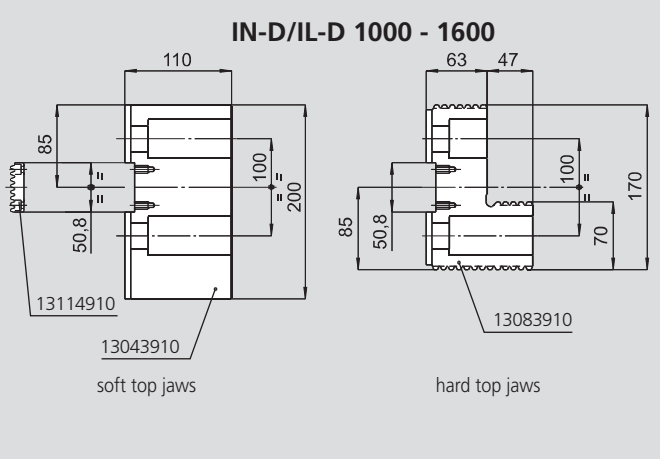
4 jaw chuck IN-D 1600/Z720

Actual gripping force diagrams



The data in the diagrams refer to 4-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

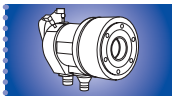
Soft and hard top jaws for IN-D and IL-D



⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		IN-D 1000	IN-D 1250	IL-D 1400	IL-D 1600
Radial jaw stroke	mm	15	15	24	24
Axial piston stroke	mm	57	57	60	60
Max. draw pull	kN	180	180	200	200
Max. gripping force	kN	400	400	360	360
Max. speed	r.p.m.	600	500	400	360
Mass (without top jaws)	kg	660	900	1425	1765
Moment of inertia	kg·m²	84	178	347	562
Hard top jaw (piece)	Id. No.	13083910	13083910	13083910	13083910
Soft top jaw (piece)	Id. No.	13043910	13043910	13046310	13046310
Recommended actuating cylinders		**SIN-S 250**	**SIN-S 250**	**SIN-S 250**	**SIN-S 250**



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High precision power chucks Ø 1000 - 1600 mm

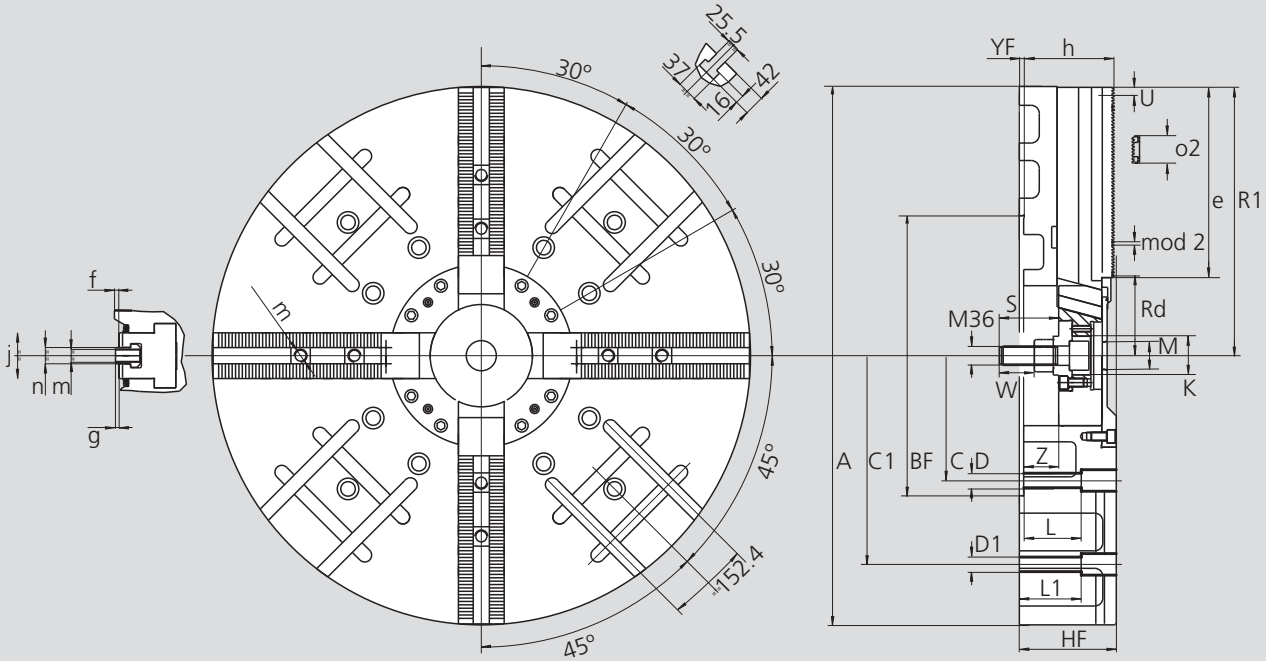
- closed center
- 4 jaws (all diameters)

IN-D

MODULE 2 serrations

IL-D

Long jaw stroke
MODULE 2 serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				IN-D 1000		IN-D 1250		IL-D 1400	IL-D 1600
Mounting				Z520	A20	Z520	A20	Z720	Z720
	A		mm	1005		1250		1400	1600
	B_F	H6	mm	520		520		720	720
	C		mm	463.6		463.6		647.6	647.6
	C_1		mm	700*		700*		1110	1110
	D		mm	27		27		33	33
	D_1		mm	27*		27*		27	27
	H_F		mm	200		200		240	240
	K		mm	72		72		72.5	72.5
	L		mm	108		108		179	179
	L_1		mm	116*		116*		192	192
	M		mm	M52 x 1.5		M52 x 1.5		M52 x 1.5	M52 x 1.5
Chuck open	R_1		mm	498		623		696	796
Chuck open	Rd		mm	148.5		148.5		179.5	179.5
Radial stroke	U		mm	15		15		24	24
	S		mm	118		118		118	118
	Y_F		mm	8		8		8	8
max.	Z		mm	75		75		100	100
min.	Z		mm	18		18		40	40
	e		mm	353		478		519	619
	f		mm	8		8		8	8
	g		mm	4		4		4	4
	h		mm	184		184		224	224
	j		mm	85		85		110	110
	m		mm	M24		M24		M24	M24
	n	h8	mm	30		30		30	30
	o_2	h6	mm	50.8		50.8		50.8	50.8

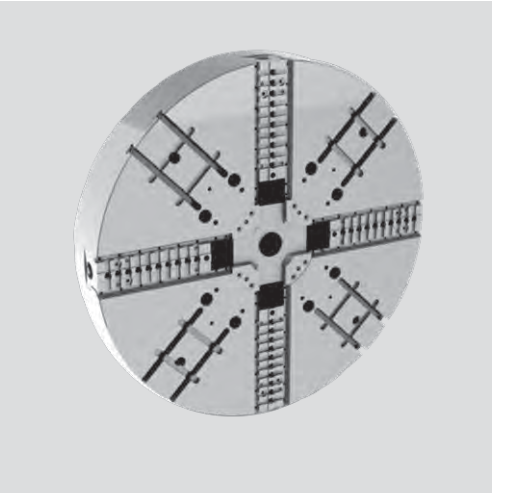
* on request only

IR-C

Tongue & groove
Radial setting of jaws

High precision power chucks Ø 1000 - 2000 mm

■ closed center
■ 4 jaws (all diameters)



Application/customer benefits

- Clamping of large square and irregular parts using 2 or 4 jaws self centering
- Suitable for vertical machines thanks to the front protection of the slide ways
- Manual radial setting of master jaws
- Tongue & groove (type "American Standard")

Technical features

- Gripping force transmission via wedge hook
- Manual radial setting of master jaws for workpiece centering
- Protection from contamination with seals along the master jaw profiles
- Possibility to use jaw boxes for manual clamping mounted on the T-slots between the master jaws

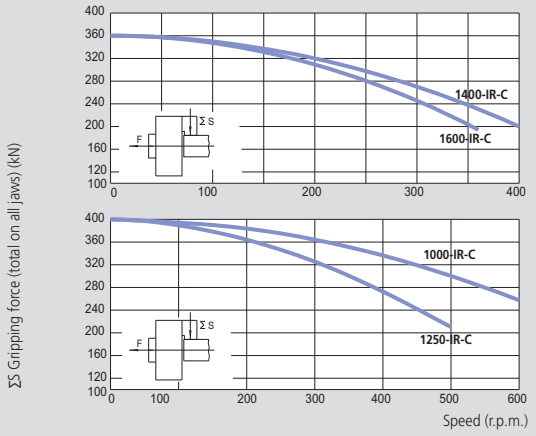
Standard equipment

4 jaws chuck
1 set of soft top jaws
mounting bolts and grease gun

Ordering example

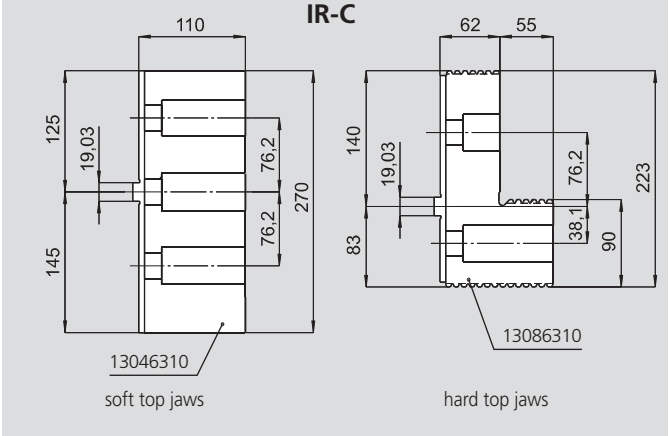
4 jaw chuck IR-C 1600/Z720

Actual gripping force diagrams



The data in the diagrams refer to 4-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

Soft and hard top jaws for IR-C



⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		IR-C 1000	IR-C 1250	IR-C 1400	IR-C 1600	IR-C 2000
Radial jaw stroke + (manual setting)	mm	23 + (30)	23 + (30)	24 + (40)	24 + (40)	24 + (40)
Axial piston stroke	mm	57	57	60	60	60
Max. draw pull	kN	180	180	200	200	200
Max. gripping force	kN	320	320	360	360	360
Max. speed	r.p.m.	550	450	380	340	280
Mass (without top jaws)	kg	660	900	1425	1765	2730
Moment of inertia	kg·m²	84	178	347	562	1360
Hard top jaw (piece)	Id. No.	13086310	13086310	13086310	13086310	13086310
Soft top jaw (piece)	Id. No.	13046310	13046310	13046310	13046310	13046310
Recommended actuating cylinders		**SIN-S 250**	**SIN-S 250**	**SIN-S 250**	**SIN-S 250**	**SIN-S 250**

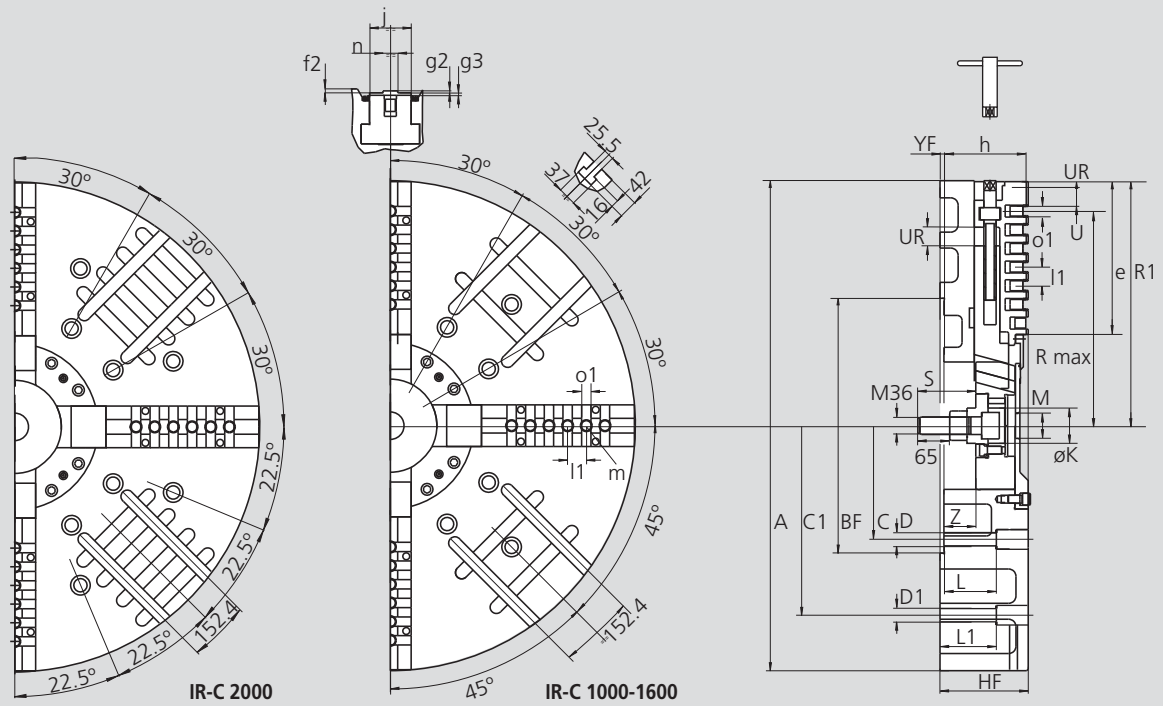
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High precision power chucks Ø 1000 - 2000 mm

■ closed center
■ 4 jaws (all diameters)

IR-C

Tongue & groove
Radial setting of jaws



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			IR-C 1000		IR-C 1250		IR-C 1400	IR-C 1600	IR-C 2000
Mounting			Z520	A20	Z520	A20	Z720	Z720	Z720
	A	mm	1005		1250		1400	1600	2000
	BF H6	mm	520		520		720	720	720
	C	mm	463.6		463.6		647.6	647.6	647.6
	C1	mm	700*		700*		1110	1110	1110
	D	mm	27		27		33	33	33
	D1	mm	27*		27*		27	27	27
	HF	mm	200		200		240	240	260
	K	mm	72.5		72.5		72.5	72.5	72.5
	L	mm	146		146		179	179	199
	L1	mm	148*		148*		192	192	212
	M	mm	M52 x 1.5		M52 x 1.5		M52 x 1.5	M52 x 1.5	M52 x 1.5
Chuck open	R1	mm	502		623		696	796	996
Chuck open	Rmax	mm	457		563		651	738	914
Radial stroke	U	mm	23		23		24	24	24
Setting stroke	UR	mm	30		30		40	40	40
	S	mm	118		118		118	118	118
	YF	mm	8		8		8	8	8
max.	Z	mm	75		75		100	100	120
min.	Z	mm	18		18		40	40	40
	e	mm	295		416		446	539	739
	f1	mm	-		-		-	-	-
	f2	mm	8		8		8	8	8
	g2	mm	4		4		4	4	4
	g3	mm	7		7		7	7	7
	h	mm	184		184		224	224	244
	j	mm	85		85		110	110	110
	l1	mm	38.1		38.1		38.1	38.1	38.1
	m	mm	M24		M24		M24	M24	M24
	n/n1 h8	mm	30		30		30	30	30
	o1 H7	mm	19.03		19.03		19.03	19.03	19.03
Number of "o1" cross grooves			6		9		10	12	16
Number of "m" threads			7		9		11	13	17

*Only on request

RAN

Pull-down effect
Tongue & groove

High precision pull-down chucks Ø 160 - 400 mm

- pull-down effect of inclined master jaws
- tongue & groove master jaws
- 3 jaws



Application/customer benefits

- 1st or 2nd operation of parts requesting close squareness and parallelism tolerances
- For chucking parts
- External clamping only

RAN: inclined master jaws with pull-down effect and tongue & groove

Technical features

- Chuck only available with tongue & groove master jaws
- Clamping on raw diameters with carbide inserts, increases the pull-down effect thanks to the penetration into the work piece
- Central bore for coolant and/or air
- Chuck body and internal parts case hardened

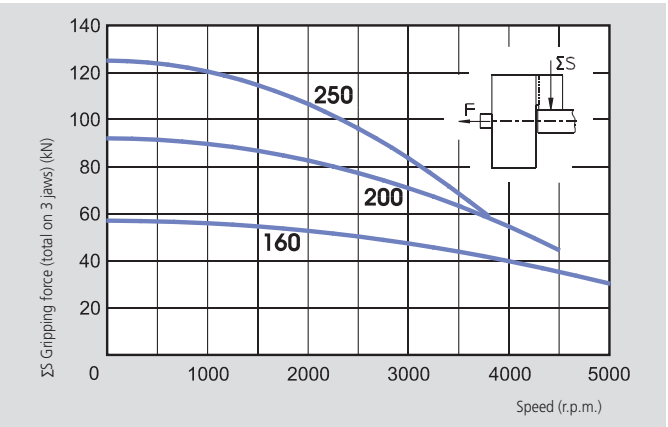
Standard equipment

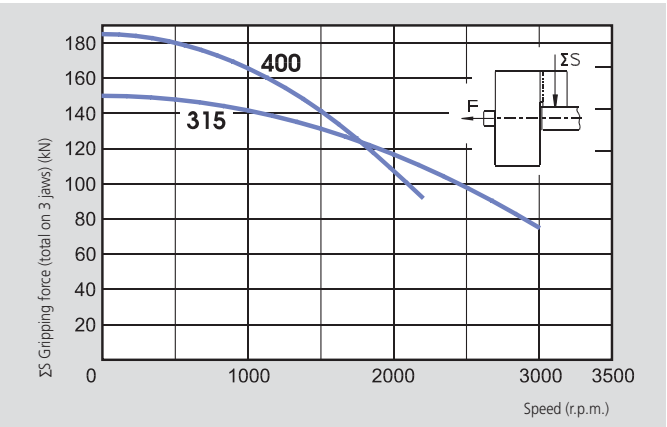
3 jaw chuck
Mounting bolts
Grease gun

Ordering example

3 jaw chuck RAN 200/A6
or
3 jaw chuck RAN 315/A8

Actual gripping force diagrams



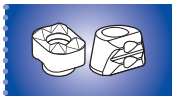


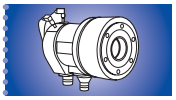
The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		RAN 160	RAN 200	RAN 250	RAN 315	RAN 400
Number of jaws		**3**	**3**	**3**	**3**	**3**
Radial jaw stroke	mm	5	5	6	8	8
Axial jaw stroke (pull-down)	mm	1.25	1.25	1.5	2	2
Axial piston stroke	mm	20	20	25	32	32
Max. draw pull	kN	25	40	55	65	80
Max. gripping force	kN	57	92	125	150	185
Max. speed	r.p.m.	5000	4500	3800	3000	2200
Mass (without top jaws)	kg	10	17	31	54	95
Moment of inertia	kg·m²	0.034	0.10	0.26	0.65	1.85
Top jaw reference mass	kg	0.58	0.92	1.25	2.15	3.6
Recommended actuating cylinders		**SIN-S 85/100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**


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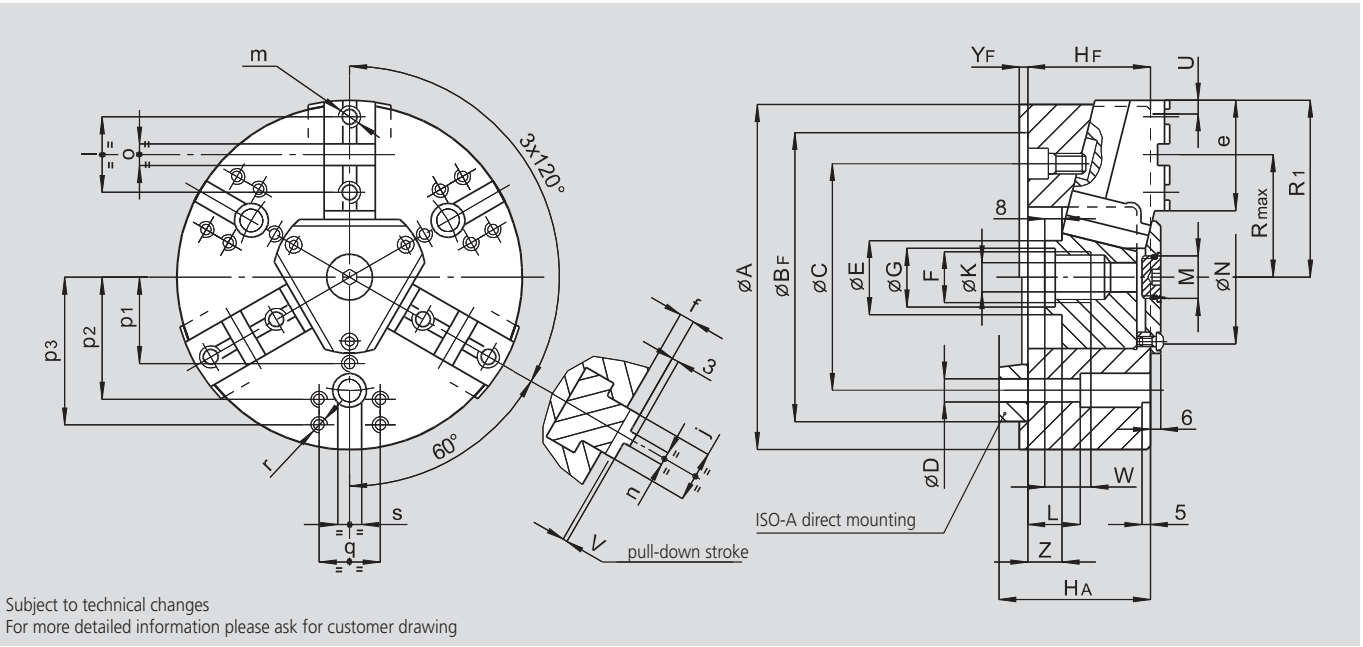
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High precision pull-down chucks Ø 160 - 400 mm

- pull-down effect of inclined master jaws
- tongue & groove master jaws
- 3 jaws

RAN

Pull-down effect
Tongue & groove



Subject to technical changes
For more detailed information please ask for customer drawing

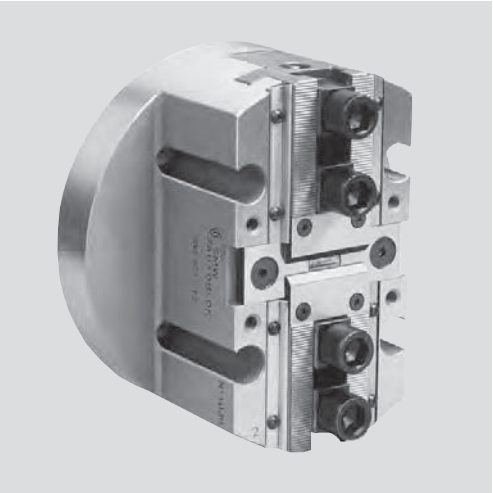
SMW-AUTOBLOK Type			RAN 160		RAN 200		RAN 250		RAN 315		RAN 400	
Mounting			Z140	A5	Z170	A6	Z220	A8	Z220	A8	Z300	A11
	A	mm	165		203		250		305		390	
	BF H6	mm	140		170		220		220		300	
Fixing holes circle	C	mm	104.8		133.4		171.4		171.4		235	
Fixing holes diameter	D	mm	11.5		13.5		17		17		21	
	E	mm	32		41		47		47		66	
	F	mm	M24 x 2		M32 x 1.5		M38 x 1.5		M38 x 1.5		M56 x 2	
	G	mm	25		33		39		39		57	
	HF/HA	mm	66	81	72	89	87	106	95	114	104	125
Central through-hole	K	mm	16		18		25		25		36	
	L	mm	13		22		18		18		54	
	M	mm	M20 x 1		M24 x 1		M28 x 1.5		M28 x 1.5		M52 x 1.5	
	N	mm	75		90		105		112		145	
Chuck open	R1	mm	85		104		128		155		198	
	Rmax	mm	56		72		88		105		133	
Radial clamping stroke	U	mm	5		5		6		8		8	
Pull-down clamping stroke	V	mm	1.25		1.25		1.5		2		2	
	W	mm	20		25		25		25		35	
	YF	mm	5		5		5		5		6	
Axial wedge stroke	Z	mm	20		20		25		32		32	
	e	mm	57		65		84		103		130	
Chuck open	f	mm	8.25		8.25		8.5		9		11	
	j	mm	24		30		36		36		45	
	l	mm	38		44.4		54		63.5		76.2	
	m	mm	M10		M12		M16		M16		M20	
	n h8	mm	7.94		7.94		12.7		12.7		12.7	
	o H7	mm	12.68		12.68		19.03		19.03		19.03	
	p1	mm	-		-		60		65		85	
	p2	mm	65		72		100		90		120	
	p3	mm	-		87		-		120		150	
	q	mm	36		36		60		60		80	
	r	mm	M8		M8		M10		M10		M12	
	s	mm	16		14		16		20		20	

CL-C
Tongue & groove

CL-D
INCH serration

High precision power chucks Ø 80 - 315 mm

■ LONG STROKE
■ closed center
■ 2 jaws



Application/customer benefits

- Gripping or handling of irregular shaped pieces, for example on special machines
- Suitable for vertical machines

CL-C: DIN standard tongue & groove master jaws (Ø 80-160 mm)
CL-D: Master jaws with INCH serration (1/16" x 90°) (Ø 200-315 mm)

Technical features

- Extra long stroke per jaw
- Gripping force transmission via wedge hook
- Sealed against swarf and chips

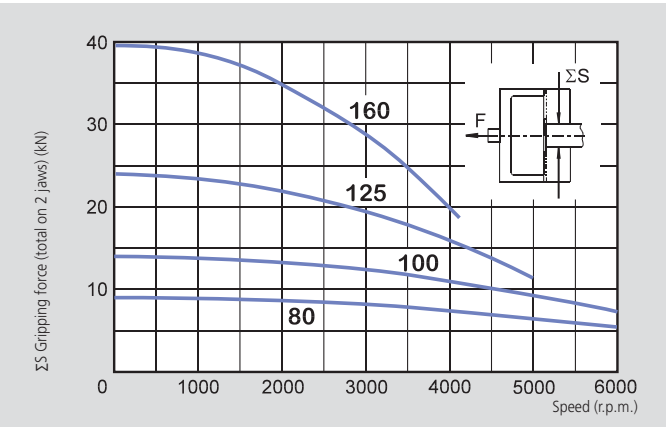
Standard equipment

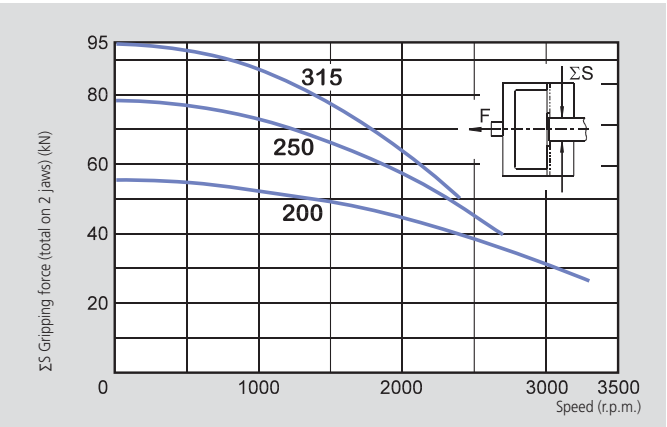
2 jaws chuck
4 T-nuts with bolts (Ø 200-315 mm)
Grease gun
Without top jaws

Ordering example

2 jaw chuck CL-D 250/A8
or
2 jaw chuck CL-C 100/Z92

Actual gripping force diagrams



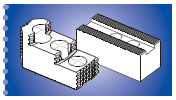
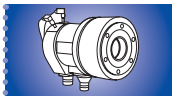


The data in the diagrams refer to 2-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		CL-C 80	CL-C 100	CL-C 125	CL-C 160	CL-D 200	CL-D 250	CL-D 315
Number of jaws		2	2	2	2	2	2	2
Radial jaw stroke	mm	4.4	5.5	8	10	12	13	14
Axial piston stroke	mm	11	14	20	25	30	32	35
Max. draw pull	kN	6	9	15	25	35	50	60
Max. gripping force	kN	9	14	24	40	55	78	95
Max. speed	r.p.m.	6000	6000	5000	4100	3300	2700	2400
Mass (without top jaws)	kg	1.5	2.5	5	10	14	24	38
Moment of inertia	kg·m²	0.0012	0.003	0.010	0.03	0.065	0.18	0.41


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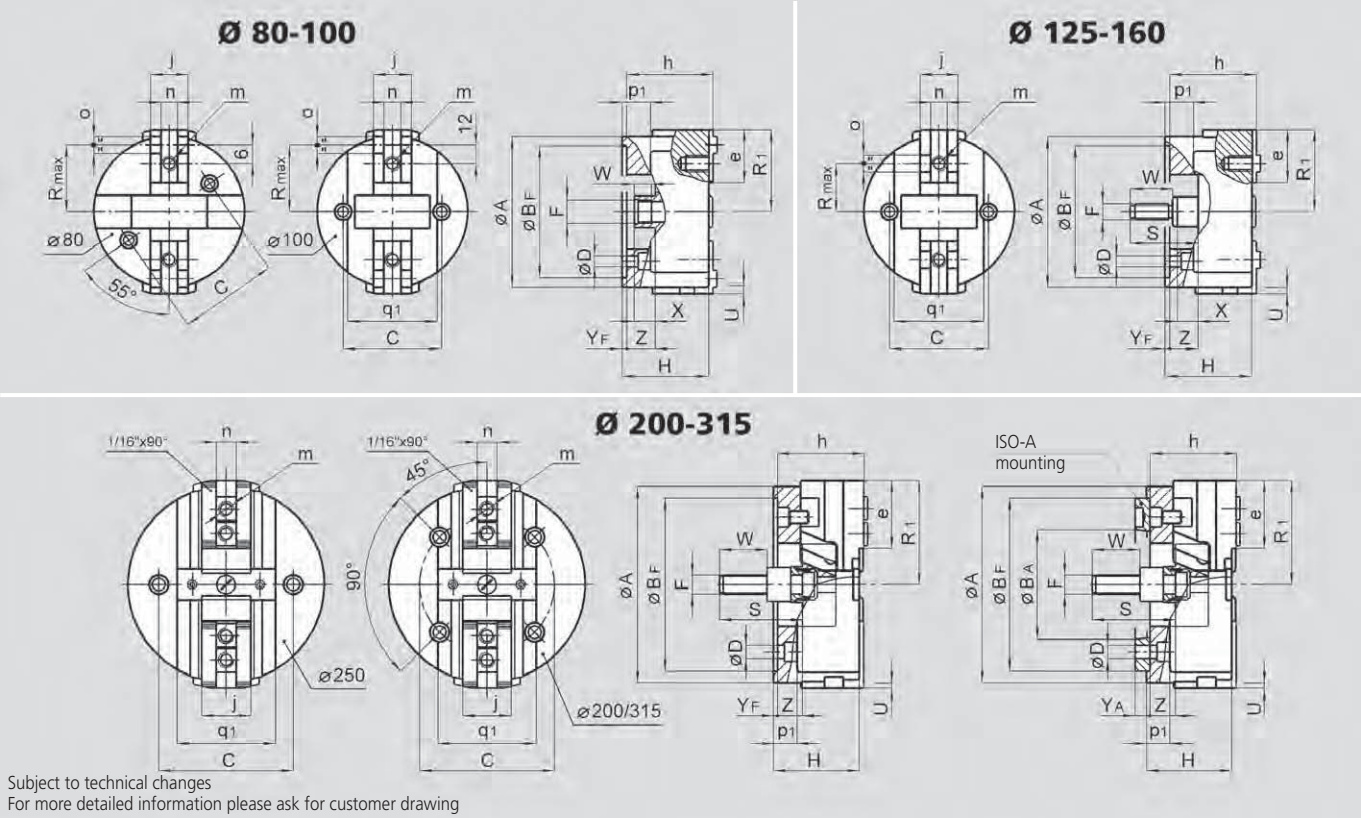
High precision power chucks Ø 80 - 315 mm

- LONG STROKE
- closed center
- 2 jaws

CL-C
Tongue & groove

CL-D
INCH serration

1



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			CL-C 80		CL-C 100		CL-C 125		CL-C 160		CL-D 200		CL-D 250		CL-D 315	
			Tongue & groove								Inch serration					
Mounting			Z74	-	Z92	-	Z115	-	Z140	A5	Z170	A6	Z220	A8	Z220	A8
	A	mm	80		100		125		160		200		250		315	
	BF H6	mm	74	-	92	-	115	-	140		170		220		220	
	BA	mm	-	-	-	-	-	-	-	82.563	-	106.375	-	139.719	-	139.719
	C	mm	60		75		92		104.8		133.4		171.4		171.4	
	D	mm	9	-	11	-	13.5	-	12	12	13.5	13.5	17	17	17	17
	F	mm	M16 x 1.5		M18 x 1.5		M16		M16		M20		M24		M24	
	HF/HA	mm	45	-	54	-	76	-	92	102	103	115	109	123	114	128
Chuck open	R1	mm	40		50		68		87		108		132		165	
	Rmax	mm	32.4		43		38		51		-		-		-	
	S	mm	-		-		49		109		97		105		105	
Jaw stroke	U	mm	4.4		5.5		8		10		12		13		14	
	W	mm	12		16		40		52		55		60		60	
	X	mm	14		11		6		22		8		10		10	
	YF/YA	mm	4	-	4	-	4	-	5	15	5	17	5	19	5	19
min./min.	Z	mm	11/0		14/0		26/6		30/5		30/0		32/0		37/2	
	e	mm	24.5		32		46		56		70		86		120	
	h	mm	45		54		76		91		104		110		115	
	j	mm	20		22		30		40		50		62		62	
	m	mm	M8		M10		M12		M16		M16		M20		M20	
	n h8	mm	8		8		14		18		21		25.5		25.5	
	o	mm	8		8		16		18		-		-		-	
	p1	mm	-		22		30		30		31		33		36	
	q1	mm	-		60		75		95		110		125		140	

Open center power chucks



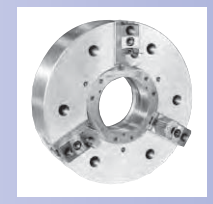
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BH-D
INCH
serration
High precision power chucks
Ø 130 - 450 mm
- LARGE THROUGH HOLE
- 2, 3 and 4 jaws



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BH-M
METRIC
serration
High precision power chucks
Ø 130 - 450 mm
- LARGE THROUGH HOLE
- 2, 3 and 4 jaws



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BH-D big diameters
INCH
serration
High precision power chucks
Ø 500 - 800 mm
- LARGE THROUGH HOLE
- 3 jaws



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BHD-FC
INCH
serration

BHM-FC
METRIC
serration

High precision power chucks
Ø 165 - 630 mm
- LARGE THROUGH HOLE
- centrifugal force compensation
- 3 jaws

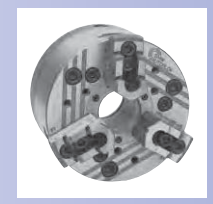


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BB-D
INCH
serration

BB-M
METRIC
serration

High precision power chucks
Ø 140 - 315 mm
- EXTRA LARGE THROUGH HOLE
- 3 jaws



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HFKN-D
INCH
serration

HFKN-M
METRIC
serration

High precision power chucks
Ø 110 - 500 mm
- wedge-bar design
- LARGE THROUGH HOLE
- 3 jaws

BH-D

INCH serration

High precision power chucks Ø 130 - 450 mm

■ LARGE THROUGH HOLE
■ 2, 3 and 4 jaws



Application/customer benefits

- For open center or partial open center clamping
- Large through-hole

BH-D: Master jaws with INCH serration (1/16"x90°) (400 and 450 3/32"x90°)

Technical features

- Gripping force transmission via wedge hook
- Case hardened body to assure greatest precision and long chuck life
- 2 jaw version from diameter 130 to 315
- 3 jaw version available in all diameters
- 4 jaw chuck available starting from diameter 165 mm

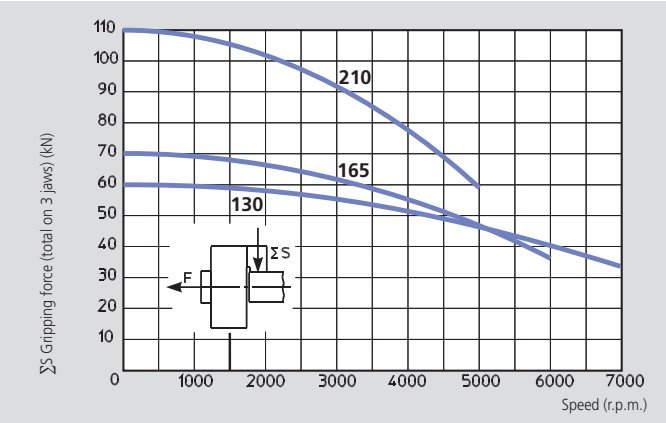
Standard equipment

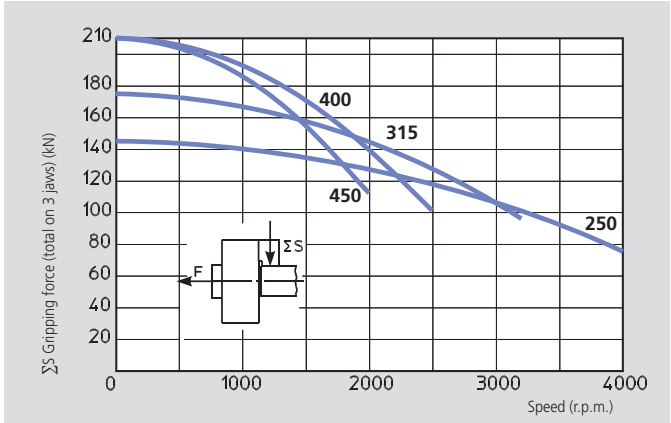
2, 3 or 4 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws
Mounting bolts
Grease gun

Ordering example

2 jaw chuck BH-D 210/A6
or
3 jaw chuck BH-D 250/A8

Actual gripping force diagrams



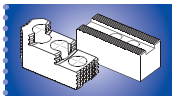
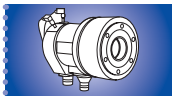


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BH-D 130		BH-D 165			BH-D 210			BH-D 250			BH-D 315			BH-D 400		BH-D 450	
Number of jaws		2	3	2	3	4	2	3	4	2	3	4	2	3	4	3	4	3	4
Through-hole	mm	32		46			52			66			95			118		118	
Radial jaw stroke	mm	3.2		3.2			4			5			5			6.5		6.5	
Axial piston stroke	mm	15		15			19			24			24			31		31	
Max. draw pull	kN	15	22	17	25	25	25	38	38	34	50	50	40	60	60	70	70	70	70
Max. gripping force	kN	42	60	48	70	70	72	110	110	98	145	145	115	175	175	210	210	210	210
Max. speed	r.p.m.	7000	7000	6000	6000	5000	5000	5000	4300	4000	4000	3400	3200	3200	2700	2500	2000	2000	1700
Mass (without top jaws)	kg	5		9.5			19			30			46			86		135	
Moment of inertia	kg·m²	0.012		0.036			0.12			0.27			0.62			2		3.5	
Recommended actuating cylinders		SIN-S 85/100		SIN-S 100			SIN-S 100/125			SIN-S 125/150			SIN-S 125/150			SIN-S 150/175		SIN-S 150/175	
		VNK 70-37		VNK 102-46			VNK 130-52			VNK 150-67			VNK 225-95			VNK 320-127		VNK 320-127	

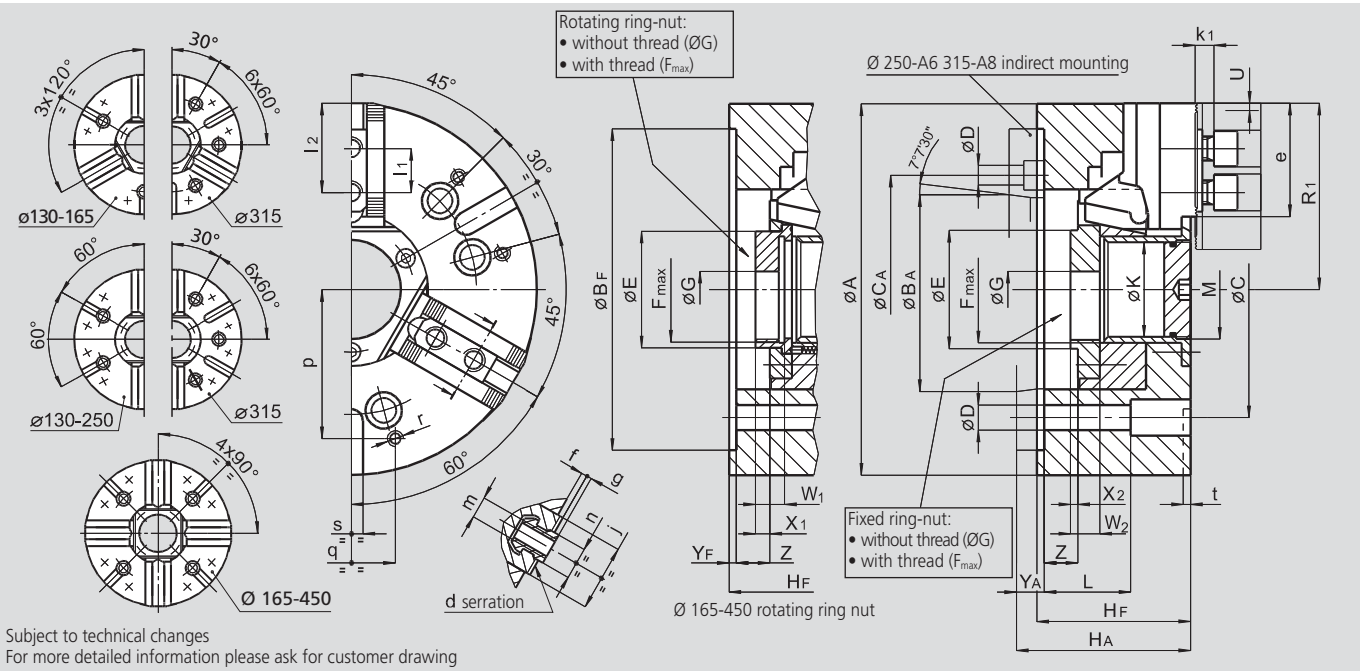

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High precision power chucks Ø 130 - 450 mm

BH-D

■ LARGE THROUGH HOLE
■ 2, 3 and 4 jaws

INCH serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			BH-D 130		BH-D 165		BH-D 210		BH-D 250			BH-D 315			BH-D 400		BH-D 450	
Mounting			Z115	A4	Z140	A5	Z170	A6	Z220	A6	A8	Z300	A8	A11	Z300	A11	Z300	A11
	A	mm	130		165		210		254			315			390		450	
	BF/BA H6	mm	115	63.513	140	82.563	170	106.375	220	106.375	139.719	300	139.719	196.869	300	196.869	300	196.869
	C	mm	82.6		104.8		133.4		171.4	-	171.4	235	-	235	235		235	
	CA	mm	-	-	-	-	-	-	-	133.4	-	-	171.4	-	-	-	-	-
	D	mm	11.5		11.5		13.5			13.5	17		21	21	21		21	
	E	mm	43.5		(*)		67		78			111			143		143	
	Fmax	mm	M38 x 1.5		(**)		M60 x 1.5		M72 x 1.5			M102 x 2			M130 x 2		M130 x 2	
	G	mm	16		20		20		25			25			70		70	
	HF/HA	mm	67	75	77	87	92	104	105	124	119	111	136	127	128	143	128	143
	K	mm	32		46		52		66			95			118		118	
	L	mm	51		61		66		59			33			101		101	
	M	mm	M35 x 1.5		M48 x 1.5		M54 x 1.5		M68 x 2			M98 x 2			M120 x 2		M120 x 2	
Chuck open	R1	mm	66.5		84.5		105.5		127.5			158			195		225	
Jaw stroke	U	mm	3.2		3.2		4		5			5			6.5		6.5	
	W1/W2	mm	-/14		18/16		20/18		20/20			23/23			33/35		33/35	
	X1/X2	mm	-/6		11/5		11/5		11/6			12/7			19/17		19/17	
	YF/YA	mm	5	13	5	15	5	17	5	24	19	5	30	21	6	21	6	21
	Z	mm	15/0		15/0		19/0		24/0			24/0			31/0		31/0	
Serration	d	inch	1/16" x 90°		1/16" x 90°		1/16" x 90°		1/16" x 90°			1/16" x 90°			3/32" x 90°		3/32" x 90°	
	e	mm	39		49.5		66		77.5			93			116.5		146.5	
	f	mm	2		3		3		4			4			5		5	
	g	mm	2.5		2.5		2.5		3.5			3.5			3.5		3.5	
	j	mm	30		33		38		45			45			62		62	
	k1	mm	10		10		11		12			12			14		14	
	l1	mm	16		16.5		23		30			30			34		34	
max./min.	l2	mm	32/23		41/24		56/33		62/43			78/43			90/49		120/49	
	m	mm	M8		M10		M12		M16			M16			M20		M20	
	n h8	mm	12		14		17		21			21			25.5		25.5	
	p	mm	52		65		80		102			100			150		150	
	q	mm	30		36		45		60			60			80		80	
	r	mm	M6		M8		M8		M10			M10			M12		M12	
	s H12	mm	12		16		16		16			20			20		20	
	t	mm	5		5		5		5			5			5		5	

(*) E fixed ring nut Ø 60
E rotating ring nut Ø 56
(**) F_{max} fixed ring nut M55 x 2
F_{max} rotating ring nut M50 x 1.5

BH-M

METRIC serration

High precision power chucks Ø 130 - 450 mm

■ LARGE THROUGH HOLE
■ 2, 3 and 4 jaws



Application/customer benefits

- For open center or partial open center clamping
- Large through-hole

BH-M: Master jaws with METRIC serration (1.5 mm x 60°)
(Suitable for Japanese chucks top jaws)

Technical features

- Gripping force transmission via wedge hook
- Case hardened body to assure greatest precision and long chuck life
- 2 jaw version from diameter 130 to 315
- 3 jaw version available in all diameters
- 4 jaw chuck available starting from diameter 165 mm

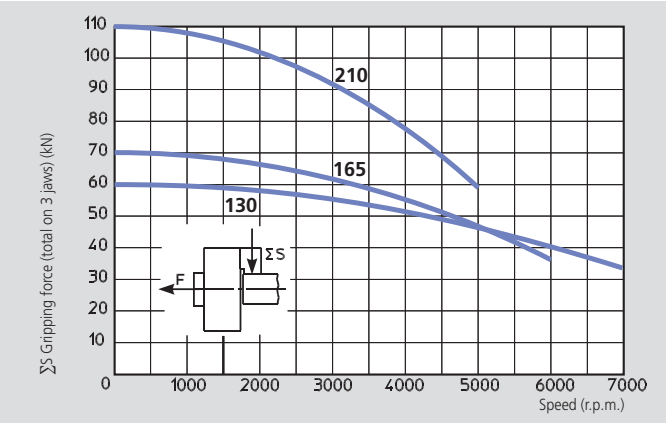
Standard equipment

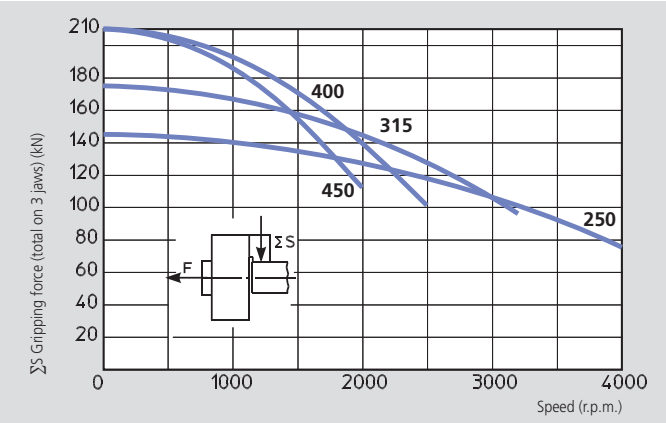
2, 3 or 4 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws
Mounting bolts
Grease gun

Ordering example

2 jaw chuck BH-M 210/A6
or
3 jaw chuck BH-M 250/A8

Actual gripping force diagrams



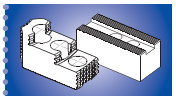
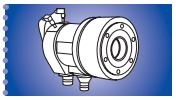


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BH-M 130		BH-M 165			BH-M 210			BH-M 250			BH-M 315			BH-M 400		BH-M 450	
Number of jaws		2	3	2	3	4	2	3	4	2	3	4	2	3	4	3	4	3	4
Through-hole	mm	32		46			52			66			95			118		118	
Radial jaw stroke	mm	3.2		3.2			4			5			5			6.5		6.5	
Axial piston stroke	mm	15		15			19			24			24			31		31	
Max. draw pull	kN	15	22	17	25	25	25	38	38	34	50	50	40	60	60	70	70	70	70
Max. gripping force	kN	42	60	48	70	70	72	110	110	98	145	145	115	175	175	210	210	210	210
Max. speed	r.p.m.	7000	7000	6000	6000	5000	5000	5000	4300	4000	4000	3400	3200	3200	2700	2500	2000	2000	1700
Mass (without top jaws)	kg	5		9.5			19			30			46			86		135	
Moment of inertia	kg·m²	0.012		0.036			0.12			0.27			0.62			2		3.5	
Recommended actuating cylinders		SIN-S 85/100		SIN-S 100			SIN-S 100/125			SIN-S 125/150			SIN-S 125/150			SIN-S 150/175		SIN-S 150/175	
		VNK 70-37		VNK 102-46			VNK 130-52			VNK 150-67			VNK 225-95			VNK 320-127		VNK 320-127	

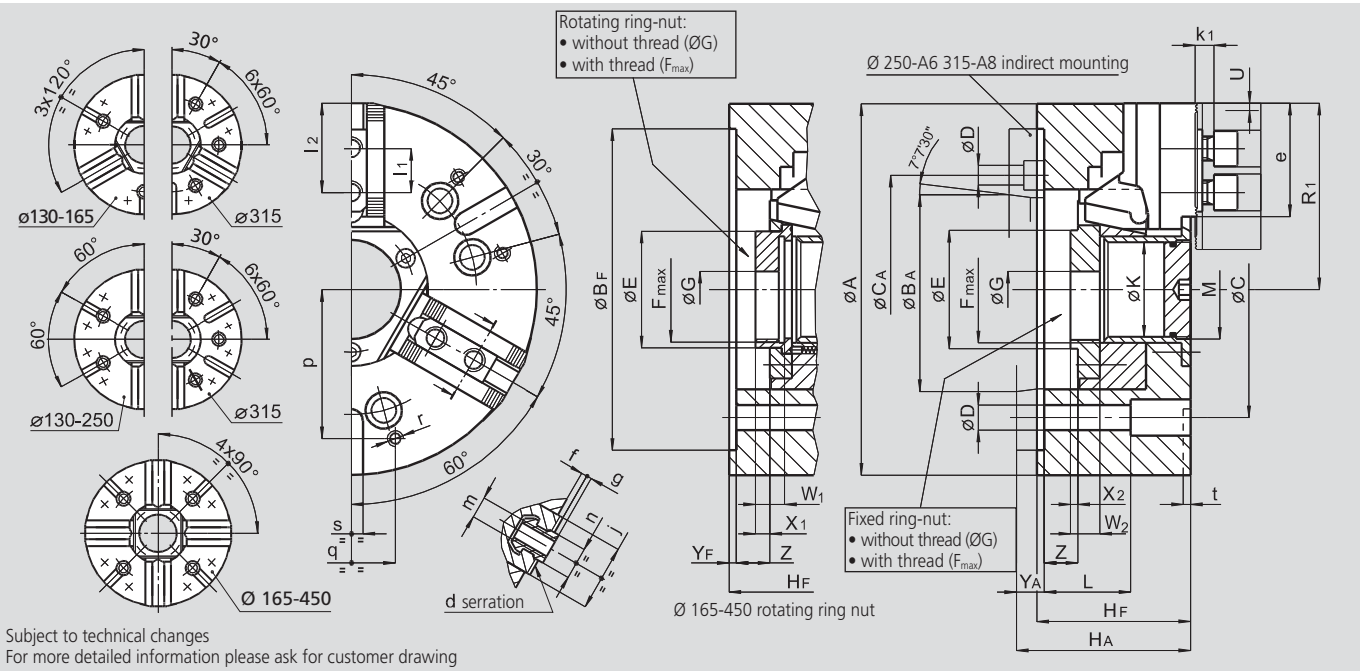

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High precision power chucks Ø 130 - 450 mm

■ LARGE THROUGH HOLE
■ 2, 3 and 4 jaws

BH-M

METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			BH-M 130		BH-M 165		BH-M 210		BH-M 250			BH-M 315			BH-D 400		BH-D 450	
Mounting			Z115	A4	Z140	A5	Z170	A6	Z220	A6	A8	Z300	A8	A11	Z300	A11	Z300	A11
	A	mm	130		165		210		254			315			390		450	
	BF/BA H6	mm	115	63.513	140	82.563	170	106.375	220	106.375	139.719	300	139.719	196.869	300	196.869	300	196.869
	C	mm	82.6		104.8		133.4		171.4	-	171.4	235	-	235	235		235	
	CA	mm	-	-	-	-	-	-	-	133.4	-	-	171.4	-	-	-	-	-
	D	mm	11.5		11.5		13.5			13.5	17		17	21	21		21	
	E	mm	43.5		(*)		67		81			111			143		143	
	Fmax	mm	M38 x 1.5		(**)		M60 x 2		M75 x 2			M100 x 2			M130 x 2		M130 x 2	
	G	mm	16		20		20		25			25			70		70	
	HF/HA	mm	67	75	77	87	92	104	105	124	119	111	136	127	128	143	128	143
	K	mm	32		46		52		66			95			118		118	
	L	mm	51		61		66		59			33			101		101	
	M	mm	M35 x 1.5		M48 x 1.5		M54 x 1.5		M68 x 2			M98 x 2			M120 x 2		M120 x 2	
Chuck open	R1	mm	66.5		84.5		105.5		127.5			158			195		225	
Jaw stroke	U	mm	3.2		3.2		4		5			5			6.5		6.5	
	W1/W2	mm	-/14		18/16		20/18		33/38			33/40			33/35		33/35	
	X1/X2	mm	-/6		11/5		11/5		24/24			24/24			19/17		19/17	
	YF/YA	mm	5	13	5	15	5	17	5	24	19	5	30	21	6	21	6	21
	Z	mm	15/0		15/0		19/0		24/0			24/0			31/0		31/0	
Serration	d	inch	1.5 x 60°		1.5 x 60°		1.5 x 60°		1.5 x 60°			1.5 x 60°			1.5 x 60°		1.5 x 60°	
	e	mm	39		49.5		66		77.5			93			116.5		146.5	
	f	mm	2		3		3		4			4			5		5	
	g	mm	2.5		2.5		2.5		3.5			3.5			3.5		3.5	
	j	mm	30		33		38		45			45			62		62	
	k1	mm	10		10		11		12			12			14		14	
	l1	mm	16		20		25		30			30			34		34	
max./min.	l2	mm	32/23		41/24		56/33		62/43			78/43			90/49		120/49	
	m	mm	M8		M10		M12		M12			M16			M20		M20	
	n h8	mm	12		12		14		16			21			22		22	
	p	mm	52		65		80		102			100			150		150	
	q	mm	30		36		45		60			60			80		80	
	r	mm	M6		M8		M8		M10			M10			M12		M12	
	s H12	mm	12		16		16		16			20			20		20	
	t	mm	5		5		5		5			5			5		5	

(*) E fixed ring nut Ø 60
E rotating ring nut Ø 56
(**) F_{max} fixed ring nut M55 x 2
F_{max} rotating ring nut M50 x 1.5

BH-D big diameters

INCH serration

High precision power chucks Ø 500 - 800 mm

■ LARGE THROUGH HOLE
■ 3 jaws



Application/customer benefits

- For open center or partial open center clamping
- Large through-hole

BH-D: Master jaws with INCH serration 3/32"x 90°

Technical features

- Gripping force transmission via wedge hook

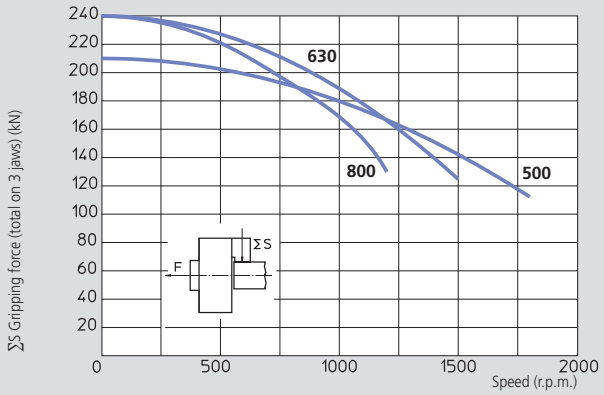
Standard equipment

3 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws
Mounting bolts
Grease gun

Ordering example

3 jaw chuck BH-D 500/A15
or
3 jaw chuck BH-D 800/FL520

Actual gripping force diagram

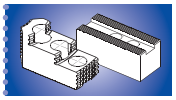
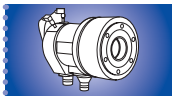


The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BH-D 500	BH-D 630	BH-D 800
Number of jaws		**3**	**3**	**3**
Through-hole	mm	180	230	230
Radial jaw stroke	mm	6.5	9	9
Axial piston stroke	mm	31	34	34
Max. draw pull	kN	70	100	100
Max. gripping force	kN	210	240	240
Max. speed	r.p.m.	1800	1500	1200
Mass (without top jaws)	kg	140	280	530
Moment of inertia	kg·m²	5	16	47
Recommended actuating cylinders		**SIN-S 150/200**	**SIN-S 150/200**	**SIN-S 150/200**
		VSG 450-165	**VSG 550-205**	**VSG 550-205**

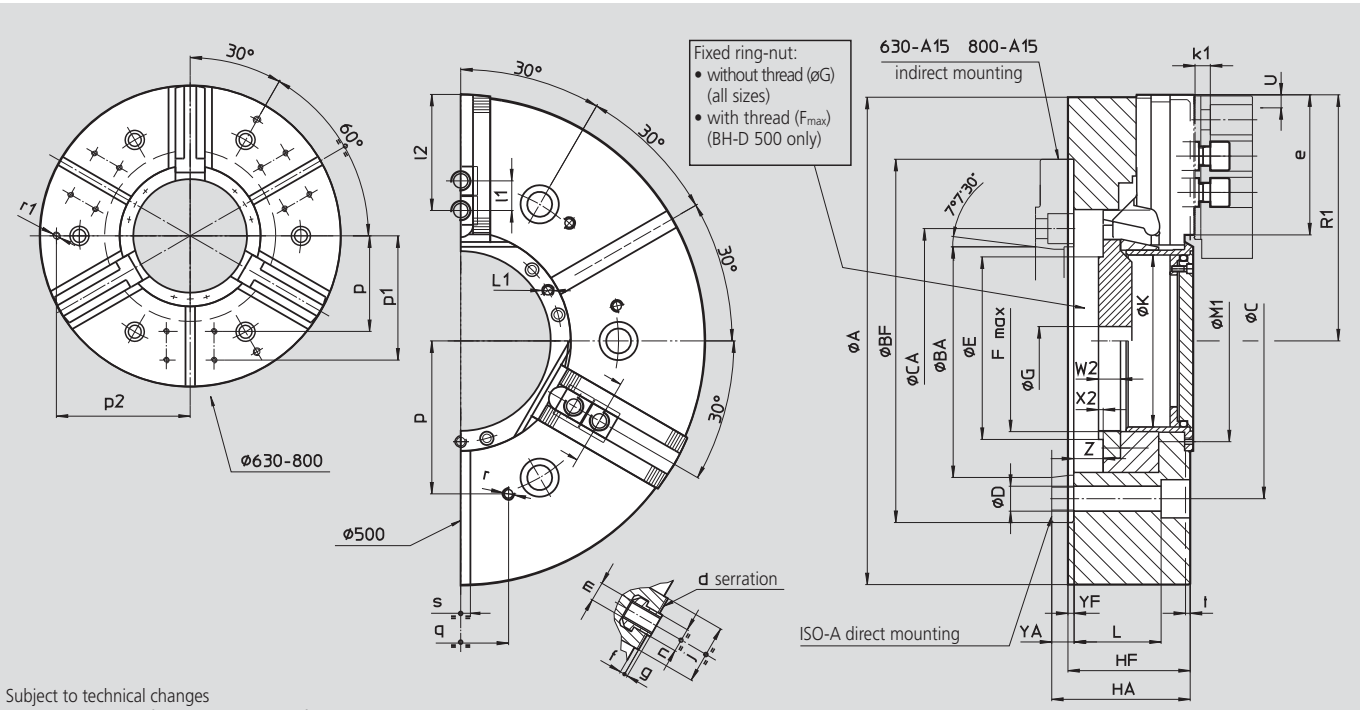

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High precision power chucks Ø 500 - 800 mm

■ LARGE THROUGH HOLE
■ 3 jaws

BH-D big diameters

INCH serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			BH-D 500		BH-D 630			BH-D 800		
Mounting			FL380	A15	FL520	A15	A20	FL520	A15	A20
	A	mm	510			630			800	
	BF/BA H6	mm	380	285.775	520	285.775	412.775	520	285.775	412.775
	C	mm	330.2		463.6	-	463.6	463.6	-	463.6
	CA	mm	-	-	-	330.2	-	-	330.2	-
	D	mm	26			26			26	
	E	mm	206			260			260	
	Fmax	mm	M190 x 3			M250 x 3 (*)			M250 x 3 (*)	
	G	mm	30			30			30	
	HF/HA	mm	128	145	150	184	169	150	184	169
	K	mm	180			230			230	
	L	mm	91			99			99	
	L1	mm	M8/9			M8/16			M8/16	
	M1	mm	211			270			270	
Chuck open	R1	mm	257.5			314			399	
Jaw stroke	U	mm	6.5			9			9	
	W2	mm	23			23			23	
	X2	mm	5			5			5	
	YF/YA	mm	6	23	6	40	25	6	40	25
max./min.	Z	mm	31/0			34/0			34/0	
BH-D serration	d	inch	3/32" x 90°			3/32" x 90°			3/32" x 90°	
	e	mm	146.5			152			237	
	f	mm	5			10			10	
	g	mm	3.5			3.5			3.5	
	j	mm	62			62			62	
	k1	mm	16			16			16	
	l1	mm	38			38			38	
max./min.	l2	mm	121/53			127/53			212/53	
	m	mm	M20			M20			M20	
	n h8	mm	25.5			25.5			25.5	
	p	mm	160			200			200	
	p1	mm	-			260			260	
	p2	mm	-			280			280	
	q	mm	100			100			100	
	r	mm	M12/22			M12/22			M12/22	
	r1	mm	-			M16/28			M16/28	
	s H12	mm	20			20			20	
	t	mm	5			5			5	

(*) sizes BH-D 630 and 800 are standard with blank ring-nut (Ø G).

BHD-FC
INCH serration

BHM-FC
METRIC serration

High precision power chucks Ø 165 - 630 mm

■ centrifugal force compensation
■ LARGE THROUGH HOLE
■ 3 jaws



Application/customer benefits

- For open center or partial open center clamping
- Large through-hole
- Compensation of centrifugal force for high speed
- Clamping of easily deformed parts with low gripping force, maintained to high speed

BHD-FC: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
BHM-FC: Master jaws with METRIC serration (1.5 mm x 60°) (Ø 165-400 mm) (suitable for japanese jaws)

Technical features

- Gripping force transmission via wedge hook
- Centrifugal force compensation by means of counter balance weights for minimum loss of gripping force at high speed
- Case hardened body (up to Ø 315) to assure greatest precision and long chuck life

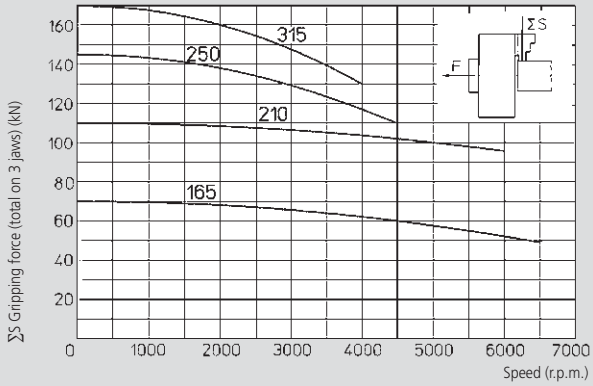
Standard equipment

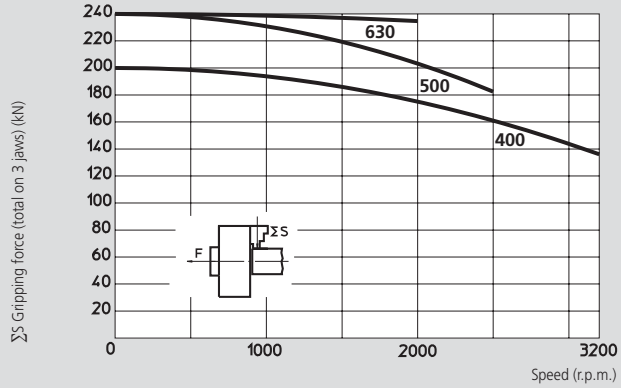
3 jaws chuck
1 set T-nuts with bolts
1 set soft top jaws
Mounting bolts, grease gun

Ordering example

3 jaw chuck BHD-FC 210/A6
or
3 jaw chuck BHM-FC 250/Z220

Actual gripping force diagrams



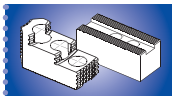
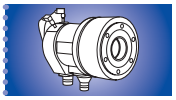


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BHD-FC 165 BHM-FC 165	BHD-FC 210 BHM-FC 210	BHD-FC 250 BHM-FC 250	BHD-FC 315 BHM-FC 315	BHD-FC 400 BHM-FC 400	BHD-FC 500 -	BHD-FC 630 -
Number of jaws		**3**	**3**	**3**	**3**	**3**	**3**	**3**
Through-hole	mm	45	52	66	95	118	125	165
Radial jaw stroke	mm	3.2	4	5	5	6.5	9	9
Axial piston stroke	mm	15	19	24	24	31	34	34
Max. draw pull	kN	25	38	50	60	70	100	100
Max. gripping force	kN	70	110	145	170	200	240	240
Max. speed	r.p.m.	6500	6000	4500	4000	3200	2500	2000
Mass (without top jaws)	kg	11	21	32	50	95	160	335
Moment of inertia	kg·m²	0.042	0.13	0.29	0.67	2	5.2	18
Recommended actuating cylinders	**SIN-S**	**100**	**100/125**	**125/150**	**125/150**	**150/175**	**150/175/200**	**175/200**
	VNK/VSG	**102-46**	**130-52**	**150-67**	**225-95**	**320-127**	**320-127**	**450/165**

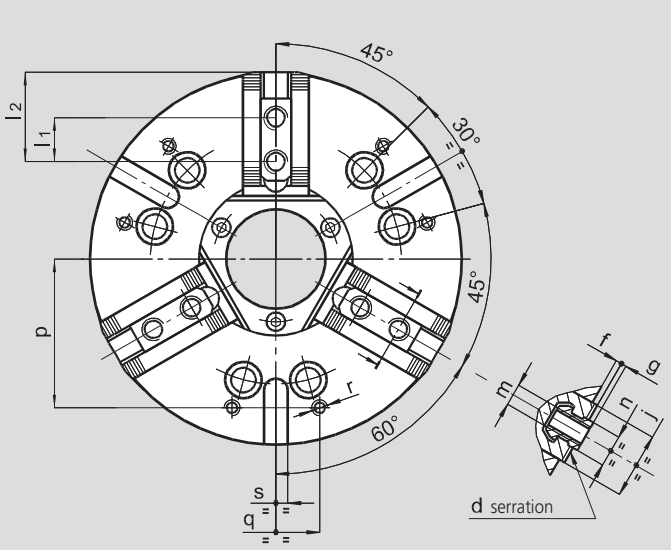

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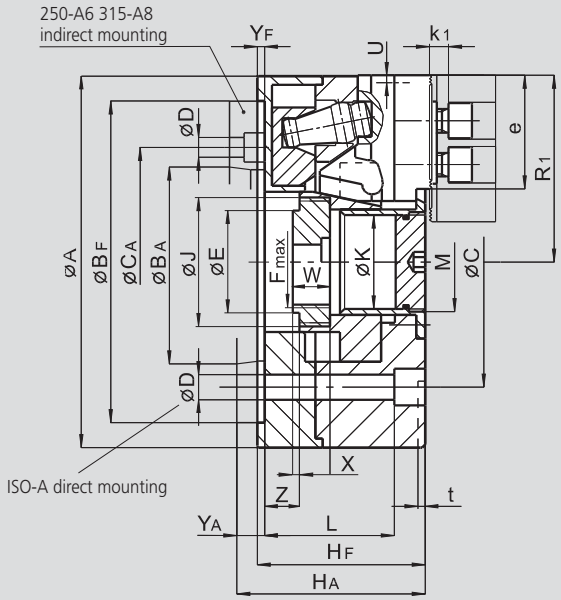
High precision power chucks Ø 165 - 630 mm

- centrifugal force compensation
- LARGE THROUGH HOLE
- 3 jaws

BHD-FC
INCH serration

BHM-FC
METRIC serration





Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			BHD-FC 165 BHM-FC 165		BHD-FC 210 BHM-FC 210		BHD-FC 250 BHM-FC 250			BHD-FC 315 BHM-FC 315			BHD-FC 400 BHM-FC 400		BHD-FC 500 -		BHD-FC 630 -	
Mounting			**Z140**	**A5**	**Z170**	**A6**	**Z220**	**A6**	**A8**	**Z300**	**A8**	**A11**	**Z300**	**A11**	**Z380**	**A15**	**Z380**	**A15**
	A	mm	168		210		250			315			390		510		630	
	BF/BA H6	mm	140	82.563	170	106.375	220	106.375	139.719	300	139.719	196.869	300	196.869	380	285.775	380	285.775
	C	mm	104.8		133.4		171.4	-	171.4	235	-	235	235		330.2		330.2	
	CA	mm	-	-	-	-	-	133.4	-	-	171.4	-	-		-		-	
	D	mm	11.5		13.5		17	13.5	17	17	17	21	21		25		25	
	E	mm	58		67		78			111			140		148		198	
	F/Fmax	mm	M52 x 1.5		M60 x 1.5		M72 x 1.5			M105 x 2			M130 x 2		M135 x 2		M175 x 2	
	J	mm	M60 x 1.5		M72 x 1.5		M88 x 1.5			M120 x 2			M145 x 2		M160 x 2		M195 x 2	
	HF/HA	mm	90	100	100	112	115	134	129	120	145	136	143	158	160	177	160	177
	K	mm	45		52		66			95			118		125		165	
	L	mm	72		74		89			72			115		129		129	
	M	mm	M47 x 1.5		M54 x 1.5		M68 x 2			M98 x 2			M120 x 2		-		-	
Chuck open	**R1**	mm	84		105.5		127.5			158			195		255		315	
Jaw stroke	**U**	mm	3.2		4		5			5			6.5		9		9	
	W	mm	23		24		26			28			33		25		30	
	X	mm	5		4		6			6			17		3		5	
	YF/YA	mm	5	15	5	17	5	24	19	5	30	21	6	21	3	23	6	23
max./min.	**Z**	mm	15/0		19/0		24/0			24/0			31/0		37/3		37/3	
BHD-FC serration	**d**	inch	1/16" x 90°		1/16" x 90°		1/16" x 90°			1/16" x 90°			3/32" x 90°		3/32" x 90°		3/32" x 90°	
BHM-FC serration	**d**	inch	1.5 x 60°		1.5 x 60°		1.5 x 60°			1.5 x 60 °			1.5 x 60 °		-		-	
	e	mm	49.5		66		77.5			93			116.5		152		192	
	f	mm	5		4		4			4			5		10		10	
	g	mm	2.5		2.5		3.5			3.5			3.5		3.5		3.5	
	j	mm	30		36		45			45			62		62		62	
	k1	mm	10		11		12			12			14		16		16	
BHD-FC	**l1**	mm	16.5		23		30			30			34		38		38	
BHM-FC	**l1**	mm	20		25		30			30			34		-		-	
max./min.	**l2**	mm	41/23		56/33		62/43			78/43			90/49		129/53		167/53	
BHD-FC	**m**	mm	M10		M12		M16			M16			M20		M20		M20	
BHM-FC	**m**	mm	M10		M12		M12			M16			M20		-		-	
BHD-FC	**n** h8	mm	14		17		21			21			25.5		25.5		25.5	
BHM-FC	**n** h8	mm	12		14		16			21			22		-		-	
	p	mm	65		80		102			125			150		160		200	
	q	mm	36		45		60			100			80		100		100	
	r	mm	M8		M8		M10			M10			M12		M12		M12	
	s H9	mm	16		16		16			20			20		20		20	
	t	mm	4.5		5		5			5			5		5		5	

BB-D
INCH serration

BB-M
METRIC serration

High precision power chucks Ø 140 - 315 mm

■ EXTRA LARGE THROUGH HOLE
■ 3 jaws



Application/customer benefits

- For open center or partial open center clamping
- For machines with very large spindle bore

BB-D: Master jaws with INCH serration (1/16"x 90°)
BB-M: Master jaws with METRIC serration (1.5 mm x 60°)
(Suitable for Japanese chucks top jaws)

Technical features

- Extra large through-hole
- Gripping force transmission via wedge hook
- Case hardened body to assure greatest precision and long chuck life

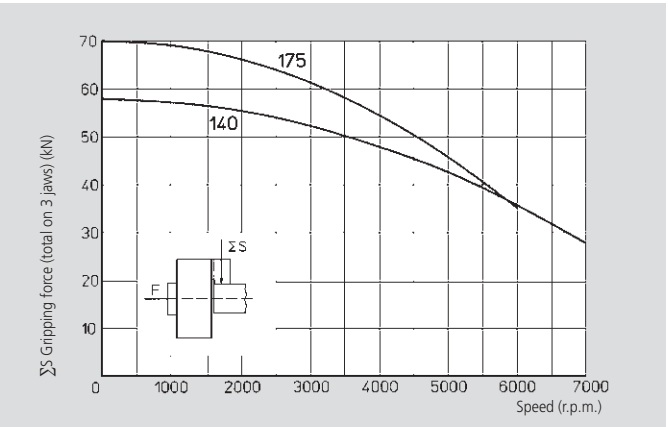
Standard equipment

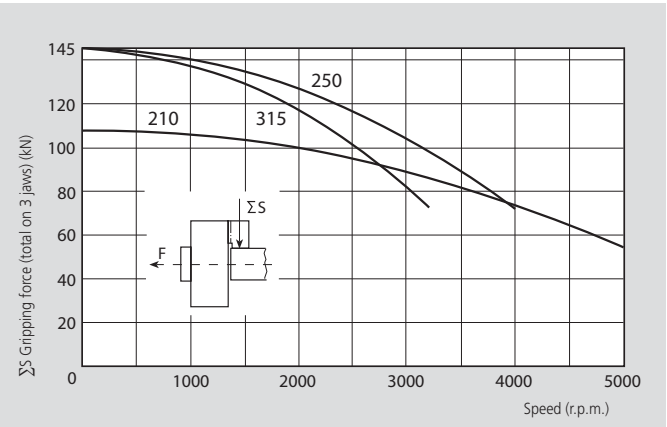
3 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws
Mounting bolts
Grease gun

Ordering example

3 jaw chuck BB-D 175/A6
or
3 jaw chuck BB-M 250/Z220

Actual gripping force diagrams



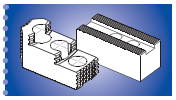
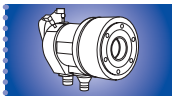


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BB-D 140 BB-M 140	BB-D 175 BB-M 175	BB-D 210 BB-M 210	BB-D 250 BB-M 250	BB-D 315 BB-M 315
Number of jaws		**3**	**3**	**3**	**3**	**3**
Through-hole	mm	39	56	66	78	122
Radial jaw stroke	mm	3.2	3.2	4	5	5
Axial piston stroke	mm	15	15	19	24	24
Max. draw pull	kN	22	25	38	50	50
Max. gripping force	kN	58	70	108	145	145
Max. speed	r.p.m.	7000	6000	5000	4000	3200
Mass (without top jaws)	kg	6	11.5	19.5	30	44
Moment of inertia	kg·m²	0.016	0.05	0.12	0.27	0.62
Recommended actuating cylinders		**SIN-S 85/100**	**SIN-S 100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**
		VNK 70-37	**VNK 130-52**	**VNK 150-67**	**VNK 170-77**	**VNK 320-127**

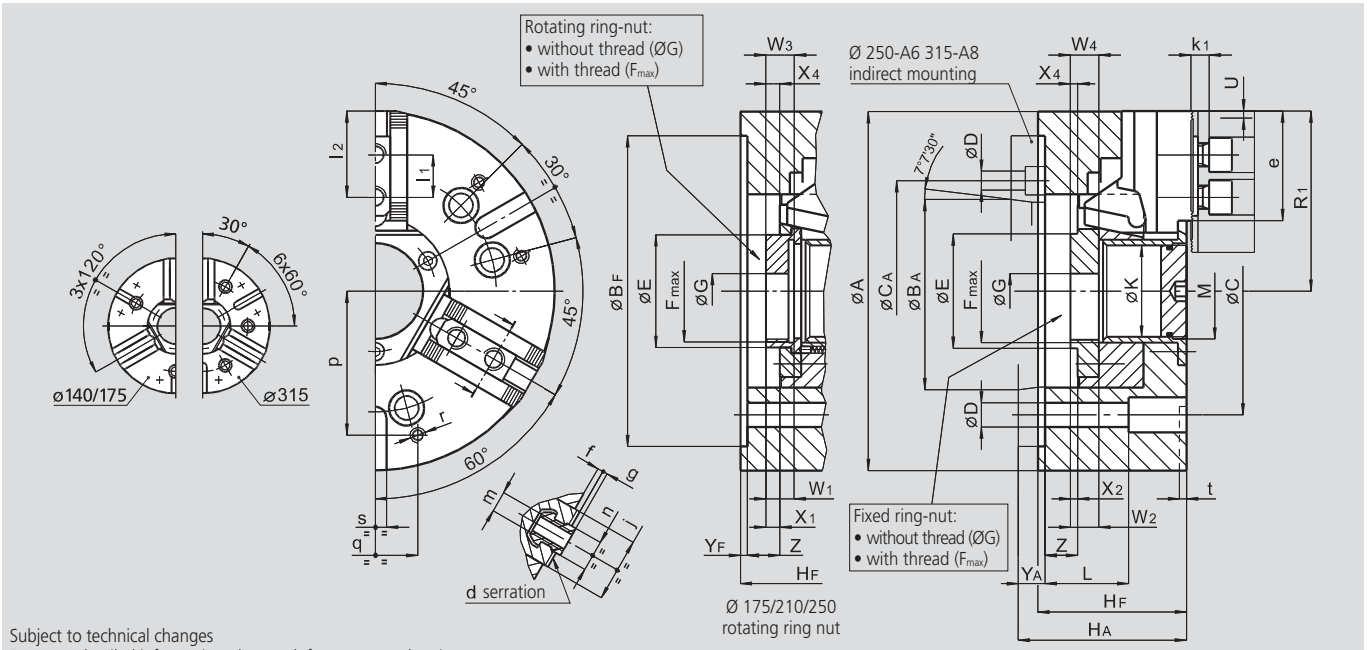

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High precision power chucks Ø 140 - 315 mm

■ EXTRA LARGE THROUGH HOLE
■ 3 jaws

BB-D INCH serration

BB-M METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				BB-D 140 BB-M 140		BB-D 175 BB-M 175		BB-D 210 BB-M 210		BB-D 250 BB-M 250			BB-D 315 BB-M 315		
Mounting				**Z130**	**A5**	**Z160**	**A6**	**Z170**	**A6**	**Z220**	**A6**	**A8**	**Z300**	**A8**	**A11**
	A		mm	140		175		210			254			315	
	BF/BA	H6	mm	130	82.563	160	106.375	170	106.375	220	106.375	139.719	300	139.719	196.869
	C		mm	104.8		133.4		133.4		171.4	-	171.4	235	-	235
	CA		mm	-	-	-	-	-	-	-	133.4	-	-	171.4	-
	D		mm	11.5		13.5		13.5			13.5	17		17	21
	E		mm	53		71		78			92			143	
	Fmax		mm	M45 x 1.5		M62 x 1.5		M72 x 1.5			M85 x 2			M135 x 2	
	G		mm	16		20		20			25			70	
	HF/HA		mm	67	77	82	94	92	104	105	124	119	118	143	134
	K		mm	39		56		66			78			122	
	L		mm	46		54		66			89			72	
	M		mm	M42 x 1.5		M58 x 1.5		M68 x 2			M80 x 2			M125 x 2	
Chuck open	**R1**		mm	70		89		106			128			157.5	
Jaw stroke	**U**		mm	3.2		3.2		4			5			5	
	(1) **W1/W2**		mm	-/14		18/16		20/18			20/20			-/23	
	(2) **W3/W4**		mm	-/14		28/35		30/35			33/38			-/23	
BB-D	**X1/X2**		mm	-/6		11/5		12/5			11/6			-/5	
BB-M	**X1/X2 (X4)**		mm	-/6 (6)		11/5 (22)		12/5 (22)			11/11 (23)			-/5 (5)	
	YF/YA		mm	5	15	5	17	5	17	5	24	19	5	30	21
max./min.	**Z**		mm	15/0		15/0		19/0			24/0			24/0	
BB-D serration	**d**		inch	1/16" x 90°		1/16" x 90°		1/16" x 90°			1/16" x 90°			1/16" x 90°	
BB-M serration	**e**		mm	39		49.5		59			73			77.5	
	f		mm	2		3		4			4			4	
	g		mm	2.5		2.5		2.5			3.5			3.5	
	j		mm	30		33		36			45			45	
	k1		mm	10		10		11			12			12	
BB-D	**l1**		mm	16		16.5		23			30			30	
BB-M	**l1**		mm	16		20		25			30			30	
max./min.	**l2**		mm	32/23		41/24		49/33			57/43			62/43	
BB-D	**m**		mm	M8		M10		M12			M16			M16	
BB-D	**n**	h8	mm	12		14		17			21			21	
BB-M	**m**		mm	M8		M10		M12			M12			M16	
BB-M	**n**	h8	mm	12		12		14			16			21	
	p		mm	52		65		80			102			100	
	q		mm	30		36		45			60			60	
	r		mm	M6		M8		M8			M10			M10	
	s	H12	mm	12		16		16			16			20	
	t		mm	5		5		5			5			5	

(1) Rotating ring-nut with thread W_1=BBD-BBM
Fixed ring-nut with thread W_2=BBD-BBM

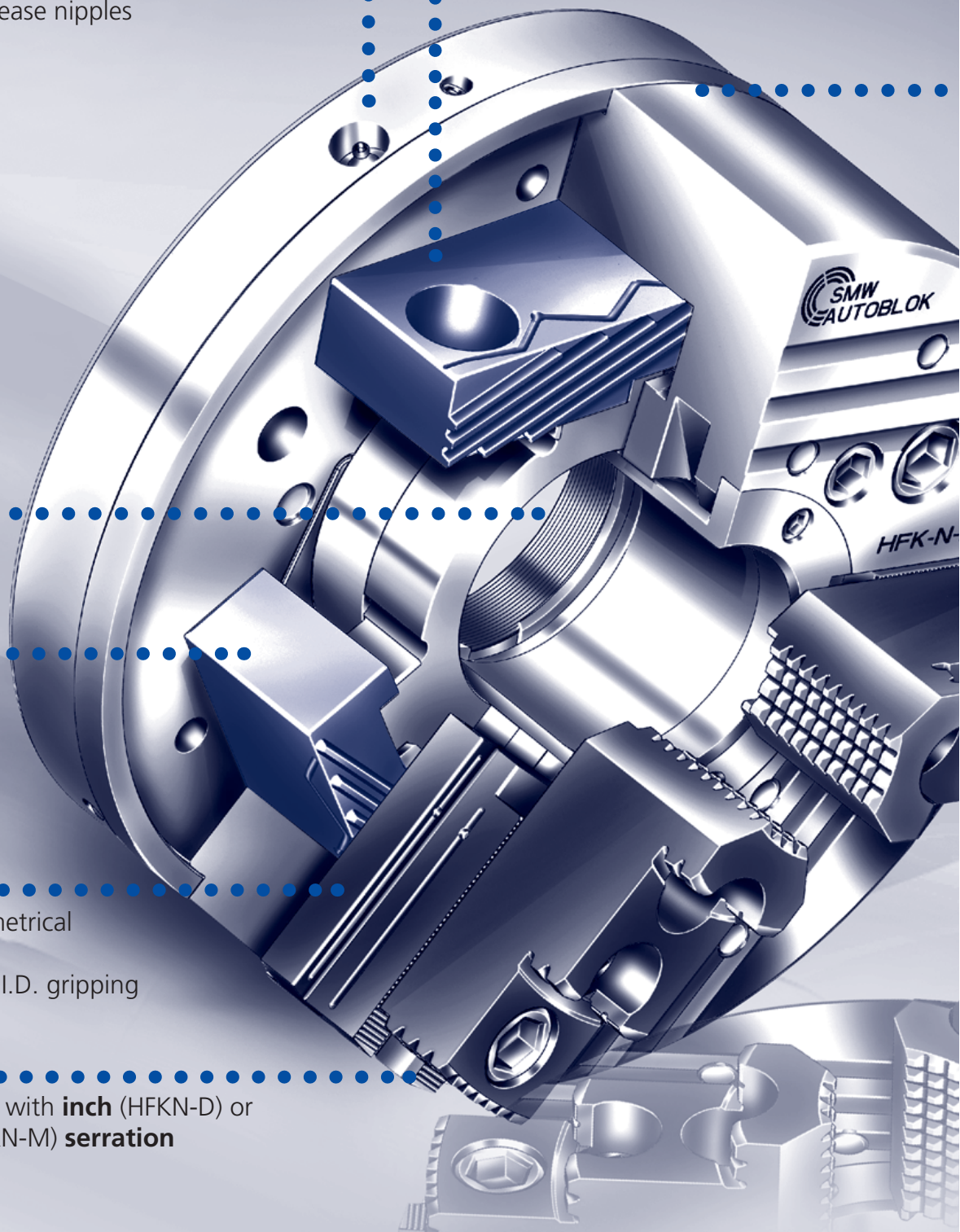
(2) Blank rotating ring-nut without thread W_3 = BBM W_1 = BBD
Fixed ring-nut blank without thread W_4 = BBM W_2 = BBD

Technology at the highest level:
The SMW-AUTOBLOK

HFKN

Wedge bar drive,
minimum loss in gripping force even at high speeds because of tangentially supported wedge bars.
Minimum increase of gripping force **(hysteresis)** after quick spindle stop

Easy lubrication
even on vertical machines
with 3 radial built-in
grease nipples



Large through hole
for full use of
spindle bore

High **efficiency** of
the wedge bar drive
ensures highest
concentricity and
repeatability

Extra long, symmetrical
jaw guides.
Ideal for O.D. or I.D. gripping

Master jaws with **inch** (HFKN-D) or
metric (HFKN-M) **serration**

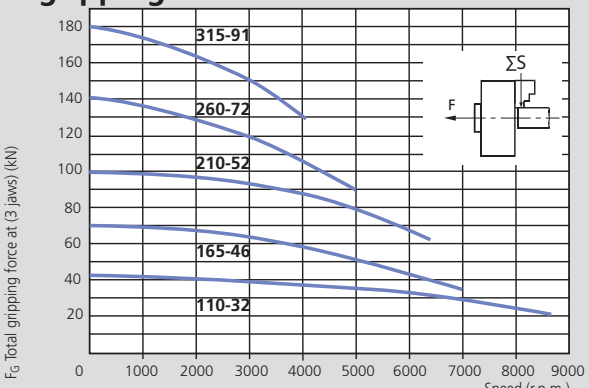
wedge bar drive

Chuck body and internal parts are **case hardened and ground.**
For highest rigidity, durability and precision

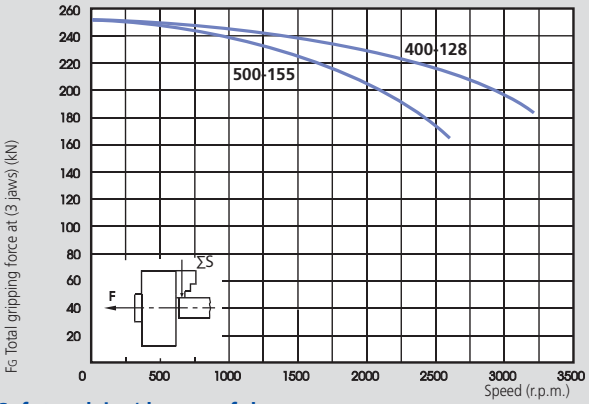




For high speeds
Flat gripping force curve



The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.



⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Clamping glossary

Case hardening: The surface of the components is hardened (60 HRC) to a depth of about 1 mm (0.04”). The core shows a high tensile strength and toughness. Compared to partial inductive hardened and nitrited parts the rigidity and the resistance against wear is greatly increased.

Hysteresis: At high speeds the chuck body “grows” due to centrifugal force. The draw pull of the clamping cylinder causes an increase in gripping force which cannot be decreased at a quick spindle stop (or change in speed). This can cause deformation at easily deformed parts.
SMW-AUTOBLOK chucks with wedge bar drive have a very low hysteresis.

Wedge bar drive: The chuck is driven by tangentially mounted wedge bars. This design allows highest repeatability and rigidity. These chucks have very low loss in gripping force due to centrifugal force. The design does not require counterbalance weights which allows highest speeds without vibration.

Inch serration: The connection inbetween top jaws and master jaws is done through serration, T-nuts and bolts according to DIN 6353 (serration 90°, pitch in inches). This is standard on European chucks. HFKN chucks can be supplied either with inch serration or metric serration.

Metric serration: The connection inbetween top jaws and master jaws is done through serration, T-nuts and bolts according to ISO 9401 (serration 60°, pitch in mm). This is standard on Japanese chucks.

Efficiency: Efficiency is the ratio between the calculated theoretical gripping force (disregarding friction) and the actual (measured) gripping force.

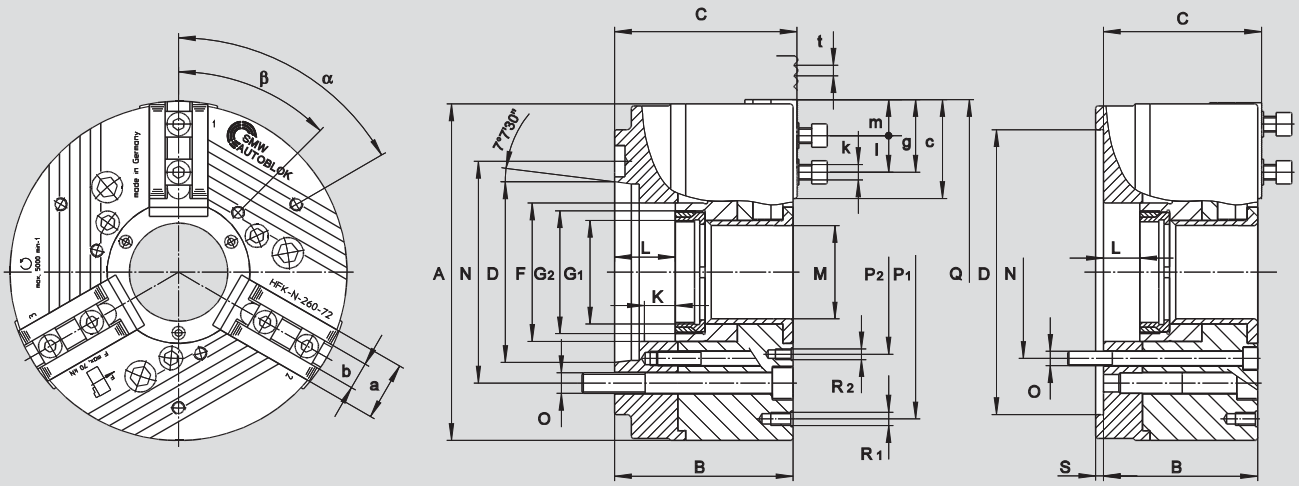
HFKN-D

INCH serration

HFKN-M

METRIC serration

Main dimensions and technical data



Subject to technical changes
For more detailed information please ask for customer drawing

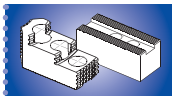
Type HFKN-D Type HFKN-M		110-32 110-32		165-46 165-46			210-52 210-52			260-72 260-72				315-91 315-91				400-128 400-128				500-155 500-155		
Mounting	**Size**	**Z100**	**A4**	**Z140**	**A5**	**A6**	**Z170**	**A6**	**A8**	**Z170**	**Z220**	**A6**	**A8**	**Z220**	**Z300**	**A8**	**A11**	**Z300**	**Z380**	**A11**	**A15**	**Z380**	**A11**	**A15**
	A	115		165			215			260				315				400				500		
	B	64	75	90	105	107	102	119	121	119	119	136	138	127	127	146	148	143	143	164	166	157	178	180
	C	68.1	77.5	92.5	107.5	109.5	105	122	124	122	122	139	141	130	130	149	151	148	148	169	171	162	183	185
H6	**D**	100	63.51	140	82.57	106.39	170	106.39	139.73	170	220	106.39	139.73	220	300	139.73	196.88	300	380	196.88	285.77	380	196.88	285.77
	F	46		67			85			107				134				180				207		
Threaded ring/depth	**G1**	*		*			M60 x 1.5/16			M80 x 2/20				M100 x 2/22				M138 x 2/22				M165 x 2/25		
Piston thread/depth	**G2**	M38 x 1.5/15		M60 x 1.5/18			M75 x 2/19			M95 x 2/23				M120 x 2/25				M160 x 2/25				M185 x 2/28		
Piston stroke	**K**	9		15			19			23				23				30				32		
max.	**L**	10.5	21.5	15	30	32	19	36	38	23	23	40	42	23	23	42	44	32	32	53	55	33	54	56
	M	32		46			52			72				91				128				155		
Fixing bolt circle	**N**	82.6		104.8	104.8	133.4	133.4	133.4	171.4	133.4	171.4	133.4	171.4	171.4	235	171.4	235	235	330.2	235	330.2	330.2	235	330.2
Fixing bolt	**O**	M10		M10	M10	M12	M12	M12	M16	M12	M16	M12	M16	M16	M20	M16	M20	M20	M24	M20	M24	M24	M20	M24
	P1	100		120			168			210				268				330				430		
	P2	65		90			110			130				155				200				220		
	Q	118		167			219			264				319				408				508		
Thread/thread depth	**R1**	M6/12		M8/16			M10/20			M10/20				M10/20				M12/18				M16/25		
Thread/thread depth	**R2**	M6/12		M8/16			M10/20			M10/20				M10/20				M12/18				M12/18		
	S	6		6			6			6				6				8				8		
	a	20		32			40			45				50				60				60		
f7	**b**	8 (g6)		14			17			21				21				25.5				25.5		
	c	34		47.5			69			75				92.5				115				150		
	g	28.5		39			58.5			65.5				74				100				136		
Bolt DIN 912 12.9	**k**	M6		M10			M12			M16				M16				M20				M20		
min.	**l**	12		16			22			28				30				35				35		
min.	**m**	2		5			6			8				8				10				10		
HFKN-D inch serration	**t**	1/16" 90°		1/16" 90°			1/16" 90°			1/16" 90°				1/16" 90°				3/32" 90°				3/32" 90°		
HFKN-M metric serration	**t**			1.5 x 60°			1.5 x 60°			1.5 x 60°				1.5 x 60°				3 x 60°				3 x 60°		
HFKN-C tongue and groove		S08 N08																						
	α°	60		40			60			60				60				60				60		
	β°	60		60			60			45				45				60				60		

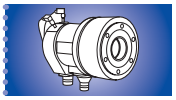
Stroke per jaw	mm	2.4		4			5.0			6.1				6.1				8.0				8.0		
max. actuating force	kN	20		35			53			70				95				125				125		
max. total gripping force	kN	40		70			100			140				190				250				250		
max. speed 3-jaw chuck	r.p.m.	8500**		7000**			6300			5000				4200				3200				2600		
Weight without jaws	kg	4.4	4.7	14	15	15	24	26	26	40	40	43	43	63	63	66	66	111	111	116	116	225	231	231
Moment of inertia	kg·m²	0.007		0.06			0.11			0.38				0.85				2.5				6.5		

rec. closed center cylinder	Type	SIN-S 85	SIN-S 100/125	SIN-S 125/150	SIN-S 150/175	SIN-S 150/175/200	SIN-S 175/200	SIN-S 175/200
rec. open center cylinder	Type	VNK 70-37	VNK 102-46	VNK 130-52	VNK 170-77	VNK 225-95	VNK 320-127	VSG 450-165

* HFKN 110-32 and HFKN 165-46 available with fixed ring nut only
** higher speed with special top jaws only

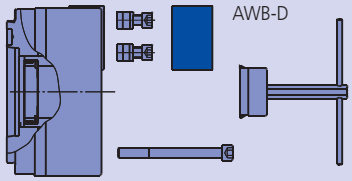

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Ordering review HFKN-D (inch serration)

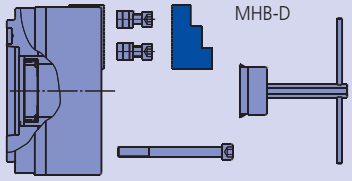
HFKN-D with soft top jaws AWB-D



Supply range:
- Chuck + mounting bolts
- Soft top jaws AWB-D
- 1 set (= 6 pieces) T-nuts with bolts
- Key

Size / Spindle mounting	HFKN-D 110-32	HFKN-D 165-46	HFKN-D 210-52	HFKN-D 260-72	HFKN-D 315-91	HFKN-D 400-128	HFKN-D 500-155
Centering rim small	-	-	-	Z 170 090316	Z 220 090320	Z 300 090324	Z 300 090328
Centering rim large	Z 100 065354	Z 140 090310	Z 170 090313	Z 220 090317	Z 300 090321	Z 380 090325	Z 380 090329
A 04	065355	-	-	-	-	-	-
A 05	-	090311	-	-	-	-	-
A 06	-	090312	090314	090318	-	-	-
A 08	-	-	090315	090319	090322	-	-
A 11	-	-	-	-	090323	090326	090330
A 15	-	-	-	-	-	090327	090331

HFKN-D with hardened reversible top jaws MHB-D

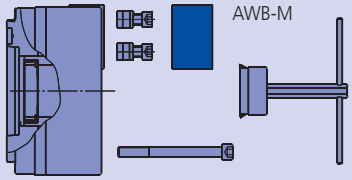


Supply range:
- Chuck + mounting bolts
- Hardened ground reversible top jaws MHB-D
- 1 set (= 6 pieces) T-nuts with bolts
- Key

Size / Spindle mounting	HFKN-D 110-32	HFKN-D 165-46	HFKN-D 210-52	HFKN-D 260-72	HFKN-D 315-91	HFKN-D 400-128	HFKN-D 500-155
Centering rim small	-	-	-	Z 170 090338	Z 220 090342	Z 300 090346	Z 300 090350
Centering rim large	Z 100 065356	Z 140 090332	Z 170 090335	Z 220 090339	Z 300 090343	Z 380 090347	Z 380 090351
A 04	065357	-	-	-	-	-	-
A 05	-	090333	-	-	-	-	-
A 06	-	090334	090336	090340	-	-	-
A 08	-	-	090337	090341	090344	-	-
A 11	-	-	-	-	090345	090348	090352
A 15	-	-	-	-	-	090349	090353

Ordering review HFKN-M (metric serration) / size 110 with tongue and groove

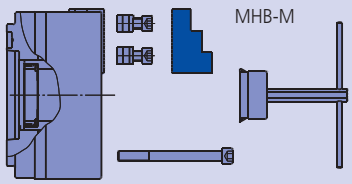
HFKN-M with soft top jaws AWB-M



Supply range:
- Chuck + mounting bolts
- Soft top jaws AWB-M
- 1 set (= 6 pieces) T-nuts with bolts
- Key

Size / Spindle mounting	HFKN-C 110-32	HFKN-M 165-46	HFKN-M 210-52	HFKN-M 260-72	HFKN-M 315-91	HFKN-M 400-128	HFKN-M 500-155
Centering rim small	-	-	-	Z 170 090360	Z 220 090364	Z 300 090368	Z 300 090372
Centering rim large	Z 100 065466	Z 140 090354	Z 170 090357	Z 220 090361	Z 300 090365	Z 380 090369	Z 380 090373
A 04	065467	-	-	-	-	-	-
A 05	-	090355	-	-	-	-	-
A 06	-	090356	090358	090362	-	-	-
A 08	-	-	090359	090363	090366	-	-
A 11	-	-	-	-	090367	090370	090374
A 15	-	-	-	-	-	090371	090375

HFKN-M with hardened reversible top jaws MHB-M



Supply range:
- Chuck + mounting bolts
- Hardened ground reversible top jaws MHB-M
- 1 set (= 6 pieces) T-nuts with bolts
- Key

Size / Spindle mounting		HFKN-M 165-46	HFKN-M 210-52	HFKN-M 260-72	HFKN-M 315-91	HFKN-M 400-128	HFKN-M 500-155
Centering rim small		-	-	Z 170 090382	Z 220 090386	Z 300 090390	Z 300 090394
Centering rim large		Z 140 090376	Z 170 090379	Z 220 090383	Z 300 090387	Z 380 090391	Z 380 090395
A 04		-	-	-	-	-	-
A 05		090377	-	-	-	-	-
A 06		090378	090380	090384	-	-	-
A 08		-	090381	090385	090388	-	-
A 11		-	-	-	090389	090392	090396
A 15		-	-	-	-	090393	090397

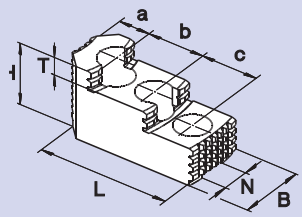
HFKN-D | HFKN-M

INCH serration | METRIC serration | JAWS

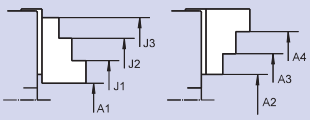


For further jaws and accessories please ask for our 150 pages special catalogue!

MHB-D (Inch serration) Hardened reversible top jaws

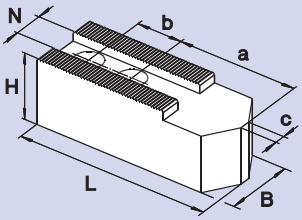


Clamping ranges



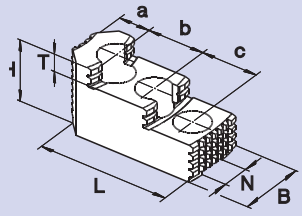
Chuck	HFKN-D 110	HFKN-D 165	HFKN-D 210	HFKN-D 260	HFKN-D 315	HFKN-D 400	HFKN-D 500
Jaw type	MHB-D	MHB-D	MHB-D	MHB-D	MHB-D	MHB-D	MHB-D
Id. No.	007076	12081636	12082036	12083036	12083036	12084546	12084546
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	3/32" x 90°	3/32" x 90°
B	20	34	40	45	45	60	60
H	31	39	45	56	56	75	75
L	48	65	82	105	105	140	140
T	7	10	10.5	13.5	13.5	32	19
N	8	14	17	21	21	25.5	25.5
a	9.5	18	19	26	26	38	38
b	12	16	23	30	30	38	38
c	12	16	23	30	30	38	38
kg/set	0.35	0.9	1.71	2.85	2.85	7.5	7.5
A1		15-75	10-100	15-115	25-170	40-205	80-320
A2		-	-	-	-	-	-
A3		62-120	62-150	100-205	115-265	160-330	220-450
A4		110-175	140-230	185-285	200-350	260-420	320-560
J1		65-125	65-150	75-165	90-225	120-285	180-410
J2		115-175	135-230	150-250	160-310	220-385	280-510
J3		145-210	180-265	225-325	235-380	330-480	370-670

AWB-D (Inch serration) Soft top jaws

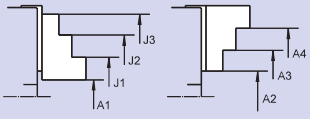


Chuck	HFKN-D 110	HFKN-D 165	HFKN-D 210	HFKN-D 260	HFKN-D 315	HFKN-D 400	HFKN-D 500
Jaw type	AWB-D	AWB-D	AWB-D	AWB-D	AWB-D	AWB-D	AWB-D
Id. No.	038258	035954	081616	081618	081618	081620	081620
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	3/32" x 90°	3/32" x 90°
B	20	40	40	50	50	60	60
H	30	40	40	50	50	60	60
L	55	80	90	120	120	140	140
N	8	14	17	21	21	25.5	25.5
a	30	43	53	70	70	80	80
b	12	22	22	28	28	35	35
c	0	4	4	6	6	-	-
kg/set	0.55	2.0	2.7	5.1	5.1	9.65	9.65

MHB-M (Metric serration) Hardened reversible top jaws

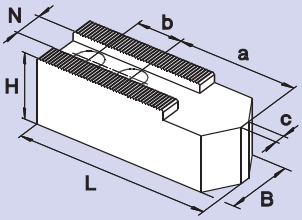


Clamping ranges



Chuck		HFKN-M 165	HFKN-M 210	HFKN-M 260	HFKN-M 315	HFKN-M 400	HFKN-M 500
Jaw type		MHB-M	MHB-M	MHB-M	MHB-M	MHB-M	MHB-M
Id. No.		12081627	12082127	12082627	12083037	on request	on request
Serration		1.5 x 60°	1.5 x 60°	1.5 x 60°	1.5 x 60°	3 x 60°	3 x 60°
B		34	40	45	45	55	55
H		39	45	56	56	73	73
L		67	86	100	105	145	145
T		10	10.5	15.5	13.5	32	32
N		12	14	16	21	25.5	25.5
a		14	19	23	26	46	46
b		20	23	30	30	38	38
c		20	23	30	30	38	38
kg/set		0.9	1.8	2.55	2.85	6.7	6.7
A1		15-75	10-100	15-115	25-170	40-190	80-320
A2		-	-	-	-	85-235	125-365
A3		62-120	62-150	100-205	115-265	-	-
A4		110-175	140-230	185-285	200-350	270-420	320-560
J1		65-125	65-150	75-165	90-225	150-300	180-420
J2		115-175	135-230	150-250	160-310	-	-
J3		145-210	180-265	225-325	235-380	330-480	370-610

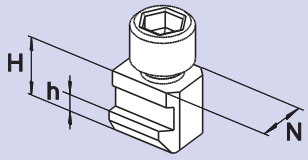
AWB-M (Metric serration) Soft top jaws



Chuck	HFKN-C 110*	HFKN-M 165	HFKN-M 210	HFKN-M 260	HFKN-M 315	HFKN-M 400	HFKN-M 500
Jaw type	WBR	AWB-M	AWB-M	AWB-M	AWB-M	AWB-M	AWB-M
Id. No.	013843	081719	081720	081722	035957	036791	036791
Serration	S08 N08	1.5 x 60°	1.5 x 60°	1.5 x 60°	1.5 x 60°	3 x 60°	3 x 60°
B	20	30	35	40	50	60	60
H	25	32	40	40	50	60	60
L	53	82	102	125	120	140	140
N	S08 N08	12	14	16	21	25.5	25.5
a	30.5	47	57	65	70	80	80
b	15	20	25	30	30	35	35
c	0	4	4	6	6	-	-
kg/set	0.45	1.4	2.5	3.95	5.1	9.65	-

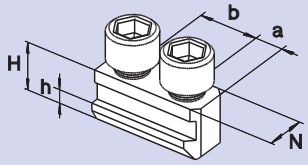
* size 110 with tongue & groove

NST T-nuts suitable for HFKN-D



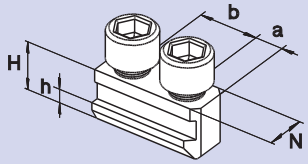
Chuck	HFKN 110	HFKN 165	HFKN 210	HFKN 260	HFKN 315	HFKN 400	HFKN 500
T-nut type		NST	NST	NST	NST	NST	NST
Id.No		035958	034245	034197	034197	014812	014812
N		14	17	21	21	25.5	25.5
H		18.5	20.5	26.5	26.5	29	29
h		6.5	7.5	10	10	11	11
Cyl.-screw DIN 912-12.9		M10 x 20	M12 x 25	M16 x 35	M16 x 35	M20 x 40	M20 x 40
Torque Md max. (Nm)		50	70	150	150	300	300

NSTE T-nuts suitable for HFKN-D



Chuck	HFKN 110	HFKN 165	HFKN 210	HFKN 260	HFKN-D 315	HFKN 400	HFKN 500
T-nut type		NSTE	NSTE	NSTE	NSTE	NSTE	NSTE
Id.No	038265	73061650	73062150	73063050	73063050	081817	081817
N	8	14	17	21	21	25.5	25.5
H	13.5	18.5	20.5	26.5	26.5	29	29
h	5.0	6.5	7.5	10	10	11	11
a	5	8	10	13	13	16	16
b	12	16	23	30	30	35	35
Cyl.-screw DIN 912-12.9	M6 x 20	M10 x 20	M12 x 25	M16 x 35	M16 x 35	M20 x 40	M20 x 40
Torque Md max. (Nm)	16	50	70	150	150	300	300

NSTE T-nuts for the use of metric "M" top jaws



Chuck	HFKN 110	HFKN 165	HFKN 210	HFKN 260	HFKN-D 315	HFKN 400	HFKN 500
T-nut type		NSTE-M	NSTE-M	NSTE-M	NSTE-M	NSTE-M	NSTE-M
Id.No		73061602	73062101	73062501	73063050	081817	081817
N		12	14	16	21	25.5	25.5
H		18.5	20.5	26.5	26.5	29	29
h		6.5	7.5	10	10	11	11
a		8	10	13	13	16	16
b		20	25	30	30	35	35
Cyl.-screw DIN 912-12.9		M10 x 20	M12 x 25	M12 x 35	M16 x 35	M20 x 40	M20 x 40
Torque Md max. (Nm)		50	70	70	150	300	300

Important for maintenance and safe operation, to be ordered with the chuck

Grease K05®

Special grease for manual and power chucks



Cartridge 14 Oz. (DIN 1284)
Grease content 500 g
Id. No. 016440

Can 1000 g
Id. No. 011881



- High adhesion
- High resistance against coolant
- High load bearing capacity
- Low friction coefficient
- High gripping force
- Avoids tribocorrosion

Grease gun

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).

- **Also refillable from grease can 1000 g.**



Lubrication set Id. No. 083726
Supply range:
- Grease gun
- 1 Adapter flexible for high pressure grease nipple
- 1 Adapter for cone grease nipple

Quick jaw change power chucks



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KNCS®-N
QUICK JAW CHANGE

Quick jaw change power chucks
Ø 140 - 630 mm
- LARGE THROUGH HOLE
- high speed
- high flexibility: jaws radially adjustable/reversible
- 3 jaws



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KNCS®-NB
QUICK JAW CHANGE
wide master jaws

Quick jaw change power chucks
Ø 210 - 800 mm
- LARGE THROUGH HOLE
- high flexibility: jaws radially adjustable/reversible
- 3 jaws
- SUITABLE TO TAKE ANY TYPE OF EXISTING TOP JAWS



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KNCS®-NBX
QUICK JAW CHANGE
wide master jaws

Quick jaw change power chucks
Ø 425 - 1000 mm
- EXTRA LARGE THROUGH HOLE
- high flexibility: jaws radially adjustable/reversible
- 3 jaws
- SUITABLE TO TAKE ANY TYPE OF EXISTING TOP JAWS



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AP-RC
QUICK JAW CHANGE
Tongue & groove

AP-RD
QUICK JAW CHANGE
serrated master jaws

High precision fully sealed power chucks
Ø 170 - 400 mm
- quick jaw change
- closed center
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



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NT-RC
QUICK JAW CHANGE
Tongue & groove

NT-RD
QUICK JAW CHANGE
serrated master jaws

High precision fully sealed power chucks
Ø 170 - 400 mm
- centrifugal force compensation
- closed center
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 102

AN-RM
Palletized
QUICK JAW CHANGE

Quick jaw change power chucks
Ø 165 - 400 mm
- closed center
- 2 and 3 jaws
- PALLET SYSTEM



Page 104

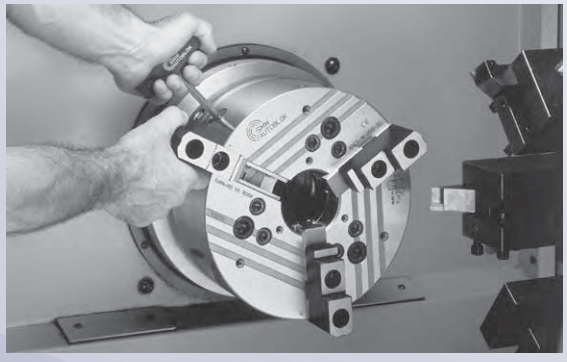
BH-RM
Palletized
QUICK JAW CHANGE

Quick jaw change power chucks
Ø 165 - 315 mm
- open center
- 2 and 3 jaws
- PALLET SYSTEM

Fast changeover, fast payback:

The original quick jaw change power chuck

KNCS®-N

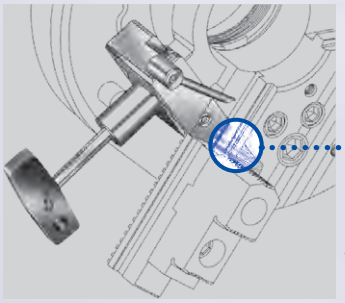


Easy lubrication even on vertical machines with 3 radial built-in grease nipples.

Extra long, symmetrical jaw guides.
Ideal for O.D. or I.D. gripping.

Unique **wedge bar drive for high speed.** Minimum loss in gripping force because of tangentially supported wedge bars. Minimum increase of gripping force **(hysteresis)** after quick spindle stop. **High efficiency** of the wegde bar drive ensures highest concentricity and **repeatability.** Suitable for **high-low clamping.**

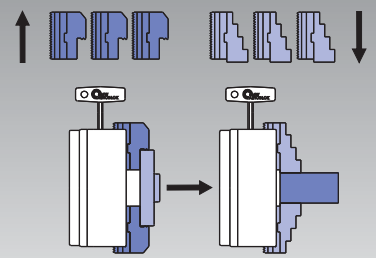
Original SMW-AUTOBLOK patented quick **jaw change. Jaw change accuracy** with unique **jaw safety interlock.**



Serration is not fully engaged – jaw safety interlock active.

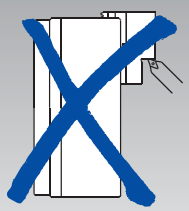
Minimal set-up times

Jaw change in less than 1 minute

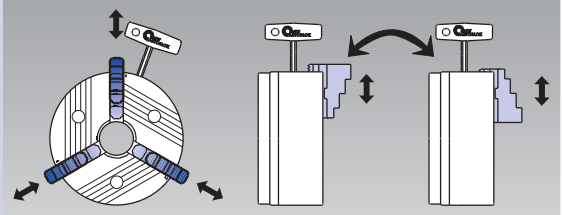


High repeatability when jaw changing

No reboring of already machined jaws necessary, because runout < 0.02 mm (KNCS-N 210)



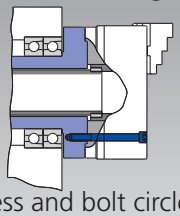
Flexibility jaws can be radially adjusted and are reversible = **less jaw sets**



Jaws radially adjustable Jaws 180° reversed

Standardized mounting

direct mounting



Recess and bolt circle to DIN 55026

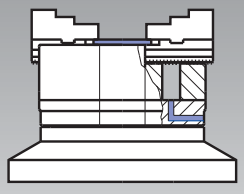
Profitability

Example set-up times/costs

	Conventional chuck	KNCS-N
Jaw change	10 min	1 min
Reboring of jaws	20 min	0 min
Ø jaw changes/day	2	2
Working days/year	230	230
Machine costs/hour	$ 60.–	$ 60.–
Total costs per year	$ 13 800.–	$ 460.–
Profit*		**$ 13 340.–**

* If jaws are changed more often, the profitability is increased accordingly.

Vertical application



Version for vertical application with cover and drain holes for coolant available.

Clamping glossary

Case hardening: TThe surface of the components is hardened (60 HRC) to a depth of about 1 mm (0.04”). The core shows a high tensile strength and toughness. Compared to partial inductive hardened and nitrited parts the rigidity and the resistance against wear is greatly increased.

Efficiency: The ratio between the calculated theoretical gripping force (disregarding friction) and the actual (measured) gripping force.

High-low clamping: For easily deformed components. High gripping forces for the rough cut are reduced to low gripping forces for the finish cut without unchucking. This means less deformation on he finished components. Contrarily to wedge hook chucks the **KNCS-N** wedge bar drive is suitable for high-low clamping.

Hysteresis: At high speeds the chuck body “grows” due to centrifugal force. The draw-pull of the clamping cylinder causes an increase in gripping force which cannot be decreased at a quick spindle stop (or change in speed). This can cause deformation at easily deformed parts. **KNCS-N** chucks with wedge bar drive have a very low hysteresis.

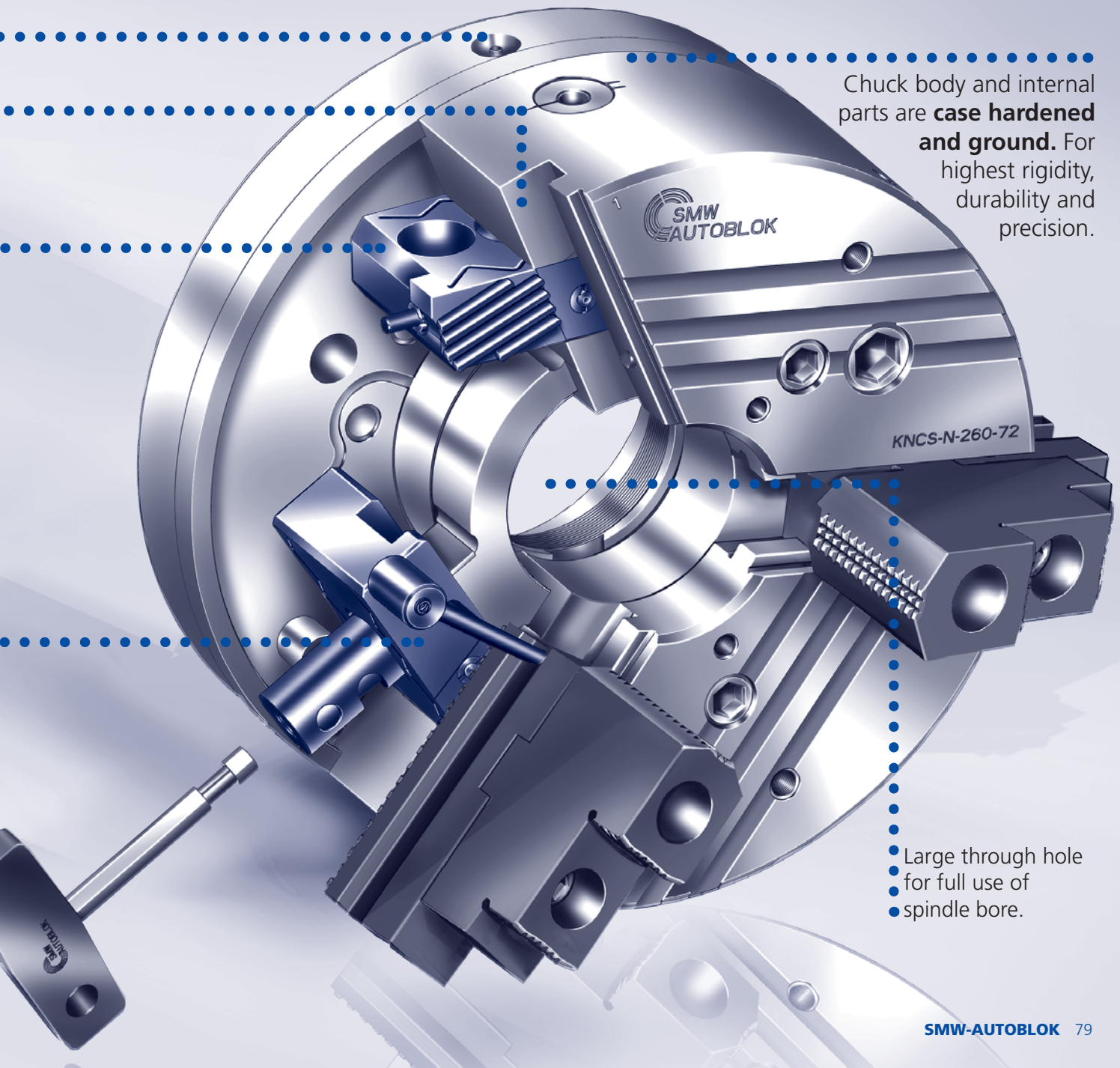
Jaw change accuracy: The centering accuracy after a jaw change with once already bored/ground jaws on the chuck. The clamping force on the **KNCS-N** is transmitted via the wedge bar drive.

The engaging/disengaging of the jaws is done by an additional tangential movement of the wedge bars.
This proven and patented design with self-acting cleaning of the serration offers a constant high jaw change accuracy after jaw changing.

Jaw safety interlock: At quick jaw change chucks the transmission of the gripping force to the interchangeable clamping jaws is done via a serration. With existing chuck designs misoperation by the operator can cause danger to man and machine if the jaw is not inserted correctly i.e. the serration is not fully engaged.
The **KNCS-N** is equipped with a unique patented safety interlock:
The built-in safety interlock eliminates misoperation.

Repeatability: The centering accuracy of the chuck equipped with one set of jaws starting from the first up to the last component of a batch. Due to the wedge bar drive **KNCS-N** chucks offer a much higher repeatability compared to wedge hook chucks.

Wedge bar drive: The chuck is driven by tangentially mounted wedge bars. This design allows highest repeatability and rigidity. These chucks have very low loss in gripping force due to centrifugal force. The design does not require counterbalance weights which allows highest speeds without vibration.



Chuck body and internal parts are **case hardened and ground.** For highest rigidity, durability and precision.

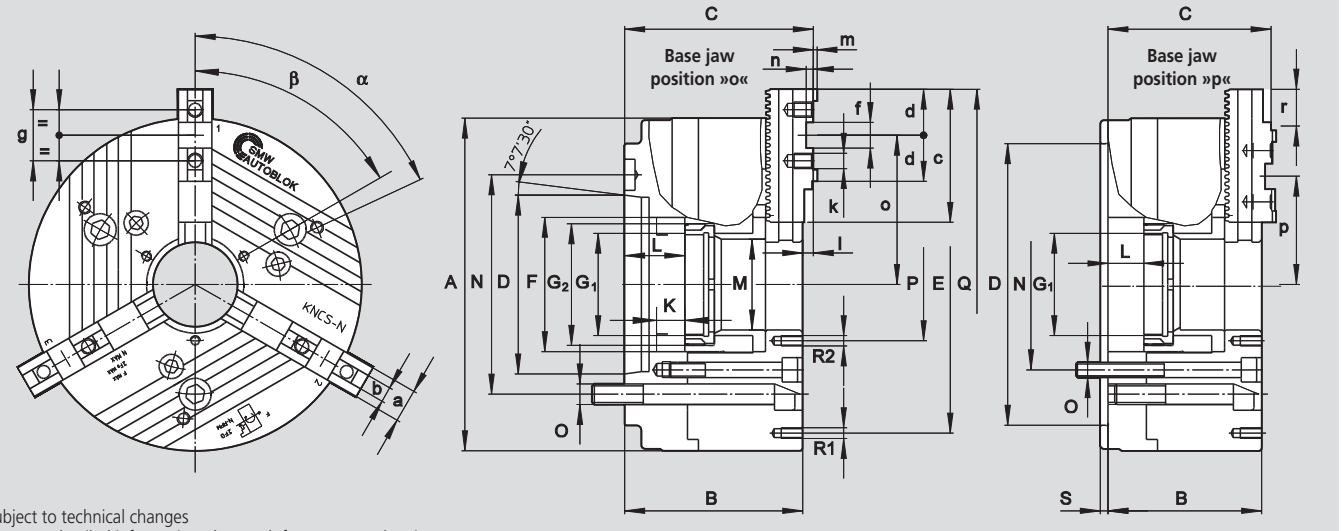
Large through hole for full use of spindle bore.

KNCS®-N

QUICK JAW CHANGE

Main dimensions and technical data

Jaw position: open position for external clamping

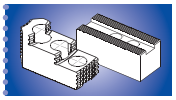


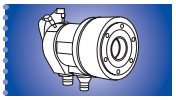
Subject to technical changes
For more detailed information please ask for customer drawing

Type KNCS-N		140-35		170-43			210-52			225-66			260-78				275-86		
Mounting	**Dim.**	**Z120**	**A5**	**Z140**	**A5**	**A6**	**Z170**	**A6**	**A8**	**Z170**	**A6**	**A8**	**Z170**	**Z220**	**A6**	**A8**		**Z220**	**A6**	**A8**
	A	145		175			215			225			260					275		
	B	87	103	98	113	115	105	122	124	105	122	124	120	120	137	139		120	144	139
	C	93.9	109.9	104.9	119.9	121.9	109.9	126.9	128.9	109.9	126.9	128.9	128.3	128.3	145.3	147.3		128.3	152.3	147.3
H6	**D**	120	82.57	140	82.57	106.39	170	106.39	139.73	170	106.39	139.73	170	220	106.39	139.73		220	106.39	139.73
	E	122		152			168			180			210					210		
	F	52		67			85			95			111					122		
Rotating ring nut/depth	**G1**	-*		M50 x 1.5/18*			M60 x 1.5/16			M75 x 1.5/16			M90 x 2/20					M95 x 2/20		
Piston thread/depth	**G2**	M45 x 1.5/18		M60 x 1.5/18			M75 x 2/19			M85 x 2/19			M102 x 2/23					M110 x 2/23		
Piston stroke	**K**	20		20/25			22/25			22/25			25/28					25/28		
max.	**L**	20	36	25	40	42	25	42	44	25	42	44	28	28	45	47		28	52	47
	M	35		43			52			66			78					86		
Fixing bolt circle	**N**	104.8	104.8	104.8	104.8	133.4	133.4	133.4	171.4	133.4	133.4	171.4	133.4	171.4	133.4	171.4		171.4	133.4	171.4
Fixing bolt	**O**	M10	M10	M10	M10	M12	M12	M12	M16	M12	M12	M16	M12	M16	M12	M16		M16	M12	M16
	P	65		75			72			82			95					105		
	Q	166		195			261			271			307					321		
Thread/Thread depth	**R1**	M8/12		M8/12			M10/12			M10/12			M10/12					M10/18		
Thread/Thread depth	**R2**	M5/10		M5/10			M6/10			M6/10			M8/16					M8/14		
	S	6		6			6			6			6					6		
	a	20		20			22			22			26					26		
f7	**b**	8		8			10			10			12					12		
	c	56		65			85			85			104					104		
	d	28		28			33			33			36					36		
H7	**f**	18		18			20			20			20					20		
	g	32		32			40			40			40					40		
Thread/Thread depth	**k**	M8/12		M8/12			M8/13			M8/13			M12/15					M12/15		
	l	6.9		6.9			4.9			4.9			8.3					8.3		
	m	2.5		2.5			2.5			2.5			3					3		
	n	5		5			4.5			4.5			5.5					5.5		
max./min.	**o**	54/39.9		69/50.2			96.6/68.3			102/69			116.6/83.6					124/85.5		
max./min.	**p**	54/39.9		60/41.2			77.6/49.3			83/50			84.6/51.6					82/53.5		
Base jaw tooth pitch	**-**	4.7		4.7			4.7			4.7			5.5					5.5		
Base jaw offset	**r**	14.1		18.8			28.3			33			33					38.5		
Base jaw offset	teeth	3		4			6			7			6					7		
	α°	95		90			60			60			60					60		
	β°	60		60			60			60			60					60		
Stroke per jaw at piston stroke **K**	mm			5.1		20	6.0		22	6.0		22	7.0			25		7.0		25
Stroke per jaw at piston stroke **K** max.	mm	5.1	20	6.8		25	7.0		25	7.0		25	8.0			28		8.0		28
max. actuating force 3-jaw chuck	kN	25		32			53			53			70					70		
max. total gripping force 3-jaw chuck	kN	47		60			100			100			135					135		
max. speed 3-jaw chuck	r.p.m.	6500		6300			6000			5500			4700					4700		
Mass without top jaws	kg	9	9.6	14	15	15	24	26	26	26	29	29	40	40	43	43		48	53	50.7
Moment of inertia	kg·m²	0.024		0.06			0.11			0.2			0.38					0.41		
Rec. closed center cyl.	**Type**	**SIN-S 100**		**SIN-S 100/125**			**SIN-S 125/150**			**SIN-S 125/150**			**SIN-S 150/175**					**SIN-S 150/175**		
Rec. open center cyl.	**Type**	**VNK 70-32**		**VNK 102-46**			**VNK 130-52**			**VNK 150-67**			**VNK 170-77**					**VNK 225-95**		

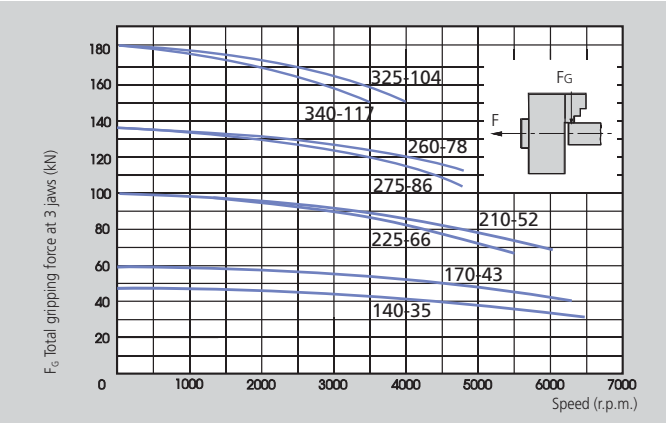
*KNCS-N 140-35 and KNCS-N 170-43 are available with fixed ring nut only

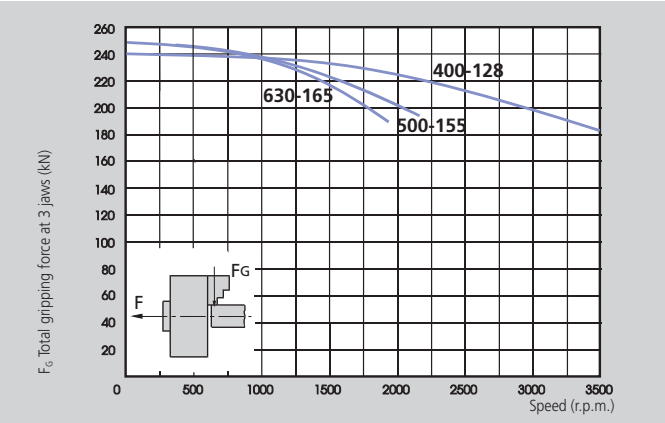

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For highest speeds: flat gripping force curve

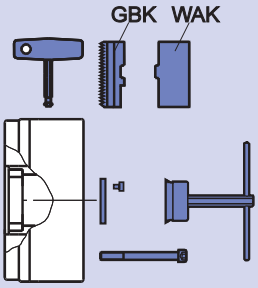




The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease.The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

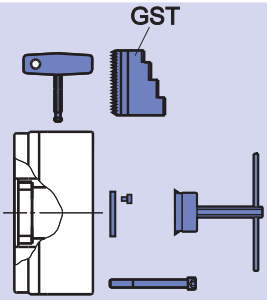
Type KNCS-N		325-104				340-117			400-128				500-155			630-165	
Mounting	**Dim.**	**Z220**	**Z300**	**A8**	**A11**	**Z300**	**A8**	**A11**	**Z300**	**Z380**	**A11**	**A15**	**Z380**	**A11**	**A15**	**Z380**	**A15**
	A	324				340			400				500			630	
	B	130	130	149	151	130	160	151	140	140	161	163	174	195	197	174	197
	C	139.2	139.2	158.2	160.2	139.3	169.3	160.4	149.2	149.2	170.2	172.2	184	205	207	184	207
H6	**D**	220	300	139.73	196.88	300	139.73	196.88	300	380	196.88	285.77	380	196.88	285.77	380	285.77
	E	268				270			330				420			585	
	F	144				160			180				207			217	
Rotating ring nut/depth	**G1**	M115 x 2/22				M125 x 2/22			M138 x 2/22				M165 x 2/25			M175 x 2/25	
Piston thread/depth	**G2**	M132 x 2/25				M146 x 2/25			M160 x 2/25				M185 x 2/28			M195 x 2/28	
Piston stroke	**K**	25/28				25/28			32				42			42	
max.	**L**	28	28	47	49	28	58	49	32	32	53	55	42	63	65	42	65
	M	104				117			128				155			165	
Fixing bolt circle	**N**	171.4	235	171.4	235	235	171.4	235	235	330.2	235	330.2	330.2	235	330.2	330.2	330.2
Fixing bolt	**O**	M16	M20	M16	M20	M20	M16	M20	M20	M24	M20	M24	M24	M20	M24	M24	
	P	130				140			152				180			195	
	Q	385				400			452				552			643	
Thread/Thread depth	**R1**	M10/16				M10/16			M12/18				M16/25			M16/25	
Thread/Thread depth	**R2**	M10/16				M10/16			M12/18				M12/18			M12/18	
	S	6				6			8				8			8	
	a	32				32			32				45			45	
f7	**b**	12				12			12				18			18	
	c	115				115			125				160			200	
	d	36				36			43				50			50	
H7	**f**	20				20			26				30			30	
	g	40				40			54				60			60	
Thread/Thread depth	**k**	M12/17				M12/17			M12/17				M16/34			M16/34	
	l	9.3				9.3			9.3				10			10	
	m	3				3			3				4			4	
	n	6				6			7				9			9	
max./min.	**o**	155.7/106.2				163.2/113.7			182.3/121.8				225/141			270.5/179.5	
max./min.	**p**	111.7/62.2				119.2/69.7			143.3/82.2				164/80			170.5/79.5	
Base jaw tooth pitch	**-**	5.5				5.5			5.5				7			7	
Base jaw offset	**r**	49.5				49.5			60.5				84			91	
Base jaw offset	teeth	9				9			11				12			13	
	α°	60				60/35			60				60			20/9 x 40	
	β°	60				60			60				60			60	
Stroke per jaw at piston stroke **K**	mm	7.0			25	7.0		25									
Stroke per jaw at piston stroke **K** max.	mm	8.0			28	8.0		28	8.0			32	10.0		42	10.0	42
max. actuating force 3-jaw chuck	kN	95				95			115				120			120	
max. total gripping force 3-jaw chuck	kN	180				180			240				250			250	
max. speed 3-jaw chuck	r.p.m.	4000				3500			3500				2200			1700	
Mass without top jaws	kg	65	65	68	68	77	88.5	82.5	111	111	116	116	225	231	231	390	398
Moment of inertia	kg·m²	1.2				1.24			2.5				6.5			18	
Rec. closed center cyl.	**Type**	**SIN-S 150/175/200**				**SIN-S 150/175/200**			**SIN-S 175/200**				**SIN-S 175/200**			**SIN-S 175/200**	
Rec. open center cyl.	**Type**	**VNK 250-110**				**VNK 320-127**			**VNK 320-127**				**VSG 450-165**			**VSG 450-165**	



Supply range:

Chuck + key + mounting bolts + mounting key (from diameter 210)
+ 1 set hardened base jaws type GBK + 1 set soft top jaws type WAK
+ set of coverplates

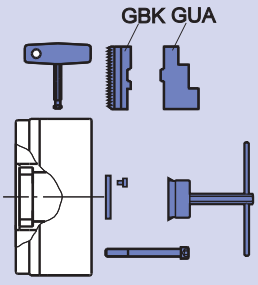
Size / Spindle mounting	KNCS-N 140-35	KNCS-N 170-43	KNCS-N 210-52	KNCS-N 225-66	KNCS-N 260-78	KNCS-N 275-86	KNCS-N 325-104	KNCS-N 340-117	KNCS-N 400-128	KNCS-N 500-155	KNCS-N 630-165
Centering rim small					Z 170 088900		Z 220 088912		Z 300 088822	Z 300 088889	
Centering rim large	Z 120 088800	Z 140 088802	Z 170 088806	Z 170 088809	Z 220 088901	Z 220 067910	Z 300 088913	Z 300 067920	Z 380 088823	Z 380 088826	Z380 088829
A 05	088801	088803									
A 06		088804	088807	088810	088902	067911					
A 08			088808	088811	088903	067912	088914	067921			
A 11							088915	067922	088824	088827	
A 15									088825	088828	088830



Supply range:

Chuck + key + mounting bolts + mounting key (from diameter 210)
+ 1 set hardened, reversible stepped monoblock jaws type GST,
ground on chuck + set of coverplates

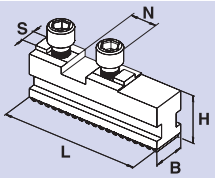
Size / Spindle mounting	KNCS-N 140-35	KNCS-N 170-43	KNCS-N 210-52	KNCS-N 225-66	KNCS-N 260-78	KNCS-N 275-86	KNCS-N 325-104	KNCS-N 340-117	KNCS-N 400-128	KNCS-N 500-155	KNCS-N 630-165
Centering rim small					Z 170 088904		Z 220 088916		Z 300 088850	Z 300 088859	
Centering rim large	Z 120 088831	Z 140 088833	Z 170 088836	Z 170 088839	Z 220 088905	Z 220 067913	Z 300 088917	Z 300 067923	Z 380 088851	Z 380 088854	Z380 088857
A 05	088832	088834									
A 06		088835	088837	088840	088906	067914					
A 08			088838	088841	088907	067915	088918	067924			
A 11							088919	067925	088852	088855	
A 15									088853	088856	088858



Supply range:

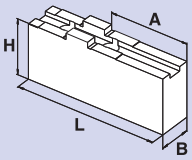
Chuck + key + mounting bolts + mounting key (from diameter 210)
+ 1 set hardened base jaws type GBK
+ 1 set hardened, reversible top jaws type GUA, ground on chuck
+ set of coverplates

Size / Spindle mounting	KNCS-N 140-35	KNCS-N 170-43	KNCS-N 210-52	KNCS-N 225-66	KNCS-N 260-78	KNCS-N 275-86	KNCS-N 325-104	KNCS-N 340-117	KNCS-N 400-128	KNCS-N 500-155	KNCS-N 630-165
Centering rim small					Z 170 088908		Z 220 088920		Z 300 088879	Z 300 088888	
Centering rim large	Z 120 088860	Z 140 088862	Z 170 088865	Z 170 088868	Z 220 088909	Z 220 067916	Z 300 088921	Z 300 067926	Z 380 088880	Z 380 088883	Z380 088886
A 05	088861	088863									
A 06		088864	088866	088869	088910	067917					
A 08			088867	088870	088911	067918	088922	067927			
A 11							088923	067928	088881	088884	
A 15									088882	088885	088887



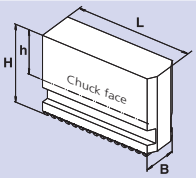
GBK
Hardened base jaws

Chuck	KNCS-N 140	KNCS-N 170	KNCS-N 210	KNCS-N 225	KNCS-N 260	KNCS-N 275	KNCS-N 325	KNCS-N 340	KNCS-N 400	KNCS-N 500	KNCS-N 630
Jaw type	GBK 140	GBK 160	GBK 200	GBK 200	GBK 250	GBK 250	GBK 315	GBK 315	GBK 400	GBK 500	GBK 630
Id. No.	012438	012439	012440	012440	012441	012441	012442	012442	012443	012444	012445
B	20	20	22	22	26	26	32	32	32	45	45
H	27.5	27.5	29.5	29.5	37	37	43	43	43	57	57
L	56	65	85	85	104	104	115	115	125	160	200
N	18	18	20	20	20	20	20	20	26	30	30
S	8	8	10	10	12	12	12	12	12	18	18
kg/set	0.6	0.7	1.0	1.0	1.8	1.8	2.7	2.7	3.0	7.1	9.0



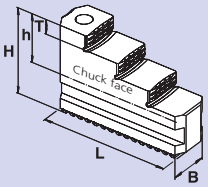
WAK
Soft top jaws

Chuck	KNCS-N 140	KNCS-N 170	KNCS-N 210	KNCS-N 225	KNCS-N 260	KNCS-N 275	KNCS-N 325	KNCS-N 340	KNCS-N 400	KNCS-N 500	KNCS-N 630
Jaw type	WAK 140-10	WAK 160-10	WAK 200-10	WAK 200-10	WAK 250-10	WAK 250-10	WAK 250-10	WAK 250-10	WAK 400-10	WAK 500-10	WAK 500-10
Id. No.	012490	012491	012492	012492	012493	012493	012493	012493	012494	012495	012495
B	20	20	22	22	30	30	30	30	35	50	50
H	35.5	35.5	42	42	50	50	50	50	54	75.5	75.5
L	69	85	105	105	125	125	125	125	145	180	180
A	26	42	50	50	70	70	70	70	74	100	100
kg/set	0.9	1.2	2.0	2.0	3.6	3.6	3.6	3.6	5.8	13.7	13.7



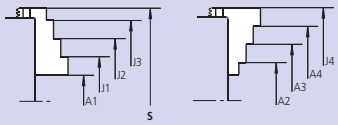
UVB
Soft monoblock jaws

Chuck	KNCS-N 140	KNCS-N 170	KNCS-N 210	KNCS-N 225	KNCS-N 260	KNCS-N 275	KNCS-N 325	KNCS-N 340	KNCS-N 400	KNCS-N 500	KNCS-N 630
Jaw type	UVB 140	UVB 160	UVB 200	UVB 200	UVB 250	UVB 250	UVB 315	UVB 315	UVB 400	UVB 500	UVB 630
Id. No.	012446	012447	012448	012448	012449	012449	012450	012450	012451	012452	012453
B	20	20	22	22	26	26	32	32	32	45	45
H	60	60	70	70	90	90	100	100	100	134	134
h	39	39	45	45	61	61	66	66	66	87	87
L	58	69	84	84	107	107	118	118	145	175	230
kg/set	1.1	1.3	2.0	2.0	4.2	4.2	6.6	6.6	9.0	19.5	27.5



GST
Hardened stepped monoblock jaws

Gripping ranges

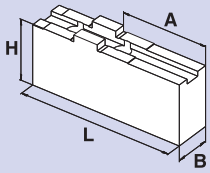


Chuck	KNCS-N 140	KNCS-N 170	KNCS-N 210	KNCS-N 225	KNCS-N 260	KNCS-N 275	KNCS-N 325	KNCS-N 340	KNCS-N 400	KNCS-N 500	KNCS-N 630
Jaw type	GST 160-2	GST 170	GST 210	GST 210	GST 260	GST 260	GST 315	GST 315	GST 400	GST 500	GST 500
Id. No.	012454	035867	035863	035863	037623	037623	012457	012457	012458	012459	012459
B	20	20	22	22	26	26	32	32	32	45	45
H	43.5	43.5	51	51	60	60	66	66	70	93	93
h	23	23	26	26	31	31	32	32	36	46	46
L	58	65	84	84	100	100	117	117	137	175	175
T	7	7	8	8	10	10	10	10	11	20	20
kg/set	0.6	0.7	1.3	1.3	1.9	1.9	3.4	3.4	4.4	11.7	11.7
A1	5-40	6-59	10-85	12-96	10-98	14-113	20-115	46-141	48-173	70-225	45-240
A2	35-70	42-89	56-121	57-132	62-150	66-165	85-180	111-206	116-238	170-320	133-328
A3	66-101	73-120	96-161	97-172	111-200	115-215	140-235	166-261	184-308	315-470	283-479
A4	97-132	104-151	136-201	137-212	161-250	165-265	195-290	221-316	252-378	-	-
J1	39-72	44-78	60-134	62-144	63-149	67-164	80-170	106-196	118-243	-	-
J2	69-103	74-110	100-174	101-185	112-199	116-214	135-225	161-251	186-310	180-330	149-342
J3	99-134	105-141	140-214	141-225	161-249	165-264	190-282	216-308	253-378	325-475	297-492
J4	131-163	135-182	185-250	186-261	212-300	216-315	255-350	281-376	328-448	425-560	385-581
S	166	198	255	266	303	318	350	376	456	585	-

KNCS®-N

QUICK JAW CHANGE

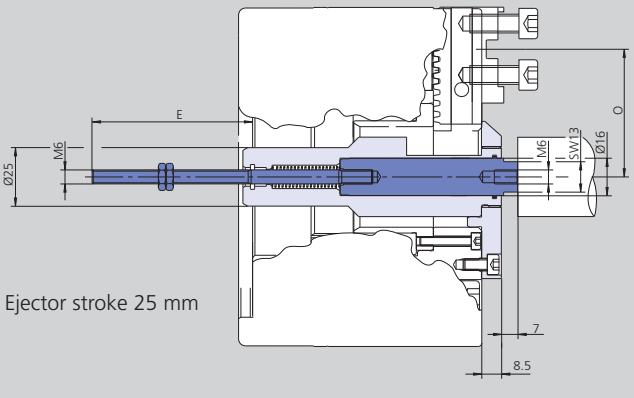
■ SOFT TOP JAWS wide version
■ Accessories



Type	Id. No.	B		H	L			A		kg/ set	SMW-AUTOBLOK
WAKS 140-10	012496	35		35.5	63			25		1.5	KNCS-N 140
WAKS 160-10	080931	25		45.5	85			42		1.8	KNCS-N 170
WAKS 160-10	080932	30		50.5	75			35		2.2	
WAKS 160-10	080933	35		75.5	70			26		3.4	
WAKS 200-10	080934	30		51	100			57		2.9	KNCS-N 210
WAKS 200-20	080935	30		66	100			45		3.4	KNCS-N 225
WAKS 200-30	012497	40		36	70			27		1.9	
WAKS 200-31	080936	40		56	90			43		3.9	
WAKS 200-32	036733	40		76	95			52		5.8	
WAKS 250-10	080937	40		55	125			70		3.9	KNCS-N 260
WAKS 250-11	080938	40		75	125			70		7.5	KNCS-N 275
WAKS 250-12	080939	40		95	125			70		9.6	KNCS-N 325
WAKS 250-13	080940	40		115	125			70		11.5	KNCS-N 340
WAKS 250-20	012498	60		55	90			44		6.2	
WAKS 250-21	080942	60		55	110			60		7.6	
WAKS 250-22	080943	60		75	90			44		9.4	
WAKS 250-23	080944	60		75	110			60		11.5	
WAKS 250-30	012499	80		55	90			44		8.5	
WAKS 250-31	080945	80		75	110			60		14.1	
WAKS 400-10	080946	40		54	110			54		4.9	KNCS-N 400
WAKS 400-11	080947	40		54	145			89		6.7	
WAKS 400-12	080948	40		94	145			89		11.1	
WAKS 400-13	080949	40		114	145			89		13.5	
WAKS 400-14	080950	40		146	145			89		16.9	
WAKS 400-20	080951	60		54	110			54		7.6	
WAKS 400-21	080952	60		74	110			54		10.3	
WAKS 400-22	080953	60		94	110			54		14.1	
WAKS 400-30	012500	80		64	100			44		11.0	
WAKS 500-10	080954	60		73	155			90		13.8	KNCS-N 500
WAKS 500-12	080956	60		113	155			90		19.5	KNCS-N 630
WAKS 500-20	080957	80		73	155			90		15.5	
WAKS 500-21	080958	80		93	155			90		26.3	
WAKS 500-30	012501	90		73	130			65		16.4	
WAKS 500-31	012502	100		73	150			85		20.0	

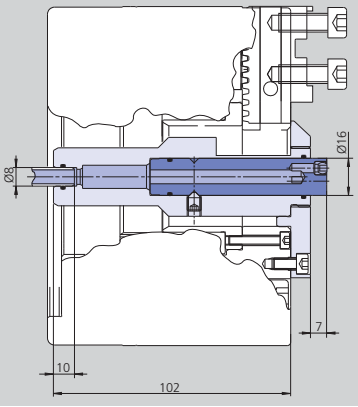
Accessories for KNCS-N/KNCS-NB chucks

Ejector/axial stop



Ejector stroke 25 mm

Coolant flush



Technical data

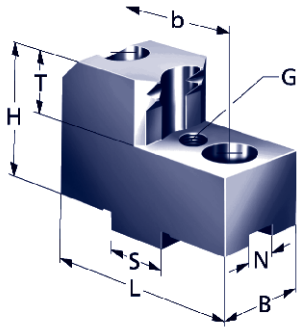
SMW-AUTOBLOK Type				KNCS-N 170	KNCS-N 210	KNCS-N 225	KNCS-N 260	KNCS-N 275
					KNCS-NB 210		KNCS-NB 260	
Ejector		E	mm	68.5	61.5	61.5	46.5	46.5
Ejector	min./max.	O	mm	69	68.3/77.8	73.7/83.1	88.6/105.1	91/113
Ejector/axial flush			Id. No.	174140	174142	174144	174146	175000
Coolant flush basic kit	min./max.	O	mm	69	68.3/77.8	73.7/83.1	88.6/105.1	91/113
Coolant flush basic kit			Id. No.	175001	175002	175003	175004	175005
Coolant flush premium kit	min./max.	O	mm	59.6/69	68.3/96.6	73.8/120	89.1/116.6	91/124
Coolant flush premium kit			Id. No.	176021	176022	176023	176024	176025

KNCS®-N

■ Hard roughing top jaws
■ Stop pins

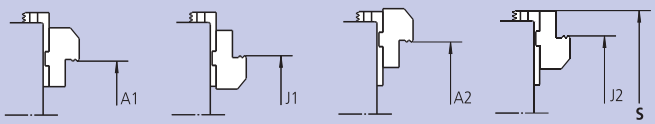
QUICK JAW CHANGE

Type	Id. No.	B	H	T	G	N	S	b	L	kg/ set	SMW-AUTOBLOK	Clamping range Ø external A_1	Clamping range Ø internal J_1	Clamping range Ø external A_2	Clamping range Ø internal J_2
GGK 1751	012464	25	40	16	M5	8	18	32	64	0.9	KNCS-N 140	28-53	125-162	-	-
GGK 1752	012465								68	1.0		36-56	128-168	-	-
GGK 1753	012466								60	1.0		55-81	101-135	-	-
GGK 1754	012467								56	0.9		80-105	75-109	-	-
GGK 1751	012464	25	40	16	M5	8	18	32	64	0.9	KNCS-N 170	25-62	133-171	33-80	155-190
GGK 1752	012465								68	1.0		32-61	134-172	42-79	153-181
GGK 1753	012466								60	1.0		52-89	107-145	70-107	125-163
GGK 1754	012467								56	0.9		77-115	81-118	95-133	99-137
GGK 2001	012469	28	45	20	M5	10	20	40	87	1.9	KNCS-N 210	29-59	187-252	36-87	-
GGK 2002	012470								66	1.3		57-122	121-186	94-150	158-215
GGK 2003	012471								66	1.3		93-149	85-140	131-187	122-178
GGK 2004	012472								85	1.7		152-208	62-100	189-246	72-137
GGK 2001	012469	28	45	20	M5	10	20	40	87	1.9	KNCS-N 225	30-69	-	45-106	-
GGK 2002	012470								66	1.3		67-132	131-197	105-170	169-235
GGK 2003	012471								66	1.3		104-169	95-160	141-207	134-199
GGK 2004	012472								85	1.7		-	68-110	-	74-148
GGK 2501	012473	40	50	22	M6	12	20	40	94	3.0	KNCS-N 260	45-85	197-274	61-148	254-342
GGK 2502	012474								72	2.3		78-154	132-208	141-218	195-272
GGK 2503	012475								78	2.6		107-184	109-175	159-247	152-238
GGK 2504	012476								108	3.2		-	-	-	80-156
GGK 2501	012473	40	50	22	M6	12	20	40	94	3.0	KNCS-N 275	49-100	201-289	65-163	258-357
GGK 2502	012474								72	2.3		82-169	136-223	145-233	199-287
GGK 2503	012475								78	2.6		111-199	113-190	163-262	156-253
GGK 2504	012476								108	3.2		-	-	-	84-171
GGK 2501	012473	40	50	22	M6	12	20	40	94	3.0	KNCS-N 325	34-100	210-300	-	300-370
GGK 2502	012474								72	2.3		90-175	-	170-262	-
GGK 2503	012475								78	2.6		-	110-210	206-292	-
GGK 2505	012477								84	2.8		-	82-150	-	-
GGK 2501	012473	40	50	22	M6	12	20	40	94	3.0	KNCS-N 340	60-126	236-326	-	326-396
GGK 2502	012474								72	2.3		116-201	-	196-288	-
GGK 2503	012475								78	2.6		-	136-236	232-318	-
GGK 2504	012476								84	2.8		-	108-186	-	-
GGK 4001	012478	50	55	25	M8	12	26	54	104	4.8	KNCS-N 400	78-188	258-378	143-263	333-453
GGK 4002	012479								91	3.5		-	140-263	258-378	-
GGK 4003	012480								147	3.6		-	118-243	-	-
GGK 5001	012481	60	74	35	M8	18	30	60	125	8.8	KNCS-N 500	100-210	280-420	210-350	415-560
GGK 5002	012482								108	6.7		-	155-295	330-470	-
GGK 5003	012483	50	74	35	M8	18	30	60	130	6.2		-	100-240	-	-
GGK 5001	012481	60	74	35	M8	18	30	60	125	8.8	KNCS-N 630	80-240	265-450	240-440	460-650
GGK 5002	012482								108	6.7		-	140-320	380-560	-



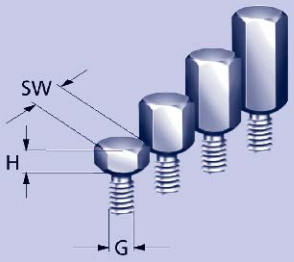
GGK
Hard roughing jaw

Clamping ranges

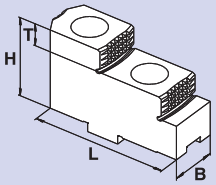


Base jaw position **„P"** | Base jaw position **„O"**

Stop pins

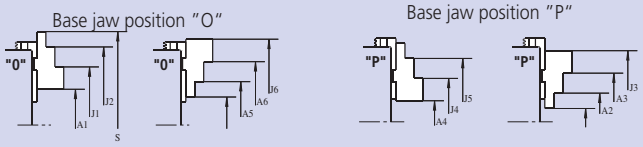


Type	Id. No.	G	H	SW
ALB 505	016510	M5	5	10
ALB 510	016508		10	
ALB 515	016509		15	
ALB 605	016513	M6	5	10
ALB 610	016511		10	
ALB 615	016512		15	
ALB 620	017602		20	
ALB 805	017603	M8	5	13
ALB 810	016514		10	
ALB 815	016515		15	
ALB 820	016516		20	
ALB 825	081191		25	



GUA
Hardened reversible top jaws

Gripping ranges



Chuck	KNCS-N 140	KNCS-N 170	KNCS-N 210	KNCS-N 225	KNCS-N 260	KNCS-N 275	KNCS-N 325	KNCS-N 340	KNCS-N 400	KNCS-N 500	KNCS-N 630
Jaw type	GUA 160	GUA 160	GUA 200	GUA 200	GUA 250	GUA 250	GUA 250	GUA 250	GUA 400	GUA 500	GUA 500
Id. No.	012484	012484	012485	012485	012486	012486	012486	012486	012487	012488	012488
B	20	20	22	22	30	30	30	30	36	45	45
H	32.5	32.5	38	38	50	50	50	50	56	70	70
L	63	63	72	72	90	90	90	90	105	130	130
T	7.5	7.5	10	10	14	14	14	14	15	20	20
kg/set	0.6	0.6	0.8	0.8	1.9	1.9	1.9	1.9	3.2	10.8	10.8
A1	17-42	32-69	55-111	65-131	73-150	77-165	120-205	146-231	138-258	153-339	232-430
A2	63-89	60-98	69-125	79-145	45-90	49-105	48-120	74-146	78-188	65-209	68-224
A3	88-115	85-123	96-152	106-172	125-170	129-185	130-200	156-226	186-298	185-329	188-344
A4	17-42	13-51	17-73	27-93	20-86	24-161	36-188	62-214	60-183	31-217	34-323
A5	63-89	78-116	104-163	117-183	76-154	80-169	120-205	146-231	143-268	145-331	224-422
A6	88-115	103-141	131-190	144-210	156-234	160-249	205-285	231-311	253-378	265-451	344-542
J1	77-101	91-129	117-174	128-194	152-229	156-244	202-285	228-311	218-338	258-444	337-535
J2	101-126	116-154	144-201	155-221	233-310	237-325	280-365	306-391	328-448	378-564	457-655
J3	146-172	144-181	158-215	169-235	204-249	208-264	208-280	234-306	263-380	290-434	293-449
J4	77-101	74-111	80-136	90-156	101-166	105-181	110-200	136-226	138-263	136-322	139-337
J5	101-126	99-136	107-163	117-183	180-246	184-261	198-280	224-306	248-373	256-442	259-457
J6	146-172	162-200	193-253	207-273	235-312	239-327	276-365	302-391	333-458	370-556	449-647
S	167	197	264	275	331	347	409	424	481	552	643



For further jaws and accessories please ask for our 150 pages special catalogue!

Grease
Grease Gun

Important for maintenance and safe operation, to be ordered with the chuck

Grease K05®

Special grease for manual and power chucks



Cartridge 14 Oz. (DIN 1284)
Grease content 500 g
Id. No. 016440

Can 1000 g
Id. No. 011881



- High adhesion
- High resistance against coolant
- High load bearing capacity
- Low friction coefficient
- High gripping force
- Avoids tribocorrosion

Grease gun

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).

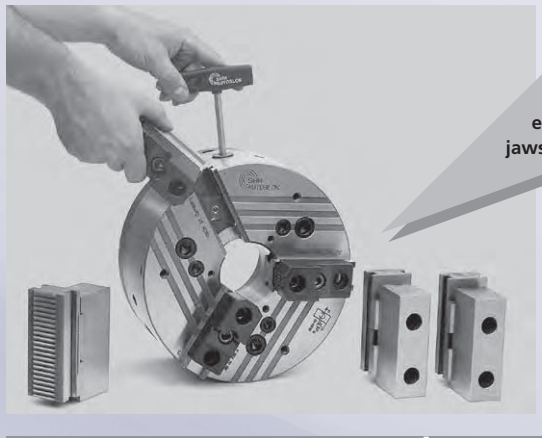
- **Also refillable from grease can 1000 g.**



Lubrication set Id. No. 083726
Supply range:

- Grease gun
- 1 Adapter flexible for high pressure grease nipple
- 1 Adapter for cone grease nipple

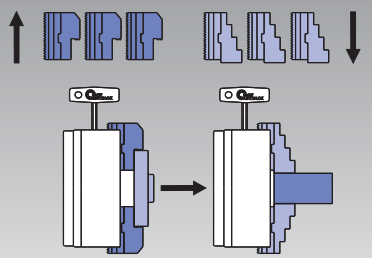
Fast changeover, fast payback:
The quick jaw change chuck KNCS-NB/KNCS-NBX can use all existing top jaws



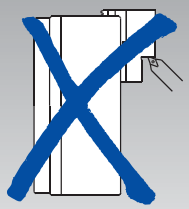
KNCS-NB/KNCS-NBX:
can use
existing
jaws

KNCS®-NB LARGE THROUGH HOLE
KNCS®-NBX EXTRA LARGE THROUGH HOLE

Minimal set-up times
Jaw change in less than 1 minute

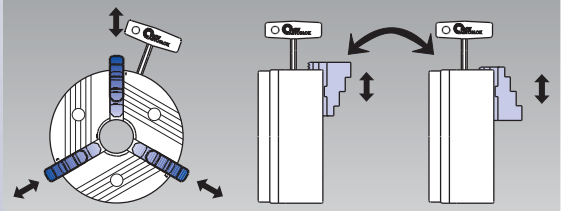


High repeatability when jaw changing
No reboring of already machined jaws necessary, because runout < 0.02 mm (KNCS-NB 210)



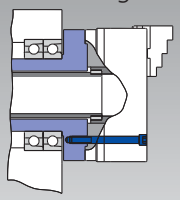
Extra long, symmetrical and wide jaw guides.
Ideal for O.D. or I.D. gripping.

Flexibility jaws can be radially adjusted and are reversible = **less jaw sets**



Jaws radially adjustable — Jaws 180° reversed

Standardized mounting
direct mounting



Recess and bolt circle to DIN **55026**

Unique **wedge bar drive for high speed**. Minimum loss of gripping force because of tangentially supported wedge bars. Minimum increase of gripping force **(hysteresis)** after quick spindle stop. **High efficiency** of the wegde bar drive ensures highest concentricity and **repeatability**. Suitable for **high-low clamping**.

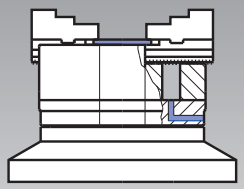
Original SMW-AUTOBLOK patented quick **jaw change**. **Jaw change accuracy** with unique **jaw safety interlock**.

Profitability
Example set-up times/costs

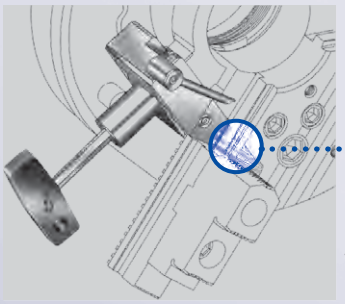
	Conventional chuck	KNCS-NB
Jaw change	10 min	1 min
Reboring of jaws	20 min	0 min
Ø jaw changes/day	2	2
Working days/year	230	230
Machine costs/hour	$ 60.–	$ 60.–
Total costs per year	$ 13 800.–	$ 460.–
Profit*		**$ 13 340.–**

* If jaws are changed more often, the profitability is increased accordingly.

Vertical application



Version for vertical application with cover and drain holes for coolant available.

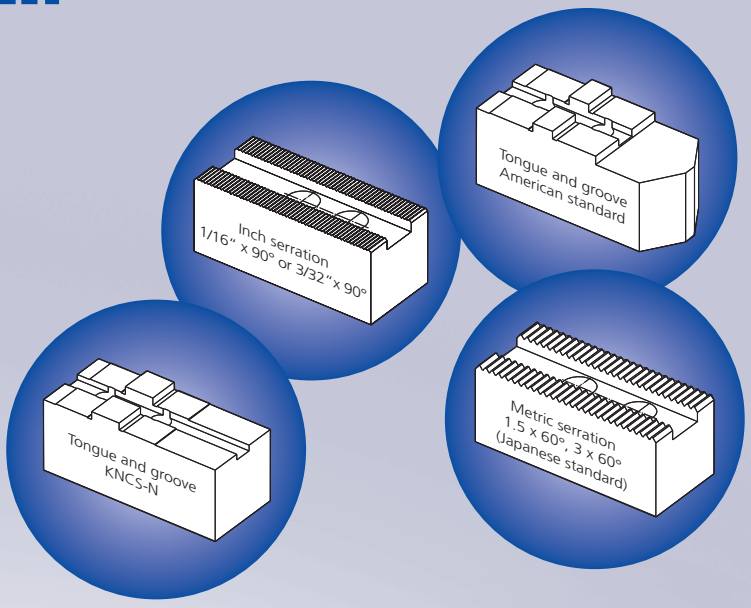


Serration is not fully engaged – jaw safety interlock active.

Less costs by using all existing jaws from:

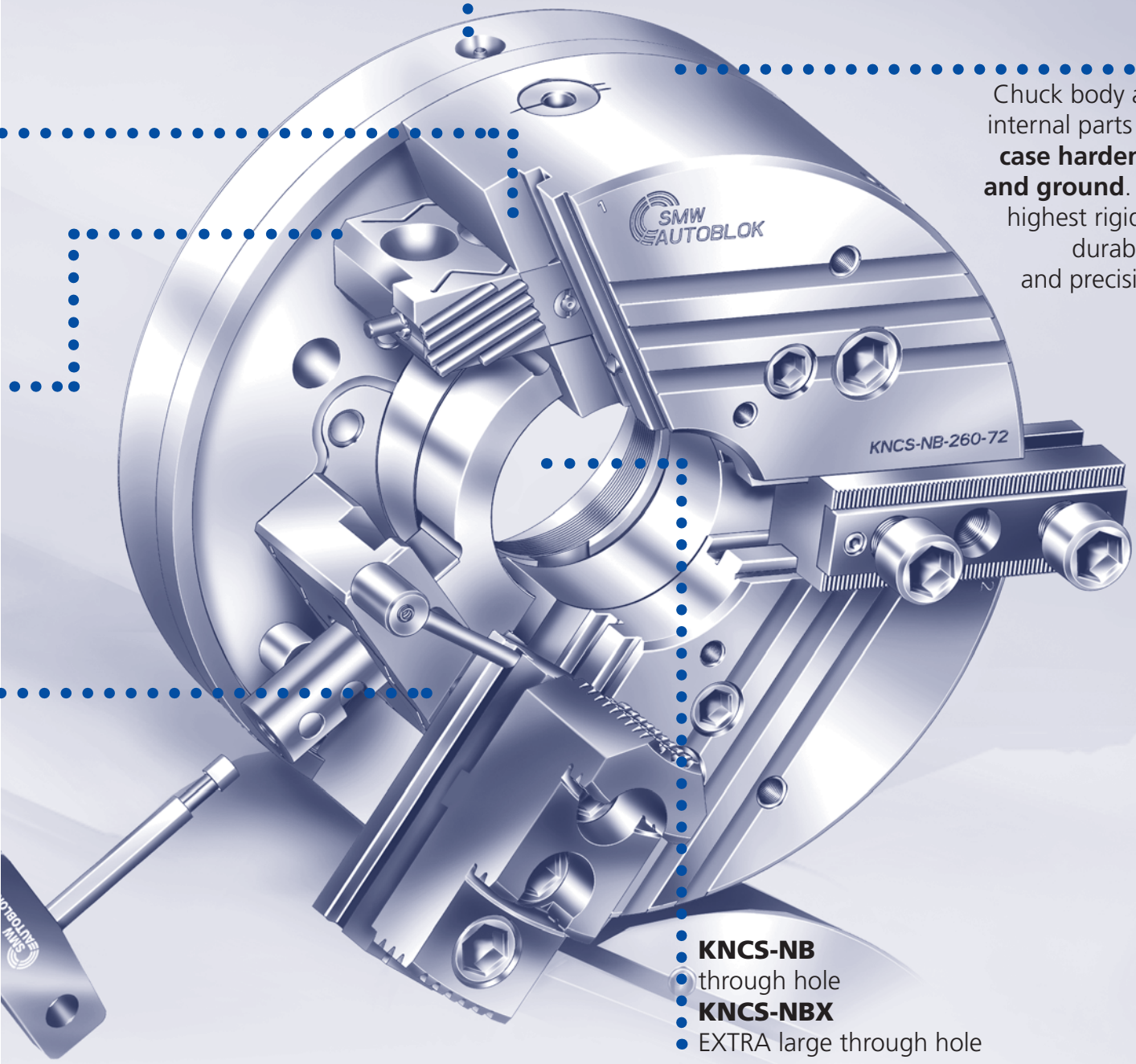
- Autoblok
- Berg
- Buck
- Forkardt
- Gamet
- Howa
- Kitagawa
- Logansport
- Mario Pinto
- Matsumoto
- Pratt Burnerd
- Röhm
- Rotomors
- Schunk
- SMW-Autoblok
- Woodworth

If your jaw type is not here - please ask!



Easy lubrication even on vertical machines with 3 radial built-in grease nipples.

Chuck body and internal parts are **case hardened and ground**. For highest rigidity, durability and precision.

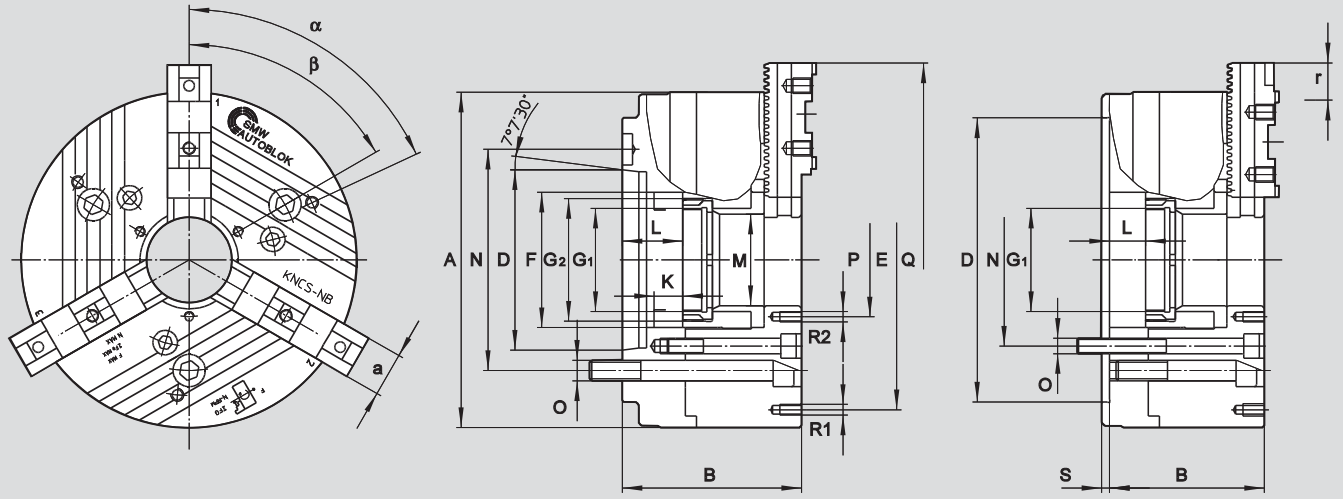


KNCS-NB
through hole
KNCS-NBX
EXTRA large through hole

KNCS®-NB

QUICK JAW CHANGE
wide master jaws

Main dimensions and technical data

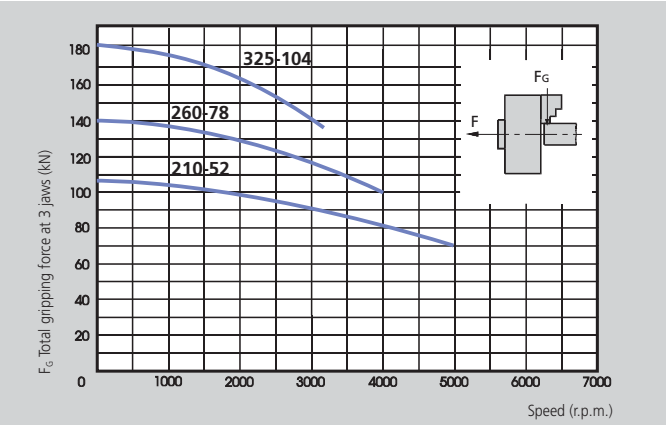


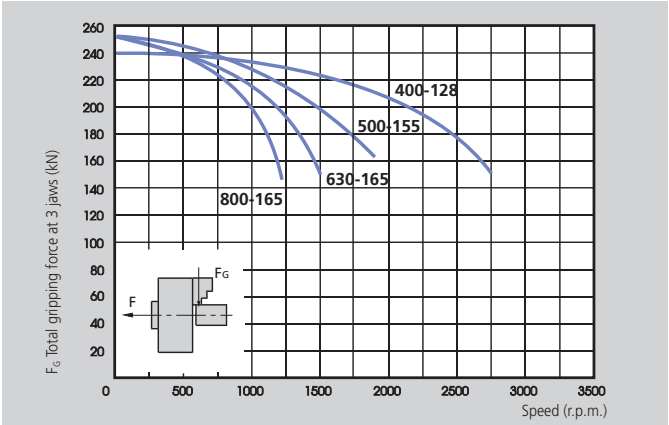
Subject to technical changes
Dimensions and position of base jaws are depending on top jaw type
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		KNCS-NB 210-52			KNCS-NB 225-66			KNCS-NB 260-78				KNCS-NB 275-86			KNCS-NB 325-104			
Mounting	**Size**	**Z170**	**A6**	**A8**	**Z170**	**A6**	**A8**	**Z170**	**Z220**	**A6**	**A8**	**Z220**	**A6**	**A8**	**Z220**	**Z300**	**A8**	**A11**
	A	215			225			260				275			324			
	B	105	122	124	105	122	124	120	120	137	139	120	144	139	130	130	149	151
H6	**D**	170	106.39	139.73	170	106.39	139.73	170	220	106.39	139.73	220	106.39	139.73	220	300	139.73	196.88
	E	168			180			210				210			268			
	F	85			95			111				122			144			
Threaded ring/depth	**G1**	M60 x 1.5/16			M75 x 1.5/16			M90 x 2/20				M95 x 2/20			M115 x 2/22			
Piston thread/depth	**G2**	M75 x 2/19			M85 x 2/19			M102 x 2/23				M110 x 2/23			M132 x 2/25			
Piston stroke	**K**	22			22			25				25			25			
max.	**L**	25	42	44	25	42	44	28	28	45	47	28	52	47	28	28	47	49
	M	52			66			78				86			104			
Fixing bolt circle	**N**	133.4	133.4	171.4	133.4	133.4	171.4	133.4	171.4	133.4	171.4	171.4	133.4	171.4	171.4	235	171.4	235
Fixing bolt	**O**	M12	M12	M16	M12	M12	M16	M12	M16	M12	M16	M16	M12	M16	M16	M20	M16	M20
	P	72			82			95				105			130			
	Q	261			271			318				322			376			
Thread/thread depth	**R1**	M10/12			M10/12			M10/12				M10/18			M10/12			
Thread/thread depth	**R2**	M6/10			M6/10			M8/14				M8/14			M10/12			
	S	6			6			6				6			6			
	a	28			28			35				35			50			
Base jaw tooth pitch	**-**	4.7			4.7			5.5				5.5			5.5			
Base jaw offset	**r**	28.3			33			33				38.5			49.5			
Base jaw offset	teeth	6			7			6				7			9			
	α°	60			60			60				60			60			
	β°	60			60			60				60			60			
Stroke per jaw at piston stroke **K** max.	mm	6.0		22	6.0		22	7.0			25	7.0		25	7.0			25
max. actuating force 3-jaw chuck	kN	53			53			70				70			95			
max. total gripping force 3-jaw chuck	kN	100			100			135				135			180			
max. speed 3-jaw chuck	r.p.m	5000			5000			4000				4000			3300			
Weight without jaws	kg	24	26	26	26	29	29	40	40	43	43	48	53	50.7	65	65	68	68
Moment of inertia	kg·m²	0.11			0.21			0.38				0.41			0.85			
rec. closed center cylinder	Type	**SIN-S 125/150**			**SIN-S 125/150**			**SIN-S 150/175**				**SIN-S 150/175**			**SIN-S 150/175/200**			
rec. open center cylinder	Type	**VNK 130-52**			**VNK 150-67**			**VNK 170-77**				**VNK 225-95**			**VNK 250-110**			

* Indirect mounting by reducing flange

For highest speeds: flat gripping force curve





The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

SMW-AUTOBLOK Type		KNCS-NB 340-117			KNCS-NB 400-128				KNCS-NB 500-155			KNCS-NB 630-165			KNCS-NB 800-165		
Mounting	**Size**	**Z300**	**A8**	**A11**	**Z300**	**Z380**	**A11**	**A15**	**Z380**	**A11**	**A15**	**Z380**	**A11***	**A15**	**Z520**	**A15***	**A20**
	A	340			400				500			630			800		
	B	130	160	151	140	140	161	163	174	195	197	174	214	197	174	214	199
H6	**D**	300	139.73	196.88	300	380	196.88	285.77	380	196.88	285.77	380	196.88	285.77	520	285.77	412.8
	E	270			330				420			420/585			420/585/750		
	F	160			180				207			217			217		
Threaded ring/depth	**G1**	M125 x 2/22			M138 x 2/22				M165 x 2/25			M175 x 2/25			M175 x 2/25		
Piston thread/depth	**G2**	M146 x 2/25			M160 x 2/25				M185 x 2/28			M195 x 2/28			M195 x /2/28		
Piston stroke	**K**	25			32				42			42			42		
max.	**L**	28	58	49	32	32	53	55	42	63	65	42	82	65	42	82	67
	M	117			128				155			165			165		
Fixing bolt circle	**N**	235	171.4	235	235	330.2	235	330.2	330.2	235	330.2	330.2	235*	330.2	463.6	330.2*	463.6
Fixing bolt	**O**	M20	M16	M20	M20	M24	M20	M24	M24	M20	M24	M24	M20*	M24	M24	M24*	M24
	P	140			152				180			195			195		
	Q	380			455				554			650			817		
Thread/thread depth	**R1**	M10/16			M12/18				M16/25			M16/25			M16/25		
Thread/thread depth	**R2**	M10/16			M12/18				M12/18			M12/18			M12/18		
	S	6			8				8			8			8		
	a	50			50				62			75			75		
Base jaw tooth pitch	mm	5.5			5.5				7			7			7		
Base jaw offset	**r**	49.5			60.5				77			91			91		
Base jaw offset	teeth	9			11				11			13			13		
	α°	60/35			60				60			20/9 x 40			20/9 x 40		
	β°	60			60				60			60			60		
Stroke per jaw at piston stroke **K** max.	mm	7.0		25	8.0			32	10.0		42	10.0		42	10.0		42
max. actuating force 3-jaw chuck	kN	95			115				120			120			120		
max. total gripping force 3-jaw chuck	kN	180			240				250			250			250		
max. speed 3-jaw chuck	r.p.m	3300			2750				1800			1500			1200		
Weight without jaws	kg	77	88.5	82.5	111	111	116	116	225	231	231	390	411	398	620	660	635
Moment of inertia	kg·m²	1.24			2.5				6.5			18			27		
rec. closed center cylinder	Type	**SIN-S 150/175/200**			**SIN-S 175/200**				**SIN-S 175/200**			**SIN-S 175/200**			**SIN-S 175/200**		
rec. open center cylinder	Type	**VNK 320-127**			**VNK 320-127**				**VSG 450-165**			**VSG 450-165**			**VSG 450-165**		

* Indirect mounting by reducing flange



For further jaws and accessories please ask for our 150 pages special catalogue!

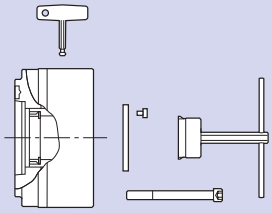
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KNCS®-NB

QUICK JAW CHANGE

Ordering review

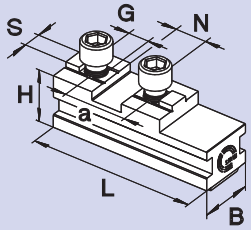




Size / Spindle mounting	KNCS-NB 210-52	KNCS-NB 225-66	KNCS-NB 260-78	KNCS-NB 275-86	KNCS-NB 325-104	KNCS-NB 340-117	KNCS-NB 400-128	KNCS-NB 500-155	KNCS-NB 630-165	KNCS-NB 800-165
Centering rim small			Z170 064645		Z220 064695		Z300 064303	Z300 064306		
Centering rim large	Z170 064334	Z170 069790	Z220 064646	Z220 069660	Z300 064715	Z300 069665	Z380 063950	Z380 064307	Z380 064548	Z520 064579
A 05										
A 06	064610	069791	064669	069661						
A 08	064611	069792	064670	069662	064716	069666				
A 11					064723	069667	064304	064308	064577	
A 15							064305	064309	064549	064615
A 20										064616

Supply range:
Chuck + disengaging key + mounting bolts + mounting key + set of coverplates without base jaws, without top jaws

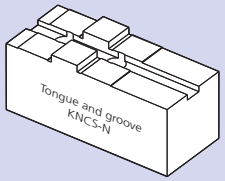
Base jaw type



GBK-B

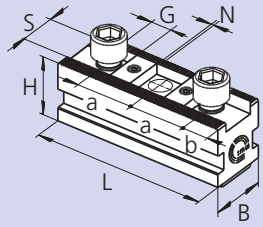
KNCS-N standard tongue & groove

Existing top jaw



KNCS-NB	210-52/225-66	260-78/275-86	325-104/340-117	400-128	500-155	630-165	800-165
Id. No.	138494	039624	039626	039629	035565	035902	064604
B	28	35	50	50	62	75	75
H	32	40	45.8	45.8	57	57	57
L	85	104	115	125	160	200	287
N	20	20	20	26	30	30	30
S	10	12	12	12	18	18	18
G (metric)	M8	M12	M12	M12	M16	M16	M16
a	40	40	40	54	60	60	60

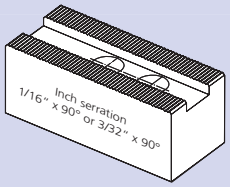
Base jaw type



GBK-BD

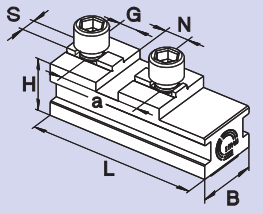
Inch serrated (for SMW-AUTOBLOK standard jaws)

Existing top jaw



KNCS-NB	210-52/225-66	260-78/275-86	325-104/340-117	400-128	500-155	630-165	800-165
Id. No.	036292	035704	036167	036293	036294	036295	036296
B	28	35	50	50	62	75	75
H	32	40	45.8	45.8	61	61	61
L	85	104	115	125	160	200	287
N	1/16" x 90°	1/16" x 90°	1/16" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
S (ridge)	17	21	21	25.5	25.5	25.5	25.5
G	M12	M16	M16	M20	M20	M20	M20
a	2 x 23	30/28	30/28	2 x 38	38/49/38	4 x 38	6 x 38
b	11	14	14	17	17	17	17

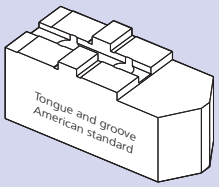
Base jaw type



GBK-BA

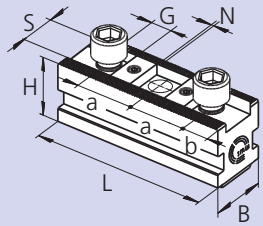
American standard tongue & groove

Existing top jaw



KNCS-NB	210-52/225-66	260-78/275-86	325-104/340-117	400-128	500-155	630-165	800-165
Id. No.	-	-	039628	039631	060561	060562	064590
B	-	-	50	50	62	75	75
H	-	-	45.8	45.8	57	57	57
L	-	-	120	146	168	203	287
N	-	-	19.02	19.02	19.02	19.02	19.02
S	-	-	12.7	12.7	12.7	12.7	12.7
G (inch)	-	-	5/8-11	3/4-10	3/4-10	3/4-10	3/4-10
a	-	-	63.5	76.2	76.2	76.2	76.2

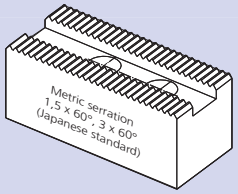
Base jaw type



GBK-BM

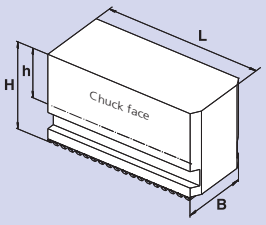
Metric serration

Existing top jaw



KNCS-NB	210-52/225-66	260-78/275-86	325-104/340-117	400-128	500-155	630-165	800-165
Id. No.	035566	035567	035568	035569	035570	035917	036708
B	28	35	50	50	62	75	75
H	32	40	45.8	45.8	61	61	61
L	85	104	115	125	160	200	287
N	1.5 x 60°	1.5 x 60°	1.5 x 60°	1.5 x 60°	3 x 60°	3 x 60°	3 x 60°
S	14	16	21	22	25	25	25
G (metric)	M12	M12	M16	M20	M20	M20	M20
a	2 x 25	2 x 30	2 x 30	2 x 43	1 x 50/ 1 x 60	2 x 60	4 x 60
b	11	11	14	17	17	17	17

Jaw type



UVB-B

Soft wide monoblock jaws

KNCS-NB	260/275	325/340	400	500
Jaw type	UVB-B 250	UVB-B 315	UVB-B 400	UVB-B 500
Id. No.	238910	238911	238740	238912
B	35	50	50	62
H	110	115	125	160
h	81	81	91	113
L	109.5	120	148	175
kg/set	5.9	11.9	17.6	32

Actuating cylinders with and without through-hole



VNK
Hydraulic open center cylinder with built-in safety valves, piston stroke control and coolant collector ($p_{max.}$ = 45 bar)



SIN-S
Hydraulic closed center cylinder with built-in safety valves and piston stroke control. Central through-hole for air or coolant ($p_{max.}$ = 70 bar)



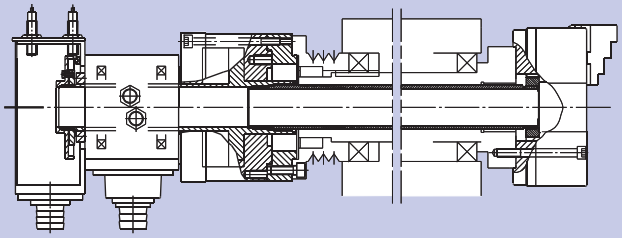
SIN-HL
Hydraulic closed center cylinder for high-low clamping with built-in safety valves and piston stroke control. Central through-hole for air, oil or coolant ($p_{max.}$ = 70 bar)

Type		VNK 130/52	VNK 170/77	VNK 225/95	VNK 320/127	VSG 450/165	SIN-S 125	SIN-S 150	SIN-S 175	SIN-S 200	SIN-HL 100	SIN-HL 125	SIN-HL 150	SIN-HL 175
Draw pull P_{max}	kN	58	76	100	123	138	71	108	150	196	49	77	108	154
$n_{max.}$	r.p.m.	6300	5000	4000	3200	2000	6000	6000	5000	4000	7000	6000	6000	5000
Through-hole	mm	52.5	77	95.5	127.5	165	—	—	—	—	—	—	—	—

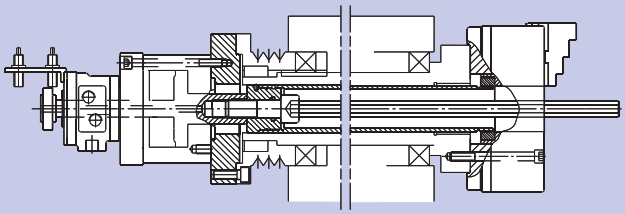
For more information see page 197

Examples for assembly

Open center with VNK

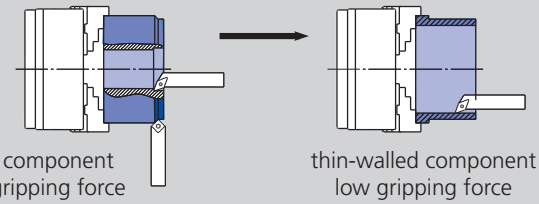


Partial open center with SIN-S/SIN-HL



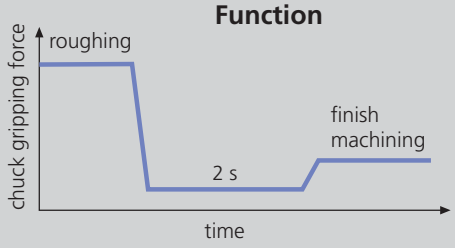
High-low clamping for thin-walled components

Principle



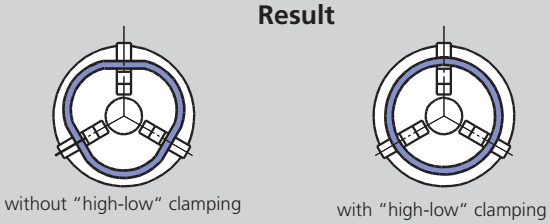
For easily deformed components SMW-AUTOBLOK offers "high-low" clamping. The gripping force of the chuck can be reduced from a large amount of gripping force used in roughing, to a smaller amount of gripping force for a finishing cut without unclamping the component. The SMW-AUTOBLOK closed center cylinder type SIN-HL and a modification of the machine hydraulic are necessary.

Function



In combination with a SMW-Autoblok "high-low" hydraulic cylinder SIN-HL and suitable machine hydraulics, the KNCS-NB/KNCS-NBX wedge bar system allows a monitored reduction of gripping force.
The component remains clamped in the chuck, however, the stress of the component can be released.
The "high-low" cycle is programmable and is finished completely within 2 - 4 sec.

Result



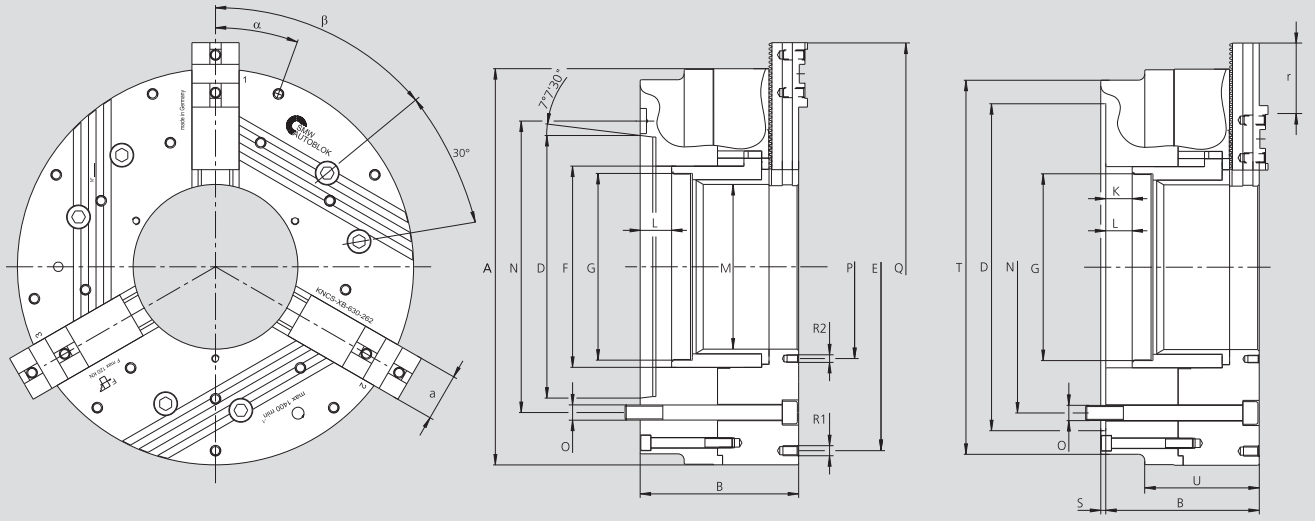
The result are round components with a minimum of deformation.

For additional information please ask our engineers.

KNCS®-NBX

QUICK JAW CHANGE
wide master jaws

■ **Main dimensions and technical data**
■ **EXTRA LARGE THROUGH HOLE**



Subject to technical changes
Dimensions and position of base jaws are depending on top jaw type
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		KNCS-NBX 425-170			KNCS-NBX 530-210			KNCS-NBX 630-262			KNCS-NBX 800-262			KNCS-NBX 1000-262		
Mounting	**Size**	**Z380**	**A11**	**A15**	**Z380**	**A11**	**A15**	**Z520**	**A15**	**A20**	**Z520**	**A15**	**A20**	**Z520**	**A15**	**A20**
	A	425			530			630			800			1000		
	B	197	237	220	244	284	267	244	284*	269	244	284*	269	244	284*	269
H6	**D**	380	196.88	285.77	380	196.88	285.77	520	285.77	412.77	520	285.77	412.77	520	285.77	412.77
	E	330.2			420			420/585			420/585/750			420/585/750/915		
	F	222			262			320			320			320		
Piston thread/depth	**G**	M202 x 2/25			M240 x 2/28			M297 x 2/33			M297 x 2/33			M297 x 2/33		
Piston stroke	**K**	32			42			42			42			42		
max.	**L**	32	72	55	42	82	55	42	82	67	42	82	67	42	82	67
	M	170			210			262			262			262		
Fixing bolt circle	**N**	330.2	235.0	330.2	330.2	235.0	30.2	463.6	330.2*	463.6	463.6	330.2*	463.6	463.6	330.2*	463.6
Fixing bolt	**O**	M24	M20	M24	M24	M20	M24	M24	M24*	M24	M24	M24*	M24	M24	M24*	M24
	P	194			235			292			292			292		
	Q	487			598			745			915			1107		
Thread/thread depth	**R1**	M12/16			M16/25			M16/25			M16/25			M16/25		
Thread/thread depth	**R2**	M12/16			M16/25			M12/18			M12/18			M12/18		
	S	8			8			8			8			8		
	T	412			490			595			600			600		
	U	137			167			182			182			182		
	a	50			62			75			75			75		
Base jaw tooth pitch	**-**	5.5			7			7			7			7		
Base jaw offset	**r**	49.5			70			119			133			133		
Base jaw offset	teeth	9			10			17			19			19		
	α°	15°/12x30°			20°/9x40°			20°/9x40°			20°/9x40°			20°/9x40°		
	β°	60			60			60			60			60		
Stroke per jaw at piston stroke **K** max.	mm	8		32	10		42	10		42	10		42	10		42
max. actuating force 3-jaw chuck	kN	115			120			120			120			120		
max. total gripping force 3-jaw chuck	kN	240			250			250			250			250		
max. speed 3-jaw chuck	r.p.m	2500			1500			1400			1000			850		
Weight without jaws	kg	164			320			395			635			985		
Moment of inertia	kg·m²	4.3			13			23			54			125		
rec. closed center cylinder	Type	**SIN-S 175/200**			**SIN-S 175/200**			**SIN-S 175/200**			**SIN-S 175/200**			**SIN-S 175/200**		
rec. open center cylinder	Type	**VSG 450-165**			**VSG 550-205**			**VSG 550-205**			**VSG 550-205**			**VSG 550-205**		

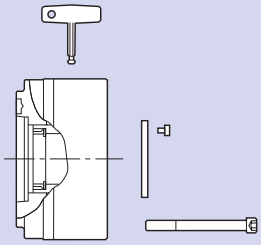


For further jaws and accessories please ask for our 150 pages special catalogue!



KNCS®-NBX

QUICK JAW CHANGE

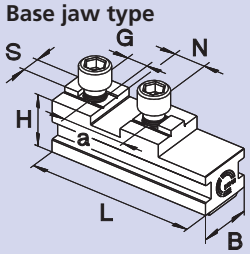


Size / Spindle mounting	KNCS-NBX 425-170	KNCS-NBX 530-210	KNCS-NBX 630-262	KNCS-NBX 800-262	KNCS-NBX 1000-262
Centering rim	Z380	Z380	Z520	Z520	Z520
center mount	160080	160090	069760	069770	069780
A 11	160081	160091			
A 15	160082	160092	069768	069778	069788
A 20			069769	069779	069789

Supply range:

Chuck + disengaging key + mounting bolts + mounting key + set of coverplates
without base jaws, without top jaws

Base jaw type

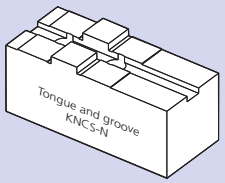


GBK-B

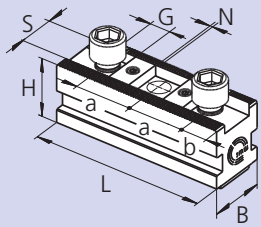
KNCS-N standard tongue & groove

KNCS-NBX	425-170	530-210	630-262	800-262	1000-262
Id. No.	039629	035565	035902	064604	069806
B	50	62	75	75	75
H	45.8	57	57	57	57
L	125	160	200	286	384
N	26	30	30	30	30
S	12	18	18	18	18
G (metric)	M12	M16	M16	M16	M16
a	54	60	60	60	60

Existing top jaw



Base jaw type

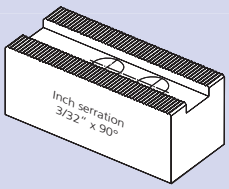


GBK-BD

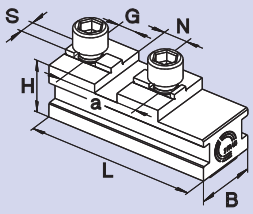
Inch serrated (for SMW-AUTOBLOK standard jaws)

KNCS-NBX	425-170	530-210	630-262	800-262	1000-262
Id. No.	036293	036294	036295	036296	
B	50	62	75	75	
H	45.8	61	61	61	
L	125	160	200	287	
N	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	
S (ridge)	25.5	25.5	25.5	25.5	
G	M20	M20	M20	M20	
a	2 x 38	3 x 38	4 x 38	6 x 38	
b	17	17	17	17	

Existing top jaw



Base jaw type

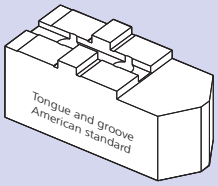


GBK-BA

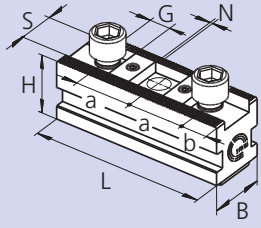
American standard tongue & groove

KNCS-NBX	425-170	530-210	630-262	800-262	1000-262
Id. No.	039631	060561	060562	064590	069807
B	50	62	75	75	75
H	45.8	57	57	57	57
L	146	168	203	286	384
N	19.02	19.02	19.02	19.02	19.02/3x
S	12.7	12.7	12.7	12.7	12.7
G (inch)	3/4-10	3/4-10	3/4-10	3/4-10	3/4-10/4x
a	76.2	76.2	76.2	76.2	76.2/3x

Existing top jaw



Base jaw type

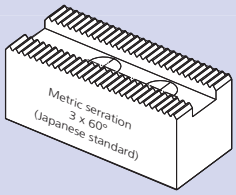


GBK-BM

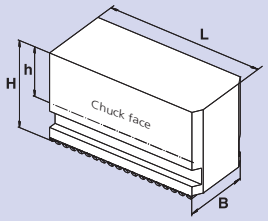
Metric serration

KNCS-NBX	425-170	530-210	630-262	800-262	1000-262
Id. No.	035569	035570	035917	036708	
B	50	62	75	75	
H	45.8	61	61	61	
L	125	160	200	287	
N	1.5 x 60°	3 x 60°	3 x 60°	3 x 60°	
S	22	25	25	25	
G (metric)	M20	M20	M20	M20	
a	2 x 43	1 x 50/1 x 60	2 x 60	4 x 60	
b	17	17	17	17	

Existing top jaw



Jaw type



UVB-B

Soft wide monoblock jaws

KNCS-NBX	425	530
Jaw type	UVB-B 400	UVB-B 500
Id. No.	238740	238912
B	50	62
H	125	160
h	91	113
L	148	175
kg/set	17.6	32

AP-RC

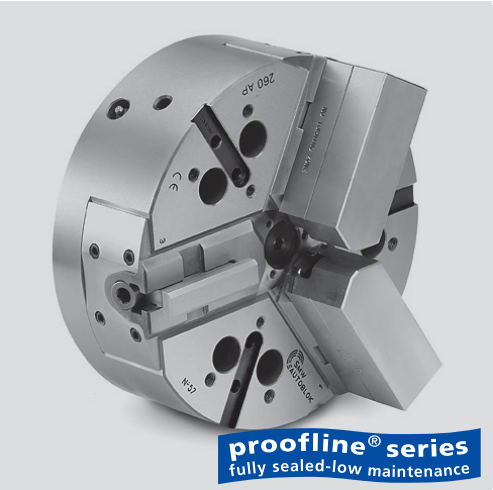
QUICK JAW CHANGE
Tongue & groove

AP-RD

QUICK JAW CHANGE
serrated master jaws

Quick jaw change high precision power chucks Ø 170 - 400 mm

- closed center
- proofline® chucks = fully sealed – low maintenance
- 3 jaws



Application/customer benefits

- For mid to large batch flexible production
- Quick jaw change = short set up time
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used
- Ideal for vertical, pick up and horizontal machines

AP-RC: quick jaw change with tongue & groove master jaws
AP-RD: quick jaw change with serrated master jaws (2.5 mm x 60°) (radially adjustable)

Technical features

- High accuracy patented quick jaw change
- Constant gripping force with permanent grease lubrication
- Central bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

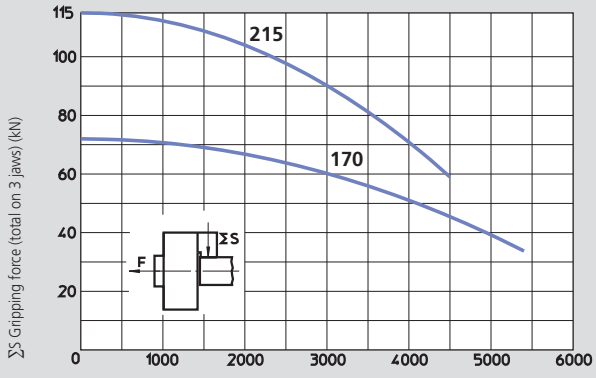
Standard equipment

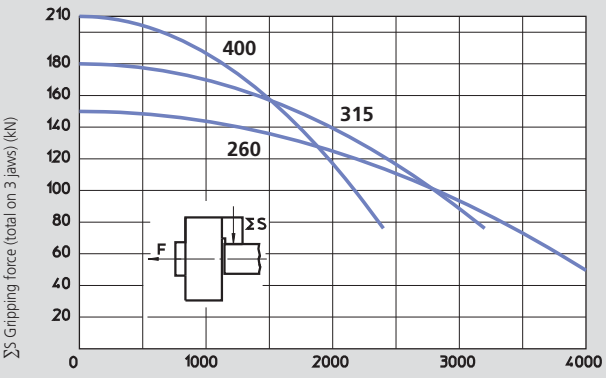
3 jaw chuck
1 set soft top jaws
1 quick jaw change T wrench
mounting bolts

Ordering example

3 jaw chuck AP-RC 215/A6
or
3 jaw chuck AP-RD 260/FL220

Actual gripping force diagrams



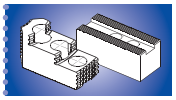
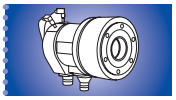


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AP-RC 170 AP-RD 170	AP-RC 215 AP-RD 215	AP-RC 260 AP-RD 260	AP-RC 315 AP-RD 315	AP-RC 400 AP-RD 400
Number of jaws		**3**	**3**	**3**	**3**	**3**
Radial jaw stroke	mm	3.6	4.6	5	6.3	7
Axial piston stroke	mm	17	22	24	30	33
Max. draw-pull	kN	30	42	55	65	75
Max. gripping force	kN	72	112	150	180	210
Max. speed	r.p.m.	5400	4600	4000	3200	2400
Mass (without top jaws)	kg	10	19.5	32.5	56	90
Moment of inertia	kg·m²	0.037	0.113	0.28	0.69	1.7
Recommended actuating cylinders		**SIN-S 100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**


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Quick jaw change high precision power chucks Ø 170 - 400 mm

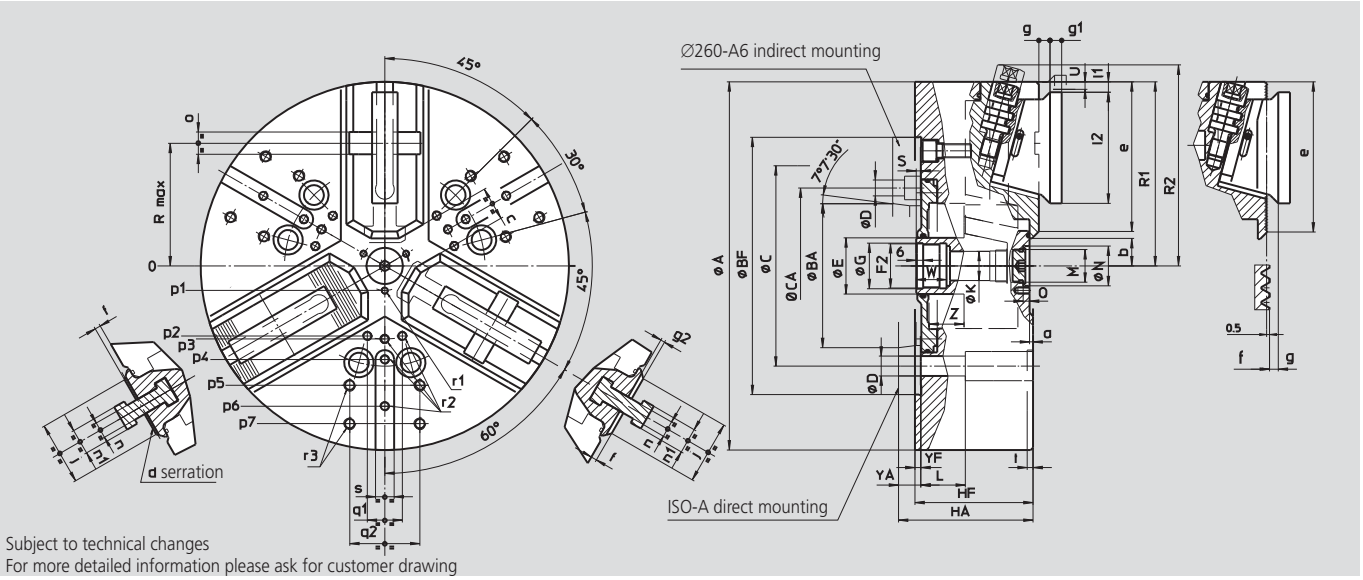
- closed center
- proofline® chucks = fully sealed – low maintenance
- 3 jaws

AP-RC

QUICK JAW CHANGE
Tongue & groove

AP-RD

QUICK JAW CHANGE
serrated master jaws



Subject to technical changes
For more detailed information please ask for customer drawing

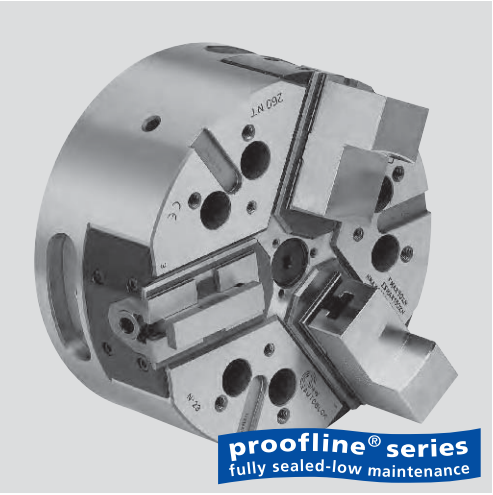
SMW-AUTOBLOK Type				AP-RC 170 AP-RD 170		AP-RC 215 AP-RD 215		AP-RC 260 AP-RD 260			AP-RC 315 AP-RD 315		AP-RC 400 AP-RD 400	
Mounting				Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A		mm	172		216		262			315		390	
	BF/BA	H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	104.8		133.4		171.4	-	171.4	171.4		235	
	CA		mm	-	-	-	-	-	133.4	-	-	-	-	-
	D		mm	11.5		13.5		17	13.5	17	17		21	
	E		mm	32		42		48			48		75	
	F2		mm	M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M60 x 1.5	
	G	H8	mm	25		33		39			39		61	
	HF/HA		mm	68	78	81	93	92	111	106	101	115	112	127
	K		mm	18.5		20		25			25		48	
	L		mm	23		32		38			38		54	
	M		mm	M22 x 1.5		M22 x 1.5		M28 x 1.5			M28 x 1.5		M52 x 1.5	
	N	H9	mm	24		24		34			34		60	
	Q		mm	5.5		5.5		5.5			5.5		9	
max.	R		mm	56		72		88			105		133.5	
Chuck open	R1		mm	86.5		108		131			157.5		195	
	R2 *		mm	99		122.5		145.5			172		217.5	
max./min.	S		mm	21/4		26/4		28/4			34/4		37/4	
Radial jaw stroke	U		mm	3.6		4.6		5			6.3		7	
	W		mm	22		26		26			26		38	
	YF/YA		mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z		mm	17/0		22/0		24/0			30/0		33/0	
	a		mm	3		3		3			3		3	
min.	b		mm	8.5		12		14			16.5		31	
min.	c		mm	9		13		14			16		38	
serration AP-RD	d		mm	2.5 x 60°		2.5 x 60°		2.5 x 60°			2.5 x 60°		2.5 x 60°	
	e		mm	68		85		106			128.5		150	
	f		mm	5		5		5			5		7	
	g		mm	7.5		7.5		8.5			9.5		11.5	
	g1		mm	8		8		9			10		12	
	g2		mm	3.5		3.5		3.5			3.5		5.5	
	j		mm	30		38		44			54		63	
	l1		mm	2.5		2.5		9			9		8.5	
	l2		mm	52		66		78			95		118	
	n	h8	mm	10		10		12			14		18	
	n1		mm	16		16		19			22		28	
	o	H7	mm	12.68		12.68		19.03			19.03		19.03	
	p1		mm	16		16		21			21		37.5	
	p2		mm	-		-		-			60		80	
	p3		mm	38		49		55			62.5		83	
	p4		mm	-		80		70			80		110	
	p5		mm	65		80		102			102		140	
	p6		mm	70		-		102			120		155	
	p7		mm	-		-		-			135		170	
	q1		mm	-		-		-			30		36	
	q2		mm	36		45		60			60		80	
	r1		mm	M5/7		M5/8		M6/10			M6/10		M6/12	
	r2		mm	M6/14		M8/17		M8/17			M8/17		M10/19	
	r3		mm	M8/17		M8/17		M10/19			M10/19		M12/22	
	s		mm	16		16		16			16		20	
	t		mm	5		5		5			5		5	

*quick jaw change position

NT-RC
QUICK JAW CHANGE
Tongue & groove

NT-RD
QUICK JAW CHANGE
serrated master jaws

High precision power chucks Ø 170 - 400 mm
- centrifugal force compensation
- closed center
- proofline® chucks = fully sealed – low maintenance
- 3 jaws



Application/customer benefits
- For mid to large batches flexible production/high speed machining and for fragile parts
- Quick jaw change = short set up time
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used
- Ideal for vertical, pick up and horizontal machines

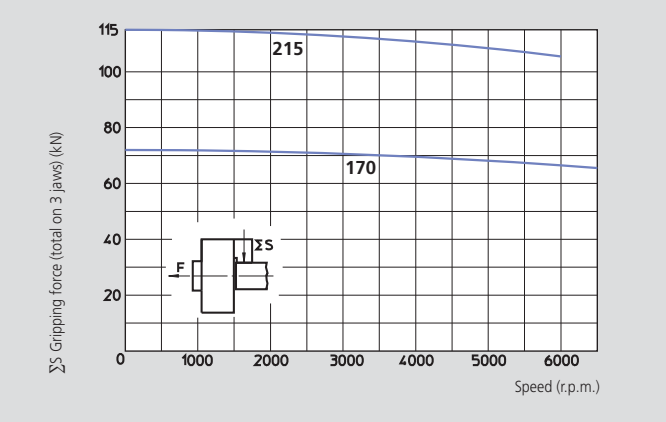
NT-RC: quick jaw change with tongue & groove master jaws
NT-RD: quick jaw change with serrated master jaws (2.5 mm x 60°) (radially adjustable)

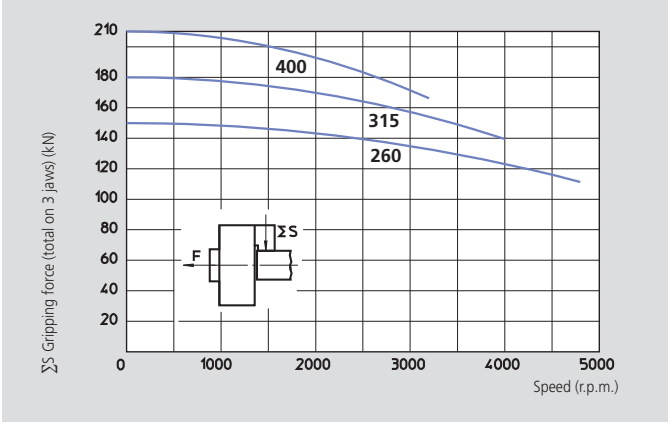
Technical features
- High accuracy patented quick jaw change
- Centrifugal force compensation
- Constant gripping force with permanent grease lubrication
- Central bore for coolant and/or air
- Chuck body and internal parts case hardened
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
3 jaw chuck
1 set soft top jaws
1 quick jaw change T wrench
mounting bolts

Ordering example
3 jaw chuck NT-RC 215/A6
or
3 jaw chuck NT-RD 260/FL220

Actual gripping force diagrams



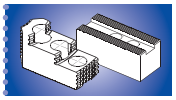
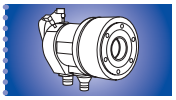


The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		NT-RD 170 NT-RC 170	NT-RD 215 NT-RC 215	NT-RD 260 NT-RC 260	NT-RD 315 NT-RC 315	NT-RD 400 NT-RC 400
Number of jaws		**3**	**3**	**3**	**3**	**3**
Radial jaw stroke	mm	3.6	4.6	5	6.3	7
Axial piston stroke	mm	17	22	24	30	33
Max. draw-pull	kN	30	42	55	65	75
Max. gripping force	kN	72	112	150	180	210
Max. speed	r.p.m.	6500	6000	4800	4000	3200
Mass (without top jaws)	kg	13	25	40	68	112
Moment of inertia	kg·m²	0.048	0.146	0.34	0.84	2.15
Recommended actuating cylinders		**SIN-S 100**	**SIN-S 100/125**	**SIN-S 125/150**	**SIN-S 125/150**	**SIN-S 150/175**


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High precision power chucks Ø 170 - 400 mm

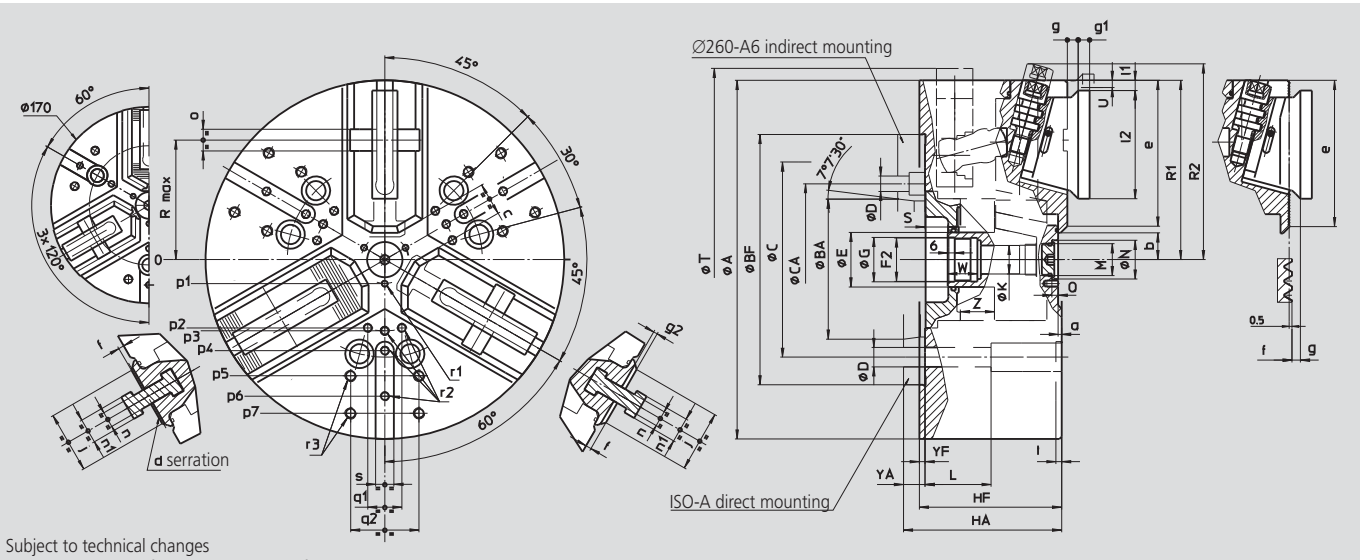
- centrifugal force compensation
- closed center
- proofline® chucks = fully sealed – low maintenance
- 3 jaws

NT-RC

QUICK JAW CHANGE
Tongue & groove

NT-RD

QUICK JAW CHANGE
serrated master jaws



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				NT-RD 170 NT-RC 170		NT-RD 215 NT-RC 215		NT-RD 260 NT-RC 260			NT-RD 315 NT-RC 315		NT-RD 400 NT-RC 400	
Mounting				Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A		mm	172		216		262			315		390	
	BF/BA	H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	104.8		133.4		171.4	-	171.4	171.4		235	
	CA		mm	-	-	-	-	-	133.4	-	-	-	-	-
	D		mm	11.5		13.5		17	13.5	17	17		21	
	E		mm	32		42		48			48		75	
	F2		mm	M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M60 x 1.5	
	G	H8	mm	25		33		39			39		61	
	HF/HA		mm	92	102	104	116	118	137	132	125	139	149	164
	K		mm	18.5		20		25			25		48	
	L		mm	43		52		58			58		74	
	M		mm	M22 x 1.5		M22 x 1.5		M28 x 1.5			M28 x 1.5		M52 x 1.5	
	N	H9	mm	24		24		34			34		60	
	Q		mm	5.5		5.5		5.5			5.5		9	
max.	R		mm	56		72		88			105		133.5	
Chuck open	R1		mm	86.5		108		131			157.5		195	
	R2 *		mm	99		122.5		145.5			172		217.5	
max./min.	S		mm	20/3		19/-3		22/-2			20/-10		33/0	
Chuck fully closed	T		mm	175		220		-			-		-	
Radial jaw stroke	U		mm	3.6		4.6		5			6.3		7	
	W		mm	22		26		26			26		38	
	YF/YA		mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z		mm	17/0		22/0		24/0			30/0		33/0	
	a		mm	3		3		3			3		3	
min.	b		mm	8.5		12		14			16.5		31	
min.	c		mm	9		13		14			16		38	
	d		mm	2.5 x 60°		2.5 x 60°		2.5 x 60°			2.5 x 60°		2.5 x 60°	
	e		mm	68		85		106			128.5		150	
	f		mm	5		5		5			5		7	
	g		mm	7.5		7.5		8.5			9.5		11.5	
	g1		mm	8		8		9			10		12	
	g2		mm	3.5		3.5		3.5			3.5		5.5	
	j		mm	30		38		44			54		63	
	l1		mm	2.5		2.5		9			9		8.5	
	l2		mm	52		66		78			95		118	
	n	h8	mm	10		10		12			14		18	
	n1		mm	16		16		19			22		28	
	o	H7	mm	12.68		12.68		19.03			19.03		19.03	
	p1		mm	16		16		21			21		37.5	
	p2		mm	-		-		-			60		80	
	p3		mm	38		49		55			62.5		83	
	p4		mm	-		80		70			80		110	
	p5		mm	65		80		102			102		140	
	p6		mm	70		-		102			120		155	
	p7		mm	-		-		-			135		170	
	q1		mm	-		-		-			30		36	
	q2		mm	36		45		60			60		80	
	r1		mm	M5/7		M5/8		M6/10			M6/10		M6/12	
	r2		mm	M6/14		M8/17		M8/17			M8/17		M10/19	
	r3		mm	M8/17		M8/17		M10/19			M10/19		M12/22	
	s		mm	16		16		16			16		20	
	t		mm	5		5		5			5		5	

*quick jaw change position

AP-R

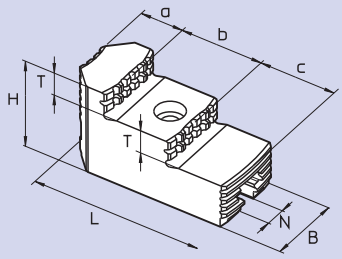
QUICK JAW CHANGE

NT-R

Quick jaw change

Quick change soft and hard top jaws

- only for AP-RD, AP-RC, NT-RD, NT-RC
- soft and hard jaws for chucks with serration (2.5 mm x 60°)
- soft jaws for chucks with tongue & groove
- torque wrench for quick jaw change

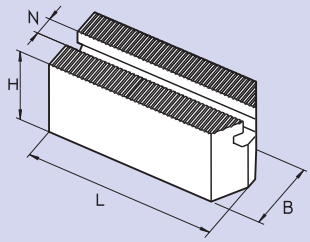


Hard top jaws with 2.5 x 60° serration for AP-RD and NT-RD chucks

First opearation jaws, if high concentricity is required jaws have to be ground on chuck.

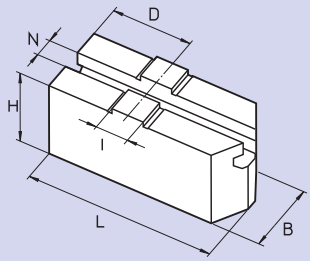
Chuck Ø	Id. No.*	Serration mm	B mm	H mm	L mm	N mm	T mm	a mm	b mm	c mm	Mass kg/each
170	**18081736**	2.5 x 60°	30	45	65	10	10	23	24	18	0.36
215	**18082136**	2.5 x 60°	35	46	82	10	10.5	24	36	22	0.57
260	**18082636**	2.5 x 60°	45	56	100	12	14.5	27	39	34	1.04
315	**18083136**	2.5 x 60°	45	57	105	14	14	27	42	36	1.09
400	**18084036**	2.5 x 60°	55	73	140	18	18.5	42	49	49	2.27

* the number refers to a set of 3 jaws



Soft top jaws with 2.5 x 60° serration for AP-RD and NT-RD chucks

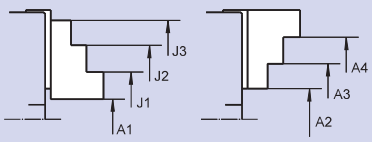
Chuck Ø	Id. No.	Serration mm	B mm	H mm	L mm	N mm	Mass kg/each
170	**18071730**	2.5 x 60°	30	40	70	10	0.48
215	**18072130**	2.5 x 60°	35	45	90	10	0.87
260	**18072630**	2.5 x 60°	45	60	100	12	1.70
315	**18073130**	2.5 x 60°	45	60	120	14	2.05
400	**18074030**	2.5 x 60°	55	75	140	18	3.87



Soft top jaws with tongue & groove "C" for AP-RC and NT-RC chucks

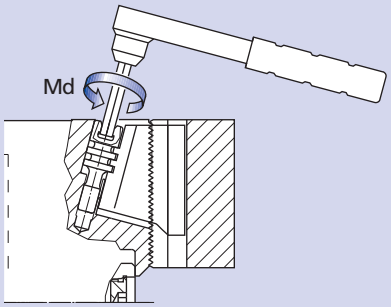
Chuck Ø	Id. No.	B mm	H mm	L mm	N mm	D mm	I mm	Mass kg/each
170	**18041730**	30	37	80	10	30	12.70	0.52
215	**18042130**	35	44	100	10	35	12.70	0.97
260	**18042630**	45	57	120	12	42	19.03	2.02
315	**18043130**	45	57	140	14	50	19.03	2.30
400	**18044030**	55	70	165	18	60	19.03	4.20

Gripping ranges using standard hard top jaws on AP-RD and NT-RD chucks



Chuck Ø	Id. No.	A1 mm	A2 mm	A3 mm	A4 mm	J1 mm	J2 mm	J3 mm
170	**18081736**	15-75	-	55-115	105-155	65-120	110-170	145-205
215	**18082136**	20-95	-	65-145	140-200	75-150	140-215	185-260
260	**18082636**	20-105	-	95-175	170-245	80-160	150-235	220-305
315	**18083136**	35-130	-	105-205	190-290	110-195	190-280	265-350
400	**18084036**	45-170	-	145-275	245-370	135-255	230-350	325-450

Quick jaw change wrenches



- normal "T" wrenches
- torque wrenches for correct tightening of the quick jaw change bolt

Chuck Ø	Hexagon mm	Correct torque Md N·m	"T" wrench Id. No.	Torque wrench Id. No.
170	6	23	51500812	18501713
215	8	45	51500816	18501713
260	10	70	51500820	18501713
315	12	110	51500822	18503113
400	14	200	51500824	18503113

Special grease for fully sealed chucks

- resistant against high surface pressure
- for long lubrication intervals
- for proofline® chucks

K67®

Special grease for sealed chucks

K67®

Special for fully sealed chucks included in proofline® series



Cartridge 14 Oz. (DIN 1284)
Net weight: 500 g
Id. No. 10731223

Can 1000 g
Id. No. 10731224



Important for maintenance and safe operation, to be ordered with the chuck

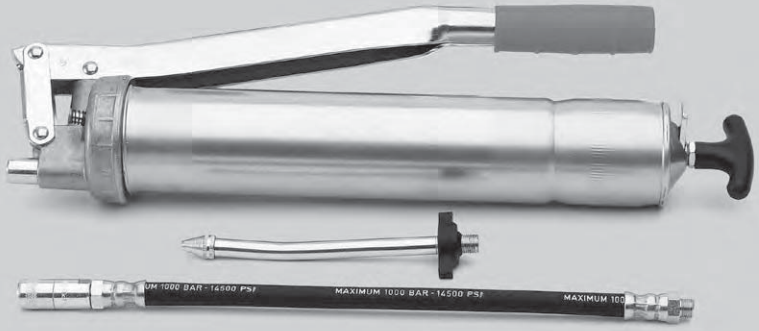
- For sealed chucks with constant grease lubrication
- Basic components: mineral oils and lithium
- Without solvents

Greasing set

Id. No. 083726

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).

- also refillable from grease can 1000 g



Supply range:

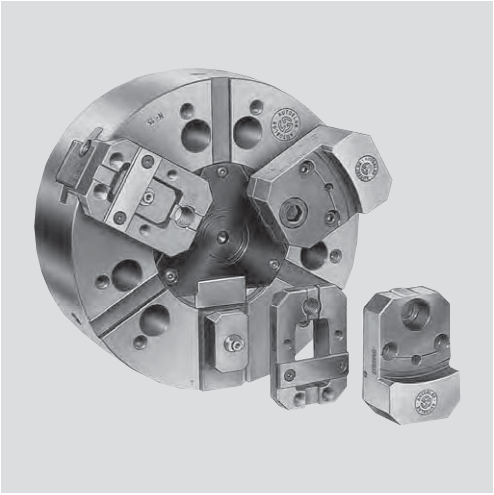
- Grease gun
- 1 adapter flexible for high pressure grease nipple
- 1 adapter for cone grease fitting

AN-RM

Palletized
QUICK JAW CHANGE

High precision power chucks Ø 165 - 400 mm

■ closed center - QUICK JAW CHANGE
■ 2 and 3 jaws



Application/customer benefits

- For chucking parts
- External or internal clamping
- From middle size to big production batches
- Shortest set-up times with jaw change in seconds

Technical features

- Gripping force transmission via wedge hook
- Quick jaw change with case hardened pallets
- High accuracy and rigidity of the quick change system allowing high repeatability
- Case hardened body to assure greatest precision and long chuck life

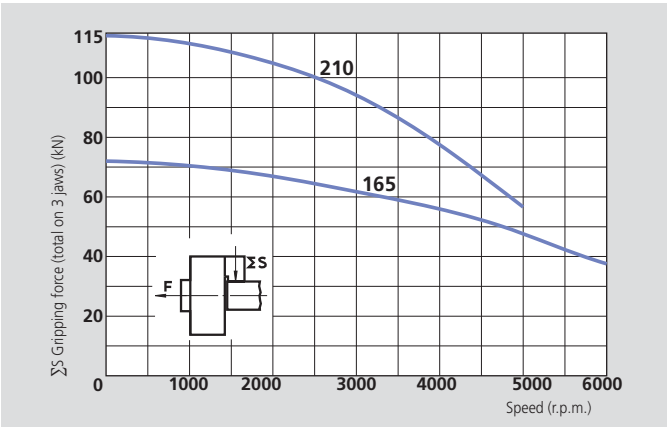
Standard equipment

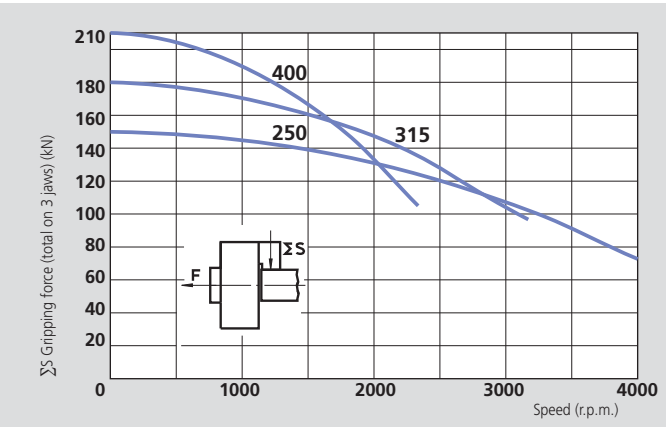
2 or 3 jaw chuck
1 set quick change pallets
Quick change key
Mounting bolts
Grease gun

Ordering example

2 jaw chuck AN-RM 250/Z220
or
3 jaw chuck AN-RM 315/A8

Actual gripping force diagrams





The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ **Safety advice/danger of damage:**
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AN-RM 165		AN-RM 210		AN-RM 250		AN-RM 315		AN-RM 400	
Number of jaws		**2**	**3**	**2**	**3**	**2**	**3**	**2**	**3**	**2**	**3**
Radial jaw stroke	mm	3.6		4.4		5		6.3		7	
Axial piston stroke	mm	17		21		24		30		33	
Max. draw-pull	kN	17	25	25	38	33	50	40	60	50	70
Max. gripping force	kN	50	72	75	115	100	150	120	180	150	210
Max. speed*	r.p.m.	6000		5000		4000		3200		2400	
Mass (without pallets and top jaws)	kg	9.5		19		32		56		84	
Moment of inertia	kg·m²	0.032		0.15		0.26		0.69		1.6	
Max top jaw mass*	kg	0.55		0.8		1.45		2.4		3.5	
Recommended actuating cylinders	**Type**	**SIN-S 100**		**SIN-S 100/125**		**SIN-S 125/150**		**SIN-S 125/150**		**SIN-S 150/175**	

***Attention:** max. speed can only be reached at the max. draw-pull, using clamping jaws not heavier than the values shown in the above schedule and not exceeding the chuck O.D.

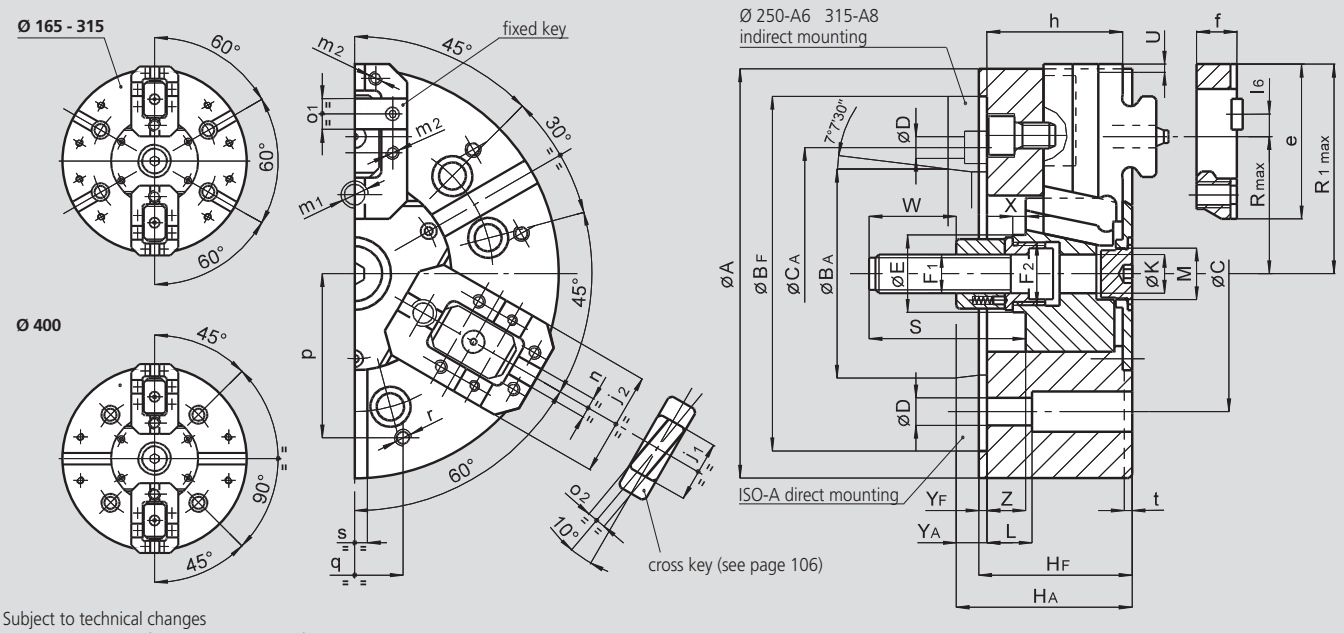
QUICK CHANGE PALLETS
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High precision power chucks Ø 165 - 400 mm

■ closed center - QUICK JAW CHANGE
■ 2 and 3 jaws

AN-RM

Palletized
QUICK JAW CHANGE



Subject to technical changes
For more detailed information please ask for customer drawing

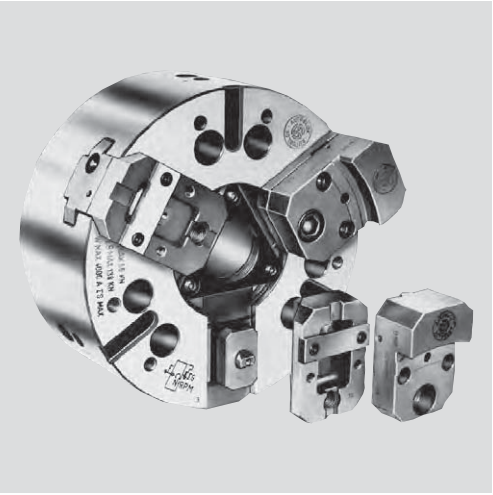
SMW-AUTOBLOK Type				AN-RM 165		AN-RM 210		AN-RM 250			AN-RM 315		AN-RM 400	
Mounting				Z140	A5	Z170	A6	Z220	A6	A8	Z220	A8	Z300	A11
	A		mm	165		210		254			315		390	
	BF/BA	H6	mm	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C		mm	104.8		133.4		171.4		171.4	171.4		235	
	CA		mm	-	-	-	-	-	133.4	-	-	-	-	-
	D		mm	11.5		13.5		13.5	13.5	17	17		21	
	E		mm	32		41		47			47		86	
	F1		mm	M16		M20		M24			M24		M24	
	F2		mm	M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M75 x 2	
	HF/HA		mm	71	81	85	97	95	114	109	105	119	116	131
	K		mm	17		20		25			25		65	
	L		mm	23		32		28			38		54	
	M		mm	M24 x 1.5		M32 x 1.5		M32 x 1.5			M38 x 1.5		M68 x 2	
Chuck open	R1		mm	86		107		130			160		196	
max.	R		mm	56		70		85			105		130	
	S		mm	104		97		103			103		105	
Jaw stroke	U		mm	3.6		4.4		5			6.3		7	
	W		mm	52		55		60			60		60	
	X		mm	17		8		8			8		8	
	YF/YA		mm	5	15	5	17	5	24	19	5	19	6	21
max./min.	Z		mm	17/0		21/0		24/0			30/0		33/0	
	e		mm	63		79		96			116		138	
	f		mm	19		22		25			25		28	
	h		mm	61		74		84			94		104	
	j1		mm	24		32		38			38		46	
	j2		mm	44		52		65			65		75	
	l6		mm	10		11		14			14		14	
	m1		mm	M10		M12		M16			M16		M20	
	m2		mm	M5		M6		M8			M8		M10	
	n	H7	mm	7.94		7.94		12.7			12.7		12.7	
	o1	h7	mm	12.68		12.68		19.03			19.03		19.03	
	o2	h7	mm	9		9		12			12		12	
	p		mm	65		80		102			120		150	
	q		mm	36		45		60			60		80	
	r		mm	M8		M8		M10			M10		M12	
	s	H12	mm	16		16		16			16		20	
	t		mm	5		5		5			5		5	

BH-RM

Palletized
QUICK JAW CHANGE

High precision power chucks Ø 165 - 315 mm

■ closed center - QUICK JAW CHANGE
■ 2 and 3 jaws



Application/customer benefits

- For open center or partial open center clamping
- From middle size to big production batches
- Shortest set-up times with jaw change in seconds

Technical features

- Gripping force transmission via wedge hook
- Quick jaw change with case hardened pallets
- High accuracy and rigidity of the quick change system allowing high repeatability
- Case hardened body to assure greatest precision and long chuck life

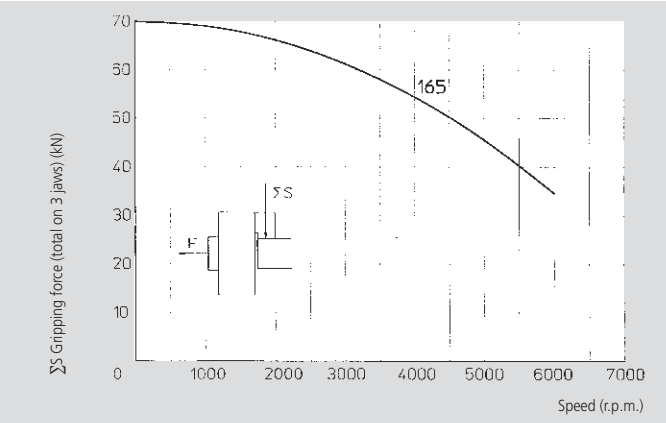
Standard equipment

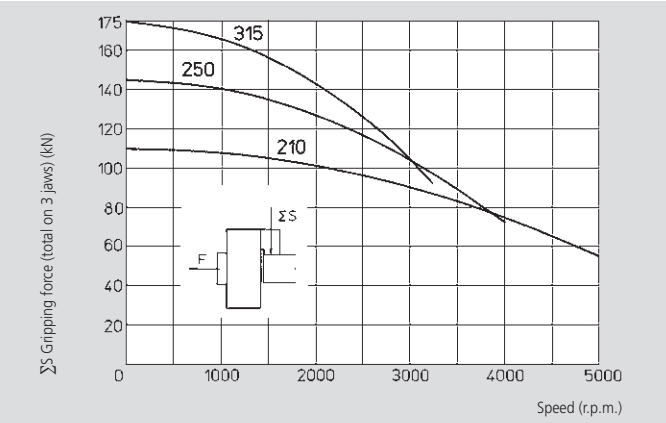
2 or 3 jaw chuck
1 set quick change pallets
Quick change key
Mounting bolts
Grease gun

Ordering example

2 jaw chuck BH-RM 250/Z220
or
3 jaw chuck BH-RM 315/A8

Actual gripping force diagrams





The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BH-RM 165		BH-RM 210		BH-RM 250		BH-RM 315	
Number of jaws		2	3	2	3	2	3	2	3
Through-hole	mm	26		36		48		66	
Radial jaw stroke	mm	3.2		4		5		5	
Axial piston stroke	mm	15		19		24		24	
Max. draw-pull	kN	17	25	25	38	34	50	40	60
Max. gripping force	kN	48	70	72	110	98	145	115	175
Max. speed*	r.p.m.	6000		5000		4000		3200	
Mass (without pallets and top jaws)	kg	9.5		19		30		46	
Moment of inertia	kg·m²	0.036		0.12		0.27		0.62	
Max top jaw mass*	kg	0.55		0.8		1.45		2.4	
Recommended actuating cylinders	Type	SIN-S 100		SIN-S 100/125		SIN-S 125/150		SIN-S 125/150	
		VNK 102/46		VNK 130/52		VNK 150/67		VNK 225/95	

***Attention:** max. speed can only be reached at the max draw-pull, using clamping jaws not heavier than the values shown in the above schedule and not exceeding the chuck O.D.

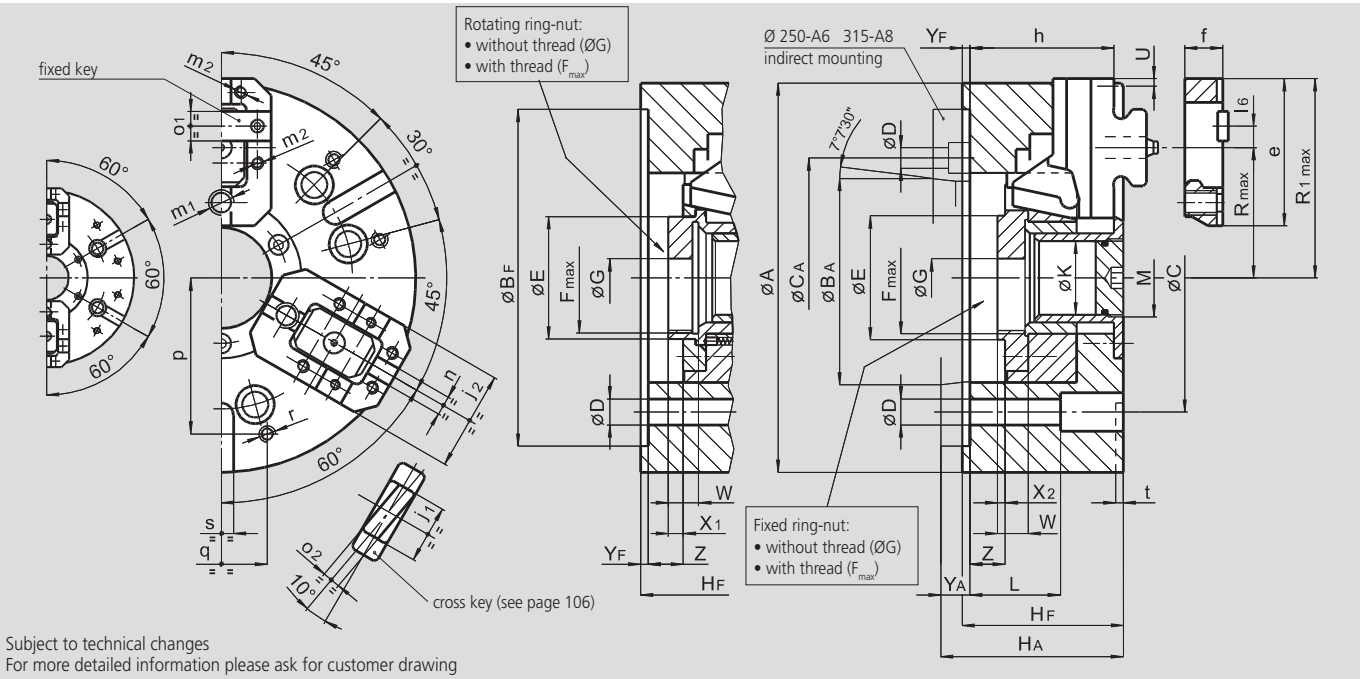
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High precision power chucks Ø 165 - 315 mm

■ closed center - QUICK JAW CHANGE
■ 2 and 3 jaws

BH-RM

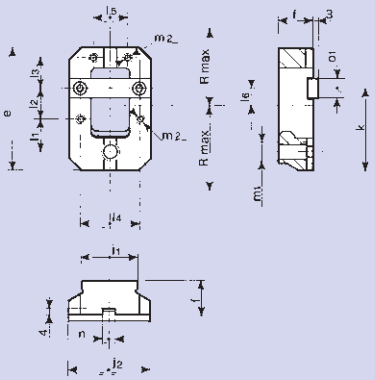
Palletized
QUICK JAW CHANGE



Subject to technical changes
For more detailed information please ask for customer drawing

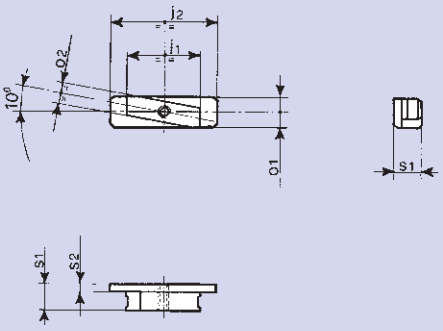
SMW-AUTOBLOK Type				BH-RM 165		BH-RM 210		BH-RM 250			BH-RM 315		
Mounting				Z140	A5	Z170	A6	Z220	A6	A8	Z300	A8	A11
	A		mm	165		210		254			315		
	BF/BA	H6	mm	140	82.563	170	106.375	220	106.375	139.719	300	139.719	196.869
	C		mm	104.8		133.4	171.4	-	171.4	235	-	235	
	CA		mm	-	-	-	-	-	133.4	-	-	171.4	-
	D		mm	11.5		13.5		17			21		
	E		mm	56		67		78			111		
	Fmax		mm	M50 x 1.5		M60 x 1.5		M72 x 1.5			M102 x 2		
	G		mm	20		20		20			25		
	HF/HA		mm	75	85	92	104	105	124	119	111	136	127
	K		mm	26		36		48			66		
	L		mm	55		66		59			33		
	M		mm	M28 x 1.5		M38 x 1.5		M50 x 2			M68 x 2		
Chuck open	R1		mm	85		107		130			160		
max.	R		mm	55		70		85			105		
Stroke per jaw	U		mm	3.2		4		5			5		
	W		mm	14		16		18			20		
	X1		mm	11		11		11			12		
	X2		mm	5		5		6			7		
	YF/YA		mm	5	15	5	17	5	24	19	5	30	21
max./min.	Z		mm	15/0		19/0		24/0			24/0		
	e		mm	63		79		96			116		
	f		mm	19		22		25			25		
	h		mm	65		80		94			100		
	j1		mm	24		32		38			38		
	j2		mm	44		52		65			65		
	l6		mm	10		11		14			14		
	m1		mm	M10		M12		M16			M16		
	m2		mm	M5		M6		M8			M8		
	n	H7	mm	7.94		7.94		12.7			12.7		
	o1	h7	mm	12.68		12.68		19.03			19.03		
	o2	h7	mm	9		9		12			12		
	p		mm	65		80		102			100		
	q		mm	36		45		60			60		
	r		mm	M8		M8		M10			M10		
	s	H12	mm	16		16		16			20		
	t		mm	5		5		5			5		

Accessories for AN-RM + BH-RM chucks



Quick jaw change pallets for **AN-RM** and **BH-RM** chucks

Diam.	Id. No.	e mm	f mm	j_2 mm	k mm	l_1 mm	l_2 mm	l_3 mm	l_4 mm	l_5 mm	l_6 mm	m_1 mm	m_2 mm	n (H7) mm	o_1 (H7) mm	R_{max}
165	15701633	63	19	44	43	17	16	13	32	18	10	M10	M5	7.94	12.68	56
210	15702133	79	22	52	53	21	20	18	38	18	11	M12	M6	7.94	12.68	70
250	15702533	96	25	65	65	26	24	22	47	26	14	M16	M8	12.7	19.03	85
315	15703133	116	25	65	75	31	28	31	47	26	14	M16	M8	12.7	19.03	105
400	15704033	138	28	85	86	36	33	40	65	45	14	M20	M10	12.7	19.03	130

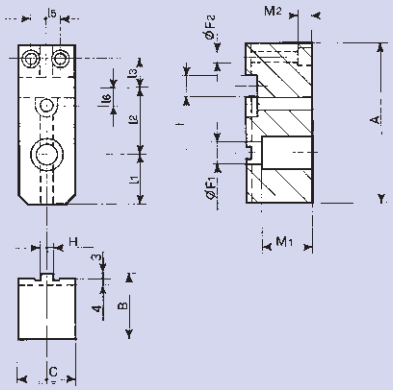


Cross key

(for radial fine adjustment of top jaws)

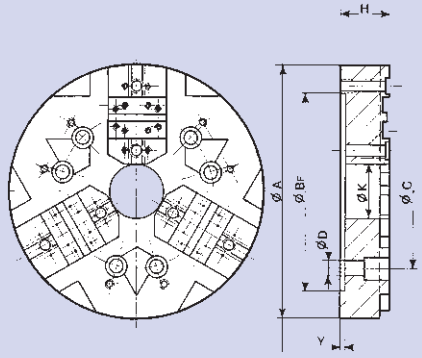
The clamping hard top jaws can be machined with the tenon slot inclined to 10°. So it is possible to use the keys on the pallets for quick, fine adjustment of component centering. In this way, it is possible to grind the clamping surfaces of the top jaws on a separate plate (see below).

Diam.	Id. No.	j_1 mm	j_2 mm	o_1 (h7) mm	o_2 (h7) mm	s_1 mm	s_2 mm
165	15711633	24	38	12.68	9	11	3
210	15712133	32	46	12.68	9	11	3
250-315	15712533	38	56	19.03	12	11	3
400	15714033	46	70	19.03	12	14.5	4.5



Soft top jaws for **AN-RM** and **BH-RM** chucks

Diam.	Id. No.	A mm	B mm	C mm	F_1 mm	F_2 mm	H mm	I (H7) mm	M_1 mm	M_2 mm	l_1 mm	l_2 mm	l_3 mm	l_5 mm	l_6 mm
165	15771633	80	35	30	11	5.5	7.94	12.68	26	6	27	33	13	18	10
210	15772133	98	40	35	13.5	7	7.94	12.68	31	7	31	41	18	18	11
250	15772533	120	45	45	17	9	12.7	19.03	34	9	39	50	22	26	14
315	15773133	145	50	50	17	9	12.7	19.03	39	9	45	59	31	26	14
400	15774033	170	60	60	21	11	12.7	19.03	42	11	49	69	40	35	14



Plates with fixed joint for the separate grinding of hard top jaw clamping surfaces for **AN-RM** and **BH-RM** chucks

Diam.	Id. No.	A mm	B_F (H5) mm	C mm	D mm	H mm	K mm	Y mm
165	41771001	185	140	104.8	11.5	43	30	5
210	41771002	230	170	133.4	13.5	53	45	5
250	41771003	280	220	171.4	17	53	60	5
315	41771004	340	300	235	21	58	80	5
400	41771005	420	300	235	21	58	80	5

Attention: When ordering, please specify Id. number. Subject to technical changes.

Important for maintenance and safe operation, to be ordered with the chuck

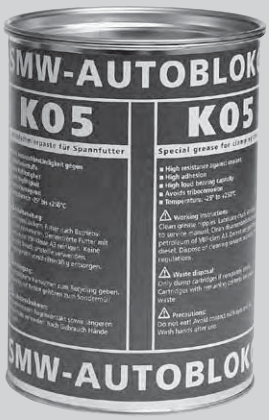
K05®

Special grease for manual and power chucks



Cartridge 14 Oz.
(DIN 1283)
Grease content: 500 g
Id. No. 016440

Can 1000 g
Id. No. 011881



- High adhesion
- High resistance against coolant = long lubrication intervals
- Low friction coefficient = high gripping force
- Avoids tribocorrosion

K67®

Special grease for fully sealed chucks included in proofline® series



Cartridge 14 Oz.
(DIN 1284)
Grease content: 500 g
Id. No. 10731223

Can 1000 g
Id. No. 10731224



- For sealed chucks with constant grease lubrication
- Basic components: mineral oils and lithium
- Without solvents

Greasing set

Id. No. 083726

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).

- also refillable from grease can 1000 g



Supply range:

- Grease gun
- 1 adapter flexible for high pressure grease fitting
- 1 adapter for cone grease fitting

Pull-down chucks ■ Compensating chucks ■ Indexing chucks Shaft chucks ■ Column chucks (page 1 of 2)



Page 112

TSF-C
Self centering floating jaws

TSR-C
Self centering rigid jaws

Pull-down chucks Ø 170 - 650 mm

- active pull-down
- tongue & groove
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 114

TSF-C
Self centering floating jaws

Pull-down chucks Ø 170 - 315 mm

- active pull-down
- tongue & groove
- 2 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 116

TSF-RM
Self centering floating jaws

TSR-RM
Self centering rigid jaws

Quick jaw change pull-down chucks Ø 170 - 530 mm

- QUICK JAW CHANGE WITH PALLETS
- active pull-down
- tongue & groove pallets
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 118

TSF-CP
Compensating floating jaws

TSR-CP
Compensating rigid jaws

Compensating pull-down chucks Ø 170 - 650 mm

- active pull-down
- tongue & groove
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 120

TSF-CP
Compensating floating jaws

Compensating pull-down chucks Ø 170 - 315 mm

- active pull-down
- tongue & groove
- 2 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 124

FRC-N
Compensating rigid jaws

Lever chucks Ø 215 - 365 mm

- large compensating stroke
- pull-down
- center point adjustable
- tongue & groove
- **proofline® chucks** = fully sealed – low maintenance



Page 126

FRS
Self centering rigid jaws

Lever chucks Ø 215 - 365 mm

- LARGE THROUGH HOLE
- tongue & groove
- pull-down
- **proofline® chucks** = fully sealed – low maintenance



Page 128

TPT-C
2+2 independent jaw movement, tongue & groove

High precision power chucks Ø 210 - 400 mm

- closed center
- tongue & groove

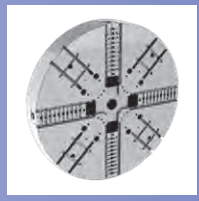


Page 130

TPT-C
2+2 independent jaw movement, tongue & groove

High precision power chucks Ø 500 - 800 mm

- closed center
- tongue & groove



Page 132

TPT-RC
2+2 independent jaw movement, tongue & groove

High precision power chucks Ø 1000 - 2000 mm

- individual jaw regulation
- closed center
- tongue & groove

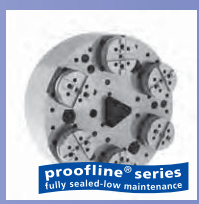


Page 134

TX-C
Self centering rigid jaws

Pull-down chucks Ø 210 - 315 mm

- active pull-down
- tongue & groove
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 136

TEF-C
2+2+2 equalising Self centering floating jaws

Pull-down chucks Ø 260 - 850 mm

- active pull-down
- tongue & groove
- 6 jaws (2+2+2) all sizes
- **proofline® chucks** = fully sealed – low maintenance



Page 138

IEP-D
2+2+2 equalising MODULE 2 serration

High precision 6 jaw chucks Ø 500 - 800 mm

- closed center
- 6 jaws (2+2+2) all sizes
- centrifugal force compensation
- **proofline® chucks** = fully sealed – low maintenance



Page 140

IEP-D
2+2+2 equalising MODULE 2 serration

High precision 6 jaw chucks Ø 1000 - 1600 mm

- closed center
- 6 jaws (2+2+2) all sizes
- centrifugal force compensation
- **proofline® chucks** = fully sealed – low maintenance

Continuation on the next page

Pull-down chucks ■ Compensating chucks ■ Indexing chucks Shaft chucks ■ Column chucks (page 2 of 2)

Continuation from previous page



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AXN®
Automatic indexing chuck

Automatic indexing chuck Ø 210 - 850 mm

- hydraulic clamping and indexing
- divisions: 4 x 90° / 8 x 45° / 3 x 120° / 6 x 60° or specials
- 2 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 146

W
Shaft chuck with face driver

Shaft turning chucks Ø 215 - 460 mm

- compensating or self centering clamping
- quick change for jaws and face driver
- retractable jaws via retractable jaw carrier
- complete machining of shafts in one setup
- **proofline® chucks** = fully sealed – low maintenance



Page 152

GSA
Shaft chuck with face driver

Shaft turning chucks Ø 200 - 320 mm

- compensating clamping of master jaws
- retractable jaws
- complete machining of shafts in one setup
- **proofline® chucks** = fully sealed – low maintenance



Page 154

ACS
Self centering column chucks

Pull-down chucks Ø 130 - 254 mm

- ACS-E: for external clamping
- ACS-I: for internal clamping
- 3 and 6 jaws (ACS-E only)

TSF-C
Self centering
Floating jaws

TSR-C
Self centering
Rigid jaws

High precision pull-down chucks Ø 170 - 650 mm

■ active pull-down
■ tongue & groove
■ 3 jaws



Application/customer benefits

- Clamping of workpieces with highest demand for **parallelism**
- **Highest productivity** with long maintenance intervals
- Constant grip force and long lifetime ensure **constant quality of work pieces**

TSF-C: Floating base jaws to clamp raw and easy deformed work pieces (6-point-contact)

TSR-C: Rigid base jaws for precise clamping on pre machined diameters

Technical features

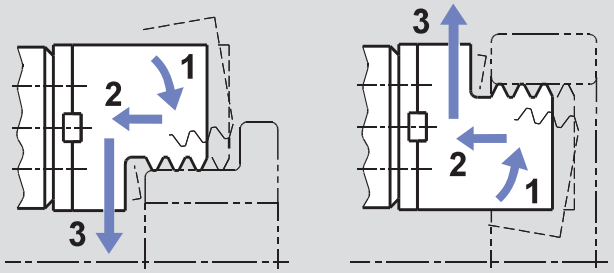
- active pull-down
- centrifugal force compensation
- tongue & groove base jaws
- central bore for coolant and/or air
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

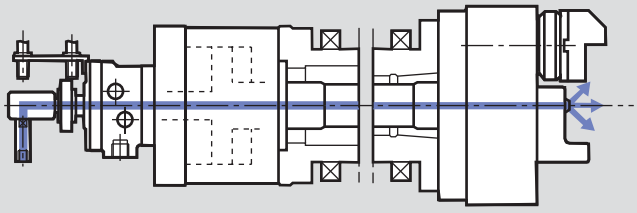
3 jaw chuck
mounting bolts and grease gun

Ordering example

TSF-C 210/A6
or TSR-C 315/Z220

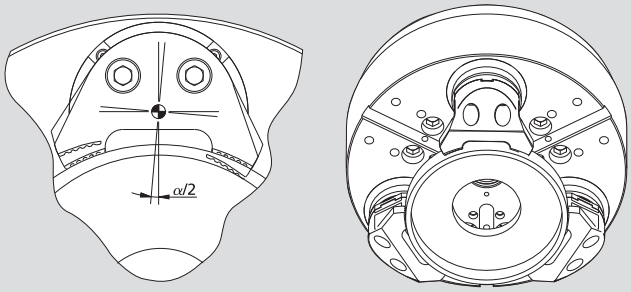


Principle of function:
■ **1** pre-clamping - **2** active pull-down - **3** clamping
■ For o.d. and i.d. clamping



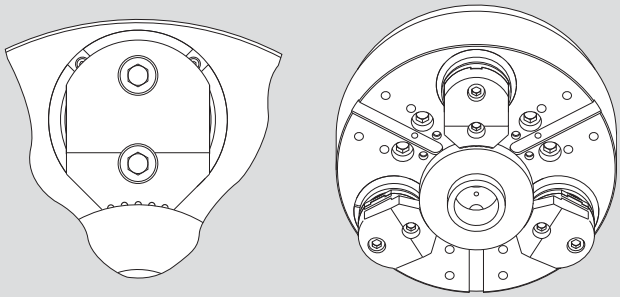
■ TSF-C and TSR-C chucks operated with a SIN-S cylinder with central bore for air sensing/coolant flush

TSF-C



TSF-C: Floating jaws for clamping raw/easy deformed workpieces with 6-point-contact

TSR-C

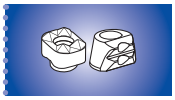


TSR-C: Rigid jaws for precise clamping on premachined diameters with 3-point-contact

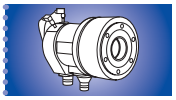
Technical data

SMW-AUTOBLOK Type		TSF-C 170 TSR-C 170	TSF-C 210 TSR-C 210	TSF-C 250 TSR-C 250	TSF-C 315 TSR-C 315	TSF-C 400 TSR-C 400	TSF-C 530 TSR-C 530	TSF-C 650 TSR-C 650
Angular jaw stroke	deg.	5.2°	5.2°	4.9°	4.9°	4.7°	4.7°	5°
Radial jaw stroke at distance **h**	mm	5.3	6.3	7	7	7.5	7.5	9.8
Pull down movement (standard)	mm	0.1	0.1	0.1	0.1	0.2	0.2	0.4
Axial piston stroke	mm	21	25	25	25	30	30	32
Max. draw pull	kN	18	25	40	40	50	60	100
Max. gripping force at distance **h**	kN	44	60	96	96	120	150	180
Max. speed*	r.p.m.	5000	4500	3800	3000	2200	1800	1600
Mass (without top jaws)	kg	15	27	41	66	115	196	386
Moment of inertia	kg·m²	0.06	0.16	0.34	0.83	2.3	7	21
Recommended actuating cylinders		SIN-S 85	SIN-S 100	SIN-S 125	SIN-S 125	SIN-S 150	SIN-S 150-175	SIN-S 150-175 200

*The above maximum speed is allowed with standard mass/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.


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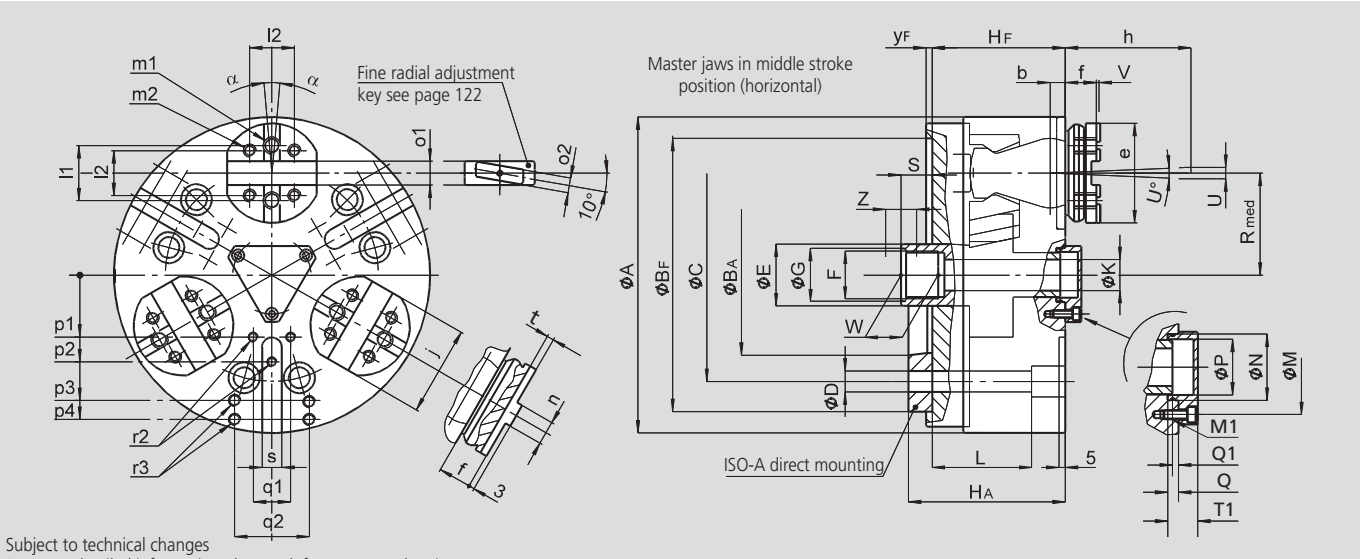

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High precision pull-down chucks Ø 170 - 650 mm

- active pull-down
- tongue & groove
- 3 jaws

TSF-C
Self centering
Floating jaws

TSR-C
Self centering
Rigid jaws



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			TSF-C 170 TSR-C 170				TSF-C 210 TSR-C 210		TSF-C 250 TSR-C 250		TSF-C 315 TSR-C 315		TSF-C 400 TSR-C 400		TSF-C 530 TSR-C 530		TSF-C 650 TSR-C 650	
Mounting			Z140	A5	Z160	A6	Z170	A6	Z220	A8	Z220	A8	Z300	A11	Z380	A15	Z380	A15
	A	mm	173				212		254		315		390		535		650	
	BF/BA H6	mm	140	82.563	160	106.375	170	106.375	220	139.719	220	139.719	300	196.869	380	285.775	380	285.775
	C	mm	104.8		133.4		133.4		171.4		171.4		235		330.2		330.2	
	D	mm	11.5		13.5		13.5		17		17		21		25		25	
	E	mm	36				38		48		48		75		75		100	
	F	mm	M28 x 1.5				M32 x 1.5		M38 x 1.5		M38 x 1.5		M60 x 1.5		M60 x 1.5		M80 x 2	
	G H8	mm	29				33		39		39		61		61		81	
	HF/HA	mm	83	98	83	100	100	117	107	126	107	126	127	148	132	155	155	178
Through-hole	K	mm	14				18		25		25		52		52		75	
	L	mm	56				82		80		80		74		77		97	
	M	mm	36				42		63		63		90		90		128	
Thread/depth	M1	mm	M5/13				M6/11		M6/12		M6/12		M8/17		M8/17		M8/17	
	N H8	mm	28				34		44		44		75		75		150	
	P	mm	23				28.5		37		37		66		66		101	
	Q	mm	6				5.5		7.5		7.5		9		9		19	
At middle stroke	Q1	mm	3				2		4		4		4		4		21	
At middle stroke	Rmed	mm	55				64		82		107		130		190		245	
At middle stroke	S	mm	18				20		25		25		25		20		20	
	T1	mm	10				13		13		13		15		15		15	
Radial stroke	U°	deg.	5.2°				5.2°		4.9°		4.9°		4.7°		4.7°		5°	
Radial stroke (1)	U	mm	5.3				6.3		7		7		7.5		7.5		9.8	
Pull-down s/d (option)	V	mm	0.1 (0.6)				0.1 (0.6)		0.1 (0.6)		0.1 (0.6)		0.2 (0.8)		0.2 (0.8)		0.4	
	W	mm	25				25		25		25		25		25		36	
Axial wedge stroke	Z	mm	21				25		25		25		30		30		32	
Only TSF-C max.	α	deg.	±2°				±2°		±1.5°		±1.5°		±1.5°		±1.5°		±1.3°	
	b	mm	9				10		12		12		12		12		12	
	e	mm	60				75		80		80		105		105		127	
	f	mm	27				33		33		33		32		32		46	
Reference height	h	mm	50				60		70		70		80		80		100	
	j	mm	55				65		72		72		100		100		116	
	l1	mm	32				38		44.4		44.4		63.5		63.5		63.5	
	l2	mm	24				32		36		36		48		48		54	
Thread/depth	m1	mm	M10/16				M12/18		M12/18		M12/18		M16/22		M16/22		M20/26	
Thread/depth	m2	mm	M8/14				M10/14		M10/14		M10/14		M12/22		M12/22		M16/24	
	n h8	mm	7.94				7.94		12.7		12.7		12.7		12.7		12.7	
	o1 H7	mm	12.68				12.68		19.03		19.03		19.03		19.03		19.03	
	o2 h7	mm	9				9		12		12		12		12		12	
	p1	mm	-				30		50		60		80		80		(*)	
	p2	mm	35				-		70		80		110		110		(*)	
	p3	mm	65				80		102		102		140		120 + 160		(*)	
	p4	mm	-				-		-		135		170		200 + 240		(*)	
	q1	mm	-				8		30		30		36		36		(*)	
	q2	mm	36				45		60		60		80		100		(*)	
Thread/depth	r2	mm	M6/12				M6/12		M8/15		M8/15		M10/19		M10/19		M12/22	
Thread/depth	r3	mm	M8/17				M8/17		M10/19		M10/19		M12/22		M12/22		M12/22	
	s	mm	16				16		16		16		20		20		20	
	t	mm	4				4		4		4		7		7		7	
	yF	mm	5				5		5		5		5		5		6	

(1) Calculated at **h** distance from the chuck's face (where normally the clamping takes place)
(*) For chuck Ø 650 please ask for customer drawing

TSF-C

Self centering
Floating jaws

High precision pull-down chucks Ø 170 - 315 mm

- **active pull-down**
- **tongue & groove**
- **2 jaws**



Application/customer benefits

- Clamping of workpieces with highest demand for **parallelism**
- **Highest productivity** with long maintenance intervals
- Constant grip force and long lifetime ensure **constant quality of work pieces**

Technical features

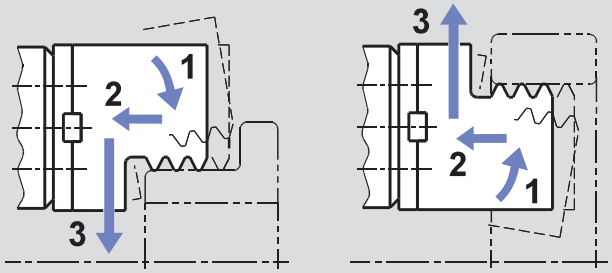
- 2-jaw-design
- active pull-down
- floating base jaws for 4 point contact
- centrifugal force compensation
- tongue & groove base jaws
- central bore for coolant and/or air
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

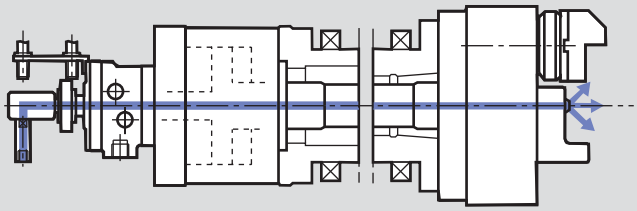
2-jaw-chuck
Mounting bolts and grease gun

Ordering example

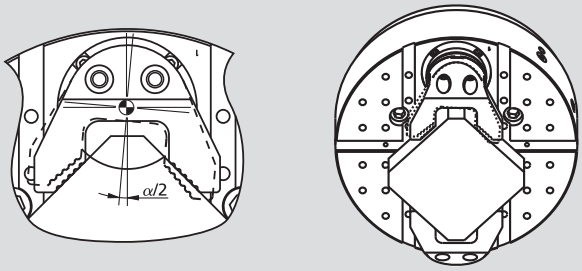
2-jaw-chuck TSF-C 210/A6



Principle of function:
- **1** pre-clamping - **2** active pull-down - **3** clamping
- For o.d. and i.d. clamping



- TSF-C chucks operated with a SIN-S cylinder with central bore for air sensing/coolant flush

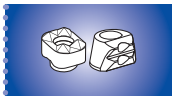


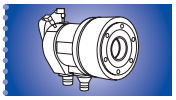
TSF-C: Floating jaws for clamping raw/asymmetrie workpieces with 4-point-contact

Technical data

SMW-AUTOBLOK Type		TSF-C 170	TSF-C 210	TSF-C 250	TSF-C 315
Angular jaw stroke	deg.	5.2°	5.2°	4.9°	4.9°
Radial jaw stroke at distance **h**	mm	5.3	6.3	7	7
Pull down movement (standard)	mm	0.1	0.1	0.1	0.1
Axial piston stroke	mm	21	25	25	25
Max. draw pull	kN	12	17	27	27
Max. gripping force at distance **h**	kN	30	40	64	64
Max. speed*	r.p.m.	5000	4500	3800	3000
Mass (plain back without top jaws)	kg	15	27	41	66
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.06	0.16	0.34	0.83
Recommended actuating cylinders		SIN-S 70	SIN-S 85	SIN-S 100	SIN-S 100

*The above maximum speed is allowed with standard mass/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.


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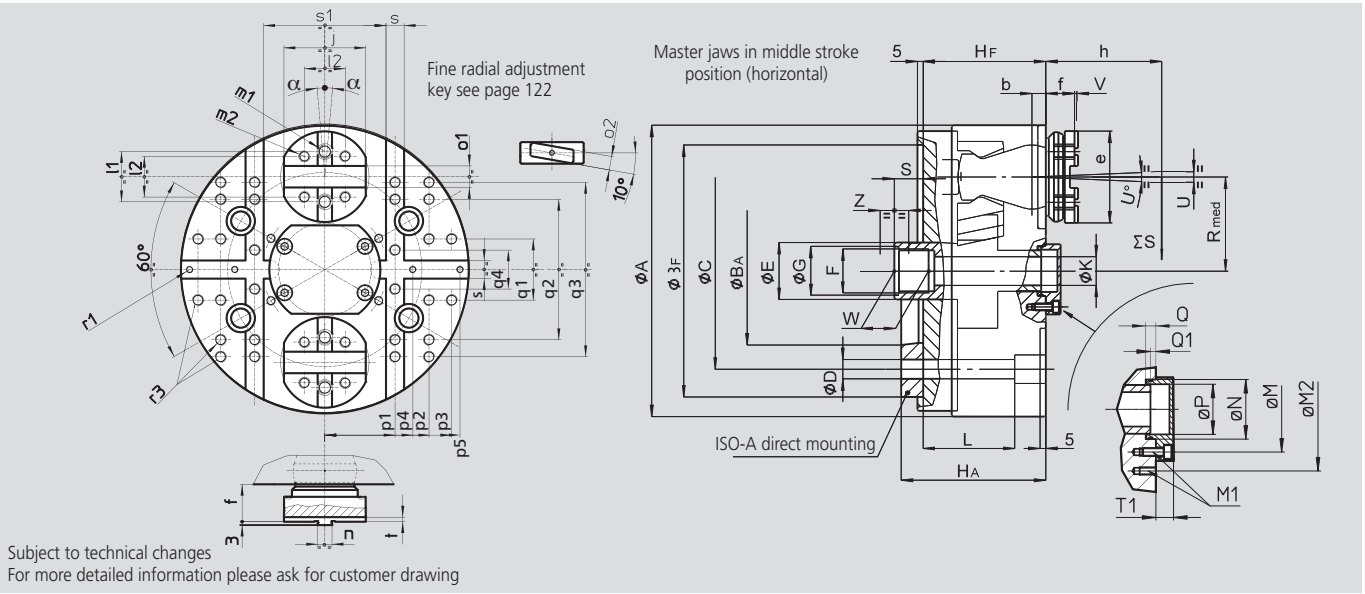
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High precision pull-down chucks Ø 170 - 315 mm

- active pull-down
- tongue & groove
- 2 jaws

TSF-C

Self centering
Floating jaws



Subject to technical changes
For more detailed information please ask for customer drawing

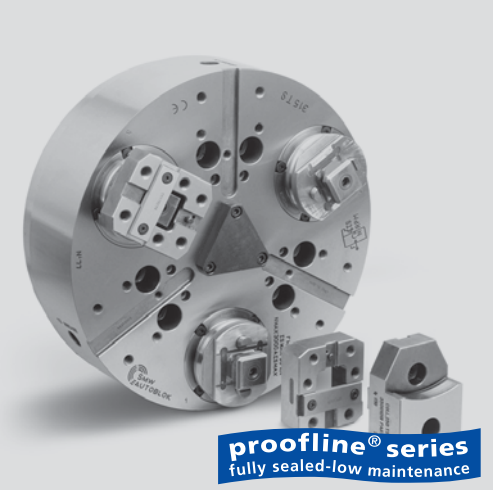
SMW-AUTOBLOK Type				TSF-C 170		TSF-C 210		TSF-C 250		TSF-C 315	
Mounting				Z140	A5	Z170	A6	Z220	A8	Z220	A8
	A		mm	173		212		254		315	
	BF/BA	H6	mm	140	82.563	170	106.375	220	139.719	220	139.719
	C		mm	104.8		133.4		171.4		171.4	
	D		mm	11.5		13.5		17		17	
	E		mm	36		38		48		48	
	F		mm	M28 x 1.5		M32 x 1.5		M38 x 1.5		M38 x 1.5	
	G	H8	mm	29		33		39		39	
	HF/HA		mm	83	98	100	117	107	126	107	126
Through-hole	**K**		mm	14		18		25		25	
	L		mm	56		82		80		80	
	M		mm	54		63		82		82	
Thread/depth	**M1**		mm	M8/16		M8/16		M8/16		M8/16	
	M2		mm	-		90		110		110	
	N	H5	mm	35		42		70		70	
	P		mm	30.2		36.5		56		56	
	Q		mm	6		7.5		7.5		7.5	
At middle stroke	**Q1**		mm	3.2		2.5		4.5		4.5	
At middle stroke	**Rmed**		mm	55		64		82		107	
At middle stroke	**S**		mm	18.2		20.5		25.5		25.5	
	T1		mm	11.5		14.5		14		14	
Radial stroke	**U°**		deg.	5.2°		5.2°		4.9°		4.9°	
Radial stroke (1) @ h	**U**		mm	5.3		6.3		7		7	
Pull-down s/d (option)	**V**		mm	0.1		0.1		0.1		0.1	
	W		mm	25		25		30		30	
Axial piston stroke	**Z**		mm	21		25		25		25	
	α		deg.	±2°		±2°		±1.5°		±1.5°	
	b		mm	9		10		12		12	
	e		mm	60		75		80		80	
	f		mm	27		33		33		33	
Reference height	**h**		mm	50		60		70		70	
	j		mm	55		65		72		72	
	l1		mm	32		38		44.4		44.4	
	l2		mm	24		32		36		36	
Thread/depth	**m1**		mm	M10/16		M12/18		M12/18		M12/18	
Thread/depth	**m2**		mm	M8/14		M10/14		M10/14		M10/14	
	n	h8	mm	7.94		7.94		12.7		12.7	
	o1	H7	mm	12.68		12.68		19.03		19.03	
	o2	h7	mm	9		9		12		12	
	p1		mm	50		55		62		62	
	p2		mm	66		80		92		92	
	p3		mm	78		95		112		122	
	p4		mm	60		55		62		62	
	p5		mm	80		80		92		92	
	q1		mm	30		30		54		54	
	q2		mm	84		110		128		128	
	q3		mm	-		-		-		202	
	q4		mm	20		30		54		54	
Thread/depth	**r1**		mm	M6/14		M6/14		M6/14		M6/14	
Thread/depth	**r3**		mm	M8/16		M8/17		M10/18		M10/18	
	s	H6	mm	16		16		16		16	
	s1	k5	mm	84		94		108		108	
	t		mm	4		4		4		4	

(1) Calculated at **h** distance from the chuck's face (where normally the clamping takes place)

TSF-RM
Self centering
Floating jaws

TSR-RM
Self centering
Rigid jaws

Quick jaw change pull-down chucks Ø 170 - 530 mm
- active pull-down
- quick jaw change with pallets
- tongue & groove pallets
- 3 jaws



Application/customer benefits
- **Quick jaw change** via pallets for quick setup
- Clamping of workpieces with highest demand for **parallelism**
- **Highest productivity** with long maintenance intervals
- Constant grip force and long lifetime ensure **constant quality of workpieces**

TSF-RM: Floating base jaws to clamp raw and/or easy deformed workpieces (6-point-contact).

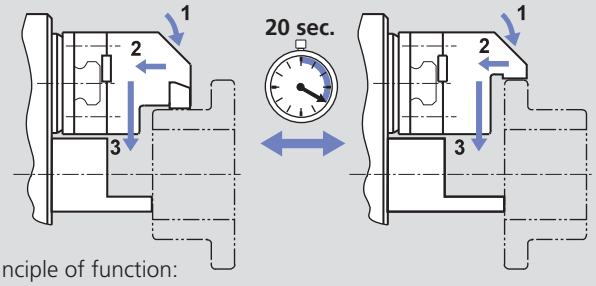
TSR-RM: Rigid base jaws for precise clamping on premachined diameters.

Technical features
- for o.d. clamping only
- active pull-down
- precise quick-jaw-change via pallets
- centrifugal force compensation
- central bore for coolant and/or air
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
3-jaw-chuck
key
mounting bolts and grease gun

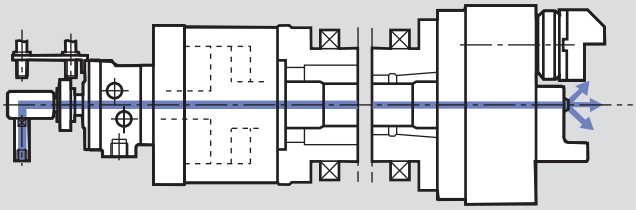
Ordering example
TSF-RM 210/A6
or TSR-RM 315/Z220

TSF-RM/TSR-RM
Quick jaw change with pallets



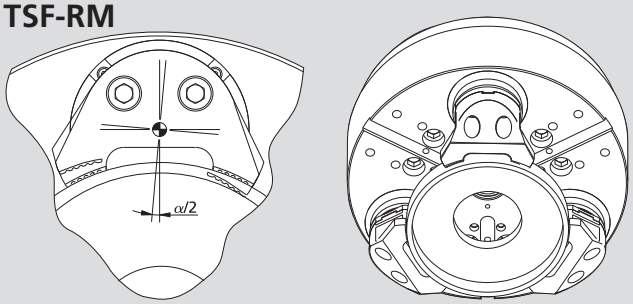
Principle of function:
- **1** pre-clamping - **2** active pull-down - **3** clamping
- For o.d. clamping only

TSF-RM/TSR-RM



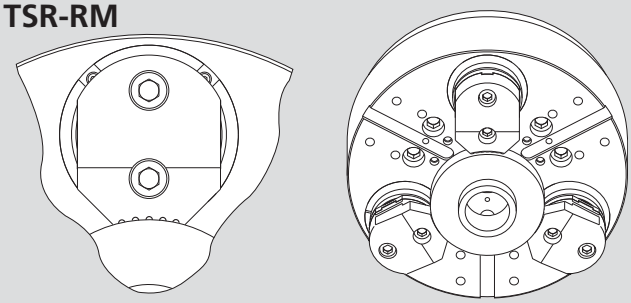
- TSF-RM and TSR-RM chucks operated with a SIN-S cylinder with central bore for air sensing/coolant flush

TSF-RM



TSF-RM: **Floating jaws** to clamp raw/easy deformed workpieces quick jaw change with pallets with 6-point-contact

TSR-RM



TSR-RM: **Rigid jaws** for precise clamping on premachined diameters quick jaw change with pallets with 3-point-contact

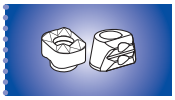
Technical data

SMW-AUTOBLOK Type		TSF-RM 170 TSR-RM 170	TSF-RM 210 TSR-RM 210	TSF-RM 250 TSR-RM 250	TSF-RM 315 TSR-RM 315	TSF-RM 400 TSR-RM 400	TSF-RM 530 TSR-RM 530
Angular jaw stroke	deg.	5.2°	5.2°	4.9°	4.9°	4.7°	4.7°
Radial jaw stroke at distance **h**	mm	5.3	6.3	7	7	7.5	7.5
Pull down movement (standard)	mm	0.1	0.1	0.1	0.1	0.2	0.2
Axial piston stroke	mm	21	25	25	25	30	30
Max. draw pull	kN	18	25	40	40	50	60
Max. gripping force at distance **h**	kN	44	60	96	96	120	150
Max. speed*	r.p.m.	5000	4500	3800	3000	2200	1800
Mass (plain back without top jaws)	kg	15	27	41	66	115	196
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.06	0.16	0.34	0.83	2.3	7
Recommended actuating cylinders		SIN-S 85	SIN-S 100	SIN-S 125	SIN-S 125	SIN-S 150	SIN-S 150-175

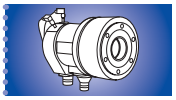
*The above maximum speed is allowed with standard mass/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.



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Quick jaw change pull-down chucks Ø 170 - 530 mm

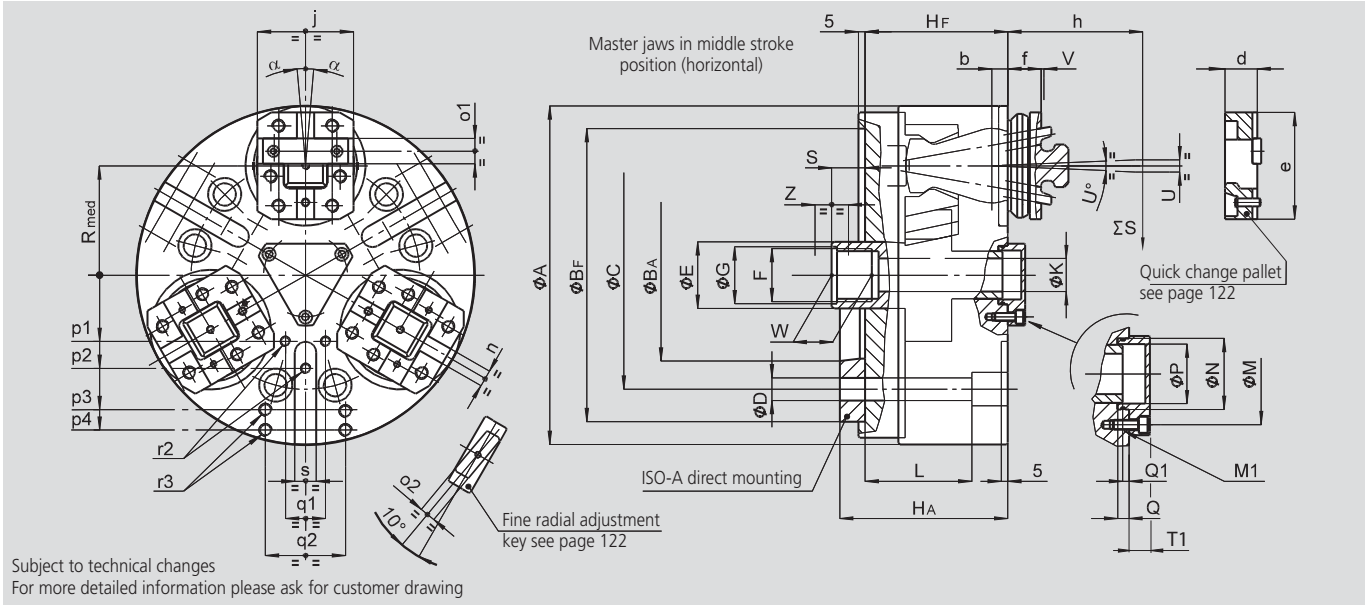
- active pull-down
- quick jaw change with pallets
- tongue & groove pallets
- 3 jaws

TSF-RM

Self centering
Floating jaws

TSR-RM

Self centering
Rigid jaws



SMW-AUTOBLOK Type			TSF-RM 170 TSR-RM 170				TSF-RM 210 TSR-RM 210		TSF-RM 250 TSR-RM 250		TSF-RM 315 TSR-RM 315		TSF-RM 400 TSR-RM 400		TSF-RM 530 TSR-RM 530	
Mounting			**Z140**	**A5**	**Z160**	**A6**	**Z170**	**A6**	**Z220**	**A8**	**Z220**	**A8**	**Z300**	**A11**	**Z380**	**A15**
	A	mm	173				212		254		315		390		535	
	BF/BA H6	mm	140	82.563	160	106.375	170	106.375	220	139.719	220	139.719	300	196.869	380	285.775
	C	mm	104.8		133.4		133.4		171.4		171.4		235		330.2	
	D	mm	11.5		13.5		13.5		17		17		21		25	
	E	mm	36				38		48		48		75		75	
	F	mm	M28 x 1.5				M32 x 1.5		M38 x 1.5		M38 x 1.5		M60 x 1.5		M60 x 1.5	
	G H8	mm	29				33		39		39		61		61	
	HF/HA	mm	83	98	83	100	100	117	107	126	107	126	127	148	132	155
Through-hole	**K**	mm	14				18		25		25		52		52	
	L	mm	56				82		80		80		74		77	
	M	mm	36				42		63		63		90		90	
Thread/depth	**M1**	mm	M5/13				M6/11		M6/12		M6/12		M8/17		M8/17	
	N H8	mm	28				34		44		44		75		75	
	P	mm	23				28.5		37		37		66		66	
	Q	mm	6				5.5		7.5		7.5		9		9	
At middle stroke	**Q1**	mm	3				2		4		4		4		4	
At middle stroke	**Rmed**	mm	55				64		82		107		130		190	
At middle stroke	**S**	mm	18				20		25		25		25		20	
	T1	mm	10				13		13		13		15		15	
Radial stroke	**U°**	deg.	5.2°				5.2°		4.9°		4.9°		4.7°		4.7°	
Radial stroke (1) @ h	**U**	mm	5.3				6.3		7		7		7.5		7.5	
Pull-down s/d (option)	**V**	mm	0.1				0.1		0.1		0.1		0.2		0.2	
	W	mm	25				25		25		25		25		25	
Axial piston stroke	**Z**	mm	21				25		25		25		30		30	
Only TSF-RM max.	α	deg.	±2°				±2°		±1.5°		±1.5°		±1.5°		±1.5°	
	b	mm	9				10		12		12		12		12	
	d	mm	18				22		24		24		30		30	
	e	mm	60				75		80		80		105		105	
	f	mm	24				25		25		25		28.5		28.5	
Reference height	**h**	mm	50				60		70		70		80		80	
	j	mm	55				65		72		72		100		100	
	n h8	mm	7.94				7.94		12.7		12.7		12.7		12.7	
	o1 H7	mm	12.68				12.68		19.03		19.03		19.03		19.03	
	o2 h7	mm	9				9		12		12		12		12	
	p1	mm	-				30		50		60		80		80	
	p2	mm	35				-		70		80		110		110	
	p3	mm	65				80		102		102		140		120 + 160	
	p4	mm	-				-		-		135		170		200 + 240	
	q1	mm	-				8		30		30		36		36	
	q2	mm	36				45		60		60		80		100	
Thread/depth	**r2**	mm	M6/12				M6/12		M8/15		M8/15		M10/19		M10/19	
Thread/depth	**r3**	mm	M8/17				M8/17		M10/19		M10/19		M12/22		M12/22	
	s	mm	16				16		16		16		20		20	

(1) Calculated at **h** distance from the chuck's face (where normally the clamping takes place)

TSF-CP
Compensating
Floating jaws

TSR-CP
Compensating
Rigid jaws

Compensating pull-down chucks Ø 170 - 650 mm

■ active pull-down
■ tongue & groove
■ 3 jaws



Application/customer benefits

- Clamping of shafts or chuck parts where the reference is not the o.d. but a center or a centering dia.
- A center point or a centering insert will center the workpieces and the jaws will clamp compensating and actively pull the workpiece down to the datum.

TSF-CP: Compensating clamping with active pull down and floating base jaws.
TSR-CP: Compensating clamping with active pull down and rigid base jaws.

Technical features

- active pull-down
- compensating clamping
- centrifugal force compensation
- central bore for coolant and/or air
- tongue & groove base jaws
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

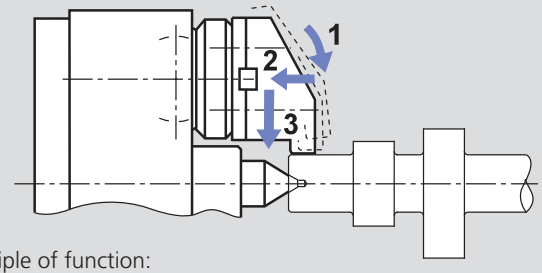
Standard equipment

3-jaw-chuck
mounting bolts and grease gun

Ordering example

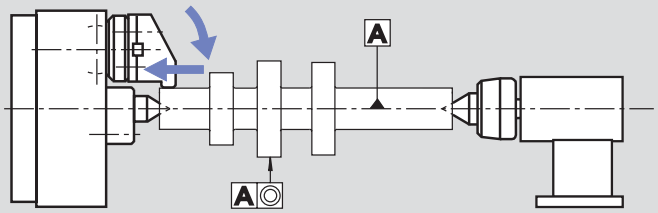
TSF-CP 210/A6
or TSR-CP-315/Z220

TSF-CP/TSR-CP



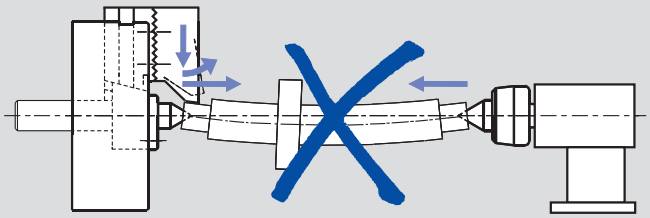
Principle of function:
■ **1** compensating pre-clamping - **2** active pull-down - **3** clamping

TSF-CP/TSR-CP



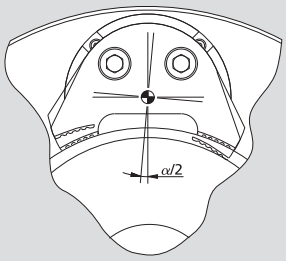
■ The workpiece is actively pulled down to the center point. The tailstock just supplies the necessary force to support the workpiece. The result is an exact cylindrial and straight workpiece.

Non active pull down compensating chuck



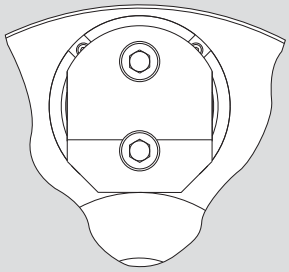
■ The workpiece is lifted by the jaws from the center point. When a higher tailstock force is applied for compensation, the workpiece will be bent.

TSF-CP



floating jaws

TSR-CP

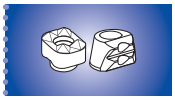


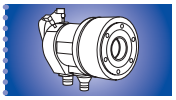
rigid jaws

Technical data

SMW-AUTOBLOK Type		TSF-CP 170 TSR-CP 170	TSF-CP 210 TSR-CP 210	TSF-CP 250 TSR-CP 250	TSF-CP 315 TSR-CP 315	TSF-CP 400 TSR-CP 400	TSF-CP 530 TSR-CP 530	TSF-CP 650 TSR-CP 650
Angular jaw stroke	deg.	5.2°	5.2°	4.9°	4.9°	4.7°	4.7°	5°
Radial jaw stroke at distance **h**	mm	5.3	6.3	7	7	7.5	7.5	9.8
Pull down movement (standard)	mm	0.1	0.1	0.1	0.1	0.2	0.2	0.4
Axial piston stroke	mm	21	25	25	25	30	30	32
Compensation (on the dia.) at distance **h**	mm	±1	±1.5	±2.5	±2.5	±1.5	±1.5	±3
Max. draw pull	kN	18	25	40	40	50	60	100
Max. gripping force at distance **h**	kN	44	60	96	96	120	150	180
Max. speed*	r.p.m.	5000	4500	3800	3000	2200	1800	1600
Mass (plain back without top jaws)	kg	15	27	41	66	115	196	386
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.06	0.16	0.34	0.83	2.3	7	21
Recommended actuating cylinders		SIN-S 85	SIN-S 100	SIN-S 125	SIN-S 125	SIN-S 150	SIN-S 150-175	SIN-S 150-175-200

*The above maximum speed is allowed with standard mass/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.


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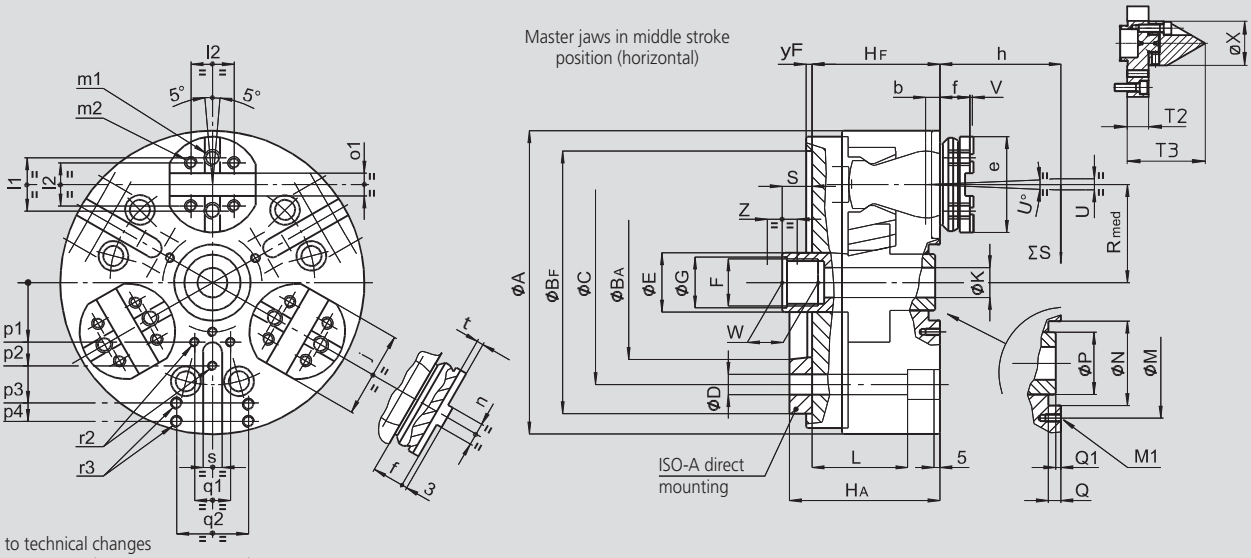
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Compensating pull-down chucks Ø 170 - 650 mm

- active pull-down
- tongue & groove
- 3 jaws

TSF-CP
Compensating
Floating jaws

TSR-CP
Compensating
Rigid jaws



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			TSF-CP 170 TSR-CP 170				TSF-CP 210 TSR-CP 210		TSF-CP 250 TSR-CP 250		TSF-CP 315 TSR-CP 315		TSF-CP 400 TSR-CP 400		TSF-CP 530 TSR-CP 530		TSF-CP 650 TSR-CP 650	
Mounting			**Z140**	**A5**	**Z160**	**A6**	**Z170**	**A6**	**Z220**	**A8**	**Z220**	**A8**	**Z300**	**A11**	**Z380**	**A15**	**Z380**	**A15**
	A	mm	173				212		254		315		390		535		650	
	BF/BA H6	mm	140	82.563	160	106.375	170	106.375	220	139.719	220	139.719	300	196.869	380	285.775	380	285.775
	C	mm	104.8		133.4		133.4		171.4		171.4		235		330.2		330.2	
	D	mm	11.5		13.5		13.5		17		17		21		25		25	
	E	mm	36				38		48		48		75		75		100	
	F	mm	M28 x 1.5				M32 x 1.5		M38 x 1.5		M38 x 1.5		M60 x 1.5		M60 x 1.5		M80 x 2	
	G H8	mm	29				33		39		39		61		61		81	
	HF/HA	mm	83	98	83	100	100	117	107	126	107	126	127	148	132	155	155	178
Through-hole	**K**	mm	8.5				12.5		25		25		52		52		75	
	L	mm	56				82		80		80		74		77		97	
	M	mm	36				42		82		-		90		90		128	
Thread/depth	**M1**	mm	M5/10				M6/11		M8/17		-		M8/17		M8/17		M8/17	
	N H8	mm	28				34		70		85		75		75		150	
	P	mm	20				28		55		55		66		66		101	
	Q	mm	6				5.5		7.5		7.5		9		9		19	
At middle stroke	**Q1**	mm	3				2		4		4		4		4		21	
At middle stroke	**Rmed**	mm	55				64		82		107		130		190		245	
At middle stroke	**S**	mm	18				20		25		25		25		20		20	
	T2	mm	17				11		22		26		28		28		-	
	T3	mm	62				67		68		72		95		95		-	
Radial stroke	**U°**	deg.	5.2°				5.2°		4.9°		4.9°		4.7°		4.7°		5°	
Radial stroke (1) @ h	**U**	mm	5.3				6.3		7		7		7.5		7.5		9.8	
Pull-down s/d (option)	**V**	mm	0.1				0.1		0.1		0.1		0.2		0.2		0.4	
	W	mm	25				25		25		25		25		25		36	
	X	mm	35				46		60		60		116		116		-	
Axial piston stroke	**Z**	mm	21				25		25		25		30		30		32	
Only TSF-CP max.	α	deg.	±2°				±2°		±1.5°		±1.5°		±1.5°		±1.5°		±1.3°	
	b	mm	9				10		12		12		12		12		12	
	e	mm	60				75		80		80		105		105		127	
	f	mm	27				33		33		33		32		32		46	
Reference height	**h**	mm	50				60		70		70		80		80		100	
	j	mm	55				65		72		72		100		100		116	
	l1	mm	32				38		44.4		44.4		63.5		63.5		63.5	
	l2	mm	24				32		36		36		48		48		54	
Thread/depth	**m1**	mm	M10/16				M12/18		M12/18		M12/18		M16/22		M16/22		M20/26	
Thread/depth	**m2**	mm	M8/14				M10/14		M10/14		M10/14		M12/22		M12/22		M16/24	
	n h8	mm	7.94				7.94		12.7		12.7		12.7		12.7		12.7	
	o1 H7	mm	12.68				12.68		19.03		19.03		19.03		19.03		19.03	
	p1	mm	-				30		50		60		80		80		(*)	
	p2	mm	35				-		70		80		110		110		(*)	
	p3	mm	65				80		102		102		140		120 + 160		(*)	
	p4	mm	-				-		-		135		170		200 + 240		(*)	
	q1	mm	-				8		30		30		36		36		(*)	
	q2	mm	36				45		60		60		80		100		(*)	
	r2	mm	M6/12				M6/12		M8/15		M8/15		M10/19		M10/19		M12/22	
Thread/depth	**r3**	mm	M8/17				M8/17		M10/19		M10/19		M12/22		M12/22		M12/22	
Thread/depth	**s**	mm	16				16		16		16		20		20		20	
	t	mm	4				4		4		4		7		7		7	
	yF	mm	5				5		5		5		5		5		6	

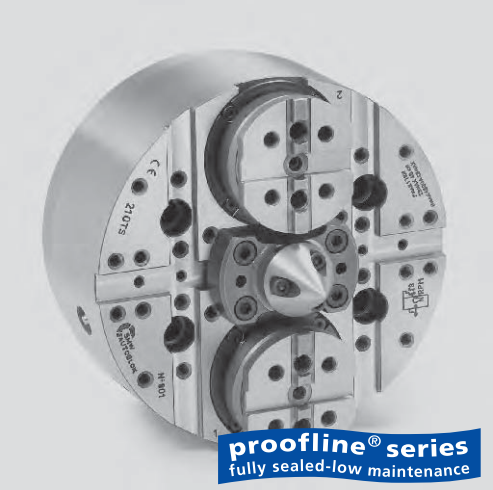
(1) Calculated at **h** distance from the chuck's face (where normally the clamping takes place)

TSF-CP

Compensating
Floating jaws

Compensating pull-down chucks Ø 170 - 315 mm

- active pull-down
- tongue & groove
- 2 jaws



Application/customer benefits

- Clamping of rectangular or irregular shaped shafts or clamping of shafts or chuck parts where the reference is not the o.d. but a center or a centering dia.
- A center point or a centering insert will center the workpieces and the jaws will clamp compensating and actively pull the workpiece down to the datum.

Technical features

- 2-jaw-design
- active pull-down
- compensating clamping
- floating base jaws for 4 point contact
- centrifugal force compensation
- tongue & groove base jaws
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

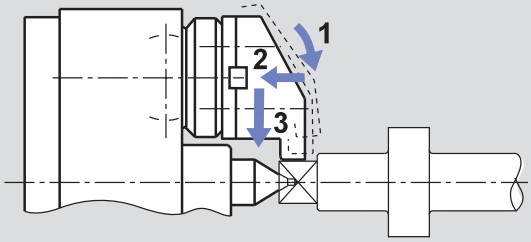
Standard equipment

2-jaw-chuck
mounting bolts and grease gun

Ordering example

TSF-CP 210/A6

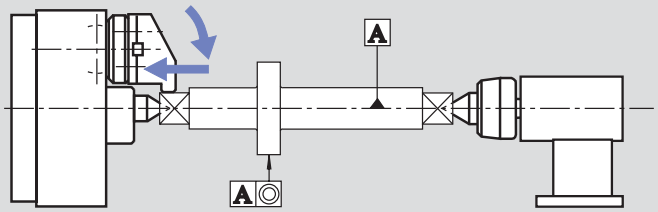
TSF-CP



Principle of function:

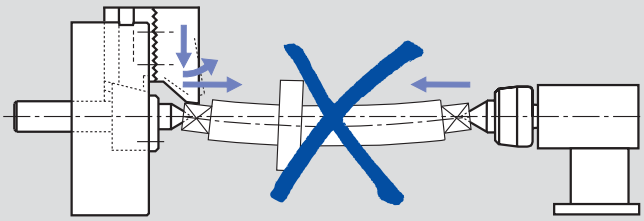
- **1** compensating pre-clamping - **2** active pull-down - **3** clamping

TSF-CP



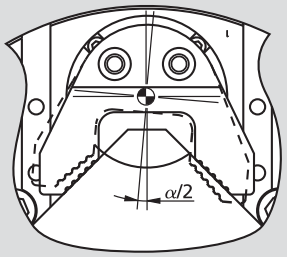
- The workpiece is actively pulled down to the center point. The tailstock just supplies the necessary force to support the workpiece. The result is an exact cylindrial and straight workpiece.

Non active pull down compensating chuck



- The workpiece is lifted by the jaws from the center point. When a higher tailstock force is applied for compensation, the workpiece will be bent.

TSF-CP

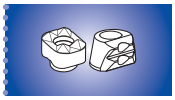


floating jaws

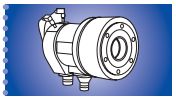
Technical data

SMW-AUTOBLOK Type		TSF-CP 170	TSF-CP 210	TSF-CP 250	TSF-CP 315
Angular jaw stroke	deg.	5.2°	5.2°	4.9°	4.9°
Radial jaw stroke at distance **h**	mm	5.3	6.3	7	7
Pull down movement (standard)	mm	0.1	0.1	0.1	0.1
Axial piston stroke	mm	21	25	25	25
Compensation (on the dia.) at distance **h**	mm	±1.5	±1.5	±2.5	±2.5
Max. draw pull	kN	12	17	27	27
Max. gripping force at distance **h**	kN	30	40	64	64
Max. speed*	r.p.m.	5000	4500	3800	3000
Mass (plain back without top jaws)	kg	15	27	41	66
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.06	0.16	0.34	0.83
Recommended actuating cylinders		**SIN-S 70**	**SIN-S 85**	**SIN-S 100**	**SIN-S 100**

*The above maximum speed is allowed with standard mass/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.


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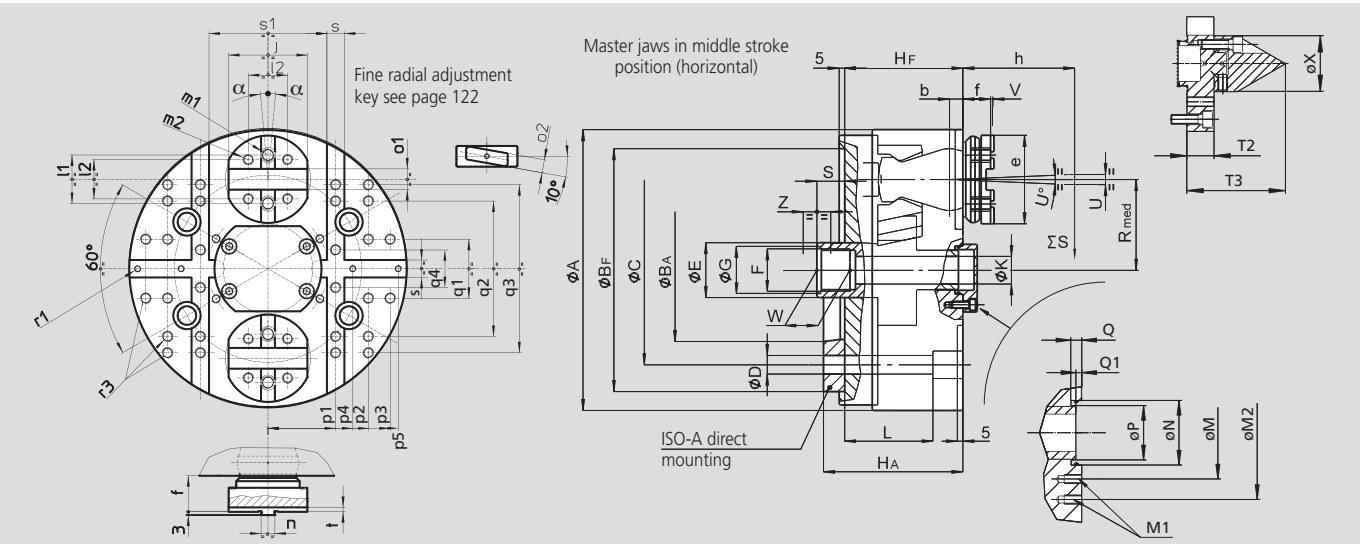

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Compensating pull-down chucks Ø 170 - 315 mm

- active pull-down
- tongue & groove
- 2 jaws

TSF-CP

Compensating
Floating jaws



Subject to technical changes
For more detailed information please ask for customer drawing

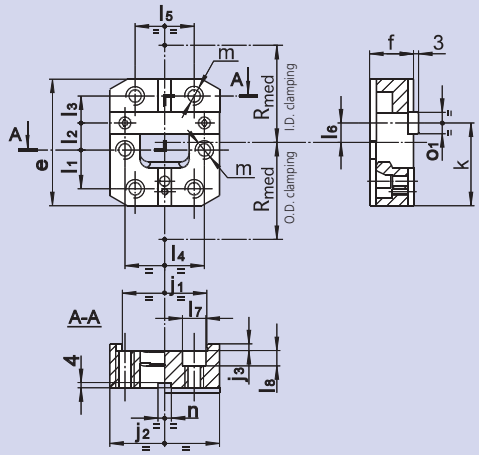
SMW-AUTOBLOK Type				TSF-CP 170		TSF-CP 210		TSF-CP 250		TSF-CP 315	
Mounting				**Z140**	**A5**	**Z170**	**A6**	**Z220**	**A8**	**Z220**	**A8**
	A		mm	173		212		254		315	
	BF/BA	H6	mm	140	82.563	170	106.375	220	139.719	220	139.719
	C		mm	104.8		133.4		171.4		171.4	
	D		mm	11.5		13.5		17		17	
	E		mm	36		38		48		48	
	F		mm	M28 x 1.5		M32 x 1.5		M38 x 1.5		M38 x 1.5	
	G	H8	mm	29		33		39		39	
	HF/HA		mm	83	98	100	117	107	126	107	126
Through-hole	**K**		mm	14		18		25		25	
	L		mm	56		82		80		80	
	M		mm	54		63		82		82	
Thread/depth	**M1**		mm	M8/16		M8/16		M8/16		M8/16	
	M2		mm	-		90		110		110	
	N	H5	mm	35		42		70		70	
	P		mm	30.2		36.5		56		56	
	Q		mm	6		7.5		7.5		7.5	
At middle stroke	**Q1**		mm	3.2		2.5		4.5		4.5	
At middle stroke	**Rmed**		mm	55		64		82		107	
At middle stroke	**S**		mm	18.2		20.5		25.5		25.5	
	T2		mm	17		21		22		22	
	T3		mm	62		67		68		68	
Radial stroke	**U°**		deg.	5.2°		5.2°		4.9°		4.9°	
Radial stroke (1) @ h	**U**		mm	5.3		6.3		7		7	
Pull-down s/d (option)	**V**		mm	0.1		0.1		0.1		0.1	
	W		mm	25		25		30		30	
	X		mm	35		42		60		60	
Axial piston stroke	**Z**		mm	21		25		25		25	
Only TSF-C max.	**α**		deg.	±2°		±2°		±1.5°		±1.5°	
	b		mm	9		10		12		12	
	e		mm	60		75		80		80	
	f		mm	27		33		33		33	
Reference height	**h**		mm	50		60		70		70	
	j		mm	55		65		72		72	
	l1		mm	32		38		44.4		44.4	
	l2		mm	24		32		36		36	
Thread/depth	**m1**		mm	M10/16		M12/18		M12/18		M12/18	
Thread/depth	**m2**		mm	M8/14		M10/14		M10/14		M10/14	
	n	h8	mm	7.94		7.94		12.7		12.7	
	o1	H7	mm	12.68		12.68		19.03		19.03	
	o2	h7	mm	9		9		12		12	
	p1		mm	50		55		62		62	
	p2		mm	66		80		92		92	
	p3		mm	78		95		112		122	
	p4		mm	60		55		62		62	
	p5		mm	80		80		92		92	
	q1		mm	30		30		54		54	
	q2		mm	84		110		128		128	
	q3		mm	-		-		-		202	
	q4		mm	20		30		54		54	
Thread/depth	**r1**		mm	M6/14		M6/14		M6/14		M6/14	
Thread/depth	**r3**		mm	M8/16		M8/17		M10/18		M10/18	
	s	H6	mm	16		16		16		16	
	s1	k5	mm	84		94		108		108	
	t		mm	4		4		4		4	

(1) Calculated at **h** distance from the chuck's face (where normally the clamping takes place)

Accessories for TS chucks

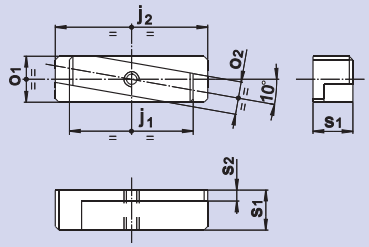
■ quick jaw change pallets
■ cross keys for top jaws fine adjustment

Quick change pallets for **TSF-RM** and **TSR-RM** chucks



Chuck type		170 TSF-RM 170 TSR-RM	210 TSF-RM 210 TSR-RM	250 TSF-RM 250 TSR-RM	315 TSF-RM 315 TSR-RM	400/530 TSF-RM 400/530 TSR-RM
Id. No.		19701716	19702116	19702516	19702516	19704016
e	mm	60	75	80	80	105
f	mm	21.5	26	28	28	34
j_1	mm	44	50	55	55	80
j_2	mm	55	65	72	72	100
j_3	mm	3.5	4	4	4	4
k	mm	39.5	49	51	51	66.5
l_1	mm	19	23	22	22	28
l_2	mm	12.5	16	19	19	25
l_3	mm	12.5	16	19	19	25
l_4	mm	42	47	52	52	74
l_5	mm	32	35	40	40	62
l_6	mm	9.5	11.5	11	11	14
l_7	mm	11	14	14	14	17
l_8	mm	7	9	9	9	11
m	mm	M8	M10	M10	M10	M12
n (H7)	mm	7.94	7.94	12.7	12.7	12.7
o_1 (h7)	mm	12.68	12.68	19.03	19.03	19.03
R_{med}	mm	55	64	82	107	130

Cross keys for jaw radial fine adjustment

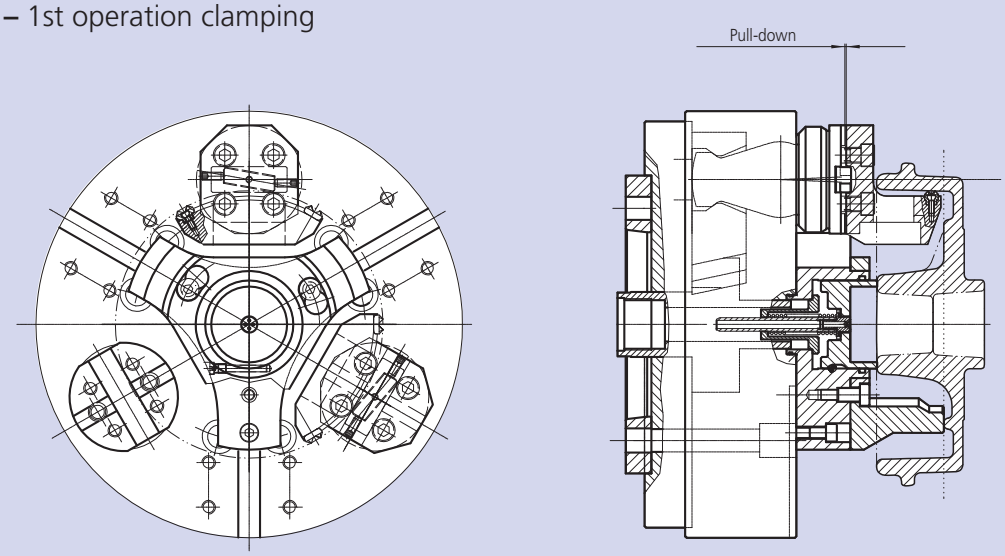


■ Inclined key for radial fine adjustment of the top jaws, used when high concentricity for second operations is required.

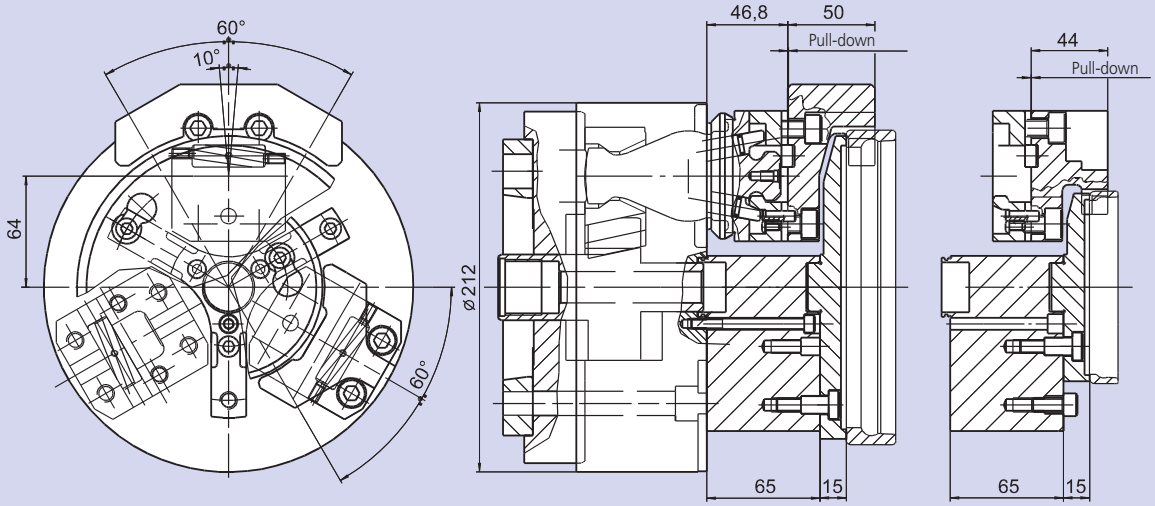
■ Used in second operation and sometimes in first or unique operations.

Chuck Ø		170	210	250	315	400/530
Id. No.		15711633	15712133	15712533	15712533	15714033
j_1	mm	24	32	38	38	46
j_2	mm	38	46	56	56	70
o_1 (h7)	mm	12.68	12.68	19.03	19.03	19.03
o_2 (h7)	mm	9	9	12	12	12
s_1	mm	11	11	11	11	14.5
s_2	mm	3	3	3	3	4.5

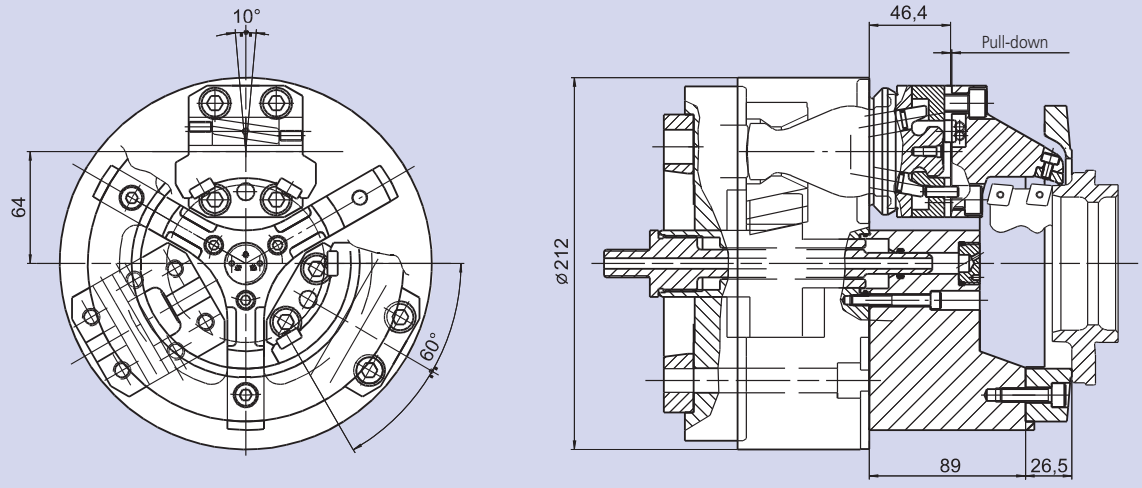
Brake drum – 1st operation clamping



Bearing ring – 2nd operation clamping



Bearing flange – Complete machining in one set-up

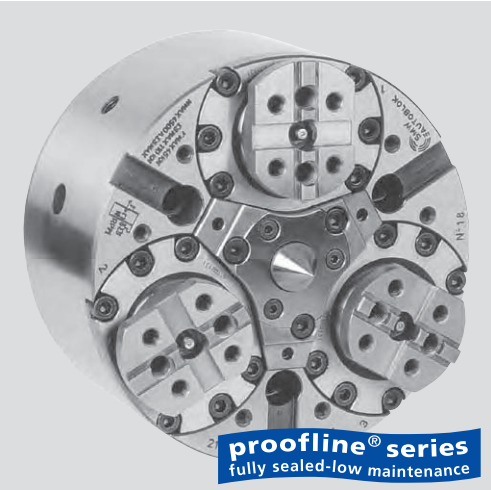


FRC-N

Compensating
Jaw chuck

Lever chuck Ø 215 - 365 mm

- compensating rigid jaws
- spring loaded or fixed center
- proofline® chucks = fully sealed – low maintenance



Application/customer benefits

- Compensating clamping of shafts between centers, where the clamping diameter is not concentric to the workpiece axis
- The workpiece is clamped compensating
- The grip force of the chuck supplies the torque necessary to machine the workpiece and pulls it down to the axial datum (center point/axial stop).
- Due to its high rigidity against torsion the chuck is ideal for turning as well as for milling operations

Technical features

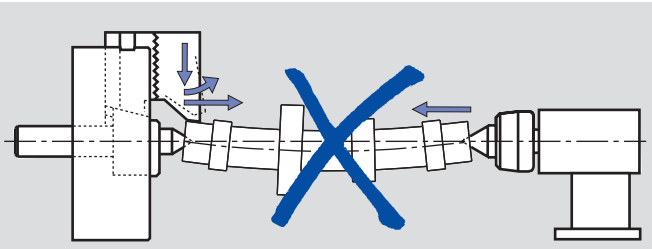
- for o.d. clamping only
- compensating clamping with large compensating stroke
- tongue & groove base jaws
- pull down
- permanent grease lubrication
- high rigidity against torsion
- center point adjustable
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

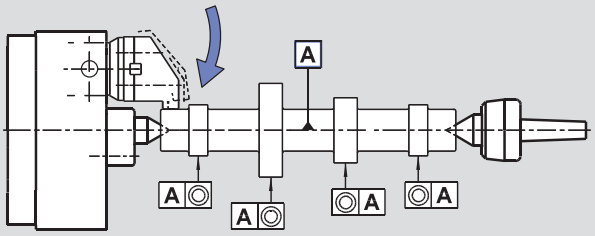
3-jaw-chuck without centering insert
Mounting bolts

Ordering example

Chuck FRC-N 215 A6



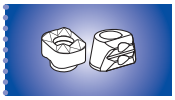
■ **Non pull-down compensating chuck**
Lifting of the top jaws pushes the shaft away from the centering reference; high tailstock force has to be used to overcome this lifting, resulting in a bending of the component

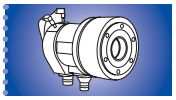


■ **FRC-N pull-down and compensating clamping**
The tailstock supplies the requested force to support the part only. The result is a cylindrical finished shaft with concentric diameters. The chuck pulls the work piece down to the center point without bending the work piece

Technical data

SMW-AUTOBLOK Type		FRC-N 215	FRC-N 285	FRC-N 365
Angular jaw stroke	deg.	6°	6°	6°
Radial jaw stroke at distance **h**	mm	6.3	7.3	8.4
Wedge stroke	mm	22	26	31
Compensation (on the dia.) at distance **h**	mm	±1.5	±2	±2.5
Max. draw pull	kN	45	70	110
Max. gripping force at distance **h**	kN	100	150	240
Max. speed	r.p.m.	4500	3500	2500
Mass (plain back without top jaws)	kg	30	62	120
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.17	0.65	2
Standard fixed center	Id. No.	81732141	81732841	81733641
Standard spring loaded center	Id. No.	81722141	81722841	81723641
Recommended actuating cylinders		**100 SIN-S**	**125 SIN-S**	**150 SIN-S**
		125 SIN-S	**150 SIN-S**	**200 SIN-S**


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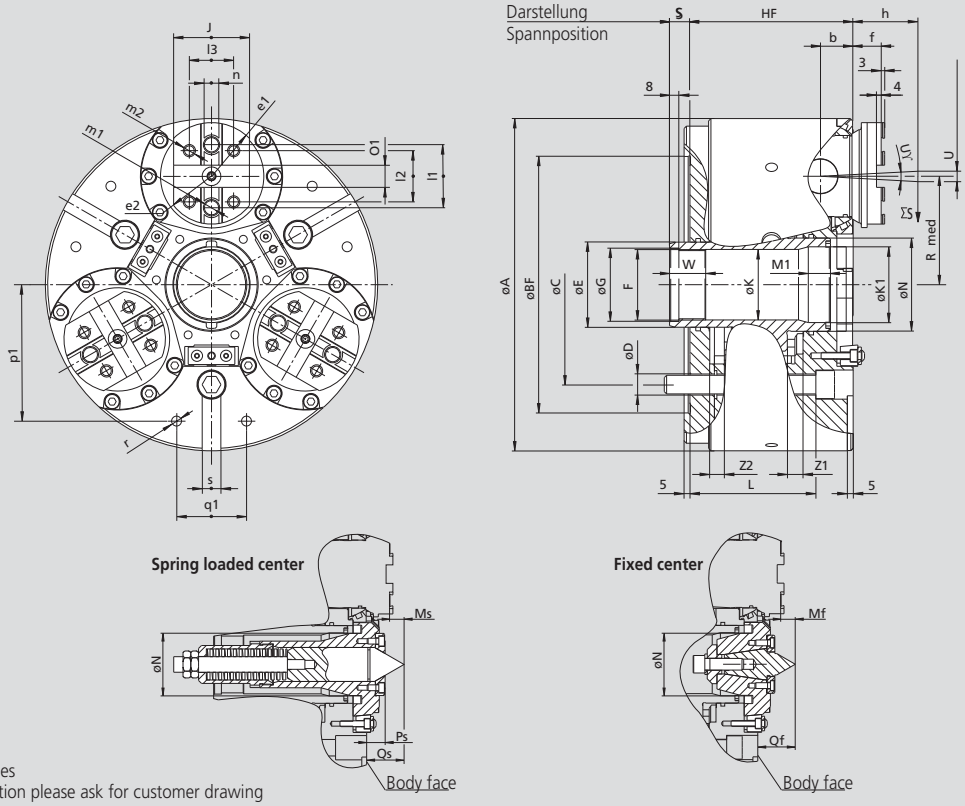
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Lever chuck Ø 215 - 365 mm

- compensating rigid jaws
- spring loaded or fixed center
- proofline® chucks = fully sealed – low maintenance

FRC-N

Compensating Jaw chuck



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				FRC-N 215	FRC-N 285	FRC-N 365
	A		mm	215	285	365
	BF	H6	mm	170	220	300
	C		mm	133.4	171.4	235
	D		mm	13.5	17	21
	E		mm	50	73	79
	F		mm	M42 x 1.5	M60 x 1.5	M68 x 2
	G	H8	mm	43	61	69
	HF		mm	120	140	168
Through-hole	**K**		mm	40	60.5	60.5
	Ø K1/depth M1		mm	40	65/19	75/23.8
	L		mm	95	108	123
	N	H8	mm	52	80	90
	Mf		mm	14.5	14.6	21.7
	Qf		mm	32.5	38.6	42.7
	Ms		mm	13.8	14.4	19.9
	Ps		mm	21	19	21.5
	Qs		mm	31.8	38.4	40.9
	Rmed		mm	67	93	120
at middle stroke - clamping position	**S**		mm	15.4	17.5	24.8
min./max.	**S**		mm	4/26	4/30	9/40
Angular jaw movement	**U°**		deg.	6°	6°	6°
Radial stroke (1)	**U**		mm	6.3	7.3	8.4
	W		mm	30	31	30
	Z1		mm	11.4	13.5	15.8
	Z2		mm	10.6	12.5	15.2
	b		mm	22	28	34
	e1		mm	37.5	46	50
	e2		mm	33	41	50
	f		mm	18	24	21
Reference height	**h**		mm	38	42	46
	j		mm	55	65	70
	l1		mm	38	54	63.5
	l2		mm	32	44	48
	l3		mm	32	38	48
Thread/depth	**m1**		mm	M12/16	M16/20	M16/20
Thread/depth	**m2**		mm	M10/14	M12/19	M12/19
	n	h8	mm	7.94	12.7	12.7
	o1	H7	mm	12.68	19.03	19.03
	p1		mm	80	117	150
	q1		mm	45	60	80
Thread/depth	**r**		mm	M8/17	M10/19	M12/22
	s	H8	mm	16	16	20

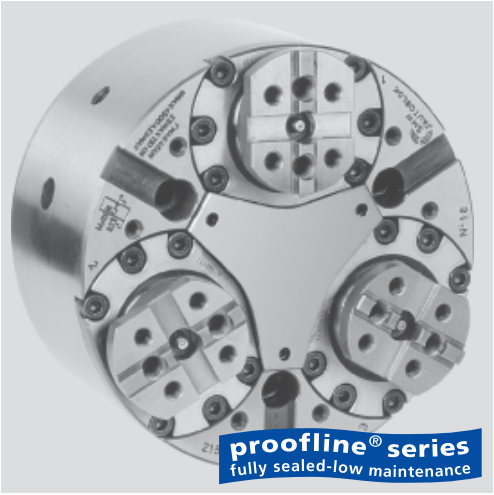
(1) Calculated at **h** distance from the chuck's face (where normally the clamping takes place)

FRS

Self centering clamping

Lever chuck Ø 215 - 365 mm

- **self centering rigid jaws**
- **LARGE THROUGH HOLE**
- **proofline® chucks = fully sealed – low maintenance**



Application/customer benefits

- Self centering clamping of flange or shaft type workpieces where the reference is not a center but the o.d. of the workpiece
- The through hole of the chuck allows to swallow the workpiece if needed
- Due to its high rigidity against torsion the chuck can be used for turning as well as for milling

Technical features

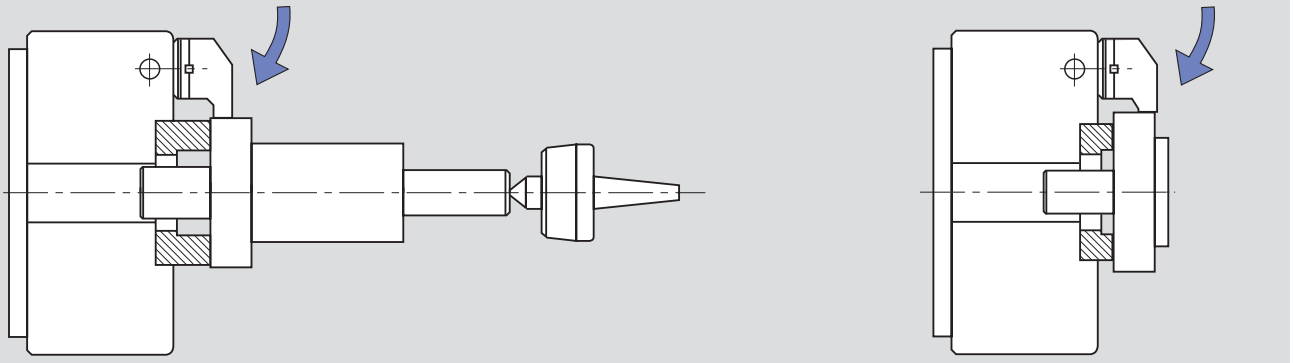
- for o.d. clamping only
- large through hole
- tongue & groove base jaws
- pull-down
- permanent grease lubrication
- rigid design against torsion
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

3-jaw chuck
mounting bolts

Ordering example

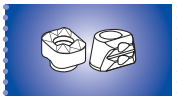
FRS 285 Z 220

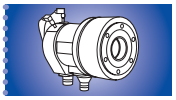


■ **FRS self centering chuck with pull-down**
The pull-down of the chuck pulls the workpiece against the workstop. The large bore allows the workpiece to be swallowed.

Technical data

SMW-AUTOBLOK Type		FRS 215	FRS 285	FRS 365
Angular jaw stroke	deg.	6°	6°	6°
Radial jaw stroke at distance **h**	mm	6.3	7.3	8.4
Wedge stroke	mm	22	26	31
Max. draw pull	kN	45	70	110
Max. gripping force at distance **h**	kN	100	150	240
Max. speed	r.p.m.	4500	3500	2500
Mass (plain back without top jaws)	kg	30	62	120
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.17	0.65	2
Recommended actuating cylinders		**100 SIN-S**	**125 SIN-S**	**150 SIN-S**
		125 SIN-S	**150 SIN-S**	**200 SIN-S**


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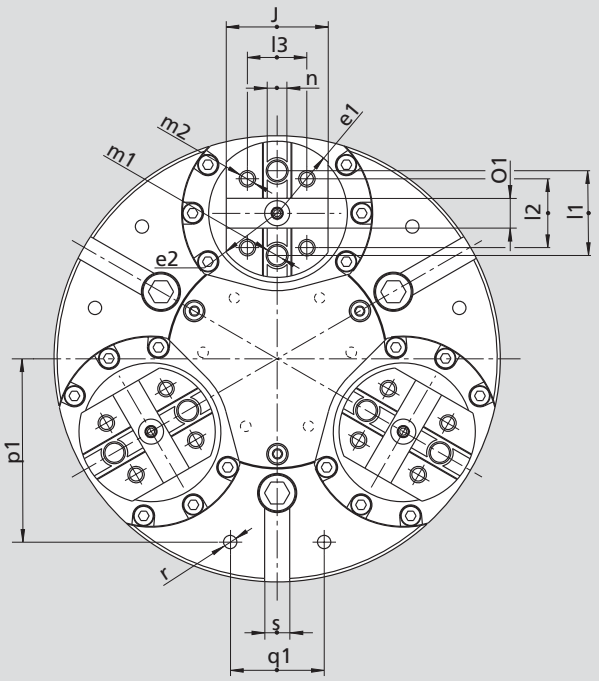
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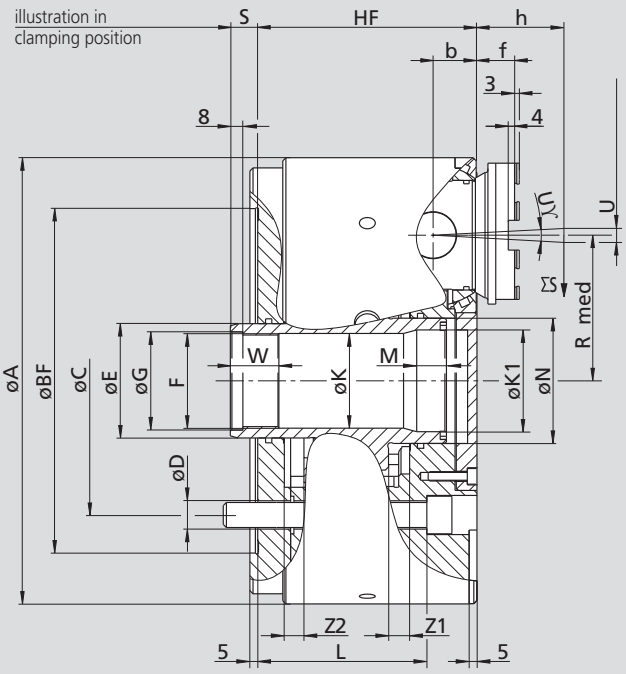
Lever chuck Ø 215 - 365 mm

- self centering rigid jaws
- LARGE THROUGH HOLE
- proofline® chucks = fully sealed – low maintenance

FRS

Self centering clamping





Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				FRS 215	FRS 285	FRS365
	A		mm	215	285	365
	BF	H6	mm	170	220	300
	C		mm	133.4	171.4	235
	D		mm	M12	M16	M20
	E		mm	50	73	79
	F		mm	M42 x 1.5	M60 x 1.5	M68 x 2
	G	H8	mm	43	61	69
	HF		mm	120	140	168
Through-hole	**K**		mm	40	60.5	60.5
	K1		mm	-	65	75
	L		mm	95	108	123
	M		mm	-	19	23.8
	N		mm	52	80	90
	Rmed		mm	67	93	120
at middle stroke - clamping position	**S**		mm	15.4	17.5	24.8
min./max.	**S**		mm	4/26	4/30	9/40
Angular jaw movement	**U°**		deg.	6°	6°	6°
Radial stroke at distance **h** (1)	**U**		mm	6.3	7.3	8.4
	W		mm	30	31	30
	Z1		mm	11.4	13.5	15.8
	Z2		mm	10.6	12.5	15.2
	b		mm	22	28	34
	e1		mm	37.5	46	50
	e2		mm	33	41	50
	f		mm	18	24	21
Reference height	**h**		mm	38	42	46
	j		mm	55	65	70
	l1		mm	38	54	63.5
	l2		mm	32	44	48
	l3		mm	32	38	48
Thread/depth	**m1**		mm	M12/16	M16/20	M16/20
Thread/depth	**m2**		mm	M10/14	M12/19	M12/19
	n	h8	mm	7.94	12.7	12.7
	o1	H7	mm	12.68	19.03	19.03
	p1		mm	80	117	150
	q1		mm	45	60	80
Thread/depth	**r**		mm	M8/17	M10/19	M12/22
	s	H8	mm	16	16	20

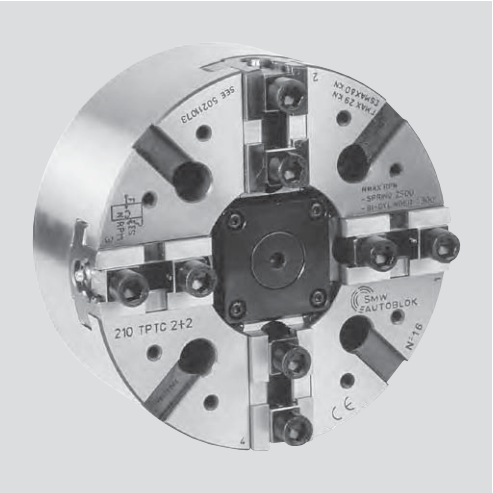
(1) Calculated at **h** distance from the chuck's face

TPT-C

2+2 independent jaw movement
Tongue & groove

High precision 2+2 jaw power chuck with self-centering independent jaw movement Ø 210 - 400 mm

- closed center
- tongue & groove



Application/customer benefits

- Clamping of rectangular and square work pieces, self-centering in two axles

Technical features

- 2+2 jaw chuck with 2 independent self-centering jaw drives (two wedge drives)
- jaw No. 1 + 3 (clamping jaws): power operated
- jaw No. 2 + 4 (centering jaws): spring operated or optionally power operated
- chuck body and internal parts are case hardened for high position and long life

Standard equipment*

2+2 jaw chuck
Mounting bolts

Ordering example

Power chuck TPT-C 250 A8 or
TPT-C 400-Z

A One wedge drive

- Operated by standard closed center cylinders.
- Jaws 2 and 4 are spring operated to center the component in one axis
- Jaws 1 and 3 are power operated from the cylinder to center the component on the second axis and to apply the gripping force to drive the component.
- See specific draw pull, gripping force and maximum speed in the technical data table below.

B Two independent wedge drives*

- Operated by independent double piston cylinders.
- Jaws 2 and 4 are power operated (using the small cylinder) to center the component in one axis
- Jaws 1 and 3 are also power operated (using the large cylinder) to center the component on the second axis and to apply the gripping force to drive the component.
- Since both pair of jaws are power operated the chuck can reach higher speeds.
- See specific draw pull, gripping force and maximum speed in the technical data table below.

***Note: the chucks are always delivered as "one wedge drive" version: To use them as "two independent wedge drives" version, just remove the internal "spring assembly" according to instruction manual.**

Technical data

SMW-AUTOBLOK Type Number of jaws		TPT-C 210 2+2	TPT-C 250 2+2	TPT-C 315 2+2	TPT-C 400 2+2
Radial jaw stroke	mm	4	5	5	7
Wedge stroke	mm	19	24	24	33
Mass (plain back without top jaws)	kg	21	32	48	102
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.12	0.27	0.64	1.95

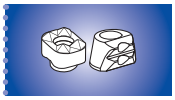
A ONE wedge drive

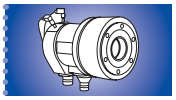
Max. draw pull (clamping wedge, jaw 1 + 3)	kN	29	39	45	60
Max. gripping force jaw 1 + 3 (power operated)	kN	72	98	115	150
Max. centering force jaw 2 + 4 (spring operated)	kN	11	15	15	24
Max. speed	r.p.m.	2500	2400	2000	1500
Recommended actuating cylinders	type	**SIN-S 125**	**SIN-S 125**	**SIN-S 150**	**SIN-S 150**

B TWO independent wedge drives

Max. draw pull (clamping wedge, jaw 1 + 3)	kN	25	34	40	50
Max. draw pull (centering wedge, jaw 2 + 4)	kN	19	25	30	35
Max. gripping force jaw 1 + 3 (power operated)	kN	72	98	115	150
Max. centering force jaw 2 + 4 (power operated)	kN	55	72	85	100
Max. speed	r.p.m.	4300	3400	2700	2000
Recommended actuating cylinders	type	**DCE 64/64**	**DCE 64/64**	**DCE 64/64**	**DCE 64/64**

*technical details of DCE cylinders see page 210


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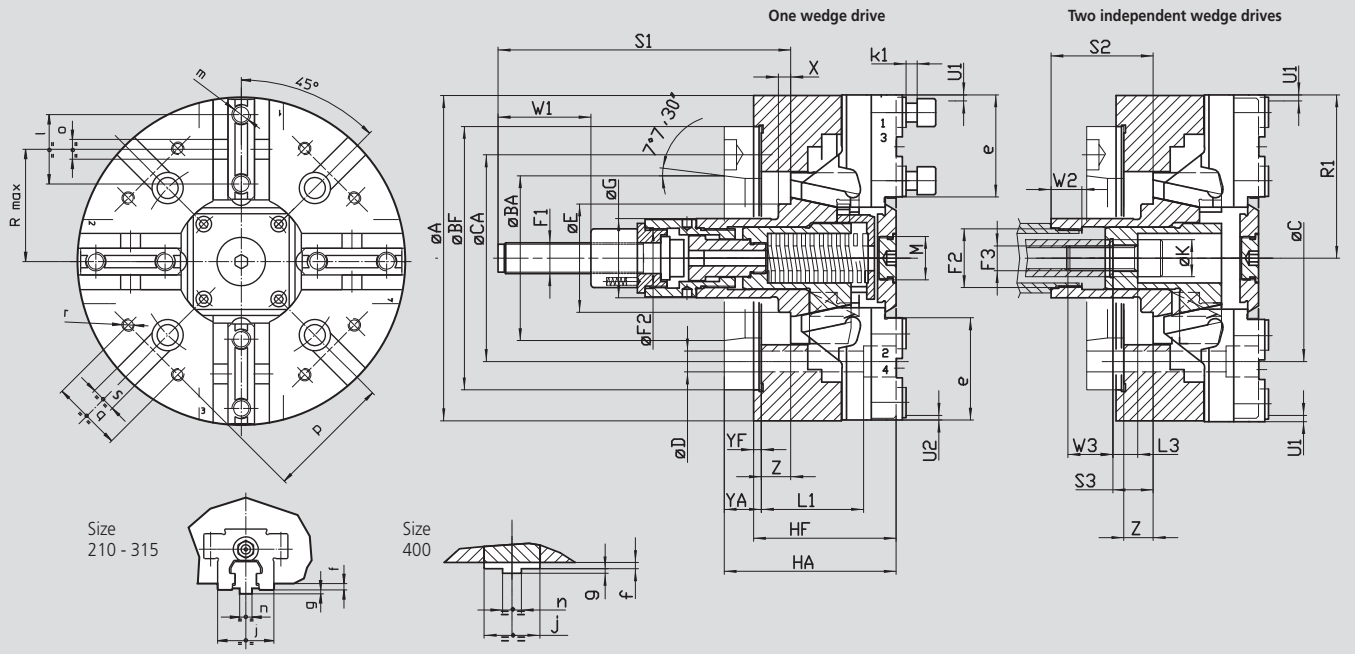
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High precision 2+2 jaw power chuck with self-centering independent jaw movement Ø 210 - 400 mm

- closed center
- tongue & groove

TPT-C

2+2 independent jaw movement
Tongue & groove



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			TPT-C 210		TPT-C 250			TPT-C 315			TPT-C 400	
Mounting			FL170	A6	FL220	A6*	A8	FL300	A8*	A11	FL300	A11
	A	mm	210		254			315			390	
	BF/BA H6	mm	170	106.375	220	106.375	139.719	300	139.719	196.869	300	196.869
	C	mm	133.4		171.4	-	171.4	235	-	235	235	
	CA	mm	-	-	-	133.4	-	-	171.4	-	-	-
	D	mm	13.5		17	13.5	17	21	17	21	21	
	E	mm	70			88			110		98	
	F1	mm	M20			M24			M24		M24	
	F2	mm	M38 x 1.5			M56 x 2			M56 x 2		M56 x 2	
	F3	mm	M16			M20			M20		M20	
	G	mm	51			61			61		70	
Chuck height	HF/HA	mm	92	111	105	124	127	111	127	136	116	140
	K H8	mm	24			30			30		35	
	L1	mm	66			59			33		54	
	L3	mm	11			9			11		11	
	M	mm	M28 x 1.5			M28 x 1.5			M28 x 1.5		M24 x 1	
	R1	mm	105.5			127.5			158		196	
	Rmax	mm	72			88			105		133.5	
	S1	mm	189			203			201		218	
	S2	mm	61			71			69		86	
	S3	mm	21			33			31		45.5	
Jaw stroke (power)	U1	mm	4			5			5		7	
Jaw stroke (spring 2 + 4)	U2	mm	3			4			4		5.4	
	W1	mm	60			60			60		60	
	W2	mm	20			20			20		20	
	W3	mm	29			31			29		29	
	X	mm	8			8			10		10	
	YF/YA	mm	5	24	5	24	27	5	30	30	6	30
Wedge stroke	Z	mm	19			24			24		33	
	e	mm	66			77.5			93		116	
	f	mm	4			4			4		7	
	g	mm	2.5			3			3		3	
	j	mm	36			45			45		62	
	k1	mm	11			12			12		14	
	l	mm	44.4			54			54		76.2	
	m	mm	M12			M16			M16		M20	
	n h8	mm	7.94			12.7			12.7		12.7	
	o H7	mm	12.68			19.03			19.03		19.03	
	p	mm	80			102			100		150	
	q	mm	45			60			60		80	
	r	mm	M8			M10			M10		M12	
	s H8	mm	16			16			20		20	
	t	mm	5			5			5		5	

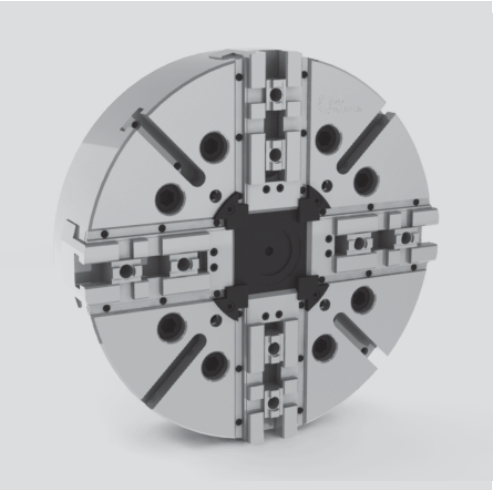
* Indirect mounting

TPT-C

2+2 independent jaw movement
Tongue & groove

High precision 2+2 jaw power chuck with self-centering independent jaw movement Ø 500 - 800 mm

■ closed center
■ tongue & groove



Application/customer benefits

- Clamping of rectangular and square work pieces, self-centering in two axes

Technical features

- 2+2 jaw chuck with 2 independent self-centering jaw drives (two wedge drives)
- jaw No. 1 + 3 (clamping jaws): power operated
- jaw No. 2 + 4 (centering jaws): spring operated or optionally power operated
- case hardened internal parts for high precision and long life
- high quality cast iron body for lightweight and durability
- protection from contamination with seals along the master jaw profiles

Standard equipment

2+2 jaw chuck
1 set of T-nuts and bolts
1 set of soft top jaws
Mounting bolts

A One wedge drive

- Operated by standard closed center cylinders.
- Jaws 2 and 4 are spring operated to center the component in one axis
- Jaws 1 and 3 are power operated from the cylinder to center the component on the second axis and to apply the gripping force to drive the component.
- Only for external clamping
- See specific draw pull, gripping force and maximum speed in the technical data table below.

B Two independent wedge drives*

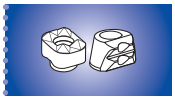
- Operated by independent double piston cylinders.
- Jaws 2 and 4 are power operated (using the small cylinder) to center the component in one axis
- Jaws 1 and 3 are also power operated (using the large cylinder) to center the component on the second axis and to apply the gripping force to drive the component.
- Since both pair of jaws are power operated the chuck can reach higher speeds.
- See specific draw pull, gripping force and maximum speed in the technical data table below.

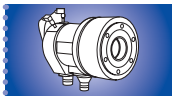
***Note: the chucks are always delivered as "one wedge drive" version: To use them as "two independent wedge drives" version, just remove the internal "spring assembly" according to instruction manual.**

Technical data

SMW-AUTOBLOK Type Number of jaws		TPT-C 500 2+2	TPT-C 630 2+2	TPT-C 800 2+2
Radial jaw stroke	mm	8.5	10	10
Wedge stroke	mm	32	38	38
Mass (plain back without top jaws)	kg	180	325	550
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	6	16	44
A ONE wedge drive				
Max. draw pull (clamping wedge, jaw 1 + 3)	kN	80	80	80
Max. gripping force jaw 1 + 3 (power operated)	kN	160	160	160
Max. centering force jaw 2 + 4 (spring operated)	kN	30	30	30
Max. speed	r.p.m.	800	630	500
Recommended actuating cylinders	type	**SIN-S 175-200**	**SIN-S 175-200**	**SIN-S 175-200**
B TWO independent wedge drives				
Max. draw pull (clamping wedge, jaw 1 + 3)	kN	67	67	67
Max. draw pull (centering wedge, jaw 2 + 4)	kN	50	50	50
Max. gripping force jaw 1 + 3 (power operated)	kN	160	160	160
Max. centering force jaw 2 + 4 (power operated)	kN	120	120	120
Max. speed	r.p.m.	1200	850	700
Recommended actuating cylinders*	type	**DCE 140/140**	**DCE 140/140**	**DCE 140/140**

*technical details of DCE cylinders see page 210


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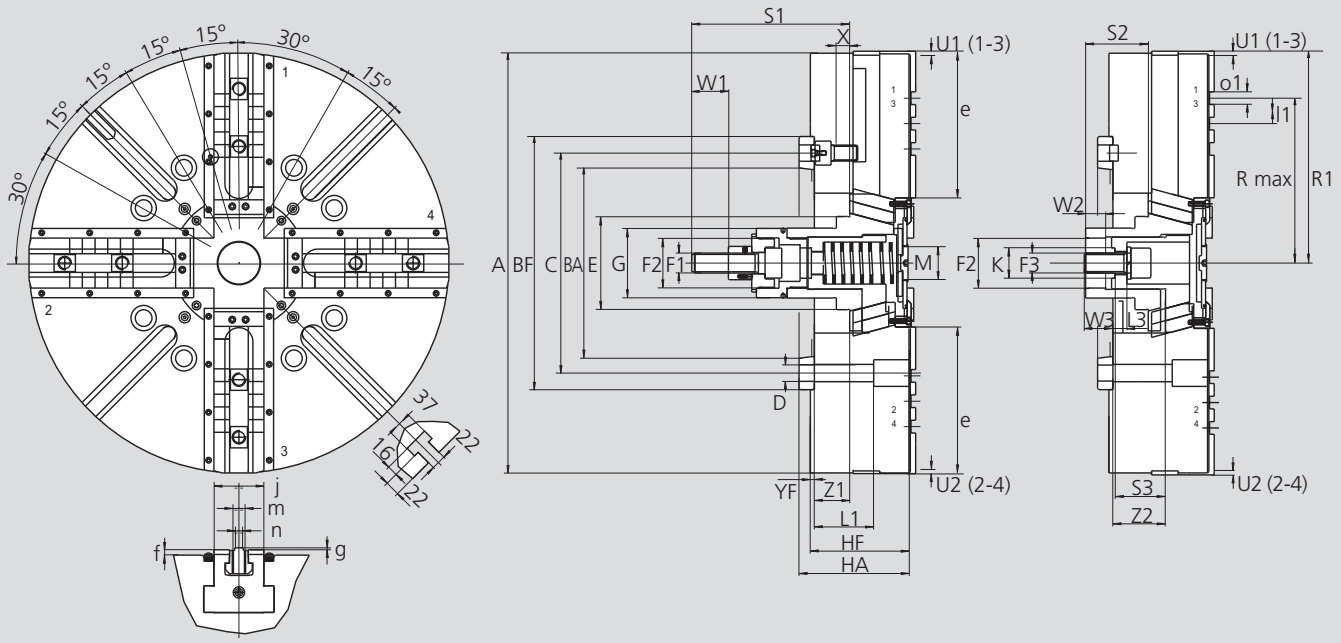
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High precision 2+2 jaw power chuck with self-centering independent jaw movement Ø 500 - 800 mm

■ closed center
■ tongue & groove

TPT-C

2+2 independent jaw movement
Tongue & groove



Subject to technical changes
For more detailed information please ask for customer drawing

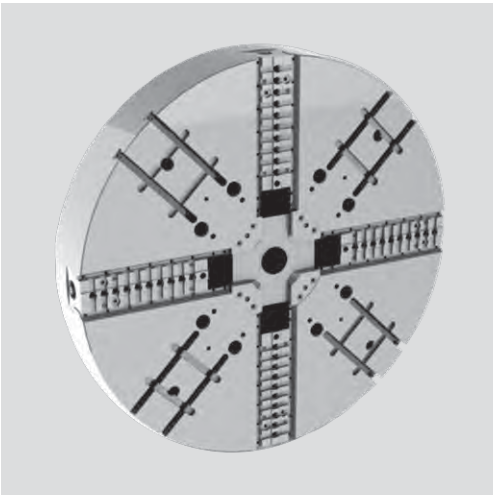
SMW-AUTOBLOK Type			TPT-C 500		TPT-C 630		TPT-C 800	
Mounting			Z380	A15	Z380	A15	Z380	A15
	A	mm	510		630		800	
	BF/BA H6	mm	380	285.775	380	285.775	380	285.775
	C	mm	330.2		330.2		330.2	
	D	mm	25		25		25	
	E	mm	140		140		140	
	F1	mm	M30		M30		M30	
	F2	mm	M75 x 2		M75 x 2		M75 x 2	
	F3	mm	M30		M30		M30	
	G	mm	104		104		104	
Chuck height	HF/HA	mm	130	147	150	167	150	167
	K	mm	45		45		45	
	L1	mm	89		89		89	
	L3	mm	18		18		18	
	M	mm	M52 x 1.5		M52 x 1.5		M52 x 1.5	
	R1	mm	263		318		405	
	Rmax	mm	209.5		247.5		349	
	S1	mm	237		237		237	
	S2	mm	94		94		94	
	S3	mm	76		76		76	
Jaw stroke (power 1 + 3)	U1	mm	8.5		10		10	
Jaw stroke (spring 2 + 4)	U2	mm	6.5		8		8	
	W1	mm	55		55		55	
	W2	mm	30		30		30	
	W3	mm	46		46		46	
	X	mm	20		20		20	
	YF/YA	mm	6/23		6/23		6/23	
Wedge 1 max./min.	Z1	mm	33/1		53/15		53/15	
Wedge 2 max./min.	Z2	mm	59/27		79/41		79/41	
	e	mm	165		220		307	
	f	mm	8		8		8	
	g	mm	3		3		3	
	j	mm	75		75		75	
	l1	mm	38.1		38.1		38.1	
	m	mm	20		20		20	
	n	mm	12.7		12.7		12.7	
	o1	mm	19.03		19.03		19.03	

TPT-RC

2+2 independent jaw movement
Tongue & groove
Radial setting of jaws

High precision 2+2 jaw power chuck with self-centering independent jaw movement Ø 1000 - 2000 mm

■ **closed center**
■ **tongue & groove**



Application/customer benefits

- High versatility on large vertical lathes to clamp round, elliptical, irregular, square and rectangular work pieces, self centering in two axis
- External or internal clamping

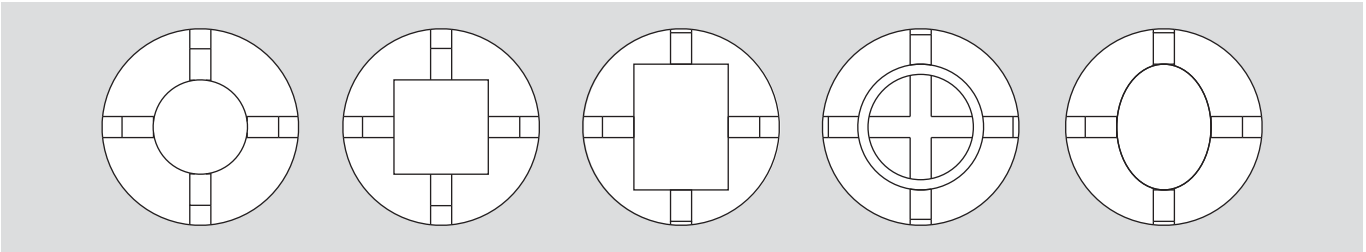
Technical features

- 2+2 jaw chuck with 2 independent self-centering jaw drives (two wedge drives)
- jaw No. 1 + 3 (clamping jaws): power operated
- jaw No. 2 + 4 (clamping jaws): power operated
- internal parts case hardened for high precision and long life
- with manual radial setting of jaws for the workpiece centering
- protection from contamination with seals along the master jaw profiles
- possibility to use jaw boxes for manual clamping mounted on the T-slots between the master jaws

Standard equipment

2+2 jaw chuck
1 set of soft top jaws
Mounting bolts

Using the double centering it is possible to easily clamp a wide variaty of component shapes:
round, square, ring, rectangular, oval and irregular



Two independent wedge drives

- Operated by independent double piston cylinders.
- Jaws 2 and 4 are power operated to center the component in one axis and to drive the component.
- Jaws 1 and 3 are power operated to center the component on the second axis and to drive the component.
- Since both pairs of jaws are power operated the chuck can reach high speeds.

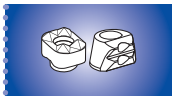
Technical data

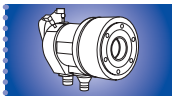
SMW-AUTOBLOK Type Number of jaws		TPT-RC 1000 2+2	TPT-RC 1250 2+2	TPT-RC 1400 2+2	TPT-RC 1600 2+2	TPT-RC 2000 2+2
Radial jaw stroke	mm	23	23	24	24	24
Wedge stroke	mm	57	57	60	60	60
Mass (plain back without top jaws)	kg	695	940	1460	1800	2760
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	86	180	355	565	1370

TWO independent wedge drives

Max. draw pull (wedge 1, jaw 1 + 3)	kN	100	100	120	120	120
Max. draw pull (wedge 2, jaw 2 + 4)	kN	100	100	120	120	120
Max. gripping force jaw 1 + 3 (power operated)	kN	180	180	210	210	210
Max. centering force jaw 2 + 4 (power operated)	kN	180	180	210	210	210
Max. speed	r.p.m.	550	450	400	400	280
Recommended actuating cylinders*	type	**DCE 240/240**	**DCE 240/240**	**DCE 240/240**	**DCE 240/240**	**DCE 240/240**

*technical details of DCE cylinders see page 210


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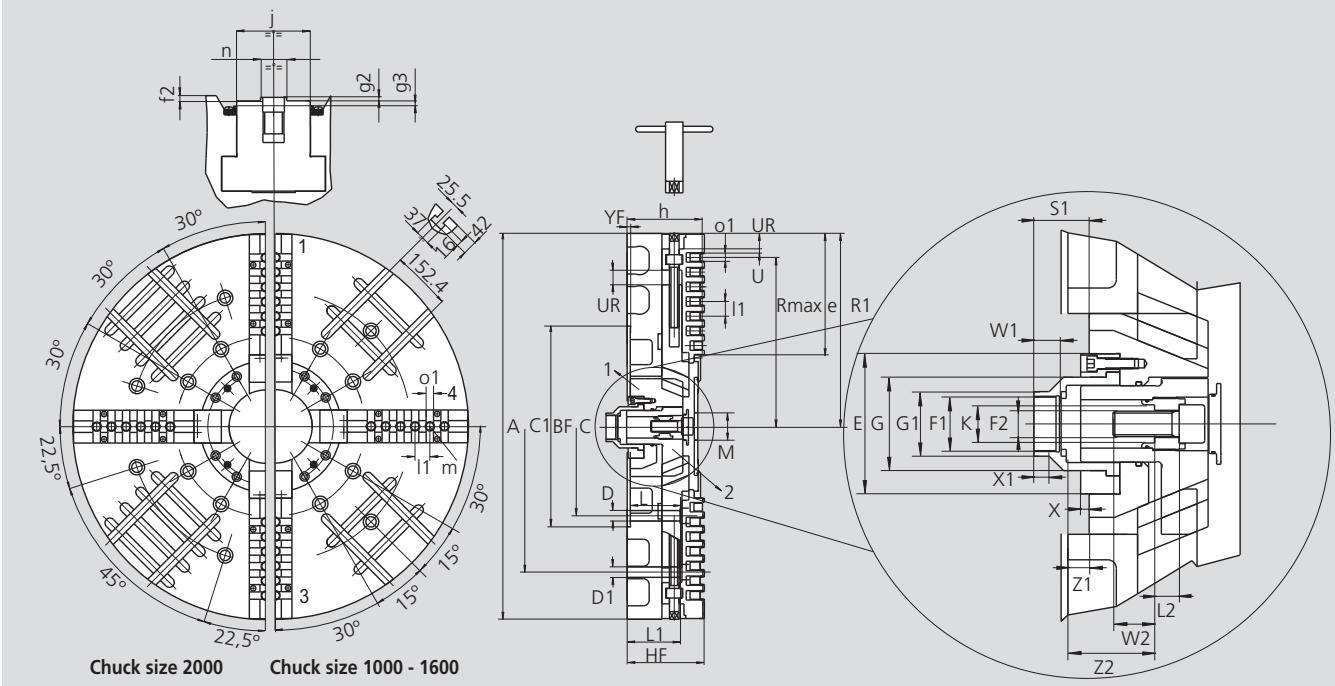
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High precision 2+2 jaw power chuck with self-centering independent jaw movement Ø 1000 - 2000 mm

- closed center
- tongue & groove

TPT-RC

2+2 independent jaw movement
Tongue & groove
Radial setting of jaws



Chuck size 2000 **Chuck size 1000 - 1600**

Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			TPT-RC 1000		TPT-RC 1250		TPT-RC 1400	TPT-RC 1600	TPT-RC 2000
Mounting			Z520	A20	Z520	A20	Z720	Z720	Z720
	A	mm	1005		1250		1400	1600	2000
	BF H6	mm	520		520		720	720	720
	C	mm	463.6		463.6		647.6	647.6	647.6
	C1	mm	700 (*)		700 (*)		1110	1110	1110
	D	mm	27		27		33	33	33
	D1	mm	27(*)		27 (*)		27	27	27
	E	mm	165		165		165	165	165
	F1	mm	M75 x 2		M75 x 2		M75 x 2	M75 x 2	M75 x 2
	F2	mm	M30		M30		M30	M30	M30
	G	mm	110		110		110	110	110
	G1	mm	86		86		86	86	86
	HF	mm	200		200		240	240	260
	K	mm	45		45		45	45	45
	L	mm	146		146		179	179	199
	L1	mm	148 (°)		148 (°)		192	192	212
	L2	mm	29		29		29	29	29
	M	mm	70		70		70	70	70
Chuck open	**R1**	mm	502		623		696	796	996
	Rmax	mm	457		563		651	738	914
	S1	mm	97		97		65	65	65
Radial jaw stroke	**U**	mm	23		23		24	24	24
Radial setting stroke	**UR**	mm	30		30		40	40	40
	W1	mm	30		30		30	30	30
	W2	mm	49		49		49	49	49
	X	mm	31		31		0	0	0
	X1	mm	23		23		23	23	23
	YF	mm	8		8		8	8	8
Wedge stroke 1 max./min.	**Z1**	mm	57	0	57	0	60 0	60 0	60 0
Wedge stroke 2 max./min.	**Z2**	mm	98	41	98	41	137 77	137 77	157 77
	e	mm	295		416		446	539	739
	f2	mm	8		8		8	8	8
	g2	mm	4		4		4	4	4
	g3	mm	7		7		7	7	7
	h	mm	192		192		232	232	252
	j	mm	85		85		110	110	110
	l1	mm	38.1		38.1		38.1	38.1	38.1
Number + size	**m**	mm	7 x M24		10 x M24		11 x M24	13 x M24	17 x M24
	n	mm	30		30		30	30	30
Number + size	**o1**	mm	6 x 19.03		9 x 19.03		10 x 19.03	12 x 19.03	16 x 19.03

*Only on request

TX-C

Self centering
Rigid jaws

High precision pull-down chucks Ø 210 - 315 mm

- **active pull-down**
- **tongue & groove**
- **3 jaws**



Application/customer benefits

- Clamping of workpieces with highest demand for **parallelism**
- **Highest productivity** with long maintenance intervals
- Constant grip force and long lifetime ensure **constant quality of work pieces**

Technical features

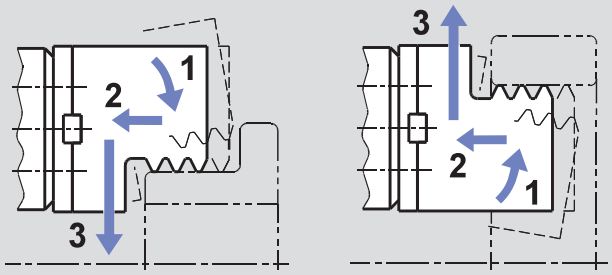
- 3-jaw-design
- active pull-down
- centrifugal force compensation
- tongue & groove base jaws
- central bore for coolant and/or air
- permanent oil lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

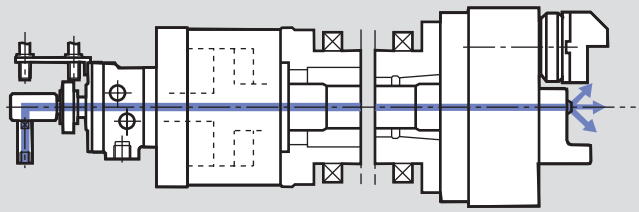
3-jaw-chuck
Mounting bolts and grease gun

Ordering example

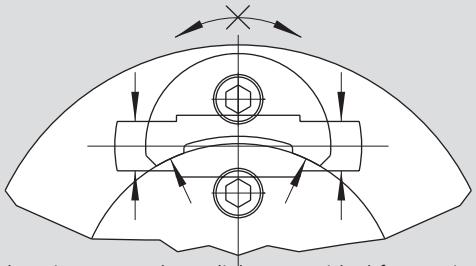
3-jaw-chuck TX-C 210/A6



Principle of function:
- **1** pre-clamping - **2** active pull-down - **3** clamping
- For o.d. and i.d. clamping



- TX-C chuck operated with a SIN-S cylinder with central bore for air sensing and/or coolant flush

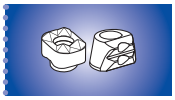


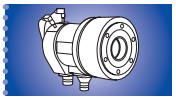
TX-C: High resistance to the radial torque, ideal for turning and milling application and guarantee of high precision, durability and constant process results

Technical data

SMW-AUTOBLOK Type		TX-C 210	TX-C 250	TX-C 315
Angular jaw stroke	deg.	5.2°	4.9°	4.9°
Radial jaw stroke at distance **h**	mm	6.3	7	7
Pull down movement (standard)	mm	0.1	0.1	0.1
Axial piston stroke	mm	25	26	26
Max. draw pull	kN	25	40	40
Max. gripping force at distance **h**	kN	60	96	96
Max. speed*	r.p.m.	4500	3800	3000
Mass (plain back without top jaws)	kg	28	42	67
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.17	0.35	0.84
Recommended actuating cylinders		**SIN-S 100**	**SIN-S 125**	**SIN-S 125**

* The above maximum speed is allowed with standard mass/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.


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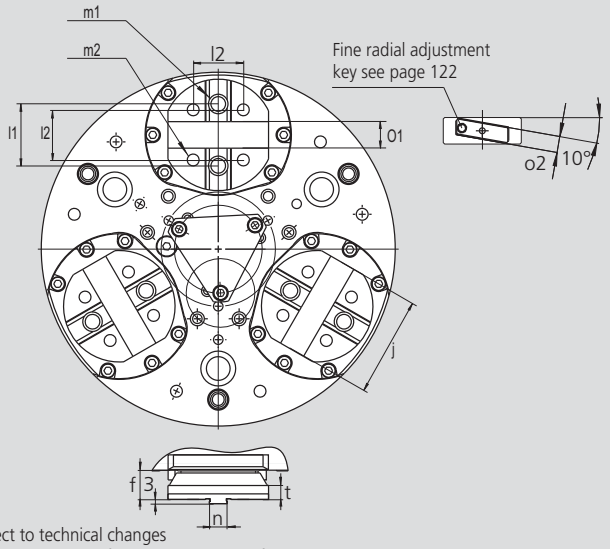
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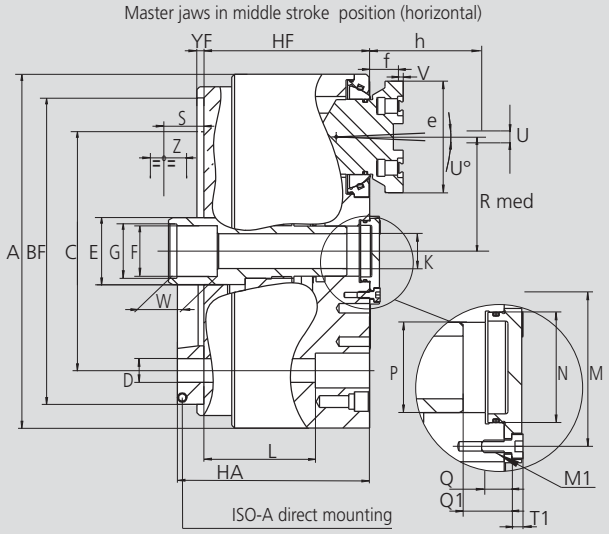
High precision pull-down chucks Ø 210 - 315 mm

- active pull-down
- tongue & groove
- 3 jaws

TX-C

Self centering
Rigid jaws





Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				TX-C 210		TX-C 250		TX-C 315	
Mounting				Z170	A6	Z220	A8	Z220	A8
	A		mm	212		254		315	
	BF/BA	H6	mm	170	106.375	220	139.719	220	139.719
	C		mm	133.4		171.4		171.4	
	D		mm	13.5		17		17	
	E		mm	38		48		48	
	F		mm	M32 x 1.5		M38 x 1.5		M38 x 1.5	
	G	H8	mm	33		39		39	
	HF/HA		mm	112	129	119	138	119	138
Through-hole	K		mm	18		25		25	
	L		mm	82		80		80	
	M		mm	42		63		63	
Thread/depth	M1		mm	M6/11		M6/14		M6/14	
	N	H8	mm	34		44		44	
	P		mm	28		36		36	
	Q		mm	5.5		7.5		7.5	
At middle stroke	Q1		mm	14		16		16	
At middle stroke	Rmed		mm	64		82		107	
At middle stroke	S		mm	20		25		25	
	T1		mm	7		7		7	
Radial stroke	U°		deg.	5.2°		4.9°		4.9°	
Radial stroke (1)	U		mm	6.3		7		7	
Pull-down s/d	V		mm	0.1		0.1		0.1	
	W		mm	25		30		30	
Axial piston stroke	Z		mm	25		26		26	
	e		mm	75		80		80	
	f		mm	21		21		21	
Reference height	h		mm	48		58		58	
	j		mm	65.2		72.2		72.2	
	l1		mm	38		44.4		44.4	
	l2		mm	32		36		36	
Thread/depth	m1		mm	M12/15		M12/15		M12/15	
Thread/depth	m2		mm	M10/14		M10/14		M10/14	
	n	h8	mm	7.94		12.7		12.7	
	o1	H7	mm	12.68		19.03		19.03	
	o2	h7	mm	9		12		12	
	t		mm	4		4		4	
	YF		mm	5		5		5	

TEF-C

Self centering
Floating jaws

High precision pull-down 2+2+2 equalising
Ø 260 - 850 mm

- active pull-down
- tongue & groove
- 6 jaws 2+2+2



Application/customer benefits

- Clamping of thin walled workpieces
- Suitable for OP 10 or unique clamping applications
- Low radial deformation with 2+2+2 clamping
- Constant grip force and long lifetime ensure **constant quality of work pieces**
- Low profile, ideal for machines with limited Z axis stroke

Technical features

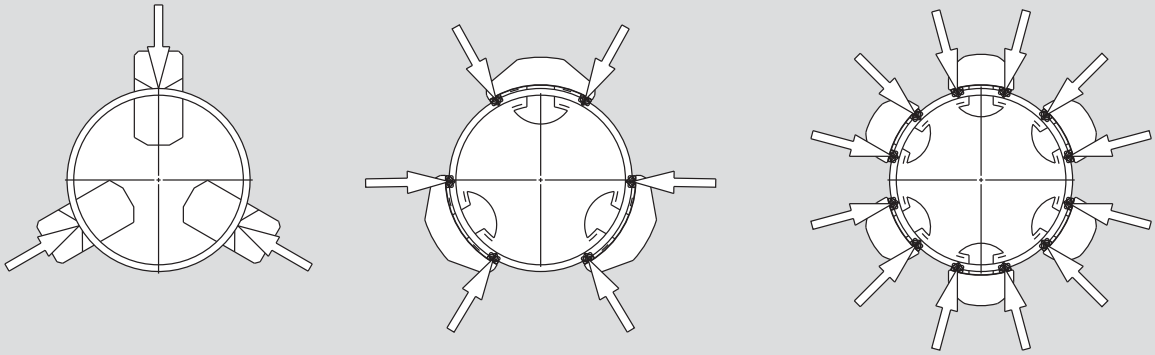
- 6-jaw-design
- active pull-down
- floating base jaws for 12 point contact
- centrifugal force compensation
- tongue & groove base jaws
- central bore for coolant and/or air
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

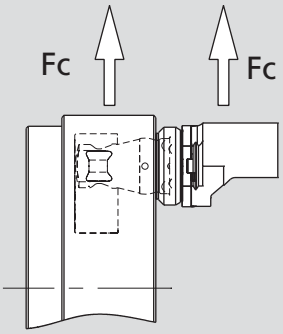
6-jaw-chuck
Mounting bolts and grease gun

Ordering example

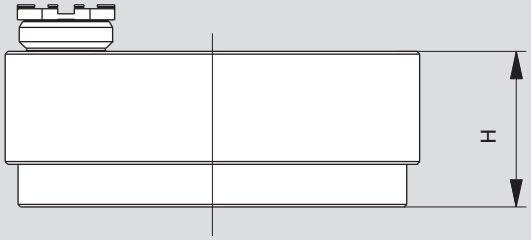
6-jaw-chuck TEF-C 260/A8



0 ≈ x **0 ≈ x/4** **0 ≈ x/16**



Very high centrifugal force compensation for very high speed



Very low profile and little limitation of the Z axis ideal for high production machines like the inverted spindle and frontal spindle lathes

Technical data

SMW-AUTOBLOK Type		TEF-C 260	TEF-C 320	TEF-C 400	TEF-C 530	TEF-C 650	TEF-C 850
Angular jaw stroke	deg.	5.2°	4.9°	4.9°	4.7°	4.7°	5°
Radial jaw stroke at distance **h**	mm	5.4	6	7	7.6	7.5	9.8
Angular compensation jaw stroke max.	deg.	±2.4°	±2.2°	±2.2°	±2.1°	±1.5°	±2.25°
Radial compensation at distance h max.	mm	±2.5	±2.7	±3.2	±3.5	±2	±4.5
Pull down movement (standard)	mm	0.1	0.1	0.1	0.2	0.8	0.4
Axial piston stroke	mm	24	29	29	35	35	37
Max. draw pull	kN	18	25	40	50	60	100
Max. gripping force at distance **h**	kN	44	60	96	120	120	180
Max. speed*	r.p.m.	4200	3500	2500	1800	1200	1200
Mass (plain back without top jaws)	kg	39	68	118	234	370	770
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.33	0.85	2.5	8.4	20	71
Recommended actuating cylinders		SIN-S 100	SIN-S 100	SIN-S 125	SIN-S 125	SIN-S 150	SIN-S 200

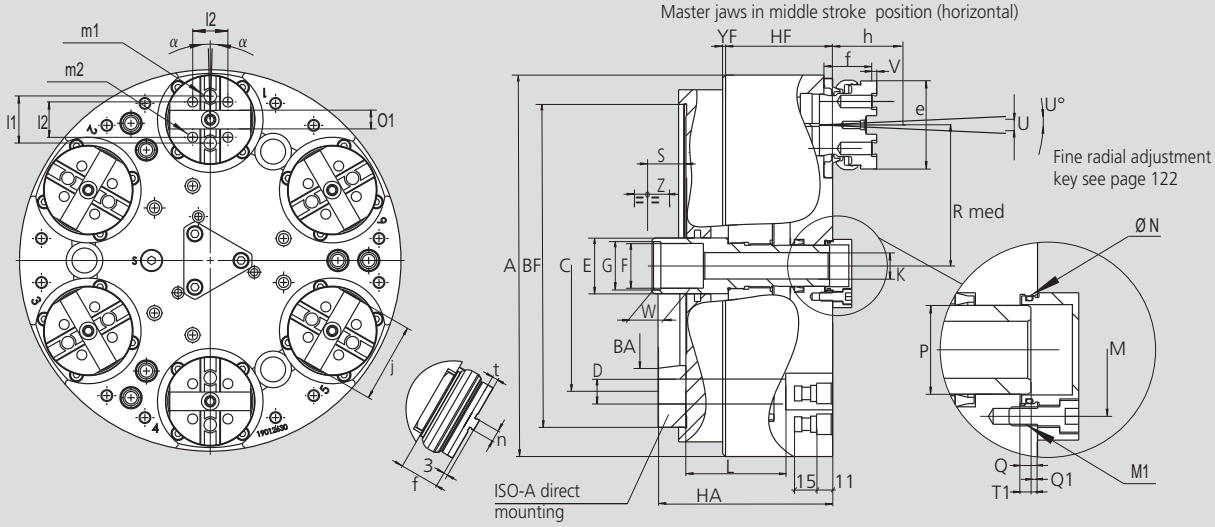
* The above maximum speed is allowed with standard mass/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.

High precision pull-down 2+2+2 equalising
Ø 260 - 850 mm

- active pull-down
- tongue & groove
- 6 jaws 2+2+2

TEF-C

Self centering
Floating jaws



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				TEF-C 260		TEF-C 320		TEF-C 400		TEF-C 530		TEF-C 650		TEF-C 850	
Mounting				**Z220**	**A8**	**Z280**	**A11**	**Z300**	**A11**	**Z380**	**A15**	**Z380**	**A15**	**Z520**	**A20**
	A		mm	260		320		404		530		650		850	
	BF/BA	H6	mm	220	139.719	280	196.869	300	196.869	380	285.775	380	285.775	520	412.775
	C		mm	171.4		235		235		330.2		330.2		463.6	
	D		mm	17		21		21		26		26		27	
	E		mm	38		48		48		75		75		100	
	F		mm	M32 x 1.5		M38 x 1.5		M38 x 1.5		M60 x 1.5		M60 x 1.5		M80 x 2	
	G	H8	mm	33		39		39		61		61		81	
	HF/HA		mm	100	119	115	136	122	143	142	165	157	180	180	205
Through-hole	**K**		mm	18		25		25		52		52		75	
	L		mm	68		84		94		107		107		145	
	M		mm	42		63		63		75		75		*	
Thread/depth	**M1**		mm	M6/11		M6/11		M6/11		M8/16		M8/16		M8/16	
	N	H8	mm	34		44		44		75		75		150	
	P		mm	28		36		36		65		65		100	
	Q		mm	5.5		7.5		7.5		9		9		18.5	
At middle stroke	**Q1**		mm	5		5.5		5.5		6.5		10.5		5	
At middle stroke	**Rmed**		mm	96		113		152		200		260		345	
At middle stroke	**S**		mm	23.1		23.5		18.3		36.3		25.5		22.6	
	T1		mm	13		13		13		15		12		*	
Radial stroke	**U°**		deg.	5.2°		4.9°		4.9°		4.7°		4.7°		5°	
Radial stroke (1)	**U**		mm	5.4		6		7		7.6		7.5		9.8	
Pull-down std.	**V**		mm	0.1		0.1		0.1		0.2		0.8		0.4	
	W		mm	25		30		30		26		26		30	
Axial piston stroke	**Z**		mm	24		29		29		35		35		37	
	α		deg.	±2°		±1.5°		±1.5°		±1.5°		±1°		±1.3°	
	e		mm	60		75		80		105		105		127	
	f		mm	27		33		33		32		32		46	
Reference height	**h**		mm	50		60		70		80		80		100	
	j		mm	55.2		65.2		72.2		100.2		100.2		116.2	
	l1		mm	32		38		44.4		63.5		63.5		63.5	
	l2		mm	24		32		36		48		48		54	
Thread/depth	**m1**		mm	M10/16		M12/18		M12/18		M16/20		M16/20		M20/25	
Thread/depth	**m2**		mm	M8/14		M10/14		M10/14		M12/17		M12/17		M16/24	
	n	h8	mm	7.94		7.94		12.7		12.7		12.7		12.7	
	o1	H7	mm	12.68		12.68		19.03		19.03		19.03		19.03	
	t		mm	4		4		4		7		4		7	
	YF		mm	5		5		6		6		6		6	

* Please ask for chuck drawing

IEP-D

2+2+2 movement
INCH serration

High precision 6 jaw chucks 2+2+2 equalising Ø 500 - 800 mm

- **closed center**
- **6 jaws (2+2+2) all sizes**



Application/customer benefits

- Clamping of thin walled work pieces
- Low radial deformation with 2+2+2 clamping
- Suitable for horizontal and vertical machines

Technical features

- Clamping at 6 point with 2+2+2 equalising system
- Constant gripping force with permanent lubrication
- Centrifugal compensation for high spindle speed
- **proofline® chucks** = fully sealed – low maintenance

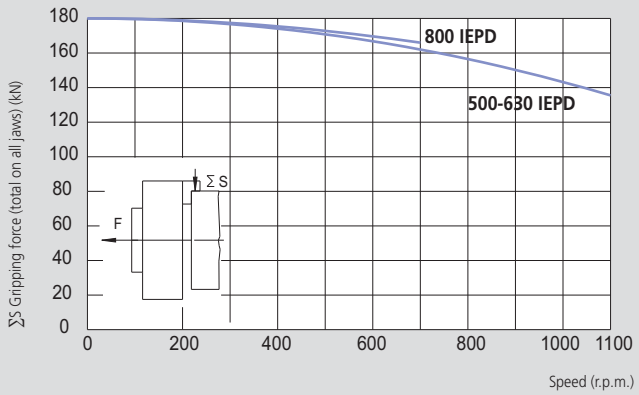
Standard equipment

chuck with mounting bolts
1 set of soft top jaws
grease gun

Ordering example

IEP-D 500/Z380

Actual gripping force diagram



The data in the diagram refer to 6-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type Number of jaws		IEP-D 500 2+2+2	IEP-D 630 2+2+2	IEP-D 800 2+2+2
Radial jaw stroke	mm	15	15	15
Jaw compensation	mm	±4	±4	±4
Axial piston stroke	mm	30	30	30
Max. draw pull	kN	120	120	120
Max. gripping force	kN	180	180	180
Max. speed	r.p.m.	1100	800	650
Mass (without top jaws)	kg	260	410	670
Moment of inertia	kg·m²	8.5	20	55
Hard top jaw (set of 3)	Id. No.	12084546	12084546	12084546
Soft top jaw (piece)	Id. No.	12074040	12075050	12075050
Recommended actuating cylinders		**SIN-S 150/175/200**	**SIN-S 150/175/200**	**SIN-S 150/175/200**

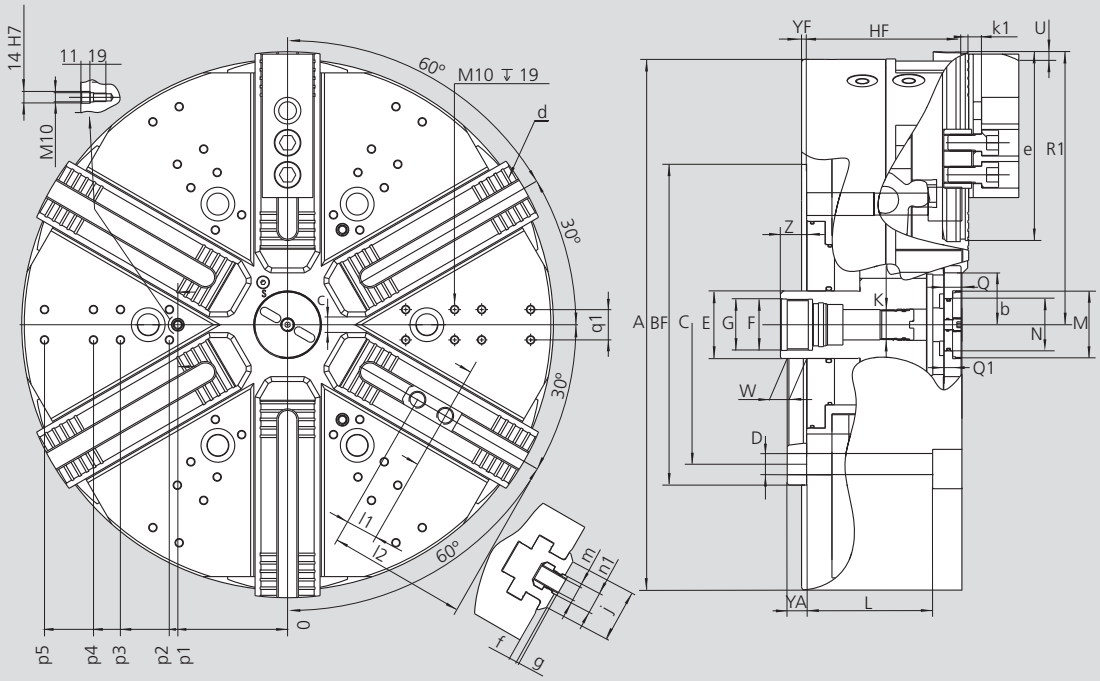
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High precision 6 jaw chucks 2+2+2 equalising Ø 500 - 800 mm

- closed center
- 6 jaws (2+2+2) all sizes

IEP-D

2+2+2 movement
INCH serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				IEP-D 500	IEP-D 630	IEP-D 800
	A		mm	510	630	800
	BF	H6	mm	380	380	520
	C		mm	330.2	330.2	463.6
	D		mm	25.5	25.5	25.5
	E		mm	80	80	80
	F		mm	M60 x 1.5	M60 x 1.5	M60 x 1.5
	G	H8	mm	61	61	61
	HF		mm	184	184	184
Through hole	K		mm	33	33	33
	L		mm	144	144	144
	M		mm	M80 x 2	M80 x 2	M80 x 2
	N	H8	mm	62	62	62
	Q		mm	10	10	10
	Q1		mm	10	10	10
Chuck open	R1		mm	263.5	323.5	408.5
Jaw stroke	U		mm	15	15	15
	W		mm	38	38	38
max./min.	Z		mm	61/31	61/31	61/31
min.	b		mm	46.5	46.5	46.5
min.	c		mm	3.5	3.5	3.5
	d		inch	3/32 x 90°	3/32 x 90°	3/32 x 90°
	e		mm	174	234	319
	f		mm	8	8	8
	g		mm	3.5	3.5	3.5
	j		mm	63	63	63
	k1		mm	15.5	15.5	15.5
	l1		mm	38	38	38
max./min.	l2		mm	138/54	198/54	283/54
	m		mm	M20	M20	M20
	n1	h8	mm	25.5	25.5	25.5
Radial position	p1		mm	130	130	130
Radial position	p2		mm	140	140	140
Radial position	p3		mm	-	198	215
Radial position	p4		mm	230	230	230
Radial position	p5		mm	-	288	305
	q1		mm	36	36	36
	YF/YA		mm	6 / 23	6 / 23	6 / 23

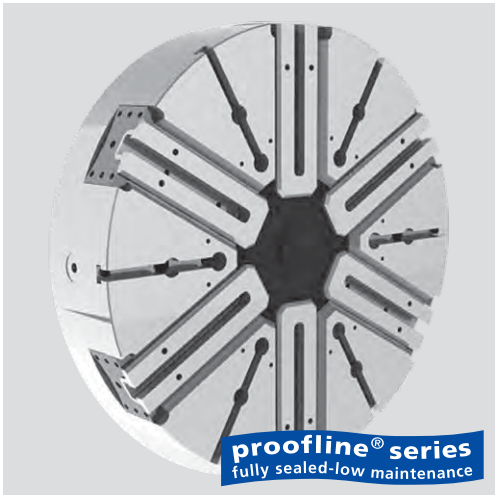
Attention: For detailled information, please ask for the customer drawing

IEP-D

2+2+2 movement
MODULE 2 serrations

High precision 6 jaw chucks 2+2+2 equalising Ø 1000 - 1600 mm

- **closed center**
- **6 jaws (2+2+2) all sizes**



Application/customer benefits

- Clamping of thin walled work pieces
- Low radial deformation with 2+2+2 clamping
- Suitable for horizontal and vertical machines

Technical features

- Clamping at 6 point with 2+2+2 equalising system
- Constant gripping force with permanent lubrication
- Centrifugal compensation for high spindle speed
- **proofline® chucks** = fully sealed – low maintenance

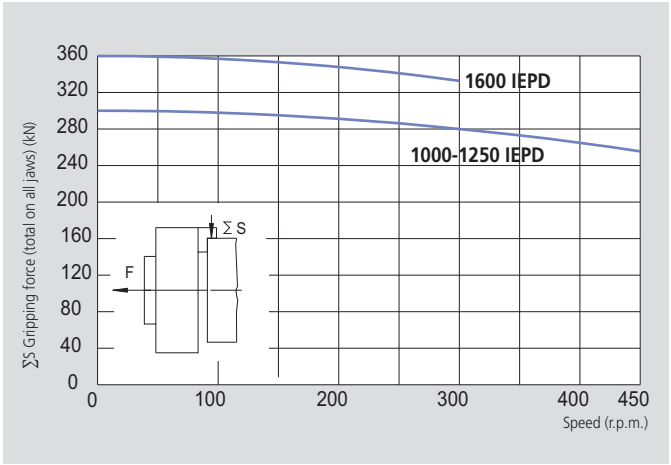
Standard equipment

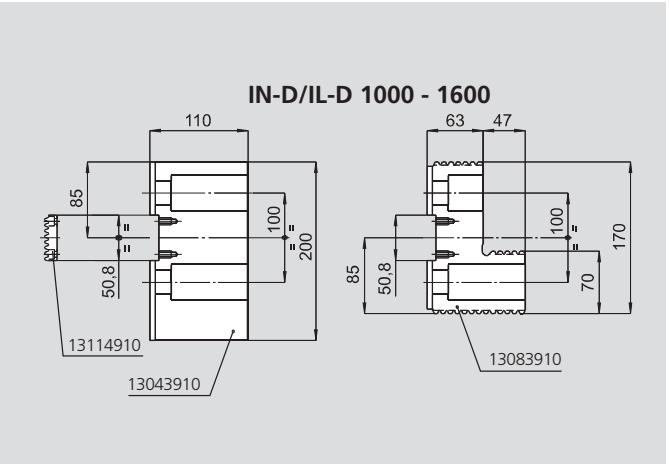
chuck with mounting bolts
1 set of soft top jaws
grease gun

Ordering example

IEP-D 1250/Z520

Actual gripping force diagram





The data in the diagram refer to 6-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type Number of jaws		IEP-D 1000 2+2+2	IEP-D 1250 2+2+2	IEP-D 1600 2+2+2
Radial jaw stroke	mm	20	20	25
Jaw compensation	mm	±5	±5	±5
Axial piston stroke	mm	40	40	50
Max. draw pull	kN	200	200	240
Max. gripping force	kN	300	300	360
Max. speed	r.p.m.	450	400	280
Mass (without top jaws)	kg	1080	1500	2370
Moment of inertia	kg·m²	127	273	640
Hard top jaw (piece)	Id. No.	13083910	13083910	13083910
Soft top jaw (piece)	Id. No.	13043910	13043910	13043910
Recommended actuating cylinders		**SIN-S 200-250**	**SIN-S 200-250**	**SIN-S 200-250**

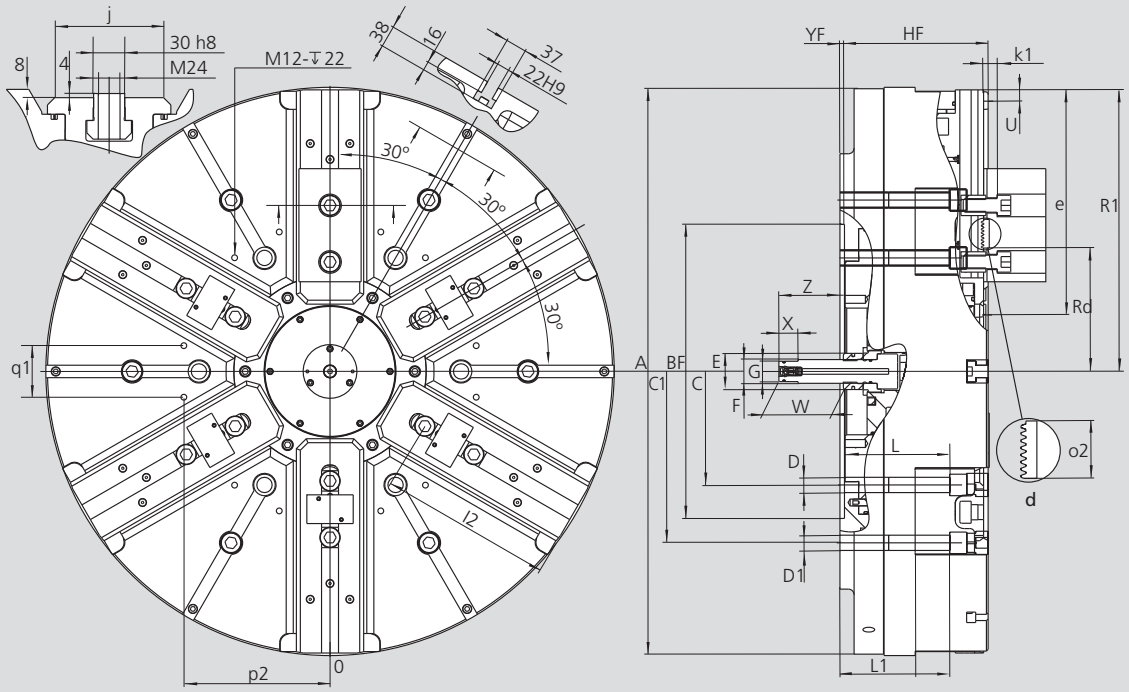
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High precision 6 jaw chucks 2+2+2 equalising Ø 1000 - 1600 mm

■ closed center
■ 6 jaws (2+2+2) all sizes

IEP-D

2+2+2 movement
MODULE 2 serrations



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				IEP-D 1000	IEP-D 1250	IEP-D 1600
	A		mm	1005	1250	1600
	B_F	H6	mm	520	520	720
	C		mm	463.6	463.6	647.6
	C_1		mm	700	700	1110
	D		mm	27	27	33
	D_1		mm	27	27	27
	E		mm	64	64	64
	F		mm	M42 x 3	M42 x 3	M42 x 3
	G	H8	mm	36	36	36
	H_F		mm	254	254	272
	L		mm	186	186	225
	L_1		mm	194	194	233
Chuck open	**R_1**		mm	498	620.5	798.5
Chuck open	**R_d**		mm	228	228	288.5
Jaw stroke	**U**		mm	20	20	25
	W		mm	114	114	114
	X		mm	34	34	34
	Y_F		mm	8	8	8
max./min.	**Z**		mm	156 | 116	156 | 116	156 | 106
	d		M	Module 2	Module 2	Module 2
	e		mm	345	465	595
	j		mm	105	105	131
	k_1		mm	24	24	24
max./min.	**l_2**		mm	295 | 118	417 | 118	531 | 118
	o_2		mm	50.8	50.8	50.8
	p_2		mm	258.5	258.5	*
	q_1		mm	91	91	*

* please ask for a chuck drawing

AXN®

Automatic indexing chuck

Automatic indexing chucks Ø 210 - 850 mm

- hydraulic clamping and indexing
- 2 jaws
- Divisions: 4 x 90°/8 x 45°/3 x 120°/6 x 60° or specials



Application/customer benefits

- Fully automated and high productivity machining of components with orthogonal axis or with 45°, 60° or 120° axis
- High productivity for machining of work pieces like valve bodies, spiders or fittings (see picture below) at high position accuracy.

AXN: Automatic indexing chuck with hydraulic clamping and indexing

Technical features

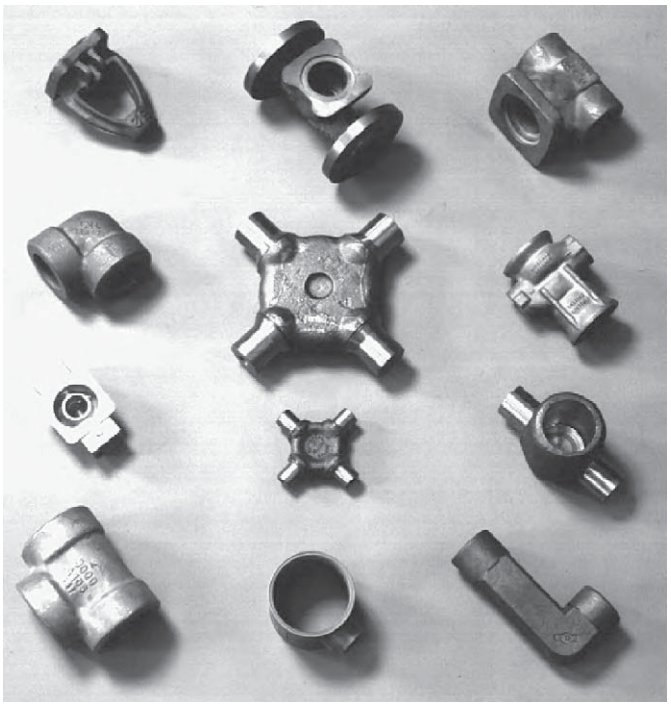
- Rigid holding of the work piece at high revolutions allowing high chip removal rates
- High positioning and repeatability precision
- Reliable indexing system with constant oil lubricated internal mechanism
- Constant and automatic in-process controls for extremely safe machining
- **proofline® chucks** = fully sealed – low maintenance

Components supplied on request

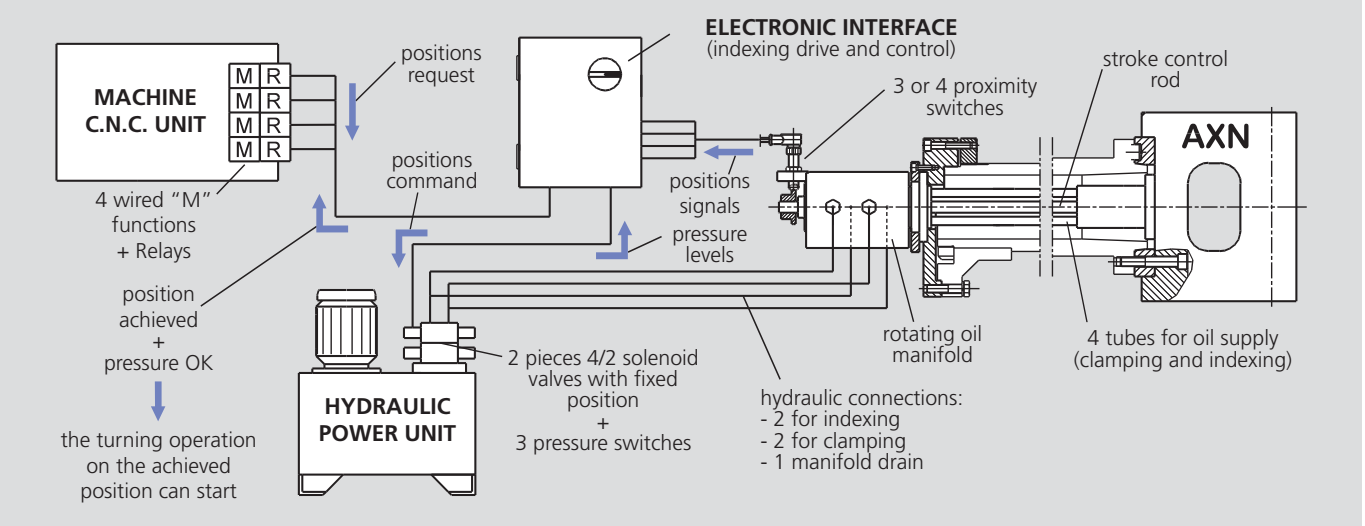
Adapter parts and clamping jaws

Unique features

- Hardened and ground body, designed to avoid deformation, ensuring rigidity and accuracy
- Easy installation to the machine
- Indexing movement during spindle rotation, allowing a quick change between the multiple working axes
- Indexing and clamping mechanism constantly oil lubricated and supported by strong systems of roller bearings
- Very high maximum speed, with centrifugal force compensation system, for higher productivity performance
- Very simple hydraulic system based on just 4 hoses, 2 for the indexing mechanism and 2 for the clamping piston
- Internal mechanisms fully protected against contamination by coolant, chips and dust
- Constant and automatic control of the position of the part and other working parameters by the C.N.C. of the machine, or by a separate electronic interface



General operating diagram



Automatic indexing chucks Ø 210 - 850 mm

- hydraulic clamping and indexing
- 2 jaws
- Divisions: 4 x 90°/8 x 45°/3 x 120°/6 x 60° or specials

AXN®

Automatic indexing chuck

Unique indexing system

- Extremely simple and rigid indexing system
- On the indexing shaft there is a triangle, square or multiple face shape. The indexing shaft "A" is rotated by the piston "C" and is locked in position by the piston "B".
- For clamping and indexing 4 hydraulic lines are needed.

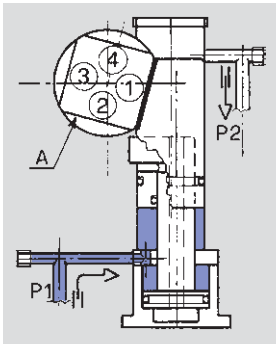


Fig. 1 - Pressure in P1
Indexing shaft A locked in position 1 by the locator B: turning operation on the first side of the component

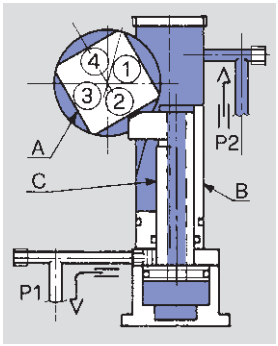


Fig. 2 Pressure in P2 (indexing)
The locator B retracts and releases the indexing shaft A; the finger C moves forward and rotates the shaft by 45°

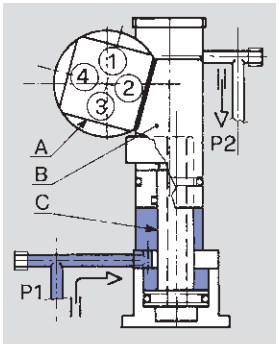
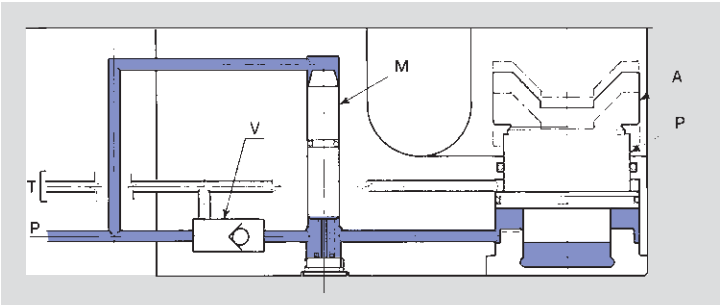


Fig. 3 - Pressure in P1
The finger C retracts, while the locator B moves forward rotating the shaft A to 90° and locking it in position 2 for machining of the work-piece

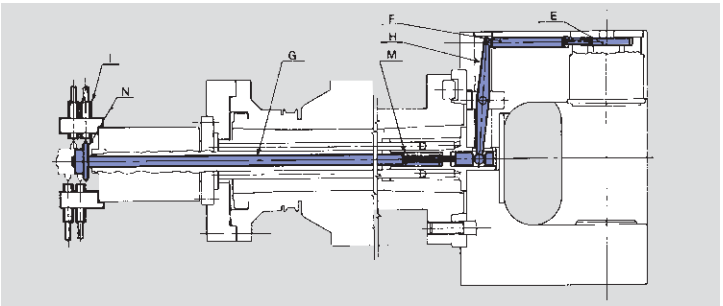
Centrifugal force compensation system

- Unique hydraulic system designed to reduce the loss of grip ping force caused by the centrifugal force on the clamping piston P and clamping jaw A.
- The counterweight M is in a radial hole in the chuck body connected to the hydraulic circuit through the non-return valve V.
- During rotation, the pressure created by the counterweight M increases the pressure on the clamping piston P and compensates for the loss of gripping force due to the centrifugal force.



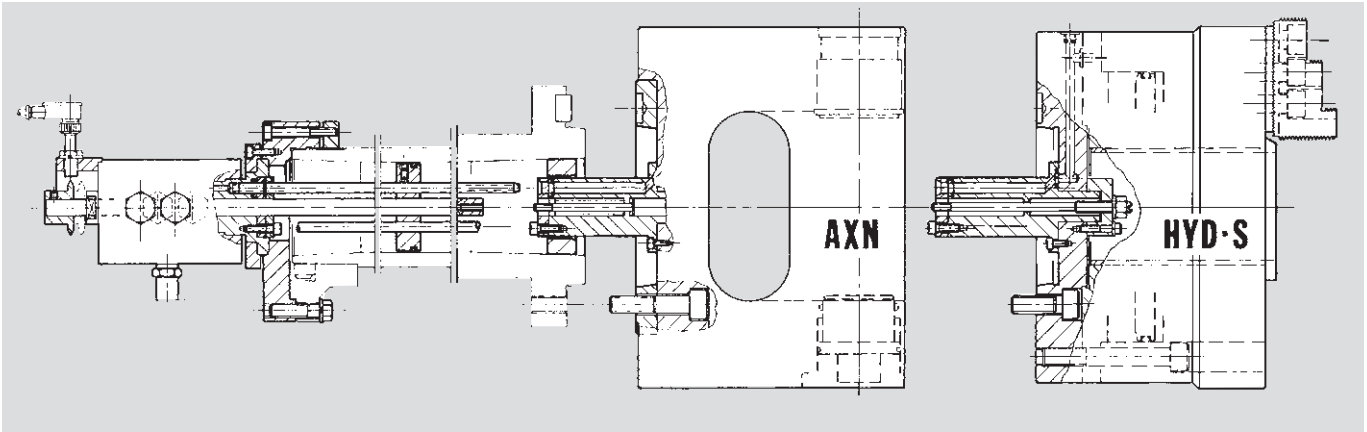
Indexing position control system

- The indexing control is mounted on the oil manifold. It is actuated by a rod system and monitored by 4 proximity switches.
- The cam "E" on the indexing jaw moves the rear switch ring "N" via the rod "F", lever "H", rod "G" and pullback spring "M".
- The corresponding proximity switch for each indexing position is actuated by the switch ring "M" and confirms, that the indexing position is being reached.



Interchangeability between AXN indexing chuck and front end power chuck HYD-S

The AXN chuck can easily and quickly be changed with a front end power chuck with 3 or 4 jaws type HYD-S. The oil manifold and the tube bundle remain mounted on the machine to actuate the chuck.



AXN®	AXN®-R	
Automatic indexing chuck standard body	Automatic indexing chuck with reinforced body	**AXN Automatic indexing chucks Ø 210 - 850 mm** ■ Divisions: 4 x 90°/8 x 45°/3 x 120°/6 x 60° or specials **AXN-R Automatic indexing chucks, reinforced Ø 210 - 315 mm** ■ Divisions: 4 x 90°/8 x 45°/3 x 120°/6 x 60° or specials

Which is the right indexing chuck diameter for my parts?

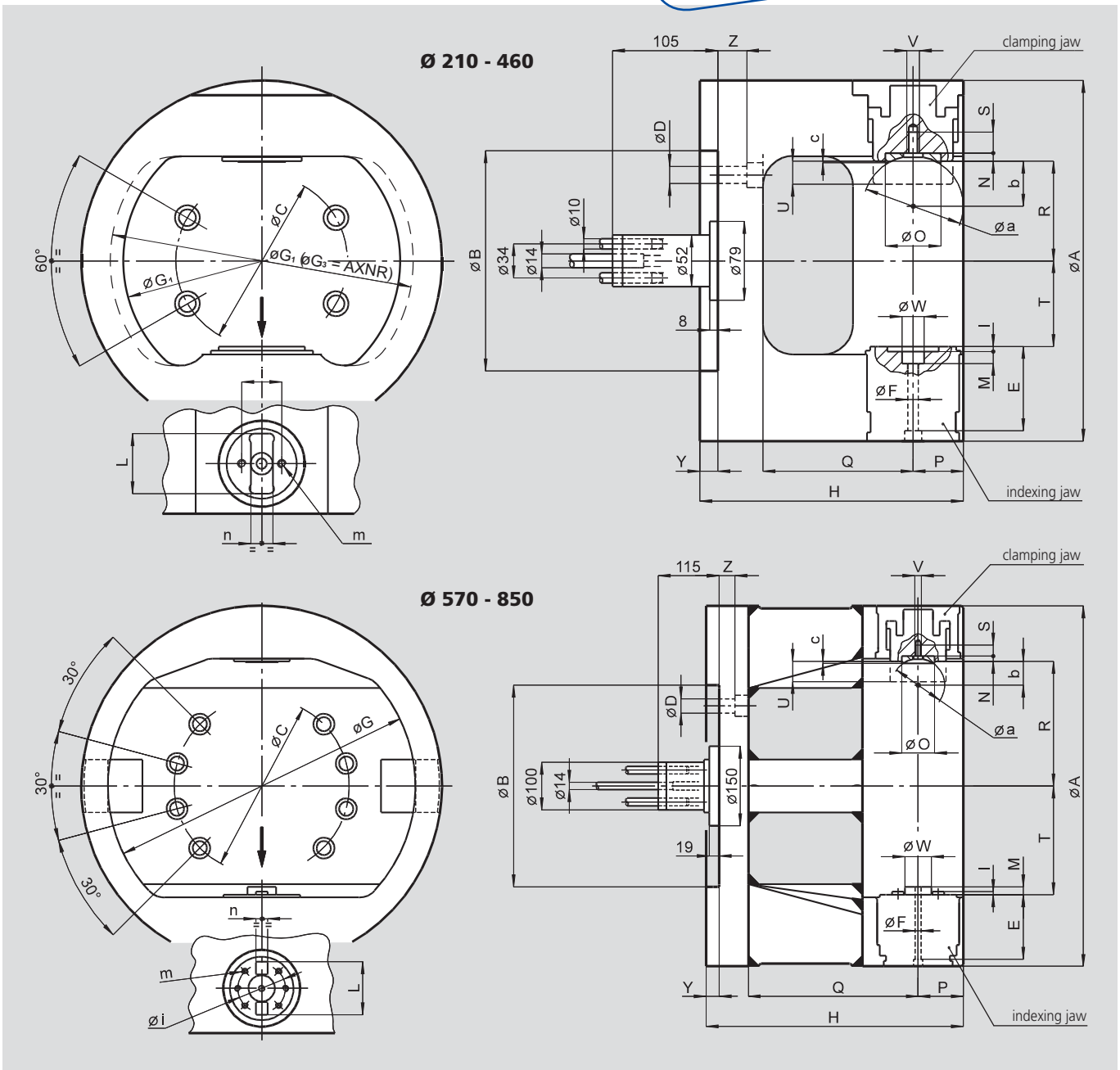
- The complete line of AXN indexing chucks has been designed to clamp and index almost all kind of multi axis parts that are possible to find on the market
- The important dimensions to check in the following drawing and table are:
  - **G** diameter **>** the biggest diagonal of the component
  - **T** dimension **+** indexing jaw room (jaw mounted on the indexing shaft) **>** 1/2 of the height of the component
- Another way to check if the part can be indexed on a specific chuck, is to make a simple drawing showing the part clamped in center by the clamping jaws and its 360° rotation around the indexing axis inside of the internal pocket of the chuck
- Besides the work piece dimensions also parameters as the clamping force, the stroke of the clamping piston, the overhang of the component from the chuck face sufficient tool clearance and the working cycle, are relevant

Attention: The requested AXN chucksize is not only deter mined by the size and weight of the component, but also by the production process. Therefore the determination of the AXN-chucksize must be done in accordance with SMW-AUTOBLOK

The experienced SMW-AUTOBLOK technicians can help you in all steps of this decision process: don't hesitate to contact them!

Highest accuracy is achieved if finishing operation is done at same spindle speed (constant r.p.m.).

Dimensions



AXN Automatic indexing chucks Ø 210 - 850 mm
■ Divisions: 4 x 90°/8 x 45°/3 x 120°/6 x 60° or specials

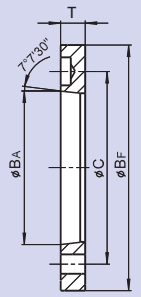
AXN-R Automatic indexing chucks, reinforced Ø 210 - 315 mm
■ Divisions: 4 x 90°/8 x 45°/3 x 120°/6 x 60° or specials

AXN® Automatic indexing chuck standard body

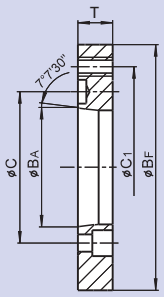
AXN®-R Automatic indexing chuck with reinforced body

ISO-A flanges for AXN chucks

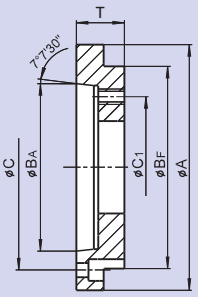
Type 1 - direct ISO-A mounting



Type 2 - reduction ISO-A mounting



Type 3 - increase ISO-A mounting



AXN chuck size	Spindle	Type	Id. No.	A	BF	BA	C	C1	T
210-235	A5	2	24552030	-	170	82.563	104.8	133.4	24
210-235	A6	1	24162500	-	170	106.375	133.4	-	24
254-280-315-360	A6	2	24562530	-	220	106.375	133.4	171.4	24
205-235	A8	3	24182030	210	170	139.719	171.4	133.4	40
254-280-315-360	A8	1	24182500	-	220	139.719	171.4	-	19
400-460	A8	2	24183100	-	300	139.719	171.4	235	30
254-280-315-360	A11	3	24112530	280	220	196.869	235	171.2	50
400-460	A11	1	24113100	-	300	196.869	235	-	21
570-680	A11	2	24115000	-	380	196.869	235	330.2	40
570-680	A15	1	24127100	-	380	285.775	330.2	-	33
850	A15	2	24126100	-	520	285.775	330.2	463.6	40
850	A20	1	24178000	-	520	412.775	463.6	-	25

Main dimensions and technical data

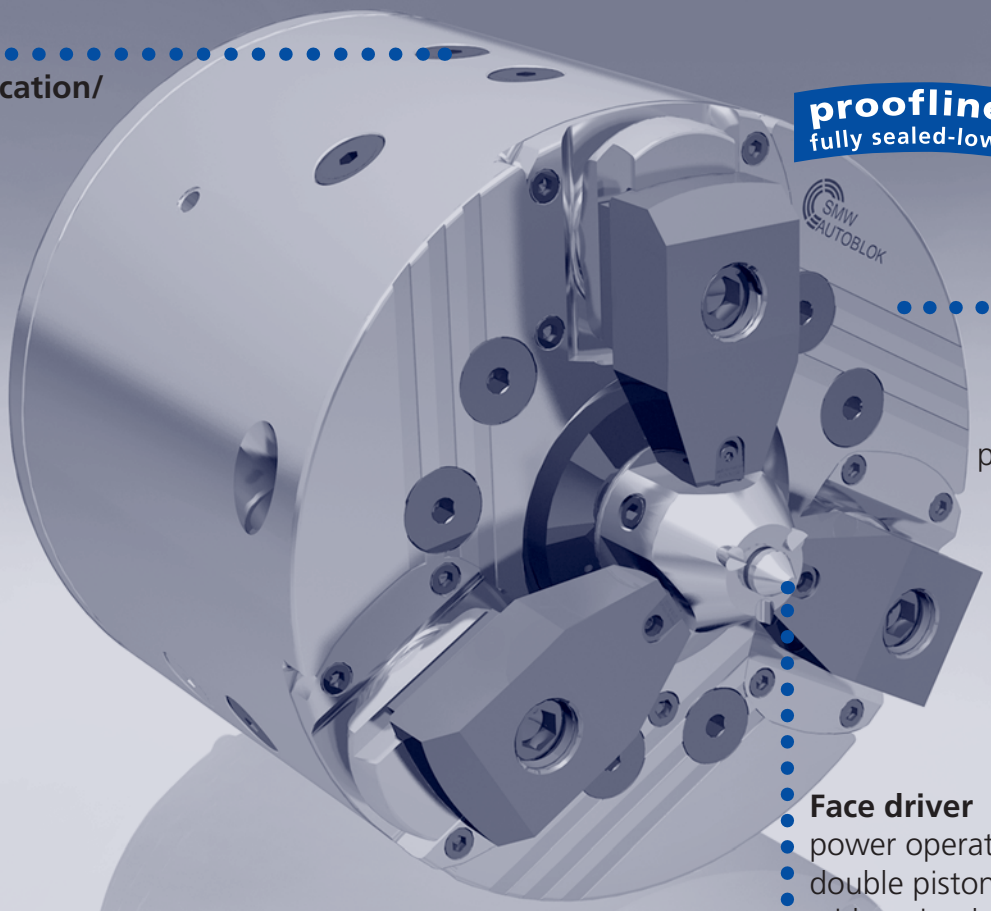
SMW-AUTOBLOK dimension AXN			210	235	254	280	315	360	400	460	570	680	850
	A	mm	210	235	254	280	315	360	400	460	570	680	850
	B	mm	170	170	220	220	220	220	300	300	380	380	520
	C	mm	133.4	133.4	171.4	171.4	171.4	171.4	235	235	330.2	330.2	463.6
	D	mm	13	13	17	17	17	17	21	21	27	27	27
	E	mm	70	70	73	73	84	84	99	99	122	122	142
	F	mm	5.5	5.5	8.5	8.5	10.5	10.5	10.5	10.5	11	11	11
Max. workpiece rotation dia.	**G**	mm	184	206	228	250	275	315	350	410	490	600	750
Max. axial loading window	**G1**	mm	175	197	216	240	261	301	333	394	466	576	730
Max. workpiece rotation dia.	**G2**	mm	160	180	195	210	245	-	-	-	-	-	-
Max. axial loading window	**G3**	mm	150	170	183	198	230	-	-	-	-	-	-
	H	mm	187	194	214	227	249	263	291	321	435	485	570
	I	mm	4	4	5	5	5	5	5	5	6	6	6
	L	mm	42	42	45	45	52	52	70	70	100	100	100
	M	mm	9	9	11	11	12	12	12	12	15	15	15
	N	mm	3	3	6	6	7	7	10	10	10	10	10
	O	mm	22	22	36	36	48	48	62	62	62	62	62
	P	mm	36	36	42	42	50	50	58	58	85	85	95
	Q	mm	95	102	112	125	136	150	170	200	270	320	385
max.	**R**	mm	41.9	54.5	57	70	77	99.5	110	140	180	235	305
	S	mm	12	12	14	14	18	18	18	18	19	19	19
	T	mm	30	42.5	45	58	63	85.5	91	121	150	205	270
Clamping jaw stroke	**U**	mm	15	15	17	17	23	23	30	30	40	40	55
	V	mm	M6	M6	M8	M8	M10	M10	M10	M10	M10	M10	M10
	W H6	mm	12	12	18	18	22	22	22	22	50	50	50
	Y	mm	16	16	16	16	18	18	18	18	25	25	25
	Z	mm	28	28	32	32	29	29	24	24	50	50	60
	a	mm	40	40	60	60	100	100	100	100	100	100	100
	b	mm	17.5	17.5	26	26	45	45	42	42	42	42	42
	c	mm	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	1
	i	mm	28	28	35	35	40	40	40	40	90	90	90
	m	mm	M5	M5	M6	M6	M8	M8	M8	M8	M10	M10	M10
	n H6	mm	12	12	18	18	22	22	22	22	22	22	22
Clamping piston area		cm²	30	30	43	43	63.6	63.6	86.6	86.6	113	113	132
Max pressure		bar	45	45	45	45	45	45	45	45	45	45	45
Max. speed (1)		r.p.m.	4400	3800	3600	3400	2800	2400	2200	1800	1200	1000	700
Moment of inertia		kg·m²	0.16	0.27	0.47	0.88	1.45	2.05	3.4	6.4	12	29	115
Clamping top jaw mass (1)		kg	0.6	0.6	1.3	1.3	2	2	4	5	6	7	9
Mass		kg	24	32	45	55	80	95	127	171	300	500	990

(1) IMPORTANT:

- Max rotation speed can be reached only at max. operating pressure and using a clamping jaw with a mass not exceeding the value shown in the above schedule.
- The component to be machined and the two clamping jaws must always be perfectly balanced around the axis of rotation, when this is not possible, or the clamping jaw is heavier, the rotation speed must be correspondingly reduced.
- The component may be indexed during rotation; when working at high r.p.m., it is advisable to reduce speed 30-50% during the indexing operation to avoid vibrations due to the unbalance of masses while the part is in an intermediate position.

Shaft chuck
COMPLETE MACHINING OF

Constant lubrication/
filled with oil

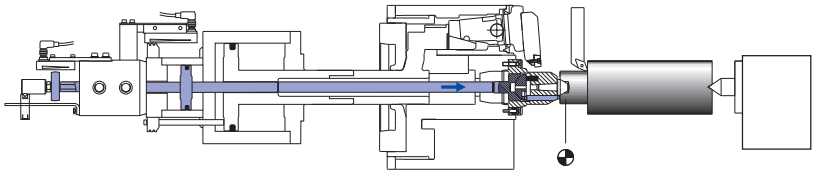


proofline® series
fully sealed-low maintenance

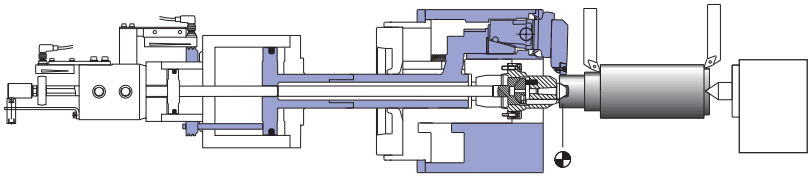
Jaw carrier, retracted
The work-piece is driven by the face driver

Face driver
power operated via double piston cylinder or with spring loaded center

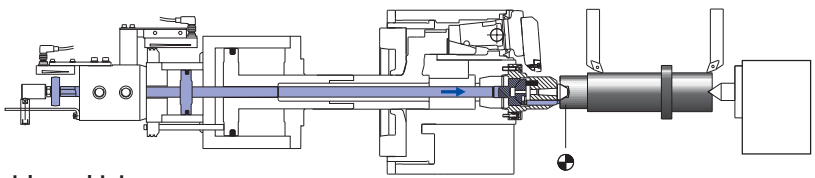
The application: Complete machining of shafts in one setup



1. Machine clamping dia. (only necessary when using the self centering chuck):
The jaws are retracted. The component is clamped between centers and driven by the face driver. This operation can be eliminated if the clamping dia. is already machined when the center bore is manufactured. This operation is not necessary when using the chuck with floating jaws.



2. Rough machining:
The part is driven with the high gripping force of the jaws. High chip removal is possible.

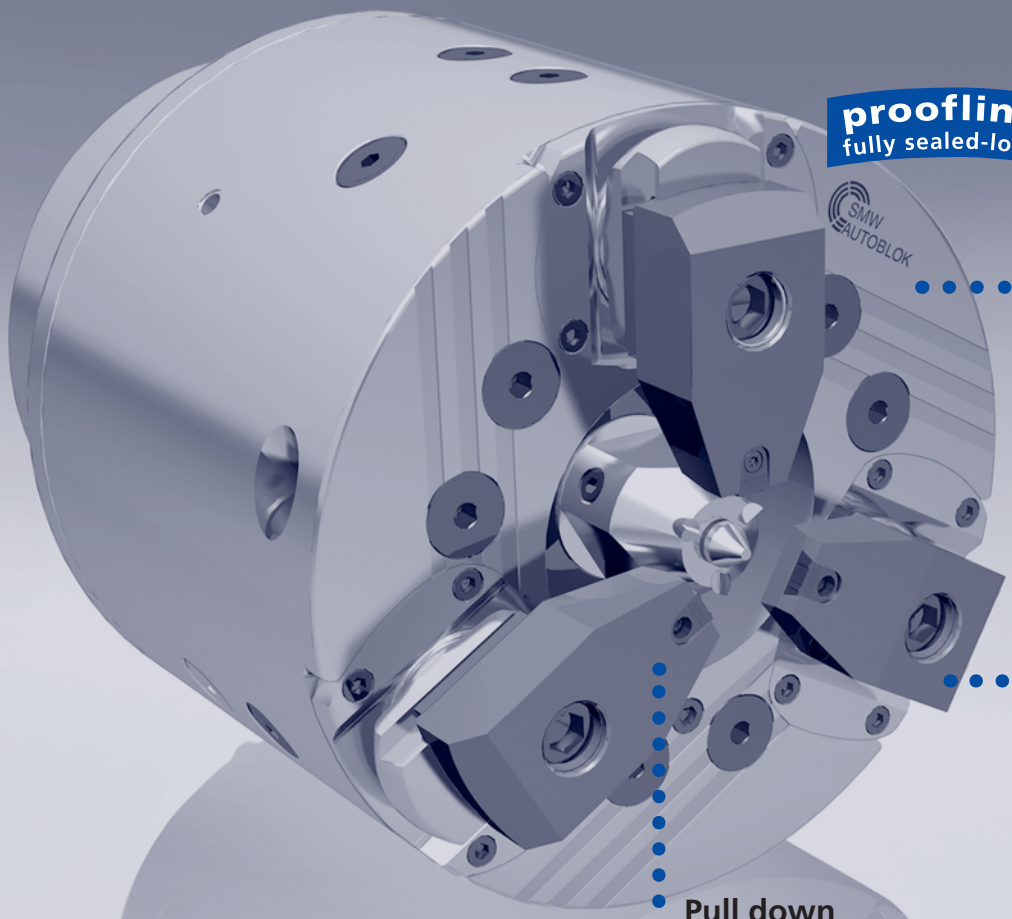


3. Finish machining:
The chuck body is retracted. The part is clamped between centers and driven by the face driver. The complete outline can be machined with perfect concentricity.

with face driver

SHAFTS IN ONE setup

W 215® • W 260 • W 325 • W 460

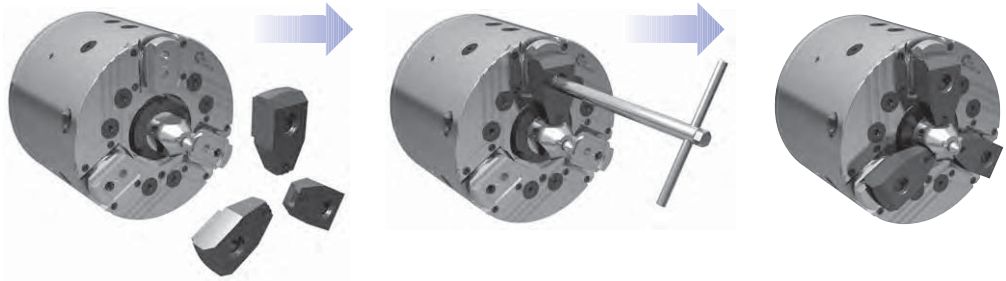


Jaw carrier, forward
High torque transmission with the jaws

Clamping
compensating or self-centering jaw clamping

Pull down
of the workpiece to the centerpoint by pivoting movement of the jaws

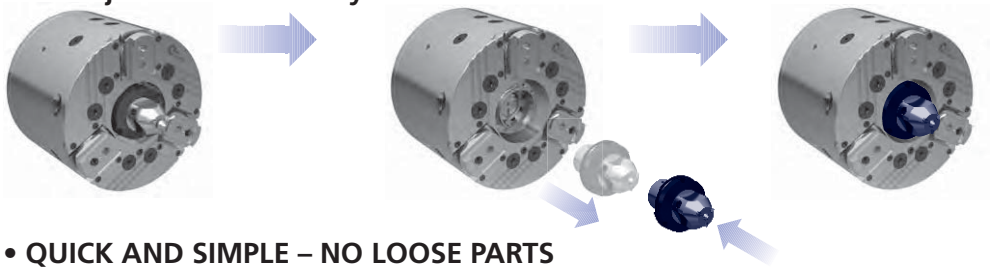
QUICK JAW CHANGE IN LESS THAN 1 MINUTE



• QUICK AND SIMPLE – NO LOOSE PARTS

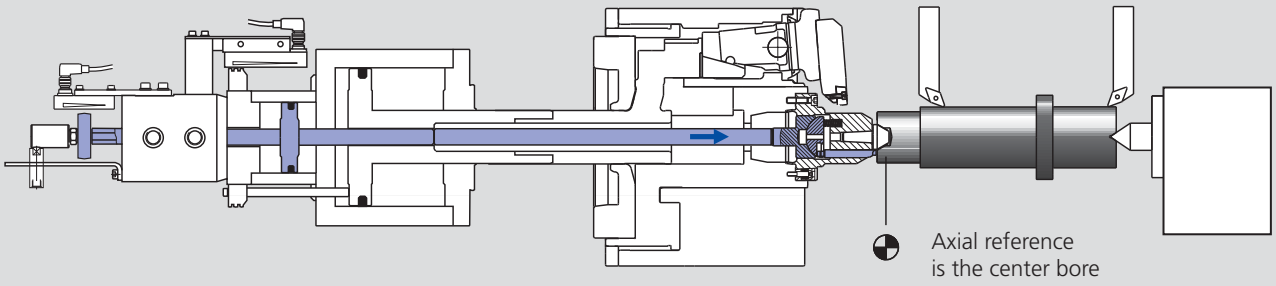
QUICK-CHANGE-FACE-DRIVER IN LESS THAN 2 MINUTES

- Highest accuracy
- No adjustment necessary



• QUICK AND SIMPLE – NO LOOSE PARTS

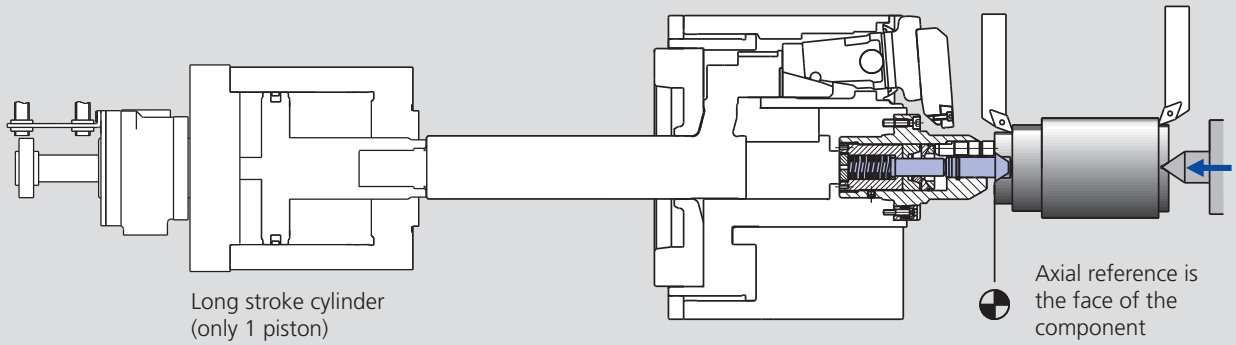
Shaft chuck with face driver with fixed center ZHVD-SZ or DCN double piston cylinder



Power operated face driver with fixed center type SNF
(The design of the face driver is made according to the component)

- The axial reference is the center bore of the component.
- Fixed center guarantees highest concentricity.
- The driving pins are actuated via piston No. 2 of the double piston cylinder ZHVD-SZ. The driving pins penetrate into the face of the component (Piston No. 1 is used for chuck actuation).
- Clamped/unclamped position of the face driver is monitored by proximity switches/LPS.
- Highest accuracy - no adjustment necessary!

Shaft chuck with face driver with spring-loaded center SIN-L long stroke cylinder



Face driver with spring-loaded center type FSB
(The design of the face driver is made according to the component)

- The axial reference is the face of the component.
- The component is pushed against the driving pins and the spring-loaded center by the tailstock thrust. The driving pins penetrate into the face of the component.
- A special built-in locking mechanism holds the spring-loaded center and holds the component in its axial position.
- Highest accuracy – no adjustment necessary!

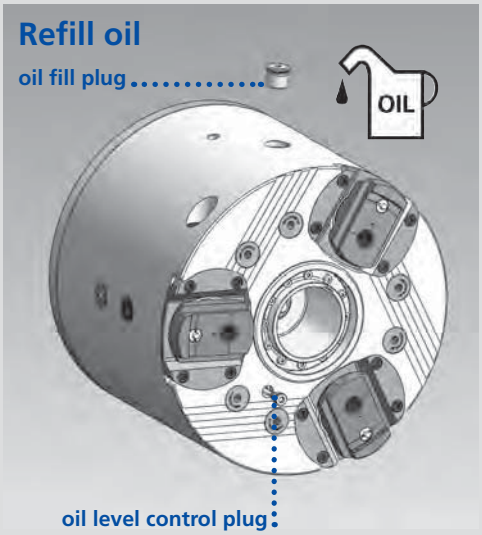
Low maintenance - low wear by oil bath lubrication

Oil to be changed annually
Regular oil level check

proofline® series
fully sealed-low maintenance

Oil: CGLP ISO VG 68

Chuck size	W-215	W-260	W-325	W-460
Oil quantity horizontal mounting	0.25 litres	0.50 litres	0.90 litres	1.50 litres
Oil quantity vertical mounting	0.50 litres	1.00 litres	1.80 litres	3.00 litres



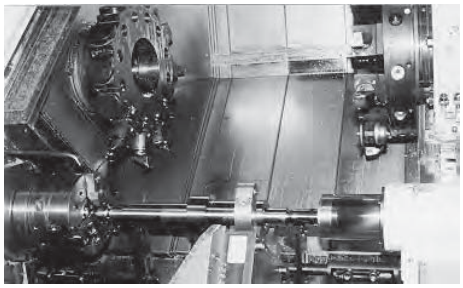
Applications

Shaft

Turning operation of:
- Concentric dia.
- Faces
- Outlines

Milling operation of:
- Lubrication channels
- Slots
- Serration
- Outlines



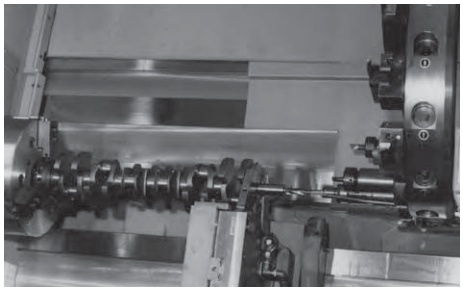


Crankshaft

Turning operation of:
- Bearing dia.
- Crank sides
- Crank o.d.

Milling operation of:
- Cranks
- Reference slots
- Serration
- Lubrication channels



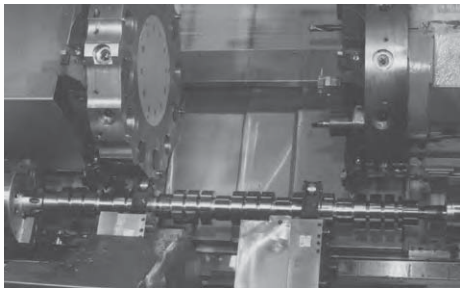


Camshaft

Turning operation of:
- Bearing dia.
- Cam faces

Milling operation of:
- Cam profile
- Slots
- Serration
- Lubrication channels



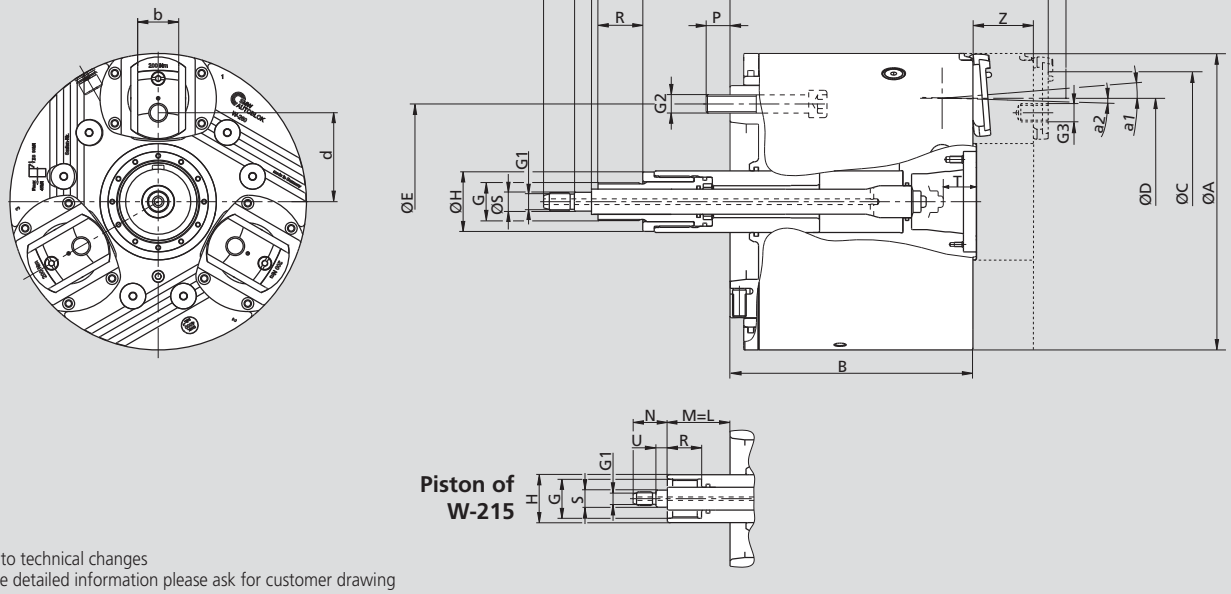


W

Shaft chuck with retractable jaw carrier
Face driver

Shaft chuck

Main dimensions and technical data



Subject to technical changes
For more detailed information please ask for customer drawing

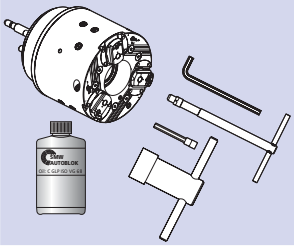
SMW-AUTOBLOK Type			W-215	W-260		W-325		W-460	
Mounting			**A06**	**A06**	**A08**	**A08**	**A11**	**A11**	**A15**
Chuck outside dia.		**A**	215	260		325		460	
Chuck height		**B**	176	238	213	285	251	344	309
In clamping position (Radius)		**C**	R92	R115		R143		R205	
Max. clamping dia.		**D**	145	175		220		335	
		E	133.4	133.4	171.4	171.4	235	235	330.2
		G	M34 x 1.5	M33 x 1.5		M45 x 1.5		M85 x 2	
		G_1	M12	M16		M16		M56 x 2	
		G_2	M12	M12	M16	M16	M20	M20	M24
		G_3	M12 x 20	M16 x 24		M20 x 30		M24 x 45	
		H	42	54		70		110	
Push rod face driver	min.max.	**L**	55/40	96.5/51.5	121.5/106.5	106/91	140/125	119/104	154/139
	min.max.	**M**	55/-4	96.5/26.5	121.5/51.5	106/26.8	140/60.8	119/24.4	154/56.5
		N	30	42		42		42	
		P	15.5	18	21	24	26	26	34
		R	30	45		50		50	
		S_{f6}	15	16.5		16.5		56.5	
Push rod pos. check dimension		**T**	22	29		46		60	
		U	10	15		15		15	
Axial movement/jaw carrier		**Z**	44	53		58		65	
Piston stroke for jaw clamping		**Z_1**	15	17		22		32.5	
Opening/residual stroke angle		**a_1/a_2**	4.5°/1.5°	4.5°/1.3°		4.5°/1.3°		5°/2°	
Opening/residual stroke at distance h*		**mm**	4.0/1.3	4.5/1.3		5.7/1.9			
Max. jaw stroke at distance h*		**mm**	5.3	5.8		7.6			
		b	30	36		44		52	
		d	65	78		96.5		150.5	
Residual jaw height		**h**	18	17		22		28	
Oil volume horizontal use		**litres**	0.25	0.50		0.75		1.50	
Oil volume vertical use		**litres**	0.50	1.00		1.50		3.00	
Max. speed		**r.p.m.**	5000	4000		3200		1800	
Max. draw pull		**kN**	30	50		75		100	
Max. grip force at reference distance h*		**kN**	60	100		150		200	
Moment of inertia		**kg·m²**	0.236	0.639	0.606	1.872	1.734	9.35	8.91
Weight		**kg**	40	75	70	140	127	364	336

*When exceeding distance h gripping force/speed must be reduced accordingly



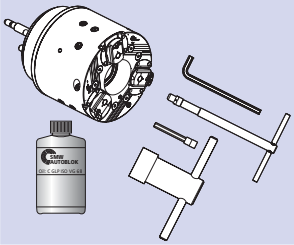
For further jaws and accessories please ask for our 150 pages special catalogue!

Supply range: **Compensating clamping** chuck with mounting bolts and mounting keys, oil



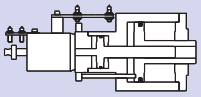
Spindle mounting \ Type	W-215	W-260	W-325	W-460
A6	068616	069527		
A8	069810	069444	069525	
A11		069815	068981	069602
A15				069600

Supply range: **Self centering clamping** chuck with mounting bolts and mounting keys, oil



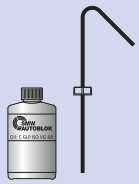
Spindle mounting \ Type	W-215	W-260	W-325	W-460
A6	069540	069542		
A8	069812	069546	069552	
A11		069817	069554	069606
A15				069604

Actuating cylinder

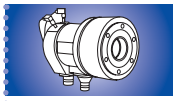


Double piston cylinder \ Type	W-215	W-260	W-325	W-460
ZHVD-SZ	**68-17**	**110-25**	**110-25/240-40**	**240-40**
Id. No.	045299	045297	045297/045298	045298
DCN			170-40/95-50	
Id. No.			33705215	

Oil



Oil for permanent oil bath lubrication	
Oil specification	**CGLP ISO VG 68**
Contents	**1 liter/1.05 quart (U.S.)**
Id. No.	**197859**

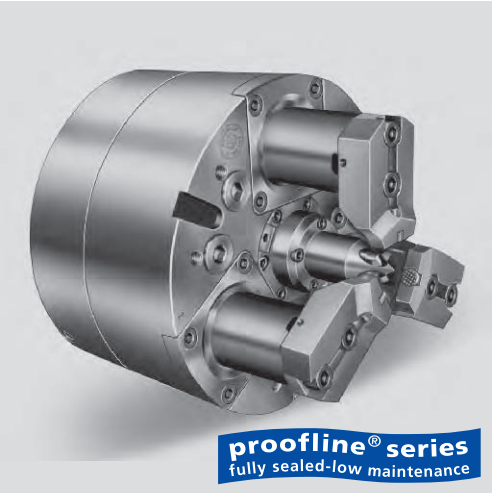

Page 197

GSA

Shaft chuck with retractable jaw
Face driver

Shaft turning chuck Ø 200 - 320 mm

- **compensating jaw clamping**
- **face driver with fixed or spring loaded center**
- **proofline® chucks = fully sealed – low maintenance**



Application/customer benefits

- Complete machining of shafts in one operation
- The rough machining is done with compensating jaws clamping
- Finish machining of the complete outline with the face driver at retracted jaws

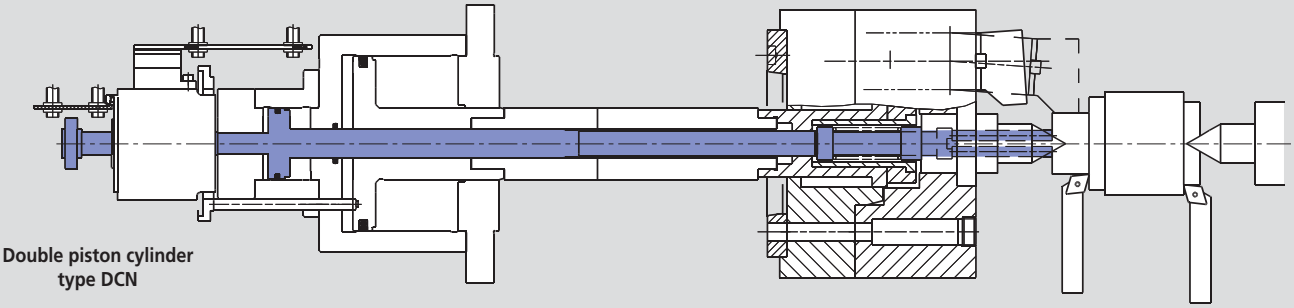
Technical features

- Retractable jaws
- Compensating jaws clamping
- Face driver adjustable with adjusting wedges
- Center point fixed or spring loaded
- Pull down of the work piece to the axial reference, ensures high position accuracy
- Case hardened internal parts
- Constant grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

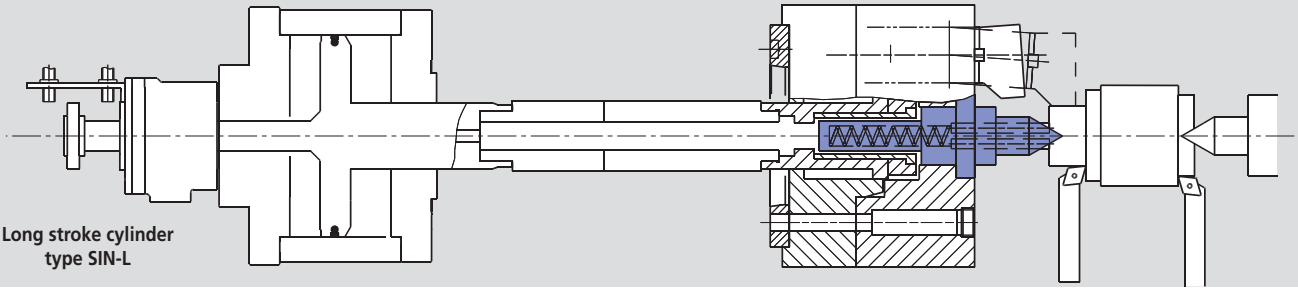
Shaft chuck without face driver
with mounting bolts

Axial reference in the center point - power operated face driver
Actuation via double piston cylinder type DCN



Double piston cylinder
type DCN

Axial reference on the component face - spring operated face driver
Actuation via long stroke cylinder type SIN-L



Long stroke cylinder
type SIN-L

Technical data

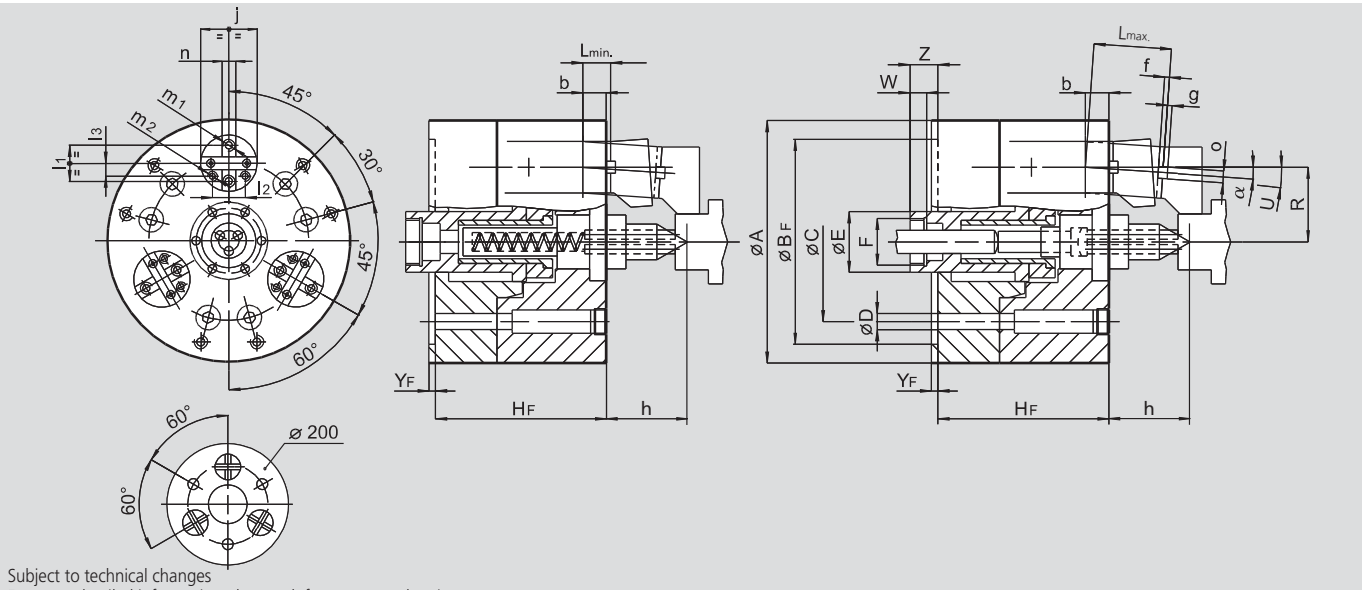
SMW-AUTOBLOK Type		GSA 200	GSA 260	GSA 320
Number of jaws		**3**	**3**	**3**
Angular jaw stroke	deg.	5°	5°	5°
Radial jaw stroke at distance h	mm	9	10	11.5
Compensation at distance h	mm	±0.8	±1	±1
Wedge stroke (total)	mm	57.5	66.5	77.6
Max. draw-push	kN	40	60	80
Max. gripping force at distance h	kN	40	65	100
Max. speed	r.p.m.	4500	4000	3200
Mass (without top jaws)	kg	30	55	100
Moment of inertia	kg·m²	0.15	0.46	1.28
Recommended actuating cylinders: **- Axial reference in the center bore**		**DCN 125/30 70/25**	**DCN 125/30 70/25**	**DCN 125/30 87/40** **DCN 170/40 95/50**
- Axial reference on the component face		**SIN-L 125**	**SIN-L 150**	**SIN-L 150**

Shaft turning chuck Ø 200 - 320 mm

- compensating jaw clamping
- face driver with fixed or spring loaded center
- proofline® chucks = fully sealed – low maintenance

GSA

Shaft chuck with retractable jaw
Face driver

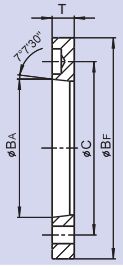


Subject to technical changes
For more detailed information please ask for customer drawing

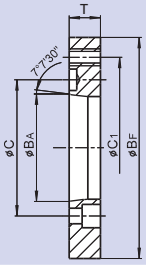
SMW-AUTOBLOK Type				GSA 200	GSA 260	GSA 320
	A		mm	200	260	320
	BF	H6	mm	170	220	280
	C		mm	146	171.4	235
	D		mm	17	17	21
	E		mm	50	61	75
	F		mm	M38 x 1.5	M50 x 1.5	M56 x 2
	HF		mm	160	183	215
	Lmin.		mm	24	25	33
	Lmax.		mm	74	83	98
	R		mm	60	80	102.5
Jaw pivoting	**U**		deg.	5°	5°	5°
	W		mm	18	18	18
	YF		mm	6	6	6
	Zmin.		mm	25	27	15.4
	Zmax.		mm	82.5	93.5	93
	b		mm	24	25	32
	f		mm	4	5	5
	g		mm	3	3	3
Reference distance	**h**		mm	80	90	105
	j		mm	48	55	65
	l1		mm	32	35	42
	l2		mm	27	32	35
	l3		mm	12	12.5	16
	m1		mm	M10	M12	M16
	m2		mm	M8	M10	M12
	n	H7	mm	12.68	12.68	12.68
	o	h7	mm	12.68	12.68	12.68
	α		deg.	3°	3°	3°

ISO-A flanges for GSA chucks

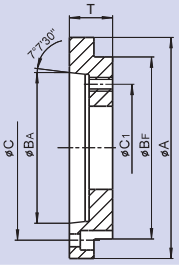
FF 1 - direct
ISO-A mounting



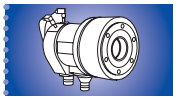
FF 2 - reduction
ISO-A mounting



FF 3 - increase
ISO-A mounting



GSA chuck size	Spindle	Type	Id. No.	A	BF	BA	C	C1	T
200	A5	2	24152050	-	170	82.563	104.8	146	24
200	A6	2	24162050	-	170	106.375	133.4	146	24
200	A8	3	24182050	210	170	139.719	171.4	146	40
260	A6	2	24162530	-	220	106.375	133.4	171.4	24
260	A8	1	24182500	-	220	139.719	171.4	-	19
260	A11	3	24112510	280	220	196.869	235	171.4	45
320	A8	2	24183500	-	280	139.719	171.4	235	30
320	A11	1	24113500	-	280	196.869	235	-	21



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ACS-E 3

Self centering column chuck

Self-centering column chucks with pull down

- **pull down**
- **power operated via standard cylinders**
- **o.d. clamping**



Application/customer benefits

- For small, medium and large quantities at high precision
- Pull down of the workpiece to the axial workstop during clamping
- Minimum loss of gripping force at high speed
- Standard, hardened jaw blanks available

Technical features

- Chuck body completely case hardened
- Openings in the chuck body to evacuate chips
- Central bore for coolant/air

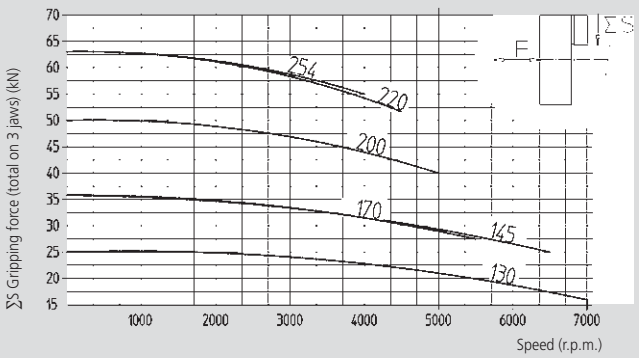
Standard equipment

3-jaw chuck with mounting bolts

Ordering example

3 jaws column chuck
with center mounting Z170
type ACS-E 220-3-Z170

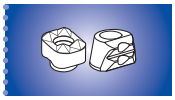
Actual gripping force diagram

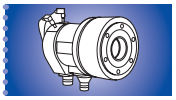


The diagrams refer to standard jaw blanks, machined to 50 % of their mass.

Technical data

SMW-AUTOBLOK Type		ACS-E 3 130	ACS-E 3 145	ACS-E 3 170	ACS-E 3 200	ACS-E 3 220	ACS-E 3 254
Jaw stroke	mm	2.6	2.6	2.6	2.6	3.2	4
Piston stroke	mm	10	10	10	10	12	15
Actuating force	kN	10	15	15	20	25	25
Grip force	kN	25	36	36	50	63	63
Speed	r.p.m.	7000	6500	5500	5000	4500	4000
Mass	kg	12	14	17	30	35	50
Moment of inertia	kg·m²	0.02	0.03	0.06	0.16	0.21	0.35
Clamping range	min.	10	20	30	30	50	90
Clamping range	max.	50	70	95	100	125	165
Recommended actuating cylinders		**SIN-S 70** **SIN-S 85**	**SIN-S 70** **SIN-S 85**	**SIN-S 85** **SIN-S 100**	**SIN-S 100** **SIN-S 125**	**SIN-S 125** **SIN-S 150**	**SIN-S 125** **SIN-S 150**
Id.No. chuck		77690113	77690114	77690117	77690120	77690122	77690125
Id.No. jaw blanks		69761310	69761410	69761710	69762010	69762210	69762210


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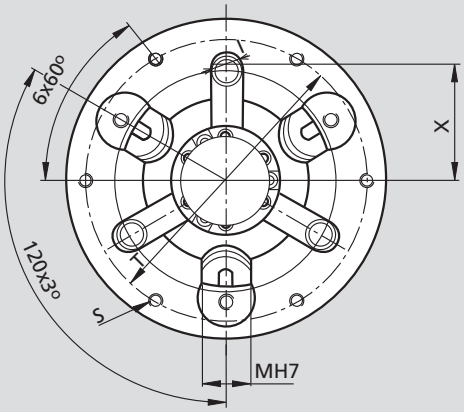
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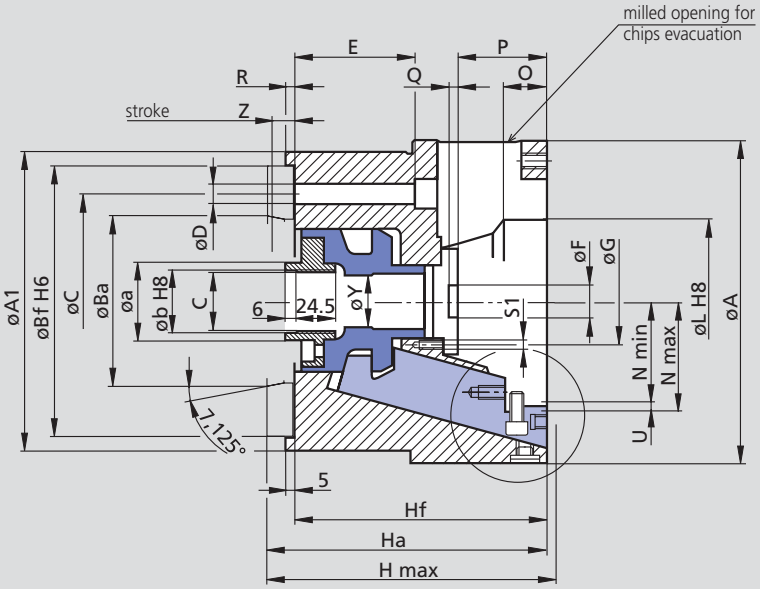
Self-centering column chucks with pull down

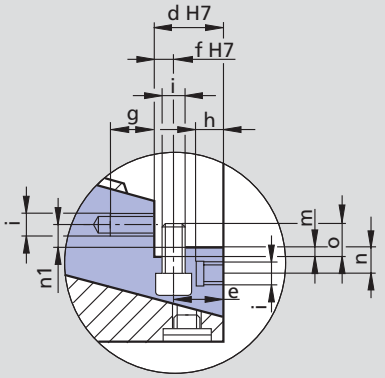
- pull down
- power operated via standard cylinders
- o.d. clamping

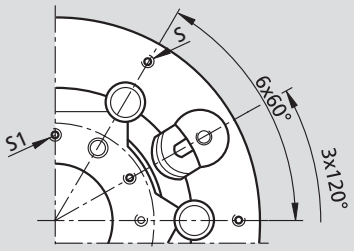
ACS-E 3

Self centering column chuck









Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type ACS-E 3		130	145	170	200	220	254
Mounting		ISO-A4 FL 115	ISO-A4 FL 115	ISO-A5 FL 140	ISO-A6 FL 170	ISO-A6 FL 170	ISO-A8 FL 220
	A/A1	130/130	145/130	170/155	200/185	220/185	254/235
	Ba	63.513	63.513	82.563	106.375	106.375	139.719
	Bf	115	115	140	170	170	220
	C	82.6	82.6	104.8	133.4	133.4	171.4
	D	3x11	3x11	3x11	6x13	6x13	6x17
	E	64	64	65	75	75	91
	F	-	16	20	20	30	70
	G	-	40	65	54	68	107
	H max.	130	130	140	179	183	198.5
	Ha	125	125	135	174	177	191
	Hf	112	112	120	157	160	172
	I	20	20	20	-	-	-
	L	55	75	98	102	126	167
	M	20	20	20	30	30	30
	N min/max	33.7/36.3	43.7/46.3	56.2/58.8	63.7/66.3	73.4/76.6	93/97
	O	26.5	26.5	26.5	32	33	34
	P	30	29	29	55	50.5	40
	Q	-	5	5	7	7	65.5
	R	18	18	4.5	4.5	3.5	2
	S	6xM6	6xM6	6xM6	6xM8	6xM8	6xM8
	S1	-	3xM5	6xM5	6xM6	6xM6	6xM6
	T	115	115	145	175	190	226
Stroke	U	2.6	2.6	2.6	2.6	3.2	4
Stroke	Z	10	10	10	10	12	15
	X	41.3	41.3	52.4	-	-	-

	a	36	36	48	48	48	48
	b	29	29	39	39	39	39
	c	M28x1.5	M28x1.5	M38x1.5	M38x1.5	M38x1.5	M38x1.5
	d	20	20	20	25	25	25
	e	14	14	14	18	18	18
	f	6	6	6	7	7	7
	g	12	12	12	16	16	16
	h	-	-	-	9	9	9
	i	M6	M6	M6	M8	M8	M8
	m	3.5	3.5	3.5	3.5	3.5	3.5
	n	7.5	7.5	7.5	10	10	10
	n1	6.5	6.5	6.5	8.5	8.5	8.5
	o	8.5	8.5	8.5	9	9	9
	y	12.5	14	32	32	32	32

2 media can be used through the chuck's bore.
Specials on request.

ACS-E 6

Self centering column chuck

Self-centering column chucks with pull down

- **pull down**
- **power operated via standard cylinders**
- **o.d. clamping**



Application/customer benefits

- For small, medium and large quantities at high precision
- Pull down of the workpiece to the axial workstop during clamping
- Minimum loss of gripping force at high speed
- Standard, hardened jaw blanks available

Technical features

- Chuck body completely case hardened
- Openings in the chuck body to evacuate chips
- Central bore for coolant/air

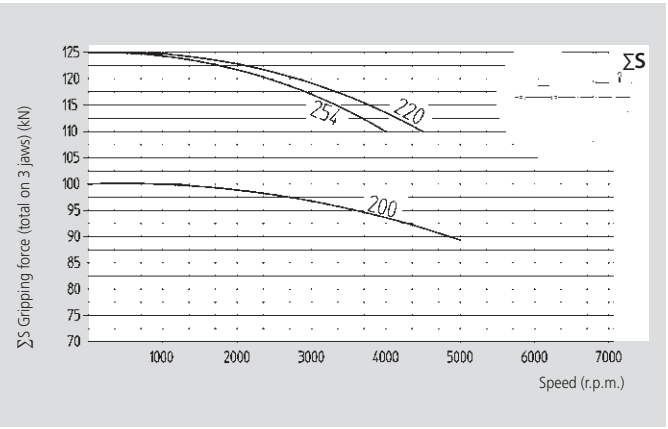
Standard equipment

6-jaw chuck with mounting bolts

Ordering example

6 jaw column chuck
with center mounting Z170
type ACS-E 220-6-Z170

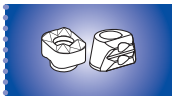
Actual gripping force diagram

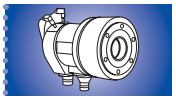


The diagrams refer to standard jaw blanks, machined to 50 % of their mass.

Technical data

SMW-AUTOBLOK Type		ACS-E 6 200	ACS-E 6 220	ACS-E 6 254
Jaw stroke	mm	2.6	3.2	4
Piston stroke	mm	10	12	15
Actuating force	kN	40	50	50
Grip force	kN	100	125	125
Speed	r.p.m.	5000	4500	4000
Mass	kg	30	35	50
Moment of inertia	kg·m²	0.16	0.21	0.35
Clamping range	min.	30	50	90
Clamping range	max.	100	125	165
Recommended actuating		**SIN-S 100**	**SIN-S 125**	**SIN-S 125**
cylinders		**SIN-S 125**	**SIN-S 150**	**SIN-S 150**
Id. No. chuck		77690420	77690422	77690425
Id. No. jaw blanks		69762040	69762240	


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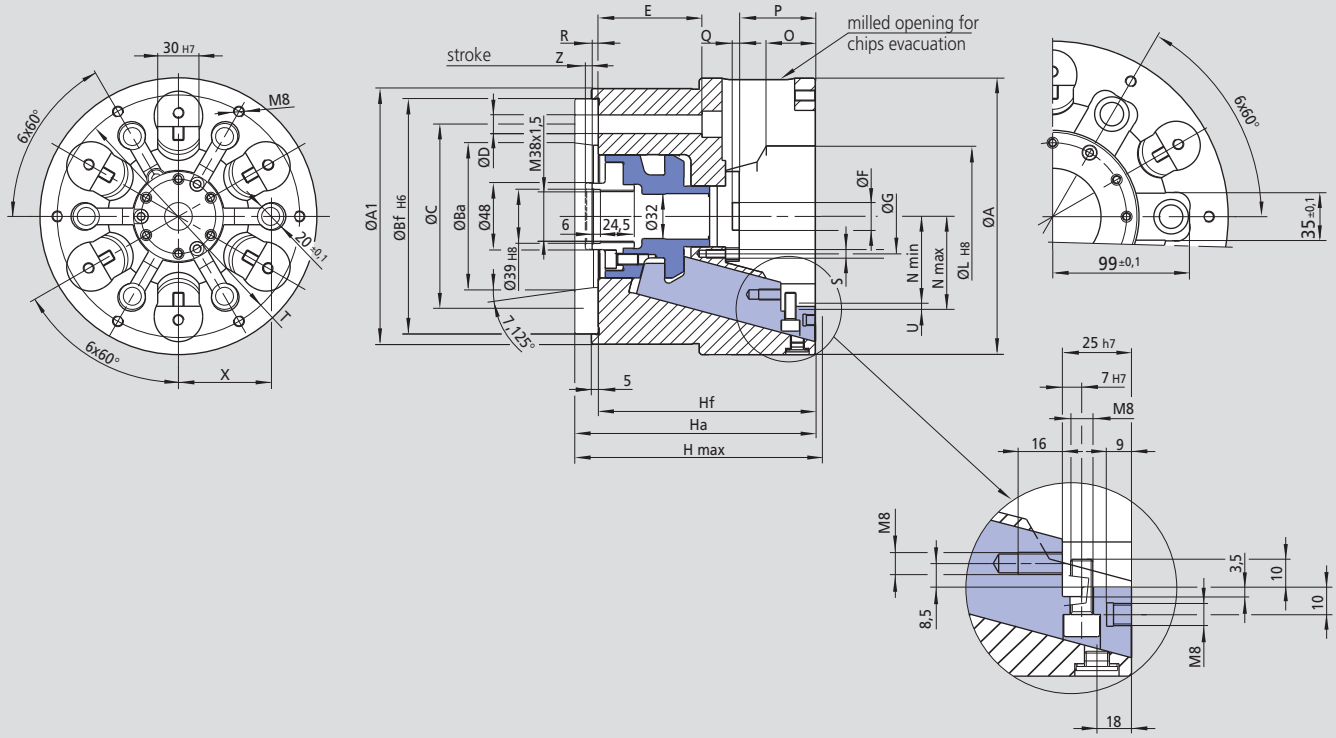
Self-centering column chucks with pull down

- pull down
- power operated via standard cylinders
- o.d. clamping

ACS-E 6

Self centering column chuck

ACS-E



ACS-E 254

Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type ACS-E 6		200	220	254
Mounting		ISO-A6 FL 170	ISO-A6 FL 170	ISO-A8 FL 220
	A	200	220	254
	A1	185	185	235
	Ba	106.375	106.375	139.719
	Bf	170	170	220
	C	133.4	133.4	171.4
	D	13	13	17
	E	75	75	91
	F	20	30	70
	G	54	68	107
	H max.	179	183	198.5
	Ha	174	177	191
	Hf	157	160	172
	L	102	126	167
	M	30	30	30
	N min.	66.3	76.6	97
	N max.	63.7	73.4	93
	O	32	33	34
	P	55	50.5	40
	Q	7	7	65.5
	R	4.5	3.5	2
	S	6xM6	6xM6	6xM6
	T	175	190	226
Stroke	U	2.6	3.2	4
Stroke	Z	10	12	15
	X	66.7	72	-

2 media can be used through the chuck's bore.
Specials on request.

ACS-I 3/6

Self centering column chuck

Self-centering column chucks with pull down

- **pull down**
- **power operated via standard cylinders**
- **i.d. clamping**



Application/customer benefits

- For small, medium and large quantities at high precision
- Pull down of the workpiece to the axial workstop during clamping
- Minimum loss of gripping force at high speed
- Standard, hardened jaw blanks available

Technical features

- Chuck body completely case hardened
- Openings in the chuck body to evacuate chips
- Central bore for coolant/air

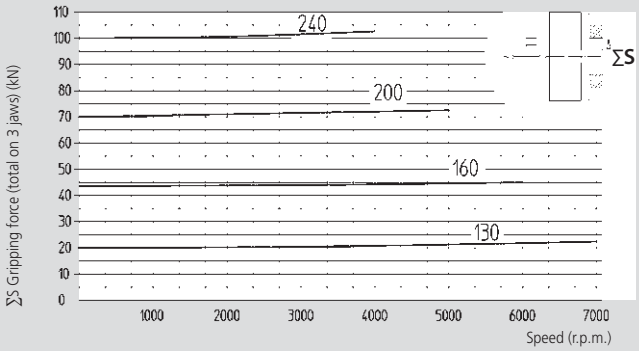
Standard equipment

3 or 6-jaw chuck with mounting bolts

Ordering example

3 jaw column chuck
with center mounting Z115
type ACS-I 130-3-Z115

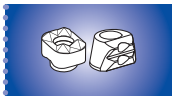
Actual gripping force diagram

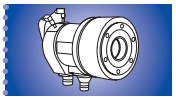


The diagrams refer to standard jaw blanks, machined to 50 % of their mass.

Technical data

SMW-AUTOBLOK Type		ACS-I 130	ACS-I 160	ACS-I 200	ACS-I 240	ACS-I 240
Number of jaws		**3**	**3**	**3**	**3**	**6**
Jaw stroke	mm	2.6	4.4	4.4	4.4	4.4
Piston stroke	mm	10	11	11	11	11
Actuating force	kN	10	20	40	60	60
Grip force	kN	20	36	70	100	100
Speed	r.p.m.	7000	6000	5000	4000	4000
Mass	kg	10	12	20	30	30
Moment of inertia	kg·m²	0.02	0.03	0.1	0.2	0.2
Clamping range	min.	65	92	110	144	144
Clamping range	max.	100	140	200	232	232
Recommended actuating cylinders		**SIN-S 70** **SIN-S 85**	**SIN-S 85** **SIN-S 100**	**SIN-S 100** **SIN-S 125**	**SIN-S 125** **SIN-S 150**	**SIN-S 125** **SIN-S 150**
Id. No. chuck		77690613	77690616	77690620	77690624	77690624
Id. No. jaw blanks		69761360	69761660	69762060	69762490	69762490


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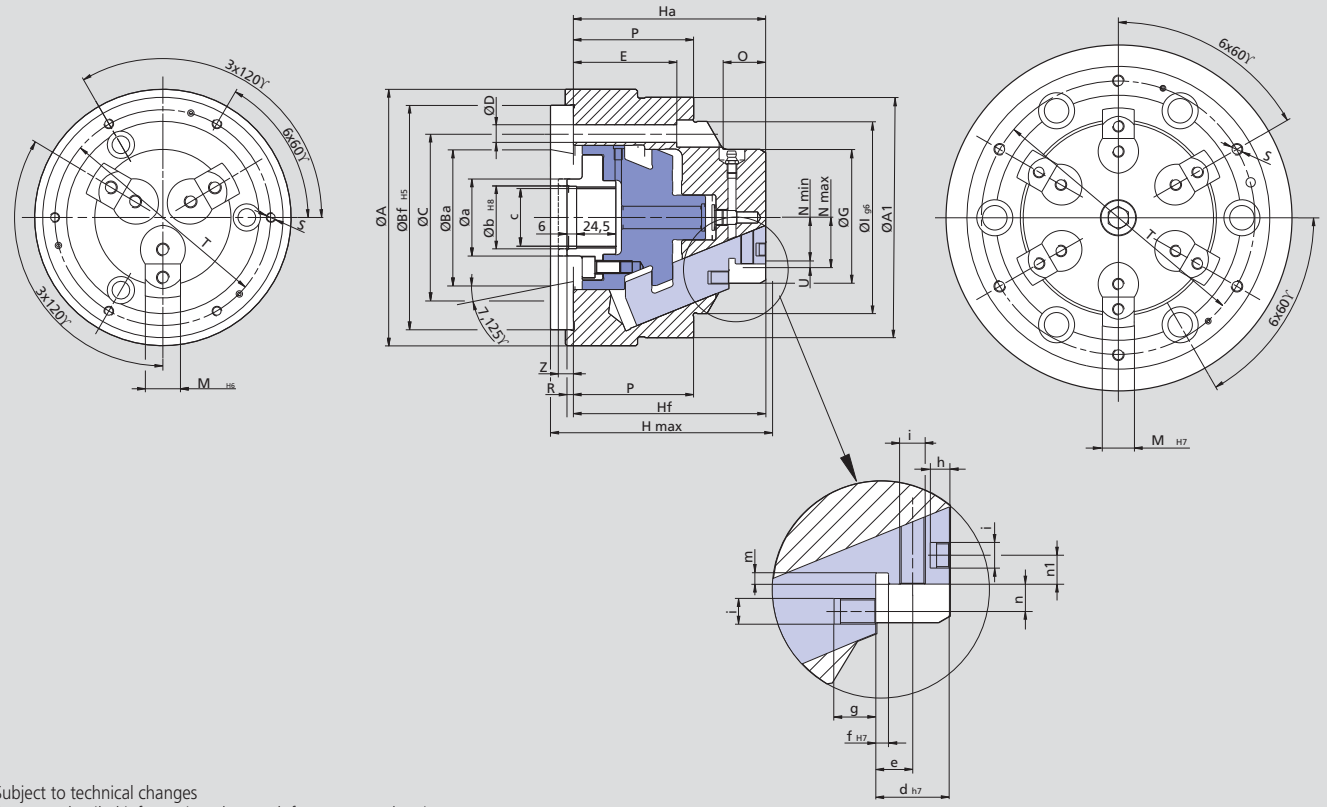
Self-centering column chucks with pull down

- pull down
- power operated via standard cylinders
- i.d. clamping

ACS-I 3/6

Self centering
column chuck

ACS-I 130-160-200



ACS-I 240

Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type ACS-I		130	160	200	240
Number of jaws		3	3	3	6
Mounting		ISO-A4 FL 115	ISO-A5 FL 140	ISO-A6 FL 170	ISO-A8 FL 220
	A/A1	130/130	160/150	200/170	240/210
	Ba	63.513	82.563	106.375	139.719
	Bf	115	140	170	220
	C	82.6	104.8	133.4	171.4
	D	11	11	13	17
	E	55	64.5	62	68.5
	G	59.5	85	103	136
	H max.	130	140.5	147.5	154.5
	Ha	125	135	142	149
	Hf	112	120	125	130
	I	90	120	140	170
	M	24	22	22	22
	N min/max	19.2/21.8	26.8/31.2	36.3/40.7	52.8/57.2
	O	27.5	26.5	27	27
	P	67	75	80	85
	R	18	4	4	4
	S	M6	M6	M6	M8
	T	110	135	155	190
Stroke	U	2.6	4.4	4.4	4.4
Stroke	Z	10	11	11	11

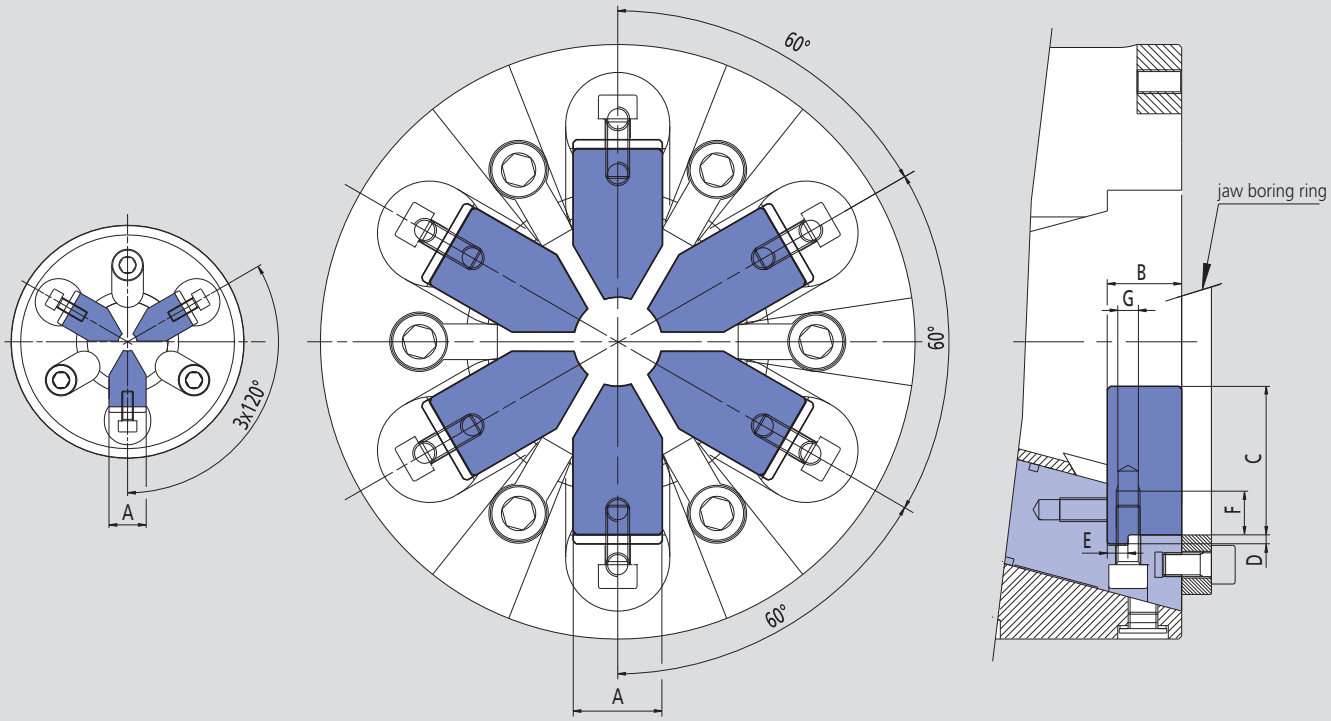
	a	36	48	48	48
	b	29	39	39	39
	c	M28x1.5	M38x1.5	M38x1.5	M38x1.5
	d	20	23	23	23
	e	9.5	11.5	11.5	11.5
	f	4	4	4	4
	g	12	13	13	13
	h	-	6	6	6
	i	M6	M8	M8	M8
	m	3.5	3.5	3.5	3.5
	n	7.5	8.5	8.5	8.5
	n1	7.5	9	9	9
	y	14	14	32	32

2 media can be used through the chuck's bore.
Specials on request.

Jaws ACS-E

Hard jaw blanks o.d. clamping

■ for 3 and 6 jaw chucks

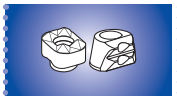


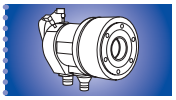
Material: 60MnSi4
HRC 56+2

Subject to technical changes
For more detailed information please ask for customer drawing

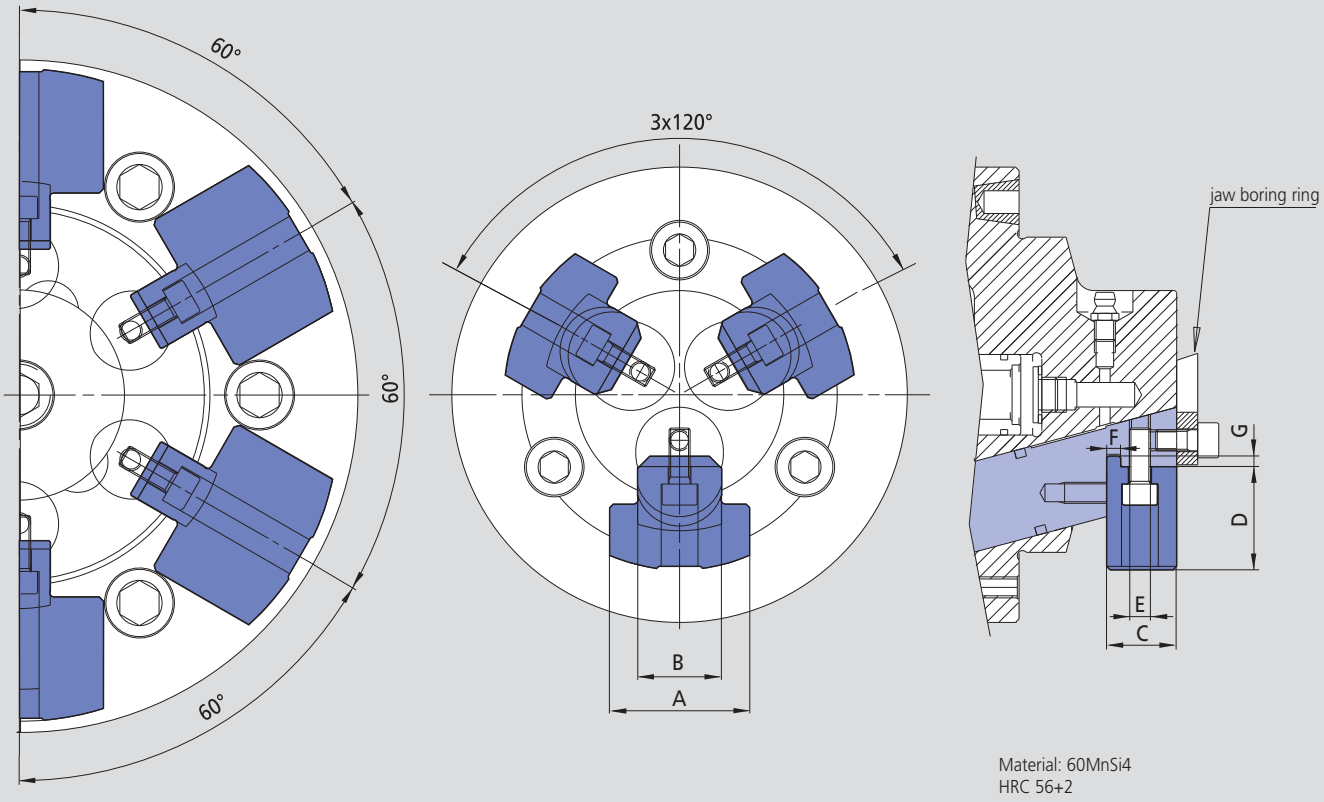
Technical data

SMW-AUTOBLOK Type		ACS-E 130	ACS-E 145	ACS-E 170	ACS-E 200	ACS-E 200	ACS-E 220	ACS-E 220	ACS-E 254	ACS-E 254
Number of jaws		**3**	**3**	**3**	**3**	**6**	**3**	**6**	**3**	**6**
	A h6	20	20	20	30	30	30	30	30	30
	B	20	20	20	25	25	25	25	25	25
	C	30	35	40	50	50	50	50	50	50
	D	3	3	3	3	3	3	3	3	3
	E g6	6	6	6	7	7	7	7	7	7
	F	13	13	13	15	15	15	15	15	15
	G	M6	M6	M6	M8	M8	M8	M8	M8	M8
rec. clamping range	**min.**	10	20	30	30	30	50	50	90	90
rec. clamping range	**max.**	50	70	95	100	100	125	125	165	165
Id. No. jaw blanks		69761310	69761410	69761710	69762010	69762040	69762210	69762240	69762210	69762240
Id. No. boring ring		69111310	69111410	69111710	69112040	69112040	69112240	69112240	69112540	69112540


Page 288

Page 282

Page 197

Jaws ACS-I



Material: 60MnSi4
HRC 56+2

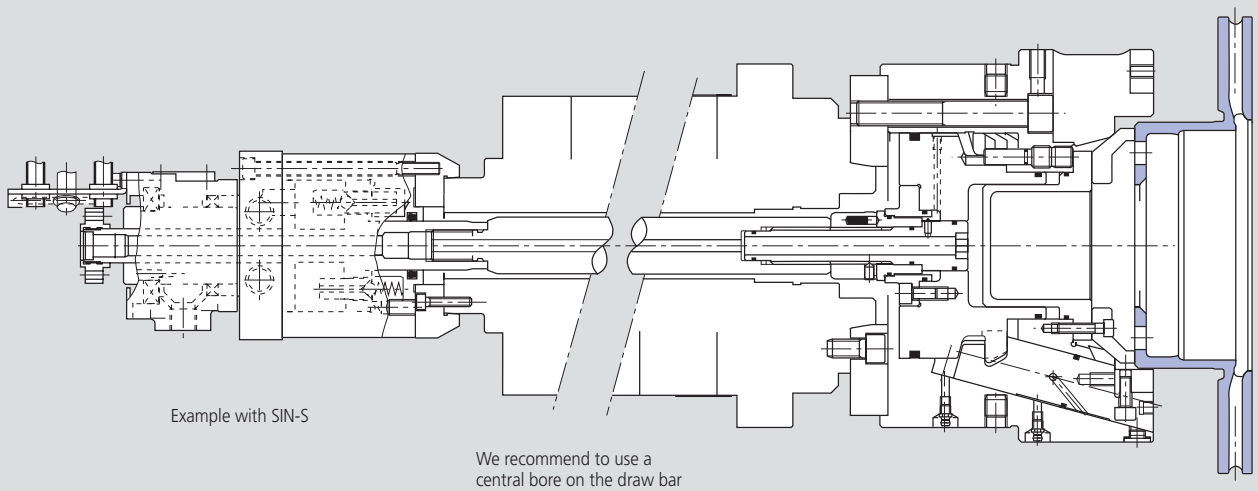
Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		ACS-I 130	ACS-I 160	ACS-I 200	ACS-I 240
Number of jaws		**3**	**3**	**3**	**6**
	A	40	40	60	60
	B h6	24	22	22	22
	C	20	23	23	23
	D	20.5	41	61.5	61.5
	E	3xM6	3xM8	3xM8	6xM8
	F g6	4	4	4	4
	G	3	3	3	3
rec. clamping range	**min.**	65**	92	110	144
rec. clamping range	**max.**	100	140	200	232
Id. No. jaw blanks		69761360	69761660*	69762060*	69762490*
Id. No. boring ring		69111360	69111660	69112060	69112490

*identical for size 160-200-240
**min. 60 with special jaws

Examples

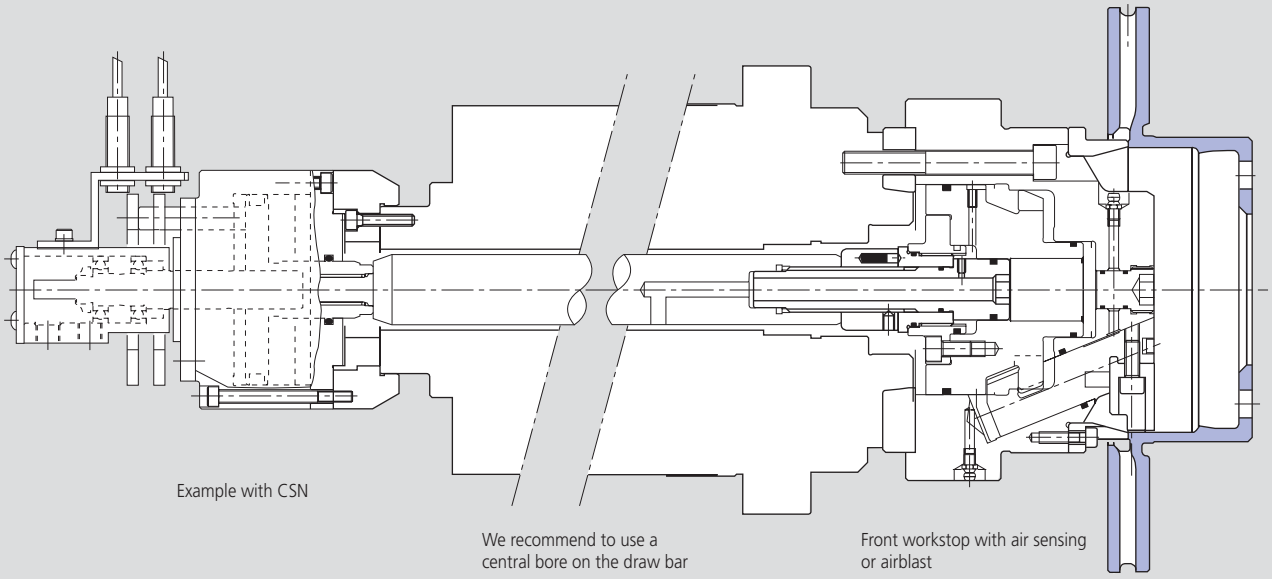
ACS-E



Example with SIN-S

We recommend to use a
central bore on the draw bar

ACS-I



Example with CSN

We recommend to use a
central bore on the draw bar

Front workstop with air sensing
or airblast

Diaphragm chucks



Page 164

Type D

Diaphragm chuck – quick jaw change

- Ø 210 - 315 mm
- O.D. or pitch line clamping
- centrifugal force compensation
- **proofline® chucks** = fully sealed – low maintenance



Page 167

SIN-DFR

Closed center
Rotating hydraulic cylinder

- special cylinder to actuate diaphragm chuck
- up to 70 bar
- large/small piston area for opening/clamping
- central bore for air/coolant, 1 or 2 media
- stroke control via LPS



Page 168

Type D-KOMBI®

Diaphragm chuck with pull-down fingers
jaw/pull-down finger quick change

- Ø 210 - 315 mm
- radial and axial clamping
- flat gripping force curve
- **proofline® chucks** = fully sealed – low maintenance



Page 171

ZHVD-DFR

Double piston
Rotating hydraulic cylinder

- special cylinder to actuate diaphragm KOMBI chucks
- up to 60 bar
- 1 piston for actuating diaphragm
- 1 piston for actuating axial clamping
- central bore for air/coolant, 1 or 2 media
- stroke control via 2xLPS



Page 172

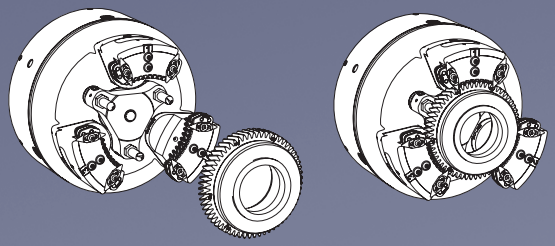
RU-2-20

Rotary union for 2 media for
double piston rotating cylinder ZHVD-DFR

- universal for air, oil or coolant

Diaphragm clamping technology with quick jaw change at its best – for hard turning, grinding, high precision turning

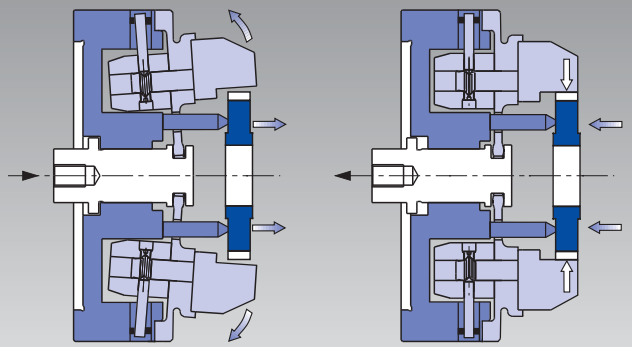
D-210®/D-260/D-315



The ultimate, easy principle:

The operation is based on elastic deformation of the diaphragm - this means
- no sliding parts
- no friction
- centrifugal force compensation
- proofline® series = fully sealed low maintenance

Operation of diaphragm system

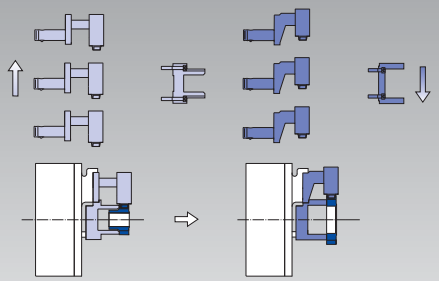


New

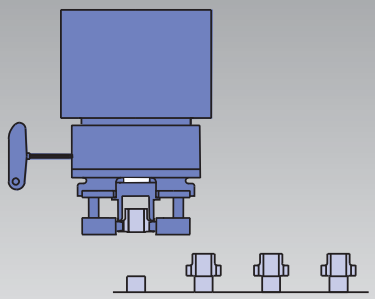
Jaws are factory finished and match any chuck with no loss of concentricity.
Never, ever grind or bore jaws on the chuck!
TIR < 0,020 mm

Setup time < 4 minutes

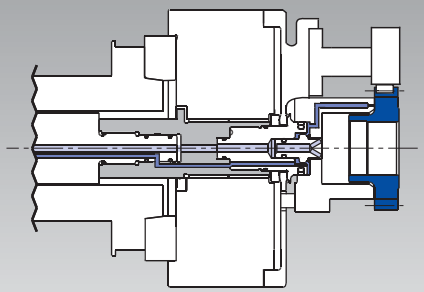
for jaws and locators
TIR <0,020 without boring/grinding

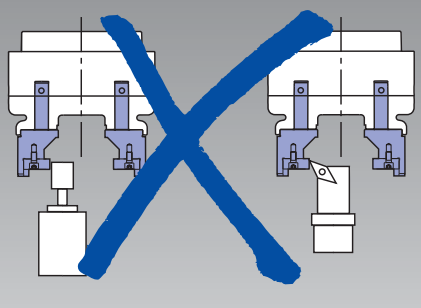


Ideal for PICK-UP machines: Radial access for quick change mechanism



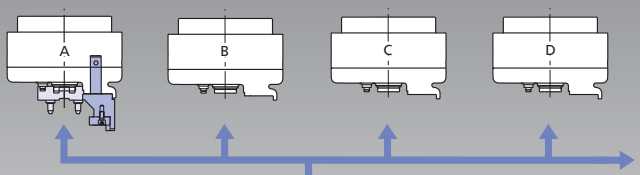
Media feed: Air sensing + air blow/coolant



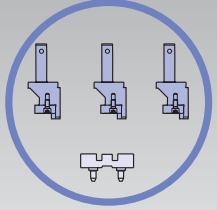


NEVER, EVER GRIND OR BORE JAWS ON THE CHUCK

Full interchangeability of the jaws



ANY JAWSET CAN BE PUT ON TO ANY CHUCK WITHOUT LOSS OF CONCENTRICITY



- NO BORING
- NO GRINDING
- FEWER JAWSETS NEEDED
- TIR < 0,020

Clamping glossary

ABS® connection A connecting system, developed by the Komet company for highest rigidity and accuracy. A version of this proven design is used for the quick jaw change on the **Type D** chuck.

Centrifugal force compensation Underneath the diaphragm, counter balance weights made of heavy metal are mounted which are connected to the clamping jaws. They completely compensate the centrifugal force caused by the jaws.

Roller cage clamping Floating vollers are held in a voller cage. They extend from the location face of the clamping insert. In principle the work-piece is clamped like an external clamping but the steel rollers clamp in the pitch line. Special jaws with roller cages have been developed for the **Type D**. Since the clamping force is spread equally onto multiple tooth gaps easily deformed components can be clamped without distortion.

Air sensing Air is fed through the contact face of the work stop. When the work-piece is in contact with the work stop the airflow is stopped and converts into a signal. If the component is not correctly positioned or is lifted, the machine can not start or the spindle is stopped. This important feature is standard on all **Type D** chucks.

Medium supply Coolant or air to clean/cool during the machining process come through the machine spindle/chuck. This important feature is standard on all **Type D** chucks.

Diaphragm clamping technology It is based on the elastic deformation of the diaphragm (like a large belleville washer). There are no sliding parts and the mechanism is completely maintenance free. The specially and patented diaphragm of the **Type D** allows a constant fine regulatable clamping force with the highest precision.

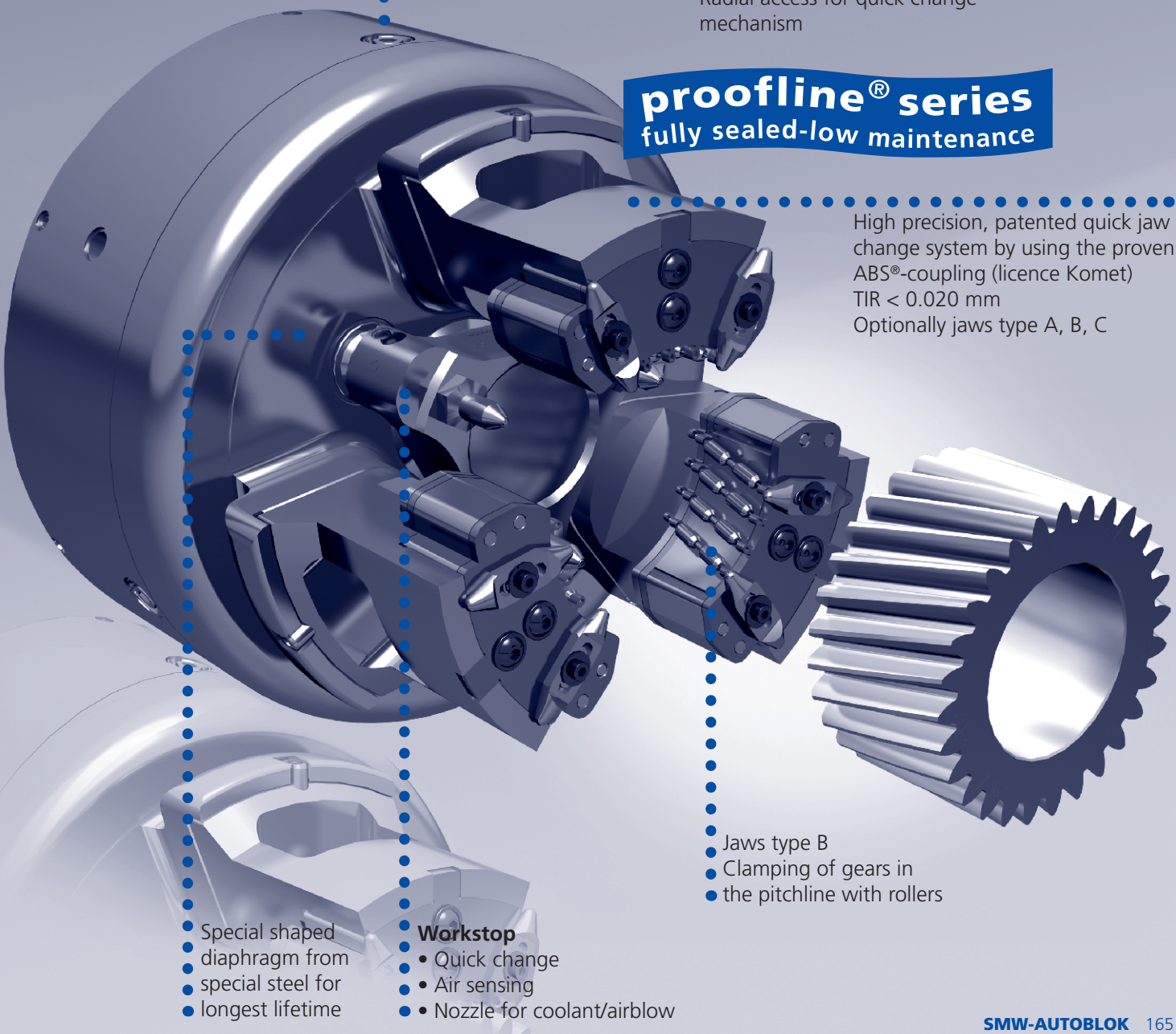
Pre-locaters These protect the clamping pins during engagement into the serration especially during automatic loading.

Pitch line clamping Clamping gears in the pitch line with clamping pins, the radial datum for the bore to be machined is the pitch line. According to the application and customers request jaws with clamping pins to clamp in the pitch line are offered.

Ideal for PICK-UP machines:
Radial access for quick change mechanism

proofline® series
fully sealed-low maintenance

High precision, patented quick jaw change system by using the proven ABS®-coupling (licence Komet)
TIR < 0.020 mm
Optionally jaws type A, B, C



Jaws type B
Clamping of gears in the pitchline with rollers

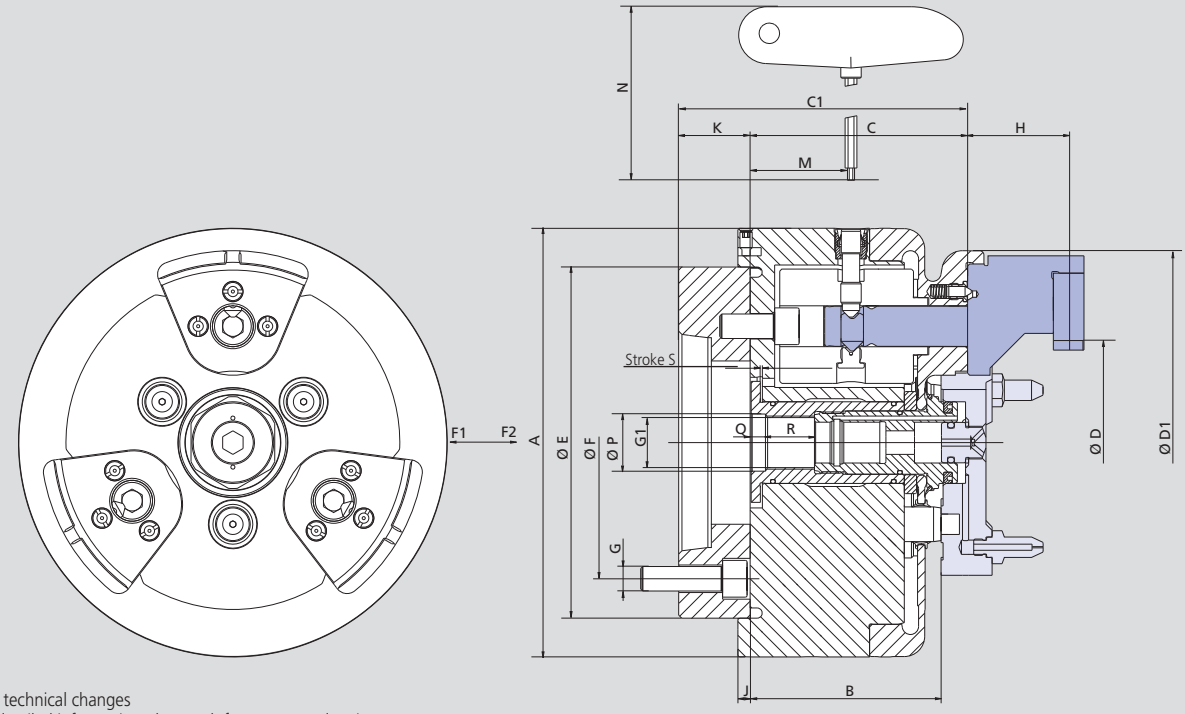
Special shaped diaphragm from special steel for longest lifetime

Workstop
- Quick change
- Air sensing
- Nozzle for coolant/airblow

Type D

Diaphragm chuck
QUICK JAW CHANGE SYSTEMS

Main dimensions and technical data



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			D-210		D-260		D-315
Mounting		Size	A5	A6	A6	A8	A8
	A	mm	210		260		315
	B	mm	93.5		108		111
	C	mm	106.5		120		125
	C_1	mm	146.5		156		173
Clamping range min./max.	D	mm	20-175		40-220		60-275
	D_1	mm	188		227		275
	E	mm	172		172		220
	F	mm	104.8	133.4	133.4	171.4	171.4
	G		M10	M12	M12	M16	M16
	G_1		M26 x 1.5		M26 x 1.5		M30 x 1.5
Jaw height	H	mm	52		57		62
	J	mm	6		6		6
	K	mm	40		48		48
	M	mm	49.4		53		57
	N	mm	185		185		185
	P H6	mm	28		28		32
	Q	mm	7		7		7
	R	mm	24		24		29.5
Piston stroke	S	mm	1.0		1.5		1.7
Jaw stroke at distance H			1.0		1.1		1.2
Draw pull min./max.*	F_1	kN	0-25		0-25		0-25
Draw pull for chuck open	F_2	kN	30		30		30
Moment of inertia		$kg \cdot m^2$	0.16		0.45		0.75
Mass without top tooling		kg	30		44		60
Recommended actuating cylinders		Type	SIN-DFR		SIN-DFR		SIN-DFR

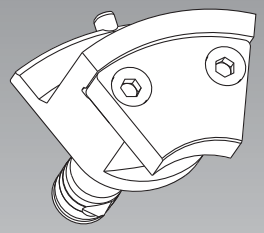
*Additional actuation force to the diaphragm spring clamping force applied by the clamping cylinder.

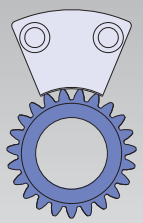
Advice: The max. allowed speed for the application is permanently marked on the corresponding top jaws and must not be exceeded.

Advice: Please note, that it is important, that the cylinder force for pushing and pulling can be set to different values independently!

Important: Never rotate the chuck without inserted jaws, otherwise the centrifugal force compensation mechanism will be damaged.

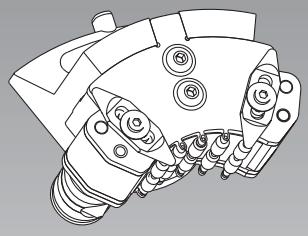
Jaws type A

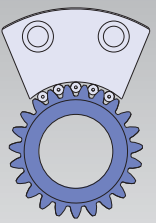




External clamping

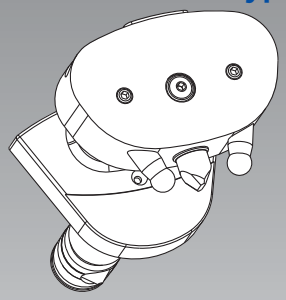
Jaws type B

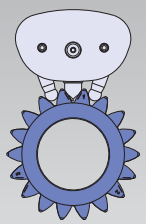




Pitchline clamping with roller cage

Jaws type C





Pitchline clamping with clamping pin

Actuating cylinder SIN-DFR for diaphragm chuck Type D

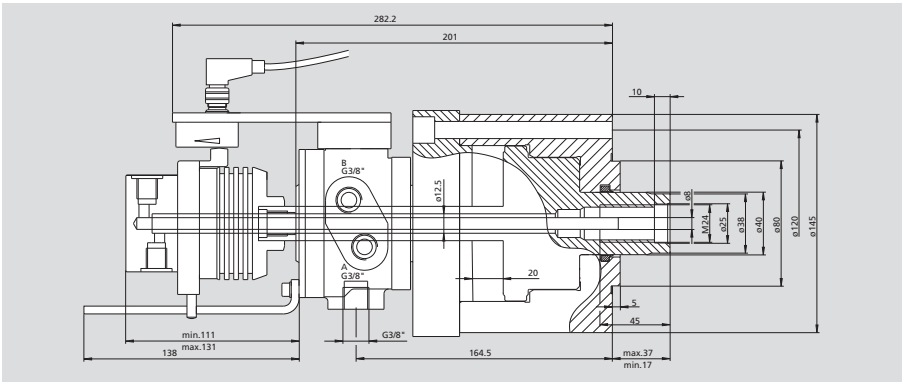
Technical features

- Special cylinder to actuate the diaphragm chuck
- Large/small piston area for opening/clamping
- Rotary unions for 1 or 2 media
- Linear positioning system LPS to monitor the piston stroke

Standard equipment

- Cylinder with kit for LPS-XS installation without LPS-XS position sensor

LPS see page 213

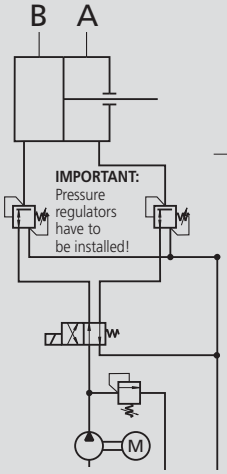


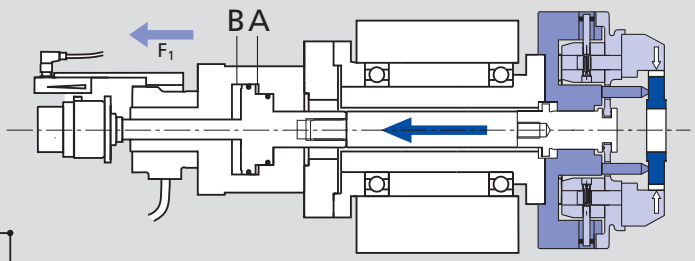
SIN-DFR-LPS-XS for rotary union 1 medium Id. No. 044860 (without rotary union*)
SIN-DFR-LPS-XS with rotary union 2 media Id. No. 044861 (rotary union 2 media included)

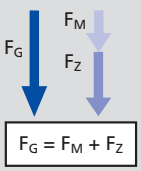
Piston surface A pull cm²	Piston surface B push cm²	Pressure A min/max bar	Pressure B min/max bar	Pull min./max. kN	Push min./max. (36 bar max.) kN	Speed max. r.p.m.	Leakage at 30 bar 50°C dm³/min	Mass cylinder kg	Moment of inertia kg·m²	Mass of rotary union 1 medium kg	Mass of rotary union 2 media kg
21	74	3-70	3-36	0.6/14	2.2-27	7000	1.5	9	0.016	0.4	1.5

* Please order separately

Installation







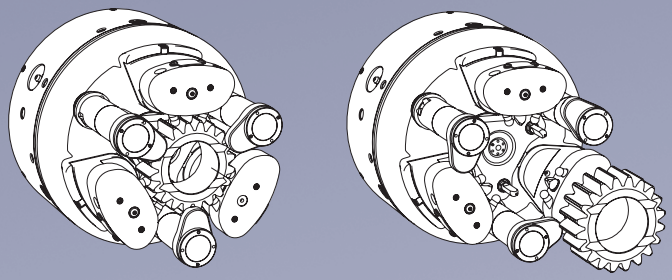
F_G = total clamping force
F_M = diaphragm clamping force
F_Z = additional clamping force applied by the actuating cylinder

The total clamping force is the total of the diaphragm clamping force and the clamping force (F_Z), created by the draw pull (F_1) of the actuating cylinder.

Thus the clamping force F_G can be regulated by adjusting the pressure of the actuating cylinder.

Advice: Please note, it is important, that the cylinder pressure for pushing and pulling can be set to different values!

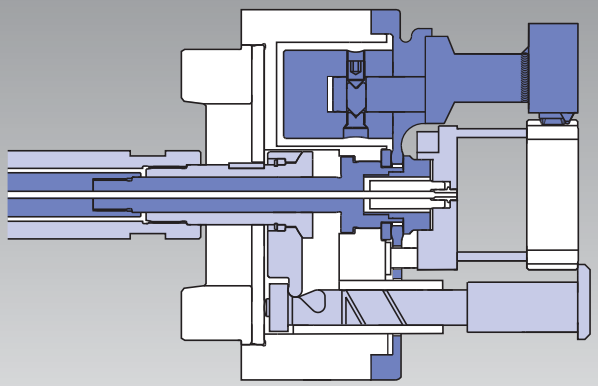
Clamping of easily deformed thin walled workpieces for hard turning or grinding



D-KOMBI®

- Radial centering/clamping of the work piece with the diaphragm jaws, with quick jaw change system (same principle/ characteristic as D-chuck page 166, however with additional face clamping).
- Axial clamping with swing clamps with axial compensation.
- Actuation with double piston cylinder. Separate actuation of the diaphragm jaws and the axial swing-clamps.

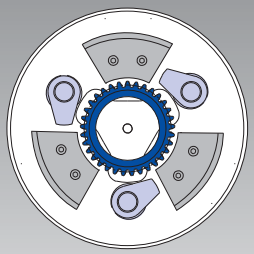
Principle of D-KOMBI®



New

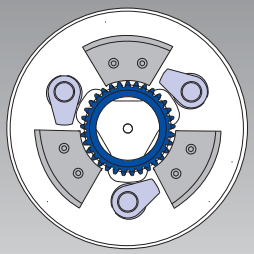
Jaws are factory finished and match any chuck with no loss of concentricity. Never, ever grind or bore jaws on the chuck! TIR < 0,020 mm

1. Loading



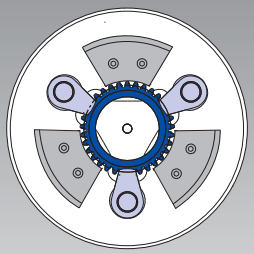
Centering jaws open. Swing-clamps open/swivel outwards.

2. Centering



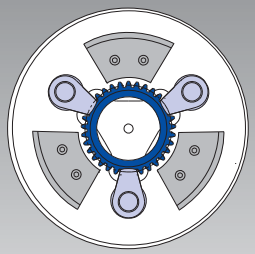
Centering jaws clamped

3. Clamping



Swing-clamps swivel inward + clamp axially. Centering jaws open (if requested)

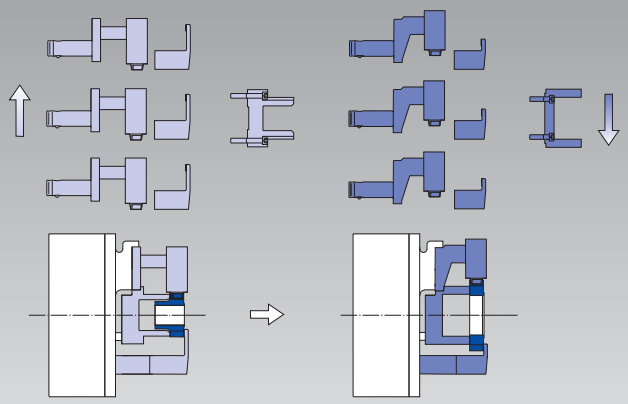
4. Machining



Centering jaws open or closed

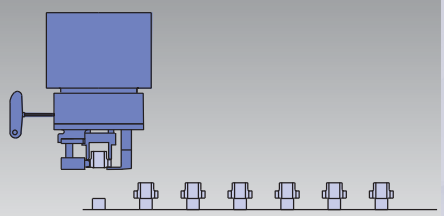
Set-up time 5 minutes

for jaws, swing-clamps and workstop change
TIR < 0,020 mm without boring/grinding

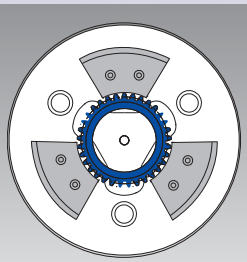


Ideal for pick up machines

Easy to operate low maintenance chuck completely sealed



Radial clamping only is also possbile = function like D-chuck



Swing clamps are not mounted.

Clamping glossary

Radial clamping Self-centering clamping of work pieces on the outside diameter. Depending on the necessary clamping force to drive the parts during machining thin walled components can be easily deformed.

Axial clamping Clamping of work pieces on their face. This method is used for thin walled components. The radial deformation of the diameter to be machined can be eliminated. This is not self-centering clamping so that the work piece has to be positioned concentric.

Kombi clamping Chucks with centering jaws for centering the work piece with the diaphragm and axial clamping with swing-clamps. After the work piece is clamped with a swing-clamp, the centering jaws can be opened (double piston cylinder necessary). The **D-KOMBI** with quick jaw change ideally fulfills these requirements. The proven design of the **D-CHUCK** is maintained completely. Additionally an axial clamping drive is integrated.

If requested the **D-KOMBI** can also be used just for radial clamping. In this case no clamping fingers are mounted and the clamping force is regulated by adjusting the pressure on the clamping cylinder.

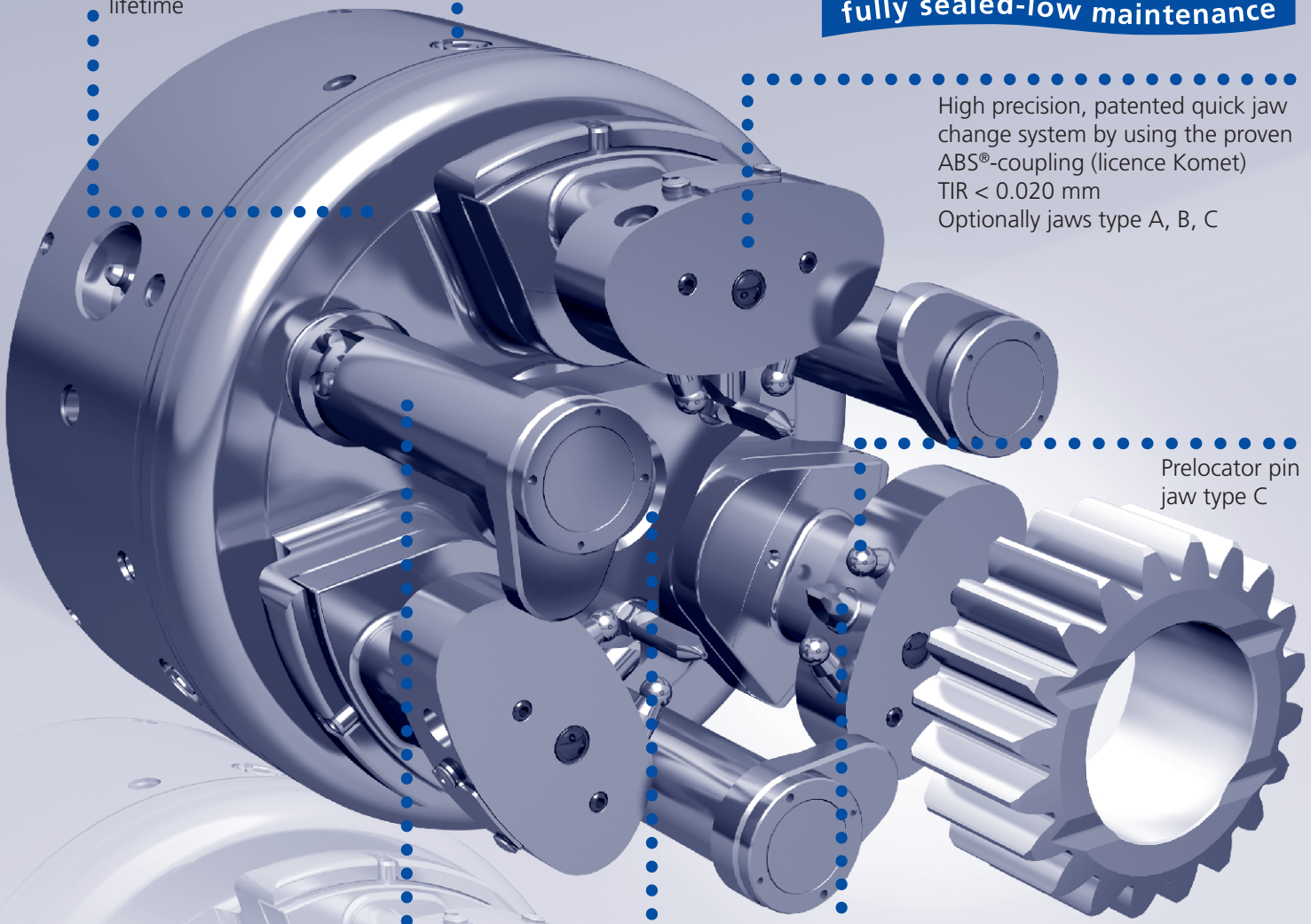
Double piston cylinder These are cylinders with two independent pistons. Piston A drives the swing-clamps, piston B releases the diaphragm or regulates the clamping force of the diaphragm. Depending on the application, it may be necessary to have the pressure in the supply lines for piston surfaces A/B/C/D individually adjustable by individual pressure regulating valves. The SMW-AUTOBLOK double piston cylinder **ZHVD-DFR** is special designed for this application. Different rotating unions for 1 or 2 media (as an example air sensing and coolant) can be mounted to the standard cylinder.

Special shaped diaphragm from special steel for longest lifetime

Ideal for PICK-UP machines: Radial access for quick change mechanism

proofline® series
fully sealed-low maintenance

High precision, patented quick jaw change system by using the proven ABS®-coupling (licence Komet)
TIR < 0.020 mm
Optionally jaws type A, B, C



Prelocator pin jaw type C

Quick change of swing clamps via bajonet

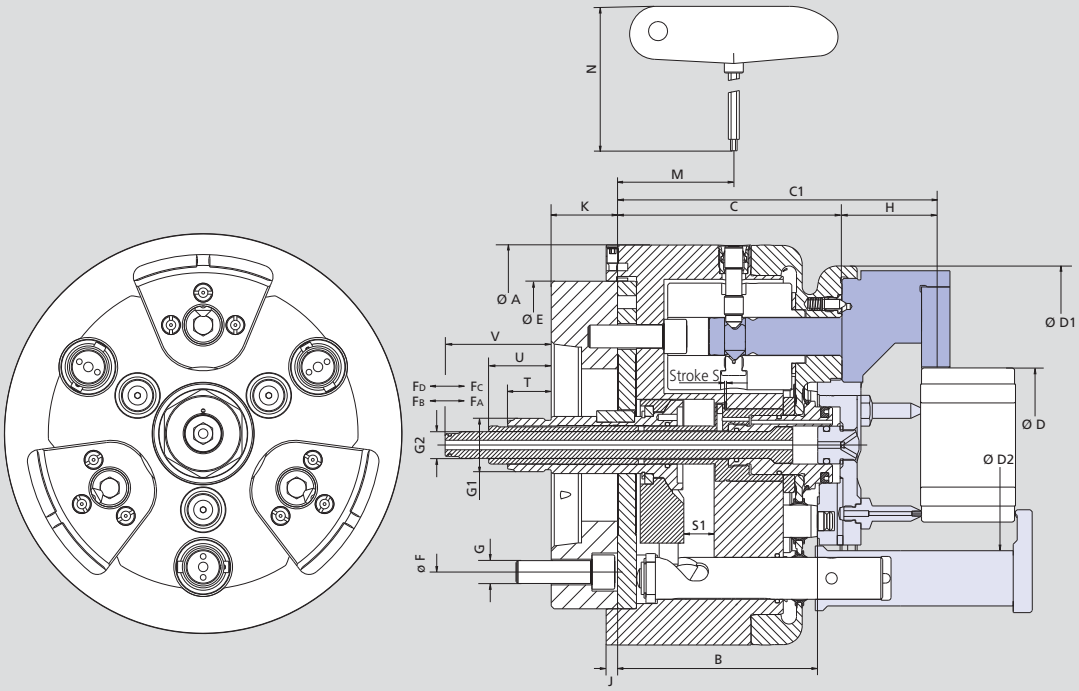
Clamping tooth jaws Type C
Clamping of gears in the pitchline

Workstop
- Quick change
- Air sensing
- Nozzle for coolant/airblow

D-KOMBI®

Radial-axial clamping
QUICK JAW CHANGE SYSTEMS

Main dimensions and technical data



Subject to technical changes
For more detailed information please ask for customer drawing

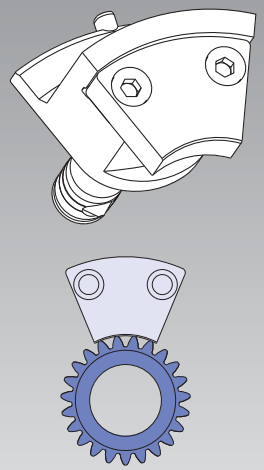
SMW-AUTOBLOK Type			D-210 KOMBI		D-260 KOMBI		D-315 KOMBI
Mounting		Size	A5	A6	A6	A8	A8
	A	mm	210		260		315
	B	mm	105.5		116		116
	C	mm	118.5		130		130
	C1	mm	170.5		187		192
Clamping range without fingers	D	mm	20-175		40-220		60-275
	D1	mm	188		227		275
Clamping range with fingers	D2	mm	111		153		203
	E	mm	172		225		275
	F	mm	104.8	133.4	133.4	171.4	171.4
	G		M10	M12	M12	M16	M16
	G1		M28 x 1.5		M28 x 1.5		M28 x 1.5
	G2		M14 x 1.5		M14 x 1.5		M14 x 1.5
Jaw height	H	mm	52		57		62
	J	mm	6		6		6
	K	mm	40		48		48
	M	mm	61.4		61.9		61.9
	N	mm	185		185		185
Piston stroke	S	mm	1.0		1.5		1.7
Axial stroke swing clamps	S1	mm	16		16		16
	T	mm	18		10		10
	U	mm	28		20		20
	V	mm	51		43		43
Jaw stroke at distance H		mm	1.0		1.1		1.2
Draw pull min./max.*	FD	kN	0-25		0-25		0-25
Draw pull for chuck open	FC	kN	20		20		20
Draw pull swing clamps max.	FB	kN	6		9		9
Draw pull swing clamps open	FA	kN	2		2		2
Moment of inertia		kg·m²	0.16		0.45		0.75
Mass without top tooling		kg	30		44		60
Recommended actuating cylinder		Type	ZHVD-DFR		ZHVD-DFR		ZHVD-DFR

* Additional draw pull to the diaphragme force actuated by the actuating cylinder

Advice: The max. allowed speed for the application is permanently marked on the corresponding top jaws and must not be exceeded.

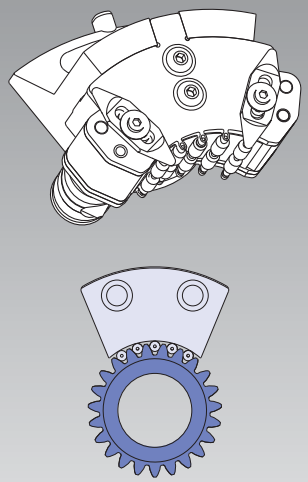
Important: Never rotate the chuck without inserted jaws, otherwise the centrifugal force compensation mechanism will be damaged.

Jaws type A



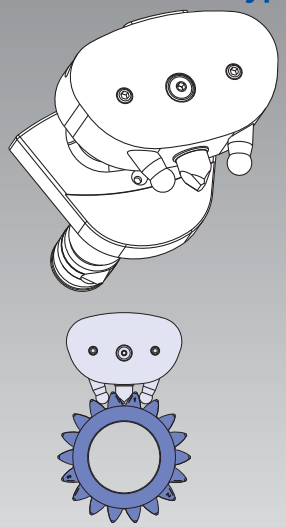
External clamping

Jaws type B



Pitchline clamping with roller cage

Jaws type C



Pitchline clamping with pin

Actuating cylinder ZHVD-DFR for D-KOMBi®

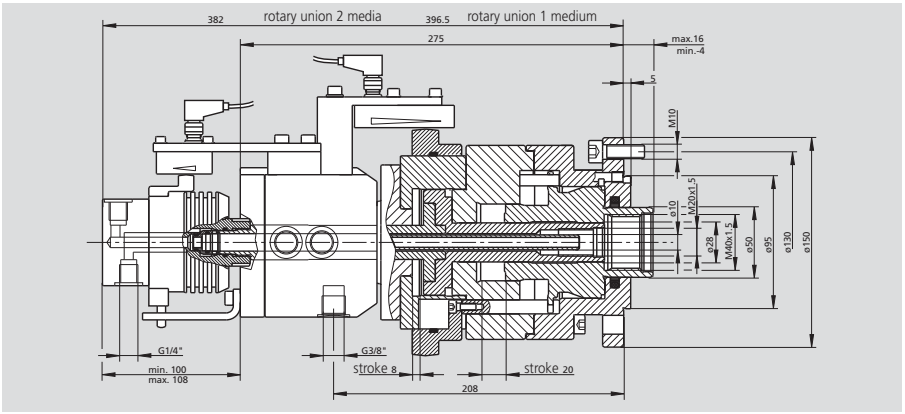
Technical features

- Special double piston cylinder to actuate D-KOMBI
- 2 independent pistons for diaphragm jaws and axial swing clamp drive
- Rotating unions for 1 or 2 media
- 2 Linear Position Systems LPS for monitoring of the piston strokes

Standard equipment

- Cylinder with kit for LPS, without LPS position sensor

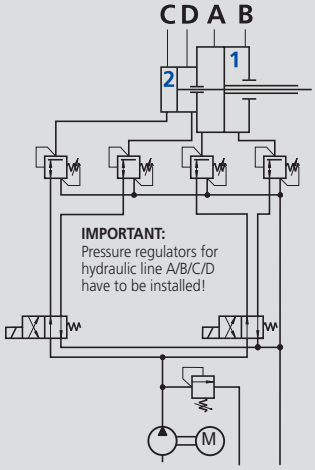
LPS see page 213

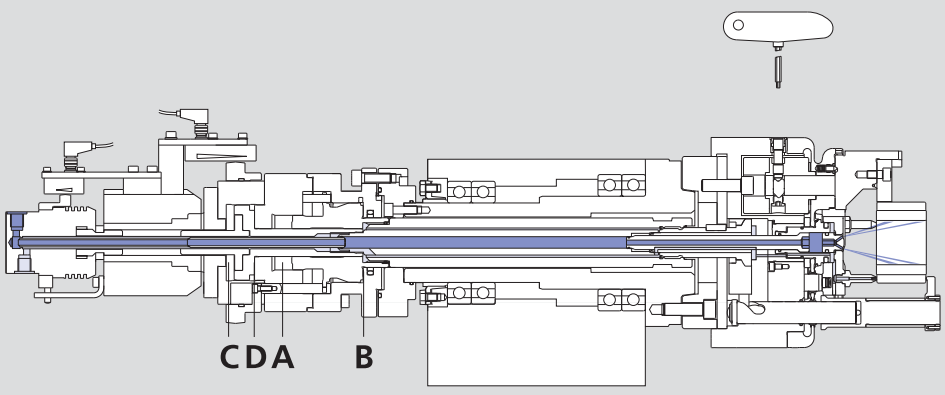


ZHVD-DFR for rotary union 1 medium Id. No. 044865 (without rotary union)
ZHVD-DFR with rotary union 2 media Id. No. 044866 (rotary union 2 media included)

Piston surface				Pressure	Speed	Leakage	Mass	Moment of	Mass of	Mass of
Axial finger (K1)		Diaphragm (K2)		min./max.	max.	at 30 bar 50°C	cylinder	inertia	rotary union	rotary union
A	B	C	D						1 medium	2 media
push	pull	push	pull							
cm²	cm²	cm²	cm²	bar	r.p.m.	dm³/min	kg	kg·m²	kg	kg
17.6	30.6	40.6	39.2	3-60	4000	3.0	25	0.065	0.4	1.5

Installation





RU-2-20

Rotary union for 2 media

■ For double piston cylinder ZHVD-DFR for D-chucks



Application/customer benefits

- Rotary union for media supply for rotating cylinders.
- Universal for air + oil/air + coolant. Can also rotate dry (without medium applied).

Technical features:

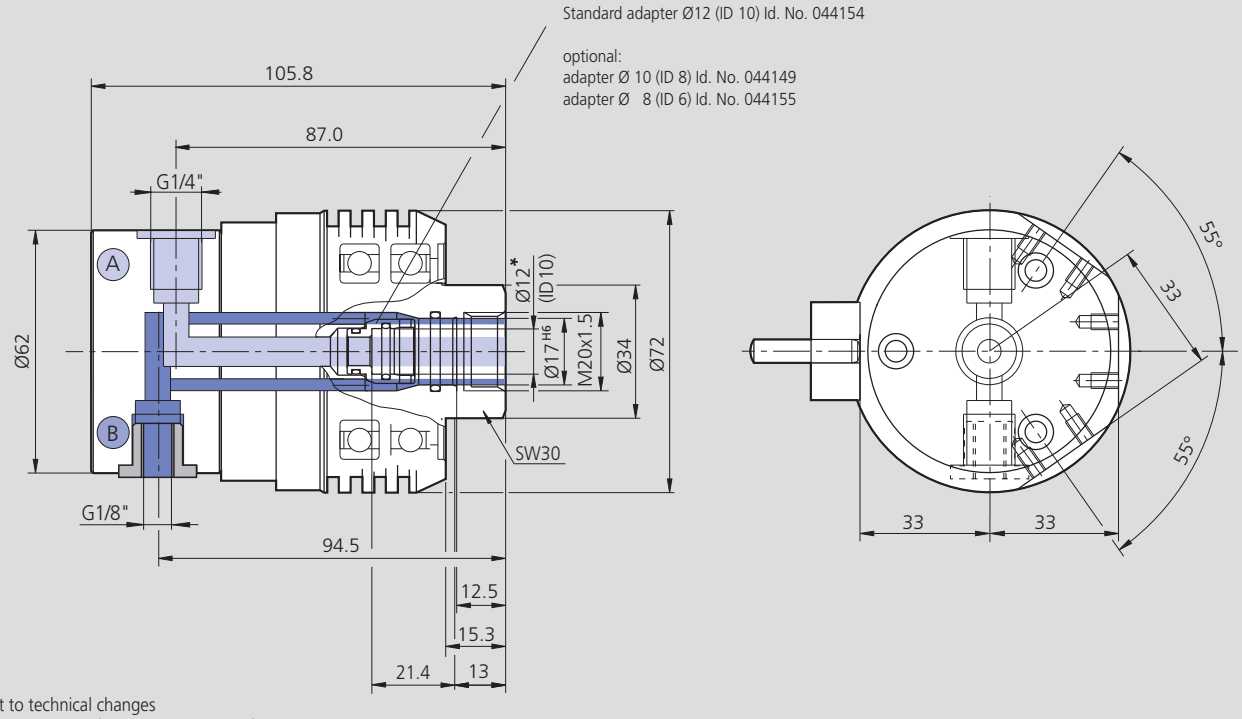
- Rotary union for 2 media. Port A for air, oil and coolant, Port B for air.
- **note:** The medium must be free of contamination
  Filter 25 µm requested

Standard equipment:

RU-2-20
Anti rotation pinblok
Adapter for tube Ø 12 mm (ID = 10 mm) Id. No. 044154

Option:

Adapter for tube Ø 10 mm (ID = 8 mm) Id. No. 044149
Adapter for tube Ø 8 mm (ID = 6 mm) Id. No. 044155



Subject to technical changes
For more detailed information please ask for customer drawing

Technical data

SMW-AUTOBLOK Type	Id. No.	max. speed r.p.m.	max. pressure port A media: air, oil, coolant	max. pressure port B media: air only	Mass	Filter requested
RU-2-20	044972	4000	40 bar (580 psi)	10 bar (145 psi)	0.94 kg	25 µm

Collet chucks ■ Bar pulling chucks



Page 174

KSZ-MB
Collet chuck

- for bar machining
- push actuation



Page 178

KSZ-DZN
Draw collet chuck

KSZ-AZN
Draw collet chuck with workstop

- for bar machining
- draw actuation
- KSZ-DZ for bars
- KSZ-AZ for bar or shaft machining with removable workstop



Page 181

KSZ-NZN
Collet chuck for neutral axial positioning

- for bar or shaft machining
- to push actuation
- neutral axial position of the workpiece during clamping
- removable workstop



Page 184

KSZ-AZL
Draw collet chuck including preparation for air sensing

- for bar or shaft machining
- draw actuation
- with built-in air sensing
- removable workstop



Page 186

GF 80
INCH serration bar pulling chuck

Spring operated bar pulling chuck

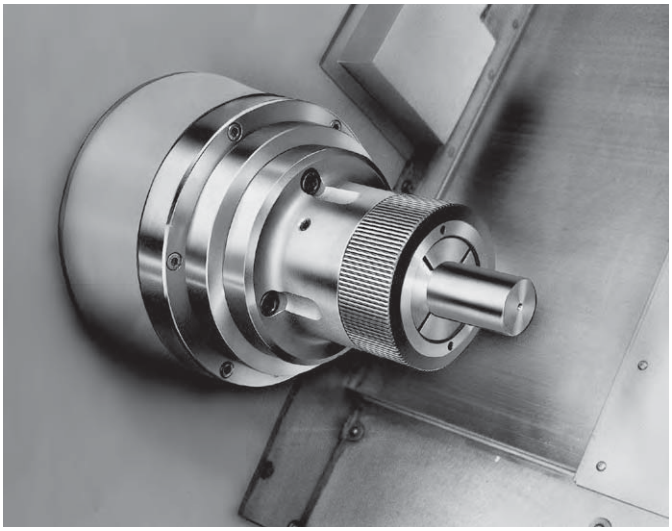
- spring actuation
- for stationary outside clamping

KSZ-MB

Collet chuck

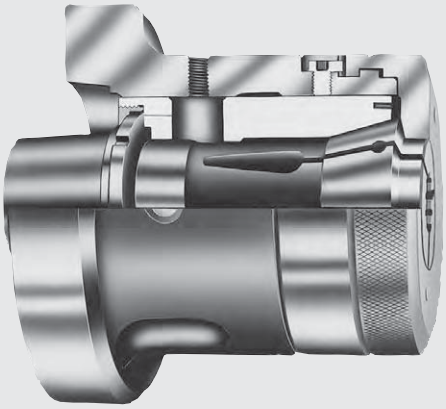
Collet chuck for bar machining

- Bar Ø 3 - 80
- Collets DIN 6343



Application/customer benefits

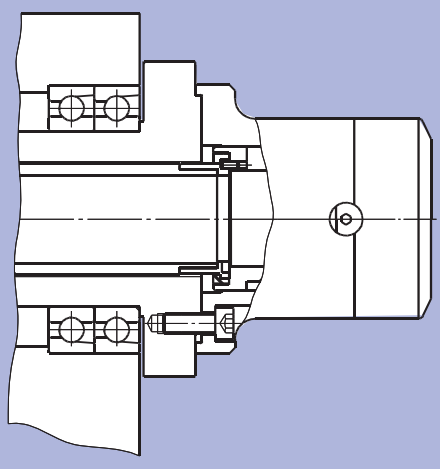
- Efficient machining of bar material on automatic bar machines with bar feed
- Less deformation of thin-walled components during clamping
- Quick set-up by means of bayonet locking cap
- For highest speeds
- Clamping/unclamping of chuck during spindle rotation is possible



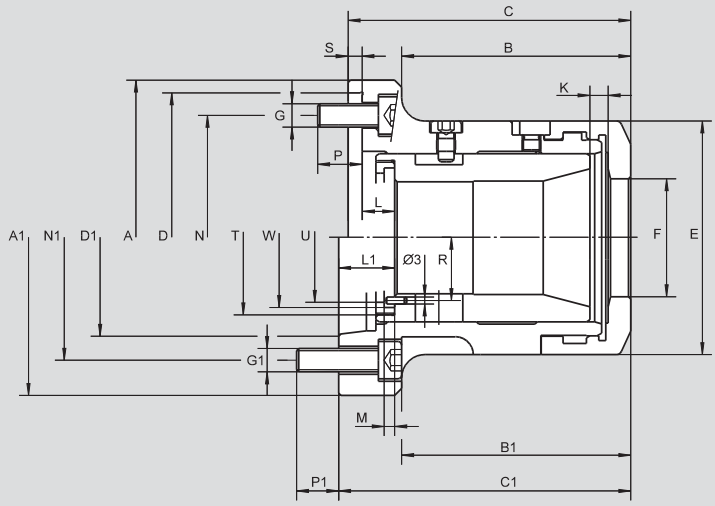


Profitability

- Quick and simple installation to all lathes (alternately with 3-jaw chucks).
- Simply by changing collets, round, square and hexagonal material can be clamped.
- Cost effective by using standard collets DIN 6343 as well as standard Rubberflex and Multirange collets.
- Collets for highest concentricity for special profiles, vulcanized, coated or ground to size are available on request.



- Case hardened and ground chuck parts ensure long service life
- Finish-machining of all parts in one set-up guarantees perfect concentricity
- Direct mounting to the machine spindle ensures high concentricity
- High operating reliability due to a minimum of parts
- High axial positioning accuracy of the components by means of push type collet system



Attention: Chuck position „open" (left end position) is with end stop in actuating cylinder.
Do not actuate chuck without cap nut mounted!
Remove pin dia. 3 for rotating ring nut for direct connection in thread dimension T.

Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		KSZ-MB 40			KSZ-MB 60				KSZ-MB 80
Mounting		**Z140**	**A5**	**A6**	**Z170**	**Z220**	**A6**	**A8**	**Z/A8**
Id. No.		088174	088180	088179	088175	088176	088178	088177	091209
	A h6	155	-	-	185	235	-	-	-
	A1 h6	-	135	170	-	-	170	220	220
	B	90.9	-	-	108.9	108.9	-	-	-
	B1	-	96.9	91.9	-	-	117.9	108.4	147
	C	113.9	-	-	138.9	140.9	-	-	-
	C1	-	123.9	123.9	-	-	144.9	145.9	176.5
Center mounting	**D**	140	-	-	170	220	-	-	-
Short taper mounting to DIN 55026	**D1**	-	A5	A6	-	-	A6	A8	A8
	E	102	102	102	130	130	130	130	156
	F	51	51	51	74	74	74	74	95
	G	3 x M10	-	-	6 x M12	6 x M16	-	-	-
	G1	-	4 x M10	4 x M12	-	-	4 x M12	4 x M16	6 x M16
	Kmax.	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	L	8.5	-	-	14.0	16.0	-	-	-
	L1	-	24.5	24.5	-	-	26.0	27.0	30.5
	M	4.5	4.5	4.5	4.5	4.5	4.5	4.5	6.0
	N	104.8	-	-	133.4	171.4	-	-	-
	N1	-	104.8	133.4	-	-	133.4	171.4	171.4
	P	18	-	-	14	20	-	-	-
	P1	-	14	14.5	-	-	16	16	27.5
	R	28	28	28	39.5	39.5	39.5	39.5	51
	S	6	-	-	6	6	-	-	-
Pressure sleeve thread/**thread depth**	**T**	M66 x 1.5/**8**			M90 x 1.5/**8**				M114 x 2/**11**
	U	54			77				99
	W	62.5			83				107
max. speed	r.p.m.	6000	6000	6000	5000	5000	5000	4000	4000
max. actuating force	daN	2500	2500	2500	3000	3000	3000	3500	3500
max. gripping force	daN	5400	5400	5400	6500	6500	6500	7300	7300
Weight without collets	kg	6.1	7.7	7.8	13.6	14.2	14.1	18.1	20.8
rec. actuating cylinders	**Type**	**VNK 102-46**			**VNK 150-67**				**VNK 200-86**
speed	r.p.m.	7000			5500				4000

Page 197

KSZ-MB

Collet chuck

Ordering review

Supply range: Chuck and mounting bolts



Spindle mounting \ Size	KSZ-MB 40	KSZ-MB 60	KSZ-MB 80 - 193 E
Centering rim standard	Z140 088174	Z170 088175	Z220* 091209*
Centering rim large		Z220 088176	
A 05	088180		
A 06	088179	088178	
A 08		088177	091209*

***Attention:** KSZ-MB 80-193E with standard centering rim (Id.-No. 091209) has outside centering 220 mm (and also inside taper A8)

Accessories for KSZ-MB



Spindle mounting \ Size	KSZ-MB 40	KSZ-MB 60	KSZ-MB 80
Blank adapter	0360790	0360810	
Reduction for smaller collets (comprising pressure sleeve and cap nut)	KSZ-MB size 40 to size 26 0360720/0361792	KSZ-MB size 60 to size 40 0360121/0361360	KSZ-MB size 80 to size 40 0362082/0360135
			KSZ-MB size 80 to size 60 0362081/0360134

Collets for KSZ-MB 40

Steel collets DIN 6343 series 173 E

ROUND*

Ø	**3**	**3.5**	**4**	**4.5**	**5**	**5.5**	**6**	**6.5**	**7**	**7.5**	**8**	**8.5**	**9**
Id. No.	012961	012962	012963	012964	012965	012966	012967	012968	012969	012970	012971	012972	012973
Ø	**9.5**	**10**	**10.5**	**11**	**11.5**	**12**	**12.5**	**13**	**13.5**	**14**	**14.5**	**15**	**15.5**
Id. No.	012974	012975	012976	012977	012978	012979	012980	012981	012982	012983	012984	012985	012986
Ø	**16**	**16.5**	**17**	**17.5**	**18**	**18.5**	**19**	**19.5**	**20**	**20.5**	**21**	**21.5**	**22**
Id. No.	012987	012988	012989	012990	012991	012992	012993	012994	012995	012996	012997	012998	012999
Ø	**22.5**	**23**	**23.5**	**24**	**24.5**	**25**	**25.5**	**26**	**26.5**	**27**	**27.5**	**28**	**28.5**
Id. No.	013000	013001	013002	013003	013004	013005	013006	013007	013008	013009	013010	013011	013012
Ø	**29**	**29.5**	**30**	**30.5**	**31**	**31.5**	**32**	**32.5**	**33**	**33.5**	**34**	**34.5**	**35**
Id. No.	013013	013014	013015	013016	013017	013018	013019	013020	013021	013022	013023	013024	013025
Ø	**35.5**	**36**	**36.5**	**37**	**37.5**	**38**	**38.5**	**39**	**39.5**	**40**	**40.5**	**41**	**41.5**
Id. No.	013026	013027	013028	013029	013030	013031	013032	013033	013034	013035	013036	013037	013038
Ø	**42**												
Id. No.	013039												

HEXAGONAL**

⬡	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**19**
Id. No.	013040	013041	013042	013043	013044	013045	013046	013047	013048	013049	013050	013051	013052
⬡	**20**	**21**	**22**	**24**	**26**	**27**	**28**	**30**	**31**	**32**	**36**		
Id. No.	016428	016429	013053	013054	016430	013055	016431	013056	016432	013057	013058		

SQUARE**

□	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**20**
Id. No.	013059	013060	013061	013062	013063	013064	013065	013066	013067	013068	013069	013070	013071
□	**22**	**25**	**28**										
Id. No.	013072	013073	013074										

Rubberflex collets series 36 (recommended for raw part clamping)

ROUND

Ø	**7-9**	**9-11**	**11-13**	**13-15**	**15-17**	**17-19**	**19-21**	**21-23**	**23-25**	**25-27**	**27-29**	**29-31**	**31-33**
Id. No.	013076	013077	013078	013079	013080	013081	013082	013093	013083	013084	013085	013086	013087
Ø	**33-35**	**35-37**	**37-39**	**39-41**	**41-43**								
Id. No.	013088	013089	013090	013091	013092								

* concentricity according to DIN 6343

** concentricity has to be agreed

Collets for KSZ-MB 60

Steel collets DIN 6343 series 185 E

ROUND*

Ø	4	5	6	7	8	9	10	11	12	13	14	15	16
Id. No.	013112	013113	013114	013115	013116	013117	013118	013119	013120	013121	013122	013123	013124
Ø	17	18	19	20	21	22	23	24	25	26	27	28	29
Id. No.	013125	013126	013127	013128	013129	013130	013131	013132	013133	016434	013134	013135	013136
Ø	30	31	32	33	34	35	36	37	38	39	40	41	42
Id. No.	013137	013138	013139	013140	013141	013142	013143	013144	016435	013145	013146	013147	013148
Ø	43	44	45	46	47	48	49	50	51	52	53	54	55
Id. No.	013149	013150	013151	013152	013153	013154	013155	013156	013157	013158	013159	013160	013161
Ø	56	57	58	59	60								
Id. No.	013162	013163	013164	013165	013166								

HEXAGONAL**

⬡	8	9	10	11	12	13	14	15	16	17	19	22	24
Id. No.	013167	013168	013169	013170	013171	013172	013173	013174	013175	013176	013177	013178	013179
⬡	27	30	32	36	41	50							
Id. No.	013180	013181	013182	013183	019312	019592							

SQUARE**

□	7	8	9	10	11	12	13	14	15	16	17	18	20
Id. No.	013184	013185	013186	013187	013188	013189	013190	013191	013192	013193	019110	013194	013195
□	22	25	28	30	32	35	36	40					
Id. No.	013196	013197	013198	013199	013200	019111	013201	017800					

Rubberflex collets series 52 (recommended for raw part clamping)

ROUND

Ø	35-37	37-39	39-41	41-43	43-45	45-47	47-49	49-51	51-53	53-55	55-57	57-59	59-61
Id. No.	013203	013204	013205	013206	013207	013208	013209	013210	013211	013212	013213	013214	013215

Collets for KSZ-MB 80

Steel collets DIN 6343 series 193 E

ROUND*

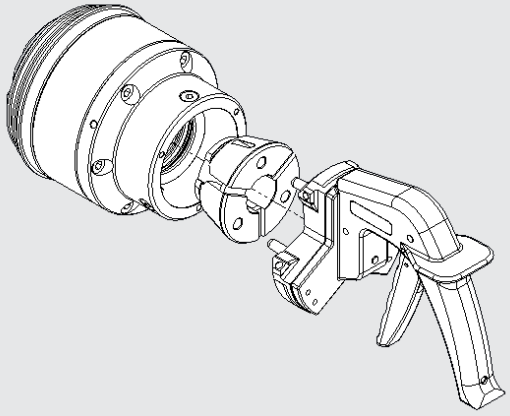
Ø	20	21	22	23	24	25	26	27	28	29	30	31	32
Id. No.	013237	013238	013239	013240	013241	013242	013243	013244	013245	013246	013247	013248	013249
Ø	33	34	35	36	37	38	39	40	41	42	43	44	45
Id. No.	013250	013251	013252	013253	013254	013255	013256	013257	013258	013259	013260	013261	013262
Ø	46	47	48	49	50	51	52	53	54	55	56	57	58
Id. No.	013263	013264	013265	013266	013267	013268	013269	013270	013271	013272	013273	013274	013275
Ø	59	60	61	62	63	64	65	66	67	68	69	70	71
Id. No.	013276	013277	013278	013279	013280	013281	013282	013283	013284	013285	013286	013287	013288
Ø	72	73	74	75	76	77	78	79	80				
Id. No.	013289	013290	013291	013292	013293	013294	013295	013296	013297				

Further collets are available on request.

* concentricity according to DIN 6343
** concentricity has to be agreed

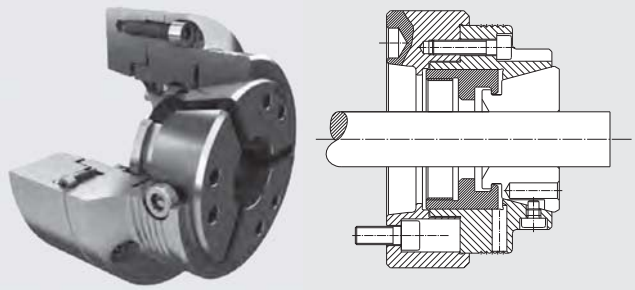
KSZ-DZN/KSZ-AZN

Draw collet chuck for bar and shaft machining



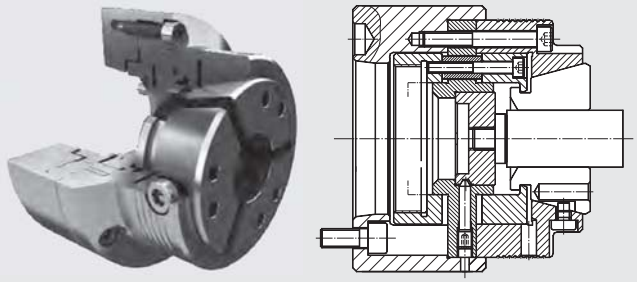
Application/customer benefits

- Safe clamping of bars and shafts
- Quick change of collets with changing unit
- Changing unit manual or pneumatic
- Direct mounting of the collets into the body ensures highest concentricity
- Collets available round, square, hexagonal or as blanks to be machined on the chuck
- Available for stationary use



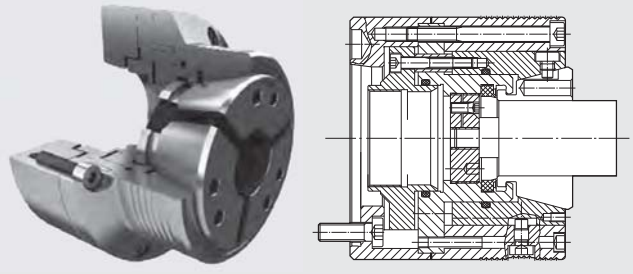
KSZ-DZN

- Safe clamping of bars
- No pressure forces onto the machine spindle during clamping
- Highest axial and radial rigidity with draw collet system
- Parallel clamping of the collets
- Flexible use because of large range of the collets



KSZ-AZN

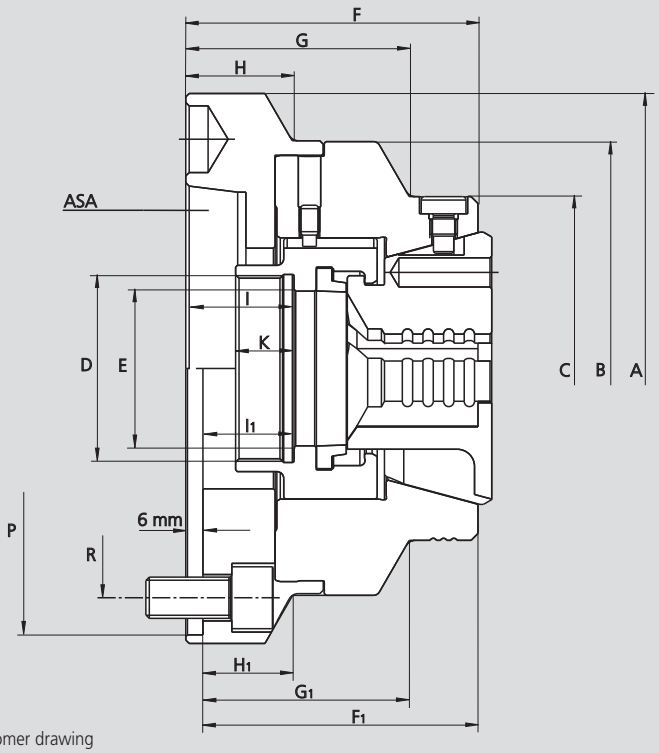
- Rigid axial workstop for shafts
- High axial positioning accuracy of the shafts because of pull down effect onto the workstop
- Full through hole available because of quick change of axial workstop
- Special workstops available on request



KSZ-NZN

- Collet in axial fixed position = no axial movement and axial forces when clamping
- Rigid axial workstop for shafts
- Full through hole available because of quick change of axial workstop
- Special workstops available on request

**Chuck in open position =
Right end position**



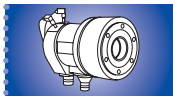
Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		KSZ-DZN 42			KSZ-DZN 65				
Mounting		**Z140**	**A5**	**A6**	**Z140**	**Z170**	**A5**	**A6**	**A8**
Id. No.		201340	201338	201339	201344	201345	201341	201342	201343
	A	150	132	160	157	180	157	157	202
	B	132	-	132	-	157	-	-	157
	C	100	100	100	122	122	122	122	122
	D	M54 x 1.5	M54 x 1.5	M54 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5
	E	45	45	45	68	68	68	68	68
	F	-	90	90	-	-	100	98	102
	F1	75	-	-	100	98	-	-	-
	G	-	70	70	-	-	70	68	72
	G1	55	-	-	70	68	-	-	-
	H	-	-	36	-	-	-	-	-
	H1	15	-	-	-	13	-	-	-
	I	-	39	39	-	-	41.5	41.5	43.5
	I1	24	-	-	42	39.5	-	-	-
	K	17	17	17	17.5	17.5	17.5	17.5	17.5
	P H6	140	-	-	140	170	-	-	-
	R	104.8/4x90°/M10	104.8/4x90°/M10	133.4/4x90°/M12	104.8/4x90°/M10	133.4/4x90°/M12	104.8/4x90°/M10	133.4/4x90°/M12	171.4/4x90°/M16
max. speed	r.p.m.	7000	7000	7000	6000	6000	6000	6000	6000
max. actuating force	daN	3500	3500	3500	4500	4500	4500	4500	4500
max. gripping force	daN	8000	8000	8000	10500	10500	10500	10500	10500
Weight without collets	kg	5.2	5.8	6.7	8.6	8.8	8.4	7.6	9.8
rec. actuating cylinders	**Type**	**VNK 102-46**			**VNK 150-67**				
Speed	r.p.m.	8000			5500				

Changing unit



Accessories \ Size	KSZ-DZN 42	KSZ-DZN 65
manual	196842	196844
pneumatic	192151	192153



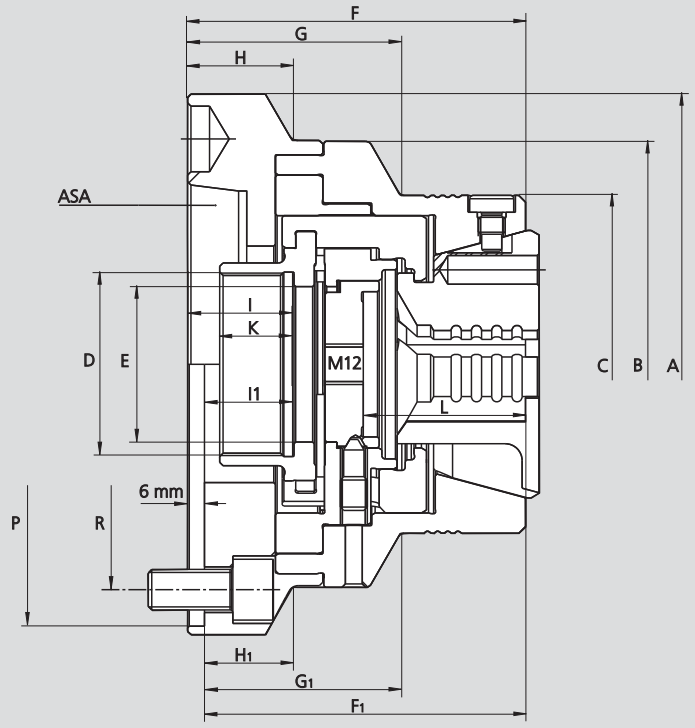
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KSZ-AZN

Draw collet chucks

Draw collet chuck for bar and shaft machining

Chuck in open position = Right end position



Subject to technical changes
For more detailed information please ask for customer drawing

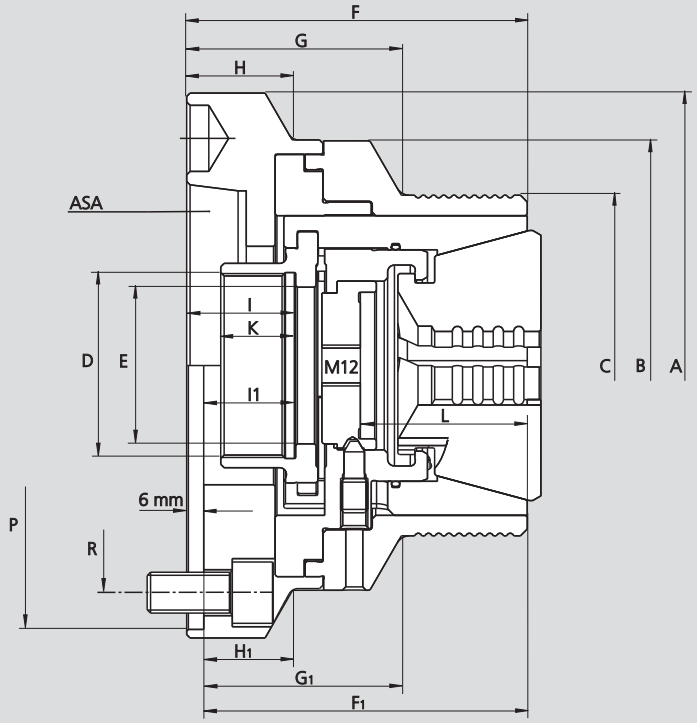
SMW-AUTOBLOK Type		KSZ-AZN 42			KSZ-AZN 65				
Mounting		**Z140**	**A5**	**A6**	**Z140**	**Z170**	**A5**	**A6**	**A8**
Id. No.		201348	201346	201347	201352	201353	201349	201350	201351
	A	150	132	160	157	180	157	197	202
	B	132	-	132	-	157	-	-	157
	C	100	100	100	122	122	122	122	122
	D	M54 x 1.5	M54 x 1.5	M54 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5
	E	46	46	46	68	68	68	68	68
	F	-	105	105	-	-	112	110	114
	F1	90	-	-	112	110	-	-	-
	G	-	68	68	-	-	69	67	71
	G1	53	-	-	69	67	-	-	-
	H	-	-	36	-	-	-	-	47
	H1	15	-	-	-	13	-	-	-
	I	-	39	39	-	-	41.5	39.5	43.5
	I1	24	-	-	41.5	39.5	-	-	-
	K	17	17	17	17.5	17.5	17.5	17.5	17.5
	L	48	48	48	54	54	54	54	54
	P H6	140	-	-	140	170	-	-	-
	R	104.8/4x90°/M10	104.8/4x90°/M10	133.4/4x90°/M12	104.8/4x90°/M10	133.4/4x90°/M12	104.8/4x90°/M10	133.4/4x90°/M12	171.4/4x90°/M16
max. speed	r.p.m.	7000	7000	7000	6000	6000	6000	6000	6000
max. actuating force	daN	3500	3500	3500	4500	4500	4500	4500	4500
max. gripping force	daN	8000	8000	8000	10500	10500	10500	10500	10500
Weight without collets	kg	5.8	6.2	7.3	9.5	9.5	9.3	8.5	10.7
rec. actuating cylinders	**Type**	**VNK 102-46**			**VNK 150-67**				
Speed	r.p.m.	8000			5500				

Changing unit



Accessories \ Size	KSZ-AZN 42	KSZ-AZN 65
manual	196842	196844
pneumatic	192151	192153

**Chuck in open position =
Left end position**



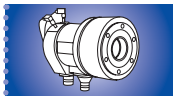
Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		KSZ-NZN 42			KSZ-NZN 65				
Mounting		Z140	A5	A6	Z140	Z170	A5	A6	A8
Id. No.		201356	201354	201355	201360	201361	201357	201358	201359
	A	150	132	160	157	180	157	157	202
	B	132	-	132	-	157	-	-	157
	C	100	100	100	122	122	122	122	122
	D	M54 x 1.5	M54 x 1.5	M54 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5	M78 x 1.5
	E	46	46	46	68	68	68	68	68
	F	-	105	105	-	-	112	110	114
	F1	90	-	-	112	110	-	-	-
	G	-	68	68	-	-	69	67	71
	G1	53	-	-	69	67	-	-	-
	H	-	-	36	-	-	-	-	17
	H1	15	-	-	-	13	-	-	-
	I	-	34.5	34.5	-	-	37	35	39
	I1	19.5	-	-	37	35	-	-	-
	K	17	17	17	17.5	17.5	17.5	17.5	17.5
	L	48	48	48	54	54	54	54	54
	P H6	140	-	-	140	170	-	-	-
	R	104.8/4x90°/M10	104.8/4x90°/M10	133.4/4x90°/M12	104.8/4x90°/M10	133.4/4x90°/M12	104.8/4x90°/M10	133.4/4x90°/M12	171.4/4x90°/M16
max. speed	r.p.m.	7000	7000	7000	6000	6000	6000	6000	6000
max. actuating force	daN	3500	3500	3500	4500	4500	4500	4500	4500
max. gripping force	daN	8000	8000	8000	10500	10500	10500	10500	10500
Weight without collets	kg	5.9	6.3	7.4	9.6	9.6	9.4	8.6	10.8
rec. actuating cylinders	Type	VNK 102-46			VNK 150-67				
Speed	r.p.m.	8000			5500				

Changing unit



Accessories \ Size	KSZ-NZN 42	KSZ-NZN 65
manual	196842	196844
pneumatic	192151	192153



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Collets for KSZ-DZN 42/KSZ-AZN 42/KSZ-NZN 42

Steel collets with axial and radial grooves (△ smooth, △△ radial grooves)

ROUND*

Ø	4△	5△	6△	7△	8△△	9△△	10△△	11	12	13	14	15	16
Id. No.	192173	192174	192175	192176	192177	192178	192179	192180	192181	192182	192183	192184	192185
Ø	17	18	19	20	21	22	23	24	25	26	27	28	29
Id. No.	192186	192187	192188	192189	192190	192191	192192	192193	192194	192195	192196	192197	192198
Ø	30	31	32	33	34	35	36	37	38	39	40	41	42
Id. No.	192199	192200	192201	192202	192203	192204	192205	192206	192207	192208	192209	192210	192211

Collets in 0.5 mm increments on request

Steel collets with smooth clamping surface

ROUND*

Ø	4	5	6	7	8	9	10	11	12	13	14	15	16
Id. No.	192173	192174	192175	192176	193135	193136	193137	193138	193139	193140	193141	193142	193143
Ø	17	18	19	20	21	22	23	24	25	26	27	28	29
Id. No.	193144	192807	193145	192808	193146	193147	193148	193149	193150	193151	193152	193153	193154
Ø	30	31	32	33	34	35	36	37	38	39	40	41	42
Id. No.	193155	193156	193083	193157	193158	193159	193160	193161	193162	193163	193164	193165	192219

Collets in 0.5 mm increments on request

SQUARE**

□	7△	8△△	9△△	10△△	11△△	12△△	13△△	14△△	15△△	16△△	17△△	18△△	19△△
Id. No.	192212	192213	192214	192215	192216	192217	192218	192219	192220	192221	192222	192223	192224
□	20△△	21△△	22△△	23△△	24△△	25△△	26△△	27△△	28△△	29△△	30△△		
Id. No.	192225	192226	192227	192228	192229	192230	192231	192232	192233	192234	192235		

HEXAGONAL**

⬡	7△	8△△	9△△	10△△	11△△	12△△	13△△	14△△	15△△	16△△	17△△	18△△	19△△
Id. No.	192236	192237	192238	192239	192240	192241	192242	192243	192244	192245	192246	192247	192248
⬡	20△△	21△△	22△△	23△△	24△△	25△△	26△△	27△△	28△△	29△△	30△△	31△△	32△△
Id. No.	192249	192250	192251	192252	192253	192254	192255	192256	192257	192258	192259	192260	192261

Soft steel collets (pre-bored)

ROUND

Ø	5	15	30
Id. No.	192262	192263	192264

Boring ring 65 for soft steel collets

Id. No.	193399

* concentricity similar DIN 6343
** concentricity has to be agreed

Collets for KSZ-DZN 65/KSZ-AZN 65/KSZ-NZN 65

Steel collets with axial and radial grooves (△ smooth, △△ radial grooves)

ROUND*

Ø	5△	6△	7△	8△△	9△△	10△△	11	12	13	14	15	16	17
Id. No.	192265	192266	192267	192268	192269	192270	192271	192272	192273	192274	192275	192276	192277
Ø	18	19	20	21	22	23	24	25	26	27	28	29	30
Id. No.	192278	192279	192280	192281	192282	192283	192284	192285	192286	192287	192288	192289	192290
Ø	31	32	33	34	35	36	37	38	39	40	41	42	43
Id. No.	192291	192292	192293	192294	192295	192296	192297	192298	192299	192300	192301	192302	192303
Ø	44	45	46	47	48	49	50	51	52	53	54	55	56
Id. No.	192304	192305	192306	192307	192308	192309	192310	192311	192312	192313	192314	192315	192316
Ø	57	58	59	60	61	62	63	64	65				
Id. No.	192317	192318	192319	192320	192321	192322	192323	192324	192325				

Collets in 0.5 mm increments on request

Steel collets with smooth clamping surface

ROUND*

Ø	5	6	7	8	9	10	11	12	13	14	15	16	17
Id. No.	192265	192266	192267	193172	193173	192682	193174	192787	193175	193176	193177	193169	193178
Ø	18	19	20	21	22	23	24	25	26	27	28	29	30
Id. No.	193179	193180	193181	193182	193683	193183	193170	193065	193184	193066	193068	193069	193070
Ø	31	32	33	34	35	36	37	38	39	40	41	42	43
Id. No.	193185	192684	193186	193187	193188	193189	193190	193191	193192	192685	193193	193194	193171
Ø	44	45	46	47	48	49	50	51	52	53	54	55	56
Id. No.	193196	193197	193198	193199	193200	193201	193202	193203	193204	193205	193206	193207	193208
Ø	57	58	59	60	61	62	63	64	65				
Id. No.	193195	193209	193210	193211	193212	193213	193214	193215	193216				

Collets in 0.5 mm increments on request

SQUARE**

□	8△△	9△△	10△△	11△△	12△△	13△△	14△△	15△△	16△△	17△△	18△△	19△△	20△△
Id. No.	192326	192327	192328	192329	192330	192331	192332	192333	192334	192335	192336	192337	192338
□	21△△	22△△	23△△	24△△	25△△	26△△	27△△	28△△	29△△	30△△	31△△	32△△	33△△
Id. No.	192339	192340	192341	192342	192343	192344	192345	192346	192347	192348	192349	192350	192351
□	34△△	35△△	36△△	37△△	38△△	39△△	40△△	41△△	42△△	43△△	44△△	45△△	46△△
Id. No.	192352	192353	192354	192355	192356	192357	192358	192359	192360	192361	192362	192363	192364

HEXAGONAL**

⬡	10△△	11△△	12△△	13△△	14△△	15△△	16△△	17△△	18△△	19△△	20△△	21△△	22△△
Id. No.	192365	192366	192367	192368	192369	192370	192371	192372	192373	192374	192375	192376	192377
⬡	23△△	24△△	25△△	26△△	27△△	28△△	29△△	30△△	31△△	32△△	33△△	34△△	35△△
Id. No.	192378	192379	192380	192381	192382	192383	192384	192385	192386	192387	192388	192389	192390
⬡	36△△	37△△	38△△	39△△	40△△	41△△	42△△	43△△	44△△	45△△	46△△	47△△	48△△
Id. No.	192391	192392	192393	192394	192395	192396	192397	192398	192399	192400	192401	192402	192403
⬡	49△△	50△△											
Id. No.	192404	192405											

Soft steel collets (pre-bored)

ROUND

Ø	8	20	40										
Id. No.	192406	192407	192408										

Boring ring 65 for soft steel collets

Id. No.	193400												

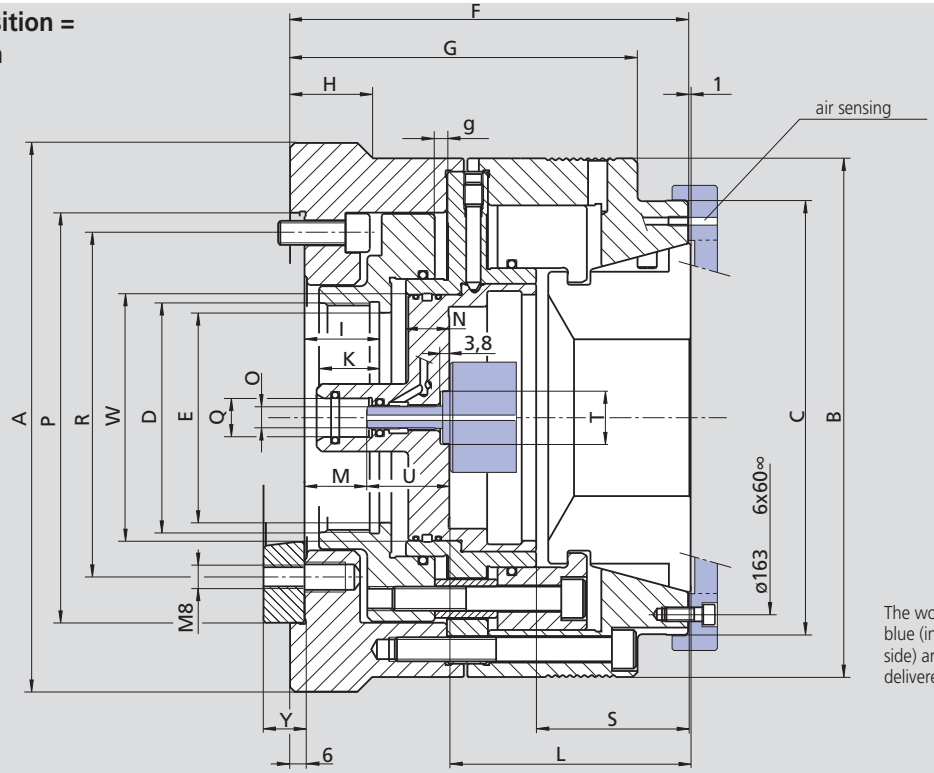
* concentricity similar DIN 6343
** concentricity has to be agreed

KSZ-AZL

Draw collet chucks

Draw collet chuck for bar and shaft machining/ including preparation for air sensing

Chuck in open position = Right end position



The workstops illustrated in blue (inside or on the front side) are optional and can be delivered on request.

Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		KSZ-AZL 100											
Mounting		**Z170**			**Z220**			**A6**			**A8**		
Id. No.		194741			195244			194783			195245		
	A	215			230			215			230		
	B	-			215			-			215		
	C	180			180			180			180		
	D	M95 x 2			M115 x 2			M95 x 2			M115 x 2		
	E	87			107			87			107		
	F	165			165			176			178		
	G	144			144			155			157		
	H	-			37			-			37		
	I	36			36			36			36		
	K	25			25			25			25		
	L	99			99			99			99		
	M	25			25			25			25		
	N	17			17			17			17		
	O	M12			M12			M12			M12		
	P H6	170			220								
	Q	16			16			16			16		
	R	133.4	6 x 60°	M12	171.4	6 x 60°	M16	133.4	6 x 60°	M12	171.4	6 x 60°	M16
	S	63			63			63			63		
	T	22			22			22			22		
	U	34.3			34.3			34.3			34.3		
	V	M12			M12			M12			M12		
	W	102			102			102			102		
	X	111			111			111			111		
	Y	-			-			17			19		
Stroke	**g**	9			9			9			9		
max. speed	r.p.m.	5000			5000			5000			5000		
max. actuating force	daN	6500			6500			6500			6500		
max. gripping force	daN	8500			8500			8500			8500		
Mass without collets	kg	33			35			34			36		
rec. actuating cylinder	**Type**	**VNK 200-86**			**VNK 225-95 / VNK 250-110**			**VNK 200-86**			**VNK 225-95 / VNK 250-110**		
Speed	r.p.m.	4500			4000 / 3600			4500			4000 / 3600		

Supply range:
Chuck and mounting bolts



Spindle mounting \ Size	KSZ-AZL 100
Z 170	194741
A 06	194783
Z 220	195244
A 08	195245

Changing unit



Accessories \ Size	KSZ-AZL 100
pneumatic	194744

Collets for KSZ-AZL

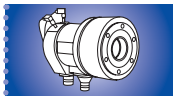
Steel collets with axial and radial grooves
ROUND*

Ø	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**
Id. No.	195081	195082	195083	195084	195085	195086	195087	195088	195089	195090	195091	195092	195093
Ø	**55**	**56**	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**
Id. No.	195094	195095	195096	195097	195098	195099	195100	195101	195102	195103	195104	195105	195106
Ø	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**
Id. No.	195107	195108	195109	195110	195111	195112	195113	195114	195115	195116	195117	195118	195119
Ø	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**
Id. No.	195120	195121	195122	195123	195124	195125	195126	195127	195128	195129	195130	195131	195132
Ø	**94**	**95**	**96**	**97**	**98**	**99**	**100**						
Id. No.	195133	195134	195135	195136	195137	195138	194742						

Steel collets with smooth clamping surface
ROUND*

Ø	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**
Id. No.	195141	195142	195143	195144	195145	195146	195147	195148	195149	195150	195151	195152	195153
Ø	**55**	**56**	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**
Id. No.	195154	195155	195156	195157	195158	195159	195160	195161	195162	195163	195164	195165	195166
Ø	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**
Id. No.	195167	195168	195169	195170	195171	195172	195173	195174	195175	195176	195177	195178	195179
Ø	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**
Id. No.	195180	195181	195182	195183	195184	195185	195186	195187	195188	194743	195189	195190	195191
Ø	**94**	**95**	**96**	**97**	**98**	**99**	**100**						
Id. No.	195192	195193	195194	195195	195196	195197	195198						

* concentricity similar DIN 6343

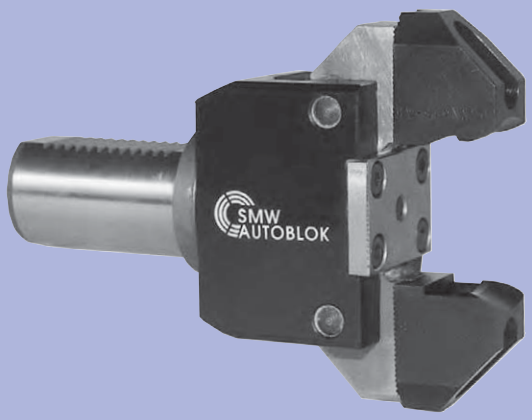

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GF 80

INCH serration
Bar pulling chuck

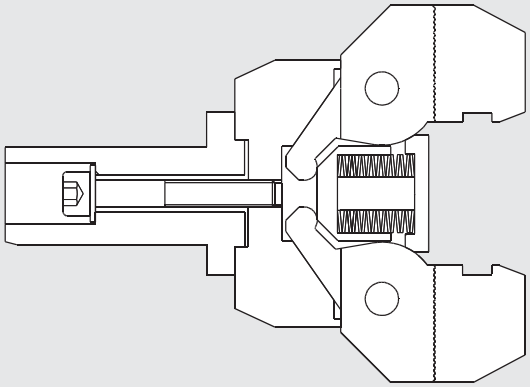
Spring actuated bar pulling chuck

■ for stationary outside clamping



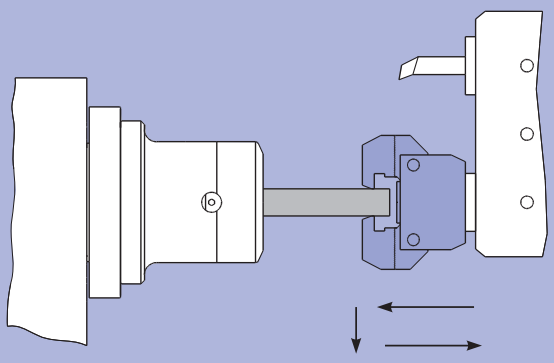
Application/customer benefits

- Clamping and positioning of short bar material
- Positioning of shaft type components in automatic production cycle



Profitability

- Direct mounting to the turret of the lathe - actuation device is not necessary
- Suitable to all tool mounting systems
- Only one tool place of turret is required
- Simple production of special jaws for special bar profiles
- High flexibility at small quantities
- Simple set-up
- Simple, safe spring pre-loading of jaws
- Hardened/quenched clamping arms ensure long service life

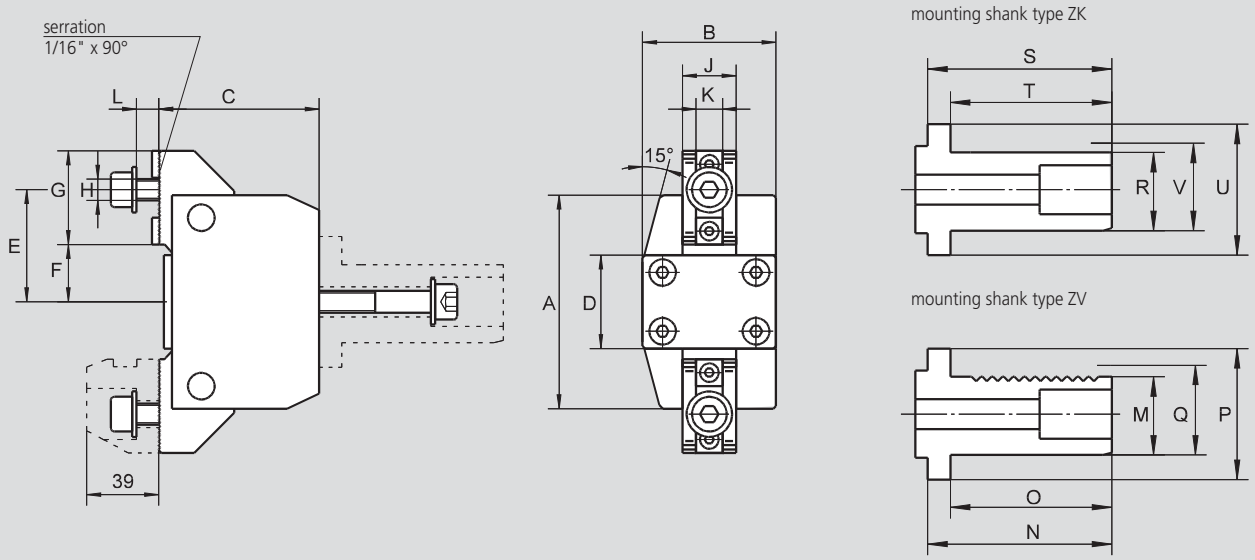


Function

- Move bar pulling chuck GF onto the workpiece with the turret in Z-axis. The bar pulling chuck is clamping self acting via spring pre-loading
- Open collet chuck
- Move turret to position workpiece
- Close collet chuck
- Remove bar pulling chuck GF in Z-axis

GF 80

INCH serration
Bar pulling chuck



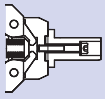
Subject to technical changes
For more detailed information please ask for customer drawing

Chuck type	A	B	C	D	E	F	G	H	J	K	L	Stroke per jaw	gripping force (daN)
GF 80	80	50	60	35	42	21.5	35	M8	20	10	8	4	250

Mounting shank	M	N	O	P	Q	R	S	T	U	V
ZV 20	18	47	35	32	20					
ZV 30	27	63	55	48	30					
ZV 40	36	71	63	48	40					
ZV 50	45	86	78	58	50					
ZK 30						26	63	55	48	30
ZK 40						35	71	63	48	40
ZK 50						44	86	78	58	50

Ordering review bar pulling chuck GF 80

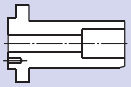
Standard supply range: Bar pulling chuck GF 80 with/without shank, mounting bolts, without jaws



Type	GF 80	GF 80-ZV 20	GF 80-ZV 30	GF 80-ZV 40	GF 80-ZV 50	GF 80-ZK 30	GF 80-ZK 40	GF 80-ZK 50
Shank	without shank	ZV 20	ZV 30	ZV 40	ZV 50	ZK 30	ZK 40	ZK50
Id. No.	010903	089614	089615	089616	089617	089618	089619	089620

Separate mounting shanks ZV/ZK

Mounting shanks type ZV DIN 69880 (serrated)**/mounting shanks type ZK** (with clamping area)



Shank Type	ZV 20	ZV 30	ZV 40	ZV 50	ZK 30	ZK 40	ZK 50
Id. No.	016339	012383	012384	012385	060088	060214	012389

Top jaws type GFB

Standard supply range: 1 set (= 2 pieces) clamping jaws without mounting bolts



Type	GFB 1	GFB 2	GFB 3	GFB 4	GFB 5
Clamping range (mm)	5 - 25	25 - 45	45 - 65	65 - 80	80 - 100
Id. No.	016348	016349	016350	016351	016352

Manual or power operated expanding mandrels
Adapter flanges



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EM-A
Hand or power operated expanding mandrels

Expanding mandrels
Ø 14.7 - 129.7 mm

- Size 1 - 11
- Large expansibility 1 - 2 mm depending on size
- Flange mounting
- Very rigid design



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EM-B
Hand or power operated expanding mandrels

Expanding mandrels
Ø 16.0 - 129.5 mm

- Size 0 - 4
- Large expansibility 0.5 - 1.5 mm depending on size
- Flange mounting
- Very rigid design



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Adapter flanges
ISO-A for expanding mandrels

- mandrels EM-A and EM-B have cyndrical monting
- adapters for ISO-A 702/1-DIN 55026 spindle noses



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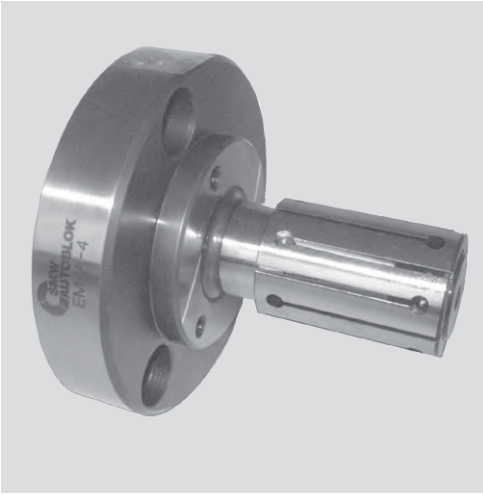
Special expanding mandrels

EM-A

Expanding mandrel
Manual or power operated

Expanding mandrels Ø 14.7 - 129.7 mm

- **size 1 - 11**
- **large expansibility**



Application/customer benefits

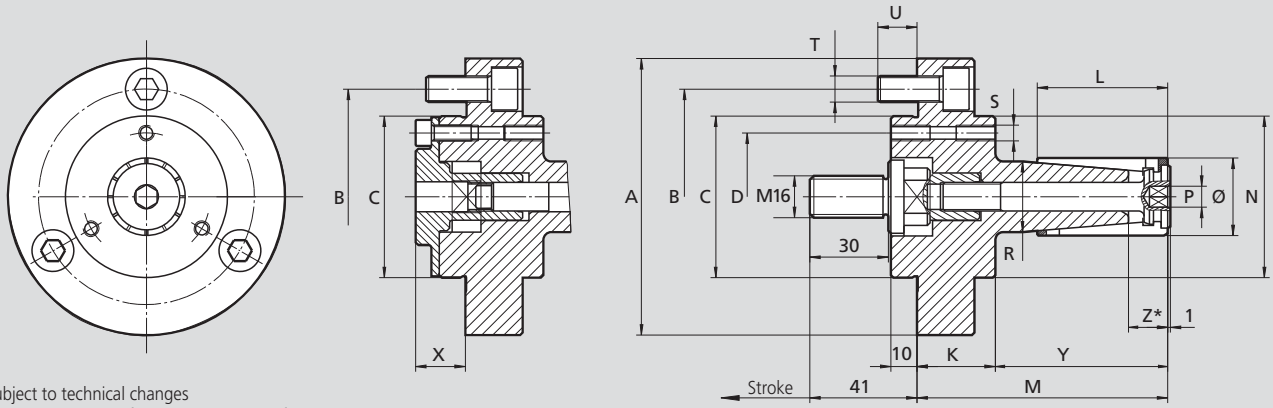
- For turning, milling, grinding and gear cutting operations
- High accuracy and torque transmission because of fixed arbor
- Axial pull down by axial movement of the clamping sleeve during actuation
- Quick set-up

Technical features

- Large expansibility 1-2 mm depending on size
- Hand or power operated
- Flange mounting
- Very rigid design
- Tapped holes at the front face to mount axial stops
- Clamping sleeves are also available in siliconized version

Standard equipment

Basic mandrel with draw bolt for power operation
Mounting bolts



Subject to technical changes
For more detailed information please ask for customer drawing

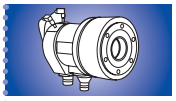
SMW-AUTOBLOK Type	EM-A-1	EM-A-2	EM-A-3	EM-A-4	EM-A-5	EM-A-6	EM-A-7	EM-A-8	EM-A-9	EM-A-10	EM-A-11
Id.No. (power operated)	68100110	68100210	68100310	68100410	68100510	68100610	68100710	68100810	68100910	68101010	68101110
Id.No. (manual operated)	68110110	68110210	68110310	68110410	68110510	68110610	68110710	68110810	68110910	68111010	68111110
A	106	106	106	106	106	106	130	130	130	130	130
B	82.6	82.6	82.6	82.6	82.6	82.6	104.8	104.8	104.8	104.8	104.8
C g5	62	62	62	62	62	62	86	86	86	86	86
D	49	49	49	49	49	49	73	73	73	73	73
K	30	30	30	30	30	30	30	30	30	30	30
L	35	40	46	50	60	60	80	90	100	122	140
M	81	86	92	96	106	106	132	142	152	174	195
N	62	62	62	62	62	62	86	86	86	-	-
Ø mm	14.7-19.7	19.7-24.7	24.7-29.7	29.7-34.7	34.7-39.7	39.7-44.7	44.7-54.7	54.7-64.7	64.7-81.7	81.7-101.7	101.7-131.7
P SW	4	4	6	8	8	8	8	10	10	10	10
R h6	14	19	23	27	31.5	36	42	50	60	73	86
S (3x120°)	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
T (3x120°)	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10
U	15	15	15	15	15	15	15	15	15	17	17
X	19	19	19	19	19	19	13	13	13	21	21
Y	51	56	62	66	76	76	102	112	122	144	165
Z*	12.5	14.5	14.5	15	15.5	16	24	26	26.5	27.5	32
Insert for manual operation Id.No.	68090110	68090210	68090310	68090410	68090510	68090610	68090710	68090710	68090710	68091010	68091110
Draw bolt power operation Id.No.	68050110	68050210	68050310	68050410	68050510	68050610	68050710	68050710	68050710	68051010	68051110

* No clamping only on area Z

Technical data

Stroke mm	6	6	6	6	6	6	12	12	12	12	12
Max. actuating force kN	7	9	12	12	15	20	20	20	25	25	30
Max. transmittable torque Nm	15	35	75	100	120	150	200	250	275	320	500
Actuating cylinder (rec.)	**SIN-S 70**	**SIN-S 70**	**SIN-S 85**	**SIN-S 85**	**SIN-S 85**	**SIN-S 100**	**SIN-S 100**	**SIN-S100**	**SIN-S-100**	**SIN-S-100**	**SIN-S 125**

All dimensions in unclamped position



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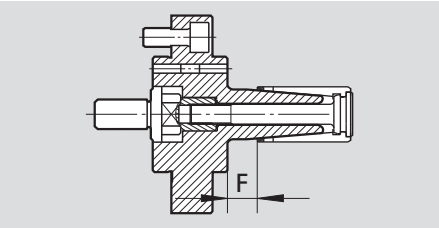
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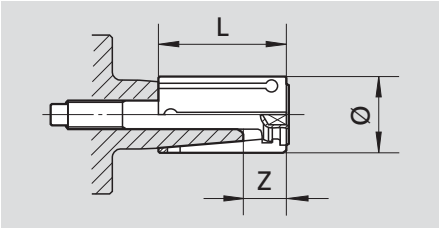
Expanding mandrels Ø 14.7 - 129.7 mm

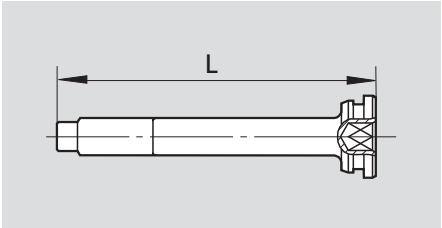
- size 1 - 11
- large expansibility

EM-A

Expanding mandrel
Manual or power operated







Basic mandrel

Type	Id.No.	F
EM-A-1	68100110	16
EM-A-2	68100210	16
EM-A-3	68100310	16
EM-A-4	68100410	16
EM-A-5	68100510	16
EM-A-6	68100610	16
EM-A-7	68100710	22
EM-A-8	68100810	22
EM-A-9	68100910	22
EM-A-10	68101010	22
EM-A-11	68101110	25

Clamping sleeve complete with actuating screw

Id.No.	Ø	L	Expansibility	Z
68300147	14.7	35	1	12.5
68300157	15.7	35	1	12.5
68300167	16.7	35	1	12.5
68300177	17.7	35	1	12.5
68300187	18.7	35	1	12.5
68300197	19.7	40	1	14.5
68300207	20.7	40	1	14.5
68300217	21.7	40	1	14.5
68300227	22.7	40	1	14.5
68300237	23.7	40	1	14.5
68300247	24.7	46	1	14.5
68300257	25.7	46	1	14.5
68300267	26.7	46	1	14.5
68300277	27.7	46	1	14.5
68300287	28.7	46	1	14.5
68300297	29.7	50	1	15
68300307	30.7	50	1	15
68300317	31.7	50	1	15
68300327	32.7	50	1	15
68300337	33.7	50	1	15
68300347	34.7	60	1	15.5
68300357	35.7	60	1	15.5
68300367	36.7	60	1	15.5
68300377	37.7	60	1	15.5
68300387	38.7	60	1	15.5
68300397	39.7	60	1	16
68300407	40.7	60	1	16
68300417	41.7	60	1	16
68300427	42.7	60	1	16
68300437	43.7	60	1	16
68300447	44.7	80	2	24
68300467	46.7	80	2	24
68300487	48.7	80	2	24
68300497	49.7	80	2	24
68300507	50.7	80	2	24
68300527	52.7	80	2	24
68300547	54.7	90	2	26
68300567	56.7	90	2	26
68300587	58.7	90	2	26
68300597	59.7	90	2	26
68300607	60.7	90	2	26
68300627	62.7	90	2	26
68300647	64.7	100	2	26.5
68300667	66.7	100	2	26.5
68300687	68.7	100	2	26.5
68300697	69.7	100	2	26.5
68300707	70.7	100	2	26.5
68300727	72.7	100	2	26.5
68300747	74.7	100	2	26.5
68300767	76.7	100	2	26.5
68300787	78.7	100	2	26.5
68300807	80.7	100	2	26.5
68300817	81.7	122	2	27.5
68300837	83.7	122	2	27.5
68300857	85.7	122	2	27.5
68300877	87.7	122	2	27.5
68300897	89.7	122	2	27.5
68300917	91.7	122	2	27.5
68300937	93.7	122	2	27.5
68300957	95.7	122	2	27.5
68300977	97.7	122	2	27.5
68300997	99.7	122	2	27.5
68301017	101.7	140	2	32
68301037	103.7	140	2	32
68301057	105.7	140	2	32
68301077	107.7	140	2	32
68301097	109.7	140	2	32
68301117	111.7	140	2	32
68301137	113.7	140	2	32
68301157	115.7	140	2	32
68301177	117.7	140	2	32
68301197	119.7	140	2	32
68301217	121.7	140	2	32
68301237	123.7	140	2	32
68301257	125.7	140	2	32
68301277	127.7	140	2	32
68301297	129.7	140	2	32

Actuating screw

Id.No.	L
68030110	76.5
68030210	81
68030310	87.5
68030410	93
68030510	103
68030610	103
68030710	117
68030810	127
68030910	137
68031010	165
68031110	183

EM-B

Expanding mandrel
Manual or power operated

Expanding mandrels Ø 16 - 129.5 mm

- **size 0 - 4**
- **large expansibility**



Application/customer benefits

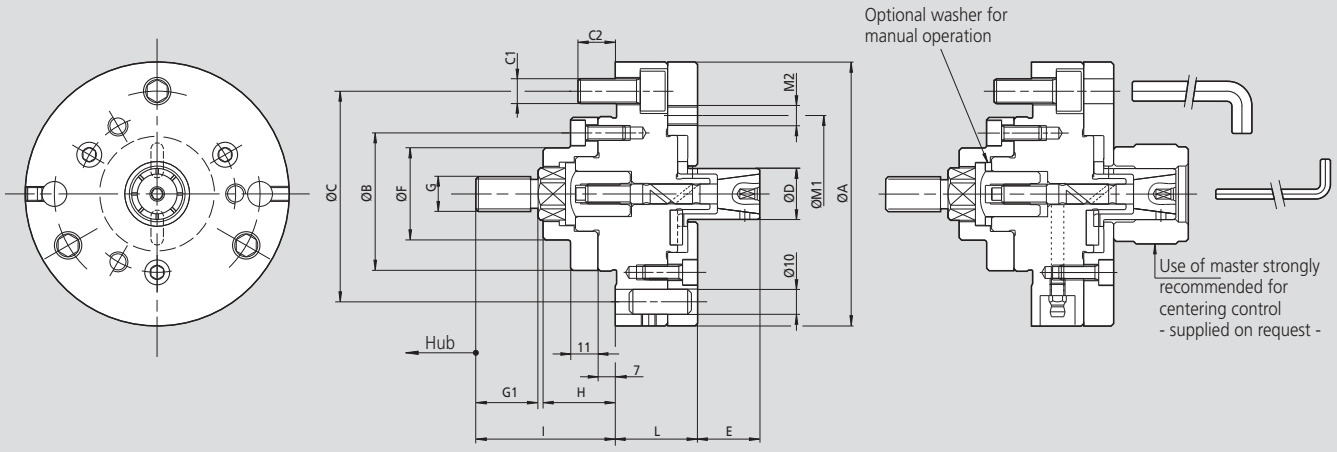
- For turning, milling, grinding and gear cutting operations
- High flexibility by means of modular system
- High torque transmission and concentricity
- No axial movement of clamping sleeve during operation
- Clamping of very short workpieces on the front section of the sleeve possible

Technical features

- Large expansibility 1.5 mm in diameter
- Hand or power operated
- Flange mounting
- Very rigid design
- Tapped holes at the front face to mount axial stops
- Clamping sleeves are also available in siliconized version

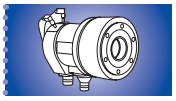
Standard equipment

Basic mandrel with draw bolt for power operation
Mounting bolts



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		EM-B 0	EM-B 1	EM-B 2	EM-B 3	EM-B 4
A	mm	106	106	106	125	180
B g5	mm	62	62	62	62	86
C	mm	82.6	82.6	82.6	82.6	133.4
C1	mm	3 x M10	3 x M10	3 x M10	3 x M10	3 x M12
C2	mm	16	16	16	16	15
D	mm	see tables	see tables	see tables	see tables	see tables
E	mm	23	28	43	58	85
F	mm	37	37	37	37	55
G	mm	M16	M16	M16	M16	M16
G1	mm	25	25	25	25	25
H	mm	29	29	29	29	36
I	mm	56	56	56	56	62
L	mm	35	37	37	37	50
M1	mm	63	68	85	104	162
M2	mm	3 x M8	3 x M8	3 x M8	6 x M8	6 x M8
N	mm	M8	M10	M14	M14	M18
Axial stroke	mm	2.5	2.5	2.5	5	6.5
Sleeve expansion on Ø	mm	0.5	0.5	0.5	1	1.5
Clamping range Ø	mm	16-25.5	20-40.5	35-60.5	55-81	80-131
Max. axial force	kN	7	12	20	20	25
Recommended	**CSN**	**150**	**200**	**200**	**200**	**250**
actuating cylinders	**SIN-S**	**70**	**70**	**85**	**85**	**100**


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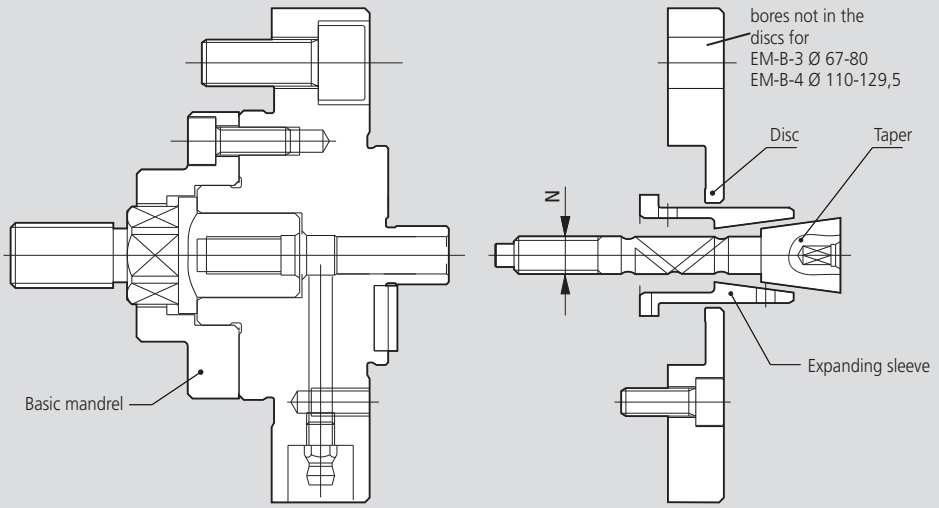
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Expanding mandrels Ø 16 - 129.5 mm

■ size 0 - 4
■ large expansibility

EM-B

Expanding mandrel
Manual or power operated



EM-B	N	M(N.m)
0	M8	23
1	M10	45
2	M14	125
3	M14	125
4	M18	250

Subject to technical changes
For more detailed information please ask for customer drawing

EM-B-0

Basic mandrel 68100021
Expanding sleeve Ø D16–Ø D25

Taper	68020120		
Disc	**68040121**	**68040221**	**68040321**
D16	68200160		
D16.5	68200165		
D17	68200170		
D17.5		68200175	
D18		68200180	
D18.5		68200185	
D19			68220190
D19.5			68220195
D20			68220200

Taper	68020220		
Disc	**68040421**	**68040521**	**68040621**
D20.5	68200205		
D21	68200210		
D21.5	68200215		
D22		68200220	
D22.5		68200225	
D23		68200230	
D23.5			68200235
D24			68200240
D24.5			68200245
D25			68200250

EM-B-1

Basic mandrel 68101021
Expanding sleeve Ø D20–Ø D40

Taper	68021120		
Disc	**68041121**	**68041221**	**68041321**
D20	68210200		
D20.5	68210205		
D21	68210210		
D21.5		68210215	
D22		68210220	
D22.5		68210225	
D23		68210230	
D23.5		68210235	
D24			68210240
D24.5			68210245
D25			68210250

Taper	68021220		
Disc	**68041421**	**68041521**	**68041621**
D25.5	68210255		
D26	68210260		
D26.5	68210265		
D27	68210270		
D27.5	68210275		
D28	68210280		
D28.5		68210285	
D29		68210290	
D29.5		68210295	
D30		68210300	
D30.5		68210305	
D31		68210310	
D31.5			68210315
D32			68210320
D32.5			68210325
D33			68210330
D33.5			68210335
D34			68210340
D34.5			68210345
D35			68210350

Taper	68021320		
Disc	**68041721**	**68041821**	
D35.5	68210355		
D36	68210360		
D36.5	68210365		
D37	68210370		
D37.5	68210375		
D38	68210380		
D38.5		68210385	
D39		68210390	
D39.5		68210395	
D40		68210400	

EM-B-2

Basic mandrel 68102021
Expanding sleeve Ø D35–Ø D60

Taper	68022120		
Disc	**68042121**	**68042221**	
D35	68220350		
D35.5	68220355		
D36	68220360		
D36.5	68220365		
D37	68220370		
D37.5		68220375	
D38		68220380	
D38.5		68220385	
D39		68220390	
D39.5		68220395	
D40		68220400	

Taper	68022220		
Disc	**68042321**	**68042421**	**68042521**
D40.5	68220405		
D41	68220410		
D41.5	68220415		
D42	68220420		
D42.5	68220425		
D43	68220430		
D43.5		68220435	
D44		68220440	
D44.5		68220445	
D45		68220450	
D45.5		68220455	
D46		68220460	
D46.5			68220465
D47			68220470
D47.5			68220475
D48			68220480
D48.5			68220485
D49			68220490
D49.5			68220495
D50			68220500

Taper	68022320		
Disc	**68042621**	**68042721**	**68042821**
D50.5	68220505		
D51	68220510		
D51.5	68220515		
D52	68220520		
D52.5	68220525		
D53	68220530		
D53.5		68220535	
D54		68220540	
D54.5		68220545	
D55		68220550	
D55.5		68220555	
D56		68220560	
D56.5			68220565
D57			68220570
D57.5			68220575
D58			68220580
D58.5			68220585
D59			68220590
D59.5			68220595
D60			68220600

EM-B-3

Basic mandrel 68103021
Expanding sleeve Ø D55–Ø D80

Taper	68023120		
Disc	**68043121**	**68043221**	
D55	68230550		
D56	68230560		
D57	68230570		
D58		68230580	
D59		68230590	
D60		68230600	

Taper	68023220		
Disc	**68043321**	**68043421**	**68043521**
D61	68230610		
D62	68230620		
D63	68230630		
D64		68230640	
D65		68230650	
D66		68230660	
D67			68230670
D68			68230680
D69			68230690
D70			68230700

Taper	68023320		
Disc	**68043621**	**68043721**	**68043821**
D71	68230710		
D72	68230720		
D73	68230730		
D74		68230740	
D75		68230750	
D76		68230760	
D77			68230770
D78			68230780
D79			68230790
D80			68230800

EM-B-4

Basic mandrel 68104021
Expanding sleeve Ø D80–Ø D129.5

Taper	68024120	
Disc	**68044121**	**68044221**
D80	68240800	
D81.5	68240815	
D83	68240830	
D84.5	68240845	
D86		68240860
D87.5		68240875
D89		68240890
D90.5		68240905

Taper	68024220	
Disc	**68044321**	**68044421**
D92	68240920	
D93.5	68240935	
D95	68240950	
D96.5	68240965	
D98		68240980
D99.5		68240995
D101		68241010
D102.5		68241025

Taper	68024320	
Disc	**68044521**	**68044621**
D104	68241040	
D105.5	68241055	
D107	68241070	
D108.5	68241085	
D110		68241100
D111.5		68241115
D113		68241130
D114.5		68241145

Taper	68024420	
Disc	**68044721**	**68044821**
D116	68241160	
D117.5	68241175	
D119	68241190	
D120.5	68241205	
D122		68241220
D123.5		68241235
D125		68241250
D126.5		68241265
D128		68241280
D129.5		68241295

Ordering example:

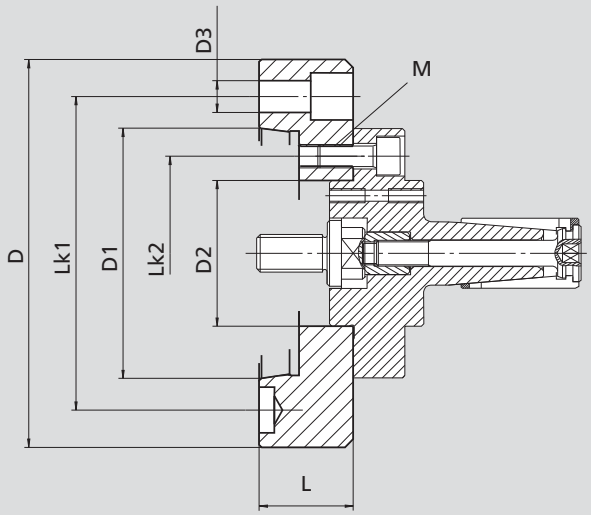
Component ID = Ø 30
Basic mandrel EM-B-1 Id. No. 68101021
Expanding sleeve OD 30 Id. No. 68210300
Taper Id. No. 68021220
Disc Id. No. 68041521

Adapters

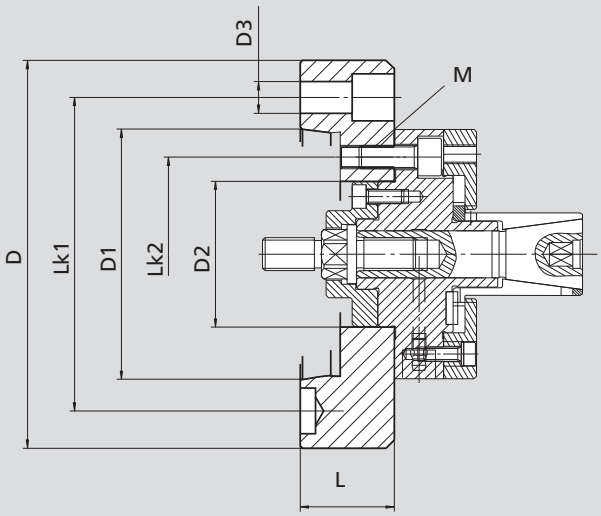
ISO-A for expanding mandrels

- mandrels EM-A and EM-B have cylindrical mounting
- adapters for ISO-A 702/1-DIN 55026 spindle noses

EM-A



EM-B



Subject to technical changes
For more detailed information please ask for customer drawing

Technical data

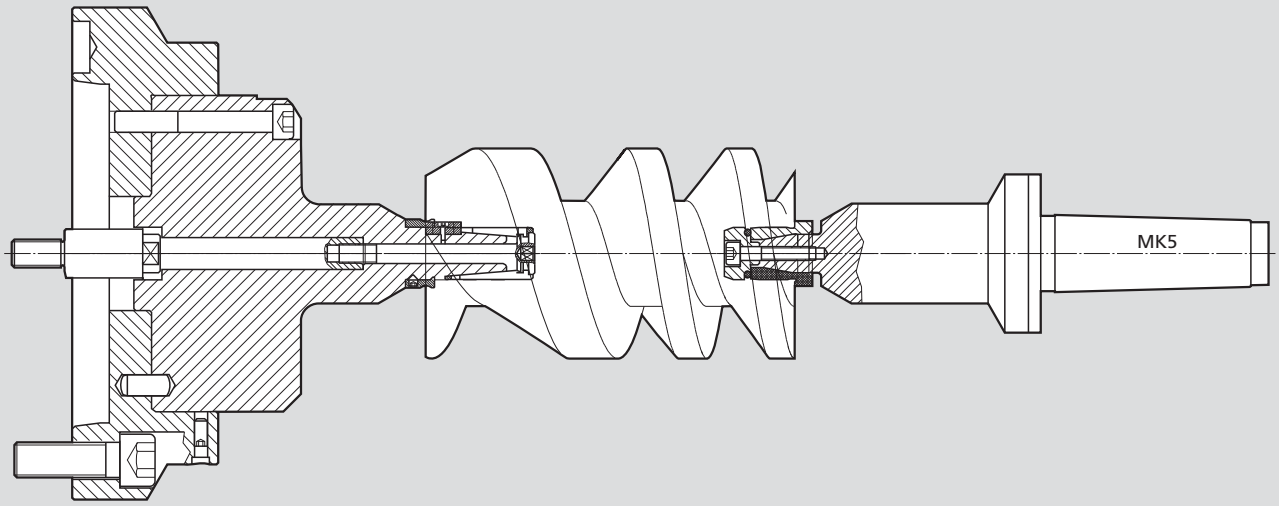
Adapter flange Id. No.		Spindle nose ISO	D	D_1	D_2	D_3	LK_1	LK_2	L	M
24150100	mm	A5	127	82.563	62^{H6}	12	104.8	82.6	40	3 x M10
24150400	mm	A5	135	82.563	86^{H6}	12	104.8	104.8	40	3 x M10
24160100	mm	A6	165	106.375	62^{H6}	13.5	133.4	82.6	40	3 x M10
24160400	mm	A6	165	106.375	86^{H6}	13.5	133.4	104.8	40	3 x M10
24180100	mm	A8	210	139.719	62^{H6}	17	171.4	82.6	40	3 x M10
24180400	mm	A8	210	139.719	86^{H6}	17	171.4	104.8	40	3 x M10

Appropriate adapter flanges	EM-A	EM-B
24150100 ISO-A5		
24160100 ISO-A6	1 - 2 - 3 - 4 - 5 - 6	0 - 1 - 2 - 3
24180100 ISO-A8		
24150400 ISO-A5		
24160400 ISO-A6	7 - 8 - 9 - 10 - 11	4
24180400 ISO-A8		

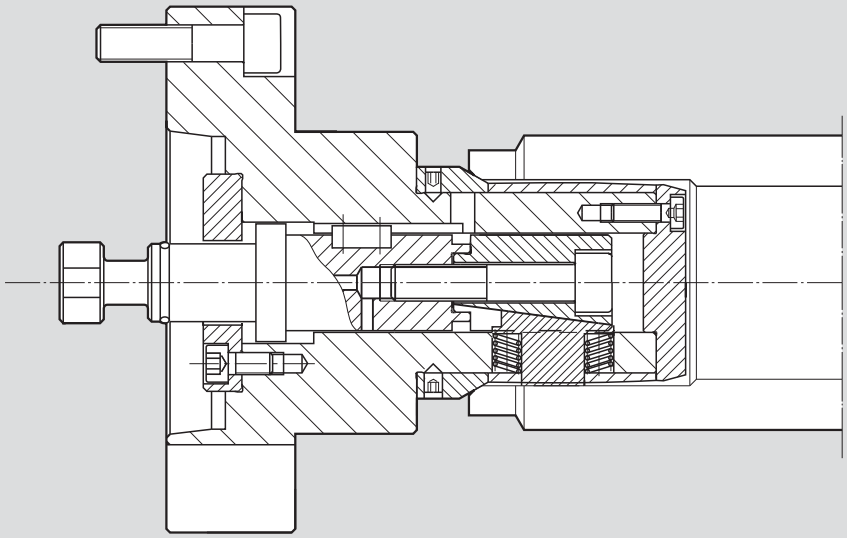
Besides our standard range, we offer special solutions for your applications

Special mandrels

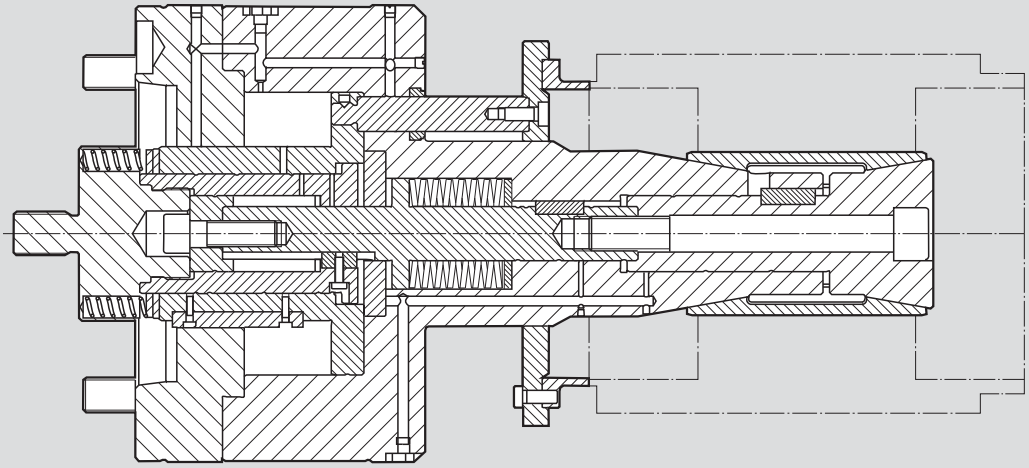
Example: Special expanding mandrel, sleeve design, on spindle and tailstock side for screw rotors



Example: Special mandrel segment design for tubes



Example: Special expanding mandrel, double taper design with retractable stop, for clamping of stators



Closed center cylinders ■ Open center cylinders
Double piston cylinders



Page 198

SIN-S
Closed center
rotating hydraulic cylinders

- up to 70 bar
- central bore for air or coolant
- stroke control via proximity switch or LPS



Page 200

VNK
Open center
rotating hydraulic cylinders

- up to 45 bar
- through hole Ø 37.5 - 127.5 mm
- extra short overall dimensions
- stroke control via proximity switch or LPS



Page 203

VSG
Open center
rotating hydraulic cylinders

- up to 30 bar
- EXTRA LARGE THROUGH HOLE Ø 165 - 204 mm
- stroke control via proximity switch or LPS



Page 204

SIN-HL
Closed center
rotating hydraulic cylinders

- up to 70 bar
- high-low gripping force clamping
- central bore for air, coolant or oil
- stroke control via proximity switch or LPS



Page 205

SIN-L
Closed center
rotating hydraulic cylinders

- up to 70 bar
- EXTRA LONG STROKE
- central bore for air, coolant or oil
- stroke control via proximity switch or LPS



Page 206

DCN DCU DCR
Double piston
rotating hydraulic cylinders

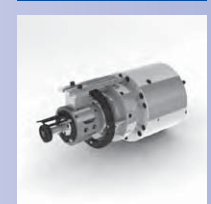
- modular system for different piston strokes
- up to 70 bar
- central bore for air, coolant or oil
- stroke control via proximity switch or LPS



Page 208

ZHVD-SZ
Double piston
rotating hydraulic cylinders

- up to 80 bar
- central bore for air, coolant or oil
- stroke control via proximity switch or LPS



Page 210

DCE
Double piston
rotating hydraulic cylinders

- up to 70 bar
- central bore for air, coolant or oil
- stroke control via proximity switch or LPS



Page 212

CSN
Closed center rotating
pneumatic cylinders

- up to 7 bar
- stroke control
- optional safety valve



Page 213

LPS-XS, LPS-X, LPS-NT®
Linear positioning system
cylinder stroke

- analog or digital output signal
- monitoring of the entire cylinder stroke
- LPS-XS and LPS-XS io Link measuring range = 16 mm
- LPS-X and LPS-X io Link measuring range = 50 mm
- LPS-NT measuring range = 100 mm



Page 214

RU-1-10 RU-1-16 RU-2-22
Rotary union for media supply
for rotating cylinders

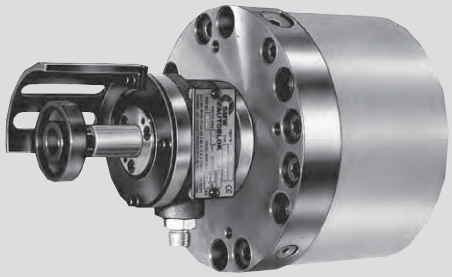
- universal for air, oil or coolant
- RU-1-10/RU-1-16 = 1 medium
- RU-2-22 = 2 media

SIN-S

Closed center rotating hydraulic cylinder

Closed center rotating hydraulic cylinder

- up to 70 bar
- central bore for media supply
- stroke control via proximity switch or linear positioning system



Application/customer benefits

• Actuation of power chucks/closed or partial open center mounting applications

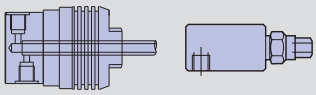
Technical features

• Pressure range 7–70 bar
• Horizontal or vertical installation
• Central bore for coolant, oil or air with thread for rotary union
• Safety valves and excess pressure relief valve
• Mounting from the rear or from the front side
• Stroke control via proximity switch or linear positioning system
• A 10 µm filter in pressure line is requested
• Use oil HM32 ISO 3448

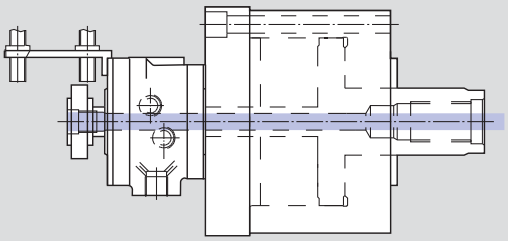
SIN-S standard version

■ Central bore + thread for rotary union

Ordering example
SIN-S standard version
- Cylinder SIN-S 125 Id. No. 33093112
- Rotary union Id. No. 044970 (proximity switch not included)



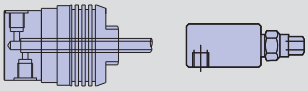
Rotary union on pages 214/215



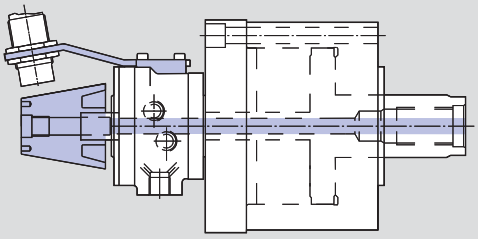
SIN-PXP with linear positioning system

■ Central bore + thread for rotary union

Ordering example
SIN-S standard version
- Cylinder SIN-S 125 prepared for PXP/LPS Id. No. 77093112
- Kit PXP (braket and taper) Id. No. 60557915 (sensor not included)
- Rotary union Id. No. 044970



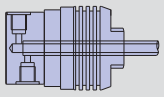
Rotary union on pages 214/215



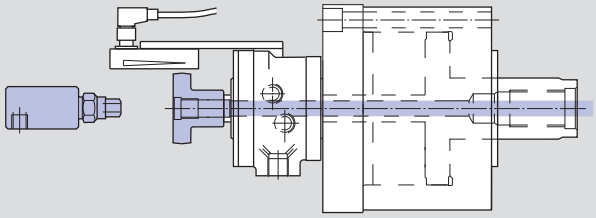
SIN-LPS-X with linear positioning system

■ Central bore + thread for rotary union

Ordering example
SIN-S standard version
- Cylinder SIN-S 125 prepared for PXP/LPS Id. No. 77093112
- Kit LPS-X (braket and cam) Id. No. 044503 (LPS-X not included see page 213)
- Rotary union Id. No. 044970



Rotary union on pages 214/215



Technical data

SMW-AUTOBLOK Type		SIN-S 50	SIN-S 70	SIN-S 85	SIN-S 100	SIN-S 125	SIN-S 150	SIN-S 175	SIN-S 200	SIN-S 250
SIN-S standard version SIN prepared for PXP/LPS Kit PXP Kit LPS-X		33093105 77093105 60557910 044503	33093107 77093107 60557915 044503	33093109 77093109 60557910 044503	33093110 77093110 60557910 044503	33093112 77093112 60557915 044503	33093115 77093115 60557915 044503	33093117 77093117 60557915 044503	33093120 77093120 60557920 044496	33093125 77093125 60557920 60557625
Piston area	cm^2	14	28	48	66	103	157	212	280	457
Max. pressure	bar	70	70	70	70	70	70	70	70	50
Draw pull at 40 bar	kN	5.5	11	19	26	41	62	84	112	180
Oil leakage [1]	dm^3/min	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2
Max. speed	r.p.m.	7000	7000	7000	7000	6000	6000	5000	4000	2000
Mass	kg	8.5	8.5	8	11	16	20	24	45	88
Moment of inertia	$kg \cdot m^2$	0.012	0.012	0.012	0.016	0.04	0.08	0.12	0.32	0.92

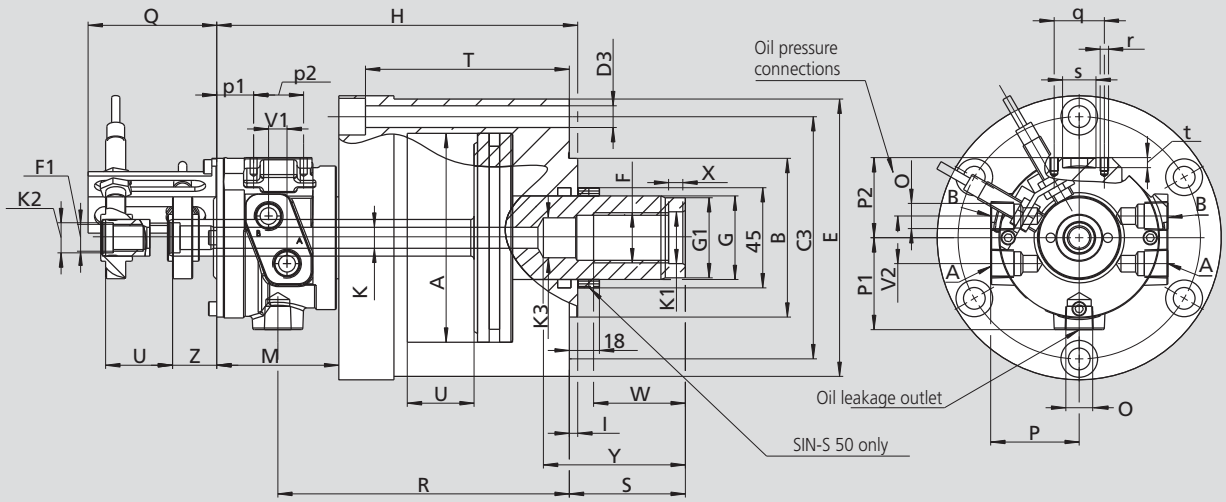
[1] Total at 30 bar and 50°C

Closed center rotating hydraulic cylinder

- up to 70 bar
- central bore for media supply
- stroke control via proximity switch or linear positioning system

SIN-S

Closed center rotating cylinder



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			SIN-S 50	SIN-S 70	SIN-S 85	SIN-S 100	SIN-S 125	SIN-S 150	SIN-S 175	SIN-S 200	SIN-S 250
A		mm	53	68	85	100	125	150	175	200	250
B	h6	mm	50	50	50	80	95	95	125	125	160
C3		mm	100	100	100	120	145	170	195	225	275
D3		mm	6 x 9	6 x 9	6 x 9	6 x 11	6 x 13	6 x 13	6 x 13	6 x 17	6 x 17
E		mm	120	120	120	140	166	192	217	250	300
F		mm	M20 x 1.5	M20 x 1.5	M20 x 1.5	M24	M30	M30	M36	M42 x 3	M42 x 3
F1	lefthand for rotary union	mm	M16 x 1.5	M16 x 1.5	M16 x 1.5	M16 x 1.5	M16 x 1.5	M16 x 1.5	M16 x 1.5	M16 x 1.5	M16 x 1.5
G		mm	32	32	32	40	50	50	60	65	65
G1	h7	mm	30	30	30	38	48	48	58	62	62
H		mm	200	200	192	196	216	216	226	288	313
I		mm	5	5	5	5	5	5	5	5	5
K		mm	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
K1		mm	20.5	20.5	20.5	25	31	31	37	44	44
K2	J6	mm	18	18	18	18	18	18	18	18	18
K3	H8	mm	17	17	17	18	24	24	28	–	–
M		mm	73	73	73	73	73	73	73	123	123
O		inch	G 3/8″	G 3/8″	G 3/8″	G 3/8″	G 3/8″	G 3/8″	G 3/8″	G 1/2″	G 1/2″
P		mm	55	55	55	55	55	55	55	65	65
P1		mm	55	55	55	55	55	55	55	65	65
P2		mm	48	48	48	48	48	48	48	59	59
Q		mm	77	77	77	77	77	77	77	97	97
R		mm	158.5	158.5	150.5	154.5	174.5	174.5	184.6	238	268
S	max./min.	mm	55/30	55/15	47/15	47/15	70/30	70/30	70/25	80/30	85/25
T		mm	112	112	104	104	122	122	132	140	160
U	piston stroke	mm	25	40	32	32	40	40	45	50	60
V1		mm	10	10	10	10	10	10	10	12	12
V2		mm	30	30	30	30	30	30	30	36	36
W		mm	40	40	40	45	55	55	55	60	60
X		mm	10	10	10	10	10	10	10	12	12
Y		mm	67	67	67	72	85	85	92	–	–
Z		mm	27	27	27	27	27	27	27	27	27
p1		mm	23.5	23.5	23.5	23.5	23.5	23.5	23.5	36	36
p2		mm	30	30	30	30	30	30	30	30	30
q		mm	30	30	30	30	30	30	30	30	30
r		mm	M5	M5	M5	M5	M5	M5	M5	M5	M5
s	H8	mm	20	20	20	20	20	20	20	20	20
t		mm	6	6	6	6	6	6	6	6	6

VNK

Open center
rotating hydraulic cylinder

- **up to 45 bar**
- **through-hole Ø 37.5 - 127.5 mm**
- **short design/low mass**
- **stroke control via proximity switch or linear positioning system**



Application/customer benefits

- Actuation of open center jaw and collet power chucks
- Machining of bars and tubes

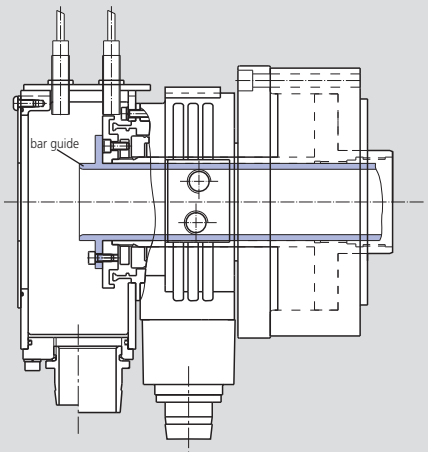
Technical features

- Pressure range 8–45 bar
- Short design/low mass/low power consumption
- Horizontal installation only
- Safety valves and excess pressure relief valve
- Mounting from the rear side with bolts
- A 10 µm filter in pressure line is requested
- Use oil HM32 ISO 3448

VNK

standard version

- mounting for bar guides standard
- bar guides not included



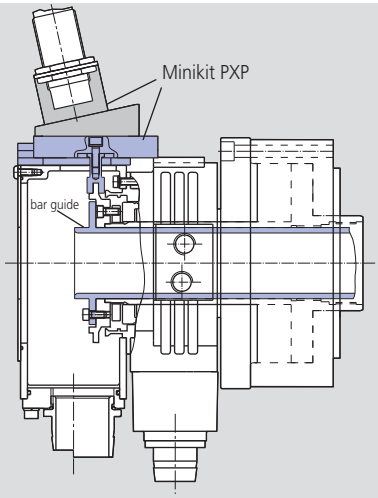
Ordering example
VNK 150-67

- Cylinder Id. No. 33094816

VNK-PXP

with linear positioning system

- mounting for bar guides standard
- bar guides not included
- Minikit PXP must be ordered separately
- Sensor PXP Ø 30mm not included



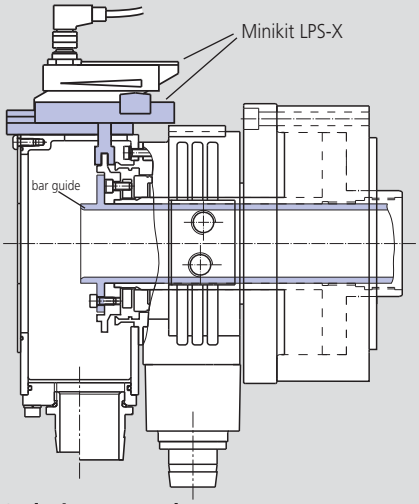
Ordering example
VNK 150-67-PXP

- Cylinder Id. No. 77095016
- Minikit PXP Id. No. 60367941

VNK-LPS-X

with linear positioning system LPS-X

- bar guides not included
- Minikit LPS-X must be ordered separately
- Sensor LPS-X not included see page 213



Ordering example
VNK 150-67-LPS-X

- Cylinder Id. No. 77095016
- Minikit LPS-X Id. No. 60367741

Technical data

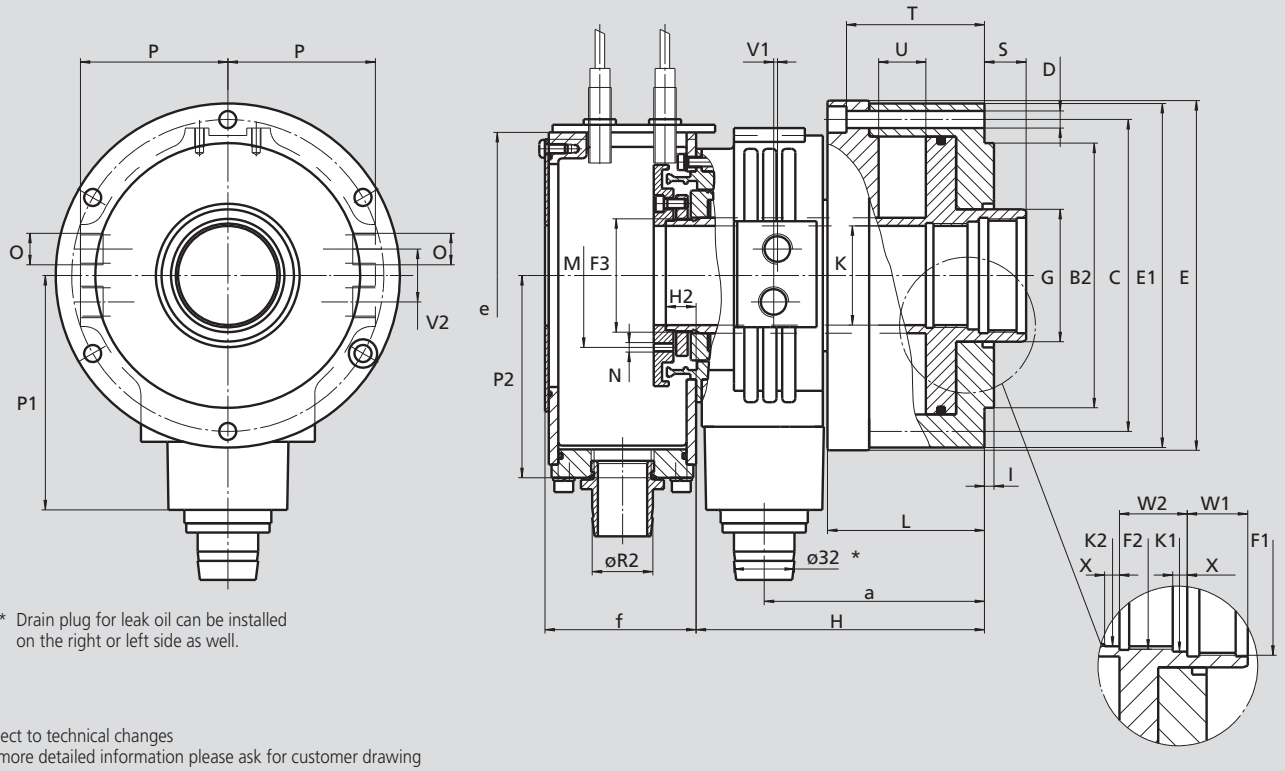
SMW-AUTOBLOK Type		VNK 70-37	VNK 102-46	VNK 130-52	VNK 150-67	VNK 170-77	VNK 200-86	VNK 225-95	VNK 250-110	VNK 320-127
VNK Standard version **VNK prepared for PXP/LPS** **Minikit PXP** **Minikit LPS-X**		**33094811** **77095011** **60367941** **60367741**	**33094813** **77095013** **60367941** **60367741**	**33094815** **77095015** **60367941** **60367741**	**33094816** **77095016** **60367941** **60367741**	**33094818** **77095018** **60367941** **60367741**	**33094819** **77095019** **60367941** **60367741**	**33094820** **77095020** **60367941** **60367741**	**33094822** **77095022** **60367941** **60367741**	**33094825** **77095025** **60367941** **60367741**
Piston area	cm^2	70	103	131	152	170	197	225	247	325
Through-hole	mm	37.5	46.5	52.5	67.5	77	86	95	110	127.5
Max. pressure	bar	45	45	45	45	45	45	45	45	45
Draw pull at 45 bar	kN	31	46	58	68	76	88	100	110	144
Oil leakage*	dm^3/min	2.5	3	3.5	4	4.5	5	7	9	12
Max. speed	r.p.m.	8000	7000	6300	5500	5000	4500	4000	3600	3200
Mass	kg	8	12	15	20	23	27	30	45	61
Moment of inertia	$kg \cdot m^2$	0.013	0.028	0.04	0.07	0.09	0.13	0.17	0.28	0.54
Power absorption**	kW	0.85	1	1.2	1.5	1.8	1.9	1.9	2.2	2.5

* Total at 30 bar / 50 °C
** At max. speed/ oil HM32 ISO 3448
Important: On higher pressure the leakage increases proportionally. On higher oil temperature the leakage increases over proportionally (the use of an oil cooler is recommended). When designing/checking the hydraulic unit please ask for our data sheets.

- up to 45 bar
- through-hole Ø 37.5 - 127.5 mm
- short design/low mass
- stroke control via proximity switch or linear positioning system

VNK

Open center
rotating hydraulic cylinder



* Drain plug for leak oil can be installed on the right or left side as well.

Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			VNK 70-37	VNK 102-46	VNK 130-52	VNK 150-67	VNK 170-77	VNK 200-86	VNK 225-95	VNK 250-110	VNK 320-127
A		mm	107	130	147	163	175	190	205	220	250
B_2	h6	mm	110	130	140	160	160	180	210	210	250
C		mm	125	147	165	180	195	210	227	240	270
D		mm	n.6 x Ø 9	n.6 x Ø 9	n.6 x Ø 9	n.6 x Ø 11	n.6 x Ø 11	n.6 x Ø 11	n.6 x Ø 11	n.6 x Ø 11	n.6 x ø 13
E		mm	145	165	185	202	217	234	249	266	295
E_1		mm	140	162	182	197	214	228	245	266	290
F_1		mm	M44 x 1.5	M55 x 2	M60 x 1.5	M75 x 2	M85 x 2	M95 x 2	M105 x 2	M120 x 2	M135 x 2
F_2		mm	M42 x 1.5	M50 x 1.5	M55 x 2	M72 x 1.5	M80 x 2	M90 x 2	M100 x 2	M115 x 2	-
F_3		mm	M42 x 1.5	M52 x 1.5	M60 x 1.5	M74 x 1.5	M84 x 1.5	M94 x 2	M104 x 2	M120 x 2	M138 x 2
G		mm	50	61	70	85	95	105	115	130	145
H		mm	152	152	152	177	177	202	207	230	242
H_2		mm	16	16	16	21	21	21	21	26	22
I		mm	5	5	5	8	8	8	8	8	5
K	through-hole	mm	37.5	46.5	52.5	67.5	77	86.5	95.5	110.5	127.5
K_1	H9	mm	42.5	52.5	57	72.5	82	92	102.5	117.5	132
K_2	H9	mm	40	47	52.5	69	77	87	97	112	-
L		mm	83	83	83	94	94	106	106	120	132
M		mm	Ø 53	Ø 68	Ø 76	Ø 91	Ø 91	Ø 116	Ø 120	Ø 130	-
N		mm	M6 (2x)	M6 (2x)	M6 (2x)	M6 (2x)	M6 (2x)	M6 (2x)	M6 (2x)	M6 (2x)	-
O	oil connections	inch	G 3/8"	G 3/8"	G 3/8"	G 3/8"	G 3/8"	G 3/8"	G 3/8"	G 3/8"	G 3/8"
P		mm	67	76	78	89	94	104	112	123	133
P_1		mm	114	122	128	138	143	153	171	150	160
P_2		mm	100	100	107	127	127	127	127	162	162
R_2*	standard	mm	32	32	32	32	32	32	32	32	32
S	max.	mm	24	22	22	25	25	31	31	31	44
T		mm	67	73	73	82	82	94	94	104	113
U	piston stroke	mm	26	25	25	30	30	35	35	35	40
V_1		mm	9	9	9	10	10	11	11	12	12
V_2		mm	28	28	28	36	36	36	36	28	28
W_1		mm	20	25	25	25	25	32	32	32	32
W_2		mm	22	25	28	28	28	30	30	30	-
X		mm	5	6	6	6	6	6	6	6	6
a		mm	113.5	116	116	132	132	144	149	177	187
e		mm	128	128	144	184	184	184	184	230	230
f	standard	mm	65	65	80	90	90	90	90	100	100

*R_2 also Ø 40 or Ø 60 (optional)

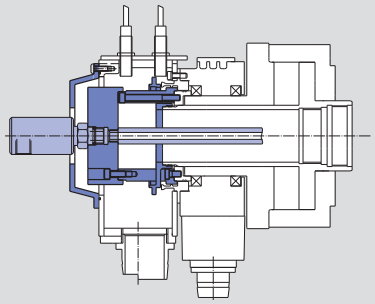
VNK

Open center
rotating hydraulic cylinder

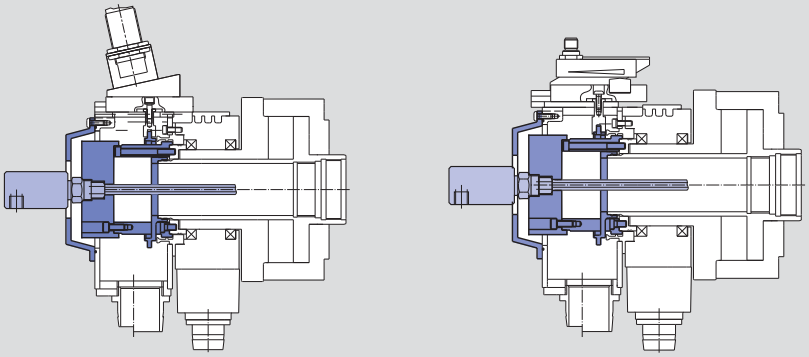
Kits for VNK cylinders (optional)

- Kit CP3 for rotary union
- Kit adjusting workstop

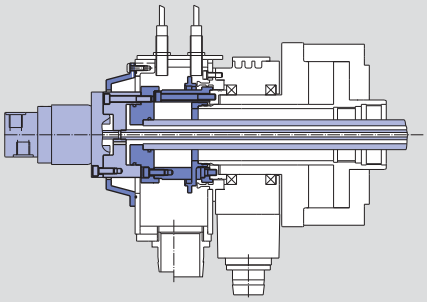
Kit CP3 for VNK standard 1 medium rotary union



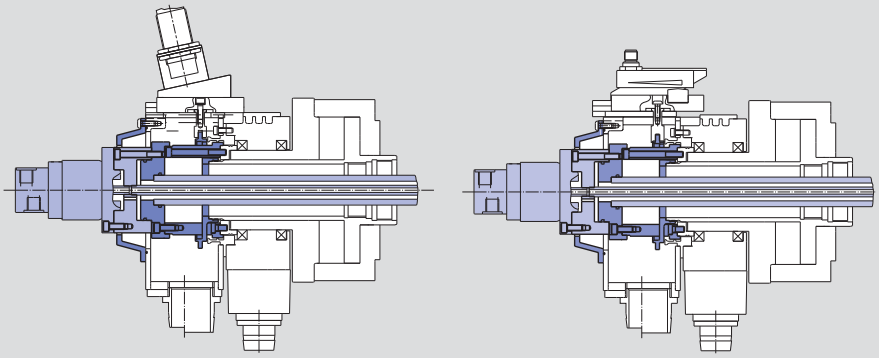
Kit CP3 for VNK-PXP/VNK-LPS 1 medium rotary union



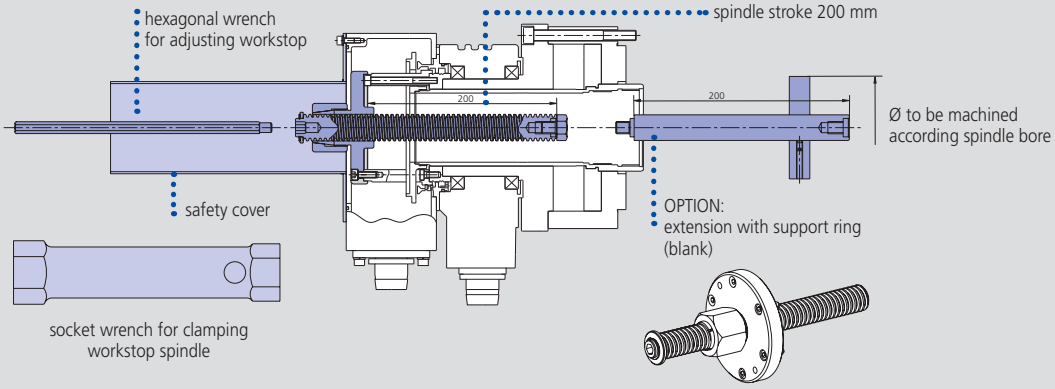
Kit CP3 for VNK standard 2 media rotary union



Kit CP3 for VNK-PXP/VNK-LPS 2 media rotary union



Kit adjustable workstop (only for cylinders with Kit CP3 mounted)



SMW-AUTOBLOK Type	VNK 70-37	VNK 102-46	VNK 130-52	VNK 150-67	VNK 170-77	VNK 200-86	VNK 225-95	VNK 250-110	VNK 320-127
Id.No. adjusting workstop	044540	044542	044544	044546	044548	044550	044552	044554	044556

Important:
The basis to mount the axial workstop is a VNK cylinder **with the CP-3 standard unit** mounted.
The spindle of the work stop can have a through hole for media as an option.

■ up to 30 bar
■ EXTRA LARGE THROUGH HOLE Ø 165 - 204 mm
■ stroke control via proximity switch or linear positioning system

VSG

Open center rotating hydraulic cylinder



Application/customer benefits

- Actuation of EXTRA LARGE THROUGH HOLE power chucks
- Clamping of very big and long components

Technical features

Short design/low mass/low power consumption

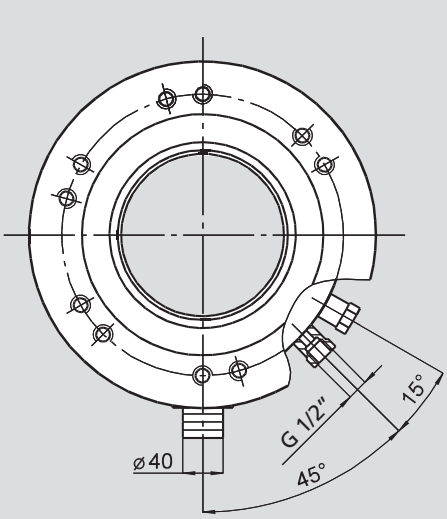
- Pressure range 8–30 bar
- EXTRA LARGE THROUGH HOLE
- Horizontal installation only
- Mounting from the front side into tapped holes
- A 10 µm filter in pressure line is requested
- Oil viscosity: 2.5–3 °E at 50 °C

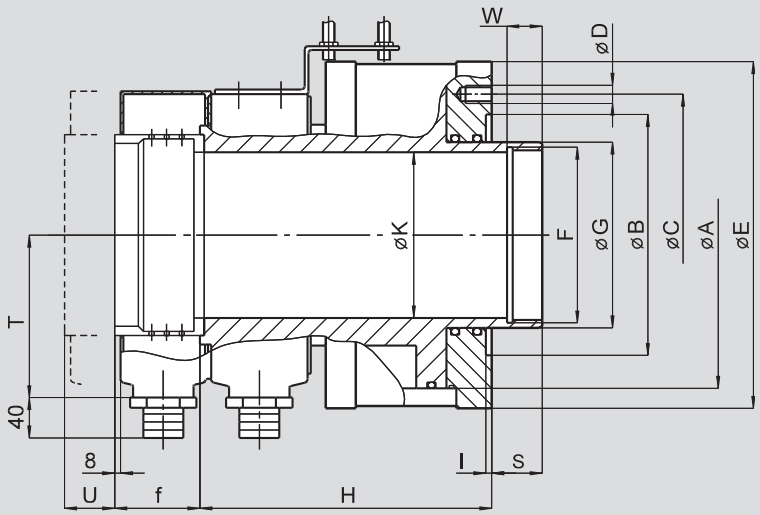
Standard equipment

Open center hydraulic cylinder with
coolant collector CP1
Proximity switch for stroke control
Without proximity switch and mounting bolts

Ordering example

Open center hydraulic cylinder
VSG 450-165
or
open center hydraulic cylinder
VSG 550-205





Subject to technical changes
For more detailed information please ask for customer drawing

Dimensions

SMW-AUTOBLOK Type	Id. No.	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	K mm	S mm	T mm	U Stroke mm	W mm	f mm
VSG 450-165	33094130	305	240	280	6 x M16	345	M175 x 3	185	290	6	165	50	162	51	35	85
VSG 550-205	33094135	350	280	320	6 x M20	390	M215 x 3	228	314	6	204	50	200	51	35	85

Technical data

SMW-AUTOBLOK Type	Piston area Pull cm²	Piston area Push cm²	Max. pressure bar	Draw pull (at 25 bar) kN	Oil * leakage dm³/min.	Max. speed r.p.m.	Mass kg	Moment of inertia kg·m²
VSG 450-165	460	350	30	115	9	2000	100	1.4
VSG 550-205	550	405	30	137	10	1600	135	2.4

*Total at 30 bar / 50 °C / max. speed / oil HM32 ISO 3448
Important: On higher pressure the leakage increases proportionally. On higher oil temperature the leakage increases over proportionally (the use of an oil cooler is recommended).
When designing/checking the hydraulic unit please ask for our data sheets.

SIN-HL

Closed center
rotating hydraulic cylinder

- **HIGH-LOW CLAMPING**
- **up to 70 bar**
- **central bore for media supply**
- **stroke control via proximity switch or linear positioning system**



Application/customer benefits

- Actuation of power chucks used for high-low clamping of thin-walled components in combination with SMW-AUTOBLOK chucks type KNCS-N, KNCS-NB, HFK-N or TS
- Closed or partial open center mounting applications

Technical features

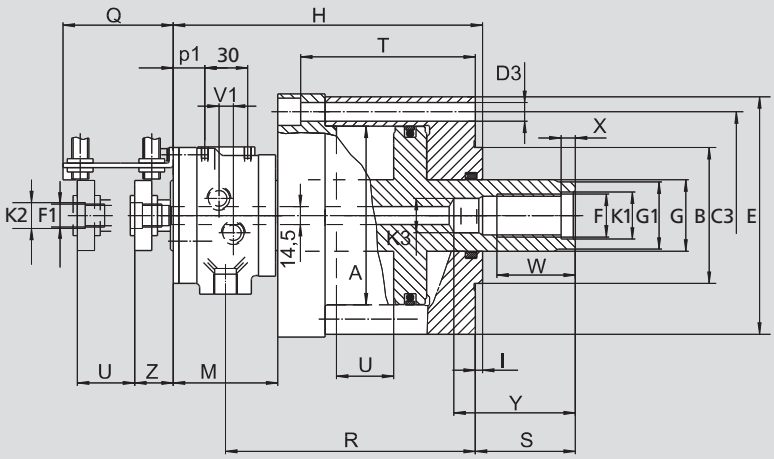
- Symmetric piston areas for high-low clamping
- Pressure range 8–70 bar
- Horizontal or vertical installation
- Safety valves and excess pressure relief valve
- Central bore for coolant, oil or air with thread for rotary union
- Mounting from the rear side with bolts
- Stroke control via proximity switch or linear positioning system
- A 10 µm filter in pressure line is requested
- Use oil HM32 ISO 3448

Standard equipment

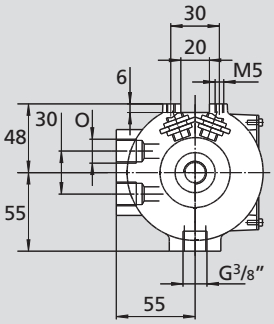
Closed center hydraulic cylinder with stroke control and mounting bolts (without proximity switch)

Ordering example

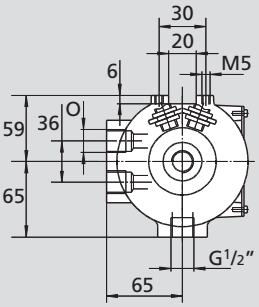
Closed center cylinder
SIN-HL 150 Id. No. 33093812
with rotary union (optional)



SIN-HL 85 + 100



SIN-HL 125, 150, 175



Subject to technical changes
For more detailed information please ask for customer drawing

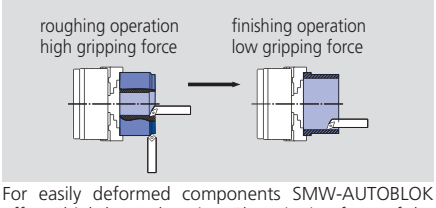
Dimensions and technical data

SMW-AUTOBLOK Type	Id. No.	A	B h6	C3	D3 (6x60°)	E	F	F1	G	G1 g6	H	I	K1 H7	K2 J6	K3 H8	M	O	Q
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	inch	mm
SIN-HL 85	**33093809**	85	80	120	11	140	M24	M16x1.5 LH	32	30 x 10	192	5	25	18	18	75	G3/8"	77
SIN-HL 100	**33093810**	100	80	120	11	140	M24	M16x1.5 LH	32	30 x 10	192	5	25	18	18	75	G3/8"	77
SIN-HL 125	**33093812**	125	95	145	13	166	M30	M16x1.5 LH	40	38 x 12	231	5	31	18	24	93	G1/2"	97
SIN-HL 150	**33093815**	150	95	170	13	192	M36	M16x1.5 LH	50	48 x 12	237	5	37	18	28	97	G1/2"	97
SIN-HL 175	**33093817**	175	125	195	13	217	M36	M16x1.5 LH	50	48 x 12	259	5	37	18	28	97	G1/2"	97

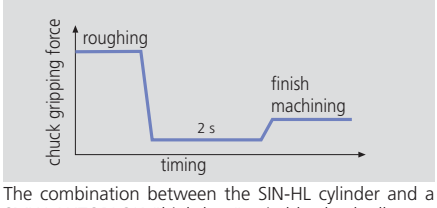
SMW-AUTOBLOK Type	R	S max.	T	U Stroke	V1	W	X	Y	Z min.	p1	Piston area	Max. pressure	Draw (at 40 bar)	Oil* leakage	Max. speed	Mass	Moment of interia
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm²	bar	kN	dm³/min.	r.p.m.	kg	kg·m²
SIN-HL 85	149.5	47	95	32	10	40	10	62	27	23	49	70	19	1.5	7000	11	0.016
SIN-HL 100	149.5	47	95	32	10	45	10	62	27	23	70	70	28	1.5	7000	11	0.016
SIN-HL 125	181	70	121	40	12	55	10	75	27	37	110	70	44	1.5	6000	18	0.045
SIN-HL 150	183	70	121	40	12	55	10	75	27	41	157	70	62	1.5	6000	23	0.092
SIN-HL 175	205	72	143	52	12	55	10	75	27	41	220	70	88	1.5	5000	30	0.15

*Total at 30 bar and 50°C

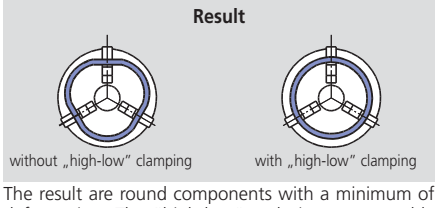
„High-low" clamping for thin-walled components



For easily deformed components SMW-AUTOBLOK offers "high-low" clamping. The gripping force of the chuck can be reduced from a large amount of gripping force used in roughing, to a smaller amount of gripping force for a finishing cut.



The combination between the SIN-HL cylinder and a SMW-AUTOBLOK "high-low" suitable chuck allows a monitored reduction in the gripping force. The component remains clamped in the chuck safely, however, the stress of the component can be released.



The result are round components with a minimum of deformation. The "high-low" cycle is programmable and is finished completely within 2-4 sec.
For additional information please ask our engineers.

- EXTRA LONG STROKE
- up to 70 bar
- central bore for air, coolant or oil
- stroke control via proximity switch or linear positioning system

SIN-L

Closed center rotating cylinder



Application/customer benefits

- Actuation of power chucks or clamping devices requesting a very long stroke, for example the SMW-AUTOBLOK retractable jaw chuck type W or GSA

Technical features

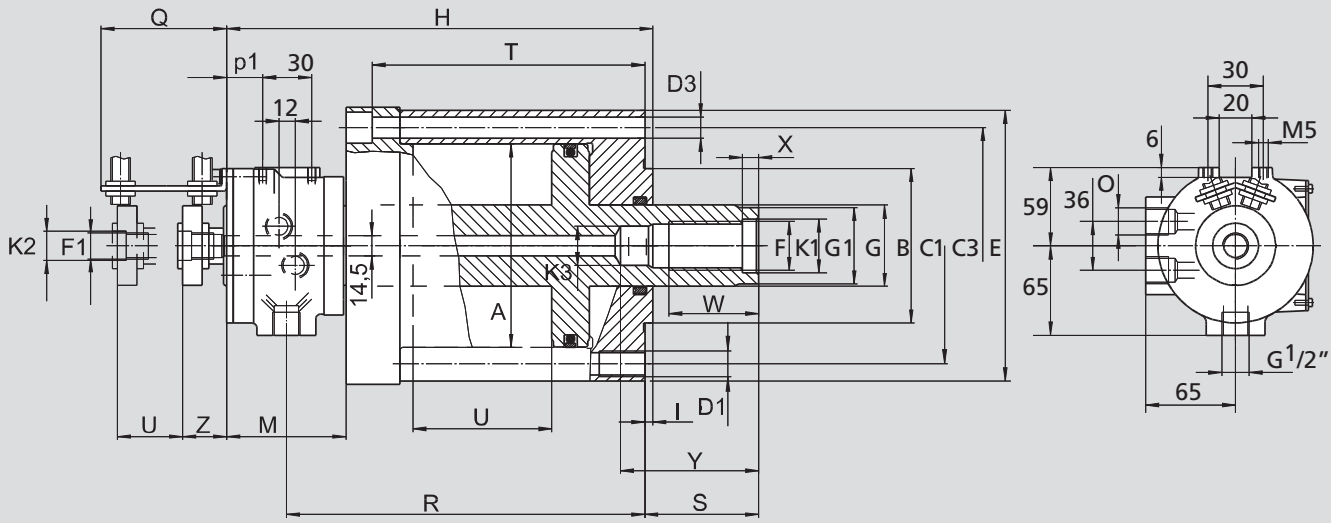
- Extra long stroke
- Pressure range 8–70 bar
- Horizontal or vertical installation
- Safety valves and excess pressure relief valve
- Central bore for coolant, oil or air with thread for rotary union
- Mounting from the rear side with bolts
- Stroke control via proximity switch or linear positioning system
- A 10 µm filter in pressure line is requested
- Use oil HM32 ISO 3448

Standard equipment

Closed center cylinder with stroke control and mounting bolts
Proximity bracket (without proximity switch)

Ordering example

Closed center cylinder SIN-L 125
or closed center cylinder SIN-L 150 with rotary union (optional)



Subject to technical changes
For more detailed information please ask for customer drawing

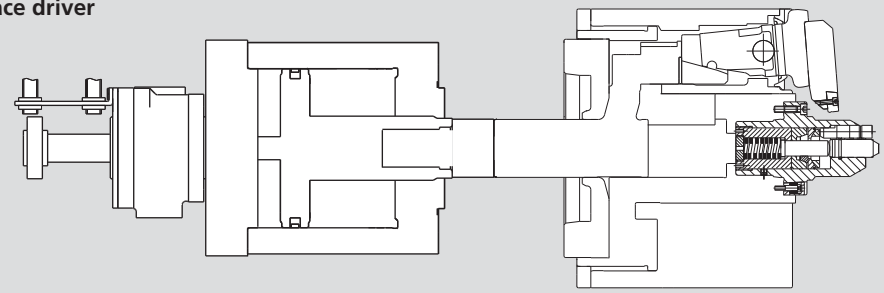
Dimensions and technical data

SMW-AUTOBLOK Type	Id. No.	A mm	B h6 mm	C3 mm	D3 (6x60°) mm	E mm	F	F1 mm	G mm	G1 with flats mm	H mm	I mm	K1 H7 mm	K2 j6 mm	K3 H8 mm	M mm	O inch	Q mm	R mm	S max. mm
SIN-L 125	33093912	125	95	145	M12	170	M30	M16 x1.5 LH	40	38	266	5	31	18	24	93	G1/2"	133	221	100
SIN-L 150	33093915	150	95	170	M12	196	M36	M16 x1.5 LH	50	48	287	5	37	18	28	97	G1/2"	133	238	120
SIN-L 175	33093917	175	125	195	M12	221	M36	M16 x1.5 LH	50	48	292	5	37	18	28	97	G1/2"	133	243	115

SMW-AUTOBLOK Type	T mm	U mm	W mm	X mm	Y mm	Z min. mm	p1 mm	Piston area pull cm²	Piston area push cm²	Max. pressure bar	Pull/push (at 70 bar) kN	Oil* leakage dm³/min.	Max. speed r.p.m.	Mass kg		Moment of interia kg·m²
SIN-L 125	161	80	55	10	75	27	37	107	107	70	75/75	2	4500	21		0.132
SIN-L 150	176	95	55	10	75	27	41	153	153	70	107/107	2	4500	28		0.143
SIN-L 175	181	95	55	10	75	27	41	216	216	70	151/151	2	4000	37		0.173

*Total at 30 bar and 50°C

SIN-L cylinder with W or GSA retractable jaw chuck with spring loaded face driver



DCN/DCU/DCR

Rotating hydraulic cylinder with 2 independent pistons

- modular System for different piston strokes
- up to 70 bar
- central bore for air/coolant/oil
- stroke control via proximity switch or linear positioning system



Application/customer benefits

- Actuation of retractable jaw chuck with power operated face drivers
- Actuation of power chuck with part-ejector
- Actuation of power chucks with retractable axial stop/finger chucks with power operated centering fixture/chucks typ TPT-C with 2 piston actuation

Technical features

- Double piston cylinder with 4 way oil manifold for separate actuation of the 2 cylinders
- Pressure range 8–70 bar
- Modular system for different piston strokes: DCN, DCU and DCR
- Horizontal or vertical installation
- Stroke control on each cylinder, safety valves on the big cylinder
- Central bore for coolant, oil or air with thread for rotary union
- Mounting from the rear side with bolts
- A 10 µm filter in pressure line is requested
- Use oil HM32 ISO 3448

Standard equipment

Double piston cylinder
Mounting screws
Stroke control on each cylinder
Proximity bracket (without proximity switch)

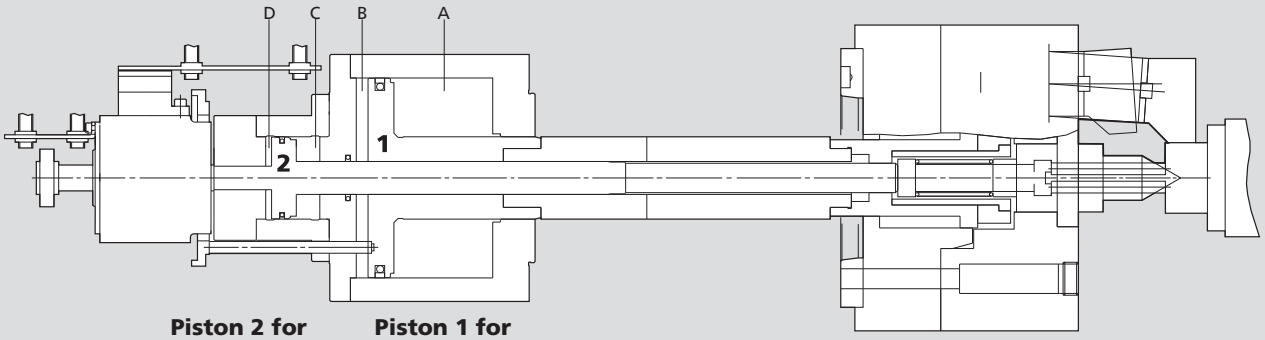
Ordering example

Double piston cylinder DCN 125-30
or
Double piston cylinder DCN 125-30 with rotary union (optional)

Technical data

SMW-AUTOBLOK Type		125/30				170/40	170/60	170/40
		DCN 70-25	DCN 87-40	DCU 40-40	DCR 40-80	DCN 95-50	DCU 50-48	DCR 50-95
Id. No.		33705213	33705214	33705313	33705413	33705215	33705315	33705415
Piston stroke	mm	70-25	87-40	40-40	40-80	95-50	50-48	50-95
Piston area A piston force	cm²/kN	111/77	111/77	111/77	111/77	146/102	146/102	146/102
Piston area B piston force	cm²/kN	125/87	125/87	125/87	125/87	168/118	168/118	168/118
Piston area C piston force	cm²/kN	27/19	27/19	27/19	27/19	36/25	56/39	36/25
Piston area D piston force	cm²/kN	30/21	30/21	30/21	30/21	40/28	60/42	40/28
Max. speed	r.p.m.	5000	5000	5000	5000	4000	4000	4000
Mass	kg	23.2	24	22.5	23	32	30	31
Moment of inertia J	kg·m²	0.088	0.091	0.085	0.087	0.15	0.14	0.14
Operating pressure max.	bar	70	70	70	70	70	70	70
Operating pressure min.	bar	8	8	8	8	8	8	8

Cylinder DCN/DCU/DCR for retractable jaw chucks type W or GSA with face drivers with fixed center



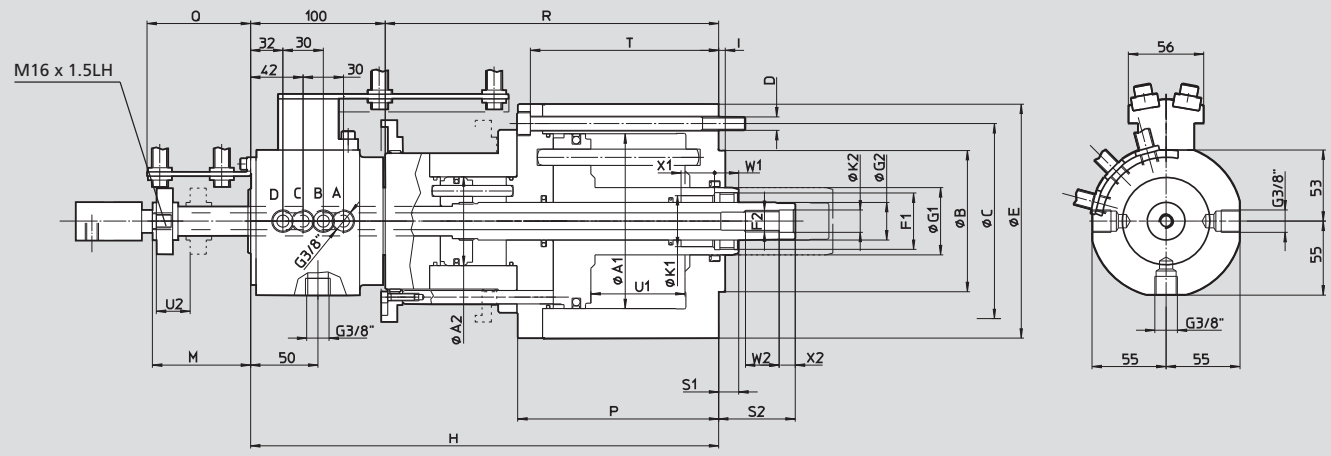
Piston 2 for actuation of the driving pins in the face driver

Piston 1 for chuck actuation

- modular System for different piston strokes
- up to 70 bar
- central bore for air/coolant/oil
- stroke control via proximity switch or linear positioning system

DCN/DCU/DCR

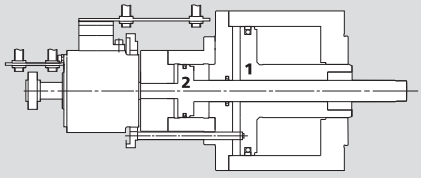
Rotating hydraulic cylinder with 2 independent pistons



Subject to technical changes
For more detailed information please ask for customer drawing

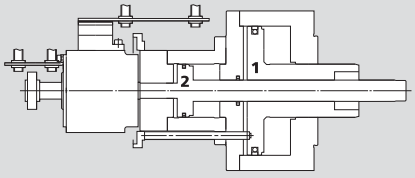
SMW-AUTOBLOK Type				125/30				170/40	170/60	170/40
				DCN 70-25	DCN 87-40	DCU 40-40	DCR 40-80	DCN 95-50	DCU 50-48	DCR 50-95
Piston diameter 1		A_1	mm	130	130	130	130	150	150	150
Piston diameter 2		A_2	mm	66	66	66	66	75	90	75
Centering rim	h6	B	mm	105	105	105	105	120	120	120
Fixing bolt circle		C	mm	145	145	145	145	175	175	175
Fixing bolts		D	mm	6 x M10	6 x M10	6 x M10	6 x M10	6 x M12	6 x M12	6 x M12
		E	mm	174	174	174	174	204	204	204
Piston rod thread 1		F_1	mm	M42 x 1.5	M42 x 1.5	M42 x 1.5	M42 x 1.5	M45 x 1.5	M45 x 1.5	M45 x 1.5
Piston rod thread 2		F_2	mm	M16	M16	M16	M16	M20	M20	M20
		G_1	mm	50	50	50	50	60	60	60
		G_2	mm	28	28	28	28	30	30	30
		H	mm	348	380	333	373	411	366	411
		I	mm	5	5	5	5	5	5	5
		K_1	mm	38	38	38	38	42	42	42
		K_2	mm	16.5	16.5	16.5	16.5	22	22	22
	max.	M	mm	73	73	73	103	73	73	118
		P	mm	150	167	120	120	184	139	139
		Q	mm	77	77	77	107	77	77	122
		R	mm	248	280	233	273	306	266	311
	min.	S_1	mm	15	15	45	45	15	60	60
	min.	S_2	mm	57	75	72	82	73	118	73
		T	mm	140	157	110	110	172	127	127
		U_1	mm	70	87	40	40	95	50	50
		U_2	mm	25	40	40	80	50	48	95
		W_1	mm	18	18	18	18	42	42	42
		W_2	mm	25	25	25	25	25	25	25
		X_1	mm	25	25	25	25	10	10	10
		X_2	mm	12	12	12	12	12	12	12

DCN



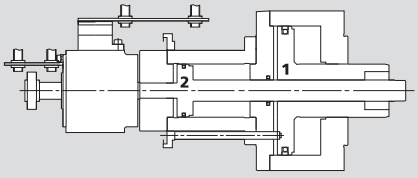
Piston 1: long stroke
Piston 2: short stroke

DCU



Piston 1: mid. stroke
Piston 2: mid. stroke

DCR



Piston 1: short stroke
Piston 2: long stroke

8

ZHVD-SZ

Rotating hydraulic cylinder with 2 independent pistons

- **up to 80 bar**
- **central bore for air/coolant/oil**
- **stroke control via proximity switch or linear positioning system**



Application/customer benefits

- Actuation of retractable jaw chuck with power operated face drivers
- Actuation of power chuck with part-ejector
- Actuation of power chucks with retractable axial stop/finger chucks with power operated centering fixture

Technical features

- Double piston cylinder with 4 way oil manifold for separate actuation of the cylinders
- Horizontal or vertical installation
- Stroke control on each cylinder, safety valves on the big cylinder
- Central bore for coolant, oil or air with thread for rotary union
- Mounting from the rear side with bolts
- A 10 µm filter in pressure line is requested
- Use oil HM32 ISO 3448

Standard equipment

Double piston cylinder
Mounting screws
Stroke control on each cylinder
Proximity bracket (without proximity switch)

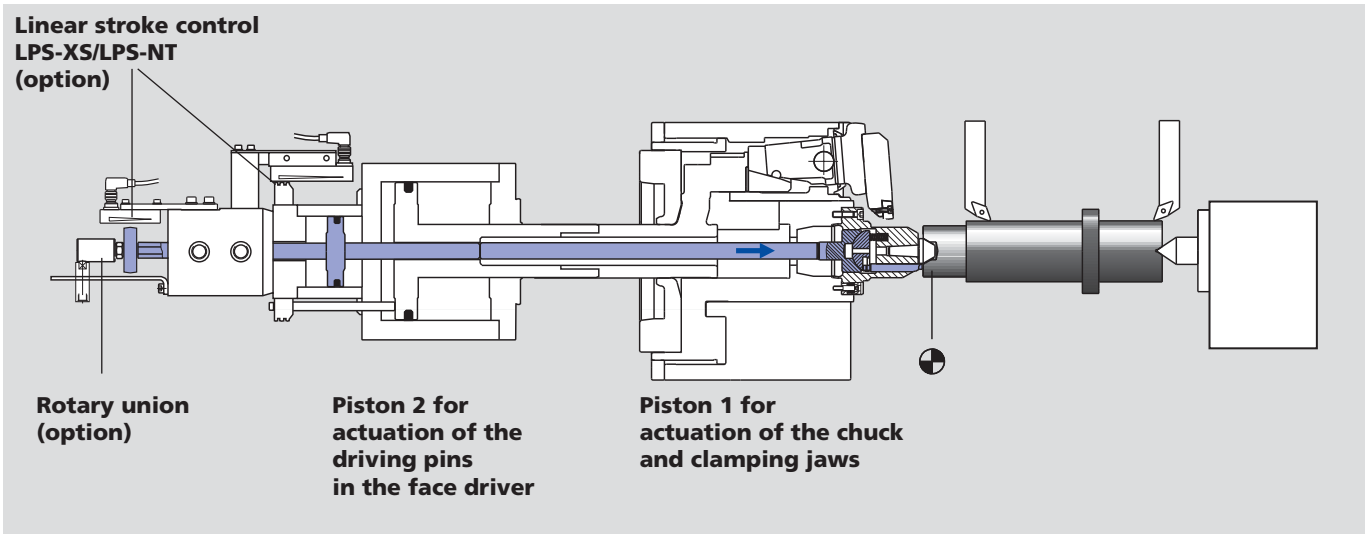
Ordering example

Double piston cylinder ZHVD-SZ 068-17
or
Double piston cylinder ZHVD-SZ 068-17 with rotary union (optional)

Technical data

SMW-AUTOBLOK Type Id. No.			ZHVD-SZ 068-17 045299	ZHVD-SZ 110-25 045297	ZHVD-SZ 240-40 045298
Piston stroke		mm	70/15	90/15	105/20
Piston area A/piston force	max.	cm²/kN	68/54	110/88	241/144
Piston area B/piston force	max.	cm²/kN	60/48	92/73	222/133
Piston area C/piston force	max.	cm²/kN	16/12	25/20	40/24
Piston area D/piston force	max.	cm²/kN	14/11	21/16	36/21.6
Speed	max.	r.p.m.	5000	4000	4000
Mass		kg	26	37	68
Moment of inertia J		kg·m²	0.065	0.125	0.42
Operating pressure	max.	bar	80	80	60
Operating pressure	min.	bar	8-10	8-10	8-10

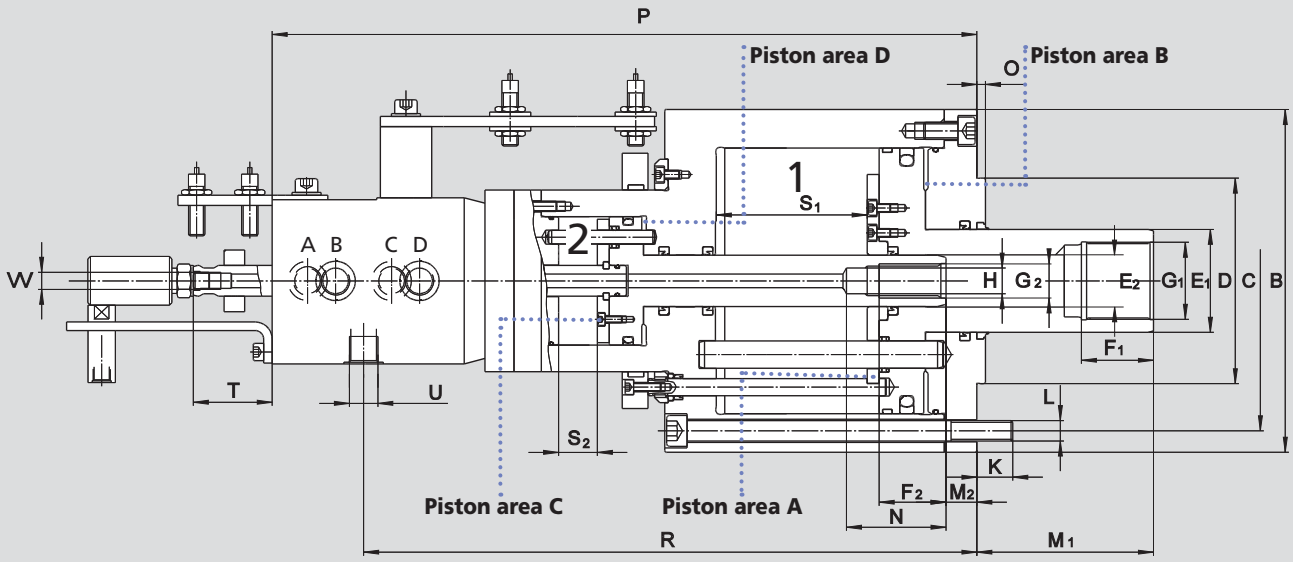
ZHVD-SZ cylinder with retractable jaw chuck and power operated face driver



ZHVD-SZ

- up to 80 bar
- central bore for air/coolant/oil
- stroke control via proximity switch or linear positioning system

Rotating hydraulic cylinder with 2 independent pistons



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type Id. No.				ZHVD-SZ 068-17 045299	ZHVD-SZ 110-25 045297	ZHVD-SZ 240-40 045298
		B	mm	165	198	230
Fixing bolts circle		C	mm	145	175	205
Centering rim	h6	D	mm	105	120	160
		E_1	mm	45	60	60
		E_2	mm	25	30	30
		F_1	mm	33	42	42
		F_2	mm	28	41	39
Piston rod thread 1		G_1	mm	M36 x 1.5	M45 x 1.5	M50 x 1.5
Piston rod thread 2		G_2	mm	M16	M20	M20
		H	mm	13.5	15	15
		K	mm	15	15	21
Fixing bolts/number		L	mm	M10 / 6x	M12 / 6x	M12 / 6x
	max./min.	M_1	mm	82/12	105/15	106/1
	max./min.	M_2	mm	33/18	33/18	67/47
		N	mm	50	58	58
		O	mm	5	5	5
		P	mm	381	400	442
		R	mm	329	348	389
Stroke Piston 1		S_1	mm	70	90	105
Stroke Piston 2		S_2	mm	15	15	20
	max./min.	T	mm	48/33	52/37	77/57
		V	mm	G3/8"	G3/8"	G3/8"
		W	mm	M10 x 1	M10 x 1	M10 x 1

Option: LPS-NT Linear stroke control
Rotary union for oil/coolant/air

8

DCE

Equal piston area and stroke
2 independent pistons

- **double piston rotating hydraulic cylinder**
- **up to 70 bar**
- **central bore for air/coolant/oil**
- **stroke control via proximity switch or linear positioning system**



Application/customer benefits

- Actuation of 2 + 2 power chucks type TPT with 2 piston actuation
- Actuation of power chuck with part ejector
- Actuation of power chucks with retractable axial stop/finger chucks with power operated centering fixture

Technical features

- Double piston cylinder with 4 way oil manifold for separate actuation of the 2 cylinders
- Pressure range 8–70 bar
- Horizontal or vertical installation
- Stroke control on each cylinder, safety valves
- Central bore for air, coolant or oil with thread for rotary union
- Mounting from the rear side with bolts
- A 10 µm filter in pressure line is requested
- Use oil HM32 ISO 3448

Standard equipment

Double piston cylinder
Mounting screws
Stroke control on each cylinder
Proximity bracket (without proximity switch)

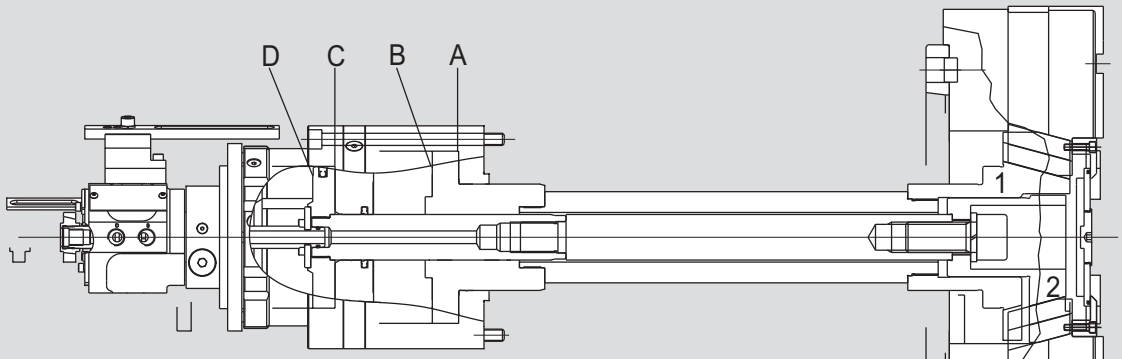
Ordering example

Double piston cylinder DCE 64-64
or
Double piston cylinder DCE 64-64
with rotary union (optional)

Technical data

SMW-AUTOBLOK Type		DCE 64-64/30-40	DCE 140-140/50-50	DCE 240-240/60-60
Id. No.		33705212	33705217	33705221
Piston strokes	mm	30-40	50-50	60-60
Piston area A/max. piston force	cm²/kN	66/46	140/98	238/118
Piston area B/max. piston force	cm²/kN	63/44	211/147	235/118
Piston area C/max. piston force	cm²/kN	66/44	138/97	238/118
Piston area D/max. piston force	cm²/kN	63/46	150/105	254/127
Max. speed	r.p.m.	5000	4000	3200
Mass	kg	28.6	42.5	116
Moment of inertia	kg·m²	0.074	0.18	1
Operating pressure max.	bar	70	70	50
Operating pressure min.	bar	8	8	8

Cylinder DCE for 2 + 2 chucks type TPT



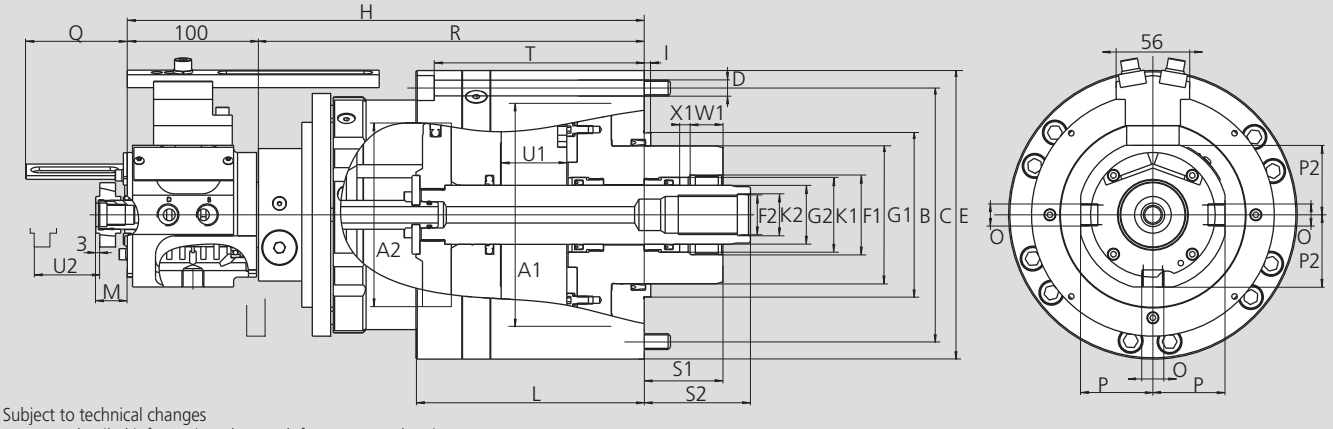
Piston 2 for actuation of the centering jaws (2+4) drive 2

Piston 1 for the actuation of the centering/gripping jaws (1+3) drive 1

- double piston rotating hydraulic cylinder
- up to 70 bar
- central bore for air/coolant/oil
- stroke control via proximity switch or linear positioning system

DCE

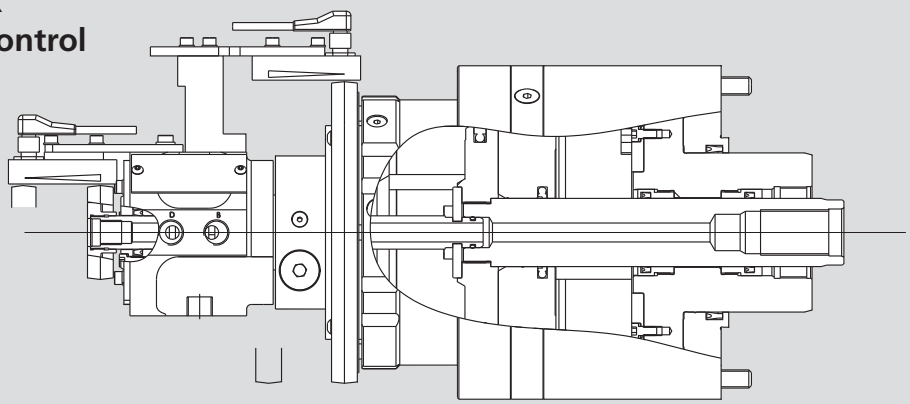
Equal piston area and stroke
2 independent pistons



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				DCE 64-64/30-40	DCE 140-140/50-50	DCE 240-240/60-60
Piston diameter 1		A_1	mm	125	170	215
Piston diameter 2		A_2	mm	95	140	183
Centering rim	h6	B	mm	105	125	160
Fixing bolt circle		C	mm	145	195	250
Fixing bolts		D	mm	6 x M10	6 x M12	6 x M16
		E	mm	174	220	280
Piston rod thread 1		F_1	mm	M45 x 1.5	M60 x 1.5	M75 x 2
Piston rod thread 2		F_2	mm	M20 x 1.5	M30	M36
		G_1	mm	85	105	125
		G_2	mm	30	45	55
		H	mm	362	394	451
		I	mm	5	5	5
		K_1	mm	42	57	70
		K_2	mm	20.5	31	37
		L	mm	164	174	213
	min.	M	mm	31	24	28
		O	inch	G 3/8"	G 3/8"	G 1/2"
		P	mm	55	55	62
		P_1	mm	55	55	63
		P_2	mm	53	53	63
		Q	mm	77	77	97
		R	mm	262	294	326
	max.	S_1	mm	40	60	70
	max.	S_2	mm	76	81	110
		T	mm	151	160	197
Piston stroke cyl. 1		U_1	mm	30	50	60
Piston stroke cyl. 2		U_2	mm	40	50	60
		W_1	mm	25	25	35
		W_2	mm	30	45	50
		X_1	mm	10	8	9
		X_2	mm	10	10	10

DCE cylinder with optional LPS-X linear stroke control



CSN

Closed center pneumatic cylinders

- **up to 7 bar**
- **stroke control**
- **safety valve optional**



Application/customer benefits

- Actuation of power chucks and special automatic clamping equipments
- Use on machines not equipped with hydraulic power unit as traditional lathes or special CNC machines.

Technical features

- Operating pressure 1–7 bar
- Horizontal or vertical installation
- Air-manifold mounted on precision bearings
- Stroke control via proximity switch
- Double safety valve (option)
- CSN 100 and CSN 150 = mounting from the rear side
- CSN 200 and CSN 250 = mounting from the front side
- An airservice unit with dryer, filter and oiler is needed

Standard equipment

Closed center pneumatic cylinder
with stroke control and proximity switch support (without proximity switch)

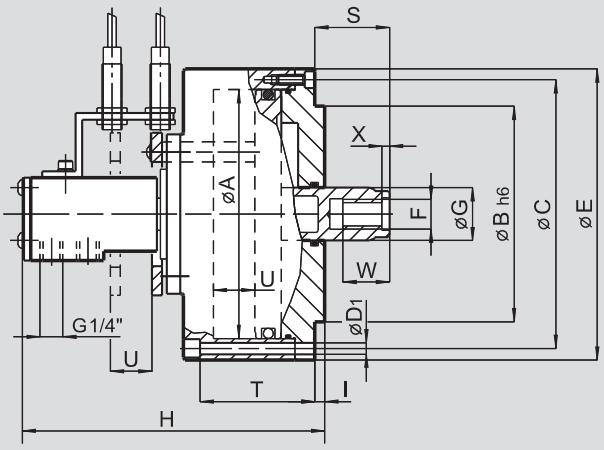
Ordering example

Cylinder type CSN 100 No. 33072110
or
Cylinder type CSN 150 No. 33072115
with safety valve (optional)

Technical data

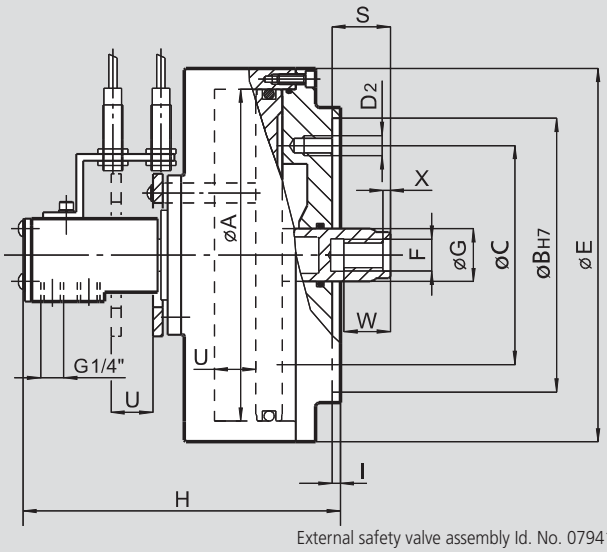
SMW-AUTOBLOK Type		CSN 100	CSN 150	CSN 200	CSN 250
Id. No.		**33072110**	**33072115**	**33072120**	**33072124**
Piston area	cm^2	71	176	306	482
Max. pressure	bar	7	7	7	7
Traction at 6 bar	kN	4.3	10	18	29
Max. speed	r.p.m.	4500	4500	4500	4500
Mass	kg	5	8	11	16
Moment of inertia	$kg \cdot m^2$	0.01	0.03	0.06	0.18

CSN 100 - 150



Subject to technical changes
For more detailed information please ask for customer drawing

CSN 200 - 250



External safety valve assembly Id. No. 07941010

SMW-AUTOBLOK Type			CSN 100	CSN 150	CSN 200	CSN 250
Piston diameter	**A**	mm	100	150	200	250
	B	mm	80	130	165	165
Fixing bolts circle	**C**	mm	112	162	132	132
Fixing bolts diameter	**D1**	mm	6 x Ø7	6 x Ø7	-	-
Threaded fixing holes	**D2**	mm	-	-	3 x M12	6 x M12
	E	mm	125	175	225	275
	F	mm	M16	M16	M18	M18
	G	mm	30	30	32	32
	H	mm	171	171	190	190
	I	mm	5	5	5	5
max.	**S**	mm	35	35	35	35
	T	mm	60	60	-	-
Piston stroke	**U**	mm	20	20	25	25
	W	mm	20	20	30	30
	X	mm	4	4	5	5

Linear Position Sensor for SMW-Autoblok hydraulic clamping cylinders	LPS-XS io Link Linear Position Sensor Measuring range 16 mm	LPS-X Linear Position Sensor Measuring range 50 mm	LPS-X io Link Linear Position Sensor Measuring range 50 mm	LPS-NT® Linear Position Sensor Measuring range 100 mm



Application/customer benefits

- Monitoring of the entire cylinder stroke/safe controlling of any clamping position
- No repositioning of prox. switches when changing chucks

Technical features

- Inductive measuring principle (no magnet!)
- No interference from magnetic fields
- Measuring range LPS-XS = 16 mm/LPS-X = 50 mm/LPS-NT = 100 mm
- Compact design/simple installation
- Analog or binary output

Additional Features LPS-X io Link

- Bidirectional data transfer
- Status monitoring
- Process data monitoring

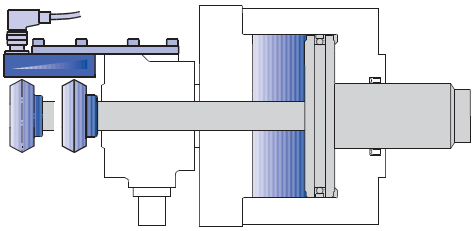
Standard equipment

LPS without cable

Ordering example

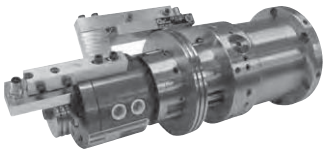
LPS-XA with analog output 0-10 V
Id. No. 197376
Cable with straight plug 5 m
Id. No. 198982

LPS-X mounted on cylinder SIN



LPS-NT® 100 + LPS-XS

mounted on cylinder with 2 independent pistons



LPS-X

mounted on cylinder VNK



Technical data

SMW-AUTOBLOK Type	LPS-XSA 16-V	LPS-XA 50-V	LPS-NTA 100-V	LPS-XA 50-A	LPS-NTA 100-A	LPS-X 50 io*	LPS-XS 16 io*
Id. No.	198825	197376	195921	199563	196381	198888	198895
Measuring range	16 mm	50 mm	100 mm	50 mm	100 mm	50 mm	16 mm
Signal	0-10 V / 4-20mA	0-10 V	0-10 V	4-20 mA	4-20 mA	io Link V1.0/V1.1	io Link V1.0/V1.1
Supply	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Reproducibility	0.05 mm	0.1 mm	0.2 mm	0.1 mm	0.2 mm	0.1 mm	0.05 mm
Linearity	0.10 mm	0.2 mm	0.4 mm	0.2 mm	0.4 mm	0.1 mm	0.1 mm
Temperature drift	0.15 mm	0.25 mm	0.25 mm	0.25 mm	0.25 mm	0.25	0.15
Operating temperature	0 - 70°	0 - 70°	0 - 70°	0 - 70°	0 - 70°	0 - 70°	0 - 70°
Protection class	IP 64	IP 64	IP 64	IP 64	IP 64	IP 64	IP 64
Case dimensions L x W x H	40 x 20 x 16	71.5 x 40 x 16	125 x 40 x 16	71.5 x 40 x 16	125 x 40 x 16	71.5 x 40 x 16	40 x 20 x 16

Cables for LPS-XSA 16-V	Length	Id. No.
Sensor connection cable straight plug M 9 x 0,5 5-pin	5 m 10 m	198982 198983
Sensor connection cable elbow plug M 9 x 0,5 5-pin	5 m 10 m	198984 198985

Cables for LPS-XA 50-V, LPS-NTA 100-V, LPS-NTA 100-A, LPS-X io Link*	Length	Id. No.
Sensor connection cable straight plug M 12 x 1 5-pin	5 m 10 m	195896 195898
Sensor connection cable elbow plug M 12 x 1 5-pin	5 m 10 m	195897 195899

* For detailed information about io Link please ask for separate data sheet.

Binary Interface Box for LPS-X/LPS-NT	
	Id. No. 198067
Supply	24 V DC ± 10 %/ 120 mA
Signal	binary, 10 bits, pnp open collector
Resolution	0.05 mm = 1 digit for 50 mm 0.1 mm = 1 digit for 100 mm
Case dimensions L x W x H	125 x 80 x 58 mm
Protection class	IP 64
Operating temperature	0 – 70 °C
Connections	16-pin Zylin R, style A, code N
Weight	650 g

RU-1-10
RU-1-16

Rotary union for 1 medium

- For closed and open center cylinders
- Media: air, oil or coolant



Application/customer benefits

- Rotary union for media supply for rotating cylinders

Technical features:

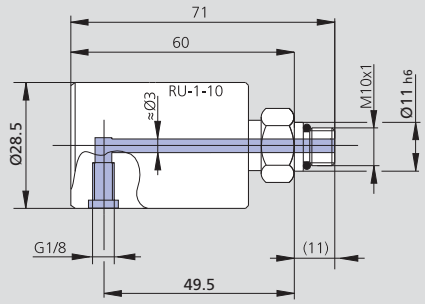
RU-1-10: Medium: oil/coolant (**can not** rotate dry) through-hole approx. Ø 3 mm
RU-1-16: Medium: air/oil/coolant (**can** rotate dry) through-hole approx. Ø 6 mm

note: The medium must be free of contamination.
Filter 25 µm requested

Standard equipment:

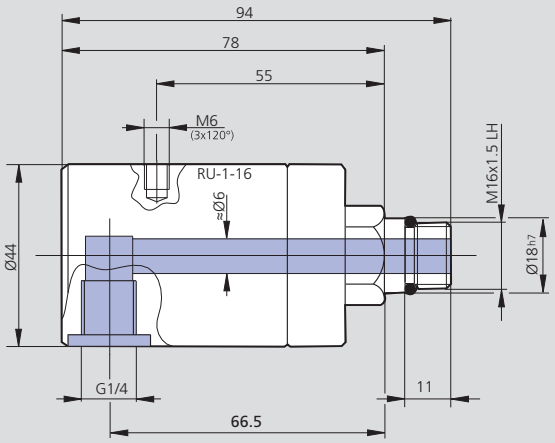
RU-1-10 Id. No. 014604
RU-1-16 Id. No. 043271

RU-1-10



Subject to technical changes
For more detailed information please ask for customer drawing

RU-1-16



Subject to technical changes
For more detailed information please ask for customer drawing

Technical data

SMW-AUTOBLOK Type	Id. No.	max. speed	max. pressure	Mass	Filter requested
RU-1-10	014604	7500	15 bar	0.15 kg	25 µm
RU-1-16	043271	7000	30 bar	0.40 kg	25 µm

Rotary union for 2 media

RU-2-22

- For closed or open center cylinders (not for ZHVD-DFR)
- Media: air + oil/air + coolant



Application/customer benefits

- Rotary union for media supply for rotating cylinders. Universal for air + oil/air + coolant
- Can also rotate dry (without medium applied)

Technical features:

Rotary union for 2 media. Port A for air, oil and coolant, Port B for air.

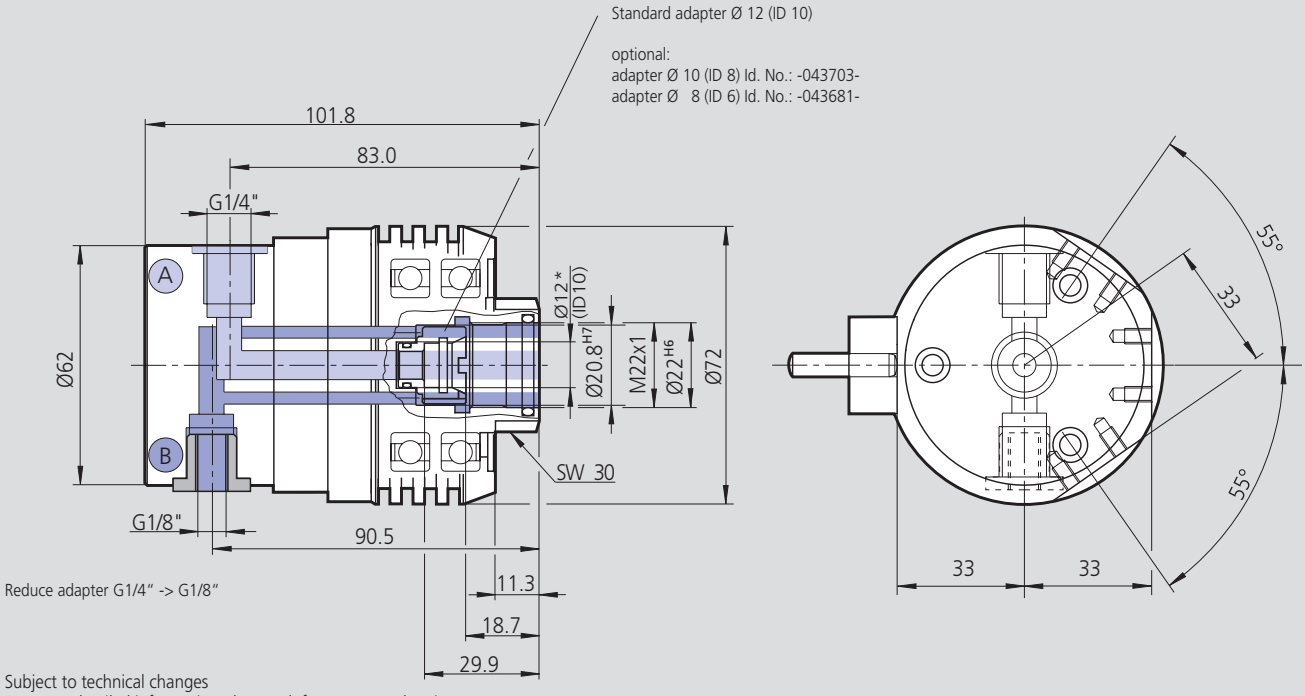
note: The medium must be free of contamination
Filter 25 µm requested

Standard equipment:

Rotary union R4-2-22
Anti rotation pinblok
Adapter for tube Ø 12 mm (ID =10mm)

Option:

Adapter for tube Ø 10 mm (ID = 8 mm) Id. No. 043703
Adapter for tube Ø 8 mm (ID = 6 mm) Id. No. 043861



Technical data

SMW-AUTOBLOK Type	Id. No.	max. speed r.p.m.	max. pressure port A media: air, oil, coolant	max. pressure port B media: air only	Mass	Filter requested
RU-2-22	044970	4000	40 bar/580 psi	10 bar/145 psi	0.94 kg	25 µm
		4500	35 bar/507.5 psi	10 bar/145 psi		
		5000	30 bar/435 psi	10 bar/145 psi		
		5500	25 bar/362.5 psi	10 bar/145 psi		
		6500	20 bar/290 psi	10 bar/145 psi		

Pneumatic/hydraulic front-end chucks
Control units



Page 218

SP® + SP-ES + SP-L
INCH
serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 26 - 115 mm

- 3 jaws
- **SP-ES:** chuck with rapid and clamping stroke
- **SP-L:** chuck with long jaw stroke

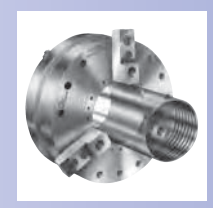


Page 222

BIG BORE®
INCH
serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 140 - 410 mm

- standard jaw stroke
- 3 jaws



Page 226

BIG BORE® ES
INCH
serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 140 - 560 mm

- extended jaw stroke
- 3 jaws



Page 230

BIG BORE® BB-AZ-ES
INCH
serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 220 - 370 mm

- self centering or compensating clamping
- extended jaw stroke
- 3 jaws



Page 232

BIG BORE® BB-FZA
INCH
serration

Front-end pneumatic sequence chucks
EXTRA LARGE THROUGH HOLE Ø 275 - 378 mm

- 6 jaws (3 integrated centering jaws and 3 compensating jaws)



Page 234

BIG BORE® BB-SC
INCH
serration

Front-end spring clamp power chucks
Air opening
EXTRA LARGE THROUGH HOLE Ø 275 - 565 mm

- RAPID AND CLAMPING STROKE
- 3 jaws
- **proofline® chucks** = fully sealed – low maintenance



Page 236

CC
INCH
serration

Stationary centering and dampening chuck
Ø 240 + 350 mm

- integrated dampener
- 3 jaws



Page 238

AC-BB
1/2" design
3/4" design

Electronic safety control unit
for pneumatic chucks

- basic version

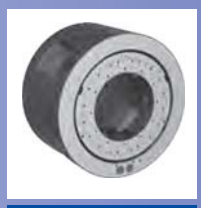


Page 240

AC-X
1/2" design

Electronic safety control unit
for pneumatic chucks

- modular extensible



Page 242

SF-RAZ
Tongue & groove

2 Position hydraulic ring indexing chuck
Ø 750 - 1050 mm

- 6 jaws (3 self centering and 3 compensating jaws)
- large evacuation windows for easy chip flow
- fully automatic and controlled indexing



Page 244

HYND-S
INCH
serration

Power chucks with built-in hydraulic cylinder
Ø 180 - 400 mm

- hydraulic oil supplied through the machine
- 3 or 4 jaws



Page 245

HYDL-S
LONG STROKE
INCH serration

HYDLL-S
EXTRA LONG STROKE
INCH serration

Power chucks with built-in hydraulic cylinder
Ø 500 - 800 mm

- hydraulic oil supplied through the machine spindle wall
- 3 jaws

SP®+ SP-ES + SP-L

INCH
serration

Front-end pneumatic power chucks Ø 125 - 350 mm

- EXTRA LARGE THROUGH HOLE
- 3 jaws
- SP-ES: chuck with rapid and clamping stroke
- SP-L: chuck with long jaw stroke



Application/customer benefits

- Universally used in turning machines, rotary tables, handling equipment, welding etc.
- For machines without hydraulic cylinder
- Easy exchange for manual chucks

Technical features

- Power chuck with built-in pneumatic cylinder. Force transmission via wedge hook
- Mounting of the distributor ring on the headstock or with the centering ring on the chuck with anti-rotation bracket
- Open and close only at stopped spindle. Air transmission via distributor ring and SMW-profile seals (monitoring by SMW control cabinet)
- Easy installation with no additional adapters required

Standard equipment

3 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws
2 elbow unions G1/4" (G1/8" on SP 125)
Spacer ring and centering ring, without distributor ring bracket/anti-rotation bracket

Ordering example

3 jaw chuck SP 160/Z155

Accessories

Control units
(see pages 238-241)

The principle invented by SMW: air supply via distributor ring and SMW-profile seal rings

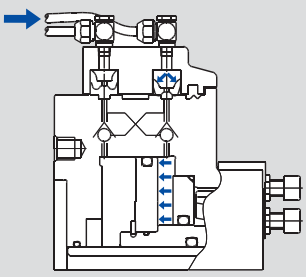


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber. When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

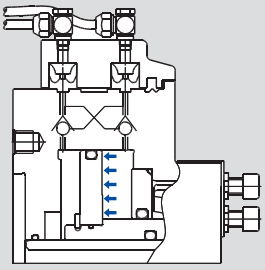


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore.
The clamping pressure is maintained by the twin non-return valve. The chuck can start to rotate.

Two ways of mounting the distributor ring:

- spacer ring and distributor ring bracket
- centering ring and anti rotation bracket

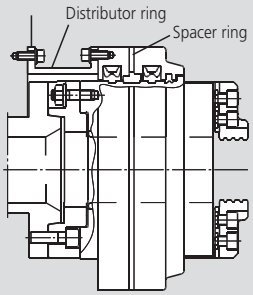


Fig. 3
Distributor ring bracket fixed (stationary) on the headstock to support the distributor ring mounted with the spacer ring.
No contact between the static distribution ring and the rotating chuck.

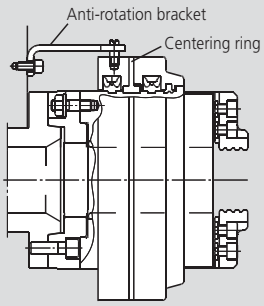


Fig. 4
Distributor ring mounted on the outer diameter of the chuck with the centering ring (teflon part subject to wear).
Need of an anti-rotation bracket fixed to the machine headstock.

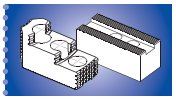
Technical data

SMW-AUTOBLOK Type		SP 125-26	SP 160-38	SP 240-78	SP 280-92	SP 350-115	SP 350-115 ES	SP-L 350-90
Id. No.		012044	012045	053170	052778	012588	052850	053193
Stroke per jaw	mm	3	4.2	4.2	5	5	(10) + 5*	24
Operating pressure min./max.	bar	2/10	2/10	2/10	2/10	2/10	2/10	2/10
Piston area	cm^2	129	206	290	535	486	486	486
Gripping force at 6 bar	kN	20	35	60	95	88	88	31
Max. speed (distribution ring with centering ring)	r.p.m.	4000	3500	2800	2200	2200	2200	1000
Max. speed (distribution ring fixed stationary)	r.p.m.	4200	4200	3500	3200	3000	3000	1000
Air consumption/jaw stroke at 6 bar	l	1.4	3.4	5.2	10.0	9.4	13.5	13.5
Mass (without jaws)	kg	11	23	40	62	78	91	97
Moment of inertia	$kg \cdot m^2$	0.028	0.125	0.412	0.823	1.125	1.62	1.62

*10 mm extended stroke (must not be used for clamping) + 5 mm clamping stroke



Page 221



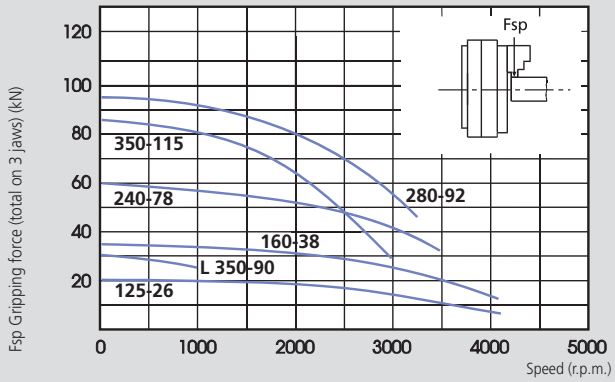
Page 220

Front-end pneumatic power chucks Ø 125 - 350 mm

- EXTRA LARGE THROUGH HOLE
- 3 jaws
- SP-ES: chuck with rapid and clamping stroke
- SP-L: chuck with long jaw stroke

SP®+ SP-ES + SP-L

INCH
serration

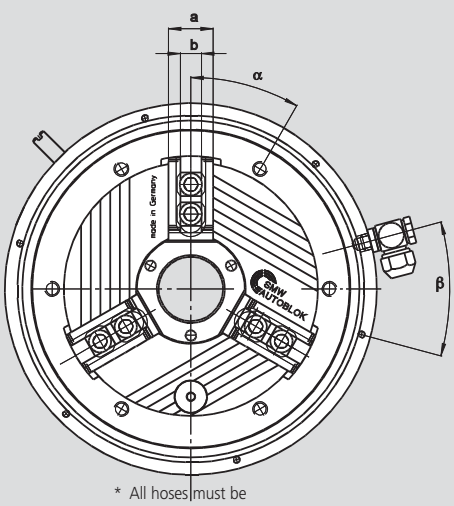


Actual gripping force diagram

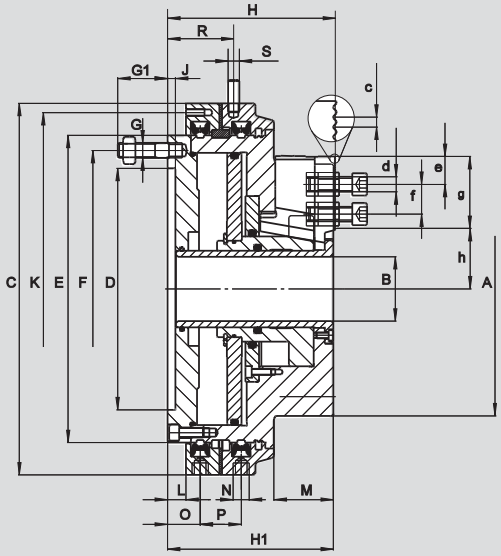
The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals, using SMW-AUTOBLOK K05 grease, operated at 6 bar.
The speeds refer to a static bracket. The static and dynamic gripping forces have been measured using MHB hard top jaws placed in a position, not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Jaw position: Open for external clamping



* All hoses must be min. Ø 9 mm i.d.



Subject to technical changes
For more detailed information please ask for customer drawing

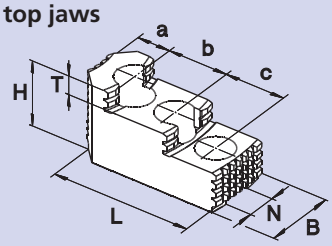
SMW-AUTOBLOK Type			SP 125-26	SP 160-38	SP 240-78	SP 280-92	SP 350-115	SP 350-115 ES	SP-L 350-90
Mounting			**Z120**	**Z155**	**Z195**	**Z235**	**Z235**	**Z235**	**Z235**
	A	mm	136	171	240	284	350	360	360
	B	mm	26	38	78	92	115	115	90
	C	mm	204	255	300	372	372	372/380	372/380
	D H6	mm	120	155	195	235	235	235	235
	E	mm	160	205	248	315	315	315	315
Fixing bolts circle (6 x 60°)	**F**	mm	137	180	223.8	290.5	290.5	290.5	290.5
Stud screw with nut	**G**	mm	M8	M12	M12	M12	M12	M12	M12
	G1	mm	30	40	40	39	39	39	39
	H	mm	103	131	135.5	157.5	157.5	191.5	191.5
	H1	mm	101.5	129.5	134	156	156	190	190
	J	mm	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Fixing bolts circle 6 x 60°/M6	**K**	mm	190	242	285	358	358	358	358
	L	mm	10	14.5	15	21	21	21	21
	M	mm	35	46	48	58	62	92	92
Pneumatic connection	**N**	inch	G 1/8"	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"
	O	mm	19	26	26.5	33	33	33	33
	P	mm	29	33	33	33	33	33	33
	R	mm	43	52	52	60	60	60	60
Anti-rotation pin	**S**	mm	8	12	12	12	12	12	12
	a	mm	24	30	36	44	44	44	44
	b	mm	12	14	17	21	21	21	21
Serration	**c**	inch	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°
Bolt DIN 912 12.9	**d**	mm	M8 x 30	M10 x 35	M12 x 35	M16 x 35	M16 x 35	M16 x 35	M16 x 35
min.	**e**	mm	6	8	9.5	12	12	12	12
T-nuts distance min./max.	**f**	mm	17/25	21/31	22/41.5	25/51	25/72	25/72	25/72
Serration length	**g**	mm	40	50	59	75	93	92	95
min./max.	**h**	mm	25/28	34.9/39	57.7/61.9	70/65	79/84	85/100	85/109
	α°	deg.	0°	0°	30°	0°	0°	0°	0°
	β°	deg.	30°	30°	30°	45°	45°	45°	45°

SP®+ SP-ES + SP-L

INCH
serration

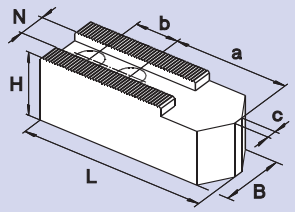
■ Top jaws
■ T-nuts

MHB-D
Hard reversible top jaws



Chuck type	SP 125-26	SP 160-38	SP 240-78	SP 280-92	SP 350-115 (+ES+L)
Jaw type	MHB-D 130	MHB-D 160	MHB-D 200	MHB-D 251	MHB-D 315
Jaw Id. No. (set)	12081306	12081636	12082036	12083036	12083186
B	30	34	40	45	50
H	34	39	45	56	56
L	58	65	82	105	122
T	8.5	10	10.5	13.5	13.5
N	12	14	17	21	21
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°
a	13	18	19	26	43
b	16	16	23	30	30
c	16	16	23	30	30
kg/set	0.6	0.9	1.7	2.85	4.05

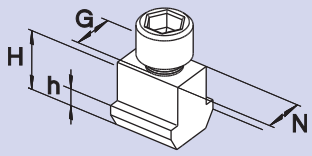
AWB-D
Soft top jaws



Chuck type	SP 125-26	SP 160-38	SP 240-78	SP 280-92	SP 350-115 (+ES+L)
Jaw type	WBSA-D 125	AWB-D 165	AWB-D 200	AWB-D 250	AWB-D 315
Jaw Id. No. (set)	12071300*	035954	081616	081618	081619
B	30	40	40	50	50
H	30	40	40	50	50
L	60	80	90	120	140
N	12	14	17	21	21
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°
a	29	43	53	70	90
b	16	22	22	28	28
kg/set	0.9	2.0	2.7	5.1	6.3

* Jaws are per piece. 3 pcs. must be ordered for 1 set.

NST
T-nuts

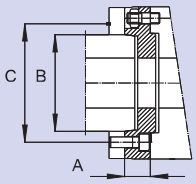


Chuck type	SP 125-26	SP 160-38	SP 240-78	SP 280-92	SP 350-115 (+ES+L)
T-nut type	NST 12	NST 14	NST 17-4	NST 21-5	NST 21-5
T-nut Id. No.	089810	013863	013864	033429	033429
N	12	14	17	21	21
H	21.5	26.5	26.5	30	30
h	7.5	9.5	9.5	11	11
G	M8	M10	M12	M16	M16
Bolt DIN 912 12.9	M8 x 30	M10 x 35	M12 x 35	M16 x 35	M16 x 35
Tighten torque Md max. (Nm)	30	50	70	150	150



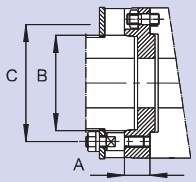
Adapters for SP chucks

ISO-A DIN 55026 mounting adapters



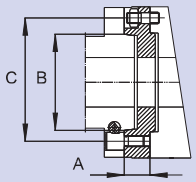
Chuck type	SP 125-26	SP 160-38		SP 240-78			SP 280-92			SP 350-115 (+ ES + L)		
Nose dim.	A5	A5	A6	A5	A6	A8	A6	A8	A11	A6	A8	A11
Id. No.	017083	017085	017086	017088	080174	017090	017092	017093	017094	017092	017093	017094
A mm	26.0	25.5	25.5	25.5	32.2	34.0	32.2	38.2	36.0	32.2	38.2	36.0
B mm	82.57	82.57	106.39	82.57	106.39	139.73	106.39	139.73	196.88	106.39	139.73	196.88
C mm	104.8	104.8	133.4	104.8	133.4	171.4	133.4	171.4	235.0	133.4	171.4	235.0

DIN 55027 bayonet mounting adapters type C



Chuck type	SP 125-26	SP 160-38		SP 240-78			SP 280-92			SP 350-115 (+ ES + L)		
Nose dim.	C5	C5	C6	C5	C6	C8	C6	C8	C11	C6	C8	C11
Id. No.	017056	017058	017059	017061	017062	017063	017065	017066	017067	017065	017066	017067
A mm	19.0	25.5	25	25.5	29.0	32.2	29.0	32.2	36.5	29.0	32.2	36.5
B mm	82.57	82.57	106.39	82.57	106.39	139.3	106.39	139.73	196.88	106.39	139.73	196.88
C mm	104.8	104.8	133.4	104.8	133.4	171.4	133.4	171.4	235.0	133.4	171.4	235.0

DIN 55029 camlock mounting adapters type S



Chuck type	SP 125-26	SP 160-38		SP 240-78			SP 280-92			SP 350-115 (+ ES + L)		
Nose dim.	S5	S5	S6	S5	S6	S8	S6	S8	S11	S6	S8	S11
Id. No.	017117	017119	017120	017122	017123	017124	017126	017127	017128	017126	017127	017128
A mm	22.5	26.0	29.0	26.0	29.0	36.0	32.0	36.0	42.0	32.0	36.0	42.0
B mm	82.57	82.57	106.39	82.57	106.39	139.3	106.39	139.73	196.88	106.39	139.73	196.88
C mm	104.8	104.8	133.4	104.8	133.4	171.4	133.4	171.4	235.0	133.4	171.4	235.0

Important for maintenance and safe operation, to be ordered with the chuck

Grease K05®

Special grease for manual and power chucks



Cartridge 14 Oz. (DIN 1284)
Grease content 500 g
Id. No. 016440

Can 1000 g
Id. No. 011881



- High adhesion
- High resistance against coolant
- High load bearing capacity
- Low friction coefficient
- High gripping force
- Avoids tribocorrosion

Grease gun

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).

- **Also refillable from grease can 1000 g.**



Lubrication set Id. No. 083726
Supply range:

- Grease gun
- 1 Adapter flexible for high pressure grease nipple
- 1 Adapter for cone grease nipple

BIG BORE®

INCH
serration

Front-end pneumatic power chucks
Ø 140 - 410 mm
■ EXTRA LARGE THROUGH HOLE
■ standard jaw stroke
■ 3 jaws



Application/customer benefits
- End machining of long pipe
- Full spindle bore can be used

Technical features
- Air chuck for external clamping with built-in pneumatic cylinder
- Air feed via distributor ring and SMW-profile seals, at stopped spindle
- Built in non-return valves maintain the air pressure during machining
- Clamping pressure level constantly checked by a safety control system (only for external clamping)

Standard equipment
3 jaw chuck
2 elbow unions G 1/2"
12 mounting bolts (9 for the BB-N 400)
1 lifting eye bolt
1 set T-nuts with bolts
1 set soft top jaws
without distributor ring bracket

Ordering example
BIG BORE BB-N 400-140/Z310

Accessories
Control unit AC-BB/AC-X
(see pages 238-241)

The principle invented by SMW: air supply via distributor ring and SMW-profile seal rings

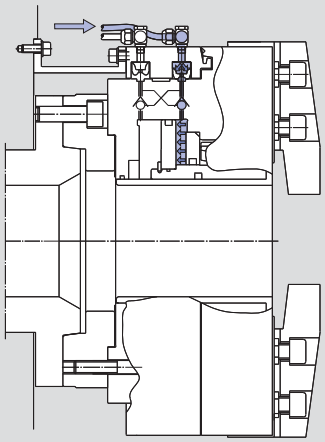


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber. When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

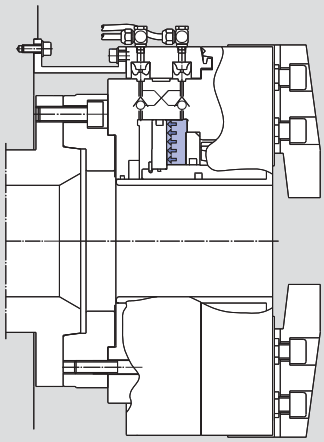


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore.
The clamping pressure is maintained by the twin non-return valve.
The chuck can start to rotate.

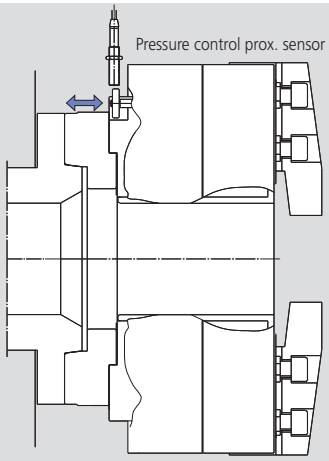
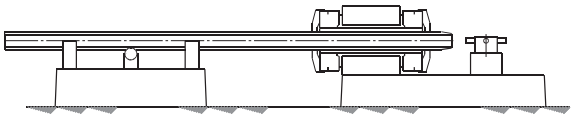


Fig. 3
Safety pressure control: if the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending an alarm signal.

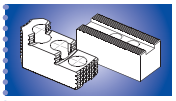


End machining of pipe with front and rear chucks

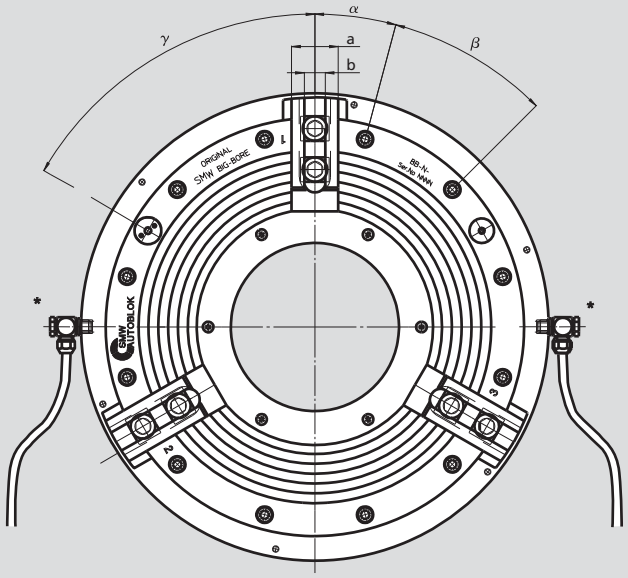
Technical data

SMW-AUTOBLOK BB-N Type		400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.		052300	053535	052318	052340	052989	052534	052347
Through-hole	mm	140	191	205	230	275	310	410
Stroke per jaw	mm	7	7	8.5	8.5	8.5	10	12
Operating pressure min./max.	bar	2/10	2/10	2/10	2/10	2/10	2/10	2/10
Piston area	cm^2	710	565	1024	940	990	1270	2064
Gripping force at 6 bar	kN	160	115	210	190	200	220	330
Max. speed	r.p.m.	1700	1700	1300	1300	1300	1000	750
Air consumption/jaw stroke at 6 bar	l	21	16	36	32	34	52	108
Weight (without top jaws)	kg	150	150	230	200	270	420	650
Moment of inertia	$kg \cdot m^2$	3.22	5.66	8.53	8	15	28	71.25


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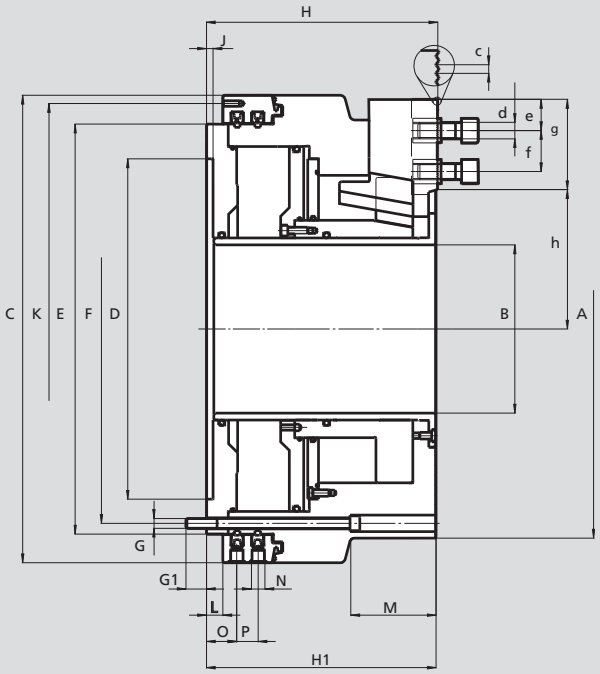

Page 224

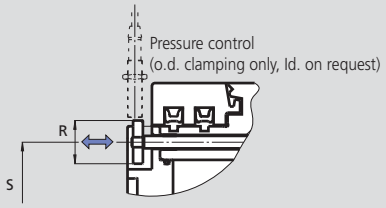
Main dimensions and technical data



*all hoses must be min. Ø 14 mm i.d.

Jaw position: Open for external clamping





enlarged illustration

Jaw stroke control on request
Subject to technical changes
For more detailed information please ask for customer drawing

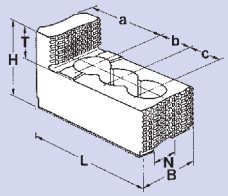
SMW-AUTOBLOK BB-N Type			400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.			052300	053535	052318	052340	052989	052534	052347
Mounting			Z310	Z310	Z415	Z415	Z450	Z510	Z700
	A	mm	422	470	540	570	605	662	800
	B	mm	140	191	205	230	275	310	410
	C	mm	467	467	570	570	605	685	850
	D H6	mm	310	310	415	415	450	510	700
	E	mm	400	400	500	500	535	610	775
Fixing bolts circle	**F**	mm	374	374	474	474	508	580	745
	G	mm	M12	M12	M12	M12	M12	M16	M16
	G1	mm	26	26	26	26	25	30	30
	H	mm	196	196	225	225	225	263	305
	H1	mm	194	194	223	223	223	261	303
	J	mm	8	8	8	8	8	8	8
Thread circle 6x M8	**K**	mm	448	448	550	550	585	666	830
	L	mm	20	20	20	20	20	20	25
	M	mm	70	-	98	98	-	115	154
Pneumatic connection	**N**	inch	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
	O	mm	37	37	37	37	37	39.5	44.5
	P	mm	26	26	26	26	26	33	33
	R	mm	35	35	35	35	35	42	35
	S	mm	374	374	474	475	508	575	745
	a	mm	57	57	57	57	57	75	75
	b	mm	25.5	25.5	25.5	25.5	25.5	30	30
Serration	**c**	inch	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
Bolt DIN 912 12.9	**d**	mm	M20	M20	M20	M20	M20	M24	M24
min.	**e**	mm	13	13	14	14	14	16	16
T-nuts distance min./max.	**f**	mm	38/85	38/85	38/102	38/102	38/94	47/103	47/130
Serration length	**g**	mm	117.5	117	138	138	130	142	171.5
min./max.	**h**	mm	94.5/101.5	124/131	133.5/142	143.5/152	165/173.5	190.5/200.5	243/255
	α°		20	20	15	15	15	15	15
	β°		9 x 40	9 x 40	12 x 30	12 x 30	12 x 30	12 x 30	12 x 30
(Pressure control)	**γ°**		37	83	60	60	60	60	60

BIG BORE®

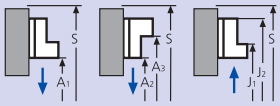
INCH
serration

■ Top jaws
■ T-nuts

GUB Hard reversible top jaws

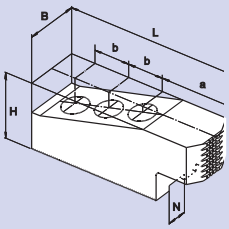


Gripping ranges

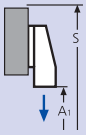


Chuck	BB-N 400-140	BB-N 470-191	BB-N 500-205	BB-N 500-230 BB-N 600-275	BB-N 630-310	BB-N 800-410
Jaw type	GUB 500	GUB 500	GUB 500	GUB 500	GUB 630	GUB 800
Id. No.	12084546	12084546	12084546	12084546	12086446	12088046
B	60	60	60	60	75	75
H	75	75	75	75	85	85
L	140	140	140	140	160	220
T	2x19	2x19	2x19	2x19	30	30
N	25.5	25.5	25.5	25.5	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	46	46	46	46	30	51
b	38	38	38	38	50	62
c	38	38	38	38	50	62
kg/set	6.6	6.6	6.6	6.6	13.5	19.5
A_1	65-238	100-273	150-358	175-378	275-485	320-590
A_2	110-284	145-320	200-405	225-425	275-485	330-600
A_3	294-470	330-505	385-590	410-610	475-685	590-865
J_1	175-350	210-385	265-470	285-490	395-610	500-770
J_2	355-530	390-565	445-650	465-670	595-810	760-1030
S	585	620	705	725	820	1050

GAB Hard top jaws

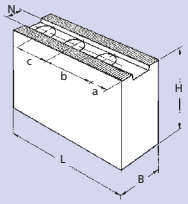


Gripping ranges

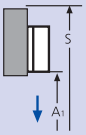


Chuck	BB-N 400-140	BB-N 470-191	BB-N 500-205	BB-N 500-230 BB-N 600-275	BB-N 630-310	BB-N 800-410
Jaw type	GAB 500	GAB 500	GAB 500	GAB 500	GAB 630	GAB 800
Id. No./set	12085146	12085146	12085146	12085146	12086546	12089046
B	55	55	55	55	75	75
H	73	73	73	73	82	82
L	195	195	195	195	245	320
N	25.5	25.5	25.5	25.5	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	96	96	96	96	113	165
b	38	38	38	38	50	60
c	38	38	38	38	50	60
kg/set	16.5	16.5	16.5	16.5	31.5	40.5
A_1	25-140	60-175	50-260	70-280	105-320	95-365
S	585	620	705	725	820	1010

WBSA-D/WBC-D Soft top jaws



Gripping ranges

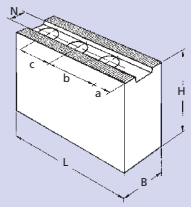


Chuck	BB-N 400-140	BB-N 470-191	BB-N 500-205	BB-N 500-230 BB-N 600-275	BB-N 630-310	BB-N 800-410
Jaw type	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBC-D 630	WBC-D 800
Id. No./pc.	12075050	12075050	12075050	12075050	12076440	12078040
B	60	60	60	60	80	80
H	60	60	60	60	80	80
L	170	170	170	170	240	320
N	25.5	25.5	25.5	25.5	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	69	69	69	69	110	165
b	38	38	38	38	50	60
c	38	38	38	38	50	60
kg/piece	3.6	3.6	3.6	3.6	11	15
A_1	25-195	60-230	105-315	125-325	110-325	95-365
S	545	580	660	680	815	1010

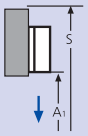


For further jaws and accessories please ask for our 150 pages special catalogue!

WBCL
Soft top jaws long version

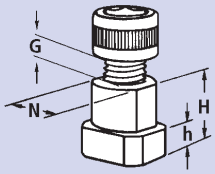


Gripping ranges



Chuck	BB-N 400-140	BB-N 470-191	BB-N 500-205	BB-N 500-230 BB-N 600-275	BB-N 630-310	BB-N 800-410
Jaw type	WBC-D 502	WBC-D 502	WBC-D 502	WBC-D 502	WBC-D 800	WBCL-D 800
Id. No./pc.	12075140	12075140	12075140	12075140	12078040	12079040
B	60	60	60	60	80	80
H	60	60	60	60	80	80
L	205	205	205	205	320	390
N	25.5	25.5	25.5	25.5	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	104	104	104	104	165	230
b	38	38	38	38	60	60
c	38	38	38	38	60	60
kg	4.5	4.5	4.5	4.5	15	18
A_1	-	0-155	35-245	55-265	25-195	25-235
S	-	575	660	680	845	1020

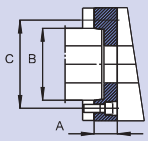
NST
T-nuts



Chuck	BB-N 400-140	BB-N 470-191	BB-N 500-205	BB-N 500-230 BB-N 600-275	BB-N 630-310	BB-N 800-410
T-nut type	NST	NST	NST	NST	NST	NST
Id. No./pc.	12065020	12065020	12065020	12065020	13063900	13063900
N	25.5	25.5	25.5	25.5	30	30
H	34	34	34	34	44	44
h	15	15	15	15	18	18
G	M20	M20	M20	M20	M24	M24
Bolt DIN 912 12.9	M20 x 40	M20 x 40	M20 x 40	M20 x 40	M24 x 60	M24 x 60
Tighten torque Md max (Nm)	300	300	300	300	450	450

Adapters for BIG BORE chucks

ISO-A DIN 55026 mounting adapters



BB-N		400-140/470-191			500-205/500-230			600-275			630-310			800-410	
Spindle nose		A8	A11	A15	A11	A15	A20	A11	A15	A20	A11	A15	A20	A15	A20
Id. No.		24184020	24114020	24124020	24115030	24125020	24175020	24116020	24126020	24176020	24116320	24126320	24176320	24128020	24178020
A	mm	40	40	40	40	40	40	40	40	40	50	50	50	50	50
B	mm	139.719	196.869	285.775	196.869	285.775	412.775	196.869	285.775	412.775	196.869	285.775	412.775	285.775	412.775
C	mm	171.4	235	330.2	235	330.2	463.6	235	330.2	463.6	235	330.2	463.6	330.2	463.6

Bayonet and camlock flanges are available on request



For further jaws and accessories please ask for our 150 pages special catalogue!

BIG BORE® ES

INCH
serration

Front-end pneumatic power chucks Ø 140 - 560 mm

■ EXTRA LARGE THROUGH HOLE
■ 3 jaws - extended jaw stroke



Application/customer benefits

- End machining of long pipe with collars
- Rapid and clamping stroke for short clamping cycles
- Full spindle bore can be used

Technical features

- Air chuck for external clamping with built-in pneumatic cylinder
- Rapid and clamping stroke
- Air feed via distributor ring and SMW-profile seals, at stopped spindle
- Built in non-return valves maintain the air pressure during machining
- Clamping pressure level constantly checked by a safety control system (only for external clamping).
- Clamping stroke control (no clamping in rapid stroke) is monitored.

Standard equipment

3 jaw chuck
2 elbow unions G 1/2" (4 for BB-N 1000)
12 mounting bolts (9 for the BB-N ES 400)
1 lifting eye bolt
1 set T-nuts with bolts
1 set soft top jaws
without distributor ring bracket

Ordering example

BIG BORE BB-N ES 400/Z310

Accessories

Control unit AC-BB/AC-X
(see pages 238-241)

The principle invented by SMW: air supply via distributor ring and SMW-profile seal rings

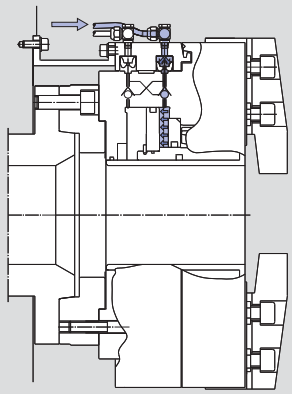


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber. When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

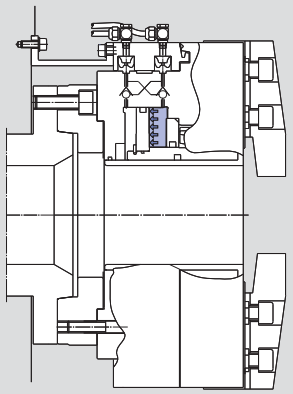


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore.
The clamping pressure is maintained by the twin non-return valve.
The chuck can start to rotate.

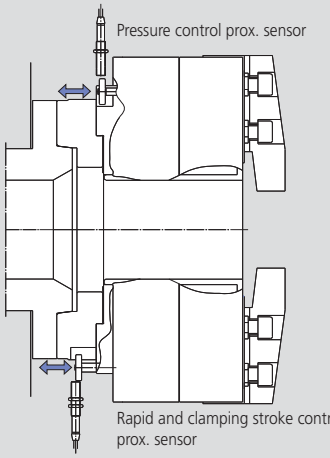
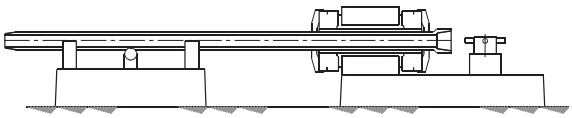
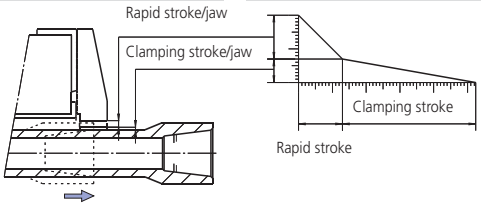


Fig. 3
Safety pressure control: if the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending an alarm signal.
Clamping stroke control: if the part is clamped during the rapid stroke, the proximity-switch sends an alarm signal.



End machining of pipe with front and rear chucks



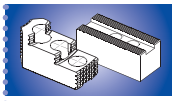
Technical data

SMW-AUTOBLOK BB-N ES Type		400-140	470-191	500-205	500-230	600-275	630-325	850-375	1000-560
Id. No.		052330	053536	052651	052652	052990	052653	052654	052655
Through-hole	mm	140	191	205	230	275	325	375	560
Total stroke per jaw	mm	20	20	25.4	25.4	25.4	25.4	25.4	25.4
Rapid stroke per jaw	mm	13	13	16.9	16.9	16.9	16.9	13.4	15
Clamping stroke per jaw*	mm	7	7	8.5	8.5	8.5	8.5	12	10.4
Operating pressure min./max.	bar	2/10	2/10	2/10	2/10	2/10	2/10	2/10	3/10
Piston area	cm^2	705	565	1004	895	954	1193	1340	1090
Gripping force at 6 bar	kN	130	115	190	170	185	200	200	170
Max. speed	r.p.m.	1300	1300	1300	1300	1100	900	750	450
Air consumption/jaw stroke at 6 bar	l	29	22	41	37	39	48	79	57
Weight (without top jaws)	kg	200	190	340	325	360	520	970	960
Moment of inertia	$kg.m^2$	6.5	9.83	16.4	16.1	19	36	105	160

*must not be used for clamping



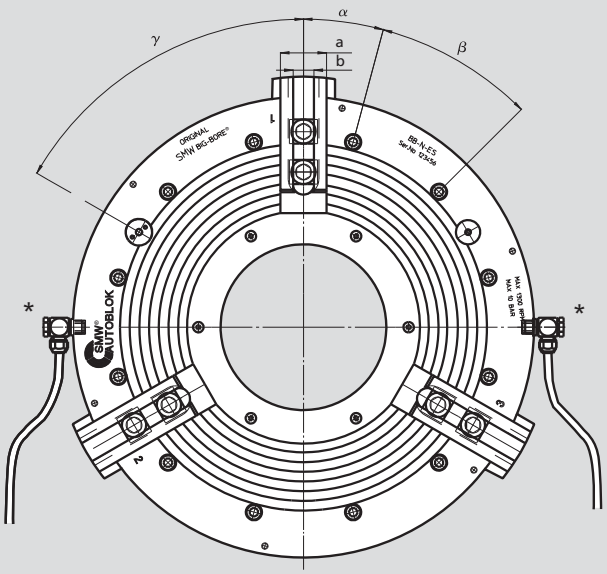
Page 229

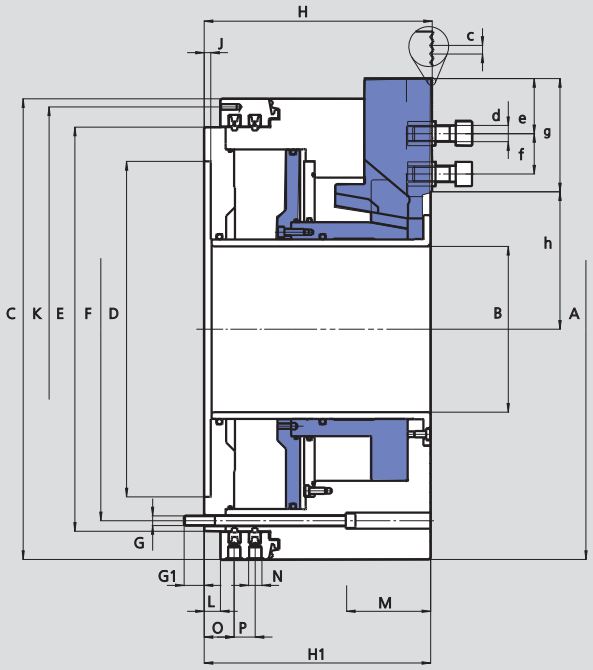


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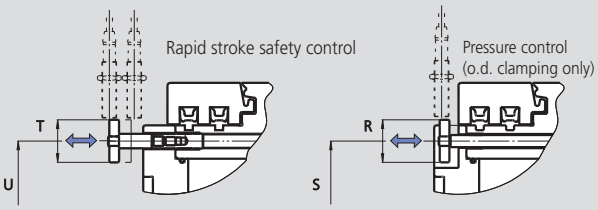
Main dimensions and technical data

Jaw position: Open for external clamping





* all hoses must be min. Ø 14 mm i.d.
BB-N ES 1000 needs 2 hoses per function open/close (see installation manual)



enlarged illustration

Subject to technical changes
For more detailed information please ask for customer drawing

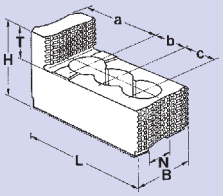
SMW-AUTOBLOK BB-N ES Type			400-140	470-191	500-205	500-230	600-275	630-325	850-375	1000-560
Id. No.			052330	053536	052651	052652	052990	052653	052654	052655
Mounting			Z310	Z310	Z415	Z415	Z450	Z510	Z700	Z700
	A	mm	467	470	570	570	605	685	850	1000
	B	mm	140	191	205	230	275	325	375	560
	C	mm	467	467	570	570	605	685	850	925
	D H6	mm	310	310	415	415	450	510	700	700
	E	mm	400	400	500	500	535	610	775	850
Fixing bolts circle	**F**	mm	374	374	474	474	508	580	745	815
	G	mm	M12	M12	M12	M12	M12	M16	M16	M16
	G1	mm	26	26	26	26	25	30	30	30
	H	mm	240	240	282	282	282	307.5	354	332
	H1	mm	238	238	280	280	280	305.5	352	330
	J	mm	8	8	8	8	8	8	8	10
Thread circle 6 x M8	**K**	mm	448	448	550	550	585	666	830	910
	L	mm	20	20	20	20	20	20	25	33
	M	mm	-	-	-	-	-	-	-	224
Pneumatic connection	**N**	inch	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
	O	mm	37	37	37	37	37	39.5	44.5	52.5
	P	mm	26	26	26	26	26	33	33	33
	R	mm	35	35	35	35	35	42	35	42
	S	mm	374	374	474	474	508	575	745	815
	T	mm	35	35	35	35	35	35	35	35
	U	mm	374	374	474	474	508	580	745	815
	a	mm	57	57	57	57	57	75	75	75
	b	mm	25.5	25.5	25.5	25.5	25.5	30	30	30
Serration	**c**	inch	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
Bolt DIN 912 12.9	**d**	mm	M20	M20	M20	M20	M20	M24	M24	M24
min.	**e**	mm	14	14	14	14	14	16	16	16
T-nuts distance min./max.	**f**	mm	38/90	38/85	38/104	38/92	38/79	47/100	47/140	47/125
Serration length	**g**	mm	121	106	140	127.5	116.5	138	182	166
min./max.	**h**	mm	104/124	127/147	145.6/171	158/182.5	179.1/204.5	204.6/230	242.6/268	334.6/360
	α°		20	20	15	15	15	15	15	15
	β°		9 x 40	9 x 40	12 x 30	12 x 30	12 x 30	12 x 30	12 x 30	12 x 30
(Pressure control)	**γ°**		83	83	60	60	60	60	60	60

BIG BORE® ES

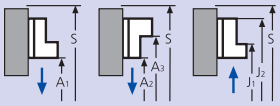
INCH
serration

- Top jaws
- T-nuts

GUB
Hard reversible top jaws

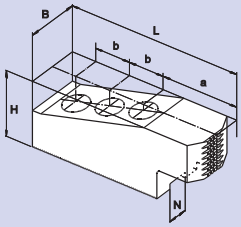


Gripping ranges

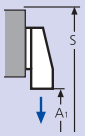


Chuck	BB-N ES 400-140	BB-N ES 470-191	BB-N ES 500-205	BB-N ES 500-230 BB-N ES 600-275	BB-N ES 630-325	BB-N ES 850-375	BB-N ES1000-560
Jaw type	MHB-D 500	GUB 500	GUB 500	GUB 500	GUB 630	GUB 800	GUB 800
Id. No.	12084546	12084546	12084546	12084546	12086446	12088046	12088046
B	60	60	60	60	75	75	75
H	75	75	75	75	85	85	85
L	140	140	140	140	160	220	220
T	2 x 19	2 x 19	2 x 19	2 x 19	30	30	30
N	25.5	25.5	25.5	25.5	30	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	46	46	46	46	30	51	51
b	38	38	38	38	50	62	62
c	38	38	38	38	50	62	62
kg/set	6.6	6.6	6.6	6.6	13.5	19.5	19.5
A1	78-264	113-270	175-388	200-388	295-500	320-610	470-760
A2	125-310	160-315	225-435	250-435	295-500	330-620	480-770
A3	310-495	345-500	410-620	435-620	495-700	590-865	745-1030
J1	-	-	-	-	-	-	-
J2	-	-	-	-	-	-	-
S	635	640	765	765	870	1070	1250

GAB
Hard top jaws

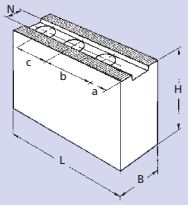


Gripping ranges

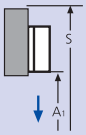


Chuck	BB-N ES 400-140	BB-N ES 470-191	BB-N ES 500-205	BB-N ES 500-230 BB-N ES 600-275	BB-N ES 630-325	BB-N ES 850-375	BB-N ES1000-560
Jaw type	GAB 500	GAB 500	GAB 500	GAB 500	GAB 630	GAB 800	GAB 800
Id. No.	12085146	12085146	12085146	12085146	12086546	12089046	12089046
B	55	55	55	55	75	75	75
H	73	73	73	73	82	82	82
L	195	195	195	195	245	320	320
N	25.5	25.5	25.5	25.5	30	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	96	96	96	96	113	165	165
b	38	38	38	38	50	60	60
c	38	38	38	38	50	60	60
kg/set	16.5	16.5	16.5	16.5	31.5	40.5	40.5
A1	25-160	60-165	75-290	100-290	130-335	95-385	245-535
S	635	640	765	765	870	1060	1210

WBSA-D/WBC-D
Soft top jaws



Gripping ranges



Chuck	BB-N ES 400-140	BB-N ES 470-191	BB-N ES 500-205	BB-N ES 500-230 BB-N ES 600-275	BB-N ES 630-325	BB-N ES 850-375	BB-N ES1000-560
Jaw type	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBC-D 630	WBC 800	WBC-D 800
Id. No.	12075050	12075050	12075050	12075050	12076440	12078040	12078040
B	60	60	60	60	80	80	80
H	60	60	60	60	80	80	80
L	170	170	170	170	240	320	320
N	25.5	25.5	25.5	25.5	30	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	69	69	69	69	110	165	165
b	38	38	38	38	50	60	60
kg/piece	38	38	38	38	50	60	60
	3.6	3.6	3.6	3.6	11	15	15
A1	35-220	70-225	130-335	155-335	135-340	95-385	245-535
S	590	595	720	720	865	1060	1210

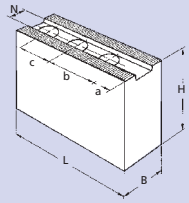


For further jaws and accessories please ask for our 150 pages special catalogue!

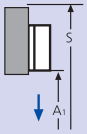
BIG BORE® ES

INCH serration

WBCL
Soft top jaws long version

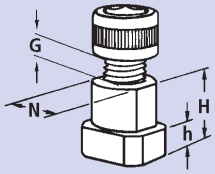


Gripping ranges



Chuck	BB-N ES 400-140	BB-N ES 470-191	BB-N ES 500-205	BB-N ES 500-230 BB-N ES 600-275	BB-N ES 630-325	BB-N ES 850-375	BB-N ES1000-560
Jaw type	WBC-D 502	WBC-D 502	WBC-D 502	WBC-D 502	WBC-D 800	WBCL-D 800	WBCL-D 800
Id. No.	12075140	12075140	12075140	12075140	12078040	12079040	12079040
B	60	60	60	60	80	80	80
H	60	60	60	60	80	80	80
L	205	205	205	205	320	390	390
N	25.5	25.5	25.5	25.5	30	30	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	104	104	104	104	165	230	230
b	38	38	38	38	60	60	60
c	38	38	38	38	60	60	60
kg	4.5	4.5	4.5	4.5	15	18	18
A_1	-	0-150	60-275	85-275	25-210	25-255	115-405
S	-	595	720	720	895	1070	1220

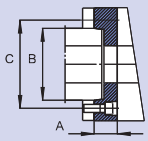
NST
T-nuts



Chuck	BB-N ES 400-140	BB-N ES 470-191	BB-N ES 500-205	BB-N ES 500-230 BB-N ES 600-275	BB-N ES 630-325	BB-N ES 850-375	BB-N ES1000-560
Jaw type	NST	NST	NST	NST	NST	NST	NST
Id. No.	12065020	12065020	12065020	12065020	13063900	13063900	13063900
N	25.5	25.5	25.5	25.5	30	30	30
H	34	34	34	34	44	44	44
h	15	15	15	15	18	18	18
G	M 20	M 20	M 20	M 20	M 24	M24	M 24
Bolt DIN 912 12.9	M20 x 40	M20 x 40	M20 x 40	M20 x 40	M24 x 60	M24 x 60w	M24 x 60
Tighten torque Md max (Nm)	300	300	300	300	450	450	450

Adapters for BIG BORE chucks

**ISO-A
DIN 55026
mounting
adapters**



BB-N ES	400-140/470-191			500-205/500-230			600-275			630-325			850-375		1000-560	
Spindle nose	A8	A11	A15	A11	A15	A20	A11	A15	A20	A11	A15	A20	A15	A20	A15	A20
Id. No.	24184020	24114020	24124020	24115030	24125020	24175020	24116020	24126020	24176020	24116320	24126320	24176320	24128020	24178020	on request	on request
A mm	40	40	40	40	40	40	40	40	40	50	50	50	50	50		
B mm	139.719	196.869	285.775	196.869	285.775	412.775	196.869	285.775	412.775	196.869	285.775	412.775	285.775	412.775	265.775	412.775
C mm	171.4	235	330.2	235	330.2	463.6	235	330.2	463.6	235	330.2	463.6	330.2	463.6	330.2	463.6

Bayonet and camlock flanges are available on request



For further jaws and accessories please ask for our 150 pages special catalogue!

BIG BORE®
BB-AZ-ES
INCH serration

Front-end pneumatic power chucks
Ø 220 - 370 mm
- EXTRA LARGE THROUGH HOLE
- self centering or compensating clamping
- chuck with rapid and clamping stroke

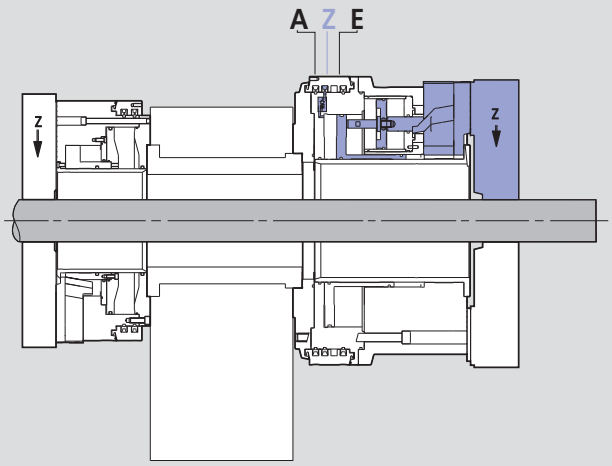


Application/customer benefits
- End machining of straight or bent pipe
- Tubes can be clamped self centering or with radial jaw compensation at bent pipe, using a retractable centering chuck
- Full spindle bore can be used

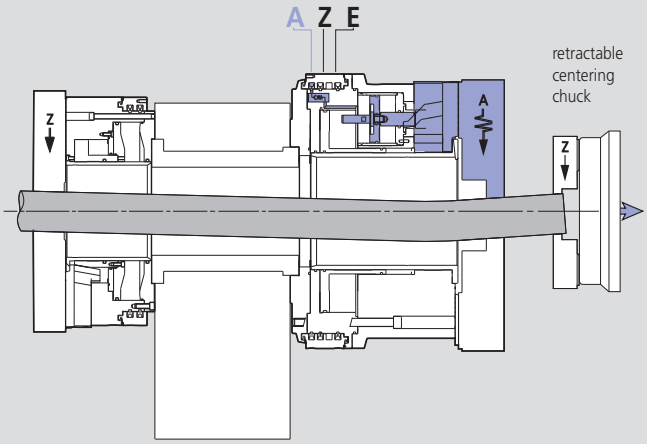
Technical features
- Air chuck with built-in pneumatic cylinders for self centering or compensating clamping mode
- Air feed for both functions via distributor ring and SMW-AUTOBLOK profile seales at stopped spindle
- Built-in non return valves maintain the air pressure during machining
- Rapid and clamping stroke
- For external clamping only

Standard equipment
Chuck with mounting bolts
1 set of T-nuts with bolts

Ordering example
Big Bore BB-AZ-ES 630-270-3 A15



Self centering clamping

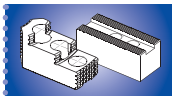


Compensating clamping

Technical data

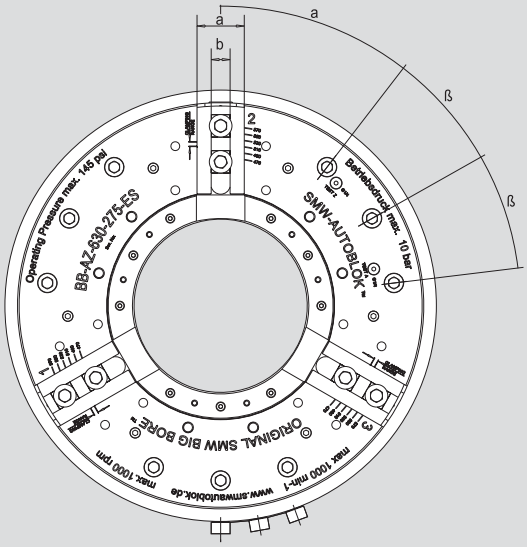
SMW-AUTOBLOK Type		BB-AZ-ES 590-220	BB-AZ-ES 630-275	BB-AZ-ES 750-370
Through-hole	mm	220	275	370
Total stroke per jaw	mm	25.4	25.4	25.4
Rapid stroke per jaw*	mm	16	16	16
Clamping stroke per jaw	mm	9.4	9.4	9.4
Operating pressure min./max.	bar	2	2	2
Piston area	cm^2	991	1333	1505
Gripping force at 6 bar self centering	kN	160	181	240
Gripping force at 6 bar compensating	kN	78	100	100
Max. speed	r.p.m.	1100	1000	750
Weight (without top jaws)	kg	548	704	900
Moment of inertia	$kg \cdot m^2$	25.3	44.2	78

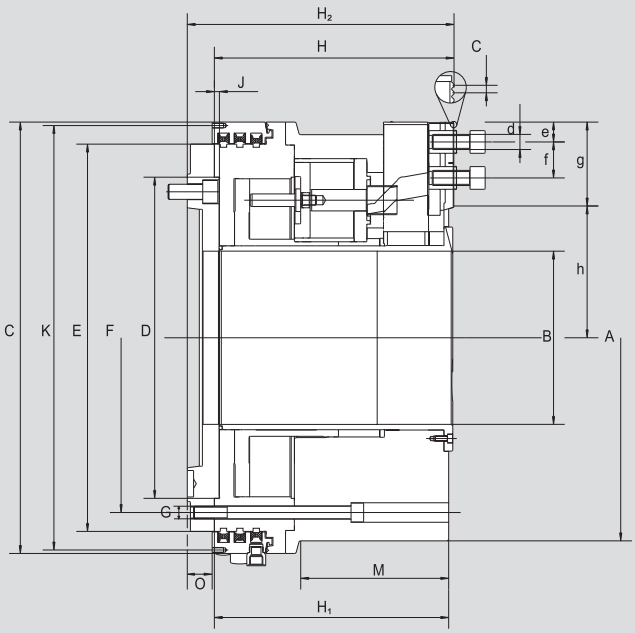
*must not be used for clamping



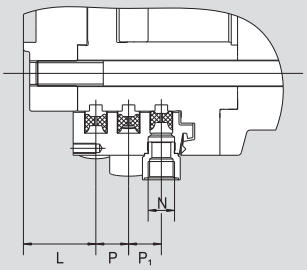
Page 207

BIG BORE®
BB-AZ-ES
INCH serration





All hoses must be
min. Ø 14 mm i.d.



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type				BB-AZ-ES 590-220	BB-AZ-ES 630-275		BB-AZ-ES 750-370
Id. No. A15 mounting Id. No. A20 mounting				053510	053883	053884	053892
Mounting				A15	A15	A20	A20
		A	mm	570	645		750
		B	mm	220	275		370
		C	mm	590	685		775
		D H6	mm	415	510		590
		E	mm	520	615		705
Fixing bolts circle		**F**	mm	468	555		640
		G	mm	M20	M20		M20
		H	mm	380.5	380.5		380.5
		H1	mm	372	372		372
		H2	mm	420.5	423.5		423.5
		J	mm	8	8		8
Thread circle 12 x M8		**K**	mm	555	674		755
		L	mm	54.5	57.5		57.5
		M	mm	235	235		235
Pneumatic connection		**N**	inch	G 3/4"	G 3/4"		G 3/4"
		O		33	39.5		36
		P	mm	26	26		26
		P1	mm	26	26		26
		a	mm	61	75		75
		b	mm	25.5	30		30
Serration		**c**	inch	3/32 x 90°	3/32 x 90°		3/32 x 90°
Bolt DIN 912 12.9		**d**	mm	M20	M24		M24
	min.	**e**	mm	21	25		25
T-nuts distance	min./max.	**f**	mm	30/97	36/98		36/98
Serration length		**g**	mm	126	135		135
	min./max.	**h**	mm	159.5/184.9	183.9/209.3		258.3/332.9
		α°	deg.	37.5	37.5		37.5
		β°	deg.	22.5	22.5		22.5

BIG BORE®
BB-FZA

Front-end pneumatic 6-jaw sequence chucks
Ø 275 - 378 mm

■ 3 integrated centering jaws and 3 compensating jaws



Application/customer benefits

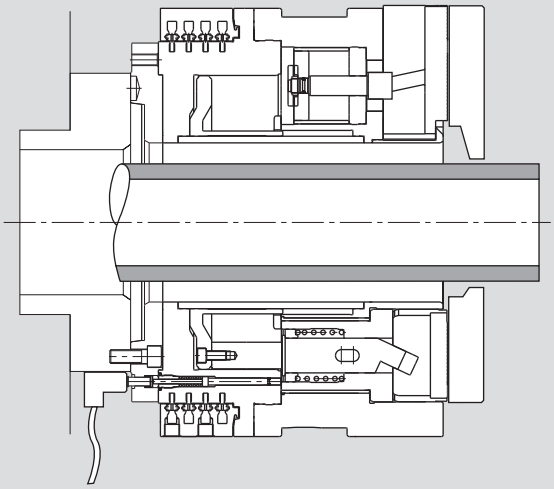
- High efficiency machining of bent or straight pipe
- Fast jaw movement for short cycle times = more pipe per hour
- Full spindle bore can be used

Technical features

- 3+3 jaw air chuck with 3 integrated centering jaws and 3 compensating jaws
- Integrated centering jaws move axially forward to center the tube exactly at the area to be threaded
- For external clamping only
- Fully automatic sequence is programmable

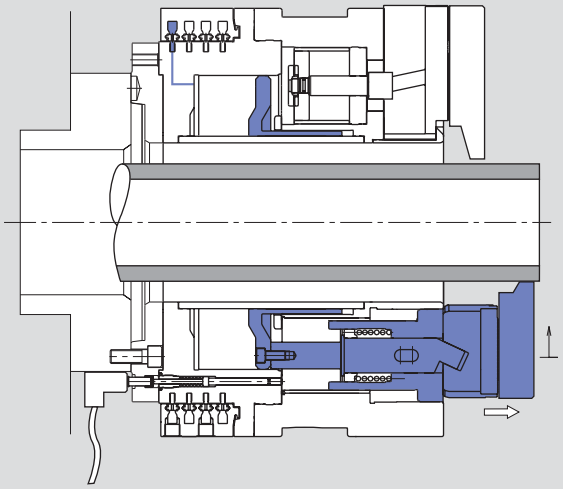
Machining of bent pipe with chuck with integrated centering jaws:

1



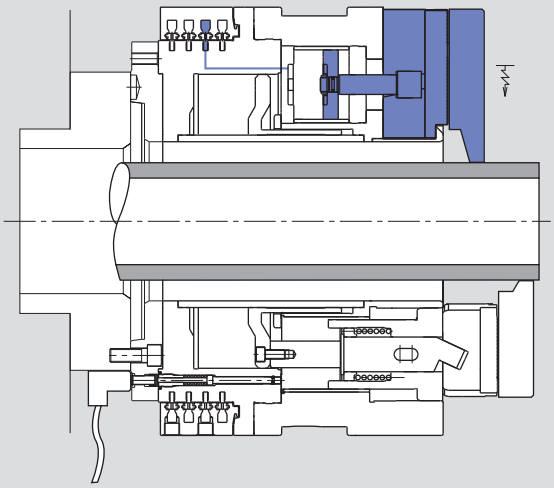
Chuck open, load pipe

2



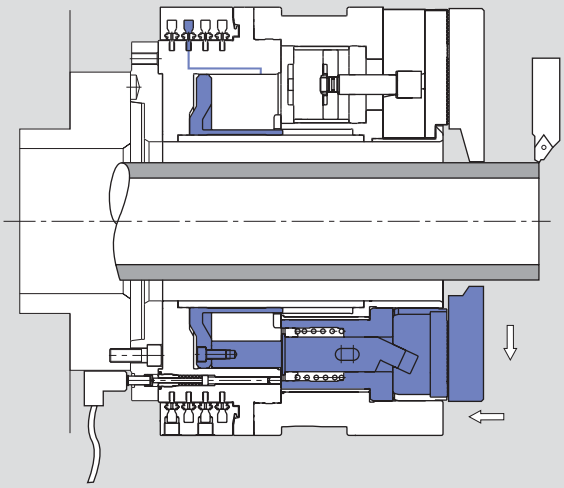
Centering jaws move forward axially to center the pipe at the threading area

3



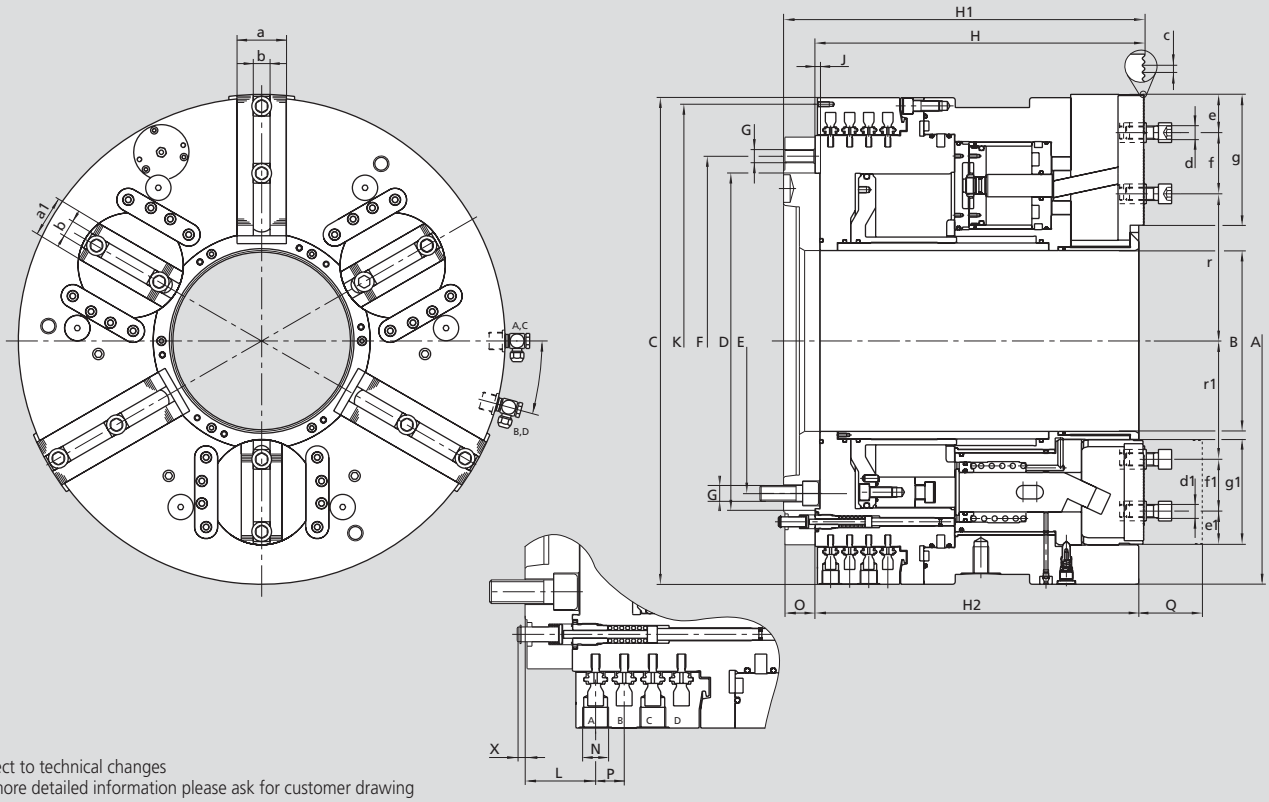
Compensating jaws pick up the pipe in the centered position

4



Centering jaws open and retract back axially into the chuck body. The pipe can now be machined.

Main dimensions and technical data



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			BB-FZA 740-275-A20	BB-FZA 920-378-A20
Id. No.			053675	053640
Chuck diameter	A	mm	740	920
Through hole	B	mm	275	378
	C	mm	740	920
	D	mm	510	550
	E	mm	463.6	463.6
	F	mm	562	724
	G	mm	M24	M24
	H	mm	500	540
Chuck height	H_1	mm	548	588
	H_2	mm	492	532
	J	mm	7	7
	K	mm	720/6xM8	890/6xM8
	L	mm	71.5	73.5
Connection for air hoses	N	inch	G 3/4"	G 3/4"
	O	mm	51.5	51.5
	P	mm	3x29	3x31
Centering jaws axial stroke	Q	mm	100	125
	a	mm	75	75
	a_1	mm	62	62
	b	H7	25.5	25.5
	c	inch	3/32" x 90°	3/32" x 90°
Jaw mounting bolts	d	mm	M20	M20
Jaw mounting bolts	d_1	mm	M20	M20
	e	min.	18	18
	e_1	min.	20	20
	f	max.	160	200
	f_1	max.	110	110
	g	mm	199	221
	g_1	mm	160	160
	r	min.	197	252
	r_1	min.	180	250
	α°	deg.	15	15
Speed max.		r.p.m.	850	600
Gripping force compensating jaws at 6 bar		kN	90	140
Gripping force centering jaws at 6 bar		kN	80	110
Jaw stroke compensating jaws		mm	14 = ±7	16 = ±8
Jaw stroke centering jaws		mm	9	12
Weight		kg	1000	1900
Operating pressure min./max.		bar	2/10	2/10

BIG BORE®
BB-SC
INCH serration

Front-end spring clamp power chucks
Ø 275 - 565 mm
■ EXTRA LARGE THROUGH HOLE
■ Clamping with spring packs
■ Rapid and clamping stroke



Application/customer benefits
- End machining of long pipe/self centering clamping
- Long jaw stroke to clear upset piping
- Highest productivity/open and clamp time < 3 sec.
- Low maintenance = high availability of the machine
- Step mode for partial opening/clamping for shimming
- Full availability of the spindle bore

Technical features
- Self centering clamping with either 9/6/3 spring packs
- Encapsulated spring packs
- Opening via integrated cylinder
- Permanent grease lubricated for constant grip force
- Step mode for opening/clamping for shimming
- Long jaw stroke with rapid and clamping stroke
- Low air consumption
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
Chuck with mounting bolts
1 set of soft top jaws
1 set of T-nuts and bolts

Ordering example
Big Bore SC 850-395
Id. No. 053350

Accessories
Air control AC-SC

The reliable principle: Clamping via encapsulated spring packs/opening via air cylinder

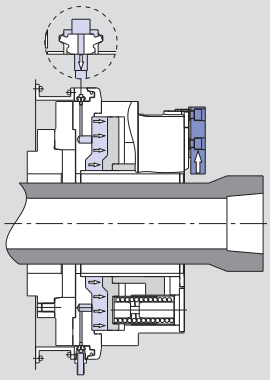


Fig. 1
Chuck open (only at stopped spindle).
The SMW profile seal collapses radial under the air pressure and seals against the chuck body. The cylinder chamber is filled.
The piston is compressing the springs, the jaws open.

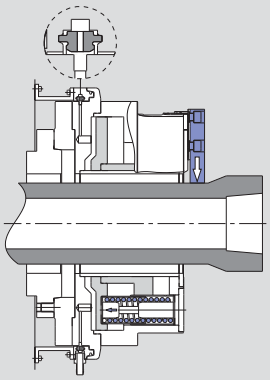


Fig. 2
Chuck clamped.
The SMW profile seal lifts off the chuck body due to elastic force. The springs expand and transmit their force onto the jaws via the wedge hook drive. The spindle can rotate.

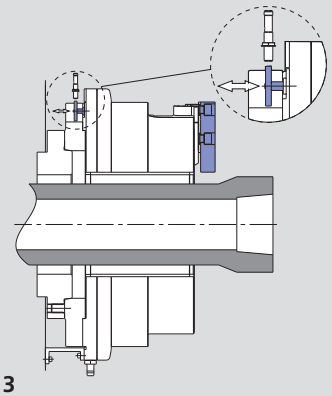
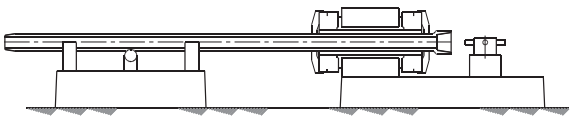
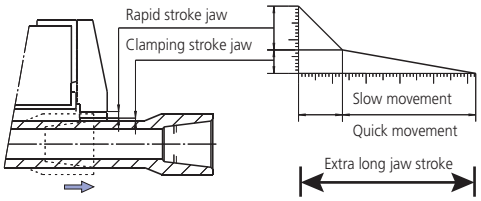


Fig. 3
Stroke control chuck open.
The position "chuck open" can be monitored via a mechanical cam by a proximity switch.



End machining of tubes with front and rear chucks

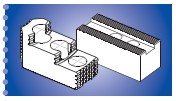


Technical data

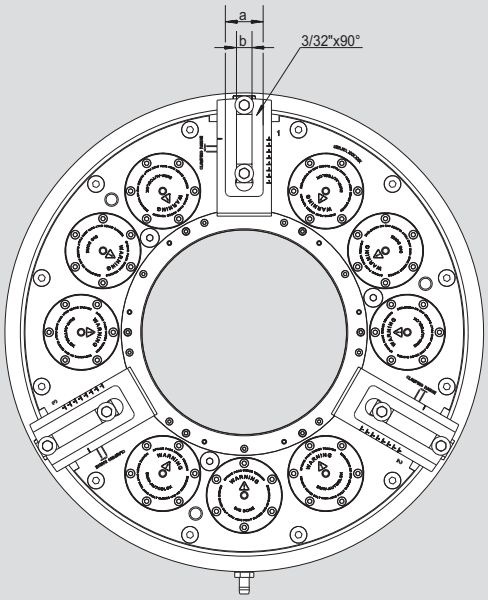
SMW-AUTOBLOK Type		BB-SC 600-275			BB-SC 850-395			BB-SC 1020-565		
Id. No.		053540			053350			053570		
Chuck trough hole	mm	275			395			565		
Total stroke per jaw	mm	25.4			27			27		
Rapid stroke per jaw*	mm	16.9			15			15		
Clamping stroke per jaw	mm	8.5			12			12		
Opening pressure at 9 springs	bar	5 bar			5 bar			5 bar		
Max. gripping force at 3/6/9 springs	kN	50	100	150	57	113	170	57	113	170
Max. speed	r.p.m	1000			700			420		
Air consumption to open at 5 bar (73 psi)	l	60			115			139		
Mass (without jaws)	kg	510			930			1260		
Moment of inertia	kg·m²	34			101			223		

*must not be used for clamping


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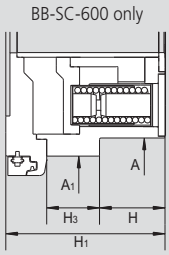

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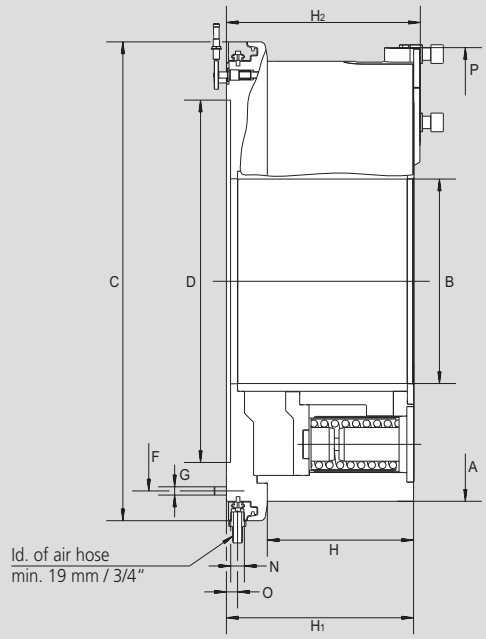
BIG BORE®
BB-SC
INCH serration



Opening pressure with all springs mounted
5 bar/73 psi, max. 8 bar / 116 psi

Subject to technical changes
For more detailed information please ask for customer drawing

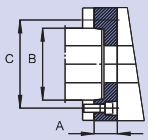




SMW-AUTOBLOK Type			BB-SC 600-275	BB-SC 850-395	BB-SC 1020-565
Mounting			**Z520**	**Z700**	**Z870**
	A	mm	605	850	1020
(BB-SC-600-275)	**A1**	mm	675	-	-
Through hole	**B**	mm	275	395	565
	C	mm	750	925	1095
	D H6	mm	520	700	870
	F	mm	640	810	980
	G		M12 (12x)	M16 (12x)	M16 (12x)
	H		126.7	282.5	282.5
	H1		307.5	361.5	361.5
	H2		320.5	374.5	374.5
(BB-SC-600-275)	**H3**		102	-	-
	N		G 3/4	G 3/4	G 3/4
	O		21.5	21.5	21.5
max. swing	**P**		655.8	902.8	1074
	a		58	73	73
	b		25.5	30	30
Rapid stroke		mm	16.9	15	15
Clamping stroke		mm	8.5	12	12
Total clamping stroke		mm	25.4	27	27

Spindle adapters

Mounting
ISO-A
DIN 55026



BB-SC	600-275			850-395			1020-565		
Spindle nose	**A11**	**A15**	**A20**	**A15**	**A20**		**A15**	**A20**	**A28**
Id. No.	on request	053590	053591	053362	053358		on request	053595	053596

9

CC

INCH serration

Stationary centering and dampening chuck, pneumatic Ø 240 + 350 mm

■ **with integrated dampener**



Application/customer benefits

- Axial positioning and centering of tubes when a BB-AZ chuck on the main spindle is used in compensating clamping mode
- Integrated hydraulic dampener with fixed and position for controlled decelaration and positioning of tubes
- Suitable for o.d. and i.d. centering

Technical features

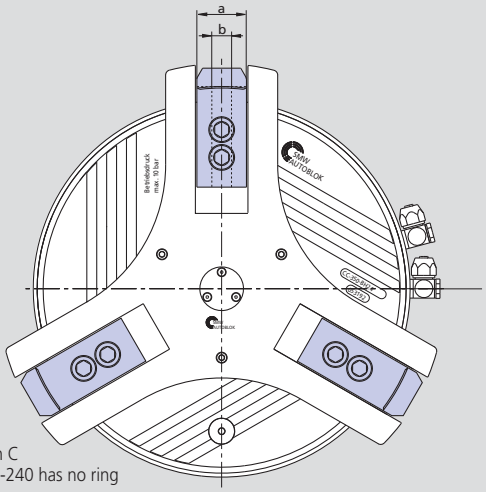
- Stationary pneumatic clamping unit with integrated dampener/endstop
- Operating pressure 2–10 bar (29–145 psi)
- Monitoring of endposition of the axial stop via prox. switch (prox. switch not included with the chuck)

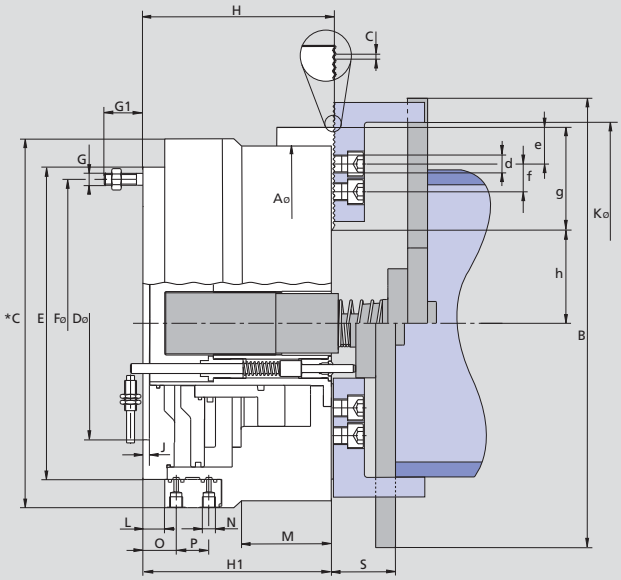
Standard equipment

3-jaw centering chuck
1 set of soft top jaws

Ordering example

Stationary centering chuck CC-350



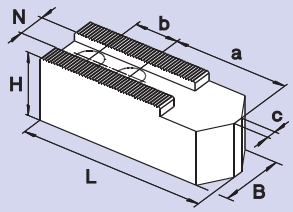


* Dimension C
Chuck CC-240 has no ring

Subject to technical changes
For more detailed information please ask for customer drawing

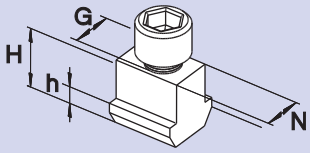
SMW-AUTOBLOK Type				CC 240 Z	CC 350 Z
Id. No.				**053290**	**053192**
		A	mm	240	360
		B	mm	306	446
		C	mm	250	372
		D H6	mm	195	235
		E	mm		315
		F	mm	223.8	290.5
		G/G1	mm	M12/39	M12/39
		H	mm	135.5	191.5
		H1	mm	134	190
		J	mm	6.5	6.5
Clamping Ø	max.	**K**	mm	245	365
		L	mm	–	21
		M	mm	49	92
Pneumatic connection		**N**	inch	G 1/4"	G 1/4"
	min./max.	**S**	mm	45/95	47/97
		a	mm	40	44
		o	mm	74	33
		p	mm	–	33
		b f7	mm	17	21
Serration		**c**	inch	1/16" x 90°	1/16" x 90°
Bolts DIN 912 12.9		**d**	mm	M12 x 30	M16 x 35
	min.	**e**	mm	9.5	12
T-nut distance	min./max.	**f**	mm	22/41.5	25/72
Length of serration		**g**	mm	59	95
	min./max.	**h**	mm	53/66	85/109
Stroke/jaw			mm	12.7	24
Pressure	min./max.		bar	2/10	2/10
Piston area			cm²	290	486
Air consumption/jaw stroke at 6 bar/liter			l	5.5	13.5
Mass (without top jaws)			kg	53	115

AWB-D
Soft top jaws



Chuck type	CC 240 Z	CC 350 Z
Jaw type	MWB-D 240	MWB-D 250
Jaw Id. No. (set)	233462	013491
B	40	50
H	80	80
L	90	120
N	17	21
Serration	1/16" x 90°	1/16" x 90°
a	20	62
b	22	28
kg/set	4.2	10.5

NST
T-nuts



Chuck type	CC 240 Z	CC 350 Z
T-nut type	NST 17-4	NST 21-5
T-nut Id. No.	013864	033429
N	17	21
H	26.5	30
h	9.5	11
G	M12	M16
Bolt DIN 912 12.9	M12 x 30	M16 x 35
Tighten torque	70	150



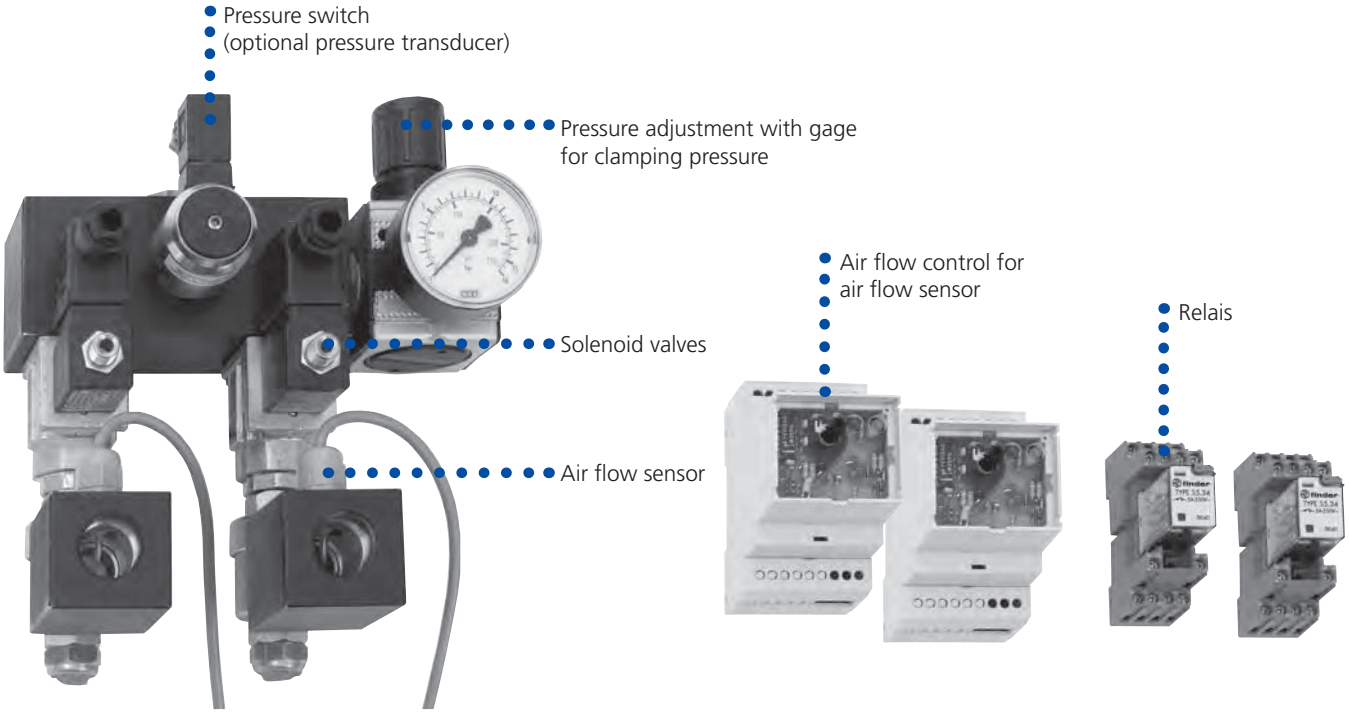
AC-BB

Control unit for SP and Big Bore chucks

- Electronic safety control unit
- for SP and Big Bore chucks
- without pressure control

Electropneumatic control unit for SP and Big Bore® chucks

- 1/2" or 3/4" design for SP and Big Bore chucks
- Actuation via foot pedal or push botton (not included in the supply range)
- Clamping control via air flow sensors
- Quick chuck actuation via diaphragm valves with quick exhaust
- Airflow control with LED for ready and air flow. Adjustable air flow sensor sensitivity.



SMW-AUTOBLOK Type	Voltage	Size	Id. No.
AC-BB	24 V	1/2"	192433
AC-BB	110 V	1/2"	192448
AC-BB	220 V	1/2"	192449
AC-BB	24 V	3/4"	200064
AC-BB	110 V	3/4"	200063
AC-BB	220 V	3/4"	200062

Standard equipment:

as shown, without hoses and fittings

Approx. dimensions (w x h x d)
180 x 210 x 140 mm

Accessories:

Foot pedal F2 with 4 m cable
Id. No. 013324



Push button with 5 m cable
Id. No. 192942

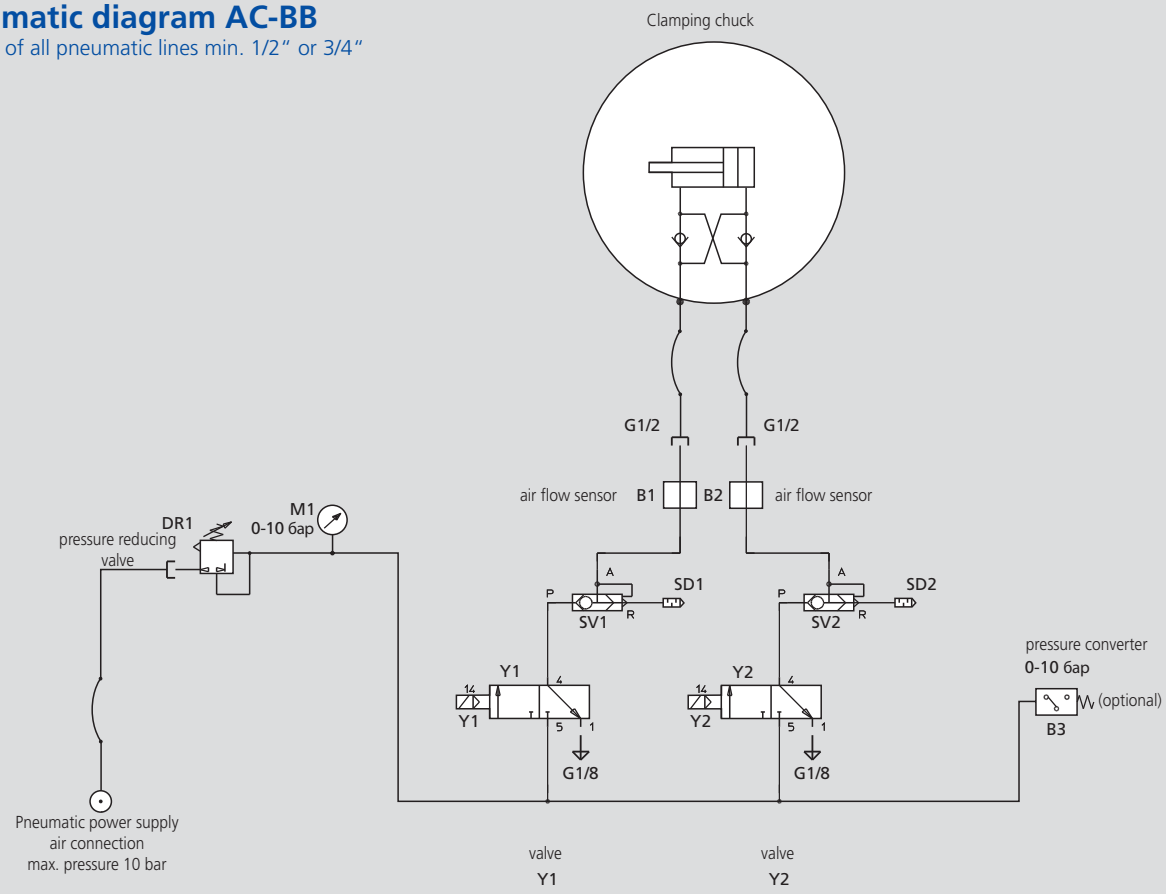


Air service unit
Id. No. 1/2" 192074,
Id. No. 3/4" 199790

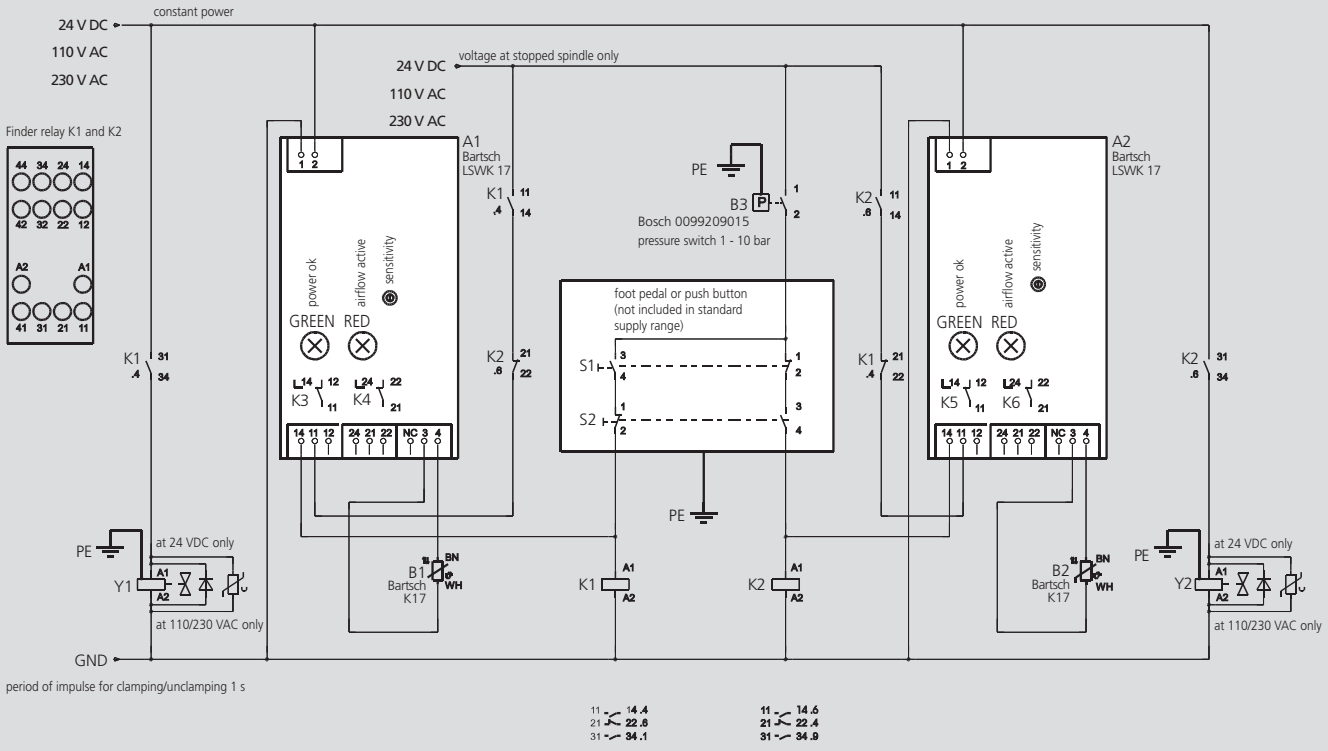


Pneumatic diagram AC-BB

⚠ Size of all pneumatic lines min. 1/2“ or 3/4“



Wiring diagram AC-BB



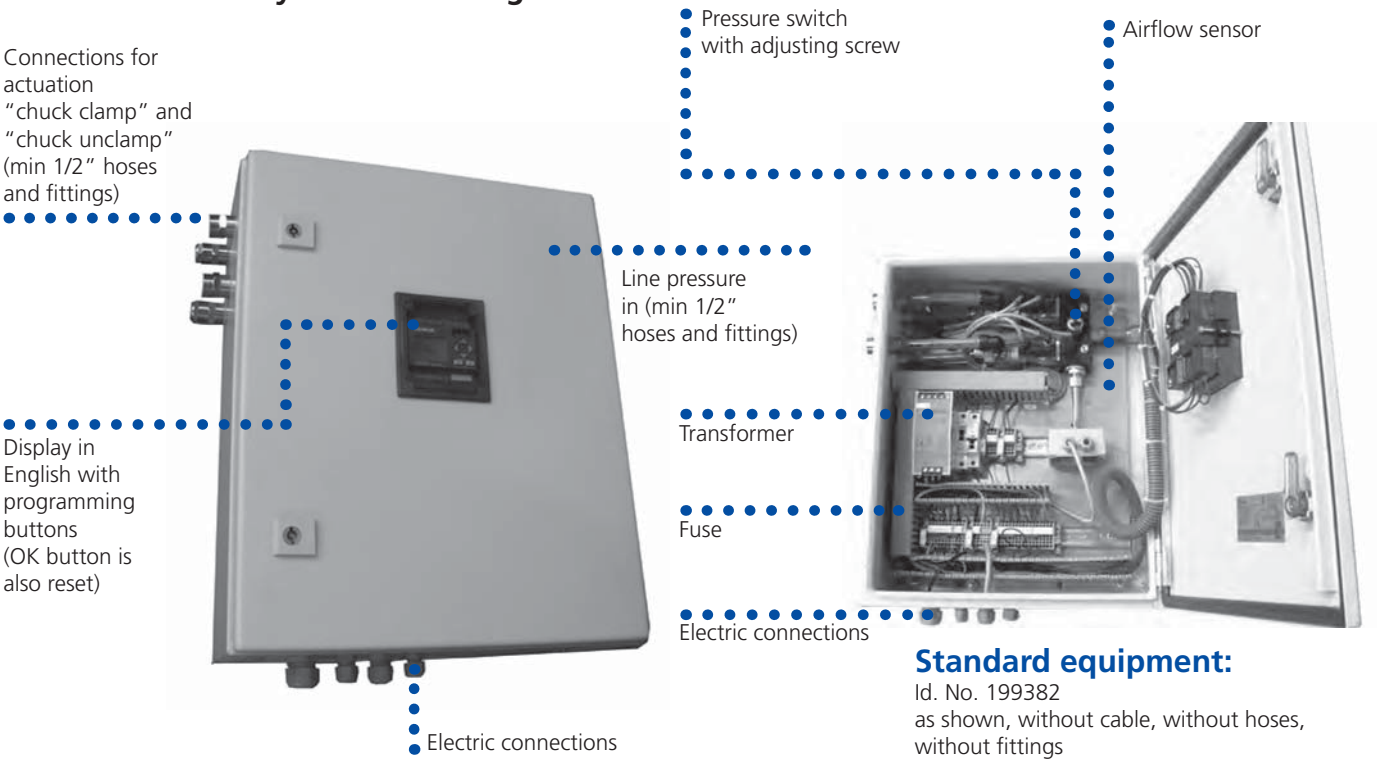
AC-X + Options

Control unit
for pneumatic chucks

- Electronic safety control unit
- for Big Bore chucks

Universal, electronic micro-processor compact control unit for Big Bore chucks in 1/2" design

- All safety systems integrated
- Easy installation - no other devices needed
- Can be connected to all common voltages
- LCD display in English
- Quick chuck actuation by 1/2" pneumatic parts
- To be actuated by an external signal



Standard equipment:

Id. No. 199382
as shown, without cable, without hoses, without fittings

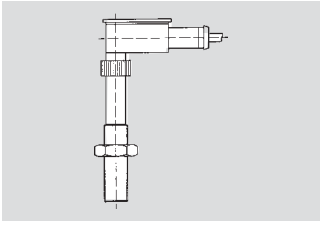
Approx. dimensions (w x h x d)
300 x 420 x 210 mm

Accessories:

Foot pedal F2
with 4 m cable
Id. No. 013324



Proximity switch for pressure and rapid stroke control signals
on request



Air service unit 1/2"
Id. No.199790



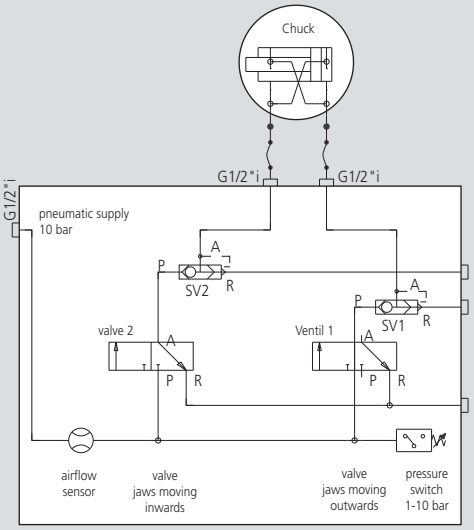
Options:

Pressure control for chuck o.d. clamping	199464	Pressure control of the chuck chamber via proximity switch, contact for monitoring, self diagnostic of proximity switch (for o.d. clamping only).
Rapid stroke control (for BB-N ES only)	199465	Control of rapid/clamping stroke via proximity switch, contact for monitoring, self diagnostic of proximity switch.

AC-X + Options

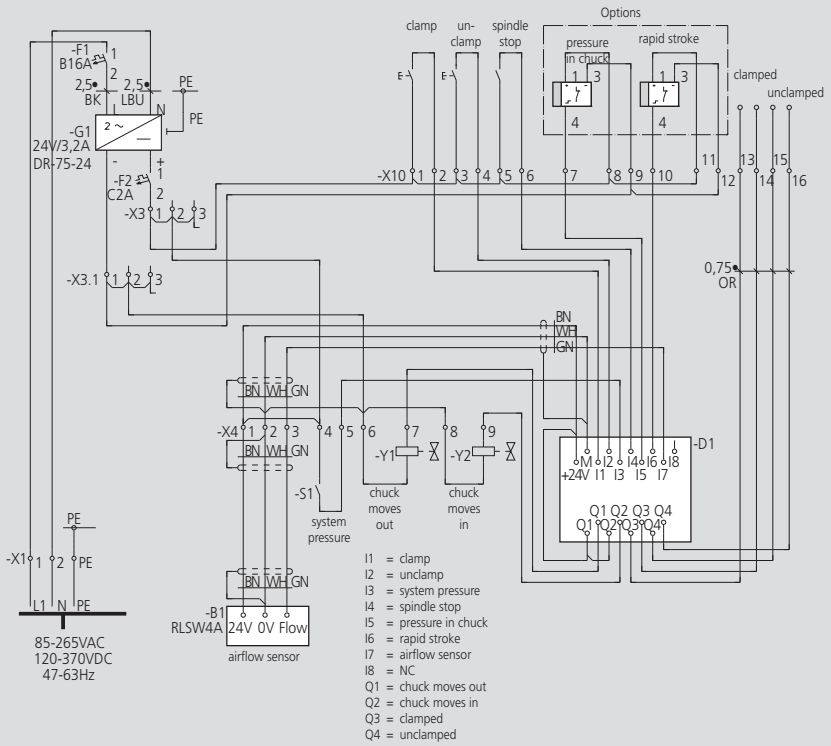
Control unit for pneumatic chucks

Pneumatic diagram AC-X

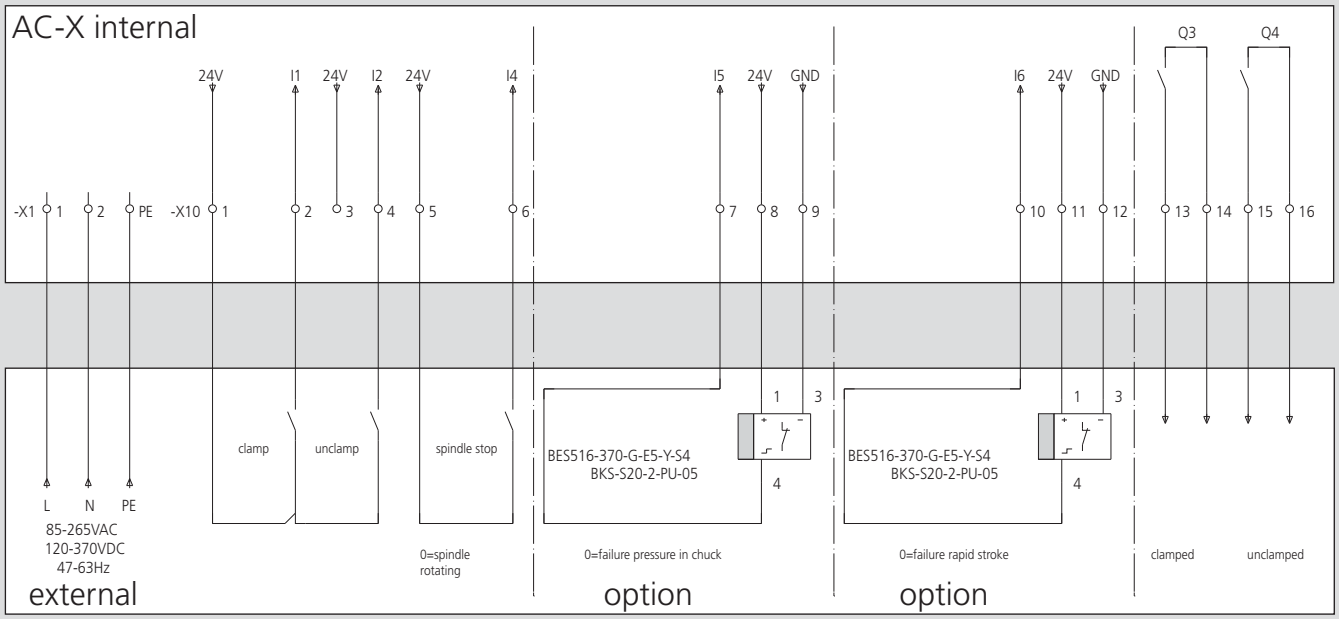


All hoses must be min. Ø 14 mm i.d.

Electric connection AC-X



Electric diagram AC-X



SF-RAZ

2 Position hydraulic ring indexing chuck

- 3 self centering and 3 compensating jaws
- large evacuation windows for easy chip flow
- fully automatic and controlled indexing
- hydraulic actuation



Application/customer benefits

- Machining of couplings in one set up
- Indexing 180° in 2 seconds
- 6 jaw clamping for perfect roundness of the coupling = ideal for premium threads
- Hi-low clamping (roughing-finishing)

Technical features

- Hydraulic, automatic ring indexing chuck
- All functions controlled by proximity switches
- Extremly accurate and rigid indexing mechanisme
- For external clamping only
- Automatic central lubrication

Standard equipment

Chuck with mounting bolts

Ordering example

SF-RAZ 950-3+3 A 20

Accessories

Hydraulic manifold including electric manifold, hose kit

Machining of a coupling in 1 set up:

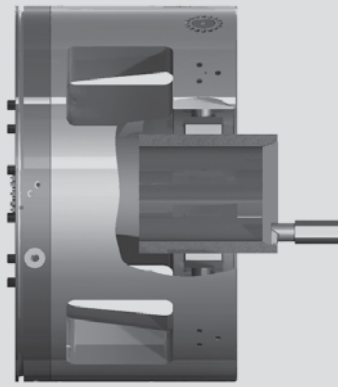


Fig. 1
Clamping the coupling on the outside diameter with 6 jaws (3 self centering and 3 compensating jaws) and machining the thread on side 1.

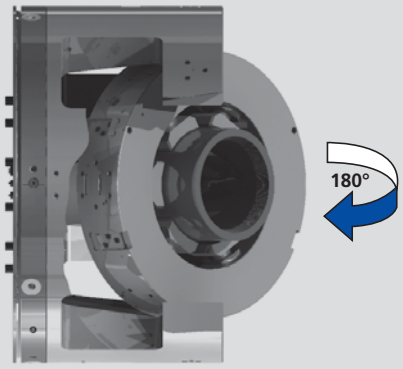


Fig. 2
Indexing the chuck 180° with the coupling remaining clamped.

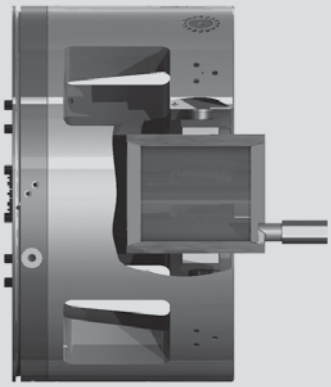


Fig. 3
After indexing 180° machining the thread on side 2.

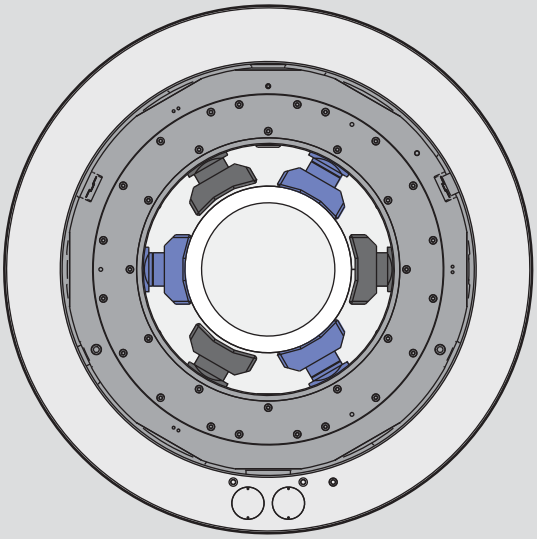


Fig. 4
3 self centering jaws center and clamp the coupling.

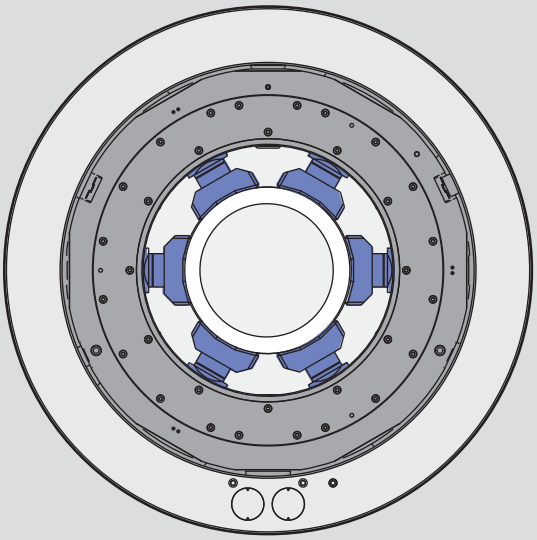
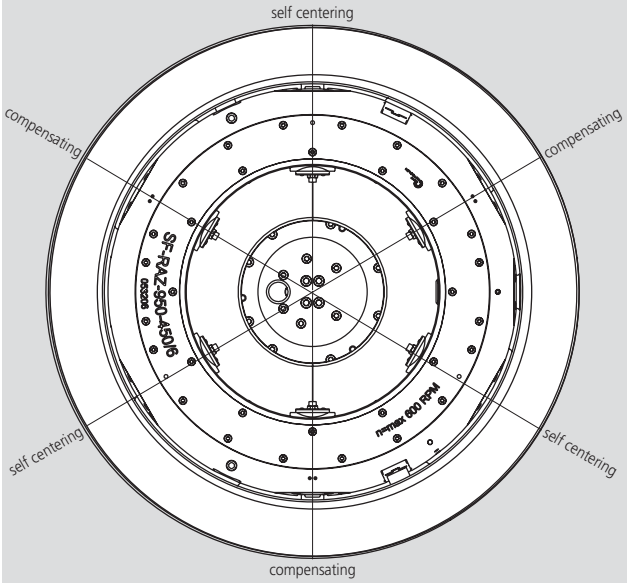
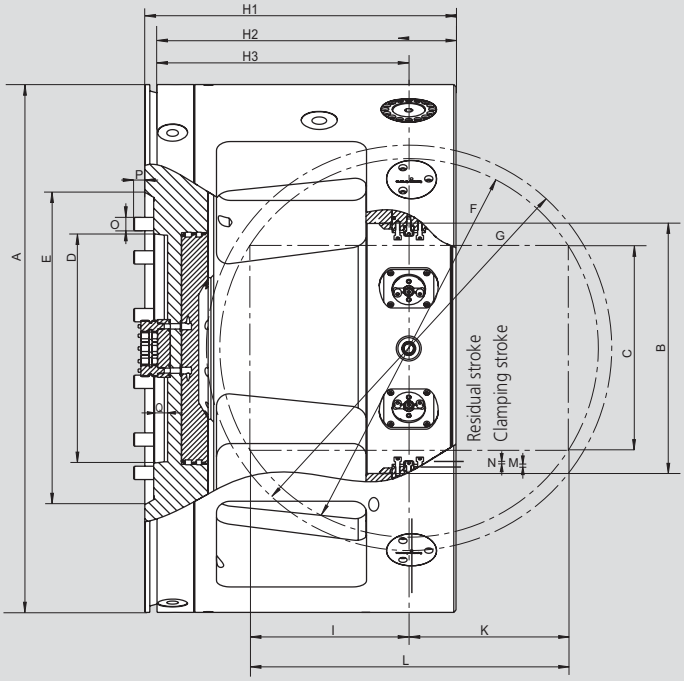


Fig. 5
When the coupling is centered and clamped, 3 compensating jaws clamp the coupling additionally to distribute the total clamping force onto 6 jaws = less deformation of the coupling/perfect roundness of thread.

Main dimensions and technical data

Data sheet shows no jaw dimensions and radial covers for switches and adjustments
Data sheet shows only general dimensions!

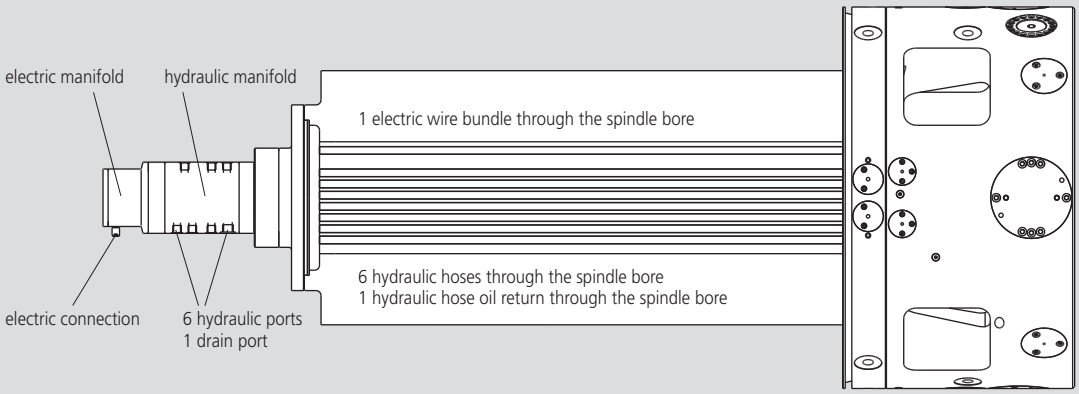




Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			SF-RAZ 750	SF-RAZ 840	SF-RAZ 950	SF-RAZ 1050
Id. No.			053090	053097	053206	053900
Chuck o.d.	A	mm	750	840	950	1050
Indexing ring i.d.	B	mm	250	340	450	550
Max. workpiece o.d.	C	mm	185	275	368	468
Spindle mounting	D		A15	A15	A20	A20
Recess for spindle o.d.	E	mm	435	435	562	562
Max. swing workpiece	F	mm	480	570	680	780
Swing indexing ring	G	mm	526	618	728	828
	H_1	mm	456	501	560	610
	H_2	mm	440	485	544	594
	H_3	mm	355	400	459	509
	I	mm	221.5	250	286	312
	K	mm	221.5	250	286	312
Max. length of workpiece	L	mm	443	500	572	624
Clamping at rec. clamping stroke	M	mm	5.5	5.5	5.5	5.5
Recom. residual stroke	N	mm	4.5	4.5	4.5	4.5
Total jaw stroke	S	mm	10	10	10	10
Mounting bolts	O	mm	M24	M24	M24	M24
	P	mm	37	37	36	36
Max. speed		r.p.m.	800	700	600	530
Max. pressure		bar	70	70	70	70
Max. grip force		kN	250	250	250	250
Mass		kg	1018	1290	1650	2155

Installation of SF-RAZ with hydraulic manifold, electric manifold and hose kit:
(All these accessories must be ordered separately)



HYND-S

INCH
serration

Hydraulic front end chuck Ø 180 - 400 mm

- **oil feed through spindle wall**
- **3 and 4 jaws**



Application/customer benefits

- Machining of bars/shafts
- Complete spindle bore can be used

HYND-S: Master jaws with INCH serration (1/16"x 90°)

Technical features

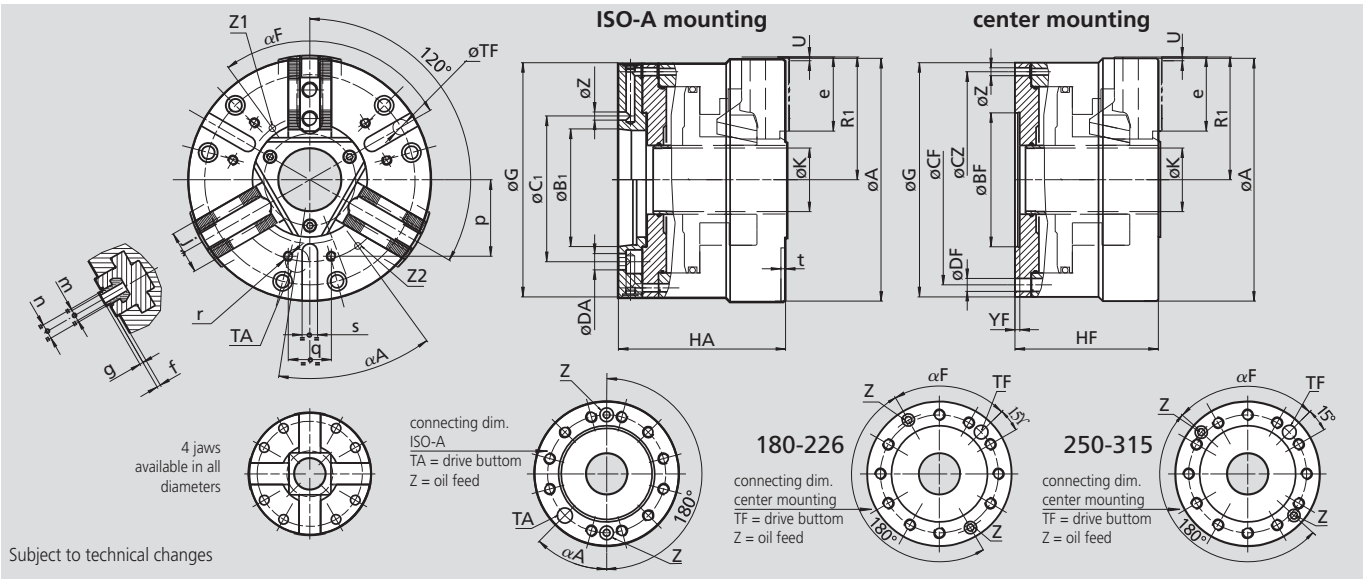
- Power chuck with big through hole, wedge hook design
- Built in cylinder with safty valves
- Chuck body case hardened
- Special mounting dimensions on request

Standard equipment

3 or 4 jaw chuck
1 set T-nuts with bolts
1 set of top jaws
Mounting bolts
Grease gun

Ordering example

3 jaw chuck HYND-S 210-53-3 A06
or
4 jaw chuck HYND-S 250-66-4 Z140



Subject to technical changes

Technical data

SMW-AUTOBLOK Type		HYND-S 180	HYND-S 210	HYND-S 226	HYND-S 250	HYND-S 315
Max. pressure	bar	20	25	22	25	22
Max. gripping force	kN	72	115	115	135	160
Max. speed	r.p.m.	5000	4200	4200	3600	3100
Moment of inertia	kg·m²	0.09	0.18	0.22	0.40	0.85
Mass (without top jaws)	kg	20	31	34	48	70

Dimensions

Type	A mm	G mm	K mm	R1 open mm	U stroke mm	Z mm	e mm	f mm	g mm	j mm	m mm	n mm	p mm	q mm	r mm	s mm	t mm
HYND-S 180	180	180	53	90.5	3.5	7	49.5	5	2.5	30	M10	14	-	-	-	-	-
HYND-S 210	212	212	53	108	3.5	7	66	4	2.5	36	M12	17	80	28	M8	16	5
HYND-S 226	226	226	65	116	3.5	7	66	4	2.5	36	M12	17	90	36	M8	16	5
HYND-S 250	254	245	66	128.5	4	8.5	77.5	4	3.5	45	M16	21	80	45	M10	16	5
HYND-S 315	315	305	102	160.5	4.5	8.5	93	4	3.5	45	M16	21	100	60	M10	20	5

Dimensions of chucks with center mounting

Type	BF H6 mm	CF mm	CZ mm	DF mm	HF mm	YF mm	TF mm	αF deg.	Mass kg
HYND-S 180	140	163	165	9	119	6	8	45°	17
HYND-S 210	110	190	190	11	126	5	12	75°	27
HYND-S 226	140	206	206	11	129	5	12	75°	30
HYND-S 250	140	220	226	13.5	150	5	16	96°	42
HYND-S 315	140	262	280	17	160	5	16	96°	60

Dimensions of chucks with ISO-A mounting

Type	BA J4 mm	CA mm	DA mm	HA mm	αA deg.
HYND-S 180 A5	82.563	104.8	11.5	137	45°
HYND-S 180 A6	106.375	133.4	13.5	140	45°
HYND-S 210 A5	82.563	104.8	11.5	146	45°
HYND-S 210 A6	106.375	133.4	13.5	146	45°
HYND-S 226 A6	106.375	133.4	13.5	149	45°
HYND-S 250 A6	106.375	133.4	13.5	175	45°
HYND-S 250 A8	139.719	171.4	17	175	45°
HYND-S 315 A8	139.719	171.4	17	185	45°
HYND-S 315 A11	196.869	235	21	185	45°

Hydraulic front end chuck Ø 500 - 800 mm

- oil feed through spindle wall
- 3 jaws

HYD-S Standard stroke INCH serration

HYDL-S LONG STROKE INCH serration

HYDLL-S EXTRA LONG STROKE INCH serration



Application/customer benefits

- Machining of bars/shafts
- Complete spindle bore can be used

HYD-S: standard stroke INCH serration 3/32"x 90°
HYDL-S: long stroke INCH serration 3/32"x 90°
HYDLL-S: extra long stroke INCH serration 3/32"x 90° (only diameter 550 and 630)

Technical features

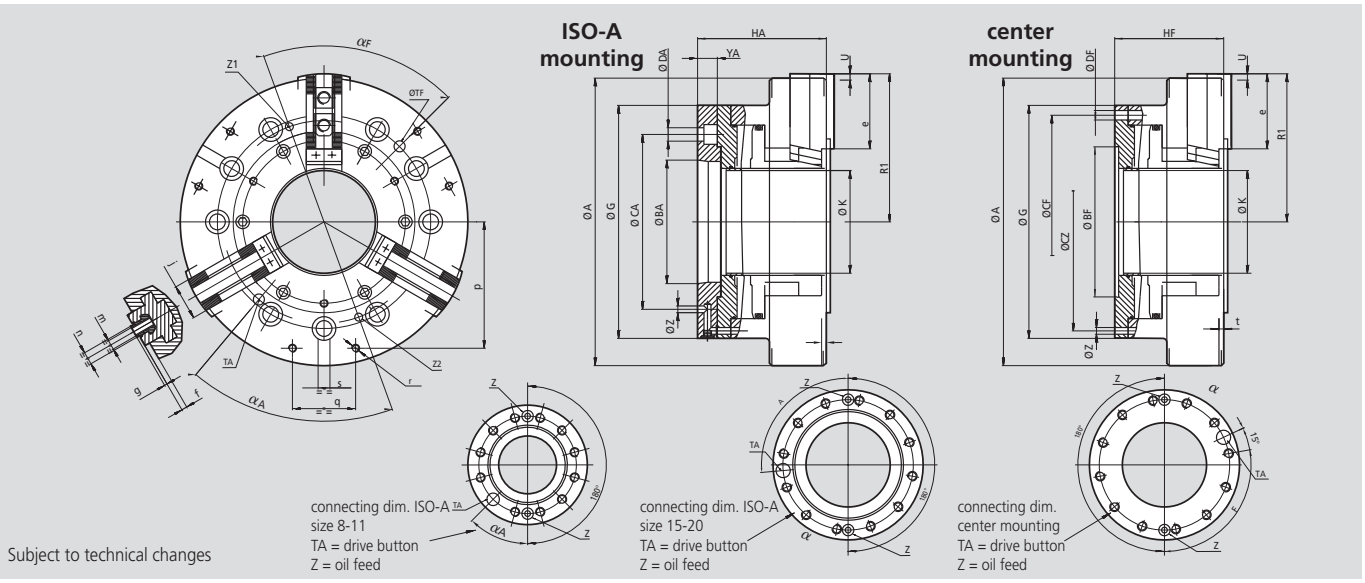
- Power chuck with big through hole, wedge hook design
- Built in cylinder with safty valves
- Chuck body case hardened
- Special mounting dimensions on request

Standard equipment

3 jaw chuck
1 set T-nuts with bolts
1 set of top jaws
Mounting bolts
Grease gun

Ordering example

3 jaw chuck HYDL-S 500 A11
3 jaw chuck HYDLL-S 630 A15



Subject to technical changes

Technical data

SMW-AUTOBLOK Type		HYD-S 400	HYD-S 500	HYDL-S 500	HYDL-S 550	HYDL-S 630	HYDL-S 800	HYDLL-S 550	HYDLL-S 630
Radial jaw stroke	mm	5.5	7.5	11	11.5	13.5	13.5	16	19.5
Max. pressure	bar	25	25	30	25	20	25	30	25
Max. gripping force	kN	210	180	150	200	250	250	150	190
Max. speed	r.p.m.	2500	1600	1600	1400	1300	1000	1400	1300
Moment of inertia	kg·m²	1.9	5.1	5.1	9	16	48	9	16
Mass (without top jaws)	kg	105	160	160	220	310	580	220	310

Dimensions type HYDL-S

Type	A mm	G mm	K mm	R_1 open mm	U stroke mm	e mm	f mm	g mm	j mm	m mm	n mm	Z mm
HYDL-S 400	400	335	130	202	5.5	116	5	3.5	62	M20	25.5	10
HYDL-S 500	500	400	180	256	11	116	9	3.5	62	M20	25.5	10
HYDL-S 550	550	480	232	283	11.5	116	9	3.5	62	M20	25.5	10
HYDL-S 630	630	540	260	323	13.5	140	9	3.5	62	M20	25.5	10
HYDL-S 800	800	540	250	405	13.5	165	9	3.5	75	M20	25.5	12

HYD-S + HYDLL-S

Type	R_1 open mm	U stroke mm
HYD-S 500	254	7.5
HYDLL-S 550	286	16
HYDLL-S 630	327	19.5

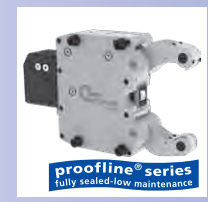
Dimensions of chucks with center mounting

All types Size	B_F H6 mm	C_F mm	C_Z mm	D_F mm	H_F mm	Y_F mm	T_F mm	α_F deg.
Ø 400	200	280	235	17	190	5	20	65°
Ø 500	300	350	330.2	17	185	6	20	65°
Ø 550	380	420	430	21	198	6	24	65°
Ø 630	380	463.6	463.6	27	210	6	24	65°
Ø 800	380	463.6	463.6	27	220	6	24	65°

Dimensions of chucks with ISO-A mounting

All types Size	B_A J4 mm	C_A mm	D_A mm	H_A mm	α_A deg.	Z_A mm
Ø 400 A8	139.719	171.4	17	220	45°	10
Ø 400 A11	196.869	235	21	220	45°	10
Ø 500 A11	196.869	235	21	220	45°	10
Ø A15	285.775	330.2	25	225	85°	12
Ø A15	285.775	330.2	25	235	85°	12
Ø 630 A15	285.775	330.2	25	250	85°	12
Ø 630 A20	412.775	463.6	27	230	85°	12
Ø 800 A20	412.775	463.6	27	240	85°	12

Self-centering steady rests



Page 248

SLU-X®
Self-centering steady rest
Standard line

- Fully sealed body
- Monitoring steady rest open via proximity switch
- Special sizes on request

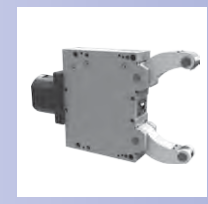


Page 253

SLU-B
Self-centering steady rest
Standard line

Extra compact with side mounted cylinder

- Monitoring open/closed via proximity switch
- Special sizes on request

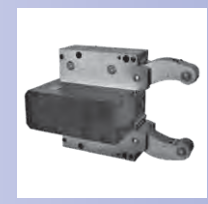


Page 254

SLUA®
Self-centering steady rest
Standard line

Additional pivoting upper arm for automatic vertical loading

- Monitoring open/closed via proximity switch
- Special sizes on request



Page 255

SLUA®-B
Self-centering steady rest
Standard line

Extra compact with side mounted cylinder and additional pivoting upper arm for automatic vertical loading

- Monitoring open/closed via proximity switch
- Special sizes on request



Page 258

SR®
Self-centering steady rest
Premium line

- Fully sealed body
- Integrated coolant/air flush
- Diameter measuring system or monitoring open via proximity switches
- Special sizes on request



Page 260

SRA
Self-centering steady rest
Premium line

Additional pivoting upper arm for automatic vertical loading

- Fully sealed body
- Integrated coolant/air flush
- Diameter measuring system or monitoring open via proximity switches



Page 262

K
Self-centering steady rest
Premium line

- Compact design
- Sealed body
- Integrated coolant/air flush
- Diameter measuring system or monitoring open via proximity switches
- Special sizes on request



Page 264

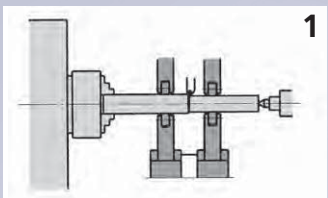
KLU
Self-centering steady rest
Premium line

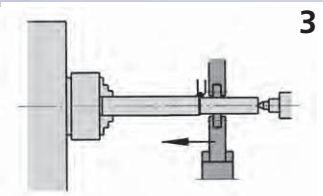
- Narrow arms for crankshafts
- Sealed body
- Integrated coolant/air flush
- Diameter measuring system or monitoring open via proximity switches
- Special sizes on request

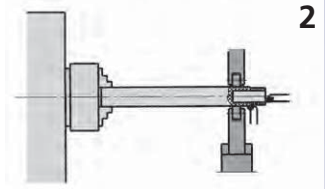
SMW-AUTOBLOK worldwide leader in steady rests



Fixed or travelling application



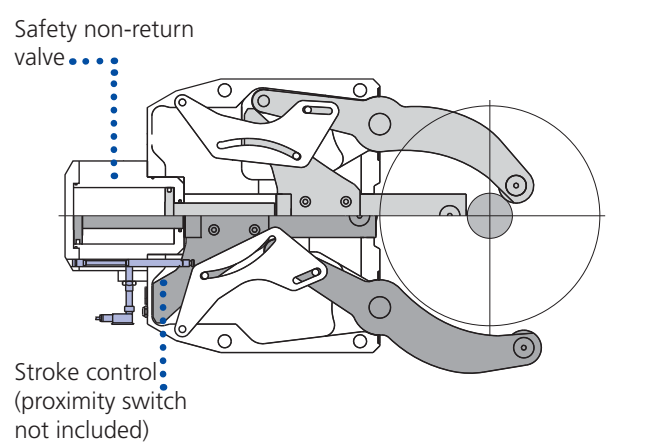




1. Tandem steady rest fixed
2. Steady rest fixed for end machining
3. Steady rest travelling

SLU-X/SLUA/SLU-B Standard line includes:

- fully sealed body (SLU-X only)
- safety valve
- stroke control (without proximity switch)
- port for compressed air
- central lubrication grease, oil or oil + air
- swarf guard

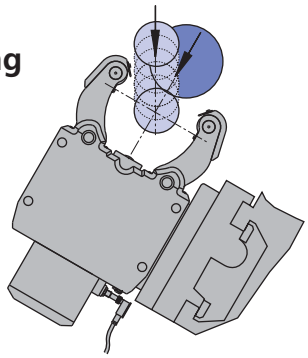


SR/K/KLU Premium line includes:

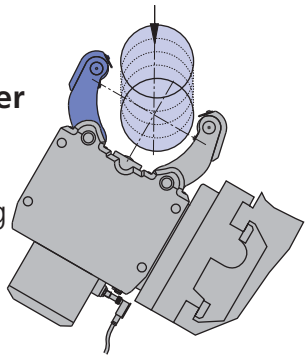
- fully sealed body
- safety valve
- stroke control (without proximity switch)
- port for compressed air
- central lubrication grease, oil or oil + air
- integrated channels for coolant/air flush
- coolant/air chipguard to flush away chips/ swarf
- coolant through the center arm (SR-4 and larger only)

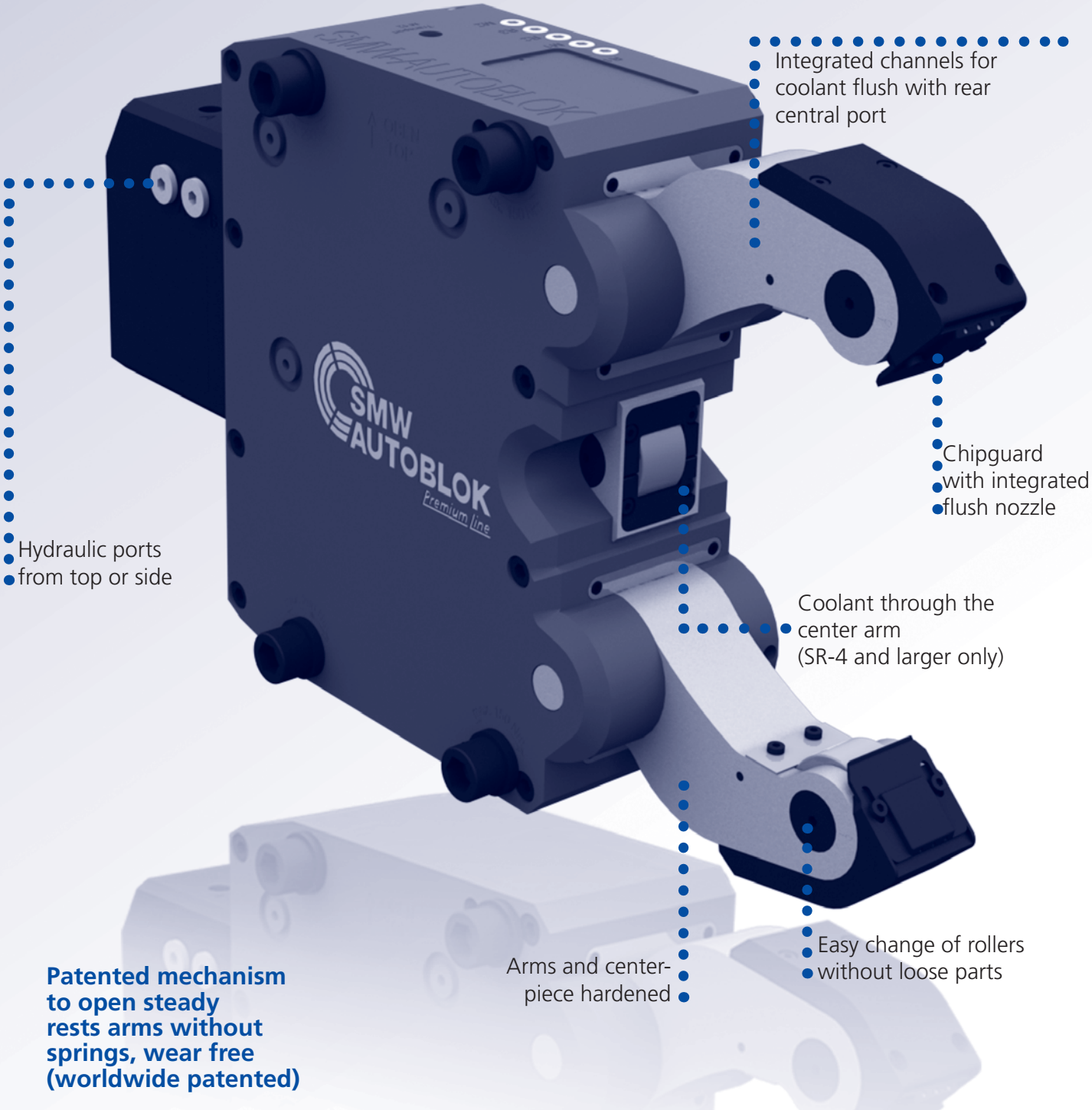
SLU-X® / SR® / K / KLU

SLU-X/K/KLU
large clamping range



SLUA/SRA
additional pivoting upper arm
for automatic vertical loading (worldwide patented)





Integrated channels for coolant flush with rear central port

Chipguard with integrated flush nozzle

Hydraulic ports from top or side

Coolant through the center arm (SR-4 and larger only)

Arms and center-piece hardened

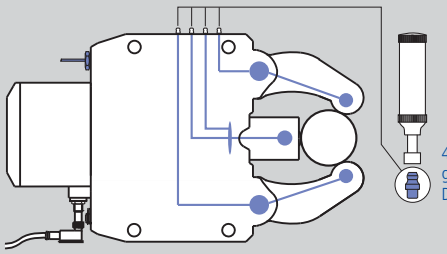
Easy change of rollers without loose parts

Patented mechanism to open steady rests arms without springs, wear free (worldwide patented)

Option of manual lubrication

- Low cost solution for medium working conditions and low build up of swarf.
- The lubrication points and rollers are supplied with lubrication grease via the grease nipples and the grease gun.
- Lubrication intervals depending on the working conditions normally every 4 to 8 operating hours.
- Grease: KPE 2R-20 DIN 51502

Manual lubrication

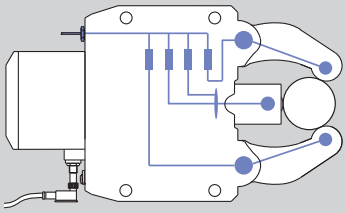


Option of central oil lubrication

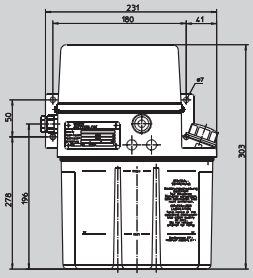
- For heavy working conditions and high build up of swarf
- For travelling steady rest applications.
- The use of our separate complete lubrication unit with timer control is recommended.
- Lubricating intervals 2 - 5 min
- Min./max. operating pressure 10 to 45 bar.
- Oil: HLP 46 DIN 51502.

Central lubrication

Centralized lubrication G 1/8"



Lubrication unit oil
Id. No. 088707

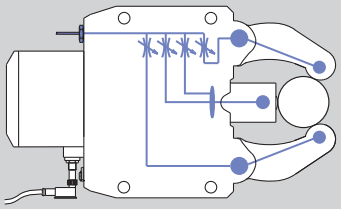


Option of central lubrication oil + air

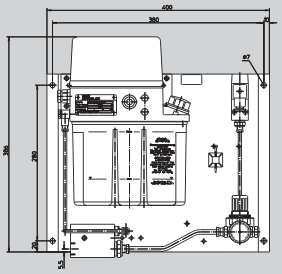
- For heaviest cutting conditions with high built up of swarf, dust or coolant.
- The SMW-AUTOBLOK oil + air unit for lubrication with built-in timer control is mandatory.
- This unit injects oil for lubrication into the air hose in adjustable intervals (2.....12 min.).
- The permanent air flow (min. 3 bar) feeds the oil to the rollers and keeps them clean.
- Oil: HLP 46 DIN 51502.

Oil + air lubrication

Centralized lubrication G 1/8"



Lubrication unit oil + air
Id. No. 088708



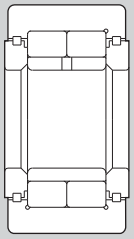
Option of rollers

- SMW-AUTOBLOK rollers (precision class P05) specially developed for our steady rests.
- Special sealing ensures highest precision and service life.
- Standard equipment: 1 set of cylindrical rollers.
- Option: Spherical rollers for travelling steady rests.

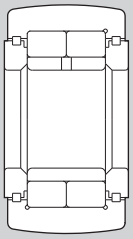
Original SMW-Autoblok roller



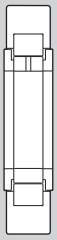
cylindrical



spherical



narrow



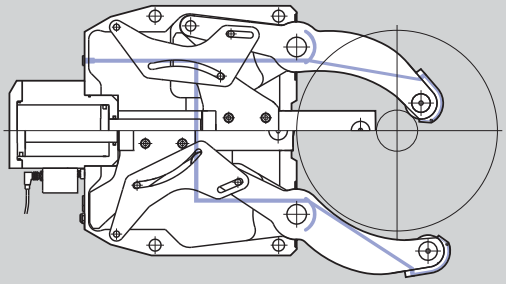
Option fine adjustment of center line

- Eccentric roller pins on the two steady rest arms allow a quick fine adjustment of the center line.
- This avoids to unlock and adjust the entire steady rest on the bracket for small adjusting movements.

Eccentric fine adjustment



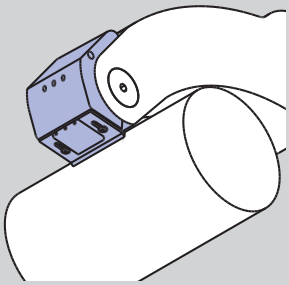
Coolant/air feed



Coolant/air feed (SR/K/KLU only)

- Built-in channels to feed coolant or air from a central connecting port to the steady rest arms.

Chipguard coolant/air



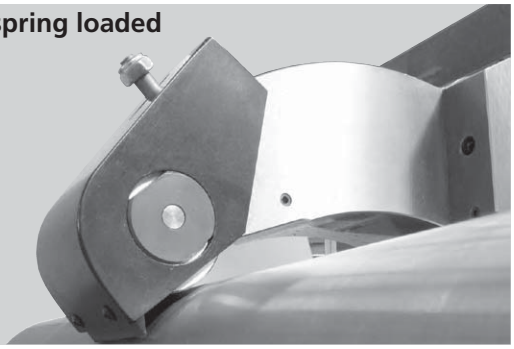
Patented coolant/air chipguard with integrated flush nozzles (SR/K/KLU only)

- Keeps roller clamping area free from chips
- The patented double flush nozzles keep front and rear of the wiper area clean.

Benefit:

- Constant centering accuracy
- No damage of workpiece and rollers caused by chips/swarf
- Less roller consumption = less costs

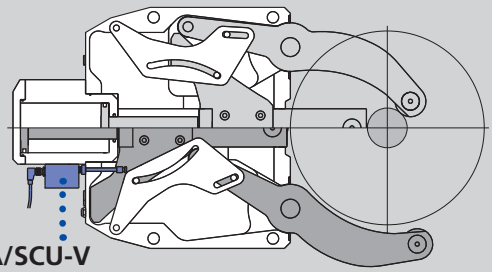
Chipguard spring loaded



Option spring loaded chipguard (SLU only)

- Spring loaded, self adjusting chipguard to wipe away chips/swarf mechanically

SCU-A/SCU-V diameter measuring system

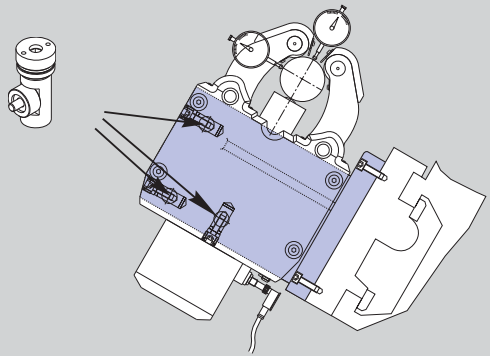


SCU-A/SCU-V

Option linear diameter measuring system SCU-A/SCU-V

- The position of the clamping arms is monitored by the linear measuring system SCU-A/SCU-V.
- Avoids collision with workpieces, turret, loader etc.
- Reduced cycle time due to position controlled opening of the arms to the requested opening only.
- SCU-A: In: 24 V Out: 4 – 20 mA
  SCU-V: In: 24 V Out: 0 – 10 V

Steady rest bracket with adjustment device



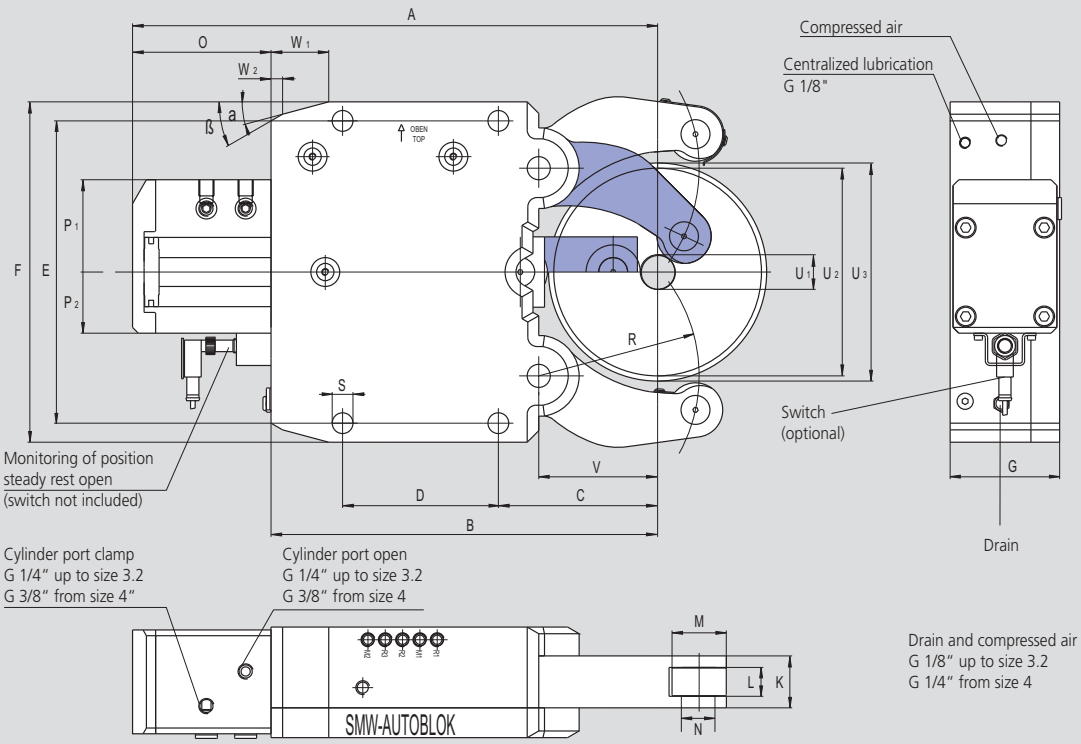
Steady rest bracket

- A perfect bracket is very important for the function/precision of the steady rest.
- Fast and easy adjustment can be done with the SMW-AUTOBLOK adjustment device integrated into the bracket.
- SMW-AUTOBLOK supplies the correct bracket for all applications as a turnkey solution.

SLU-X

Self-centering steady rests
Standard line

- **Sealed body**
- **Stroke control for end position open (switch not included)**



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type Size		SLU-X 1	SLU-X 2	SLU-X 3	SLU-X 3.1	SLU-X 3.2	SLU-X 4	SLU-X 5	SLU-X 5.1
Centering range without chip guard	**U1**	**6**	**8**	**12**	**20**	**50**	**30**	**45**	**85**
	U2	**70**	**101**	**152**	**165**	**200**	**245**	**310**	**350**
Max. axial clearing dia.	**U3**	**75**	**106**	**164**	**172**	**202**	**253**	**318**	**352**
Centering range with chip guard 3-piece	**U1**	**11**	**16**	**16**	**20**	**50**	**30**	**45**	**85**
	U2	**64**	**101**	**152**	**165**	**200**	**245**	**310**	**350**
	A	214.5	277	428	436	455	603	697	717
	B	149	195	312	320	335	448	510	530
	C	52	70	115	123	138	146	178	198
	D	66	85	135	135	135	240	270	270
	E	140	170	262	262	262	365	400	400
	F	160	195	295	295	295	405	440	440
	G	63	75	95	95	95	110	145	145
	K	28	35	45	45	45	60	75	75
Roller width	L	15	19	25	25	25	25	29	29
Roller diameter	M	24	35	47	47	47	52	62	62
	N	8	15	20	20	20	25	30	30
	O	65.5	82	116	116	120	155	187	187
	P1	53	63	85	85	85	91	97	97
	P2	29	40	53	53	53	61	63	63
	R	55	74	119	124	139	172	209	229
	S	11	14	18	18	18	23	23	23
	V	37	51	85	93	103	128	160	180
	W1	20	30	50	50	50	58	62	62
	W2	5	11.2	10	10	10	18.3	19.1	19.1
	α	15°	15°	15°	15°	15°	15°	18°	18°
	β	45°	30°	30°	30°	30°	40°	40°	40°
Piston area*	cm²	7	19.6	38.5	38.5	38.5	63.6	78.5	78.5
Operation pressure min./max.	bar	6/70	8/70	8/80	8/80	8/80	8/70	8/80	8/80
Max. clamping force/roller	daN	165	450	1000	1000	1000	1500	2000	2000
Centering accuracy within the whole range	mm	0.02	0.02	0.04	0.04	0.04	0.05	0.06	0.06
Repeatability accuracy	mm	0.005	0.005	0.007	0.007	0.007	0.007	0.01	0.01
Max. roller surface speed	m/min	800	800	725	725	725	715	600	600
Mass approx.	kg	8	14	48	57	59	117	174	178

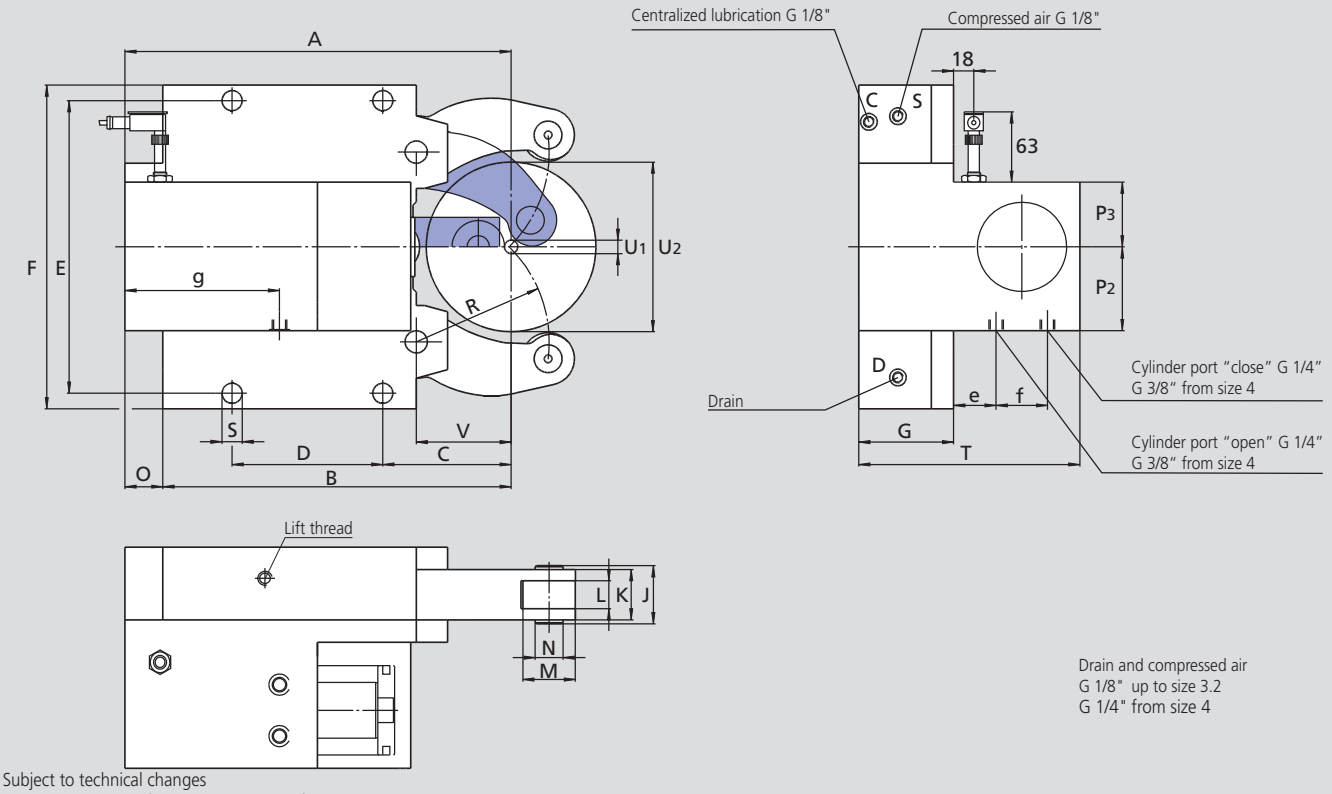
* On request cylinder differing from standard available
Subject to technical changes!

Extra compact with side mounted cylinder

SLU-B

- Monitoring open/closed via proximity switch
- Special sizes on request

Self-centering steady rests
Standard line



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type Size		SLU-B 3	SLU-B 3.1	SLU-B 3.2	SLU-B 4	SLU-B 5	SLU-B 5.1	SLU-B 6
Centering range without chip guard	**U_1**	**12**	**20**	**50**	**35**	**50**	**90**	**125**
	U_2	**152**	**165**	**200**	**245**	**310**	**350**	**460**
Centering range with chip guard 3-piece	U_1	21	20	50	35	50	90	125
	U_2	150	165	200	245	310	350	460
	A	346	354	372.5	480	612.5	632.5	800
	B	312	320	335	448	510	530	709
	C	115	123	138	146	178	198	215
	D	135	135	135	240	270	270	330
	E	262	262	262	365	400	400	610/640
	F	290	290	290	400	440	440	680
	G	85	85	85	110	145	145	145
	J	52	52	52	67	83	83	83
	K	45	45	45	60	75	75	75
Roller width	L	25	25	25	25	29	29	29
Roller diameter	M	47	47	47	52	62	62	80
Collar diameter	N	25	25	25	32	36	36	42
	O	34	34	37.5	32	102.5	102.5	91
	P_2	75	75	75	68	85	85	100
	P_3	58	58	58	68	85	85	85
	R	119	124	139	172	209	229	290
	S	18	18	18	23	23	23	27
	T	198	198	198	243.5	325	325	350
	V	85	93	103	128	160	180	175
	e	38	38	38	38.5	79.5	79.5	74.5
	f	46	46	46	66	66	66	96
	g	138.5	138.5	138.5	190	261	215	334.5
Piston area*	cm^2	50	50	50	78	78	78	132
Operation pressure min./max.	bar	8/60	8/60	8/60	8/60	8/80	8/80	8/70
Max. clamping force/roller	daN	1000	1000	1000	1500	2000	2000	3000
Centering accuracy within the whole range	mm	0.04	0.04	0.04	0.05	0.06	0.06	0.06
Repeatability accuracy	mm	0.007	0.007	0.007	0.007	0.01	0.01	0.01
Max. roller surface speed	m/min.	725	725	725	715	600	600	560
Mass approx.	kg	45	46	48	106	175	178	483

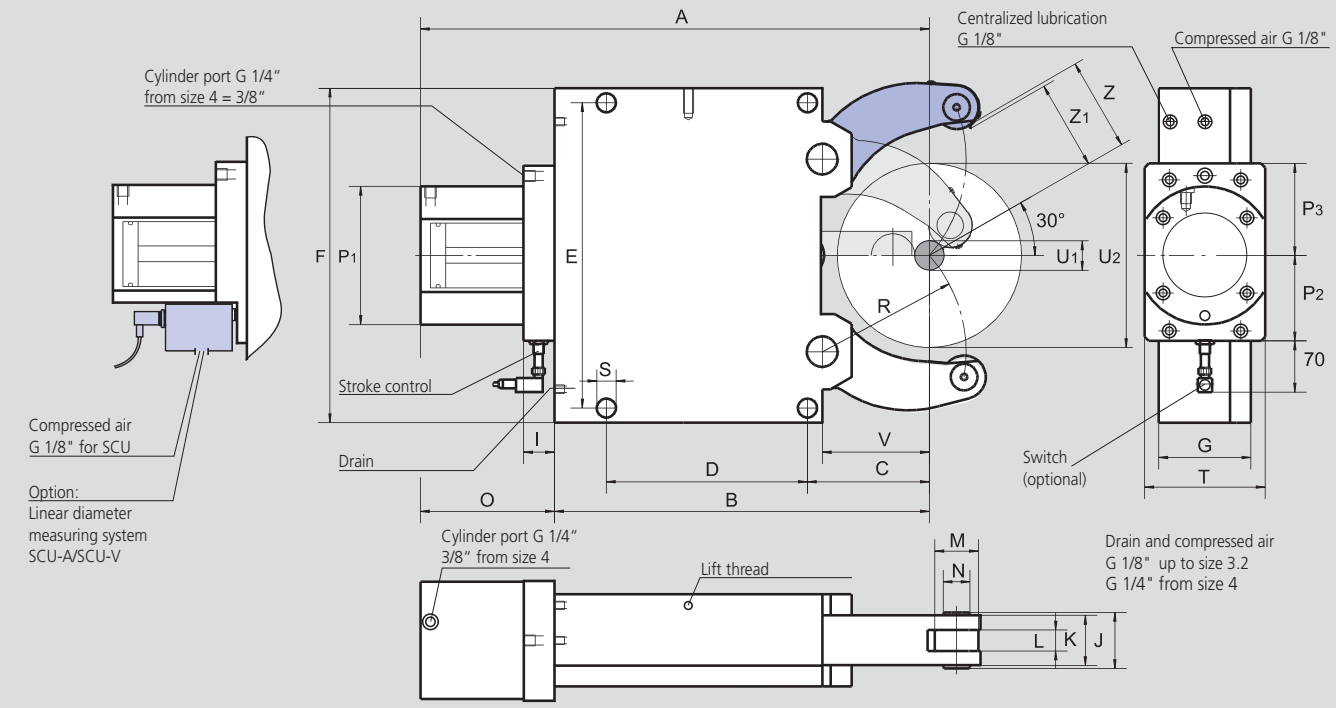
* On request cylinder differing from standard available
Subject to technical changes!

SLUA®

Self-centering steady rests
Standard line

Additional pivoting upper arm for vertical loading

- Monitoring open/closed via proximity switch
- Special sizes on request



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type Size		SLUA 1	SLUA 2	SLUA 3	SLUA 3.1	SLUA 4	SLUA 5	SLUA 6
Centering range	**U1**	**4**	**8**	**12**	**22**	**30**	**50**	**160**
	U2	**52**	**80**	**130**	**150**	**220**	**268**	**460****
	U1	11	16	22	22	30	50	160
	U2	52	80	150	150	220	268	460**
	Z	**26.5**	**41**	**66**	**76**	**111**	**135**	**230****
	Z1	**24**	**34**	**62**	**72**	**106.5**	**130**	**225****
	A	207	279.5	429	437	608	685.5	944.5
	B	137	195	312	320	448	510	709
	C	51	70	115	123	146	178	215
	D	64	85	135	135	240	270	330
	E	118	170	262	262	365	400	610/640
	F	132	190	290	290	400	440	680
	G	55	70	85	85	110	145	145
	I	33	33	37	37	37	37	37
	J	26	42	52	52	67	83	83
	K	20	35	45	45	60	75	75
Roller width	L	12	19	25	25	25	29	29
Roller diameter	M	19	35	47	47	52	62	80
Collar diameter	N	6	21	25	25	32	36	42
	O	70	84.5	117	117	160	175.5	235.5
	P1	84	102	137	137	165	165	190
	P2	66	72	90	90	102	102	115
	P3	66	75	100	100	110	110	130
	R	50.5	74	119	124	172	209	290
	S	11	14	18	18	23	23	27
	T	70	70	100	100	144	144	158
	V	37	52	85	93	128	160	175
Piston area*	cm²	7	19.6	50	50	78	78	132
Operating pressure min./max.	bar	6/50	8/70	8/60	8/60	8/60	8/80	8/70
Max. clamping force/roller	daN	100	450	1000	1000	1500	2000	3000
Centering accuracy within the whole range	mm	0.02	0.02	0.04	0.04	0.05	0.06	0.06
Repeatability accuracy	mm	0.005	0.005	0.007	0.007	0.007	0.01	0.01
Max. roller surface speed	m/min.	800	800	725	725	715	700	700
Mass approx.	kg	6	14	39	40	92	152	420

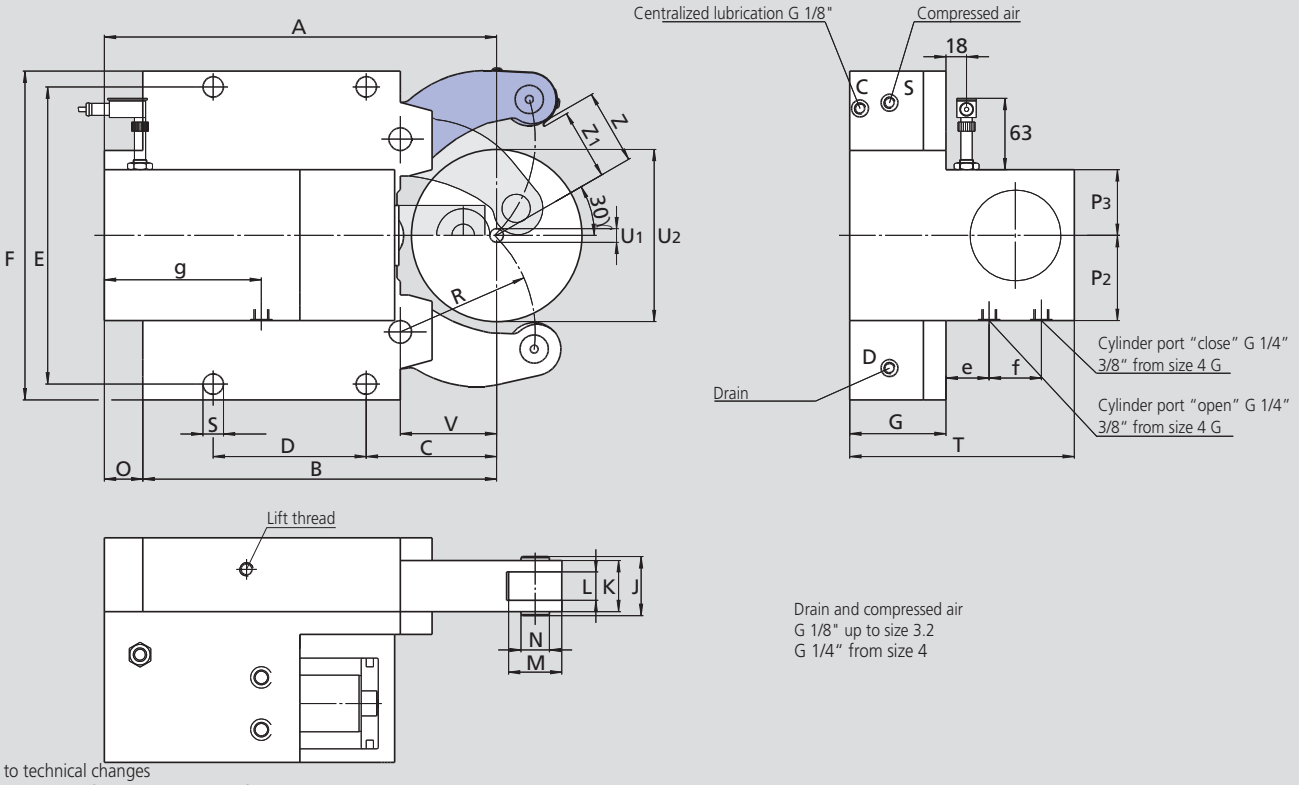
* On request cylinder differing from standard available
** SLUA-6: Loading dia. U2=460 only under 19° installation

Extra compact with side mounted cylinder
Additional pivoting upper arm for vertical loading

■ Special sizes on request

SLUA-B

Self-centering steady rests
Standard line



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type Size		SLUA-B 3	SLUA-B 3.1	SLUA-B 4	SLUA-B 5	SLUA-B 6
Centering range	**U1**	**12**	**22**	**35**	**50**	**160**
	U2	**130**	**150**	**220**	**268**	**460****
	U1	16	22	35	50	160
	U2	130	150	220	268	460**
	Z	**66**	**76**	**111**	**135**	**230****
	Z1	**62**	**72**	**106.5**	**130**	**225****
	A	346	354	480	600.5	800
	B	312	320	448	510	709
	C	115	123	146	178	215
	D	135	135	240	270	330
	E	262	262	365	400	610/640
	F	290	290	400	440	680
	G	85	85	110	145	145
	J	52	52	67	83	83
	K	45	45	60	75	75
Roller width	L	25	25	25	29	29
Roller diameter	M	47	47	52	62	80
Collar diameter	N	25	25	32	36	42
	O	34	34	32	90.5	91
	P2	75	75	68	85	87
	P3	58	58	85	85	104
	R	119	124	172	209	290
	S	18	18	23	23	27
	T	198	198	243.5	325	350
	V	85	93	128	160	175
	e	38	38	38.5	79.5	74.5
	f	46	46	66	66	96
	g	138.5	138.5	188	210	230
Piston area*	cm²	19.6	19.6	47.7	47.7	136.8
Operating pressure min/max.	bar	8/60	8/60	8/60	8/80	8/70
Max. clamping force/roller	daN	1000	1000	1500	2000	3000
Centering accuracy within the whole range	mm	0.04	0.04	0.05	0.06	0.06
Repeatability accuracy	mm	0.007	0.007	0.007	0.01	0.01
Max. roller surface speed	m/min	725	725	715	600	560
Mass approx.	kg	45	46	106	175	483

* On request cylinder differing from standard available
** SLUA-B-6: Loading diameter U2 = 460 only under 19° installation

SLU-X® SLU-B SLUA® SLUA®-B

■ Ordering review
■ Equipment

Steady rest size		1	2	3	3.1	3.2	4	5	5.1	6
SLU-X-M manual lubrication	Id. No.	127563	129001	129018	129196	129234	129141	129278	129291	-
SLU-X-Z central lubrication oil	Id. No.	127562	129000	129020	129195	129235	129140	129280	129292	-
SLU-X-OLD central lubrication oil & air	Id. No.	127564	129002	129019	129197	129236	129142	129279	129293	-
SLU-X-F central grease lubrication	Id. No.	129761	129762	129763	129764	129765	129766	129767	129768	-
SLU-B-M manual lubrication	Id. No.			029865	029866	-	029867	029868	029909	029869
SLU-B-Z central lubrication oil	Id. No.			029855	029856	123929	029857	029858	029908	029859
SLU-B-Z-OLD central lubrication oil & air	Id. No.			029875	029876	-	029877	029878	029910	029879
SLUA-M manual lubrication	Id. No.	024458	024459	024460	024461	-	122546	024463	–	026591
SLUA-Z central lubrication oil	Id. No.	024482	024483	024673	024674	-	122545	024485	–	026593
SLUA-Z-OLD central lubrication oil & air	Id. No.	027656	027657	027658	027659	-	122547	027661	–	027662
SLUA-B-M manual lubrication	Id. No.			029870	029871	-	029872	029873	–	029874
SLUA-B-Z central lubrication oil	Id. No.			029860	029861	-	029862	029863	–	029864
SLUA-B-Z-OLD central lubrication oil & air	Id. No.			029880	029881	-	029882	029883	–	029884

Type SLU-X, SLUA

■ denotes features included in standard range without extra charge

Steady rest size	1	2	3	3.1	3.2	4	5	5.1	6
Fully sealed body (only SLU-X)	■	■	■	■	■	■	■	■	-
Safety valve	■	■	■	■	■	■	■	■	■
Stroke control (open position)	■	■	■	■	■	■	■	■	■
1 set swarf guard 3-piece	■	■	■	■	■	■	■	■	■
1 set cylindrical rollers	■	■	■	■	■	■	■	■	■
Connection for compressed air	■	■	■	■	■	■	■	■	■

Type SLU-B, SLUA-B

■ denotes features included in standard range without extra charge

Steady rest size	1	2	3	3.1	3.2	4	5	5.1	6
Safety valve	-	-	■	■	■	■	■	■	■
Stroke control	-	-	■	■	■	■	■	■	■
1 set swarf guard 3-piece	-	-	■	■	■	■	■	■	■
1 set cylindrical rollers	-	-	■	■	■	■	■	■	■
Connection for compressed air	-	-	■	■	■	■	■	■	■

Accessories and wearing parts

Type SLU-X, SLU-B, SLUA, SLUA-B

♦ denotes wearing parts, recommended stock items

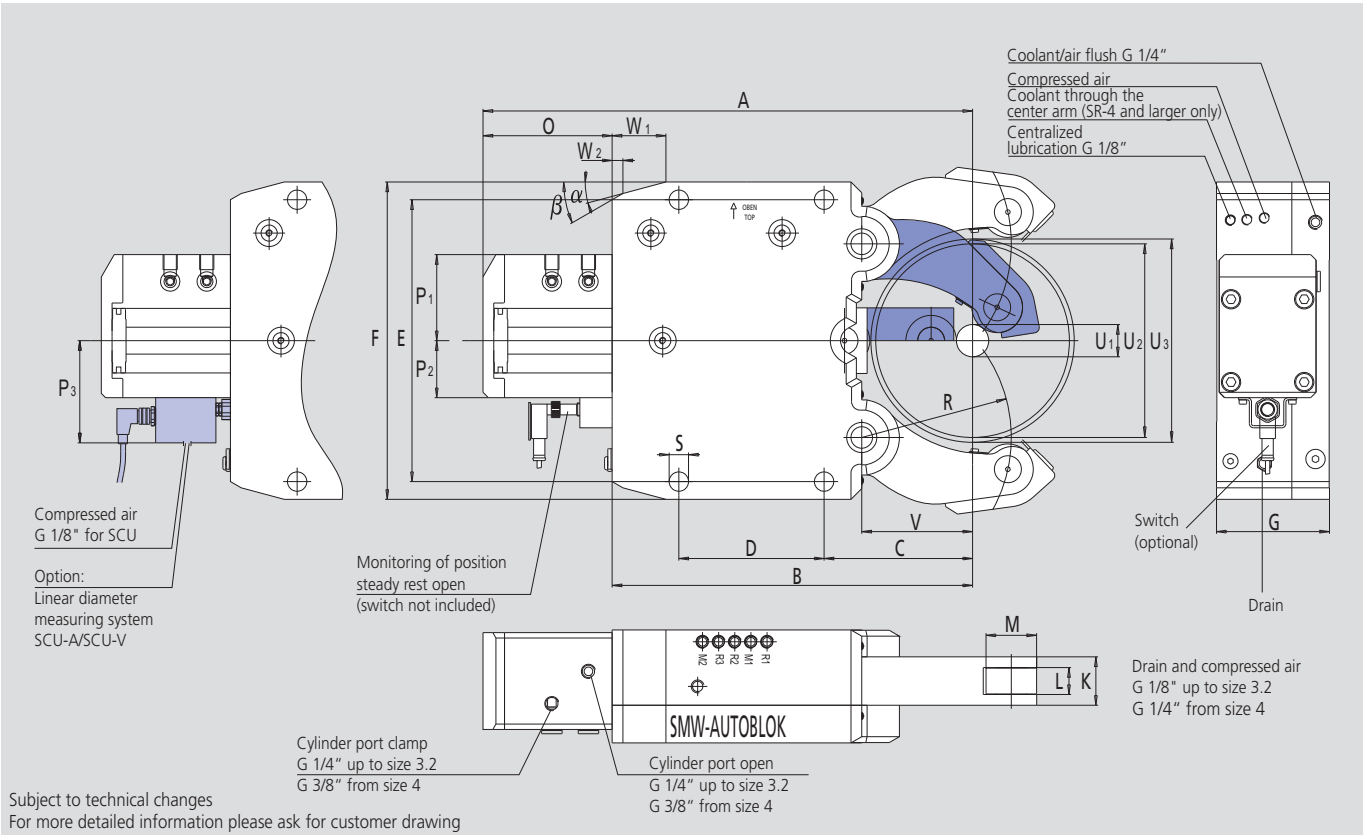
Steady rest size	1	2	3	3.1	3.2	4	5	5.1	6
Compact lubrication system for oil pressure lubrication Container 2.7 l, 110 or 220 V *	088707	088707	088707	088707	088707	088707	088707	088707	088707
Compact lubrication system for oil & air lubrication Container 2.7 l, 110 or 220 V *	088708	088708	088708	088708	088708	088708	088708	088708	088708
Eccenter fine adjustment compl. at lever arm (2 pcs. per steady rest) manual/central lubrication (SLU-A / SLU-B / SLU-AB)	not available	026120	018437	018437	018437	018444	018450	018450	026595
Eccenter fine adjustment compl. at lever arm (2 pcs. per steady rest) manual/central lubrication (SLU-X)	not available	127237	127240	127240	127240	128474	128584	128584	-
Inductive limit switch	087926	087926	087926	087926	087926	087926	087926	087926	087926
♦ Swarf guard spring-loaded (SLU-A / SLU-B / SLU-AB)	025781	025760	025759	025759	025759	025758	025757	025757	026596
♦ Swarf guard 3-piece (SLU-A / SLU-B / SLU-AB)	026115	026116	026116	026116	026116	026116	026116	026116	026116
♦ Swarf guard 3-piece (SLU-X)	126171	026116	026116	026116	026116	026116	026116	026116	-
♦ Roller stripper (2-piece) for middle piece (SLU-A / SLU-B / SLU-AB)	029795	029796	029797	029797	029797	029798	029799	029799	029800
♦ Roller stripper (2-piece) for middle piece (SLU-X)	200155	200154	198950	198950	198950	196199	196200	196200	-
♦ Rollers cylindrical design (SLU-A / SLU-B / SLU-AB)	017869	016952	016952	016952	016952	016952	016952	016952	016952
♦ Rollers cylindrical design (SLU-X	023122	016952	016952	016952	016952	016952	016952	016952	-
♦ Rollers spherical design for travelling steady rest (SLU-A / SLU-B / SLU-AB)	016900	017658	017658	017658	017658	017658	017658	017658	
♦ Rollers spherical design for travelling steady rest (SLU-X)	028738	017658	017658	017658	017658	017658	017658	017658	-
Adjustment device 1 set = 3 pieces	-	-	200178	200178	200178	200179	200179	200179	200179

* When placing an order please advise voltage

SR®

Self-centering steady rests
Premium line

- Sealed body
- Integrated coolant flush
- Chip guard with coolant nozzles
- Stroke control unit or proximity switch for end position open



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type / Size		SR 2	SR 3	SR 3.1	SR 3.2	SR 4	SR 5	SR 5.1	SR 6
Centering range with coolant chip guard	**U1**	**20 (8*)**	**28 (12*)**	**25 (20*)**	**50**	**30**	**45**	**85**	**125**
	U2	**101**	**152**	**165**	**200**	**245**	**310**	**350**	**460**
Max. axial clearing dia.	**U3**	**106**	**162**	**170**	**202**	**253**	**318**	**352**	**466**
	A	277	428	436	455	603	697	717	953.5
	B	195	312	320	335	448	510	530	715
	C	70	115	123	138	146	178	198	215
	D	85	135	135	135	240	270	270	330
	E	170	262	262	262	365	400	400	610/640
	F	195	295	295	295	405	440	440	680
	G	75	105	105	105	125	150	150	175
	K	35	45	45	45	60	75	75	85
Width of rollers	L	19	25	25	25	25	29	29	32
Dia. of rollers	M	35	47	47	47	52	62	62	90
	O	82	116	116	120	155	187	187	238.5
	P1	63	85	85	85	91	97	97	122
	P2	40	53	53	53	61	63	63	88
	P3	89	102	102	102	110	112	112	137
	R	74	119	124	139	172	209	229	290
	S	14	18	18	18	23	23	23	27
	V	51	85	93	103	128	160	180	190
	W1	30	50	50	50	58	62	62	100
	W2	11.2	10	10	10	18.3	19.1	19.1	22
	α	15°	15°	15°	15°	15°	18°	18°	10°
	β	30°	30°	30°	30°	40°	40°	40°	50°
Piston area**	cm²	19.6	38.5	38.5	38.5	63.6	78.5	78.5	176.7
Operating pressure min./max.	bar	8/70	8/80	8/80	8/80	8/70	8/80	8/80	8/75
max. clamping force/roller	daN	450	1000	1000	1000	1500	2000	2000	4500
Centering accuracy within the whole range	mm	0.02	0.04	0.04	0.04	0.05	0.06	0.06	0.06
Repeatability accuracy	mm	0.005	0.007	0.007	0.007	0.007	0.01	0.01	0.01
Max. roller surface speed	m/min	800	725	725	725	715	600	600	560
Mass approx.	kg	14	56	57	59	117	174	178	436

* The steady rest can be modified to this clamping range if the coolant chip guard is not used
** Cylinder sizes different from standard available on request

SR steady rest with stroke control via proximity switch									
Steady rest size		**2**	**3**	**3.1**	**3.2**	**4**	**5**	**5.1**	**6**
SR manual lubrication	Id. No.	128161	128167	128184	127511	127001	128001	128039	128426
SR central lubrication	Id. No.	128160	128166	128185	127510	127000	128000	128038	128425
SR central lubrication oil + air	Id. No.	128162	128168	128186	127512	127002	128002	128040	128427

SR steady rest with stroke control via linear stroke control SCU-A, output 4–20 mA									
Steady rest size		**2**	**3**	**3.1**	**3.2**	**4**	**5**	**5.1**	**6**
SR manual lubrication	Id. No.	on request	128169	128187	126559	127017	128017	128046	128451
SR central lubrication	Id. No.	on request	128170	128188	126560	127016	128016	128045	128450
SR central lubrication oil + air	Id. No.	on request	128171	128189	126561	127018	128018	128047	128452

SR steady rest with stroke control via linear stroke control SCU-V, output 1–10 V									
Steady rest size		**2**	**3**	**3.1**	**3.2**	**4**	**5**	**5.1**	**6**
SR manual lubrication	Id. No.	on request	128172	128190	126563	127022	128021	128049	128453
SR central lubrication	Id. No.	on request	128173	128191	126564	127021	128020	128048	128454
SR central lubrication oil + air	Id. No.	on request	128174	128192	126565	127023	128022	128050	128455

Type SR

♦ **denotes features included in standard range without extra charge**

Steady rest size	**2**	**3**	**3.1**	**3.2**	**4**	**5**	**5.1**	**6**
Fully sealed body	■	■	■	■	■	■	■	■
Safety valve	■	■	■	■	■	■	■	■
1 set swarf guard with integrated coolant flush	■	■	■	■	■	■	■	■
1 set cylindrical rollers	■	■	■	■	■	■	■	■
Port for compressed air	■	■	■	■	■	■	■	■
Port for coolant through arms incl. chipguard	■	■	■	■	■	■	■	■

Type SR

♦ **denotes wearing parts, recommended stock items**

Steady rest size	**2**	**3**	**3.1**	**3.2**	**4**	**5**	**5.1**	**6**
Compact lubrication system for oil pressure lubrication Container 2.7 l, 110 or 220 V* 	088707	088707	088707	088707	088707	088707	088707	088707
Compact lubrication system for oil + air lubrication Container 2.7 l, 110 or 220 V* 	088708	088708	088708	088708	088708	088708	088708	088708
Eccenter fine adjustment compl. at lever arm (2 pcs. per steady rest) manual/central lubrication 	127237	127240	127240	127240	128474	128584	128584	128585
Inductive limit switch 	087926	087926	087926	087926	087926	087926	087926	087926
Swarf guard coolant/air with wiper 	128106	124024	124024	124024	125797	125816	125816	128442
Wiper for swarf guard coolant/air ♦ 	128108	124026	124026	124026	126904	126888	126888	128444
Swarf guard 3-pcs. ♦ 	026116	026117	026117	-	-	-	-	-
Roller stripper for middle piece ♦ 	200154	198950	198950	198950	200151	200152	200152	200153
Rollers, cylindrical design ♦ 	016952	016951	016951	016951	016953	018345	018345	028971
Rollers spherical design for travelling steady rest ♦ 	017658	018433	018433	018433	018443	019545	019545	
Adjustment device 1 set = 3 pcs. 	-	200178	200178	200178	200179	200179	200179	200179

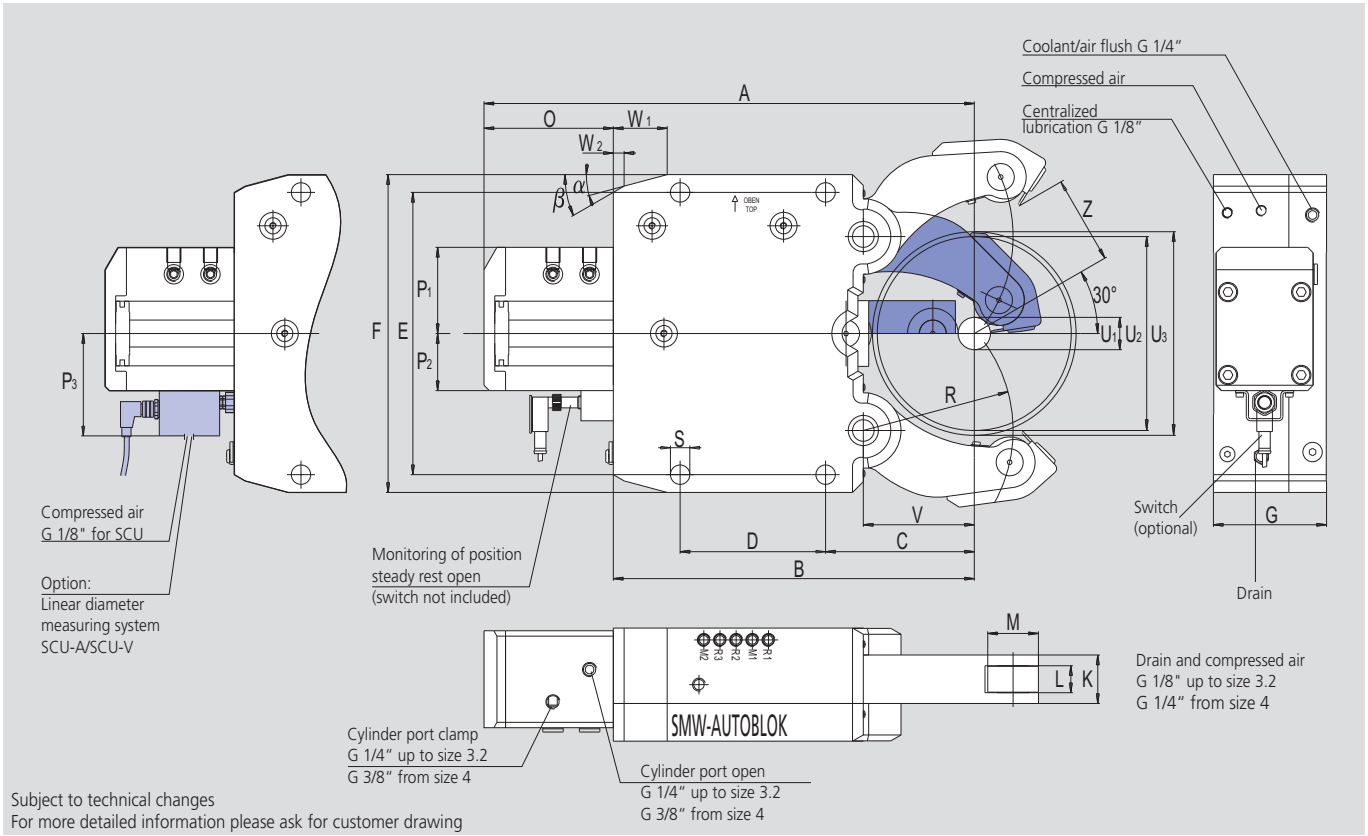
* When placing an order, please advise voltage

SRA

Self-centering steady rests
Premium line

Additional pivoting upper arm for vertical loading

- Sealed body
- Integrated coolant flush
- Chip guard with coolant nozzles
- Stroke control unit or proximity switch for end position open



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type Size		SR A 2	SR A 3	SR A 3.1	SRA 4	SRA 5	SRA 6
Centering range with coolant chip guard	**U_1**	**20 (8*)**	**28 (12*)**	**25 (22*)**	**30**	**45**	**175**
	U_2	**80**	**130**	**150**	**220**	**268**	**460**
Max. axial clearing dia.	**Z**	**35**	**57**	**76**	**102**	**121**	**215****
	U_3	**99**	**162**	**168**	**253**	**295**	**466**
	A	277	428	436	603	697	953.5
	B	195	312	320	448	510	715
	C	70	115	123	146	178	215
	D	85	135	135	240	270	330
	E	170	262	262	365	400	680
	F	195	295	295	405	440	610/640
	G	75	105	105	125	150	175
	K	35	45	45	60	75	85
Width of rollers	L	19	25	25	25	29	32
Dia. of rollers	M	35	47	47	52	62	90
	O	82	116	116	155	187	238.5
	P_1	63	85	85	91	97	122
	P_2	40	53	53	61	63	88
	P_3	89	102	102	110	112	137
	R	74	119	124	172	209	290
	S	14	18	18	23	23	27
	V	51	85	93	128	160	190
	W_1	30	50	50	58	62	100
	W_2	11.2	10	10	18.3	19.1	22
	α	15°	15°	15°	15°	18°	10°
	β	30°	30°	30°	40°	40°	50°
Piston area***	cm^2	19.6	38.5	38.5	63.6	78.5	176.7
Operating pressure min./max.	bar	70	80	80	70	80	75
max. clamping force/roller	daN	450	1000	1000	1500	2000	4500
Centering accuracy within the whole range	mm	0.02	0.04	0.04	0.05	0.06	0.06
Repeatability accuracy	mm	0.005	0.007	0.007	0.007	0.01	0.01
Max. roller surface speed	m/min	800	725	725	715	600	560
Mass approx.	kg	14	56	57	117	174	436

* The steady rest can be modified to this clamping range if the coolant chip guard is not used
** SR-A 6: Loading diameter only under 19° installation
*** Cylinder sizes different from standard available on request

SRA steady rest with stroke control via proximity switch

Steady rest size		2	3	3.1	4	5	6
SRA manual lubrication	Id. No.	128163	128175	128193	127025	128025	128457
SRA central lubrication	Id. No.	128164	128176	128194	127024	128024	128456
SRA central lubrication oil + air	Id. No.	128165	128177	128195	127026	128026	128458

SRA steady rest with stroke control via linear stroke control SCU-A, output 4–20 mA

Steady rest size		2	3	3.1	4	5	6
SRA manual lubrication	Id. No.	on request	128178	128196	127031	128031	128467
SRA central lubrication	Id. No.	on request	128179	128197	127030	128030	128468
SRA central lubrication oil + air	Id. No.	on request	128180	128198	127032	128032	128469

SRA steady rest with stroke control via linear stroke control SCU-V, output 1–10 V

Steady rest size		2	3	3.1	4	5	6
SRA manual lubrication	Id. No.	on request	128181	128199	127034	128035	128471
SRA central lubrication	Id. No.	on request	128182	128200	127033	128034	128470
SRA central lubrication oil + air	Id. No.	on request	128183	128201	127035	128036	128472

Type SRA

♦ **denotes features included in standard range without extra charge**

Steady rest size	2	3	3.1	4	5	6
Fully sealed body	■	■	■	■	■	■
Safety valve	■	■	■	■	■	■
1 set swarf guard with integrated coolant flush	■	■	■	■	■	■
1 set cylindrical rollers	■	■	■	■	■	■
Port for compressed air	■	■	■	■	■	■
Port for coolant through arms incl. chipguard	■	■	■	■	■	■

Type SRA

♦ **denotes wearing parts, recommended stock items**

Steady rest size		2	3	3.1	4	5	6
Compact lubrication system for oil pressure lubrication Container 2.7 l, 110 or 220 V*		088707	088707	088707	088707	088707	088707
Compact lubrication system for oil + air lubrication Container 2.7 l, 110 or 220 V*		088708	088708	088708	088708	088708	088708
Eccenter fine adjustment compl. at lever arm (2 pcs. per steady rest) manual/central lubrication		127237	127240	127240	128474	128584	128585
Inductive limit switch		087926	087926	087926	087926	087926	087926
Swarf guard coolant/air with wiper		128106	124024	124024	125797	125816	128442
Wiper for swarf guard coolant/air ♦		128108	124026	124026	126904	126888	128444
Swarf guard 3-pcs. ♦		026116	026117	026117	-	-	-
Roller stripper for middle piece ♦		200154	198950	198950	200151	200152	200153
Rollers, cylindrical design ♦		016952	016951	016951	016953	018345	028971
Rollers spherical design for travelling steady rest ♦		017658	018433	018433	018443	019545	129825
Adjustment device 1 set = 3 pcs.		-	200178	200178	200179	200179	200179

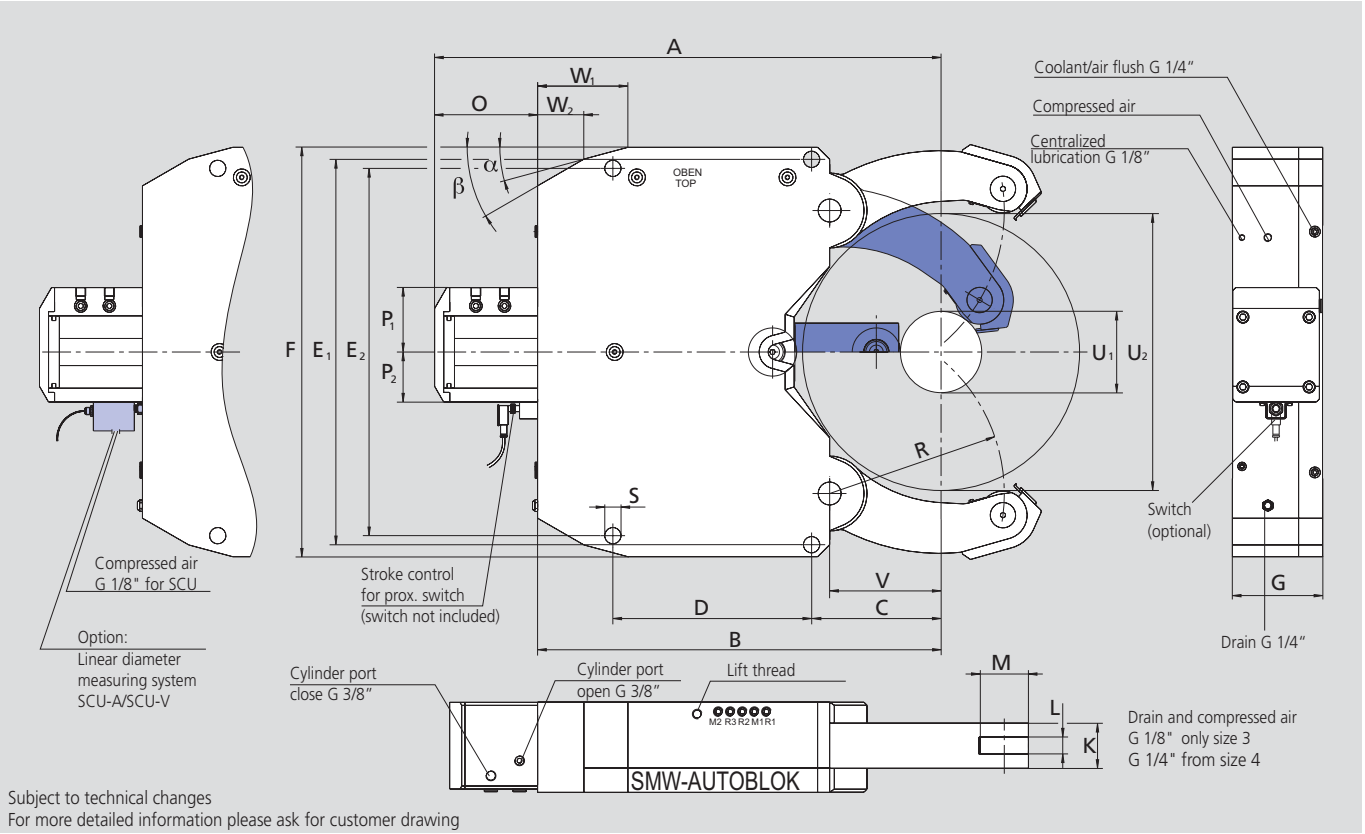
* When placing an order, please advise voltage

K

Self-centering steady rests
Premium line

Compact design

- Sealed body
- Integrated coolant flush
- Diameter measuring system or proximity switches



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type		K 3	K 4	K 4.1	K 5	K 5.1	K 6	K 6.1
Centering range	**U1**	**65**	**52**	**90**	**80**	**100**	**135**	**215**
	U2	**235**	**280**	**330**	**390**	**410**	**460**	**510**
	A	443	582	612	753	763	816	815.5
	B	355	480	490	607	617	670	680
	C	150	168	198	230	240	215	245
	D	140	180	180	240	240	330	300
	E1	312	360	360	445	445	640	640
	E2	312	360	360	445	445	610	610
	F	345	400	400	485	485	680	680
	G	105	125	125	150	150	150	150
	K	45	60	60	75	75	75	75
	L	25	25	25	29	29	29	29
	M	47	52	52	62	62	80	80
	O	88	122	122	146	146	146	135.5
	P1	92	91	91	97	97	107	107
	P2	62	67	67	73	73	83	83
	R	155	200	228	265	275	290	310
	S	18	23	23	23	23	27	27
	V	115	140	170	195	205	185	215
	W1	50	110	110	130	130	150	155
	α	15°	15°	15°	15°	15°	15°	20°
	W2	10	59.8	59.8	50.6	50.6	77	87.1
	β	30°	30°	30°	30°	30°	30°	30°
Piston area*	cm²	38.5	63	63	78	78	113	113
Operating pressure min./max.	bar	8/80	8/70	8/70	8/80	8/80	8/80	8/80
Max. clamping force/roller	daN	1000	1500	1500	2000	2000	3000	3000
Centering accuracy within the whole range	mm	0.05	0.06	0.06	0.07	0.07	0.07	0.07
Repeatability accuracy	mm	0.007	0.007	0.007	0.01	0.01	0.01	0.01
Max. roller surface speed	m/min.	725	715	715	600	600	560	560
Mass approx.	kg	64	114	116	209	209	335	330

* Cylinders differing from standard available on request

K steady rest with stroke control via proximity switch

Steady rest size		3	4	4.1	5	5.1	6	6.1
K manual lubrication	Id. No.	127251	129901	129121	127485	127559	127491	127497
K central lubrication	Id. No.	127252	129900	129120	127484	127558	127490	127496
K central lubrication oil + air	Id. No.	127253	129902	129122	127486	127560	127492	127498

K steady rest with stroke control via linear stroke control SCU-A, output 4–20 mA

Steady rest size		3	4	4.1	5	5.1	6	6.1
K manual lubrication	Id. No.	127266	on request	on request	124981	124984	124987	124990
K central lubrication	Id. No.	127265	on request	on request	124980	124983	124986	124989
K central lubrication oil + air	Id. No.	127267	on request	on request	124982	124985	124988	124991

K steady rest with stroke control via linear stroke control SCU-V, output 1–10 V

Steady rest size		3	4	4.1	5	5.1	6	6.1
K manual lubrication	Id. No.	127269	on request	on request	125120	125123	125126	125129
K central lubrication	Id. No.	127268	on request	on request	125119	125122	125125	125128
K central lubrication oil + air	Id. No.	127270	on request	on request	125121	125124	125127	125130

Type K

■ **denotes features included in standard range without extra charge**

Steady rest size	3	4	4.1	5	5.1	6	6.1
Fully sealed body	■	■	■	■	■	■	■
Safety valve	■	■	■	■	■	■	■
Stroke control	■	■	■	■	■	■	■
1 set swarf guard 3-piece	■	■	■	■	■	■	■
1 set cylindrical rollers	■	■	■	■	■	■	■
Port for compressed air	■	■	■	■	■	■	■
Port for coolant through arms incl. chipguard	■	■	■	■	■	■	■

Type K

♦ **denotes wearing parts, recommended stock items**

Steady rest size		3	4	4.1	5	5.1	6	6.1
Compact lubrication system for oil pressure lubrication Container 2.7 l, 110 or 220 V*		088707	088707	088707	088707	088707	088707	088707
Compact lubrication system for oil + air lubrication Container 2.7 l, 110 or 220 V*		088708	088708	088708	088708	088708	088708	088708
Eccenter fine adjustment compl. at lever arm (2 pcs. per steady rest) manual/central lubrication		127240	128474	128474	125612	125612	124894	124894
Inductive limit switch		087926	087926	087926	087926	087926	087926	087926
Swarf guard coolant/air with wiper		124024	125797	125797	125816	125816	125837	125837
Wiper for swarf guard coolant/air ♦		124026	126904	126904	126888	126888	126694	126694
Roller stripper for middle piece ♦		198950	200151	200151	196200	196200	196201	196201
Rollers, cylindrical design ♦		016951	016953	016953	018345	018345	026594	026594
Rollers spherical design for travelling steady rest ♦		018433	018443	018443	019545	019545	121302	121302
Adjustment device 1 set = 3 pcs.		200178	200179	200179	200179	200179	200179	200179

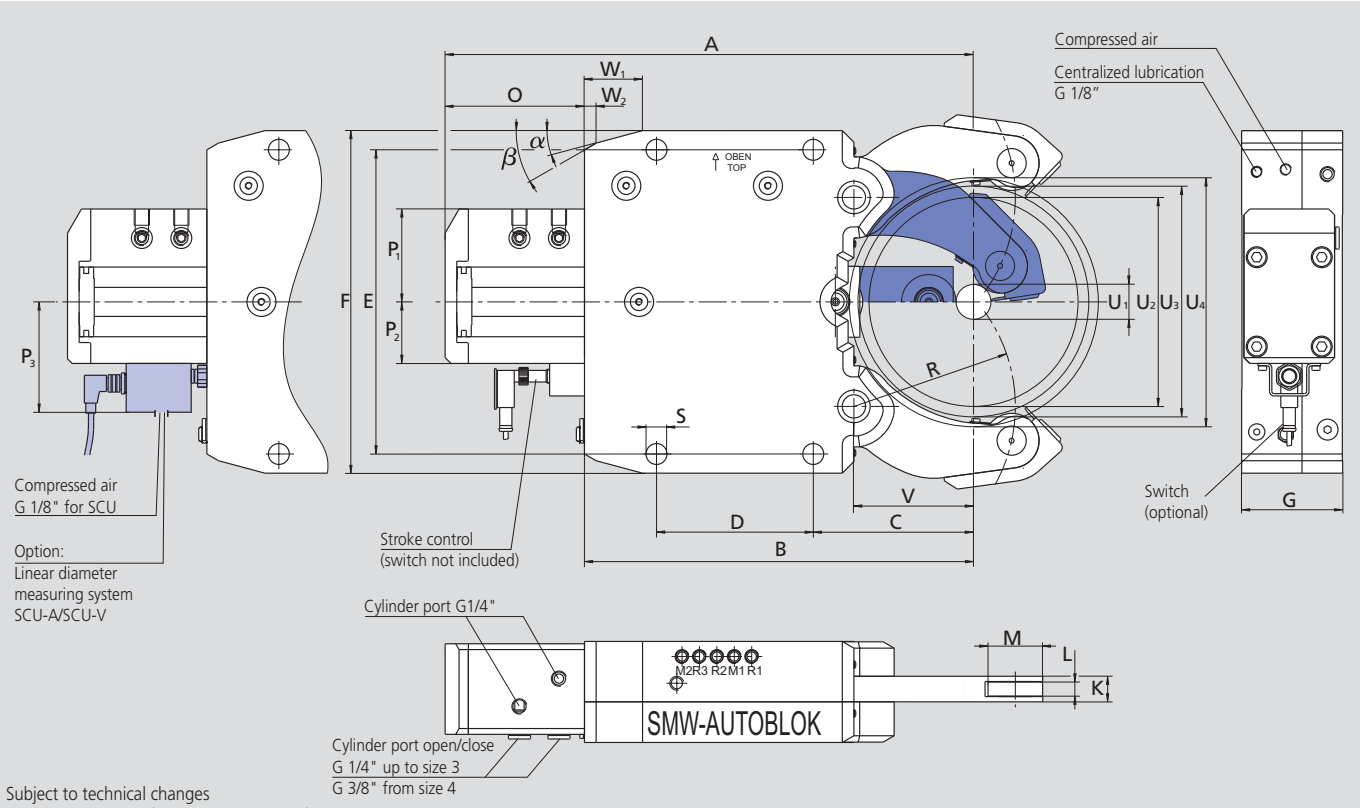
* When placing an order, please advise voltage

KLU

Self-centering steady rests
Premium line

Narrow arms for crankshafts

- Sealed body
- Integrated coolant flush
- Diameter measuring system or proximity switches



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type Size		KLU 215	KLU 218	KLU 222	KLU 318	KLU 322	KLU 419	KLU 422	KLU 429	KLU 530	KLU 540
Centering range without chip guard	**U1**	**20 (12*)**	**20 (12*)**	**20 (12*)**	**30**	**30**	**30**	**30**	**30**	**70**	**70**
with integrated coolant air nozzles	**U2**	**101**	**101**	**101**	**180**	**180**	**245**	**245**	**245**	**293**	**293**
Max. interference diameter	**U3**	**116**	**116**	**116**	**215**	**215**	**282**	**282**	**282**	**370**	**370**
Max. axial clearing diameter	**U4**	**106**	**106**	**106**	**189**	**189**	**253**	**253**	**253**	**330**	**330**
	A	275	275	275	455	455	602	602	602	703	703
	B	195	195	195	335	335	448	448	448	530	530
	C	70	70	70	138	138	146	146	146	198	198
	D	85	85	85	135	135	240	240	240	270	270
	E	170	170	170	262	262	365	365	365	400	400
	F	195	195	195	295	295	405	405	405	440	440
	G	59	62	66	83	87	89	92	99	105	105
	K	15	18	22	18	22	19	22	29	30	40
Roller width	L	8	10	13	10	13	10	13	16	16	20
Roller diameter	M	35	35	35	47	47	52	52	52	62	62
	O	80	80	80	120	120	154	154	154	173	173
	P1	58	58	58	80	80	80	80	80	88	88
	P2	52	52	52	74	74	74	74	74	80	80
	P3	-	-	-	108	108	108	108	108	114	114
	R	74	74	74	139	139	172	172	172	229	229
	S	14	14	14	18	18	23	23	23	23	23
	V	51	51	51	103	103	124	124	124	176	176
	W1	30	30	30	50	50	58	58	58	62	62
	W2	11.2	11.2	11.2	10	10	18.3	18.3	18.3	19	19
	α	15°	15°	15°	15°	15°	15°	15°	15°	18°	18°
	β	30°	30°	30°	30°	30°	40°	40°	40°	40°	40°
Piston area	cm²	12.5	12.5	12.5	28.3	28.3	28.3	28.3	28.3	50.2	50.2
Operation pressure min./max.	bar	8/50	8/65	8/80	8/60	8/75	8/70	8/80	8/80	8/70	8/80
Max. clamping force/roller	daN	210	270	335	565	700	660	750	750	1170	1340
Centering accuracy within the whole range	mm	0.03	0.03	0.03	0.05	0.05	0.06	0.06	0.06	0.07	0.07
Repeatability accuracy	mm	0.007	0.007	0.007	0.007	0.007	0.01	0.01	0.01	0.01	0.01
Max. roller surface speed	m/min	750	750	750	715	715	700	700	700	700	700
Mass approx.	kg	14	15	16	33	36	70	74	85	100	125

* The steady rest can be modified to this clamping range if the coolant chip guard is not used

KLU steady rest with stroke control via proximity switch (without proximity switch)											
Steady rest size		**215**	**218**	**222**	**318**	**322**	**419**	**422**	**429**	**530**	**540**
KLU-Z	Id.No.	128280	128282	128284	127528	127530	127534	127536	127538	127542	127544
KLU-OLD	Id.No.	128281	128283	128285	127529	127531	127535	127537	127539	127543	127545

KLU steady rest with stroke control via linear stroke control SCU-A, output 4–20 mA											
Steady rest size		**215**	**218**	**222**	**318**	**322**	**419**	**422**	**429**	**530**	**540**
KLU central lubrication	Id.No.	-	-	-	125637	125655	125365	125398	125421	125988	126050
KLU central lubrication oil + air	Id.No.	-	-	-	125638	125656	125366	125399	125422	125989	126051

KLU steady rest with stroke control via linear stroke control SCU-V, output 0–10 mA											
Steady rest size		**215**	**218**	**222**	**318**	**322**	**419**	**422**	**429**	**530**	**540**
KLU central lubrication	Id.No.	-	-	-	125640	125657	125369	125400	125423	125992	126052
KLU central lubrication oil + air	Id.No.	-	-	-	125641	125658	125370	125401	125424	125993	126053

Type KLU

■ **denotes features included in standard range (no extra charge)**

Steady rest size	**215**	**218**	**222**	**318**	**322**	**419**	**422**	**429**	**530**	**540**
Fully sealed body	■	■	■	■	■	■	■	■	■	■
Safety valve	■	■	■	■	■	■	■	■	■	■
Stroke control	■	■	■	■	■	■	■	■	■	■
1 set swarf guard with integrated coolant flush	■	■	■	■	■	■	■	■	■	■
1 set cylindrical rollers	■	■	■	■	■	■	■	■	■	■
Port for compressed air	■	■	■	■	■	■	■	■	■	■
Port for coolant through arms incl. chipguard	■	■	■	■	■	■	■	■	■	■

Option: Linear diameter measuring system SCU-A/SCU-V

Accessories and wearing parts

Type KLU

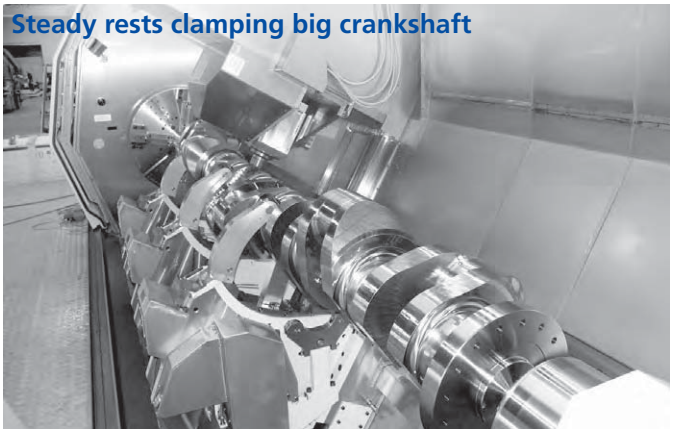
♦ **denotes wearing parts, recommended stock items**

Steady rest size		**215**	**218**	**222**	**318**	**322**	**419**	**422**	**429**	**530**	**540**
Compact lubrication system for oil pressure lubrication Container 2.7 l, 110 or 220 V*		088707	088707	088707	088707	088707	088707	088707	088707	088707	088707
Compact lubrication system for oil + air lubrication Container 2.7 l, 110 or 220 V*		088708	088708	088708	088708	088708	088708	088708	088708	088708	088708
Inductive limit switch		087926	087926	087926	087926	087926	087926	087926	087926	087926	087926
Swarf guard coolant/air with wiper		128270	128273	128276	125633	125652	125360	125394	125417	127036	126046
Wiper for swarf guard coolant/air ♦		128272	128275	128278	126905	126906	126907	126906	126908	126909	126910
Swarf guard 3-pcs. ♦		125906	126055	126058	-	-	-	-	-	-	-
Roller stripper for middle piece ♦		197995	197996	197997	197998	197999	198000	198001	198002	198003	198004
Rollers, cylindrical design ♦		122794	020062	020759	017861	002411	017676	084766	019541	125964	019612
Adjustment device 1 set = 3 pcs.		-	-	-	200178	200178	200179	200179	200179	200179	200179

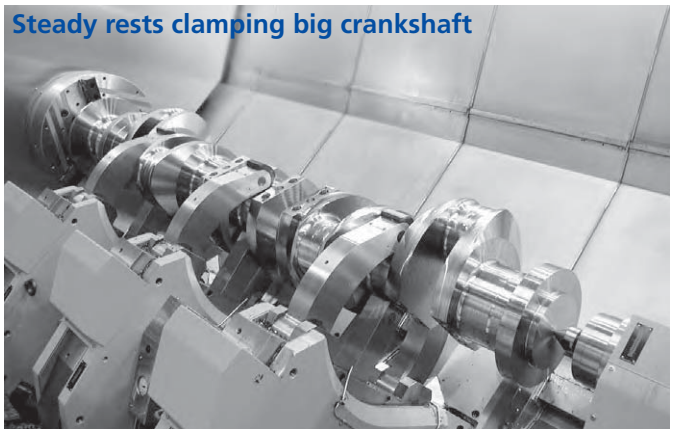
* When placing an order, please advise voltage

SLU-X® SLU-B	SLUA® SLUA®-B	SR® SRA	KLU K	Our additional program: ■ Special steady rests ■ Turret steady rests ■ Crankshaft steady rests ■ Grinding steady rests

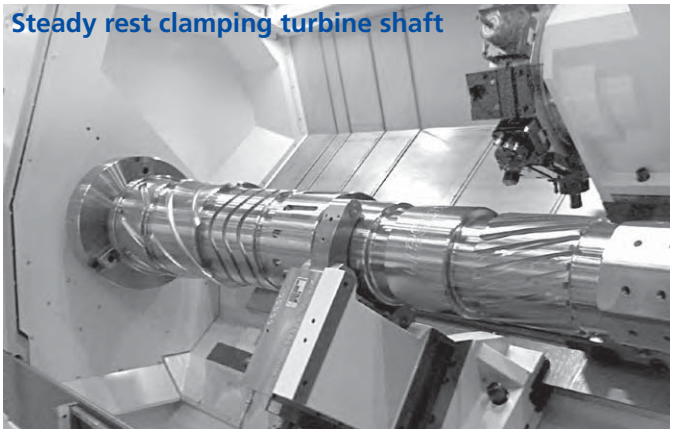
Steady rests clamping big crankshaft



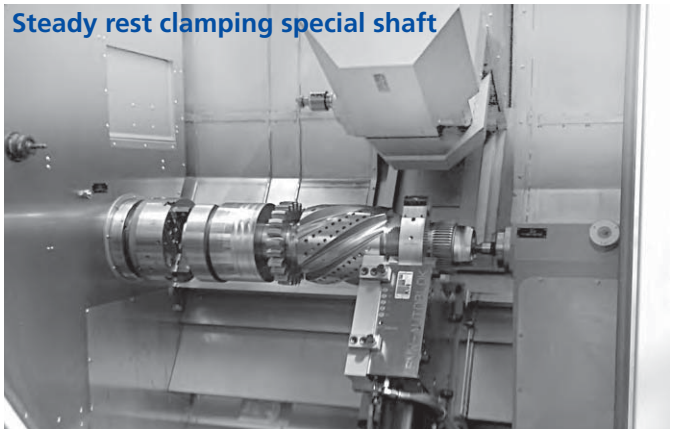
Steady rests clamping big crankshaft



Steady rest clamping turbine shaft



Steady rest clamping special shaft



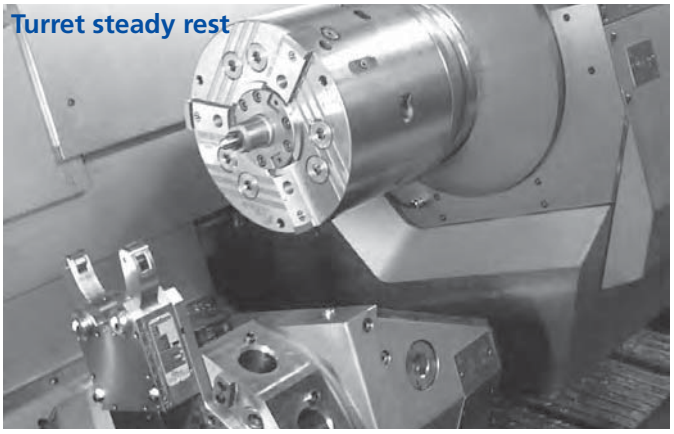
Steady rest clamping train axle



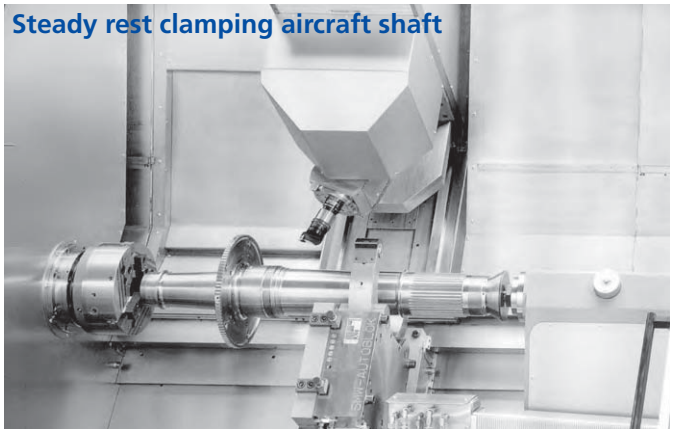
Steady rest with diamond pads clamping input shaft in hard turning/grinding operation



Turret steady rest



Steady rest clamping aircraft shaft



Stationary chucks pneumatic/hydraulic



Page 268

US-CL
With 2 jaws long stroke chucks

US-A
With 3 jaws long or normal stroke chucks

Stationary cylinder and chuck unit, hydraulic

Ø 80 - 315 mm

- closed center chucks type CL/AN/AL



Page 270

HB-D
INCH serration 2 or 3 jaws

HB-C
tongue & groove 3 jaws

Stationary chuck, hydraulic

Ø 130 - 315 mm

- built-in hydraulic cylinder
- 2 and 3 jaws



Page 272

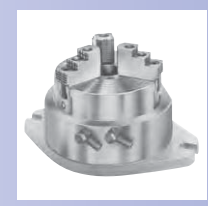
PB-D
INCH serration 2 or 3 jaws

PB-C
tongue & groove 3 jaws

Stationary chuck, pneumatic

Ø 130 - 315 mm

- built-in pneumatic cylinder
- 2 and 3 jaws



Page 274

STP
INCH serration 3 jaws

Stationary chuck, pneumatic

Ø 125 - 280 mm

- built-in pneumatic cylinder
- with through-hole



Page 276

M2-PB
Fixture with 2 chucks

M4-PB
Fixture with 4 chucks

Multiple chucks on fixtures, pneumatic

Ø 130 - 315 mm

- built-in pneumatic cylinders
- 2 and 3 jaws



Page 278

PBI-D
INCH serration 2 or 3 jaws

PBI-C
tongue & groove 3 jaws

Chuck for indexing tables

Ø 165 - 315 mm

- manifold for air supply (indexing only)
- built-in cylinder
- 2 and 3 jaws

US-CL

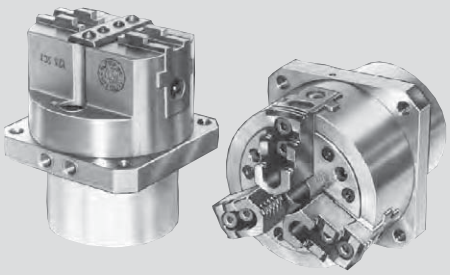
With 2 jaw
long stroke chuck

US-A

With 3 jaw long or
normal stroke chuck

Stationary cylinder + chuck unit Ø 80 - 315 mm

- hydraulic cylinder module + chuck
- closed center chucks type CL/AN/AL



Application/customer benefits

- Gripping units designed to suit special purpose machines and transfer lines
- Also used as loading chucks to handle workpieces

Technical features

- stationary hydraulic cylinder + chuck unit consisting of a modular cylinder and standard 2- or 3-jaw-chuck
- permanent oil pressure required
- for chuck details please see technical data of the selected chuck

Remark: when ordering please specify the position of the oil connectors (on the side or on the back)

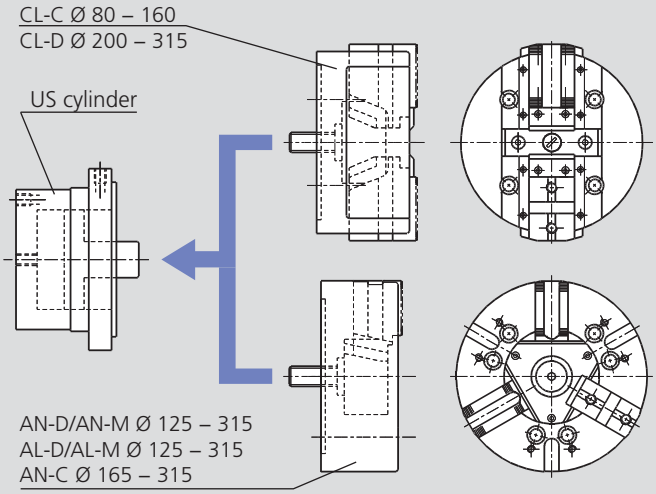
For chuck details please see technical data of the selected chuck

Standard equipment

Standard chuck with cylinder and connecting parts

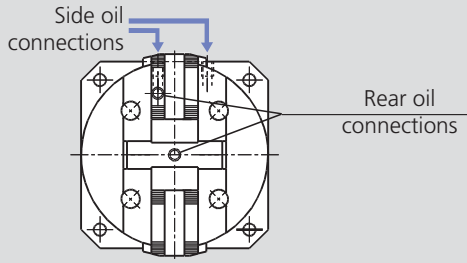
Ordering example

US 125-CLC with rear oil connection
or
US 250-AND with side oil connection and chuck 90° revolved

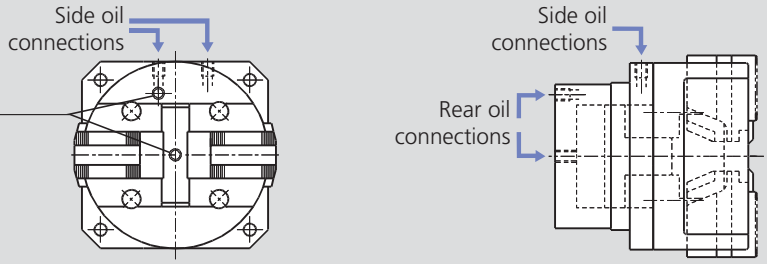


- **US-CL-C** = cylinder equipped with a 2 jaw chuck type CL-C (long stroke/tongue & groove). Chuck Ø 80 to 160 mm
- **US-CL-D** = cylinder equipped with a 2 jaw chuck type CL-D (long stroke/inch serration). Chuck Ø 200 to 315 mm
- **US-AN-D** = cylinder equipped with a 3 jaw chuck type AN-D (normal stroke/inch serration). Chuck Ø 125 to 315 mm
- **US-AN-M** = cylinder equipped with a 3 jaw chuck type AN-M (normal stroke/metric serration). Chuck Ø 125 to 315 mm
- **US-AL-D** = cylinder equipped with a 3 jaw chuck type AL-D (long stroke/inch serration). Chuck Ø 125 to 315 mm
- **US-AL-M** = cylinder equipped with a 3 jaw chuck type AL-M (long stroke/metric serration). Chuck Ø 125 to 315 mm
- **US-AN-C** = cylinder equipped with a 3 jaw chuck type AN-C (normal stroke/tongue & groove). Chuck Ø 165 to 315 mm
- **Special units** = on request the US cylinder can be equipped with other chucks, for example with a quick jaw change chuck type AN-RM

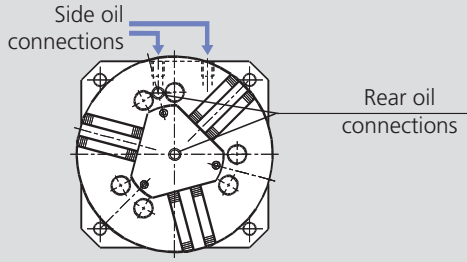
CL chuck in standard position



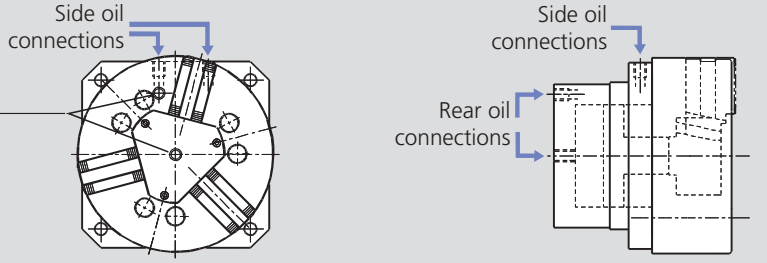
CL chuck 90° revolved



AN/AL chuck in standard position



AN/AL chuck 90° revolved



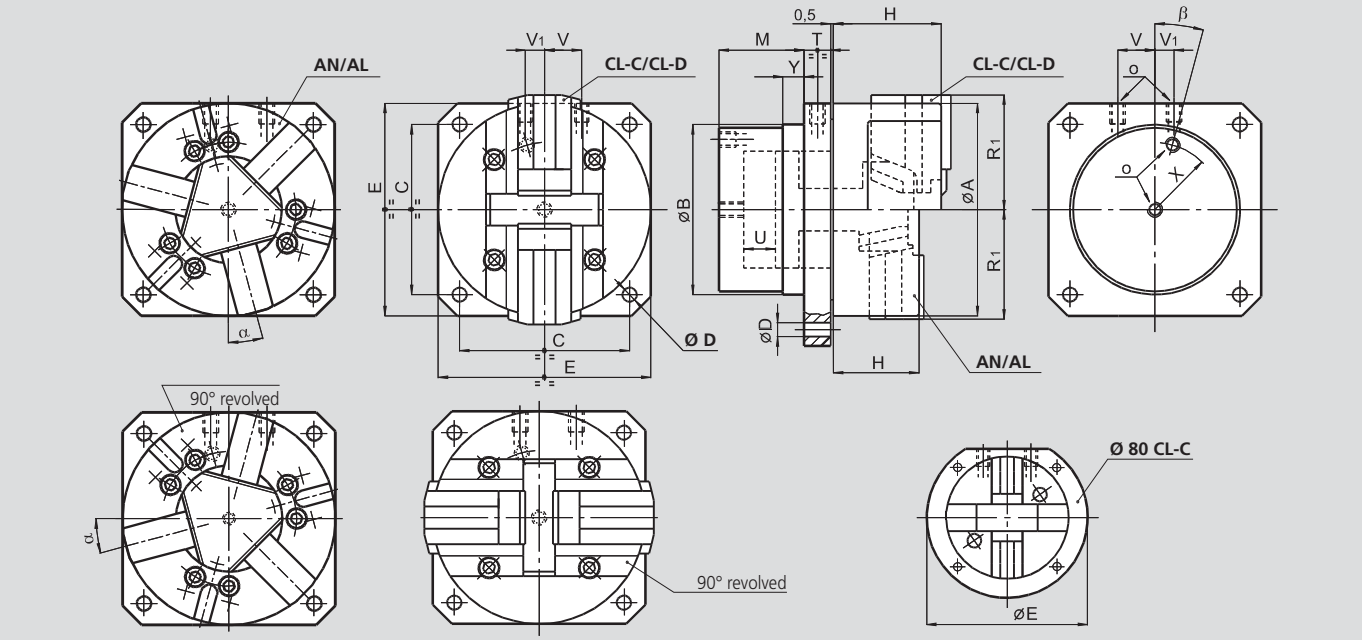
- The chuck can be mounted on the cylinder 90° revolved if the standard position creates interferences with the working cycle. Please specify in the order, if a revolved position is needed.
- The oil connections can be on the side or on the back of the cylinder in order to ease the installation of the gripping unit. Please specify in the order, which version is preferred.

Stationary cylinder + chuck unit Ø 80 - 315 mm

- hydraulic cylinder module + chuck
- closed center chucks type CL/AN/AL

US-CL With 2 jaw long stroke chuck

US-A With 3 jaw long or normal stroke chuck



Subject to technical changes
For more detailed information please ask for customer drawing

US actating cylinder dimensions

SMW-AUTOBLOK cylinder			US 80	US 100	US 125	US 160 US 165	US 200	US 250	US 315
Id. No.			77755008	77755010	77755013	77755016	77755120	77755025	77755031
B h7		mm	70	84	106	128	158	185	185
C		mm	66	84	104	130	160	200	250
D		mm	7	9	11	11	13.5	17	17
E		mm	105	100	130	160	200	250	315
M		mm	45	52	60	70	80	90	90
O	oil connections	inch	1/8 BSP	1/8 BSP	1/4 BSP	1/4 BSP	3/8 BSP	3/8 BSP	3/8 BSP
T		mm	16	16	20	20	25	25	25
U		mm	11	14	20	25	30	35	35
V		mm	15	18	12	28	35	41	41
V1		mm	15	18	12	15	18	15	15
X		mm	27	33	43	52	63	75	75
Y		mm	10	10	10	20	20	20	20
β		deg.	30°	30°	15°	15°	0°	0°	0°
Piston area		cm^2	16	25	42	68	112	166	166

Units with CL-C and CL-D chucks (more information at page 56)

SMW-AUTOBLOK Type			US 80-CL-C	US 100-CL-C	US 125-CL-C	US 160-CL-C	US 200-CL-D	US 250-CL-D	US 315-CL-D
	A	mm	80	100	125	160	200	250	315
	H	mm	45	54	76	92	103	109	114
Chuck open	**R1**	mm	40	50	68	87	108	132	166
Max. pressure		bar	38	36	36	37	32	30	36
Max. gripping force		kN	9	14	24	40	55	78	95

Units with AN-D/AN-M/AN-C chucks (more information at page 22 and 26)

SMW-AUTOBLOK Type			US 125-AN-D US 125-AN-M	US 165-AN-D US 165-AN-M US 165-AN-C	US 210-AN-D US 210-AN-M US 210-AN-C	US 250-AN-D US 250-AN-M US 250-AN-C	US 315-AN-D US 315-AN-M US 315-AN-C
	A	mm	127	165	210	254	315
	H	mm	57	71	85	95	105
Chuck open	**R1**	mm	64	83	105	128	158
α		deg.	0°	15°	15°	15°	15°
Max. pressure		bar	47	36	31	28	36
Max. gripping force		kN	56	70	105	140	180

Units with AL-D/AL-M chucks (more information at page 24)

SMW-AUTOBLOK Type			US 125-AL-D US 125-AL-M	US 165-AL-D US 165-AL-M	US 210-AL-D US 210-AL-M	US 250-AL-D US 250-AL-M	US 315-AL-D US 315-AL-M
	A	mm	127	165	210	254	315
	H	mm	57	71	85	95	105
Chuck open	**R1**	mm	67	86	109	133	164
	α	deg.	0°	15°	15°	15°	15°
Max. pressure		bar	60	44	45	39	45
Max. gripping force		kN	45	54	90	120	135



For further jaws and accessories please ask for our 150 pages special catalogue!

HB-D

INCH serration
2 or 3 jaws

HB-C

Tongue & groove
3 jaws

Stationary chuck, hydraulic Ø 130 - 315 mm

■ 2 and 3 jaws



Application/customer benefits

- Stationary hydraulic chuck for self centering clamping of parts on milling machines/machining centers/special machines

HB-D: inch serrated master jaws (1/16" x 90°)
HB-C: tongue & groove master jaws (American standard)
HB-M: metric serrated master jaws (1.5 mm x 60°) **on request**

Technical features

- Stationary chuck consisting of a 2/3 jaw self centering chuck with built-in hydraulic cylinder

Standard equipment

Stationary chuck
1 set T-nuts with bolts (HB-C excluded)
Grease gun

Ordering example

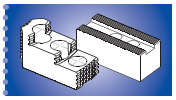
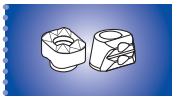
3 jaw chuck HB-C 250
or
2 jaw chuck HBL-D2 165

Technical data

SMW-AUTOBLOK Type		HB-D 130 HB-C 130	HB-D 165 HB-C 165	HB-D 210 HB-C 210	HB-D 250 HB-C 250	HB-D 315 HB-C 315
Radial jaw stroke	mm	2.8	3.2	4	4.6	5.5
Radial jaw stroke HBL-D2 (2 jaws)*	mm	5.2	6	7.5	8.8	10.5
Piston area	cm^2	59	79	114	167	203
Max. operating pressure	bar	30	30	30	30	30
Gripping force at 25 bar	kN	42	55	85	125	150
Gripping force at 25 bar HBL-D2 (2 jaws)*	kN	26	35	52	75	90
Mass (without top jaws)	kg	10	18	30	44	69

*The 2 jaw fixture is available with serrated master jaws (inch or metric) and long stroke only.



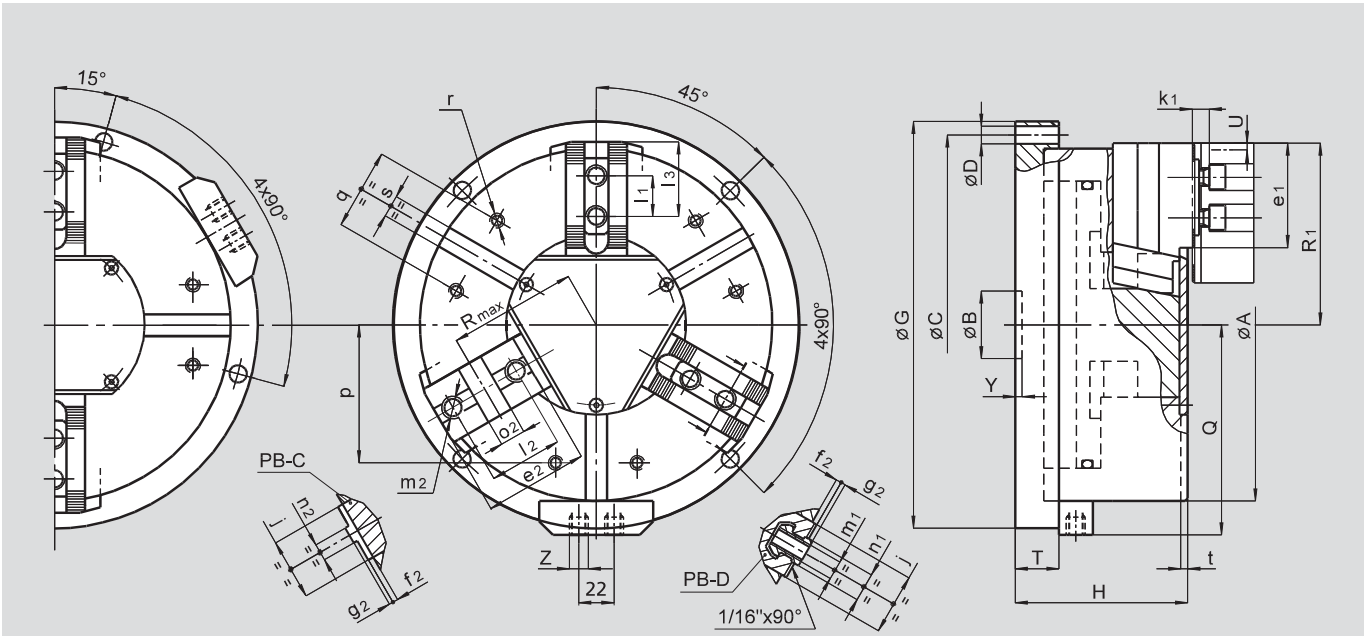

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Stationary chuck, hydraulic Ø 130 - 315 mm

■ 2 and 3 jaws

HB-D
INCH serration
2 or 3 jaws

HB-C
Tongue & groove
3 jaws



Subject to technical changes
For more detailed information please ask for customer drawing

Common dimensions

SMW-AUTOBLOK Type			HB-D 130 HB-C 130	HB-D 165 HB-C 165	HB-D 210 HB-C 210	HB-D 250 HB-C 250	HB-D 315 HB-C 315
	A	mm	135	170	215	260	315
	B	mm	30	30	35	50	50
Fixing holes circle	**C**	mm	155	190	235	280	340
Fixing holes diameter	**D**	mm	9	11	11	13	13
	G	mm	175	210	255	300	360
	H	mm	89	100	117	127	141
	Q	mm	93	110	133	155	183
	T	mm	25	27	30	32	32
Radial jaw stroke (3 jaws)	**U**	mm	2.8	3.2	4	4.6	5.5
Radial jaw stroke HBL-D2 (2 jaws)	**U**	mm	5.2	6	7.5	8.8	10.5
	Y	mm	5	5	5	5	5
Hydraulic connections	**Z**	inch	R1/4"	R1/4"	R1/4"	R1/4"	R1/4"
	j	mm	26	30	36	45	45
	k1	mm	10	10	11	12	12
	p	mm	52	65	80	102	120
	q	mm	30	36	45	60	60
	r	mm	M6	M8	M8	M10	M10
	s H12	mm	12	16	16	16	16
	t	mm	5	5	5	5	5

HB-D and HBL-D2 fixtures dimensions

SMW-AUTOBLOK Type			HB-D 130	HB-D 165	HB-D 210	HB-D 250	HB-D 315
	e1	mm	37	48	60	77	99
	f1	mm	3	4	3	4	4
	g1	mm	2.5	2.5	2.5	3.5	3.5
	l1	mm	16	16.5	23	30	30
T-nut position min./max.	**l3**	mm	23/30	24/40	33/50	43/62	43/84
	m1	mm	M8	M10	M12	M16	M16
	n1 h8	mm	12	14	17	21	21
Chuck open (3 jaws)	**R1**	mm	71	89	110	134	162
Chuck open HBL-D2 (2 jaws)	**R1**	mm	74	92	114	138.5	168

HB-C fixtures dimensions (available only in 3 jaw chuck version)

SMW-AUTOBLOK Type			HB-C 130	HB-C 165	HB-C 210	HB-C 250	HB-C 315
	e2	mm	-	54	71	77	99
	f2	mm	-	4	4	4	4
	g2	mm	-	3	3	3	3
	l2	mm	-	38	44.4	54	63.5
	m2	mm	-	M10	M12	M16	M16
	n2 h8	mm	-	7.94	7.94	12.70	12.70
	o2 H7	mm	-	12.68	12.68	19.03	19.03
Chuck open	**R1**	mm	-	89	110	134	162
Chuck open	**Rmax**	mm	-	62	77	94	109

PB-D

INCH serration
2 or 3 jaws

PB-C

Tongue & groove
3 jaws

Stationary chuck, pneumatic Ø 130 - 315 mm

- built-in cylinder
- 2 and 3 jaws



Application/customer benefits

• Self centering chuck used on milling machines/machining centers/special machines

PB-D: inch serrated master jaws (1/16" x 90°)
PB-C: tongue & groove master jaws (American standard)
PB-M: metric serrated master jaws (1.5 mm x 60°) **on request**

Technical features

• Stationary chuck consisting of a 2/3 jaw chuck with a built-in pneumatic cylinder
• Compact design
• Case hardened body to assure highest precision and long chuck life
Caution! Filtered and oiled operating air required

Standard equipment

Clamping unit
1 set of soft blank top jaws (PB-C excluded)
Grease gun

Ordering example

3 jaw chuck fixture PB-C 250
or
2 jaw chuck fixture PBL-D2 165

Technical data

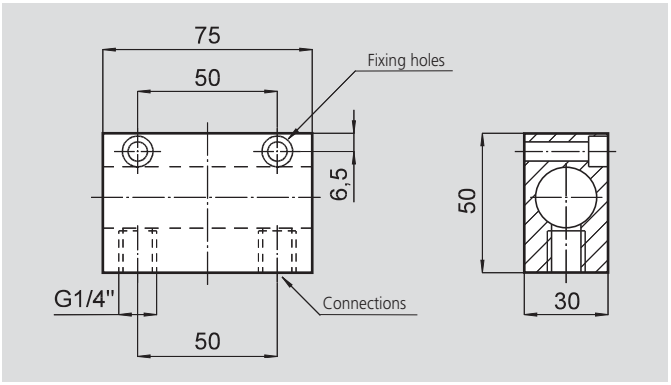
SMW-AUTOBLOK Type		PB-D 130 PB-C 130	PB-D 165 PB-C 165	PB-D 210 PB-C 210	PB-D 250 PB-C 250	PB-D 315 PB-C 315
Radial jaw stroke	mm	3.2	3.6	4.4	5	6.3
Radial jaw stroke PBL-D2 (2 jaws)*	mm	6	6.8	8.4	9.7	12
Piston area	cm²	82	143	236	358	548
Max. operating pressure	bar	7	7	7	7	7
Gripping force at 6 bar	kN	14	24	42	64	98
Gripping force at 6 bar PBL-D2 (2 jaws)*	kN	9	16	26	39	60
Mass (without top jaws)	kg	9	17	28	42	63

*The 2 jaw fixture is available with serrated master jaws (inch or metric) and long stroke only.

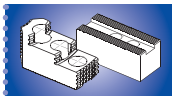
Option for the PB-D and PB-C chuck

Safety unit that maintains a constant pressure inside the cylinder which maintains a steady clamping force even in case of a drop or lack of line pressure

SAB Safety unit with double non-return valve






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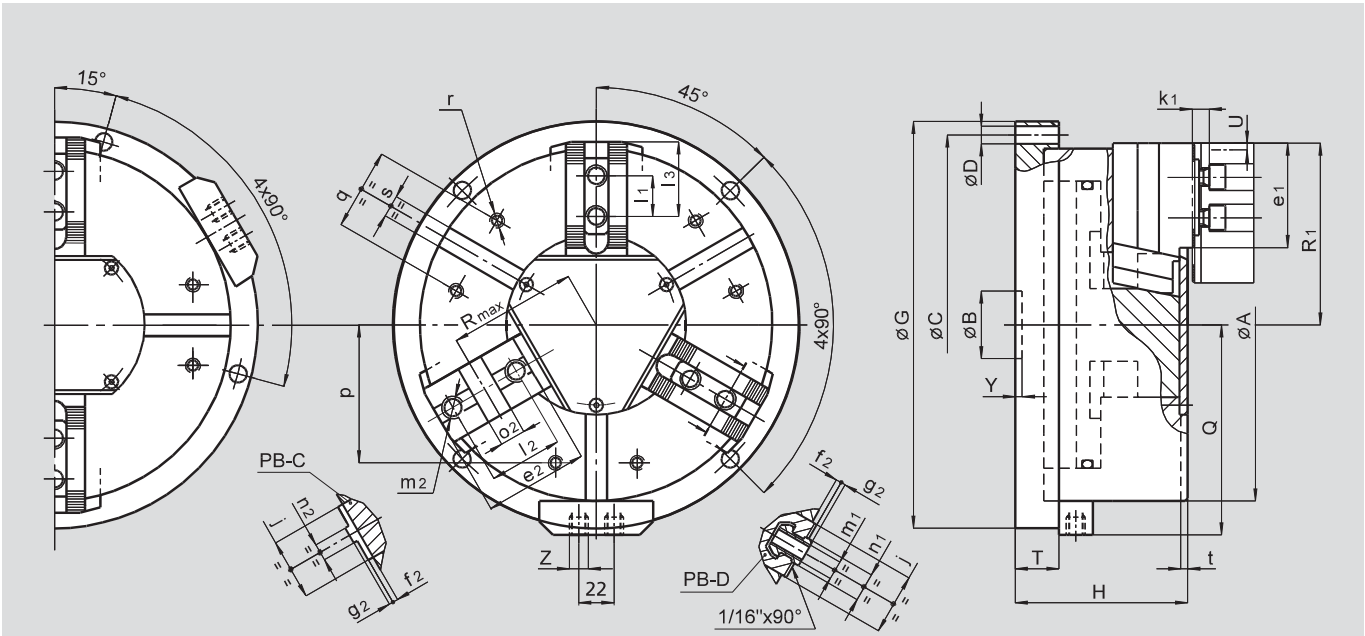
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Stationary chuck, pneumatic Ø 130 - 315 mm

- built-in cylinder
- 2 and 3 jaws

PB-D
INCH serration
2 or 3 jaws

PB-C
Tongue & groove
3 jaws



Subject to technical changes
For more detailed information please ask for customer drawing

Common dimensions

SMW-AUTOBLOK Type			PB-D 130 PB-C 130	PB-D 165 PB-C 165	PB-D 210 PB-C 210	PB-D 250 PB-C 250	PB-D 315 PB-C 315
	A	mm	135	170	215	260	315
	B	mm	30	30	35	50	50
Fixing holes circle	**C**	mm	155	190	235	280	340
Fixing holes diameter	**D**	mm	9	11	11	13	13
	G	mm	175	210	255	300	360
	H	mm	89	100	117	127	141
	Q	mm	93	110	133	155	183
	T	mm	25	27	30	32	32
Radial jaw stroke (3 jaws)	**U**	mm	3.2	3.6	4.4	5	6.3
Radial jaw stroke PBL-D2 (2 jaws)	**U**	mm	6	6.8	8.4	9.7	12
	Y	mm	5	5	5	5	5
Pneumatic connections	**Z**	inch	R1/4"	R1/4"	R1/4"	R1/4"	R1/4"
	j	mm	26	30	36	45	45
	k1	mm	10	10	11	12	12
	p	mm	52	65	80	102	120
	q	mm	30	36	45	60	60
	r	mm	M6	M8	M8	M10	M10
	s H12	mm	12	16	16	16	16
	t	mm	5	5	5	5	5

PB-D and PBL-D2 fixtures dimensions

SMW-AUTOBLOK Type			PB-D 130	PB-D 165	PB-D 210	PB-D 250	PB-D 315
	e1	mm	37	48	60	77	99
	f1	mm	3	4	3	4	4
	g1	mm	2.5	2.5	2.5	3.5	3.5
	l1	mm	16	16.5	23	30	30
T-nut position min./max.	**l3**	mm	23/30	24/40	33/50	43/62	43/84
	m1	mm	M8	M10	M12	M16	M16
	n1 h8	mm	12	14	17	21	21
Chuck open (3 jaws)	**R1**	mm	71	89	110	134	162
Chuck open PBL-D2 (2 jaws)	**R1**	mm	74	92	114	138.5	168

PB-C fixtures dimensions (available only in 3 jaw chuck version)

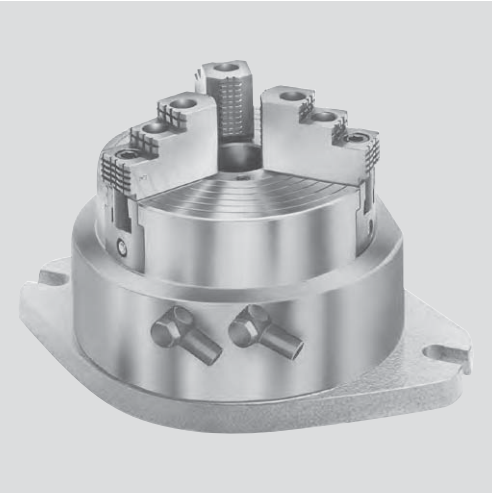
SMW-AUTOBLOK Type			PB-C 130	PB-C 165	PB-C 210	PB-C 250	PB-C 315
	e2	mm	-	54	71	77	99
	f2	mm	-	4	4	4	4
	g2	mm	-	3	3	3	3
	l2	mm	-	38	44.4	54	63.5
	m2	mm	-	M10	M12	M16	M16
	n2 h8	mm	-	7.94	7.94	12.70	12.70
	o2 H7	mm	-	12.68	12.68	19.03	19.03
Chuck open	**R1**	mm	-	89	110	134	162
Chuck open	**Rmax**	mm	-	62	77	94	109

STP

INCH serration
3 jaws

Stationary chuck, pneumatic Ø 125 - 280 mm

- **built-in cylinder**
- **with THROUGH-HOLE**



Application/customer benefits

- Self centering stationary chuck used on milling machines/machining centers/special machines
- Low profile – large open center
- Easy installation on the machine

Technical features

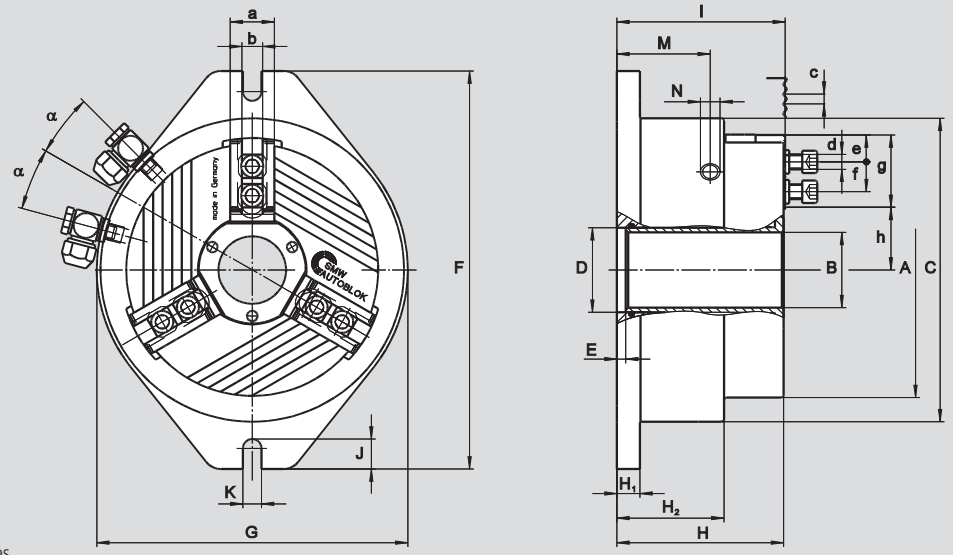
- Stationary chuck consisting of a 3 jaw chuck with a built-in pneumatic cylinder
- Operating pressure from 2 to 10 bar
  Caution! Filtered and oiled, operating air required

Standard equipment

3 jaw chuck
1 set T-nuts with bolts
1 set of soft blank top jaws
2 elbow fittings G1/4"
(G1/8" on STP 125)

Ordering example

3 jaw chuck fixture STP 280
or
3 jaw chuck fixture STP 160



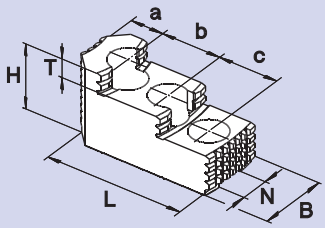
Subject to technical changes
For more detailed information please ask for customer drawing

Technical data

SMW-AUTOBLOK Type Id. No.				STP 125 013904	STP 160 013905	STP 240 053273	STP 280 052810
		A	mm	136	171	240	284
		B	mm	26	38	78	92
		C	mm	156	201	250	316
		D H6	mm	34	46	86	102
		E	mm	8	7.5	7	6
		F	mm	220	275	320	400
		G	mm	160	206	250	316
		H	mm	102.5	130	134	155.5
		H_1	mm	14.5	19	18.5	23.5
		H_2	mm	66	83	86	97.5
		I	mm	104	132	135.5	157
		J	mm	22	24	24	30
		K	mm	13	15	15	18
		M	mm	57	72	75	86
Pneumatic connections		**N**	inch	G 1/8"	G 1/4"	G 1/4"	G 1/4"
		a	mm	25	30	36	44
		b f7	mm	12	14	17	21
Serration		**c**	inch	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°
Bolt DIN 912 12.9		**d**	mm	M8 x 30	M10 x 35	M12 x 35	M16 x 40
	min.	**e**	mm	4	6	8	12
T-nuts distance	min./max.	**f**	mm	17/25	17/31	22/41.5	25/51
Serration length		**g**	mm	40	50	59	75
	min./max.	**h**	mm	25.9/28.9	24.9/37	57.7/61.9	70/65
		α		15	15	15	7.5

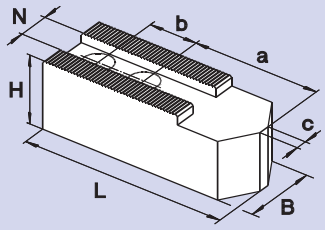
Radial jaw stroke		mm	3	4.1	4.2	5
Operating pressure	min./max.	bar	2/10	2/10	2/10	2/10
Piston area		cm^2	129	206	290	532
Air consumption at 6 bar		l	1	2.4	5.5	6.6
Mass (without top jaws)		kg	19	21	40	56

MHB-D
Hardened reversible top jaws



Chuck type	STP 125	STP 160	STP 240	STP 280
Jaw type	MHB-D 125	MHB-D 160	MHB-D 200	MHB-D 251
Jaw Id. No. (set)	12081306	12081636	12082036	12083036
B	30	34	40	5
H	34	39	45	56
L	58	65	82	105
T	8.5	10	10.5	13.5
N	12	14	17	21
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°
a	13	18	19	26
b	16	16	23	30
c	16	16	23	30
kg/set	0.6	0.9	1.7	2.85

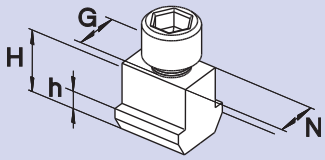
AWB-D
Soft top jaws



Chuck type	STP 125	STP 160	STP 240	STP 280
Jaw type	AWB-D 125	AWB-D 165	AWB-D 200	AWB-D 250
Jaw Id. No. (set)	12071300*	035954	081616	081618
B	30	40	40	50
H	30	40	40	50
L	60	80	90	120
N	12	14	17	21
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°
a	29	43	53	70
b	16	22	22	28
kg/set	0.9	2.0	2.7	5.1

* Id. No. is per piece.

NST
T-nuts



Chuck type	STP 125	STP 160	STP 240	STP 280
T-nut type	NST 12	NST 14	NST 17-4	NST 21-5
T-nut Id. No.	089810	013863	013864	033429
N	12	14	17	21
H	21.5	26.5	26.5	30
h	7.5	9.5	9.5	11
G	M8	M10	M12	M16
Bolt DIN 912 12.9	M8 x 30	M10 x 35	M12 x 35	M16 x 40
Tighten torque	30	50	70	150



M2-PB

Multiple fixture with 2 chucks

M4-PB

Multiple fixture with 4 chucks

Multiple chucks on fixture, pneumatic Ø 130 - 315 mm

- 2 or 3 jaws (PB-D/PB-M)
- 3 jaws (PB-C)



Application/customer benefits

- For milling machines/machining centers to clamp and machine multiple pieces in one setup

M2-PB: Multiple fixture with 2 chucks type PB-D, PB-C or PB-M
M4-PB: Multiple fixture with 4 chucks type PB-D, PB-C or PB-M

Technical features (more features on chucks see page 272)

- The basic model needs separate circuits to operate the chucks singularly
  1st option: SAB safety unit with non-return valve for every chuck
  2nd option: single non-return valve to operate all chucks simultaneously, with coupling unit to repressurize the fixtures after the storage of the pallets
  3rd option: every chuck can be equipped with a spring loaded clamping unit (internal or external clamping), to hold the workpieces during the pallet transfer

Standard equipment

Multiple chuck on fixture
1 set of soft blank top jaws per chuck (PB-C excluded)
Grease gun

Ordering example

Multiple chuck on fixture
M2-PBC 250 (3 jaws)
or
Multiple chuck on fixture
M4-PBD 165 (2 jaws)

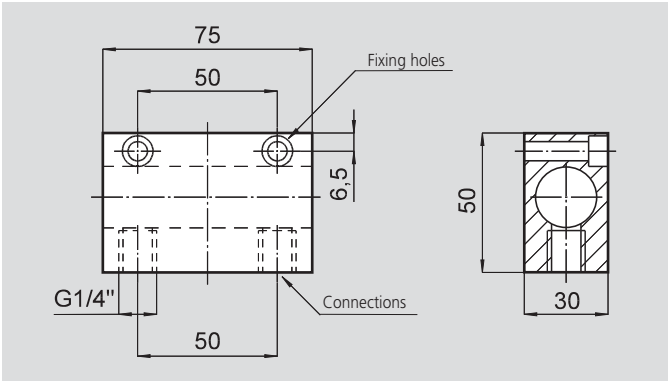
Technical data

SMW-AUTOBLOK Type		M2-PB 130 M4-PB 130	M2-PB 165 M4-PB 165	M2-PB 210 M4-PB 210	M2-PB 250 M4-PB 250	M2-PB 315 M4-PB 315
Chucks radial jaw stroke	mm	3.2	3.6	4.4	5	6.3
Chucks radial jaw stroke PBL-D2 (2 jaws)*	mm	6	6.8	8.4	9.7	12
Actuating cylinder piston area	cm^2	82	143	236	358	548
Max. operating pressure	bar	7	7	7	7	7
Chucks gripping force at 6 bar	kN	14	24	42	64	98
Chucks gripping force at 6 bar PBL-D2 (2 jaws)*	kN	9	16	26	39	60
M2-PB. mass (without top jaws)	kg	29.5	49	83	121	172

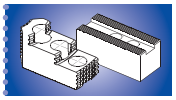
*The 2 jaw fixture is available with serrated master jaws (inch or metric) and long stroke only.

Option for the M2-PB and M4-PB fixtures Safety unit that maintains a constant pressure inside the cylinder which maintains a steady clamping force even in case of a drop or lack of line pressure

SAB Safety unit with double non-return valve






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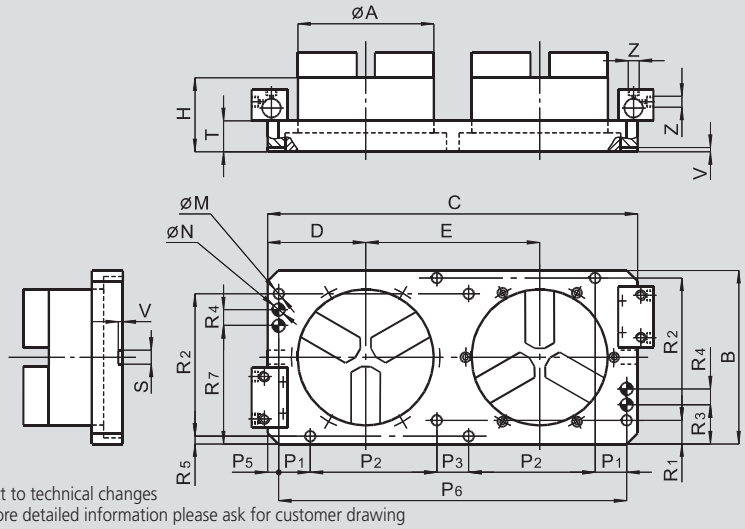
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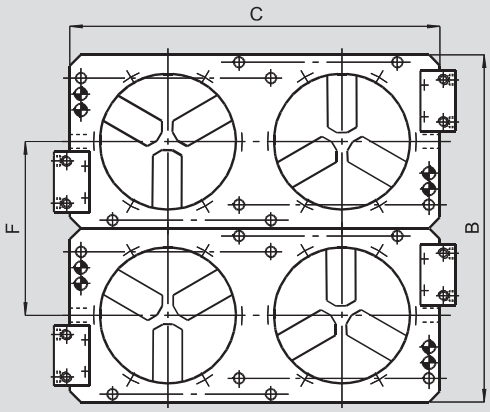
Multiple chucks on fixture, pneumatic
Ø 130 - 315 mm

- 2 or 3 jaws (PB-D/PB-M)
- 3 jaws (PB-C)

M2-PB Multiple fixture with 2 chucks

M4-PB Multiple fixture with 4 chucks





M4-PB

Subject to technical changes
For more detailed information please ask for customer drawing

M2-PB dimensions

SMW-AUTOBLOK Type			M2-PB 130	M2-PB 165	M2-PB 210	M2-PB 250	M2-PB 315
Chuck diameter	**A**	mm	135	170	215	260	315
	B	mm	198	224	274	324	374
	C	mm	400	460	585	660	780
	D	mm	107.5	131	155	175	205
	E	mm	185	223	275	310	370
	H	mm	89	100	117	127	141
Fixing holes diameter	**M**	mm	17	17	17	17	17
Reference pin holes	**N** H8	mm	20	20	20	20	20
	P1	mm	-	50	50	50	50
	P2	mm	150	150	200	250	300
	P3	mm	50	50	50	-	-
	P5	mm	25	17.5	17.5	30	40
	P6	mm	350	460	550	600	700
	R1	mm	24	37	37	37	37
	R2	mm	150	175	225	275	325
	R3	mm	24	62	62	62	62
	R4	mm	-	25	25	25	25
	R5	mm	24	12	12	12	12
	R7	mm	174	137	187	237	287
	S	mm	14	18	18	18	18
	T	mm	39	44	49	54	54
	V	mm	6	6	6	6	6
Pneumatic connections	**Z**		R1/4"	R1/4"	R1/4"	R1/4"	R1/4"

M4-PB dimensions

SMW-AUTOBLOK Type			M4-PB 130	M4-PB 165	M4-PB 210	M4-PB 250	M4-PB 315
Chuck diameter	**A**	mm	135	170	215	260	315
	B	mm	398	449	549	649	749
	C	mm	400	460	585	660	780
	D	mm	107.5	131	155	175	205
	E	mm	185	223	275	310	370
	F	mm	200	225	275	325	375
	H	mm	89	100	117	127	141
Fixing holes diameter	**M**	mm	17	17	17	17	17
Reference pin holes	**N** H8	mm	20	20	20	20	20
	P1	mm	-	50	50	50	50
	P2	mm	150	150	200	250	300
	P3	mm	50	50	50	-	-
	P5	mm	25	17.5	17.5	30	40
	P6	mm	350	460	550	600	700
	R1	mm	24	37	37	37	37
	R2	mm	150	175	225	275	325
	R3	mm	24	62	62	62	62
	R4	mm	-	25	25	25	25
	R5	mm	24	12	12	12	12
	R7	mm	174	137	187	237	287
	S	mm	14	18	18	18	18
	T	mm	39	44	49	54	54
	V	mm	6	6	6	6	6
Pneumatic connections	**Z**	inch	R1/4"	R1/4"	R1/4"	R1/4"	R1/4"

PBI-D

INCH serration
2 or 3 jaws

PBI-C

Tongue & groove
3 jaws

Pneumatic chuck for indexing tables Ø 165 - 315 mm

- built-in cylinder
- 2 and 3 jaws



Application/customer benefits

- Self centering rotating chuck with a pneumatic manifold used on indexing tables, not designed for constant rotation on turning machines

PBI-D: inch serrated master jaws (1/16" x 90°)
PBI-C: tongue & groove master jaws
PBI-M: metric serrated master jaws (1.5 mm x 60°) **on request**

Technical features

- 2/3 jaw chuck with a built-in pneumatic cylinder
- manifold for air supply
- Case hardened body to assure highest precision and long chuck life

Important! Due to the friction between fixed manifold and rotating central body, the indexing table must provide a higher rotation torque than the one shown in the schedule below

Standard equipment

Chuck unit
1 set of soft blank top jaws (PBI-C excluded)
1 set T-nuts with bolts (PBI-C excluded)
Grease gun

Ordering example

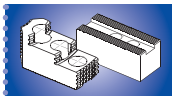
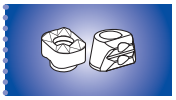
3 jaw chuck PBI-C 250
or
2 jaw chuck PBI-D 165

Technical data

SMW-AUTOBLOK Type		PBI-D 165 PBI-C 165	PBI-D 210 PBI-C 210	PBI-D 250 PBI-C 250	PBI-D 315 PBI-C 315
Radial jaw stroke	mm	3.6	4.4	5	6.3
Radial jaw stroke PBIL-D2 (2 jaws)*	mm	6.8	8.4	9.7	12
Piston area	cm^2	143	236	358	548
Max. operating pressure	bar	7	7	7	7
Gripping force at 6 bar	kN	24	42	64	98
Gripping force at 6 bar PBIL-D2 (2 jaws)*	kN	16	26	39	60
Torque Md	Nm	40	60	85	120
Mass (without top jaws)	kg	23	38	56	82

*The 2 jaw fixture is available with serrated master jaws (inch or metric) and long stroke only.



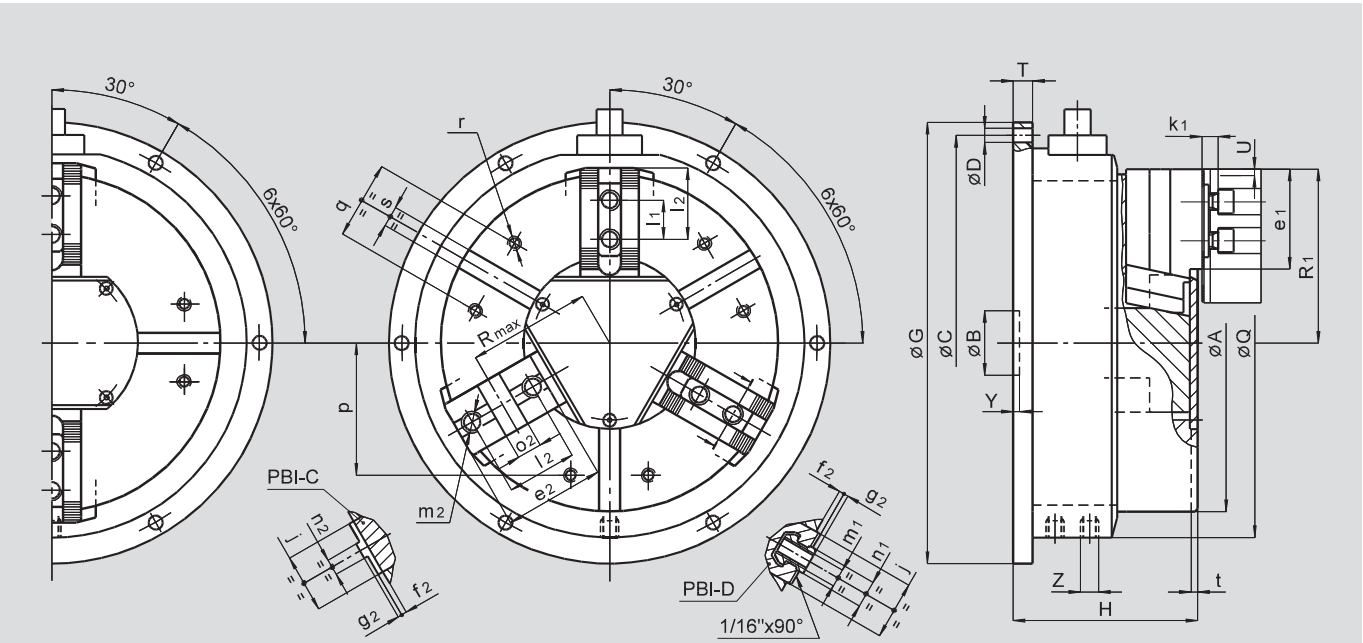

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Pneumatic chuck for indexing tables Ø 165 - 315 mm

- built-in cylinder
- 2 and 3 jaws

PBI-D — INCH serration, 2 or 3 jaws

PBI-C — Tongue & groove, 3 jaws



Subject to technical changes
For more detailed information please ask for customer drawing

Common dimensions

SMW-AUTOBLOK Type			PBI-D 165 PBI-C 165	PBI-D 210 PBI-C 210	PBI-D 250 PBI-C 250	PBI-D 315 PBI-C 315
	A	mm	170	215	260	315
	B	mm	30	35	50	50
Fixing holes circle	**C**	mm	225	280	320	390
Fixing holes diameter	**D**	mm	9	11	11	13
	G	mm	240	300	340	415
	H	mm	114	132	140	145
	Q	mm	210	260	300	365
	T	mm	10	12	14	14
Radial jaw stroke (3 jaws)	**U**	mm	3.6	4.4	5	6.3
Radial jaw stroke PBIL-D2 (2 jaws)	**U**	mm	6.8	8.4	9.7	12
	Y	mm	5	5	5	5
Pneumatic connections	**Z**	inch	R1/4"	R1/4"	R1/4"	R1/4"
	j	mm	30	36	45	45
	k1	mm	10	11	12	12
	p	mm	65	80	102	120
	q	mm	36	45	60	60
	r	mm	M8	M8	M10	M10
	s H12	mm	16	16	16	16
	t	mm	5	5	5	5

PBI-D and HBL-D2 fixtures dimensions

SMW-AUTOBLOK Type			PBI-D 165	PBI-D 210	PBI-D 250	PBI-D 315
	e1	mm	48	60	77	99
	f1	mm	4	3	4	4
	g1	mm	2.5	2.5	3.5	3.5
	l1	mm	16.5	23	30	30
T-nut position min./max.	**l3**	mm	24/40	33/50	43/62	43/84
	m1	mm	M10	M12	M16	M16
	n1 h8	mm	14	17	21	21
Chuck open (3 jaws)	**R1**	mm	89	110	134	162
Chuck open PBIL-D2 (2 jaws)	**R1**	mm	92	114	138.5	168

PBI-C fixtures dimensions (available only in 3 jaw chuck version)

SMW-AUTOBLOK Type			PBI-C 165	PBI-C 210	PBI-C 250	PBI-C 315
	e2	mm	54	71	77	99
	f2	mm	4	4	4	4
	g2	mm	3	3	3	3
	l2	mm	38	44.4	54	63.5
	m2	mm	M10	M12	M16	M16
	n2 h8	mm	7.94	7.94	12.70	12.70
	o2 H7	mm	12.68	12.68	19.03	19.03
Chuck open	**R1**	mm	89	110	134	162
Chuck open	**Rmax**	mm	62	77	94	109

Chuck adapters ■ Top jaws ■ T-nuts ■ Grippers Gripping force meter ■ Grease ■ Accessories



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Chuck adapters
DIN 55026/ISO-A 702/1

Mounting adapters on short taper spindle noses

- direct and indirect mounting
- reduction and increase mounting

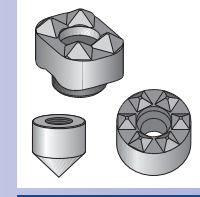


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Top jaws, T-nuts

- hard top jaws
- soft top jaws
- T-nuts

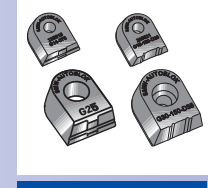




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Grippers UGE, FGH + Clamping points MGH

- Grippers, special steel hardened
- Grippers, carbide
- Clamping points



Page 290

Precision grippers G14 + G25 - G15 + G30

- Controlled penetration
- G14 light duty pull down
  G25 heavy duty pull down
- G15 light duty high torque
  G30 heavy duty high torque



Page 293

Boring rings ADS

- For boring of soft top jaws on chucks



Page 293

Dress and cleaning plate RPS

For dressing and cleaning of top jaw serrations

- 2 different serrations per plate (upper and lower side)



Page 294

Gripping force tester GFT®-X

- wireless handheld with battery
- dynamic gripping force measuring
- static gripping force measuring
- speed measuring
- display software and connection to a laptop/computer



Page 297

Grease K05®
- for manual and power chucks

Grease K67®
- special grease for sealed chucks included in proofline® series

Grease gun
- important for safe operation and maintenance of chucks

Chuck adapters

DIN 55026 / ISO-A 702/1

Mounting adapters on short taper spindle noses

- direct and indirect mounting
- reduction and increase mounting



Application/customer benefits

Chuck adapter flanges for short taper mount spindles (DIN 55026/ISO-A 702/1).
Easy installation of chucks on the machine spindle.

Flange FF 1 = Direct mounting
Flange FF 2 = Reduction of taper
Flange FF 3 = Increase of taper

Technical data

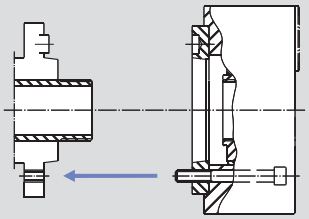
Case hardened flanges (up to Ø 220)
High precision grinding of the taper and all reference dimensions

Standard equipment

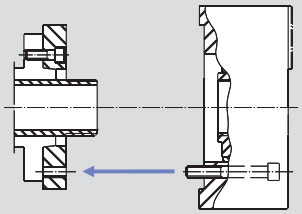
Fixing bolts of the indirect mounting adapters on the spindle nose

Ordering example

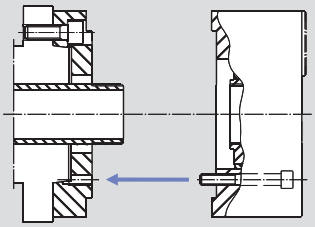
Direct adapter FF 1 A6 Id. No. 24162000
or
Reduction adapter FF 2 A5 Id. No. 24152000



- **Adapter Type FF 1 - direct mounting**
  Adapter mounted onto the chuck. The chuck is directly mounted onto the spindle nose.



- **Adapter Type FF 2 - reduction mounting**
  Used when the spindle nose is smaller than the standard one on the chuck. The adapter is mounted onto the spindle prior to the chuck.



- **Adapter Type FF 3 - increase mounting**
  Used when the spindle nose is bigger than the standard one on the chuck. The adapter is mounted onto the spindle prior to the chuck.

The easy way to adapt your SMW-AUTOBLOK chuck to your machine spindle

	Chuck models									Adapter Type 1		Adapter Type 2				Adapter Type 3			
Chuck Ø	AN-, AL-, AP-, NT-	IN-, IL-	2CL-, RAN	BH-	RC-	BB-	BH-FC, TPT-	KNCS-, HFK-N, DFR	TSF-, TSR-	Spindle nose	Adapter flange Id. number	Spindle nose	Adapterflange Id. number	Spindle nose	Adapterflange Id. number	Spindle nose	Adapterflange Id. number	Spindle nose	Adapterflange Id. number
125	●									A4	24141300	-	-	-	-	A5	24151310	A6	24161310
130				●															
140 Z120								●		A5	075421	-	-	-	-	-	-	-	-
140 Z130						●				A5	24151400	A4	24141400	-	-	A6	24161410	-	-
160			●							A5	24151600 24151700*	A4	24141600	-	-	A6	24161610	A8	24181710
165	●			●	●		●												
170 Z140	●							●	●										
170 Z160									●	A6	24161720	A5	24151720	-	-	A8	24181720	-	-
175						●													
200			●							A6	24162000 24162500*	A5	24152000	-	-	A8	24182010	-	-
210/215	●			●	●	●	●	●	●										
225								●											
260 Z170								●											
250	●		●	●	●	●	●		●	A8	24182500 24182510*	A6	24162530	A5	24152500	A11	24112510	-	-
260 Z220	●							●											
315 Z220	●		●					●	●										
305					●					A8	24183050	A6	24163500						
305					●					A11	24113500	A6	24163500						
315 Z300				●		●	●	●											
400 Z300	●			●	●		●	●	●	A11	24113100 24113110*	A8	24183100 24184000*	A6	24163100	A15	24123110	-	-
450 Z300	●			●	●		●	●	●										
500 Z300								●											
400 Z380								●											
500 Z380		●		●	●		●	●		A15	24125000 24127100*	A11	24115000	A8	24185000	A20	24175000	-	-
630 Z380		●			●		●	●											
800 Z380		●																	
630 Z520				●						A20	24178000	A15	24126100	A11	24116100	-	-	-	-
800 Z520				●			●												
1000 Z520		●																	
1250 Z520		●																	
1400 Z720		●								-	-	A20	24179400	-	-	-	-	-	-
1600 Z720		●																	
1800 Z720		●																	

*** Suggestion:** This flange is thicker than the standard one, to be used only if necessary!

Note: For 165 FRC see 165 AN-, for 215 FRC see 210 AN-, for 285 FRC see 250 AN-, for 365 FRC see 400 AN-

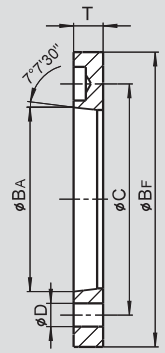
Mounting adapters on short taper spindle noses

- direct and indirect mounting
- reduction and increase mounting

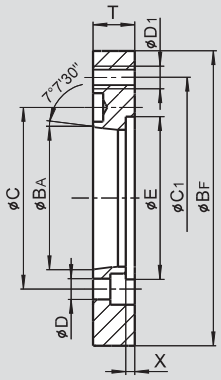
Chuck adapters

DIN 55026 / ISO-A 702/1

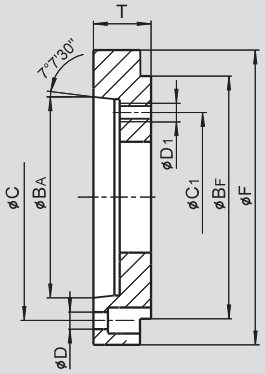
Type FF 1 - direct
ISO-A mounting



Type FF 2 - reduction
ISO-A mounting



Type FF 3 - increase
ISO-A mounting



Subject to technical changes

Adapters Type FF 1

Adapter Id. No.	Spindle nose	BF mm	BA mm	C mm	D mm	T mm	Mass kg
24141300	A4	115	63.513	82.6	11.5	13	0.6
075421	A5	120	82.563	104.8	10.5	16	0.7
24151400	A5	130	82.563	104.8	11.5	15	0.75
24151600	A5	140	82.563	104.8	11.5	15	1
24151700*	A5	140	82.563	104.8	11.5	24	1.5
24161720	A6	160	106.375	133.4	13.5	17	1.2
24162000	A6	170	106.375	133.4	13.5	17	1.5
24162500*	A6	170	106.375	133.4	13.5	24	2.2
24182500	A8	220	139.719	171.4	17	19	2.7
24182510*	A8	220	139.719	171.4	17	27	4
24183050	A8	280	139.719	171.4	17	19	6.5
24113100	A11	300	196.869	235	21	21	5.5
24113110*	A11	300	196.869	235	21	30	8
24113500	A11	280	196.869	235	21	21	4
24125000	A15	380	285.775	330.2	25	23	8
24127100*	A15	380	285.775	330.2	25	33	11.5
24178000	A20	520	412.775	463.6	27	25	14.5

*** Suggestion:** This flange is thicker than the standard one, to be used only if necessary!

Adapters Type FF 2

Adapter Id. No.	Spindle nose	BF mm	BA mm	C mm	D mm	C1 mm	D1 mm	E mm	X mm	T mm	Mass kg
24141400	A4	130	63.513	82.6	11.5	104.8	M10	-	-	20	1.2
24141600	A4	140	63.513	82.6	11.5	104.8	M10	-	-	20	1.6
24151720	A5	160	82.563	104.8	11.5	133.4	M12	-	-	24	2.2
24152000	A5	170	82.563	104.8	11.5	133.4	M12	-	-	24	2.7
24152500	A5	220	82.563	104.8	11.5	171.4	M16	-	-	24	5.5
24162530	A6	220	106.375	133.4	13.5	171.4	M16	-	-	24	5
24163100	A6	300	106.375	133.4	13.5	235	M20	155	10	30	11
24163500	A6	280	106.375	133.4	13.5	235	M20	-	-	30	9
24183100	A8	300	139.719	171.4	17	235	M20	-	-	30	11.5
24184000*	A8	300	139.719	171.4	17	235	M20	155	10	40	15.5
24185000	A8	380	139.719	171.4	17	330.2	M24	197	10	40	24
24115000	A11	380	196.869	235	21	330.2	M24	197	10	40	21
24116100	A11	520	196.869	235	21	463.6	M24	267	12	45	54
24126100	A15	520	285.775	330.2	25	463.6	M24	-	-	40	40
24179400	A20	720	412.775	463.6	27	647.6	M30	-	-	50	93

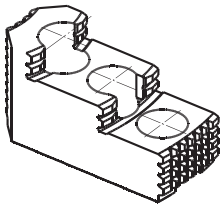
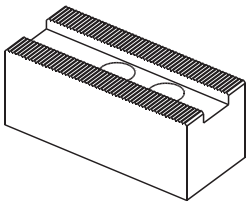
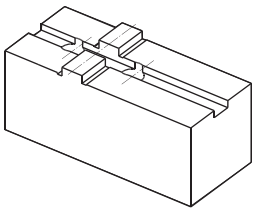
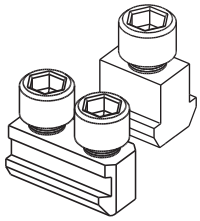
*** Suggestion:** This flange is thicker than the standard one, to be used only if necessary!

Adapters Type FF 3

Adapter Id. No.	Spindle nose	BF mm	BA mm	C mm	D mm	C1 mm	D1 mm	F mm	T mm	Mass kg
24151310	A5	115	82.563	104.8	11.5	82.6	M10	127	30	1.7
24161310	A6	115	106.375	133.4	13.5	82.6	M10	165	35	3.5
24161410	A6	130	106.375	133.4	13.5	104.8	M10	165	35	3.4
24161610	A6	140	106.375	133.4	13.5	104.8	M10	165	35	3.3
24181710	A8	140	139.719	171.4	17	104.8	M10	210	35	5.2
24181720	A8	160	139.719	171.4	17	133.4	M12	210	40	5.8
24182010	A8	170	139.719	171.4	17	133.4	M12	210	40	6.2
24112510	A11	220	196.869	235	21	171.4	M16	280	45	11.8
24123110	A15	300	285.775	330.2	25	235	M20	380	50	22
24175000	A20	380	412.777	463.6	27	330.2	M24	520	58	55

Hard top jaws, soft top jaws, T-nuts

- Inch serrated
- Metric serrated
- Tongue & groove


For further jaws and accessories please ask for our 150 pages special catalogue!

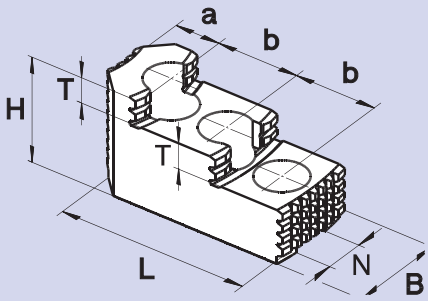
The easy way to mount the right top jaws on your SMW-AUTOBLOK chuck

		Chuck series											Hard top jaws		Soft top jaws	T-nuts	
	Chuck Ø	AN-, AL-,	AP-, NT-	IN-, IL-	CL-	BH-	BH-FC	BB-	RC-	RAN	PB-, PBI-, HB-	HYN-, HYL-	Set of 3 hard top jaws Id. No.	Set of 4 hard top jaws Id. No.	Soft top jaws Id. No.	T-nut type	T-nuts Id. No. (see page 286)
INCH SERRATION "D"	125	●											12081306	12081308	12071300	3	12061200
	130					●					●		12081306	12081308	12071300	2	12061300
	140							●									
	165/170	●	●			●	●		●		●		12081636	12081638	12071680	3	73061650
	175/180							●				●					
	200				●								-	-	12072500	1	12062500
	210/215	●	●			●	●	●	●		●	●	12082036	12082038	12072130	3	73062150
	226											●					
	260		●										12082626	-	12072620	3	18062632
	250	●				●	●	●	●		●	●	12083036	12083038	12072500	3	73063050
	250				●								-	-	90072500	1	12065020
	315				●												
	305/315	●	●			●	●	●	●		●	●	12083036	12083038	12073000	3	73063050
	400								●				12084006	12084008	12074030	1	12063000
	400/450	●				●	●					●	12084546	12084548	12074040	1	12065020
	400		●										12084546	-	12074140	3	73065030
	500								●				12084546	-	12075050	3	73065030
	500					●	●						12084546	-	12075050	1	12065020
	500-550											●	12084546	12084548	12075050	1	12065082
	630											●					
	500			●									12086346	12086348	12075040	1	12065002
	630			●													
	630						●						12084546	-	12075050	1	12065020
	630					●							12086346	12086348	12075140	1	12065020
	800					●											
	800			●								●	12086346	12086348	12075040	1	12065002
METRIC SERRATION "M"	125	●											12081307	12081309	12071301	3	12061200
	130					●					●		12081307	12081309	12071301	2	12061300
	140							●									
	165/170	●	●			●			●		●		12081627	12081629	12071621	4	73061602
	175							●									
	210/215	●	●			●		●	●		●		12082127	12082129	12072121	4	73062101
	250	●				●		●	●		●		12082627	12082629	12072621	4	73062501
	260		●										12082627	-	12072621	4	18062633
	305/315	●	●			●		●	●		●		12083037	12083039	12073001	3	73063050
	400								●				12084007	12084009	12074031	1	12063000
	400		●										12084527	-	12074021	2	12064520
	400/450	●				●							12084527	12084529	12074021	1	12064020
TONGUE & GROOVE "C"	80				●								-	-	90040800	-	-
	100				●								-	-	90041000	-	-
	125				●								-	-	90041300	-	-
	160				●								-	-	90041600	-	-
	160									●			-	-	12041660	-	-
	165/170	●	●						●		●		-	-	12041660	-	-
	200								●	●			-	-	12042060	-	-
	210/215	●	●								●		-	-	12042060	-	-
	250/260	●	●						●	●	●		-	-	12042560	-	-
	305/315	●	●						●	●	●		-	-	12043060	-	-
	400	●	●							●			-	-	12044050	-	-
	500			●									-	-	12045050	-	-
	630			●													
	800			●									-	-	12045050	-	-

Hard top jaws, soft top jaws

- Inch serrated
- Metric serrated
- Tongue & groove



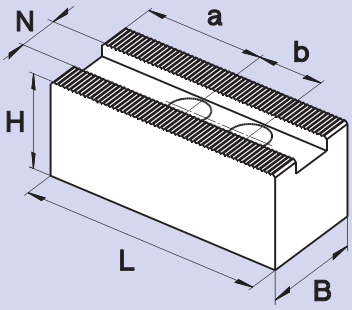


Inch serrated hard top jaws "D"

■ If high concentricity is required jaws have to be ground on the chuck at clamping pressure

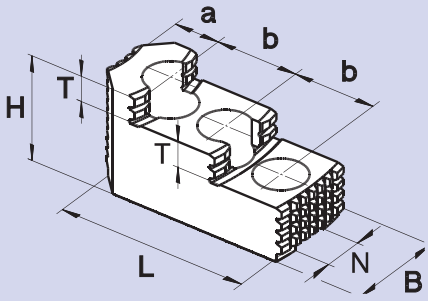
Id. No.*	Serration inch	B mm	H mm	L mm	N mm	T mm	a mm	b mm	Mass kg/jaw
12081306	1/16"x 90°	30	34	58	12	8.5	13	16	0.2
12081636	1/16"x 90°	34	39	65	14	10	18	16.5	0.3
12082036	1/16"x 90°	40	45	82	17	10.5	19	23	0.57
12082626	1/16"x 90°	45	56	100	17	15.5	23	30	0.85
12083036	1/16"x 90°	45	56	105	21	13.5	26	30	0.95
12084006	1/16"x 90°	55	73	120	21	22	30	34	1.70
12085046	3/32"x 90°	55	73	145	25.5	32	46	38	2.2
12084546	3/32"x 90°	60	75	140	25.5	19	38	38	2.5
12086346	3/32"x 90°	70	75	145	25.5	32	46	38	3

* The number refers to a set of 3 jaws; for the set of 4 jaws the final number is not 6 but 8



Inch serrated soft blank top jaws "D"

Id. No.	Serration inch	B mm	H mm	L mm	N mm	a mm	b mm	Mass kg/jaw
12071300	1/16"x 90°	30	30	60	12	29	16	0.3
12071680	1/16"x 90°	30	35	70	14	38	16.5	0.42
12072130	1/16"x 90°	35	40	90	17	47	23	0.85
12072620	1/16"x 90°	40	45	110	17	60	30	1.23
12072500	1/16"x 90°	45	45	110	21	60	30	1.25
90072500	1/16"x 90°	60	60	120	25.5	64	34	2.6
12073000	1/16"x 90°	50	50	125	21	73	30	1.85
12074030	1/16"x 90°	60	60	140	21	81	34	3.2
12074040	3/32"x 90°	60	60	140	25.5	75	38	3.2
12075050	3/32"x 90°	60	60	170	25.5	105	38	3.6
12075040	3/32"x 90°	75	75	160	25.5	97	38	5.5
12075140	3/32"x 90°	60	60	205	25.5	104	38	4.5

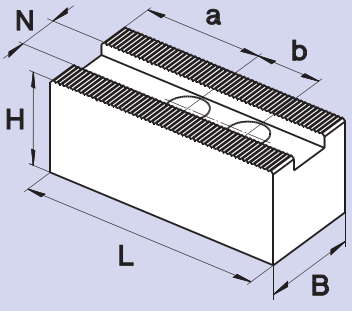


Metric serrated hard top jaws "M"

■ If high concentricity is required jaws have to be ground on the chuck at clamping pressure

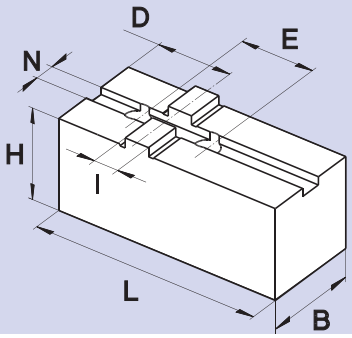
Id. No.*	Serration mm	B mm	H mm	L mm	N mm	T mm	a mm	b mm	Mass kg/jaw
12081307	1.5 x 60°	30	34	58	12	8.5	13	16	0.2
12081627	1.5 x 60°	34	39	67	12	10	14	20	0.31
12082127	1.5 x 60°	40	45	86	14	10.5	19	25	0.60
12082627	1.5 x 60°	45	56	100	16	15.5	23	30	0.85
12083037	1.5 x 60°	45	56	105	21	13.5	26	30	0.95
12084007	1.5 x 60°	55	73	120	21	22	30	34	1.70
12084047	1.5 x 60°	55	73	145	25.5	32	46	38	2.2
12084527	1.5 x 60°	60	75	140	22	19	38	38	2.5

* The number refers to a set of 3 jaws; for the set of 4 jaws the final number is not 7 but 9



Metric serrated soft blank top jaws "M"

Id. No.	Serration mm	B mm	H mm	L mm	N mm	a mm	b mm	Mass kg/jaw
12071301	1.5 x 60°	30	30	60	12	29	16	0.3
12071621	1.5 x 60°	30	35	70	12	34	20	0.42
12072121	1.5 x 60°	35	40	90	14	47	25	0.85
12072621	1.5 x 60°	45	45	110	16	60	30	1.3
12073001	1.5 x 60°	50	50	125	21	73	30	1.85
12074021	1.5 x 60°	60	60	140	22	75	38	3.2
12074031	1.5 x 60°	60	60	140	21	81	34	3.2
12074041	1.5 x 60°	60	60	140	25.5	75	38	3.2



Tongue & groove soft blank top jaws "C"

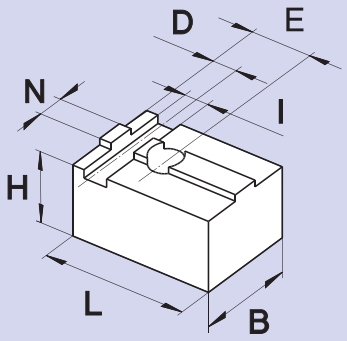
■ American Standard Tongue & groove

Id. No.	B mm	H mm	L mm	N mm	D mm	E mm	I mm	Mass kg/jaw
12041660	30	32	80	7.94	30	38.1	12.68	0.58
12042060	35	37	100	7.94	35	44.4	12.68	0.92
12042560	45	42	120	12.70	42	54	19.03	1.25
12043060	50	47	140	12.70	50	63.5	19.03	2.15
12044050	60	55	165	12.70	60	76.2	19.03	3.6
12045050	75	70	165	12.70	60	76.2	19.03	5.5

Soft top jaws, T-nuts

■ Tongue & groove





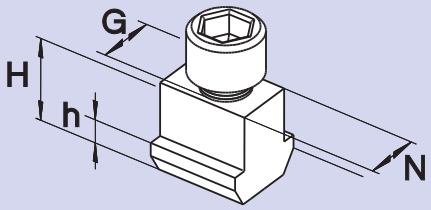
Tongue & groove soft blank top jaws "C"

■ DIN standard tongue & groove

■ For CL-C chucks

Id. No.	B mm	H mm	L mm	N mm	D mm	E mm	I mm	Mass kg/jaw
90040800	30	30	38	8	8	14	8	0.18
90041000	30	30	48	8	8	20	8	0.23
90041300	35	35	57	14	27	27	16	0.40
90041600	40	40	75	18	34	34	18	0.72

NST



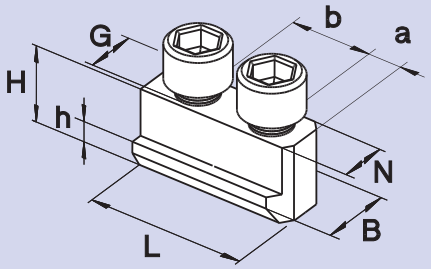
Single T-nut NST

■ Type 1 (see table at page 284)

Id. No.	B mm	H mm	L mm	N mm	G mm	h mm
12063000	29	25	24	21	M16	11
12064020	35	34.5	30	22*	M20	15
12065020	35	34	30	25.5	M20	15
12065082	36	34	30	25.5**	M20	15
12065002	40	40	32	25.5**	M20	15.5

*22 mm guide in the top jaw and 25.5 mm guide in the master jaw
**25.5 mm guide in the top jaw and 28 mm guide in the master jaw

NSTE

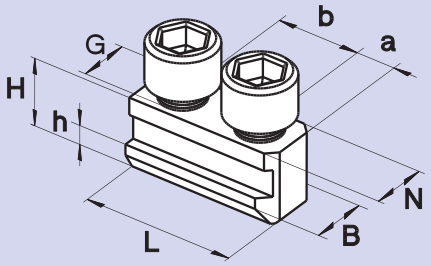


Double T-nut NSTE

■ Type 2 (see table at page 284)

Id. No.	B mm	H mm	L mm	N mm	G mm	a mm	b mm	h mm
12061300	17	15	30	12	M8	7	16	6.5
73064030	31	33	60	21	M16	13	34	14.5
12064520	31	33	70	22	M20	16	38	14.5

NSTE

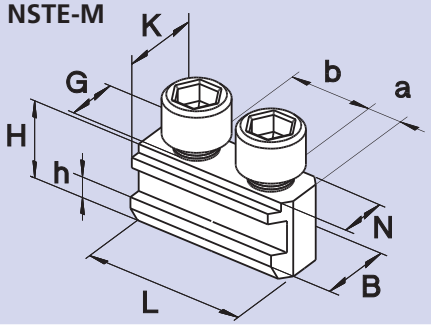


Double T-nut NSTE

■ Type 3 (see table at page 284)

Id. No.	B mm	H mm	L mm	N mm	G mm	a mm	b mm	h mm
12061200	15	15	32	12	M8	6.5	16	6.5
73061650	17	18.5	32	14	M10	8	16.5	6.5
73062150	19	20.5	43	17	M12	10	23	7.5
18062632	19	20.5	50	17	M12	10	30	7.5
73063050	25	26.5	56	21	M16	13	30	10
73065030	31	33	70	25.5	M20	16	38	14.5

NSTE-M



Double T-nut NSTE-M

■ Type 4 (see table at page 284)

■ For metric serrated master jaws to use existing Kitagawa top jaws

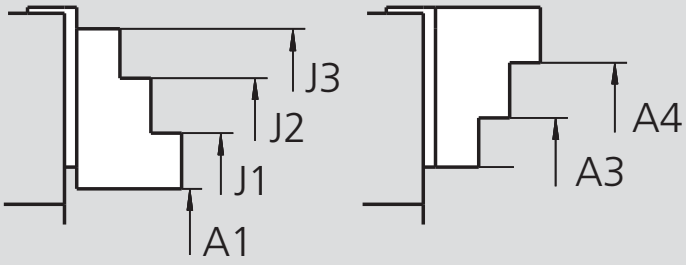
Id. No.	B mm	H mm	L mm	N mm	K mm	G mm	a mm	b mm	h mm
73061602	17	18.5	36	12	14	M10	8	20	6.5
73062101	19	20.5	45	14	17	M12	10	25	7.5
18062633	19	20.5	50	16	17	M12	10	30	7.5
73062501	25	26.5	56	16	21	M12	13	30	10

Clamping ranges with standard stepped hard top jaws

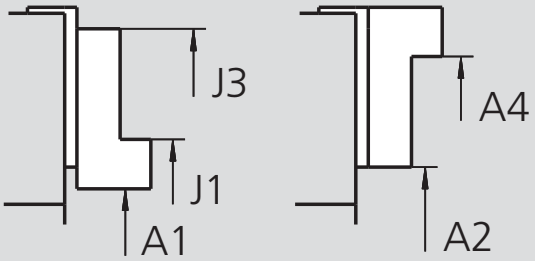
■ Standard chucks Ø 125 - 800 mm



2 step top jaws



1 step top jaws*



Chuck diameter	Chuck type	Top jaws Id. No. Serr. "D"	Top jaws Id. No. Serr. "M"	A1 mm	A2 mm	A3 mm	A4 mm	J1 mm	J2 mm	J3 mm
125	AN-, AL-	12081306	12081307	10-54	-	54-92	90-120	56-100	90-135	125-170
165-170	AN-, AL-, AP-, NT-	12081636	12081627	14-80	-	62-125	110-155	65-125	115-175	145-210
210-215	AN-, AL-, AP-, NT-	12082036	12082127	20-100	-	72-150	150-200	75-150	145-230	190-265
250	AN-, AL-	12083036	12082627	20-115	-	105-205	190-235	80-165	155-250	230-325
260	AP-, NT-	12082626	12082627	20-130	-	105-215	180-245	80-180	155-260	220-330
315	AN-, AL-, AP-, NT-	12083036	12083037	30-170	-	120-265	205-300	95-225	165-310	240-380
400	AN-, AL-	12084546	12084527	52-205	-	180-330	280-370	140-285	240-385	330-480
400	AP-, NT-	12084546	12084527	35-200	-	165-325	260-370	125-280	220-380	315-480
500	IN-D, IL-D	12086346*	-	80-320	125-365	-	320-475	180-420	-	370-610
630	IN-D, IL-D	12086346*	-	80-440	125-485	-	320-600	180-540	-	370-730
800	IN-D, IL-D	12086346*	-	80-610	125-655	-	320-760	180-710	-	370-900
130	BH-, BH-	12081306	12081307	10-58	-	55-97	90-120	58-105	90-140	125-175
140	BB-, BB-	12081306	12081307	16-65	-	55-105	90-130	65-110	98-148	132-182
165	BH-, BH-FC, RC-	12081636	12081627	12-80	-	62-125	110-155	62-125	105-170	145-210
175	BB-D, BB-M	12081636	12081627	25-92	-	74-138	120-165	74-138	118-185	155-220
180	HYND-S	12081636	12081627	27-95	-	77-140	125-170	77-140	120-185	160-225
210	BH-, BH-FC, RC-, HYND-S	12082036	12082127	14-100	-	65-150	140-200	65-150	135-230	180-265
210	BB-D, BB-M	12082036	12082127	25-100	-	80-150	155-200	80-150	150-230	195-265
226	HYND-S	12082036	12082127	24-110	-	75-160	150-215	75-160	145-240	190-275
250	BH-, BH-FC, RC-, HYND-S	12083036	12083037	20-115	-	105-205	190-235	80-165	155-250	230-325
250	BB-D, BB-M	12083036	12083037	25-115	-	115-205	200-235	85-165	165-250	240-325
305	RC-D, RC-M	12083036	12083037	25-160	-	120-250	205-290	85-215	165-300	240-370
315	BH-, BH-FC, HYND-S	12083036	12083037	40-170	-	135-265	220-300	100-225	180-310	250-380
315	BB-D, BB-M	12083036	12083037	75-170	-	165-265	250-300	130-225	210-310	320-415
400	RC-	12084006	12084007	90-250	-	195-355	285-380	155-315	240-400	330-490
400	BH-, BH-FC, HYND-S	12084546	12084527	52-205	-	180-330	280-370	140-285	240-385	330-480
450	BH	12084546	12084527	52-265	-	180-390	280-430	140-345	240-445	330-540
500	BH	12084546	-	115-325	-	240-450	340-480	200-410	300-510	395-610
500	BH-FC	12084546	-	90-320	-	220-445	320-480	175-400	275-500	370-600
500	HYDL-S	12084546	-	150-320	-	275-445	375-480	230-400	330-500	430-600
550	HYDL-S	12084546	-	200-370	-	330-500	430-535	285-455	385-555	485-655
630	BH	12086346	-	195-420	240-465	-	440-600	295-520	-	490-715
630	BH-FC	12084546	-	135-440	-	260-565	360-600	220-520	315-620	415-720
630	HYDL-S	12084546	-	230-450	-	360-575	460-600	315-530	415-630	515-730
800	BH	12086346	-	195-590	240-635	-	440-760	295-690	-	490-880
800	HYDL-S	12086346	-	245-595	295-640	-	490-760	345-695	-	540-890

Note: AN means AND, ANM; AL means ALD, ALM; AP means APD, APM; NT means NTD, NTM; BH means BHD, BHM; BH-FC means BHD-FC, BHM-FC; RC means RCD, RCM.

Grippers UGE



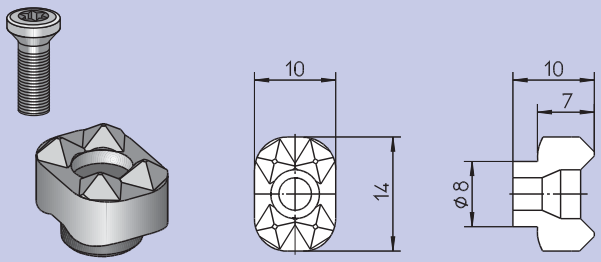
The economical solution:
Roughing jaws with exchangeable grippers

- Made from standard SMW-AUTOBLOK jaws.
- Economical, because only the worn out gripper is changed in seconds.
- Extended life compared to standard roughing jaws.

Features:

- Safe gripping of raw material/forgings/castings made from standard or high tensile strength material.
- Increased gripping allows heavier cuts.
- Fast change of worn out grippers.

UGE 10 Id. No. 081845F
Hardened Steel



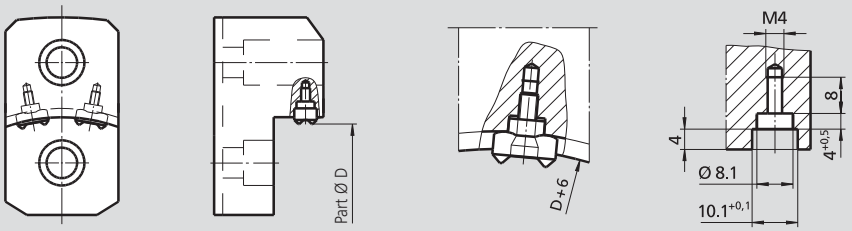
Parts included: Gripper with Torx screw

The universal gripper with unique features (patented):

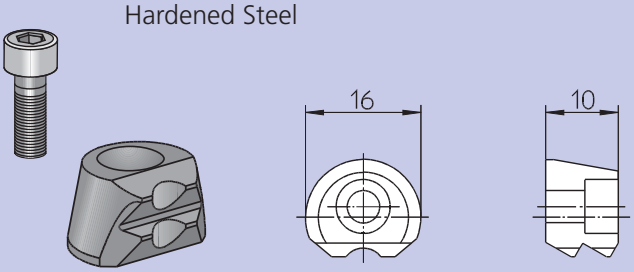
- For flat and round clamping surfaces
- For external and internal gripping
- Front mounting of bolts
- Gripper seat, round or flat, and thread is easy to produce
- Hardening of gripper seat necessary
- **Torx screw driver Id. No. 085961**
- **Torx screw M4 x 13.5 Id. No. 033010**

Mounting instruction

1. Part Ø D + 6 mm (0.23 inch) + location + slot has to be turned or milled. Please note corrected dimensions according to sketch.
2. Drill and tap
3. Harden jaw



UGE 20 Id. No. 087414
Hardened Steel



Parts included: Gripper with head socket screw M4 x 12 DIN 912

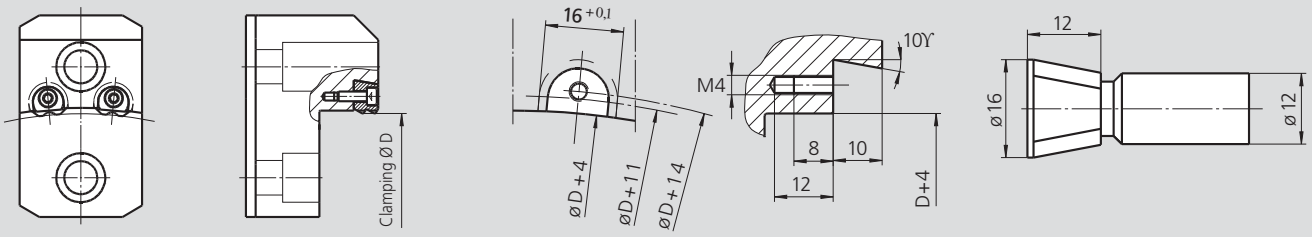
The gripper with the unique shape (patented):

- Top mounting of bolt
- Pull-down effect by wedge shape design
- Can be used for self-centering or swivelling
- Gripper seat: Milling, drilling and tapping can easily be machined with the inclined milling tool (033611)
- No hardening of jaws necessary
- For external or internal clamping
- Head socket screw M4 x 12 DIN 912, Id. No. 010145

Mounting instruction:

1. Part Ø D + 4 mm (0.16 inch) + location turning or milling
2. Milling of pocket + drilling and tapping

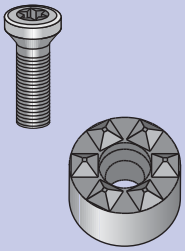
Inclined milling tool
Id. No. 033611

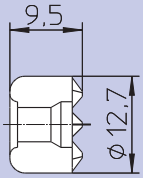


Grippers UGE + FGH
Clamping points MGH



UGE 30 Id. No. 089822
Solid Carbide





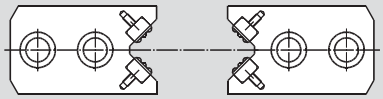
Parts included: Gripper with Torx screw

Gripper for prism jaws and fixtures (patented):

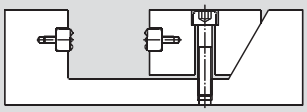
- For external and internal gripping of rectangular parts
- For chuck jaws, fixture jaws and fixtures
- Front mounting of bolt
- Gripper seat: drilling and tapping can easily be done. Bottom of seat can be either 120° (standard drill tool) or flat
- For high production hardening of gripper pocket is recommended
- **Torx screw driver Id. No. 085961**

Mounting instruction

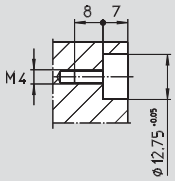
1. Drilling 12.7 Ø bottom of seat 120° or flat
2. Tapping of thread

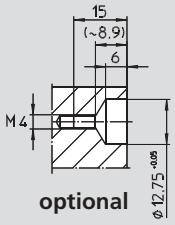


prism jaws



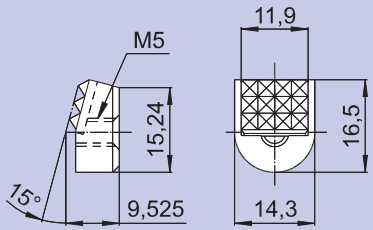
vice



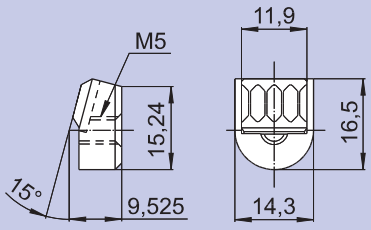


optional

FGH 33 Id. No. 71400133
Carbide Tipped with 12 points



FGH 34 Id. No. 71400134
Carbide Tipped with 4 blades



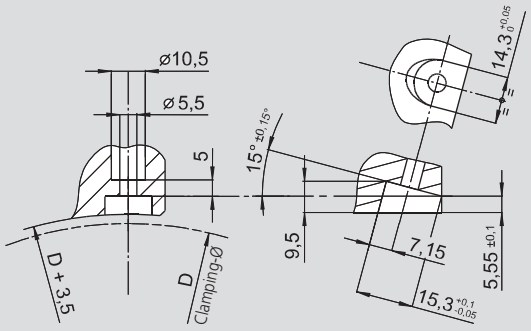
Inclined grippers with pull-down effect:

- For external clamping
- Very short and forward-positioned clamping area
- Rear mounting of bolts
- Inclined gripper seat are easy to be machined
- For high production hardening of gripper seat is recommended

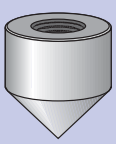
Parts included: Gripper without screw

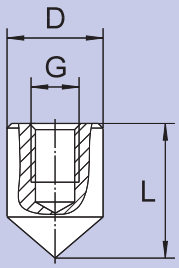
Mounting instruction for FGH grippers:

1. With 15° inclined top-jaw, mill the Ø 14.3 gripper seat.
2. Drill Ø 5.5 as shown on the drawing.
3. Drill Ø 10.5 for the screw's head.



MGH, Hardened Steel





Parts included: Hardened point without screw

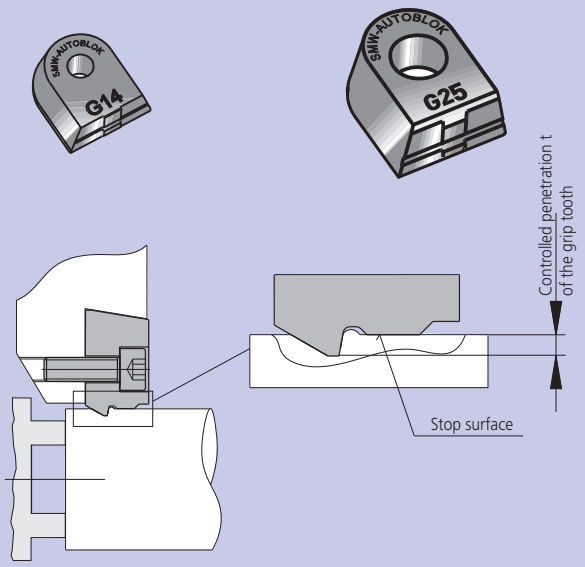
Clamping points for jaws

- For external and internal gripping
- Increasing gripping allows for heavier cuts
- Rear mounting of bolts
- Point seat can easily be machined: drilling only

Type		MGH 6	MGH 10	MGH 12
Id. No.		081851	081852	081853
D	mm	6	10	12
L	mm	10	14	16
G		M3	M5	M6

Precision gripper
G14 + G25 with pull down effect

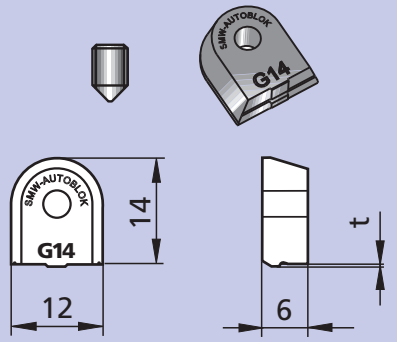
G14 + G25

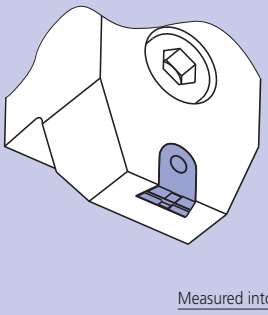


G-gripper characteristics

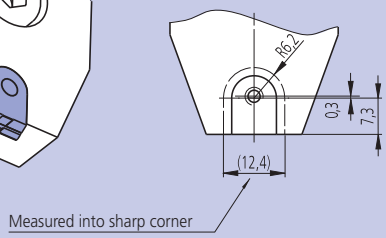
- Type G grippers have a stop surface for a **controlled penetration** of the grip tooth.
- **The workpiece is clamped concentric on the stop surface**, so that the clamping dia. and the machining dia. are concentric.
- The **high precision** of the gripper guarantees concentricity even after replacing worn out grippers.
- Highest torque transmission is guaranteed with the **combination of friction and positive drive.**
- The geometry of the gripper creates a **pull down effect** on the workpiece.
- **TIN coated high speed steel** for long life.
- You can **select the corresponding gripper** for all applications according to the grindstock allowance.
- Gripper with **controlled penetration** 0.070–0.30 mm are standard.
- **Special grippers are available** on request.

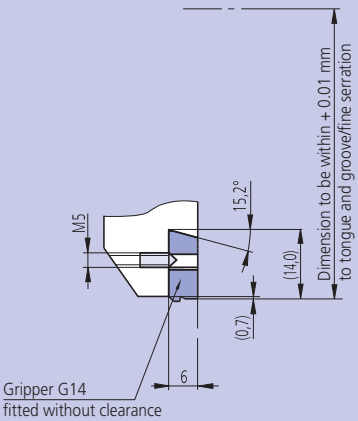
G14 (light duty version) material: HSS

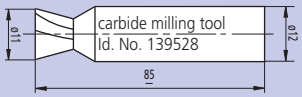




Mounting dimension

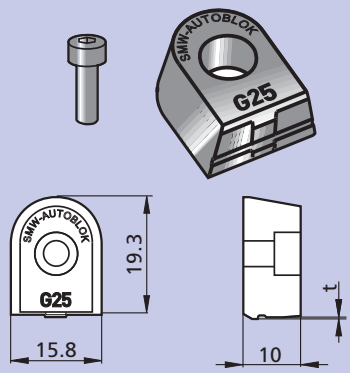


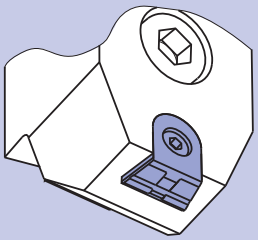




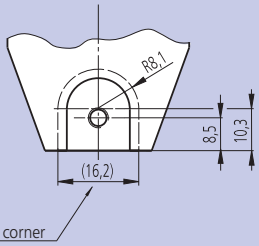
SMW-AUTOBLOK type	G14-070	G14-100	G14-125	G14-150	G14-175	G14-200
Controlled penetration t	0.070	0.10	0.125	0.15	0.175	0.20
Id. No.	235615	235616	235617	235618	235619	235620

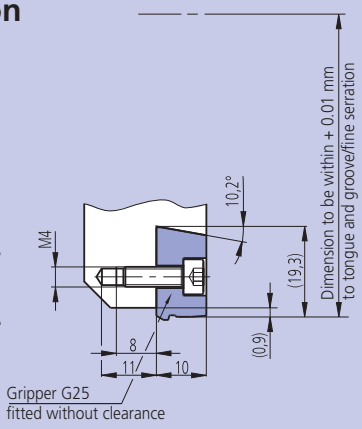
G25 (heavy duty version) material: HSS

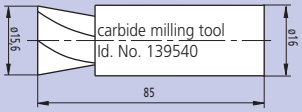




Mounting dimension



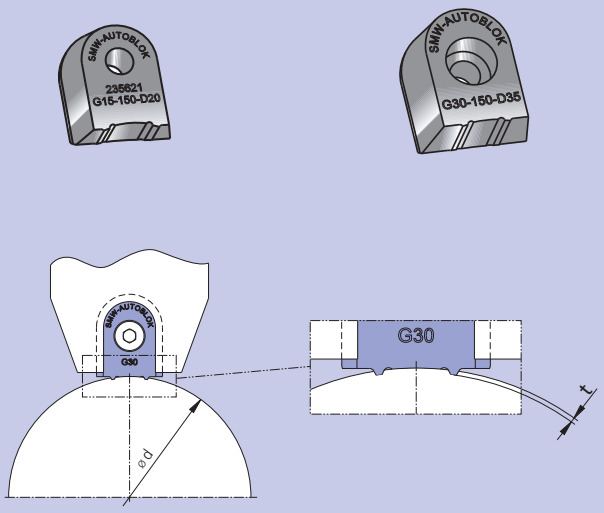




SMW-AUTOBLOK type	G25-100	G25-150	G25-200	G25-250	G25-300
Controlled penetration t	0.10	0.15	0.20	0.25	0.30
Id. No.	232704	231275	231276	231277	231278

Precision gripper
G15 + G30 for highest torque transmission

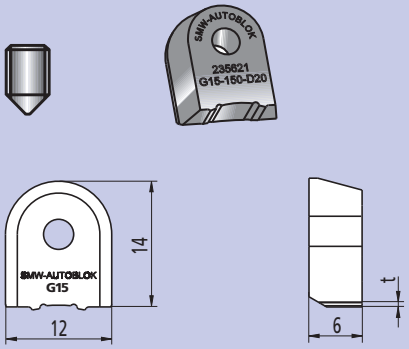
G15 + G30

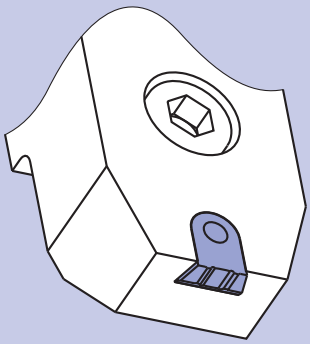


G-gripper characteristics

- Type G grippers have a stop surface for a **controlled penetration** of the grip tooth.
- **The workpiece is clamped concentric on the stop surface**, so that the clamping dia. and the machining dia. are concentric.
- The **high precision** of the gripper guarantees concentricity even after replacing worn out grippers.
- Highest torque transmission is guaranteed with the **combination of friction and positive drive.**
- **TIN coated high speed steel** for long life.
- You can **select the corresponding gripper** for all applications according to the grindstock allowance.
- Gripper with **controlled penetration** 0.15–0.30 mm are standard.
- **Special grippers are available** on request.

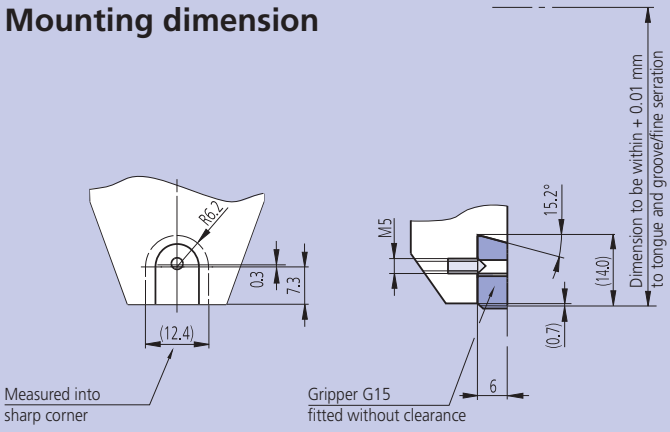
G15 (light duty version)
material: HSS

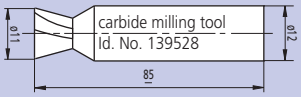




SMW-AUTOBLOK type	G15-150	G15-200	G15-250
Work piece-Ø		17 - 21	
Controlled penetration t	0.15	0.20	0.25
Id. No.	235621	235622	235623
SMW-AUTOBLOK type	G15-150	G15-200	G15-250
Work piece-Ø		22 - 27	
Controlled penetration t	0.15	0.20	0.25
Id. No.	237762	237763	237764
SMW-AUTOBLOK type	G15-150	G15-200	G15-250
Work piece-Ø		28 - 34	
Controlled penetration t	0.15	0.20	0.25
Id. No.	235624	235625	235626
SMW-AUTOBLOK type	G15-150	G15-200	G15-250
Work piece-Ø		35 - 42	
Controlled penetration t	0.15	0.20	0.25
Id. No.	237765	237766	237767
SMW-AUTOBLOK type	G15-150	G15-200	G15-250
Work piece-Ø		43 - 53	
Controlled penetration t	0.15	0.20	0.25
Id. No.	235627	235628	235629
SMW-AUTOBLOK type	G15-150	G15-200	G15-250
Work piece-Ø		54 - 78	
Controlled penetration t	0.15	0.20	0.25
Id. No.	237400	237401	237402
SMW-AUTOBLOK type	G15-150	G15-200	G15-250
Work piece-Ø		79 - 175	
Controlled penetration t	0.15	0.20	0.25
Id. No.	237409	237410	237411

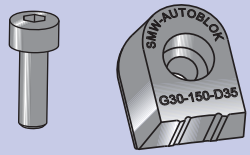
Mounting dimension

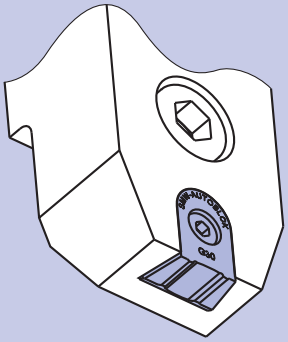


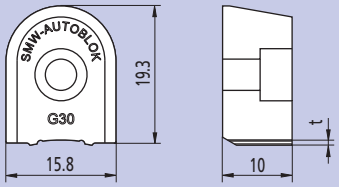


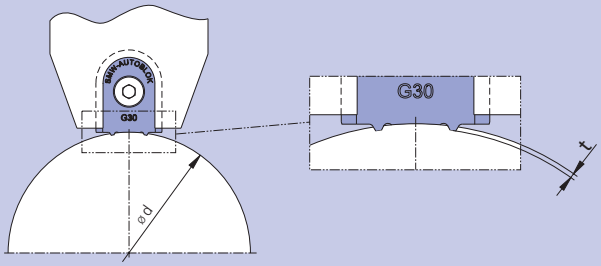
Precision gripper
G30 for highest torque transmission

G30 (heavy duty version)
material: HSS

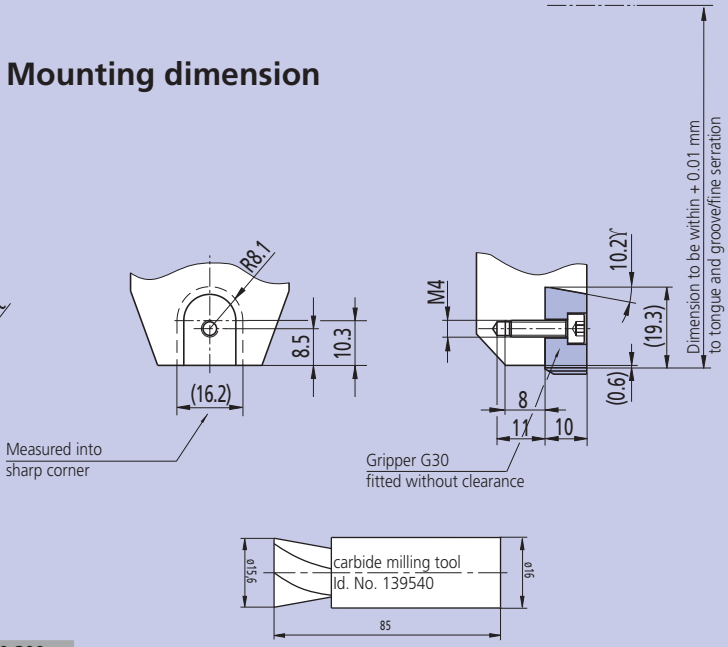








Mounting dimension



SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		24 - 32	
Controlled penetration t	0.20	0.25	0.30
Id. No.	237841	237842	237843

SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		33 - 42	
Controlled penetration t	0.20	0.25	0.30
Id. No.	233481	233482	233483

SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		43 - 52	
Controlled penetration t	0.20	0.25	0.30
Id. No.	233421	233422	233423

SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		53 - 64	
Controlled penetration t	0.20	0.25	0.30
Id. No.	233485	233486	233487

SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		65 - 84	
Controlled penetration t	0.20	0.25	0.30
Id. No.	234811	234812	234813

SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		85 - 119	
Controlled penetration t	0.20	0.25	0.30
Id. No.	237291	237292	237293

SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		120 - 174	
Controlled penetration t	0.20	0.25	0.30
Id. No.	237299	237300	237301

SMW-AUTOBLOK type	G30-200	G30-250	G30-300
Work piece-Ø		175 - 335	
Controlled penetration t	0.20	0.25	0.30
Id. No.	237422	237423	237424

Boring rings ADS

■ to bore jaws on the clamping chuck

ADS Id. No. 082689

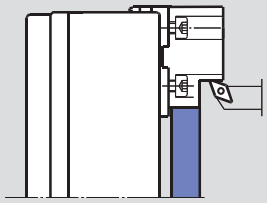


Parts included: Set 36 pieces completely as shown

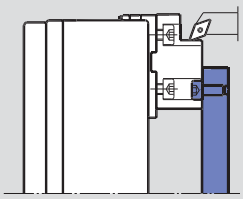
The advantages of the SMW-AUTOBLOK boring rings for jaws:

- Complete set to bore all dia. from 20 to 150 mm.
- Set consisting of 36 rings Ø 20 - 50 mm each stepped 2 mm. From Ø 50 - 150 mm stepped in 5 mm increments.
- Clearly organized on base plate.
- Rings from Ø 105 mm and up have 3 tapped holes for clamping bolts to machine jaws for internal gripping.
- Rigid design. Rings are 10 mm thick, quenched for greater durability.
- Mounting handle is used for the safe insertion of the smaller rings without danger of injuries.

Applications



external clamping



internal clamping

Recommendations:

For highest repeatability and accuracy please follow these instructions:

- Always tighten mounting bolts of the top jaws with a torque wrench.
- Always position boring rings as close as possible to the clamping area.
- Always bore top jaws at machining pressure.

Dress and cleaning plate RPS

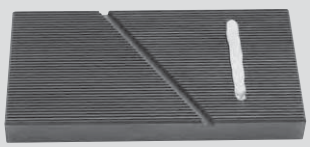
With 2 different fine serrations to clean and dress top jaws with fine serration inch/metric



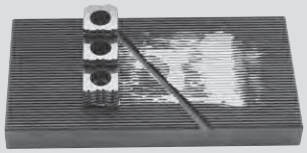
SMW-AUTOBLOK Type	Id. No.	Serration		kg
		upper side	lower side	
RPS-D	081912	1/16″ x 90°	3/32″ x 90°	7.8
RPS-M	081914	1.5 x 60°	3 x 60°	7.8
RPS-MD	081913	1.5 x 60°	1/16 x 90°	7.8

- Dress and cleaning plate, hardened, precision ground serrations
- 2 different serrations, on the upper and lower side of the plate. Just turn it!
- Rapid cleaning of the top jaws serration. Swarf and dirt is accumulated in the diagonal groove
- Dressing of light damage on the serration by using the grinding compound

Dressing and cleaning of serration



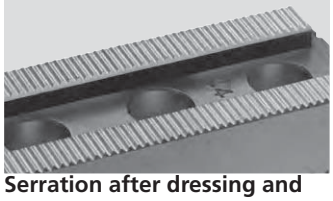
Apply grinding compound (corn 320) near the outer edge



Put the jaw on the grinding compound and move it back and forth, with a light pressure.



Dirty/damaged serration



Serration after dressing and cleaning

SMW-AUTOBLOK®
Gripping force tester GFT®-X

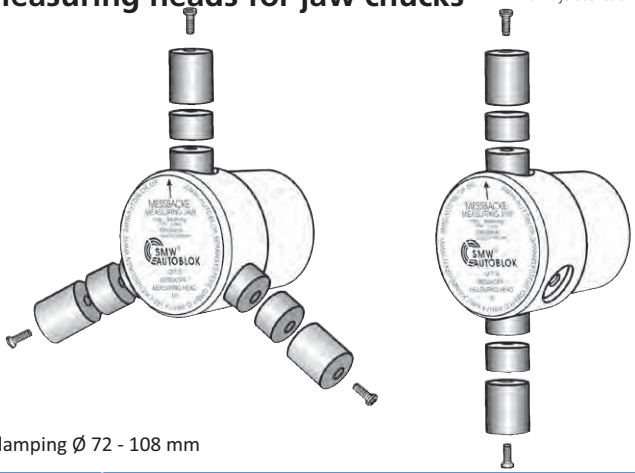
Wireless gripping force and speed measurement of jaw chucks and collet chucks in dynamic or static measuring mode



Measuring heads

M3/ M4
Measuring heads for jaw chucks

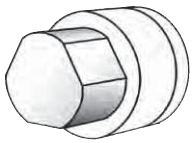
⚠ **Danger of injury:**
For clamping measuring head M3 always use loading bracket.



clamping Ø 72 - 108 mm

Measuring head	Range/gripping force	
	3 jaws	2 jaws
M3	0 - 270 kN	0 - 180 kN
M4	0 - 45 kN	0 - 30 kN

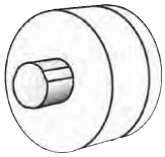
M2
Measuring head for collet chucks



clamping Ø 42 mm

Measuring head	Range/ gripping force
M2	0 - 120 kN

M1
Measuring head for collet chucks

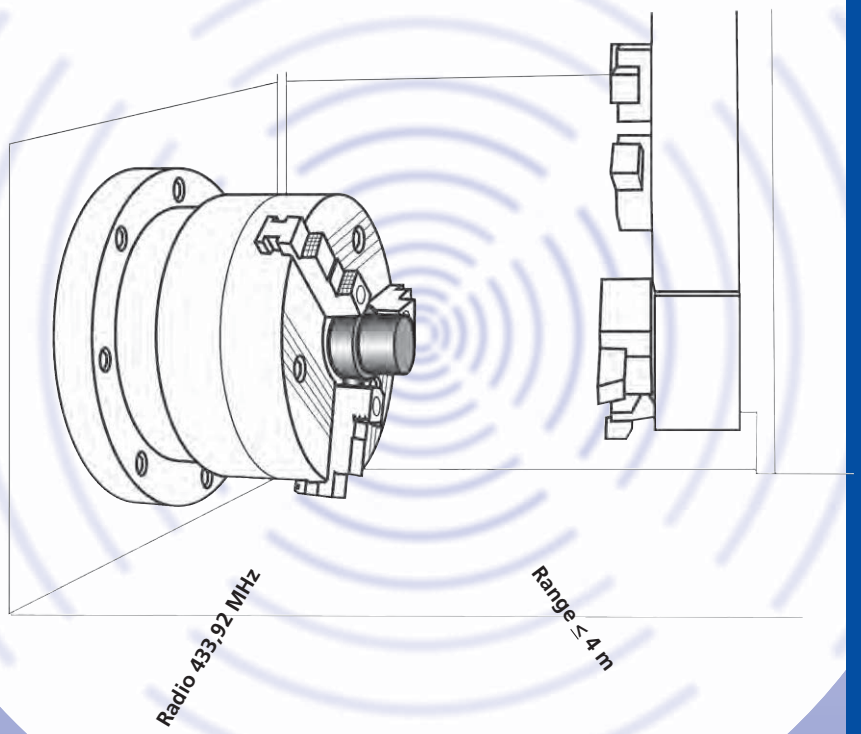


clamping Ø 18 mm

Measuring head	Range/ gripping force
M1	0 - 75 kN

Unique features GFT®-X

- Battery powered hand held unit
- Full color display
- Wireless data transfer from measuring head to hand held unit (Radio 433.92 MHz, up to 4 m distance)
- USB-Port
- Measuring is safe only with closed doors
- Driven menu
- Display kN or lbf
- Languages: German, English, Italian, Spanish, Japanese, Chinese, Russian
- Software CD for displaying a gripping force curve on the PC
- Measuring heads for jaw chucks and collet chucks (same as GFT)
- 4 free programmable speed access buttons





Plug to charge the measuring heads

USB port to charge the battery of the handheld unit and for date exchange

Full color display

4 free programmable speed access buttons

Key pad

Rubber protection

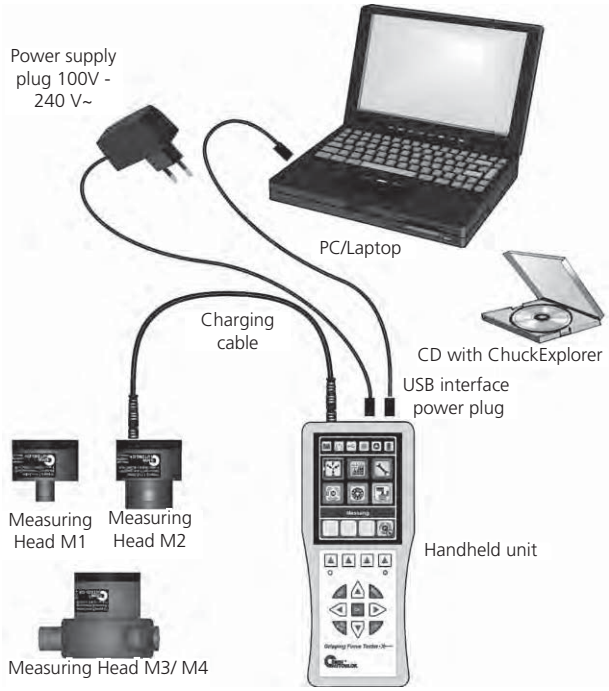
Gripping force tester GFT®-X

■ Technical data
■ Ordering review

Standard equipment with GFT-X:

Case with:

- Hand-held unit
- Measuring head M3 for jaw chucks with extensions and loading bracket
- Torx-key T15 and spare screws
- Bracket with magnet for measuring of speed
- Transformer Euro plug with 2 m cable
- Adapter for USA, UK and Southern Europe
- GFT®-X Software and manual on a CD
- USB cable
- Charging cable for measuring heads 1 m



Ordering data:

GFT®-X case incl. measuring head M3 Id. No. 201542

Option:

Measuring head M1	Id. No. 196193
Measuring head M2	Id. No. 196194
Measuring head M4	Id. No. 201825

Display software PC/ Laptop:

- The data transfer is via an USB interface.
- The software can be run under all standard windows systems.

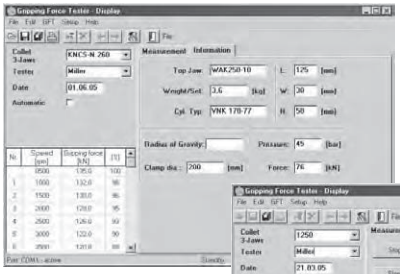
Input:

- Automatic measuring of the data (gripping force - speed)
- The number of measuring steps can be programmed free.

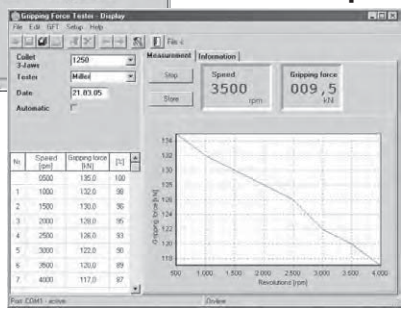
Output:

- Table speed/gripping force
- Diagram speed/gripping force

Input



Output



Technical data:

Reading unit	
Display/ Grip force F – speed	Display in kN/lbf - rpm
Data transfer	Radio 433,92 MHz
Power supply/ Transformer	100/ 240 V AC, 50 to 60 Hz
Distance hand held unit/ Measuring head	1-4 m (appr.)
Interface PC/ Laptop	USB 2.0
Operating temp.	0 to 40° (32°C-100 °F)
Protection class	IP 54
Dimensions	220 x 100 x 50 mm
Weight	460 g

Warning: Machine door must be closed while measuring head is rotating!

Measuring heads				
	Measuring head M1	Measuring head M2	Measuring head M3	Measuring head M4
Application	collet Ø 18	collet Ø 42	collet 2/3 jaws	
Clamping diameter	18 mm	42 mm	72 to 108 mm	72 to 108 mm
No. of jaws	3 x slotted	3 x slotted	2 or 3 jaws selectable	2 or 3 jaws selectable
Power supply	internal rechargeable capacitor			
Capacity of power supply	ca. 1.5 h at 50 % d.c.			
Data transfer	Radio 433,92 MHz			
Range/gripping force F max.	0 to 75 kN	0 to 120 kN	0 to 180 kN (2-Jaws) 0 to 270 kN (3-Jaws)	0 to 30 kN (2-Jaws) 0 to 45 kN (3-Jaws)
Speed rpm	<10.000 rpm	<8.000 rpm	<6.000 rpm	<6.000 rpm
Accuracy (F/rpm)	<5 %/<1 % fsr	<5 %/<1 % fsr	<3 %/<1 % fsr	<1,5 %/<1 % fsr

Grease
Grease gun

Important for maintenance and safe operation, to be ordered with the chuck

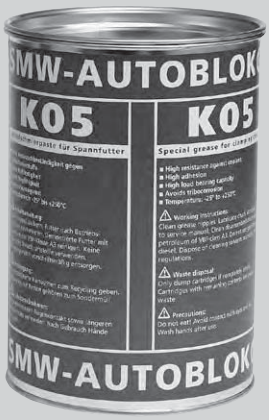
K05®

Special grease for manual and power chucks



Cartridge 14 Oz.
(DIN 1283)
Grease content: 500 g
Id. No. 016440

Can 1000 g
Id. No. 011881



- High adhesion
- High resistance against coolant = long lubrication intervals
- Low friction coefficient = high gripping force
- Avoids tribocorrosion

K67®

Special grease for fully sealed chucks included in proofline® series



Cartridge 14 Oz.
(DIN 1284)
Grease content: 500 g
Id. No. 10731223

Can 1000 g
Id. No. 10731224



- For sealed chucks with permanent grease lubrication
- Basic components: mineral oils and lithium
- Without solvents

Greasing set

Id. No. 083726

Grease gun (DIN 1283) for cartridges 14 Oz. (DIN 1284).

- also refillable from grease can 1000 g



Supply range:

- Grease gun
- 1 adapter flexible for high pressure grease fitting
- 1 adapter for cone grease fitting