

- EXTRA LARGE THROUGH HOLE
- 3 jaws, chuck size 125 - 350
- 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

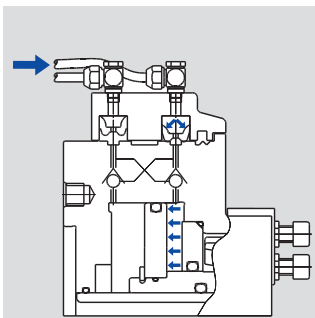
### Ordering example

3 jaw chuck SP 160/Z155

### Accessories

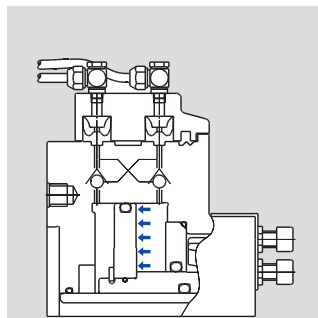
Control units  
(see pages 274-276)

## The principle invented by SMW: air supply via distributor ring and SMW-profile seal rings



**Fig. 1**

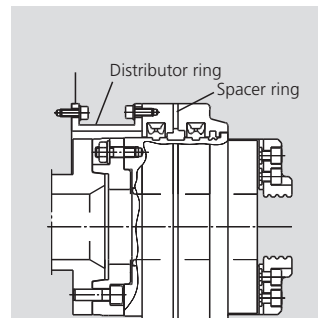
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber. When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.



**Fig. 2**

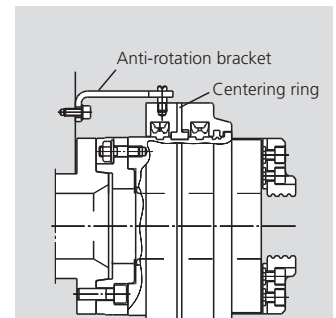
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore. The clamping pressure is maintained by the twin non-return valve. The chuck can start to rotate.

## 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.



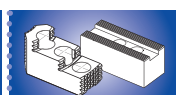
**Fig. 4**

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
<b>Id. No.</b>		012044	012045	053170	052778	012588	052850	053193
<b>Stroke per jaw</b>	mm	3	4.2	4.2	5	5	(10) + 5*	24
<b>Operating pressure min./max.</b>	bar	2/10	2/10	2/10	2/10	2/10	2/10	2/10
<b>Piston area</b>	cm <sup>2</sup>	129	206	290	535	486	486	486
<b>Gripping force at 6 bar</b>	kN	20	35	60	95	88	88	31
<b>Max. speed (distribution ring with centering ring)</b>	r.p.m.	4000	3500	2800	2200	2200	2200	1000
<b>Max. speed (distribution ring fixed stationary)</b>	r.p.m.	4200	4200	3500	3200	3000	3000	1000
<b>Air consumption/jaw stroke at 6 bar</b>	liter	1.4	3.4	5.2	10.0	9.4	13.5	13.5
<b>Weight (without jaws)</b>	kg	11	23	40	62	78	91	97
<b>Moment of inertia</b>	kg-m <sup>2</sup>	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

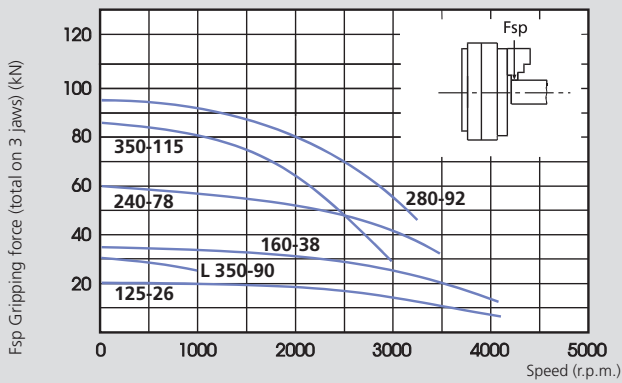


# Front-end pneumatic power chucks Ø 26 - 115 mm

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- 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

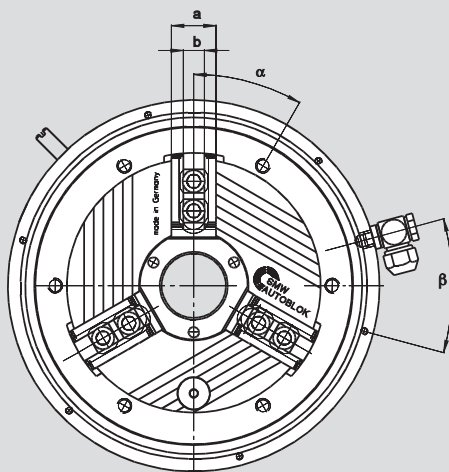
The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals, using SMW-AUTOBLOK K05 grease, operated at 6 bar.

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.

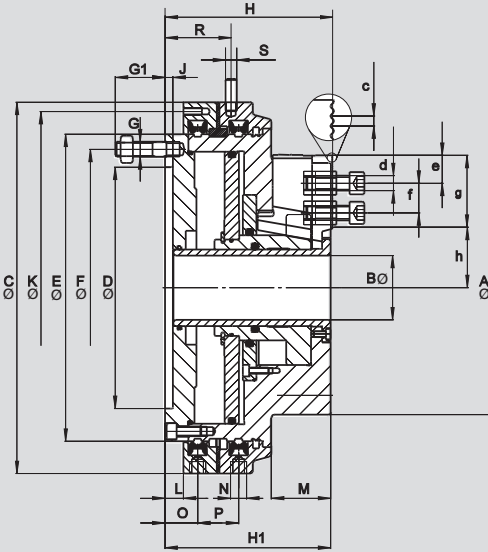
## Jaw position: Open for external clamping



\* 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
<b>Mounting</b>		<b>Z120</b>	<b>Z155</b>	<b>Z195</b>	<b>Z235</b>	<b>Z235</b>	<b>Z235</b>	<b>Z235</b>
	<b>A</b>	mm 136	mm 171	mm 240	mm 284	mm 350	mm 360	mm 360
	<b>B</b>	mm 26	mm 38	mm 78	mm 92	mm 115	mm 115	mm 90
	<b>C</b>	mm 204	mm 255	mm 300	mm 372	mm 372	mm 372/380	mm 372/380
	<b>D</b> H6	mm 120	mm 155	mm 195	mm 235	mm 235	mm 235	mm 235
	<b>E</b>	mm 160	mm 205	mm 248	mm 315	mm 315	mm 315	mm 315
Fixing bolts circle (6 x 60°)	<b>F</b>	mm 137	mm 180	mm 223.8	mm 290.5	mm 290.5	mm 290.5	mm 290.5
Stud screw with nut	<b>G</b>	mm M8	mm M12	mm M12	mm M12	mm M12	mm M12	mm M12
	<b>G1</b>	mm 30	mm 40	mm 40	mm 39	mm 39	mm 39	mm 39
	<b>H</b>	mm 103	mm 131	mm 135.5	mm 157.5	mm 157.5	mm 191.5	mm 191.5
	<b>H1</b>	mm 101.5	mm 129.5	mm 134	mm 156	mm 156	mm 190	mm 190
	<b>J</b>	mm 6.5	mm 6.5	mm 6.5	mm 6.5	mm 6.5	mm 6.5	mm 6.5
Fixing bolts circle 6 x 60°/M6	<b>K</b>	mm 190	mm 242	mm 285	mm 358	mm 358	mm 358	mm 358
	<b>L</b>	mm 10	mm 14.5	mm 15	mm 21	mm 21	mm 21	mm 21
	<b>M</b>	mm 35	mm 46	mm 48	mm 58	mm 62	mm 92	mm 92
Pneumatic connection	<b>N</b>	inch G 1/8"	inch G 1/4"	inch G 1/4"	inch G 1/4"	inch G 1/4"	inch G 1/4"	inch G 1/4"
	<b>O</b>	mm 19	mm 26	mm 26.5	mm 33	mm 33	mm 33	mm 33
	<b>P</b>	mm 29	mm 33	mm 33	mm 33	mm 33	mm 33	mm 33
	<b>R</b>	mm 43	mm 52	mm 52	mm 60	mm 60	mm 60	mm 60
Anti-rotation pin	<b>S</b>	mm 8	mm 12	mm 12	mm 12	mm 12	mm 12	mm 12
	<b>a</b>	mm 24	mm 30	mm 36	mm 44	mm 44	mm 44	mm 44
	<b>b</b>	mm 12	mm 14	mm 17	mm 21	mm 21	mm 21	mm 21
Serration	<b>c</b>	inch 1/16" x 90°	inch 1/16" x 90°	inch 1/16" x 90°	inch 1/16" x 90°	inch 1/16" x 90°	inch 1/16" x 90°	inch 1/16" x 90°
Bolt ISO 4762 12.9	<b>d</b>	mm M8 x 30	mm M10 x 35	mm M12 x 35	mm M16 x 35	mm M16 x 35	mm M16 x 35	mm M16 x 35
min.	<b>e</b>	mm 6	mm 8	mm 9.5	mm 12	mm 12	mm 12	mm 12
T-nuts distance min./max.	<b>f</b>	mm 17/25	mm 21/31	mm 22/41.5	mm 25/51	mm 25/72	mm 25/72	mm 25/72
Serration length	<b>g</b>	mm 40	mm 50	mm 59	mm 75	mm 93	mm 92	mm 95
min./max.	<b>h</b>	mm 25/28	mm 34.9/39	mm 57.7/61.9	mm 70/65	mm 79/84	mm 85/100	mm 85/109
	$\alpha^\circ$	deg. 0°	deg. 0°	deg. 30°	deg. 0°	deg. 0°	deg. 0°	deg. 0°
	$\beta^\circ$	deg. 30°	deg. 30°	deg. 30°	deg. 45°	deg. 45°	deg. 45°	deg. 45°

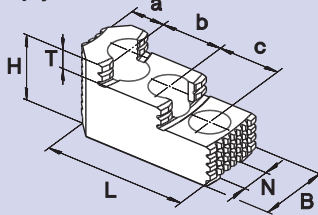
# SP<sup>®</sup> + SP-ES + SP-L

INCH  
serration

■ Top jaws  
■ T-nuts

## MHB-D

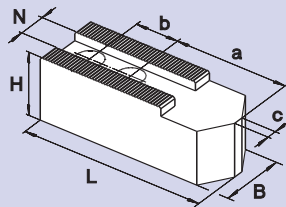
Hard reversible  
top jaws



Chuck	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

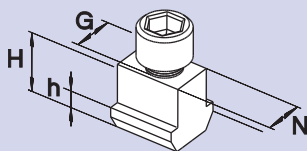


Chuck	SP 125-26	SP 160-38	SP 240-78	SP 280-92	SP 350-115 (+ES+L)
Jaw type	WBSA-D 125	AWB-D 165	AWB-D 200	AWB-D 250	AWB-D 315
Jaw Id. No. (set)	12071300*	035954	081616	081618	081619
B	30	40	40	50	50
H	30	40	40	50	50
L	60	80	90	120	140
N	12	14	17	21	21
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" 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	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. /pc.	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 ISO 4762 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

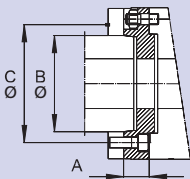


- Adapters
- Grease

INCH  
serration

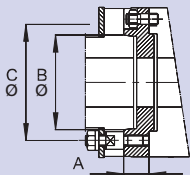
## Adapters for SP chucks

ISO-A  
DIN 55026  
mounting  
adapters



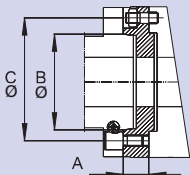
Chuck	SP 125-26	SP 160-38			SP 240-78			SP 280-92			SP 350-115 (+ ES + L)		
Nose dim.	A5	A5	A6	A5	A6	A8	A6	A8	A11	A6	A8	A11	
Id. No.	017083	017085	017086	017088	080174	017090	017092	017093	017094	017092	017093	017094	
A mm	26.0	25.5	25.5	25.5	32.2	34.0	32.2	38.2	36.0	32.2	38.2	36.0	
B mm	82.57	82.57	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	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	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