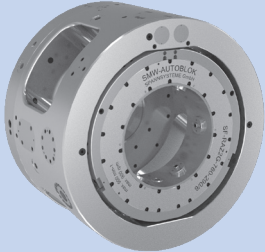
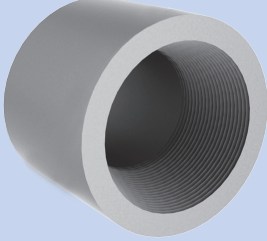
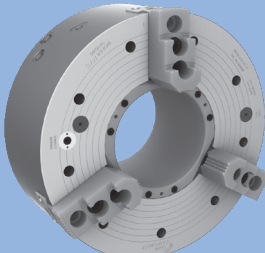
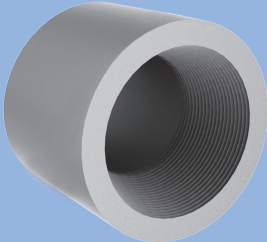
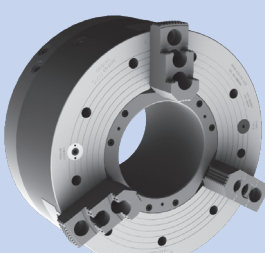
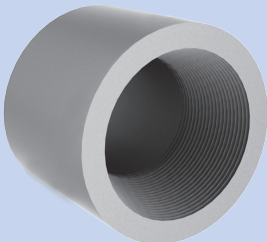
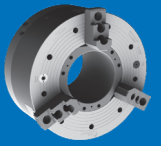


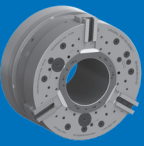

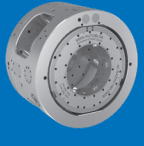
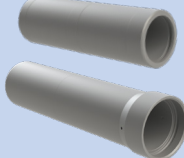




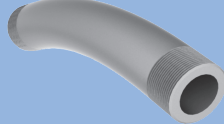




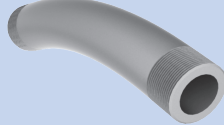

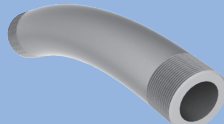

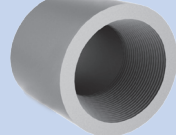

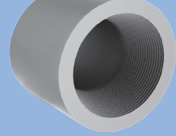








CHUCK	APPLICATION	OCTG PRODUCT	CUSTOMER BENEFITS
<p><b>SF-RAZ2G</b> Page 30</p> 	<p>Hydraulic ring indexing chuck for threading of couplings in <b>1 set-up</b> with the original SMW type SF-RAZ2G (6-jaw clamping: 3-jaw self centering, 3-jaw compensating).</p>		<ul style="list-style-type: none"> <li>▪ <b>6-jaw clamping for low deformation of coupling</b></li> <li>▪ <b>Quick jaw movement</b> more couplings per hour</li> <li>▪ Rigid strong design and highest accuracy for all premium couplings</li> </ul>
<p><b>BB-N</b> Page 32</p> 	<p>Threading of couplings in 2 set ups with the original SMW Big Bore type BB-N (3-jaw clamping).</p>		<ul style="list-style-type: none"> <li>▪ <b>Quick jaw movement</b> more couplings per hour</li> <li>▪ Can be used for other work pieces besides coupling</li> <li>▪ O.D. and I.D. clamping</li> </ul>
<p><b>BB-N ES</b> Page 34</p> 	<p>Threading of couplings in 2 set-ups with the original SMW Big Bore type BB-N ES (3-jaw clamping).</p>		<ul style="list-style-type: none"> <li>▪ <b>Quick jaw movement</b> more couplings per hour</li> <li>▪ Large jaw stroke for easy loading of couplings</li> </ul>

# Chuck finder for Oil Country Tubular Goods: Introduction

- Straight pipes
- Bent pipes
- Couplings

Chuck type						
Machining OCTG product	BB-N / BB-N-ES	BB-EXL2G	BB-SC	BB-AZ2G	BB-FZA2G	SF-RAZ2G
 <b>Straight pipes</b>	 Page 12 / 14	 Page 16	 Page 18	 Page 20		
 <b>Bent pipes with shimming</b>	 Page 12 / 14	 Page 16	 Page 18	 Page 20		
 <b>Bent pipes with external centering chuck</b>				 Page 20		
 <b>Bent pipes with integrated centering chuck</b>					 Page 24	
 <b>Threadings of couplings in 1 set-up</b>						 Page 30
 <b>Threadings of couplings in 2 set-ups</b>	 Page 12 / 14	 Page 16	 Page 18			 Page 30



**Ideal**



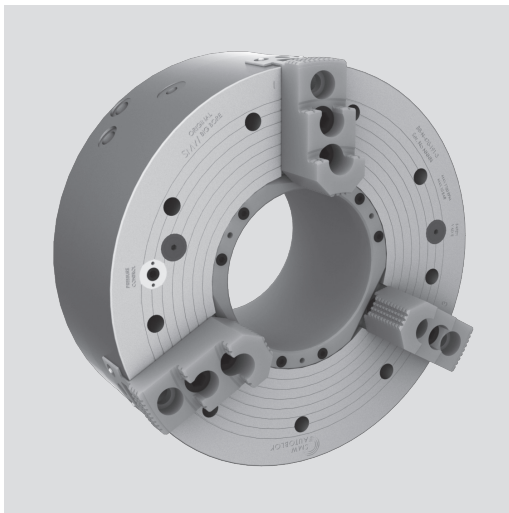
**Possible**

# BIG BORE® BB-N

INCH  
SERRATION

## Front-end pneumatic power chuck EXTRA large through-hole Ø 140 - 410 mm

- Chuck size 400 - 800
- Standard jaw stroke
- 3 jaws



### Application/customer benefits

- End machining of long pipes
- Full spindle bore can be used

### Technical features

- Air chuck for external / internal 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
- Jaw stroke control for O.D. and I.D. gripping (not BB-N 400-140)

### 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

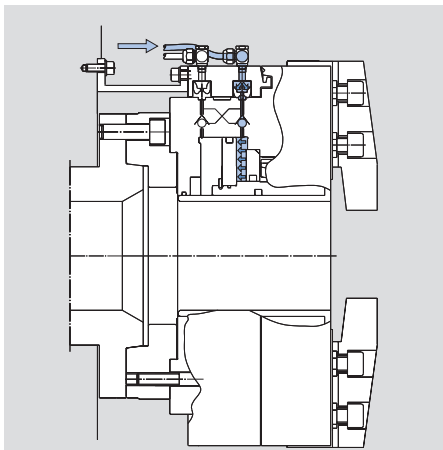
### Ordering example

BIG BORE BB-N 470-191 / Z310

### Accessories

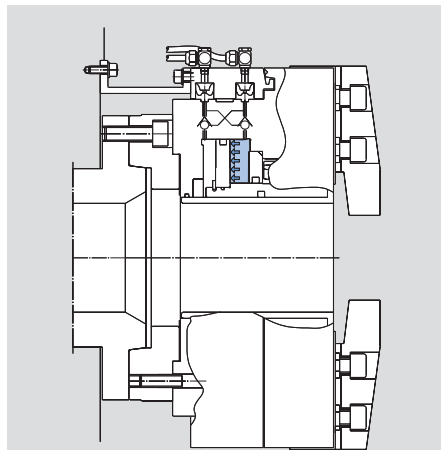
Control unit AC-BB / AC-XN  
(see general catalog pages 378-381)

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



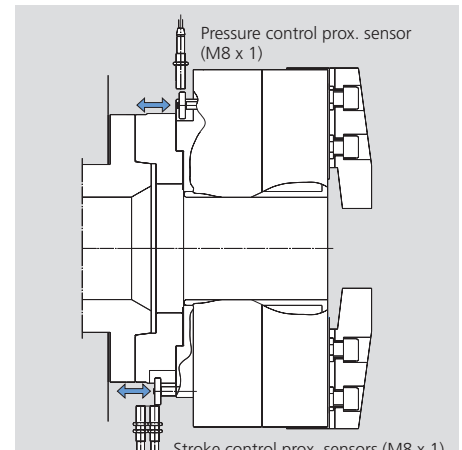
Picture 1

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.



Picture 2

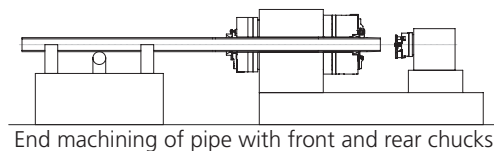
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore. The clamping pressure is maintained by the twin non-return valve. The chuck can start to rotate.



Picture 3

**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.  
**Jaw stroke control:** If the part is clamped in a not correct jaw stroke position, the switch ring moves into the proximity switch field sending an alarm signal.\*

\* BB-N-400-140 has no stroke control.



End machining of pipe with front and rear chucks

## Technical data

SMW-AUTOBLOK Type BB-N		400-140	470-191	500-205	500-230	600-275	630-310	800-410
<b>Id. No.</b>		<b>052300</b>	<b>053535</b>	<b>053830</b>	<b>053832</b>	<b>053834</b>	<b>053836</b>	<b>053838</b>
<b>Through-hole</b>	mm (inch)	140 (5.51")	191 (7.52")	205 (8.07")	230 (9.06")	275 (10.83")	310 (12.20")	410 (16.14")
<b>Stroke per jaw</b>	mm (inch)	7 (0.28")	7 (0.28")	8.5 (0.33")	8.5 (0.33")	8.5 (0.33")	10 (0.39")	12 (0.47")
<b>Operating pressure min. / max.</b>	bar (psi)	2 / 10 (29 / 145)						
<b>Piston area</b>	cm <sup>2</sup>	710	565	1024	940	990	1270	2064
<b>Gripping force at 6 bar</b>	kN (lbf)	160 (35969)	115 (25853)	210 (47210)	190 (42714)	200 (44962)	220 (49458)	330 (74186)
<b>Max. speed</b>	r.p.m.	1700	1700	1300	1300	1300	1000	750
<b>Air consumption / jaw stroke at 6 bar</b>	liter	21	16	36	32	34	52	108
<b>Weight (without top jaws)</b>	kg (lbs)	150 (331)	150 (331)	230 (507)	200 (441)	270 (595)	420 (926)	650 (1433)
<b>Moment of inertia</b>	kg·m <sup>2</sup>	3.22	5.66	8.53	8	15	28	71.25

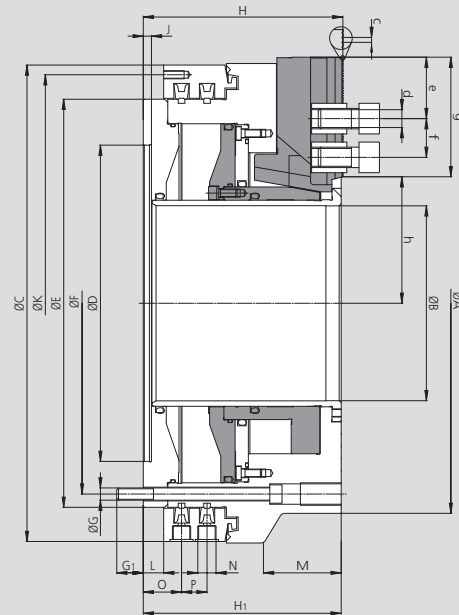
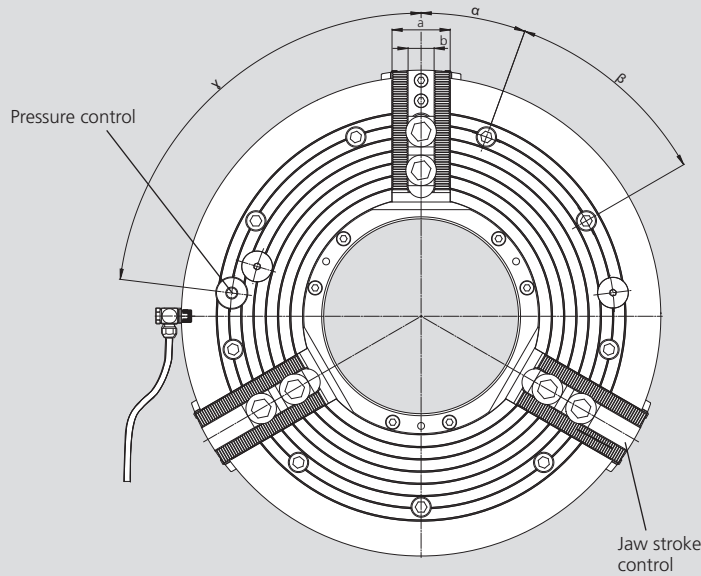


SMW-AUTOBLOK  
363

SMW-AUTOBLOK  
362

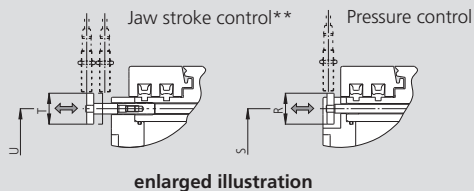
## ■ Main dimensions and technical data

Jaw position: Open for external clamping



- \* All hoses / piping must be at least 1/2" ID. and min. 3/4" ID. from size 630 on!
- \*\* BB-N-400-140 has no stroke control and no switch valve for pressure control inside clamping.

To determine the exact position of the jaw stroke control and the pressure control please ask for a customer drawing.



Subject to technical changes.  
For more detailed information please ask our customer service.

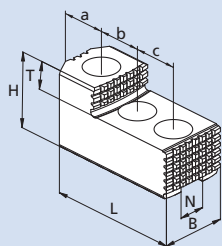
SMW-AUTOBLOK Type BB-N			400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.			052300	053535	053830	053832	053834	053836	053838
Mounting			Z310	Z310	Z415	Z415	Z450	Z510	Z700
	A	mm	422	470	540	570	605	662	800
	B	mm	140	191	205	230	275	310	410
	C	mm	467	467	570	570	605	685	850
	D H6	mm	310	310	415	415	450	510	700
Fixing bolts circle	E	mm	400	400	500	500	535	610	775
	F	mm	374	374	474	474	508	580	745
	G	mm	M12	M12	M12	M12	M12	M16	M16
	G1	mm	26	26	27	27	27	30	30
	H	mm	196	196	225	225	225	263	305
	H1	mm	194	194	223	223	223	261	303
Thread circle 6 x M8	J	mm	8	8	8	8	8	8	8
	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	474	508	575	745
	T	mm	35	35	35	35	35	35	35
	U	mm	374	374	474	474	508	580	745
	a	mm	57	57	57	57	57	75	75
	b	mm	25.5	25.5	25.5	25.5	25.5	30	30
	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 ISO 4762 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	deg.	20	20	15	15	15	15	15
	β	deg.	9 x 40	9 x 40	12 x 30	12 x 30	12 x 30	12 x 30	12 x 30
(Pressure control)	γ	deg.	83	83	60	60	60	60	60

# BIG BORE® BB-N

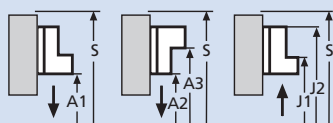
INCH  
SERRATION

■ Top jaws

## MHB-D Hard reversible top jaws

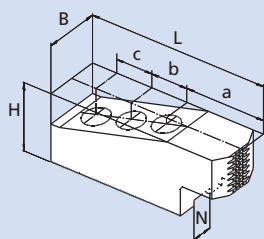


### Gripping ranges

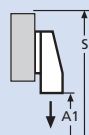


Chuck BB - N	400-140	470-191	500-205	500-230	600-275	630-310	800-410
Jaw type	MHB- D 500	MHB- D 500	MHB- D 500	MHB- D 500	MHB- D 500	MHB- D 630	MHB- D 800
Id. No. (set)	12084546	12084546	12084546	12084546	12084546	12086446	12088046
B	60	60	60	60	60	75	75
H	75	75	75	75	75	85	85
L	140	140	140	140	140	160	220
T	2x19	2x19	2x19	2x19	2x19	30	30
N	25.5	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°	3/32" x 90°
a	46	46	46	46	46	30	51
b	38	38	38	38	38	50	62
c	38	38	38	38	38	50	62
kg / set	6.6	6.6	6.6	6.6	6.6	13.5	19.5
A1	65 - 238	100 - 273	150 - 358	175 - 378	224 - 424	275 - 485	320 - 590
A2	110 - 284	145 - 320	200 - 405	225 - 425	348 - 548	275 - 485	330 - 600
A3	294 - 470	330 - 505	385 - 590	410 - 610	447 - 647	475 - 685	590 - 865
J1	175 - 350	210 - 385	265 - 470	285 - 490	307 - 506	395 - 610	500 - 770
J2	355 - 530	390 - 565	445 - 650	465 - 670	504 - 704	595 - 810	760 - 1030
S	585	620	705	725	735	820	1050

## GAB Hard top jaws

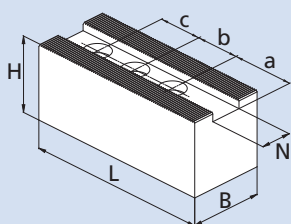


### Gripping ranges

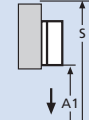


Chuck BB - N	400-140	470-191	500-205	500-230	600-275	630-310	800-410
Jaw type	GAB 500	GAB 500	GAB 500	GAB 500	GAB 500	GAB 630	GAB 800
Id. No. (set)	12085146	12085146	12085146	12085146	12085146	12086546	12089046
B	55	55	55	55	55	75	75
H	73	73	73	73	73	82	82
L	195	195	195	195	195	245	320
N	25.5	25.5	25.5	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°	3/32" x 90°
a	96	96	96	96	96	113	165
b	38	38	38	38	38	50	60
c	38	38	38	38	38	50	60
kg / set	16.5	16.5	16.5	16.5	16.5	31.5	40.5
A1	25 - 140	60 - 175	50 - 260	70 - 280	107 - 308	105 - 320	95 - 272
S	585	620	705	725	700	820	1010

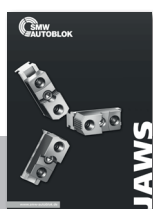
## WBSA-D / WBC-D Soft top jaws



### Gripping ranges



Chuck BB - N	400-140	470-191	500-205	500-230	600-275	630-310	800-410
Jaw type	WBSA-D 500	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	12075050	12076440	12078040
B	60	60	60	60	60	80	80
H	60	60	60	60	60	80	80
L	170	170	170	170	170	240	320
N	25.5	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°	3/32" x 90°
a	69	69	69	69	69	110	165
b	38	38	38	38	38	50	60
c	38	38	38	38	38	50	60
kg / piece	3.6	3.6	3.6	3.6	3.6	11	15
A1	25 - 195	60 - 230	105 - 315	125 - 325	161 - 362	110 - 325	95 - 272
S	545	580	660	680	707	815	1010



JAWS-CATALOG

Request or  
download:  
[www.smw-autoblok.de](http://www.smw-autoblok.de)

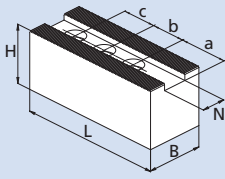
JAWS

# BIG BORE® BB-N

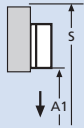
- Top jaws
- T-nuts
- Spindle Adapters

INCH  
SERRATION

## WBC-D, WBCL-D Soft top jaws long version

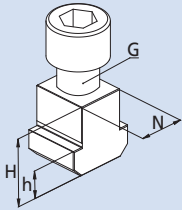


### Gripping ranges



Chuck BB-N	400-140	470-191	500-205	500-230	600-275	630-310	800-410
Jaw type	WBC-D 502	WBC-D 502	WBC-D 502	WBC-D 502	WBC-D 502	WBC-D 800	WBCL-D 800
Id. No. (piece)	12075140	12075140	12075140	12075140	12075140	12078040	12079040
B	60	60	60	60	60	80	80
H	60	60	60	60	60	80	80
L	205	205	205	205	205	320	390
N	25.5	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°	3/32" x 90°
a	104	104	104	104	104	165	230
b	38	38	38	38	38	60	60
c	38	38	38	38	38	60	60
kg / piece	4.5	4.5	4.5	4.5	4.5	15	18
A1	-	0 - 155	35 - 245	55 - 265	91 - 292	25 - 195	25 - 235
S	-	575	660	680	707	845	1020

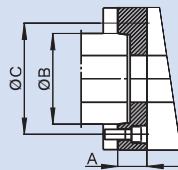
## NST T-nuts



Chuck BB-N	400-140	470-191	500-205	500-230	600-275	630-310	800-410
T-nut type	NST	NST	NST	NST	NST	NST	NST
Id. No. (piece)	12065020	12065020	12065020	12065020	12065020	13063900	13063900
N	25.5	25.5	25.5	25.5	25.5	30	30
H	34	34	34	34	34	44	44
h	15	15	15	15	15	18	18
G	M20	M20	M20	M20	M20	M24	M24
Bolt ISO 4762 12.9	M20 x 40	M20 x 40	M20 x 40	M20 x 40	M20 x 40	M24 x 60	M24 x 60

## Spindle adapters for BIG BORE chucks

### ISO-A DIN 55026 Spindle adapters



BB-N	400-140/470-191			500-205/500-230			600-275			630-310			800-410	
	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 spindle adapters are available on request.

JAWS-CATALOG

Request or  
download:  
[www.smw-autoblok.de](http://www.smw-autoblok.de)



- Cycle clamp BB-N / BB-N ES
- Cycle clamp BB-SC

### Common parts for all Big Bore air circuits:

<b>V</b>	Non return valve towards the pneumatic system
<b>S</b>	Accumulator (approx. 90 normal liter / 23 gallon)
<b>W</b>	Air service unit 3/4" with filter, dryer, oiler and pressure regulator (0 - 10 bar), min. flowrate 3100 l/min (819 gallon / min); rec. Type: FRL 34S; Riegler & Co. KG, Bad Urach, Germany
<b>D</b>	Silencer 3/4", min. flowrate 15000 l / min (3963 gallon / min); rec. Type: 2311; Festo, Esslingen, Germany
<b>F</b>	Air flow sensor

Used connection parts for time measuring according to page 7:

- Length of hoses from air control to chuck: 3000 mm
- Inside dia. of hoses from air control to chuck 3/4" (19 mm)

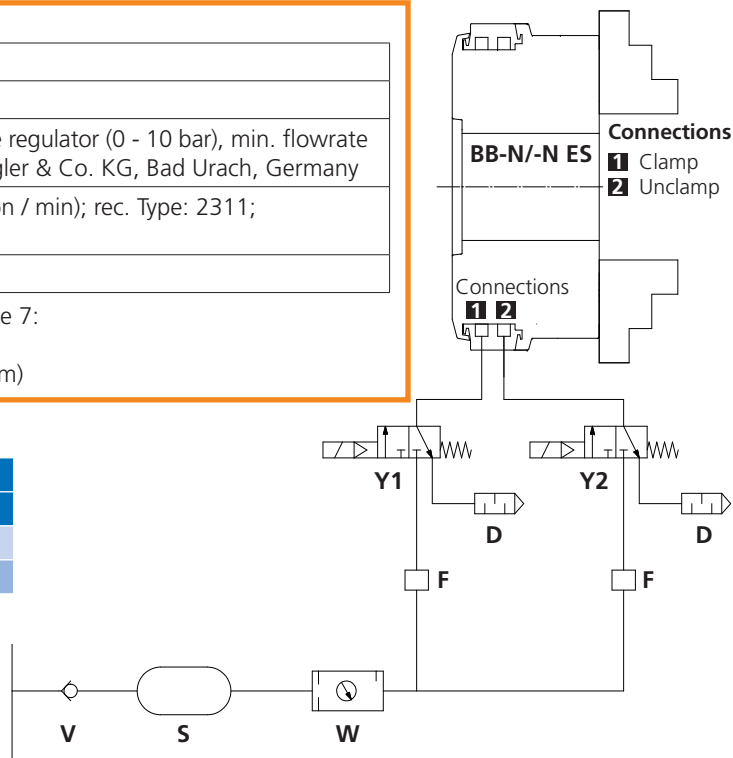
### Cycle clamp BB-N / BB-N ES

action	Valve Y1	Valve Y2
clamp / unclamp	clamp	unclamp
1. chuck open		○
2. chuck clamp	○	

○ = Valve actuated for jaw movement

#### NOTE:

- All valves, hoses and fittings must be at least:
  - 1/2" inside dia. per function up to chuck size 600
  - 3/4" inside dia. per function on larger chuck sizes



### Cycle standard clamp BB-SC

action	Valve Y1	Valve Y2
clamp / unclamp	unclamp	clamp
1. chuck open	X	
2. chuck clamp		○

### Cycle step mode / inching BB-SC

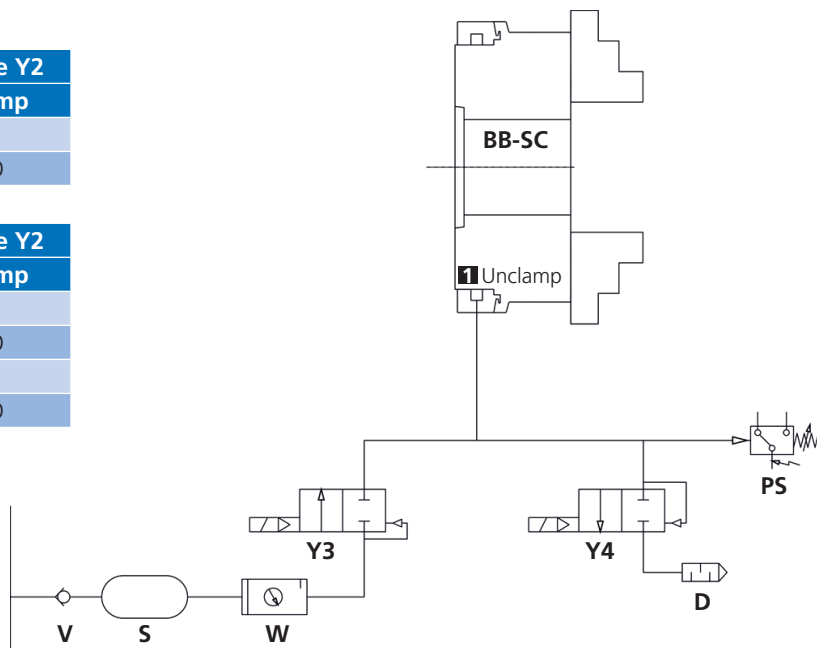
action	Valve Y1	Valve Y2
clamp / unclamp	unclamp	clamp
1. chuck open	X	
2. chuck clamp		○
3. step open	○	
4. step close		○

X = Valve permanently actuated

○ = Valve actuated for jaw movement

#### NOTE:

- All valves, hoses and fittings must be at least 3/4"



### Pneumatic connection parts for BB-N/-N ES and BB-SC:

<b>Y1/Y2</b>	3/2 solenoid valve 1", min. flowrate 3900 l / min (1031 gallon / min); rec. Type: NL6-SOV; Bosch Rexroth, Germany
<b>Y3/Y4</b>	2/2 solenoid valve 3/4", min. flowrate 3100 l / min (819 gallon / min); rec. Type: EGV 121/C78/3/4" BN; AVS Roemer GmbH, Koenigsdorf, Germany
<b>PS</b>	Pressure switch, 0 - 10 bar, 4 - 20 mA; rec. Type: A-10-6-BG410-HD1Z-AA-AGZ; WIKA, Klingenberg, Germany
<b>Q</b>	Quick exhaust valves, min. flowrate 6800 l / min (1765 gallon/min) rec. Type: 573, 1"; Bosch Rexroth, Germany