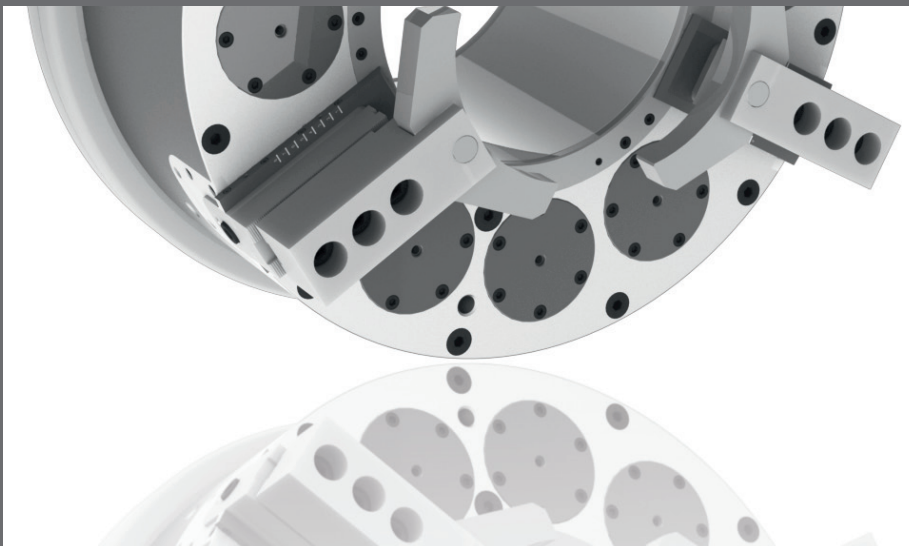


CATALOG OCTG 14E

Chucks for Oil Country Tubular Goods



Customer Benefits

SMW-Autoblok is the Inventor



SMW-AUTOBLOK - the inventor and pacemaker in technologie for OCTG chucks. More than 40 years of experience ensuring the highest productivity for all of our customers.

Worldwide Service + Support



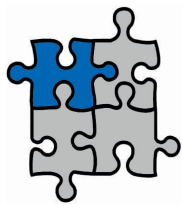
Our worldwide SMW-AUTOBLOK network guarantees immediate service, availability of parts and support wherever needed.

Partner of Oil Industrie



Working closely with our customers, we are able to provide new and innovative solutions as challenges arise.

Widest Range of OCTG Products



SMW-AUTOBLOK offers a complete range of OCTG chucks as standard product. The need for expensive "special product" chucks with long lead times is eliminated.

Fast Time and High Accuracy



Improving Production Processes with rapid chuck actuation, SMW-AUTOBLOK's OCTG chuck increase productivity and decrease machine downtime.

Applications Worldwide

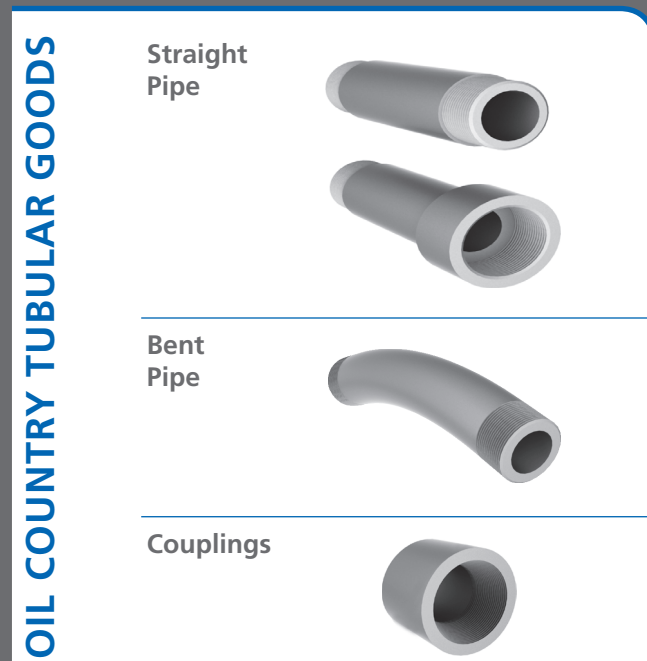


5 Continents - 1 Partner: All major players in the OCTG industry on 5 continents trust in SMW-AUTOBLOK as their reliable workholding partner.

Content

Applications

Chapters



Introduction

Page 5

Performance Characteristics

Page 6

Pipe

Page 9

Couplings

Page 25

Accessories (Control Units, Jaws)

Page 36

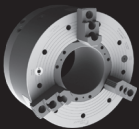
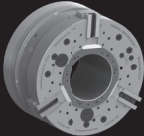
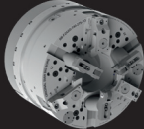
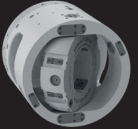
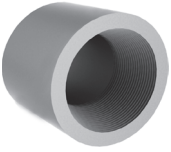
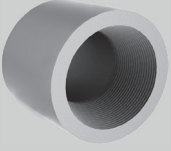
Pneumatic Diagrams

Page 42

Chuck finder for Oil Country Tubular Goods:

- Straight Pipe
- Bent Pipe
- Couplings

Introduction

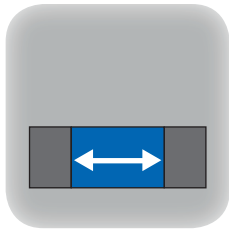
Chuck Type Machining OCTG Product	 BB-N/BB-N-ES	 BB-SC	 BB-AZ2G	 BB-FZA2G	 SF-RZ/SF-RAZ
 Straight Pipe	 Page 12/14	 Page 16	 Page 18		
 Bent Pipe with shimming	 Page 12/14	 Page 16	 Page 18		
 Bent Pipe with external centering chuck			 Page 18		
 Bent Pipe with integrated centering chuck				 Page 22	
 Threading of Couplings in 1 set up					 Page 28/30
 Threading of Couplings in 2 set ups	 Page 32/34				 Page 28/30



Ideal



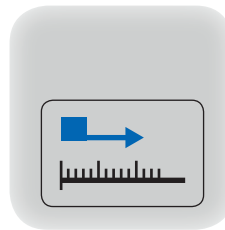
Possible



Big Bore is synonymous with **self contained air chucks with large through holes**. Big Bore chucks allow for the full spindle bore of the machine to be utilized.



Optimal sized air feeds and valve systems guarantee a **quick clamping cycle**.



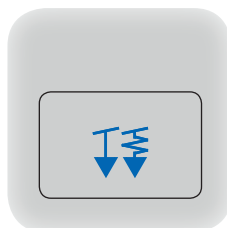
ES chucks offer **extended jaw stroke** for greater clearance to ensure safe loading and unloading of pipe.



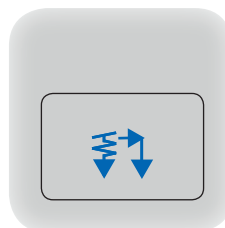
Spring clamp technology ensures the quickest clamping cycles and the highest degree of safety under any conditions.



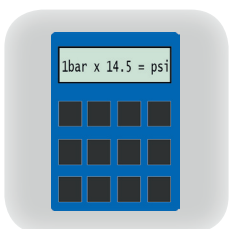
Proofline chucks are **fully sealed, low maintenance** allowing for long service intervals, minimizing machine downtime.



AZ chucks offer the versatility of clamping either **compensating** or **self centering**.



FZA chucks **sequence 3 centering jaws** along with **3 compensating jaws** integrated within the same chuck body.



Conversion Table (US)

1 mm	=	0.03937 Inch	1 cm ²	=	0.155 square inches
1 bar	=	14.5 psi	1 liter	=	1.05 quarts (qt)
1 kN	=	220.46 lbf	1 kg·m ²	=	3417 lb square inches
1 kg	=	2.2046 lbs	1 liter/min	=	0.264 gallon/min

OCTG chuck	Size	Outside Dia. Max	Work pie- ce capacity	Time for a full clam- ping	Time for a full ope- ning	Max. Grip force (at max. pressure)	Height of chuck without adapter	Weight without jaws and adapter
	in mm	in mm	in mm	Max	Max	in kN	in mm	in kg
BB-N	400-140	467	140	-	-	266	196	155
▪ Big Bore	470-191	470	191	4.5	3.0	191	196	160
▪ Quick Clamping Circle	500-205	570	205	6.0	6.0	350	225	230
	500-230	570	230	6.0	6.0	316	225	200
	600-275	605	275	6.0	6.0	333	225	270
	630-310	685	310	6.5	6.5	366	263	420
	800-410	850	410	7.0	5.5	550	305	650
BB-N-ES	400-140	467	140	on request	on request	216	240	200
▪ Big Bore	470-191	470	191	4.5	3.0	191	240	195
▪ Quick Clamping Circle	500-205	570	205	6.0	4.5	316	280	340
▪ Extended Stroke	500-230	570	230	6.0	4.5	283	280	325
	600-275	605	275	6.0	4.5	308	280	350
	630-325	685	325	6.0	4.5	333	307.5	630
	850-375	850	375	7.0	5.5	333	354	970
	1000-560	1000	560	7.5	6.0	283	332	960
BB-SC	600-275	750	275	3	3	150	320.5	516
▪ Big Bore								
▪ Spring Clamp	850-395	925	395	3	3	170	375.5	1025
▪ Low Maintenance								
	1020-565	1095	565	4.5	4.5	170	375.5	1256
BB-AZ2G	685-275	685	275	on request	on request	266	380.5	800
▪ Big Bore								
▪ Self centering or compensating	740-330	740	330	on request	on request	266	380.5	875
▪ Extended Stroke	800-390	800	800	on request	on request	300	380.5	1000
	1000-560	1000	560	on request	on request	300	380.5	1420
BB-FZA2G	740-275	740	275	on request	on request	149	516.5	1100
▪ Big Bore								
▪ Sequence chuck	800-330	800	330	on request	on request	133	516.5	1080
	920-390	920	390	on request	on request	255	546.5	1900
SF-RAZ	750	750	185	2	2	250	456	1018
▪ Hydraulic indexing chuck	840	840	275	2	2	250	501	1286
▪ Low Maintenance	950	950	368	2	2	250	560	1650

Clamping times have been measured with the corresponding original SMW-AUTOBLOK air control unit on the SMW-AUTOBLOK test stand. For more details please contact SMW-AUTOBLOK.



Pipe

Straight
Pipe



Bent
Pipe



Overview Pipe

Page 10

Recommended Combinations

Page 11

BB-N

Page 12

BB-N-ES

Page 14

BB-SC

Page 16

BB-AZ2G

Page 18

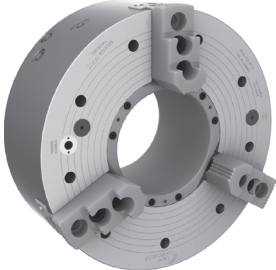
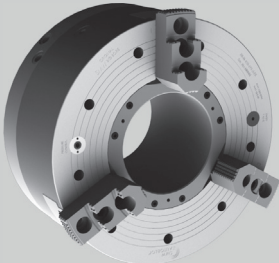
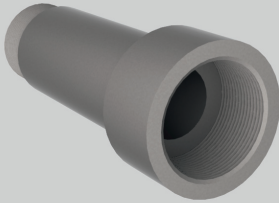
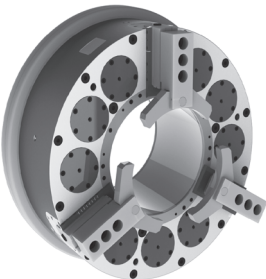
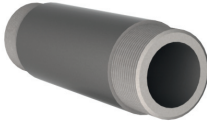
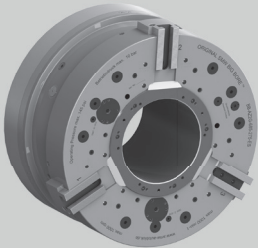
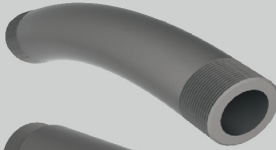
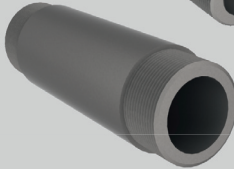
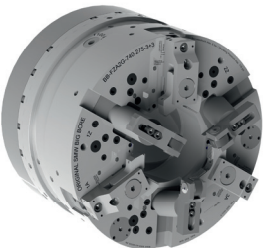
BB-FZA2G

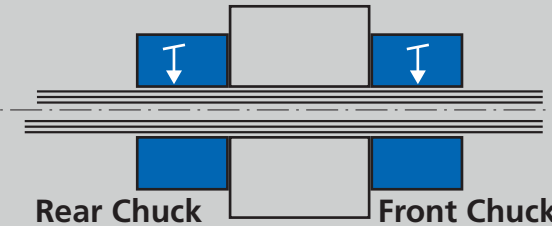
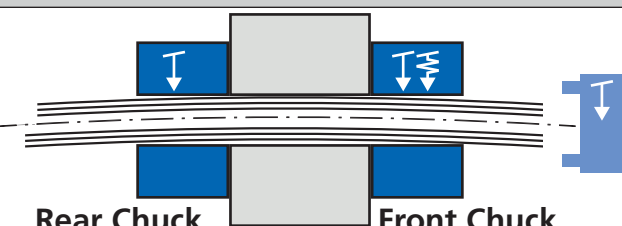
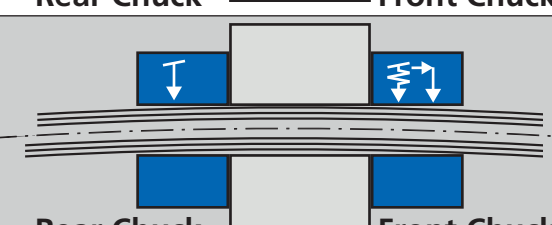
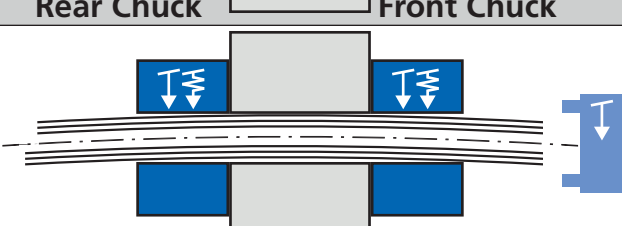
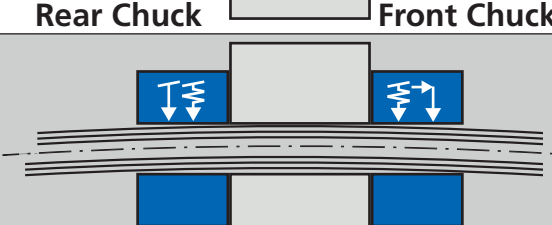
Page 22

Overview Pipe

Customer's OCTG product:

- Straight pipe
- Bent pipe

CHUCK	APPLICATION	OCTG PRODUCT	CUSTOMER BENEFITS
BB-N Page 12 	Threading of straight pipe with the original SMW Big Bore Type BB-N.		▪ Quick jaw movement more pipe per hour ▪ Can be used for other work pieces besides piping ▪ O.D. and I.D. clamping
BB-N-ES Page 14 	Threading of straight pipe with upset ends with the original SMW Big Bore Type BB-N-ES.		▪ Quick jaw movement more pipe per hour ▪ Large jaw stroke for easy loading of pipe and less danger of damaging threads when unloading
BB-SC Page 16 	High production spring clamp chuck for threading of straight pipe with or without upset ends with the original SMW Big Bore Type BB-SC.	 	▪ Full jaw stroke in 2 seconds for highest productivity ▪ Fully sealed/low maintenance for highest availability of the machine ▪ Safe clamping of pipe even in longer machining processes with spring clamp technology
BB-AZ2G Page 18 	Threading of straight and bent pipe with the original SMW Big Bore Type BB-AZ2G.	 	▪ Self centering or compensating clamping for universal use ▪ Quick jaw movement ▪ External centering device needed when used in compensating mode ▪ O.D. clamping only
BB-FZA2G Page 22 	Threading of straight and bent pipe with integrated centering jaws with the original SMW Big Bore Type BB-FZA2G.	 	▪ Integrated centering jaws for the pipe = no external centering device needed ▪ Quick jaw movement ▪ Fully automatic programmable cycle

 Self centering clamping	 Self centering or Compensating Clamping	 3+3-Combination
Combination A  Pipe Loading →	 Rear Chuck Front Chuck	<i>Note: This combination can be only used for straight pipe!</i>
Combination B  Pipe Loading →	 Rear Chuck Front Chuck Centering	
Combination C  Pipe Loading →	 Rear Chuck Front Chuck	<i>Note: No centering necessary!</i>
Combination D  Pipe Loading →	 Rear Chuck Front Chuck Centering	
Combination E  Pipe Loading →	 Rear Chuck Front Chuck	<i>Note: No centering necessary!</i>

Respective chuck matrix:

Self centering clamping 	Self centering or compensating Clamping 	3 jaw + 3 jaw combination 
 BB-N/ BB-N-ES Page 12/14	 BB-AZ2G Page 18	 BB-FZA2G Page 22
 BB-SC Page 16		

Centering options:

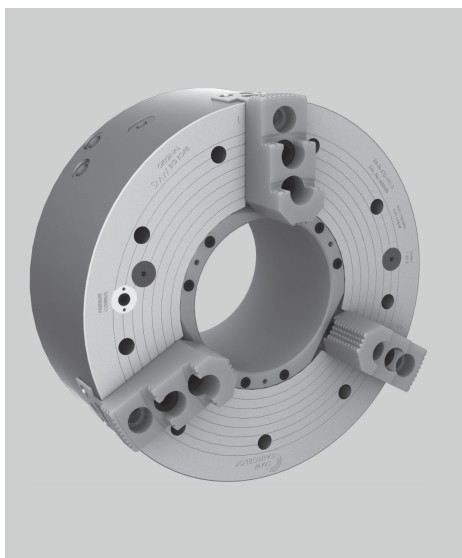
	 Chuck CC Page 20	Turret by customer
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BB-N

INCH
serration

Big Bore front-end pneumatic power chucks

- EXTRA LARGE THROUGH HOLE Ø 140 - 410 mm
- 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 page 34
Control unit AC-XN page 35
Jaws page 36/37

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

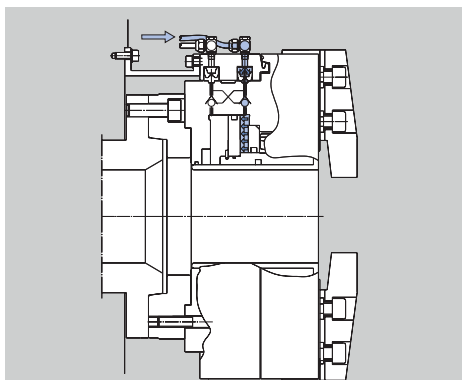


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber. When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

* BB-N 400-140 no stroke safety control

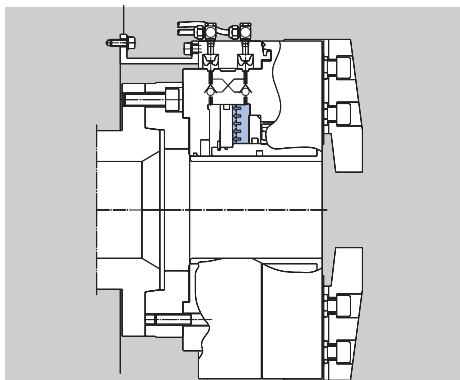


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore. The clamping pressure is maintained by the twin non-return valve. The chuck can start to rotate.

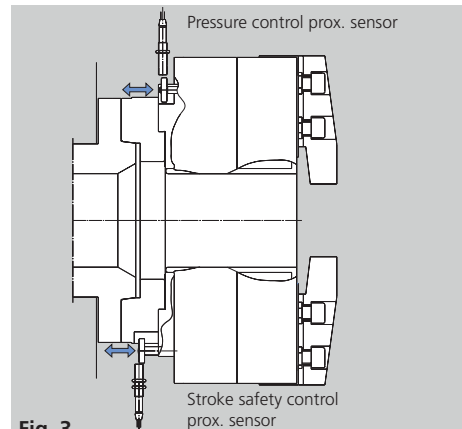
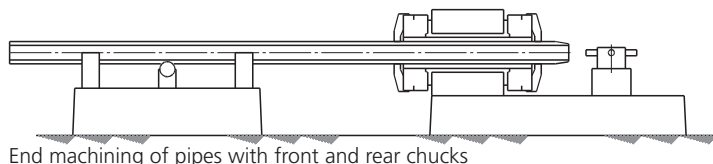


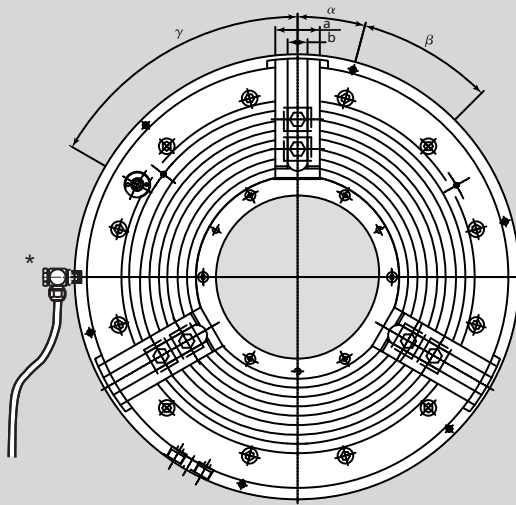
Fig. 3
Safety pressure control: if the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending an alarm signal.
Stroke safety control: if the part is clamped during the rapid stroke, the proximity-switch sends an alarm signal.*



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	053830	053832	053834	053836	053838
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	liter	21	16	36	32	34	52	108
Weight (without top jaws)	kg	150	150	230	200	270	420	650
Moment of inertia	kg·m ²	3.22	5.66	8.53	8	15	28	71.25

Main dimensions and technical data

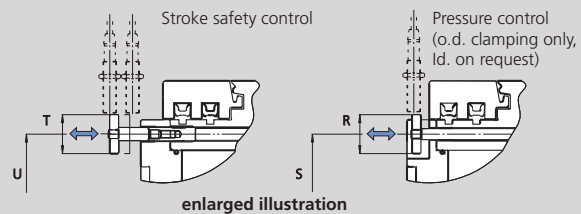
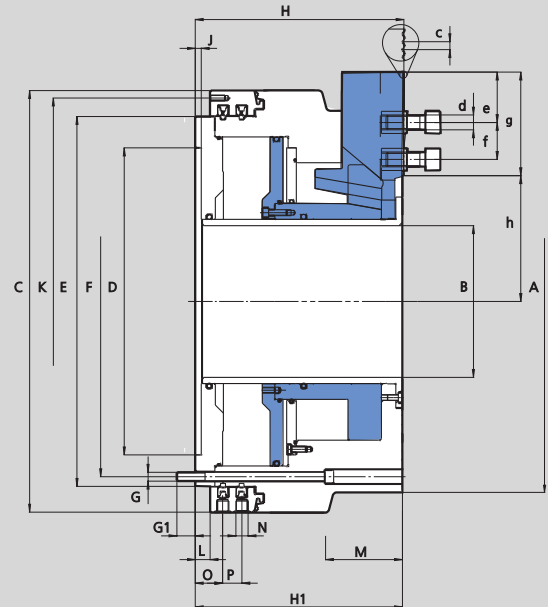


* all hoses must be min. 1/2" up to chuck size 600 and 3/4" from chuck size 630 on!

** BB-N-400-140 no stroke safety control

Subject to technical changes
For more details please request a separate chuck drawing!

Jaw position: Open for external clamping



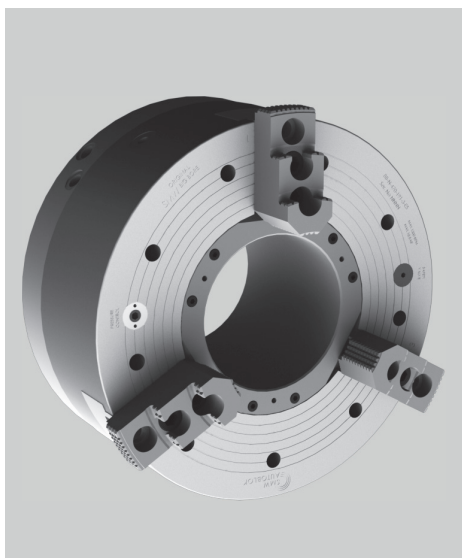
SMW-AUTOBLOK BB-N Type			400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.			052300	053535	053830	053832	053834	053836	053838
Mounting			Z310	Z310	Z415	Z415	Z450	Z510	Z700
	A	mm	422	470	540	570	605	662	800
	B	mm	140	191	205	230	275	310	410
	C	mm	467	467	570	570	605	685	850
	D H6	mm	310	310	415	415	450	510	700
	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	27	27	27	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 6 x 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	474	508	580	745
	a	mm	57	57	57	57	57	75	75
Serration	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 DIN 912 12.9	d	mm	M20	M20	M20	M20	M20	M24	M24
	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
	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

BB-N-ES

INCH
serration

Big Bore front-end pneumatic power chucks

- Extra Large through hole Ø 140 - 560 mm
- 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-ES 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 400-140/Z310

Accessories

Control unit AC-BB page 34

Control unit AC-XN page 35

Jaws page 38/39

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

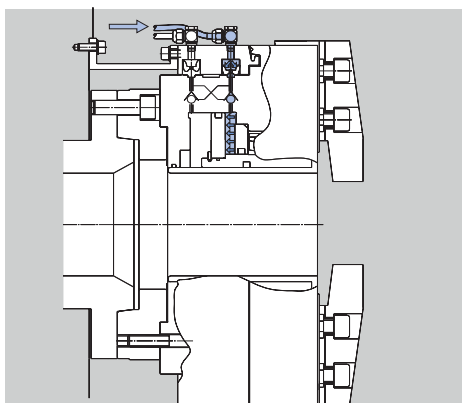


Fig. 1

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.

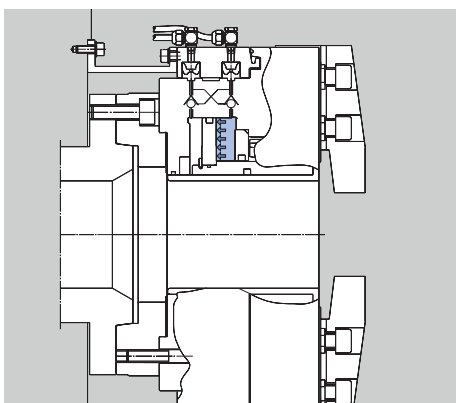


Fig. 2

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.

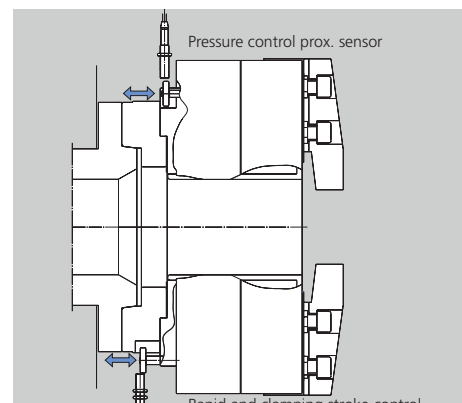
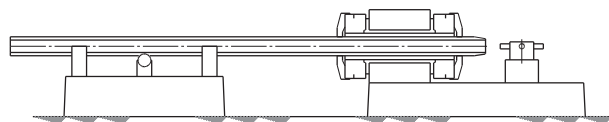
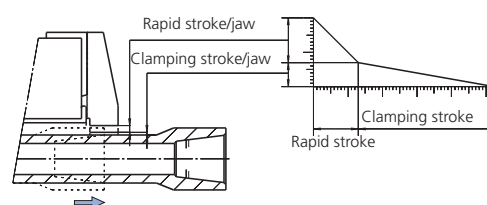


Fig. 3

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

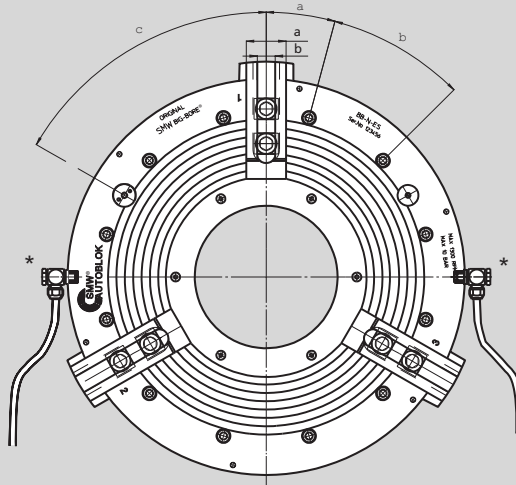


Technical data

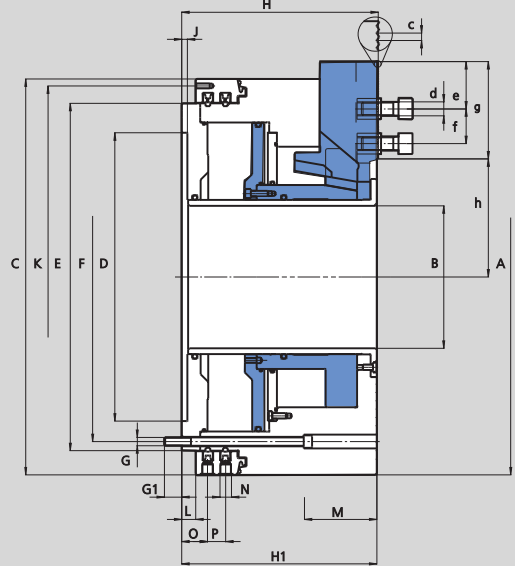
SMW-AUTOBLOK BB-N-ES Type		400-140	470-191	500-205	500-230	600-275	630-325	850-375	1000-560
Id. No.		052330	053536	052651	052652	052990	052653	052654	052655
Through-hole	mm	140	191	205	230	275	325	375	560
Total stroke per jaw	mm	20	20	25.4	25.4	25.4	25.4	25.4	25.4
Rapid stroke per jaw*	mm	13	13	16.9	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	liter	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

Main dimensions and technical data

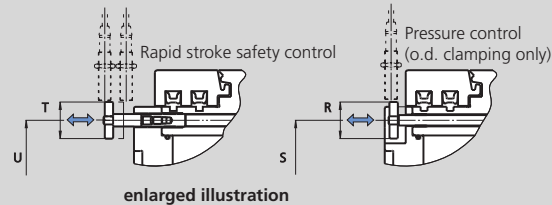


Jaw position: Open for external clamping



*all hoses must be min. 1/2" up to chuck size 600 and 3/4" from chuck size 630 on!
BB-N-ES 1000 needs 2 hoses per function open/close (see installation manual)

Subject to technical changes
For more details please request a separate chuck 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	F	F	F	F	F	F	F
	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	K	K	K	K	K	K	K
	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	N	N	N	N	N	N	N
	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	c	c	c	c	c	c	c
	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 ISO 4762 12.9			d	d	d	d	d	d	d	d
	d	mm	M20	M20	M20	M20	M20	M24	M24	M24
	min.	e	mm	14	14	14	14	16	16	16
T-nuts distance min./max.			f	f	f	f	f	f	f	f
	f	mm	38/90	38/85	38/104	38/92	38/79	47/100	47/140	47/125
Serration length			g	g	g	g	g	g	g	g
	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
	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

BB-SC

INCH serration

Big Bore front-end spring clamp power chucks

- EXTRA LARGE THROUGH HOLE Ø 275 - 565 mm
- 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

BB-SC 850-395
Id. No. 053350

Accessories

Air control AC-SC

The reliable principle: Clamping via encapsulated spring packs/ opening via air cylinder

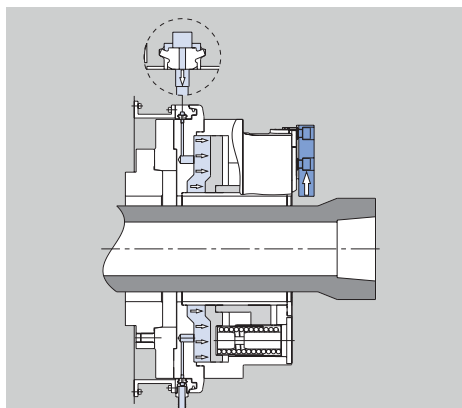


Fig. 1

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.

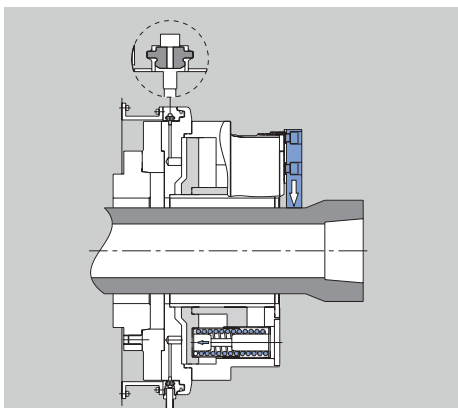


Fig. 2

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.

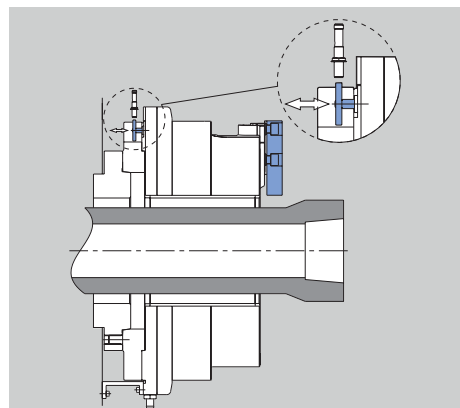
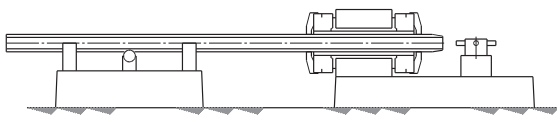
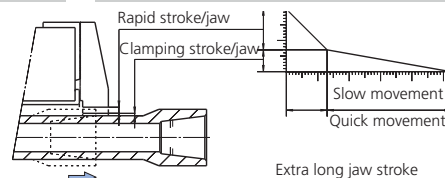


Fig. 3

Stroke control chuck open.
The position "chuck open" can be monitored via a mechanical cam by a proximity switch.



End machining of pipe with front and rear chucks

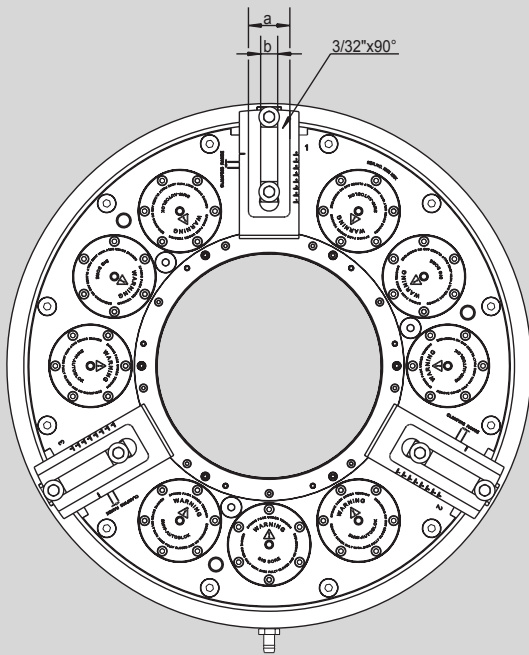


Technical data

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		
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	liter	60			115			139		
Weight (without jaws)	kg	510			930			1260		
Moment of inertia	kg-m ²	34			101			223		

*must not be used for clamping

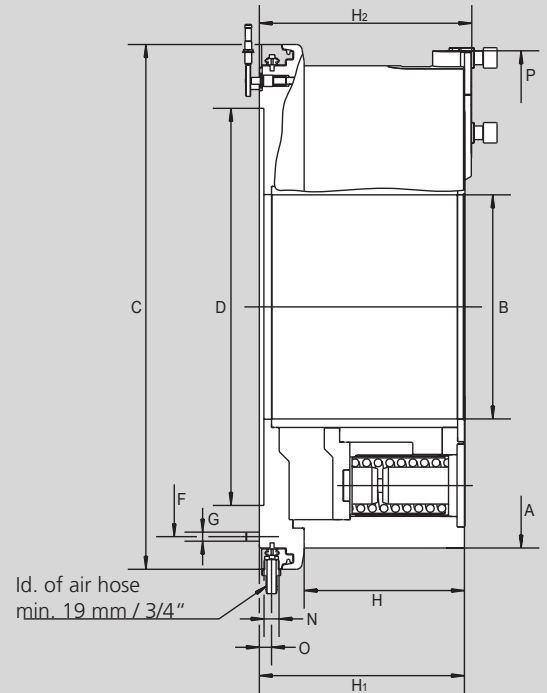
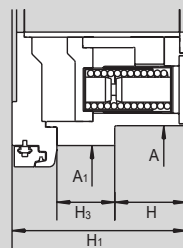
Main dimensions and technical data



Opening pressure with all springs mounted
5 bar/73 psi, max. 8 bar / 116 psi

Subject to technical changes
For more details please request a separate chuck drawing!

BB-SC-600 only



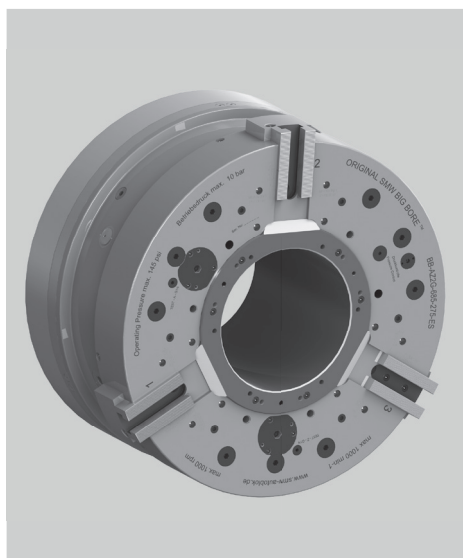
SMW-AUTOBLOK Type			BB-SC 600-275	BB-SC 850-395	BB-SC 1020-565
Id. No.			053540	053350	053570
	A	mm	605	850	1020
(BB-SC-600-275)	A1	mm	675	-	-
Through hole	B	mm	275	395	565
	C	mm	750	925	1095
	D H6	mm	520	700	870
	F	mm	640	810	980
	G		M12 (12x)	M16 (12x)	M16 (12x)
	H		126.7	282.5	282.5
	H1		307.5	361.5	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

BB-AZ2G

INCH serration

Big Bore front-end pneumatic power chucks

- EXTRA LARGE THROUGH HOLE Ø 275 - 390 mm
- 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
- Extra long rapid and clamping stroke (1 1/2" total)
- Stroke control for each jaw
- Pressure control

Technical features

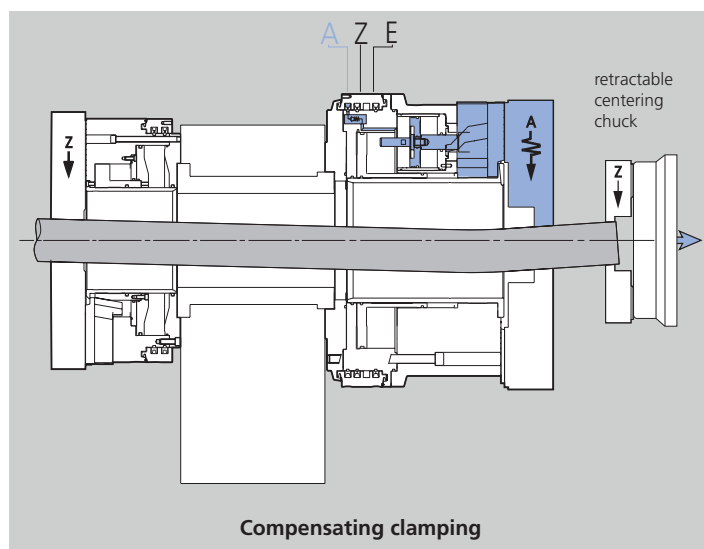
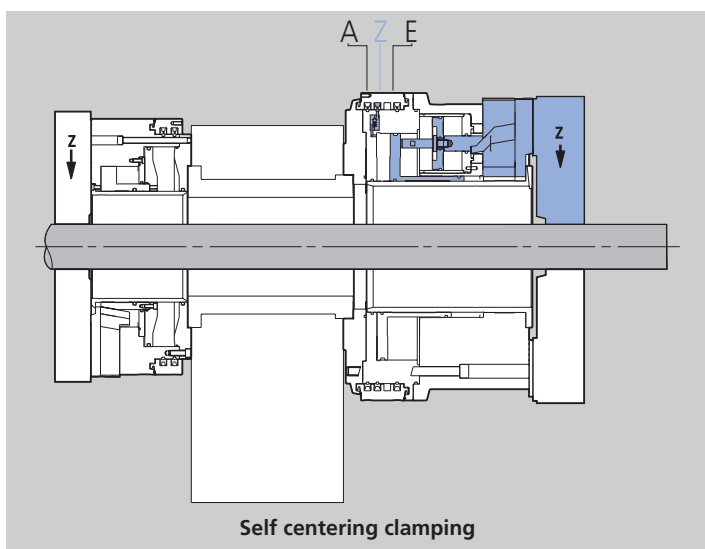
- Air chuck with built-in pneumatic cylinders for self centering or compensating clamping mode
- Air feed for both functions via distributor ring and SMW-AUTOBLOK profile seals at stopped spindle
- Built-in non return valves maintain the air pressure during machining
- Rapid and clamping stroke
- For external clamping only

Standard equipment

Chuck with mounting bolts
1 set of T-nuts with bolts

Ordering example

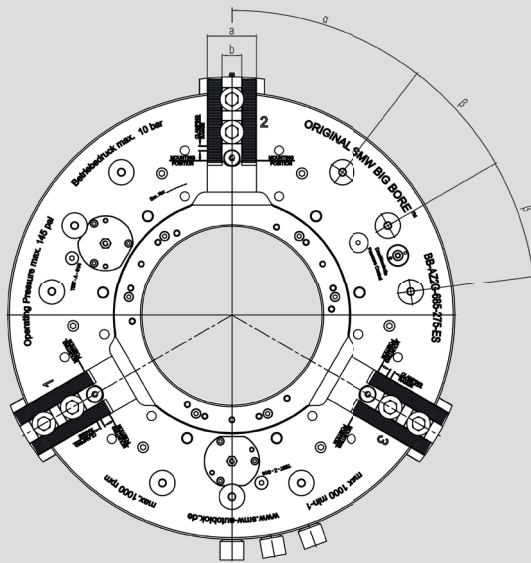
Big Bore BB-AZ2G 685-275- A15



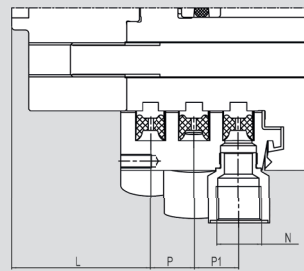
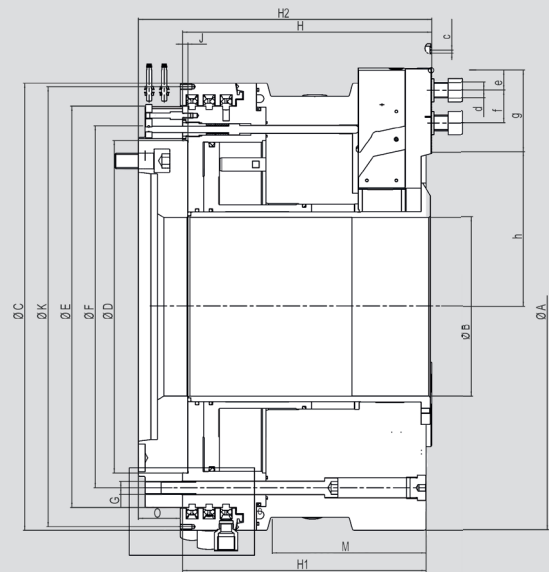
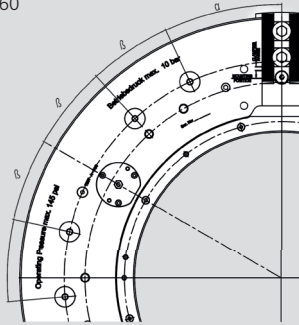
Technical data

SMW-AUTOBLOK Type		BB-AZ2G 685-275	BB-AZ2G 740-330	BB-AZ2G 800-390	BB-AZ2G 1000-560
Through hole	mm (inch)	275	330	390	560
Total stroke per jaw	mm (inch)	38.1 (1 1/2")	38.1 (1 1/2")	38.1 (1 1/2")	38.1 (1 1/2")
Rapid stroke per jaw*	mm (inch)	28.7 (1.13")	28.7 (1.13")	28.7 (1.13")	28.7 (1.13")
Clamping stroke per jaw	mm (inch)	9.4 (0.37")	9.4 (0.37")	9.4 (0.37")	9.4 (0.37")
Operating pressure min./max.	bar (psi)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)
Piston area	cm ²	1333	1344	1505	1570
Gripping force self centering at 6 bar	kN (lbf)	160 (36000)	160 (36000)	180 (40500)	180 (40500)
Gripping force compensating at 6 bar	kN (lbf)	90 (20250)	90 (20250)	90 (20250)	90 (20250)
Speed max.	r.p.m.	1000	850	750	500
Air consumption/jaw stroke at 6 bar					
Centering	liter	56	57	63	66
Compensating	liter	72	72	76	76
Weight (without top jaws)	kg (lbs)	800 (1780)	875 (1940)	1000 (2220)	1420 (3150)
Moment of inertia	kg·m ²	51.5	68.4	90.5	221.4
Compensating stroke	mm	+/- 3.5	+/- 3.5	+/- 3.5	+/- 3.5

*must not be used for clamping



BB-AZ2G 1000-560

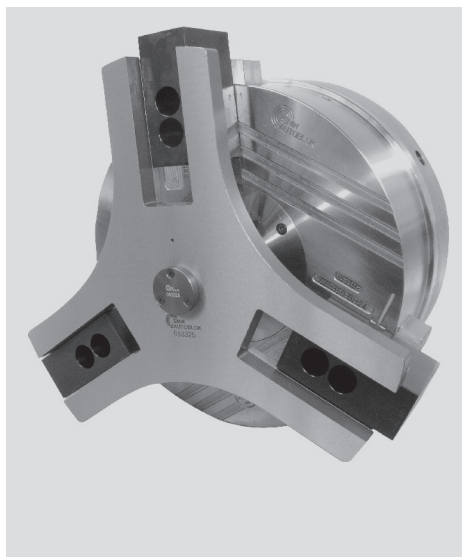


Subject to technical changes
For more detailed information please ask for customer drawing

All hoses must be
min. 3/4" .

SMW-AUTOBLOK Type			BB-AZ2G 685-275	BB-AZ2G 740-330	BB-AZ2G 800-390	BB-AZ2G 1000-560
Id. No.			054198	054308	054199	054230
Mounting			A20	A20	A20	A28
Chuck diameter	A	mm	685	740	800	1000
Through hole	B	mm	275	330	390	560
	C	mm	685	740	775	970
	D H6	mm	510	510	590	590
	E	mm	615	669	705	705
Fixing bolts circle	F	mm	555	610	640	640
	G	mm	M20	M20	M20	M20
	H	mm	380.5	380.5	380.5	380.5
	H1	mm	372	372	379	375.5
Chuck height	H2	mm	448	448	448	448
	J	mm	8	8	8	8
Thread circle 12 x M8	K	mm	674	729	755	950
	L	mm	82	82	82	82
	M	mm	235	n.a.	n.a.	n.a.
Connection for air hoses	N	inch	G 3/4"	G 3/4"	G 3/4"	G 3/4"
	O	mm	64	64	60.5	64
	P	mm	26	26	26	26
	P1	mm	26	26	26	26
	a	mm	75	75	75	75
	b	mm	30	30	30	30
Serration	c	inch	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
Bolt ISO 4762 12.9	d	mm	M24	M24	M24	M24
	e	mm	25	25	25	25
T-nuts distance min./max.	f	mm	36/88	36/88	36/88	36/88
Serration length	g	mm	125	125	125	125
	h	mm	199/237.1	227.8/265.9	258.3/295.4	340.2/378.3
	α°	deg.	37.5	37.5	37.5	25.0
	β°	deg.	22.5	22.5	22.5	17.5

- Ø 240 - 470 mm
- with integrated dampener



Application/customer benefits

- Axial positioning and centering of pipe when a BB-AZ chuck on the main spindle is used in compensating clamping mode
- Integrated hydraulic dampener with fixed and position for controlled deceleration and positioning of pipe
- 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

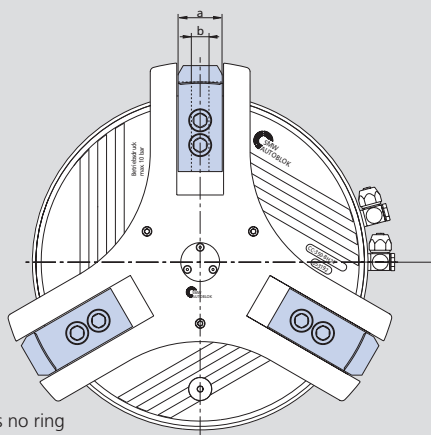
3-jaw centering chuck
1 set of soft top jaws

Ordering example

Stationary centering chuck CC-350

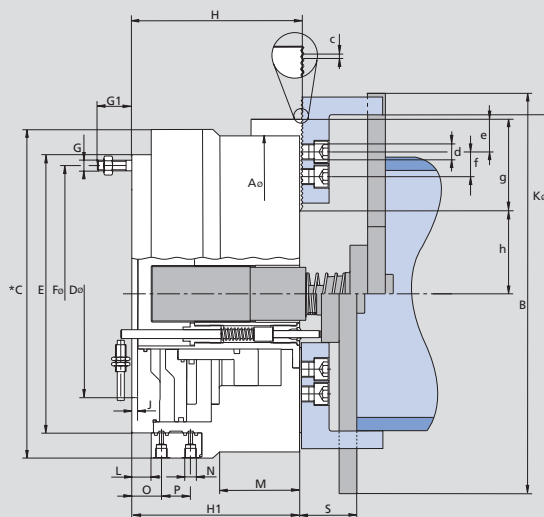
Accessories

Control unit AC-BB page 34



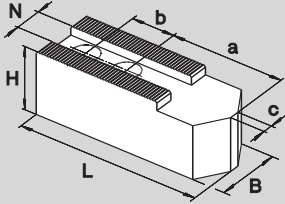
*Dimension C
Chuck CC-240 has no ring

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



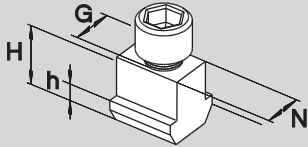
SMW-AUTOBLOK Type Id. No.			CC 240 Z 053290	CC 350 Z 053192	CC 470 Z 054470
	A	mm	240	360	470
	B	mm	306	446	550
	C	mm	250	372	n.a.
	D H6	mm	195	235	310
	E	mm		315	400
	F	mm	223.8	290.5	374
	G/G1	mm	M12/39	M12/39	M12/26
	H	mm	135.5	191.5	239.5
	H1	mm	134	190	238
	J	mm	6.5	6.5	8
Clamping Ø	max.	K	245	365	507
	L	mm	–	21	20
	M	mm	49	92	n.a.
Pneumatic connection	N	inch	G 1/4"	G 1/4"	G 1/2"
	min./max.	S	45/95	47/97	50.5/152.5
	a	mm	40	44	60
	O	mm	74	33	37
	P	mm	–	33	26
	b f7	mm	17	21	25.5
Serration	c	inch	1/16" x 90°	1/16" x 90°	3/32" x 90°
Bolts ISO 4762 12.9	d	mm	M12 x 30	M16 x 35	M20 x 45
	min.	e	9.5	12	15
T-nut distance	min./max.	f	22/41.5	25/72	35/68
Length of serration	g	mm	59	95	99
	min./max.	h	53/66	85/109	128/153
Stroke/jaw		mm	12.7	24	25
Pressure	min./max.	bar	2/10	2/10	2/10
Piston area		cm ²	290	486	652
Air consumption/jaw stroke at 6 bar		liter	6	14	21
Weight (without top jaws)		kg	53	115	260

AWB-D Soft top jaws



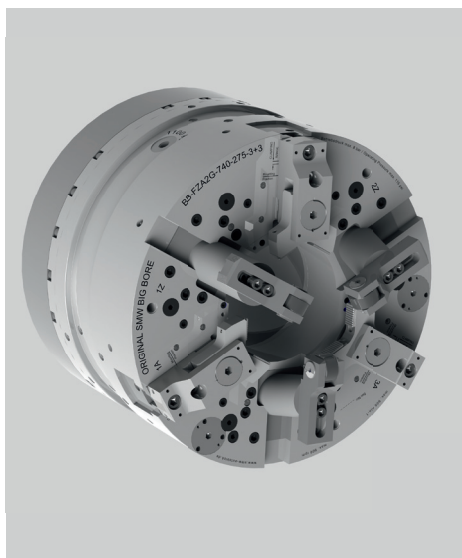
Chuck	CC 240 Z	CC 350 Z	CC 470 Z
Jaw type	MWB-D 240	MWB-D 250	MWB-D 470
Jaw Id. No. (set)	233462	013491	054487
B	40	50	60
H	80	80	120
L	90	120	155
N	17	21	25.5
Serration	1/16" x 90°	1/16" x 90°	3/32" x 90°
a	20	62	94
b	22	28	35
kg/set	4.2	10.5	21.5

NST T-nuts



Chuck	CC 240 Z	CC 350 Z	CC 350 Z
T-nut type	NST 17-4	NST 21-5	NST 21-5
T-nut Id. No./piece	013864	033429	014812
N	17	21	25.5
H	26.5	30	29
h	9.5	11	11
G	M12	M16	M20
Bolt ISO 4762 12.9	M12 x 30	M16 x 35	M20 x 40
Tighten torque	70	150	300

- 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 pipe exactly at the area to be threaded
- For external clamping only
- Fully automatic sequence is programmable

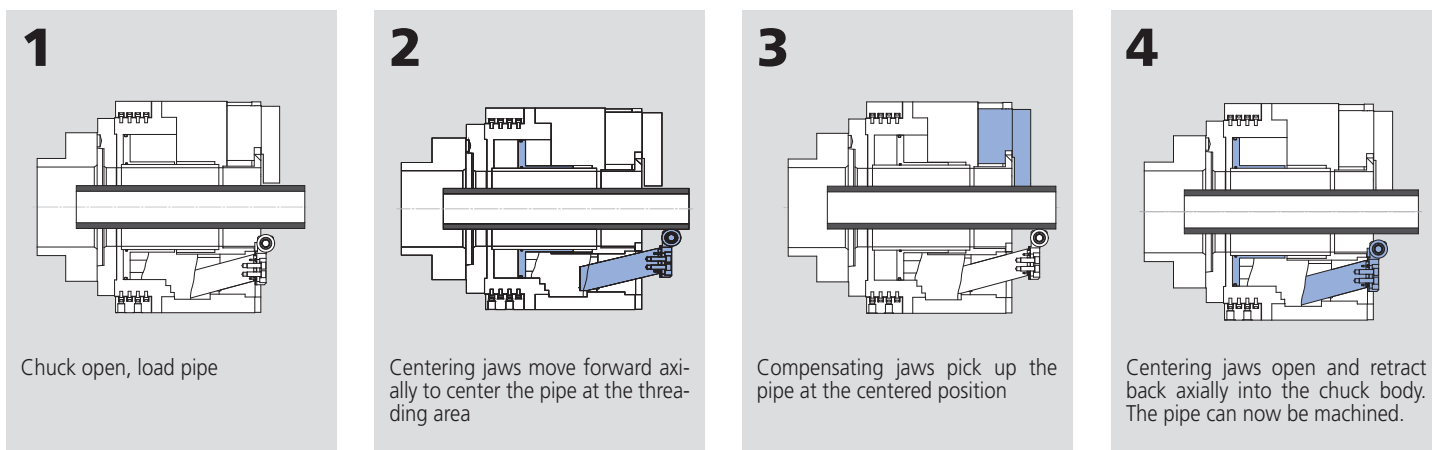
Standard equipment

3+3 jaw chuck
1 set of T-nuts with bolts
without top jaws

Ordering example

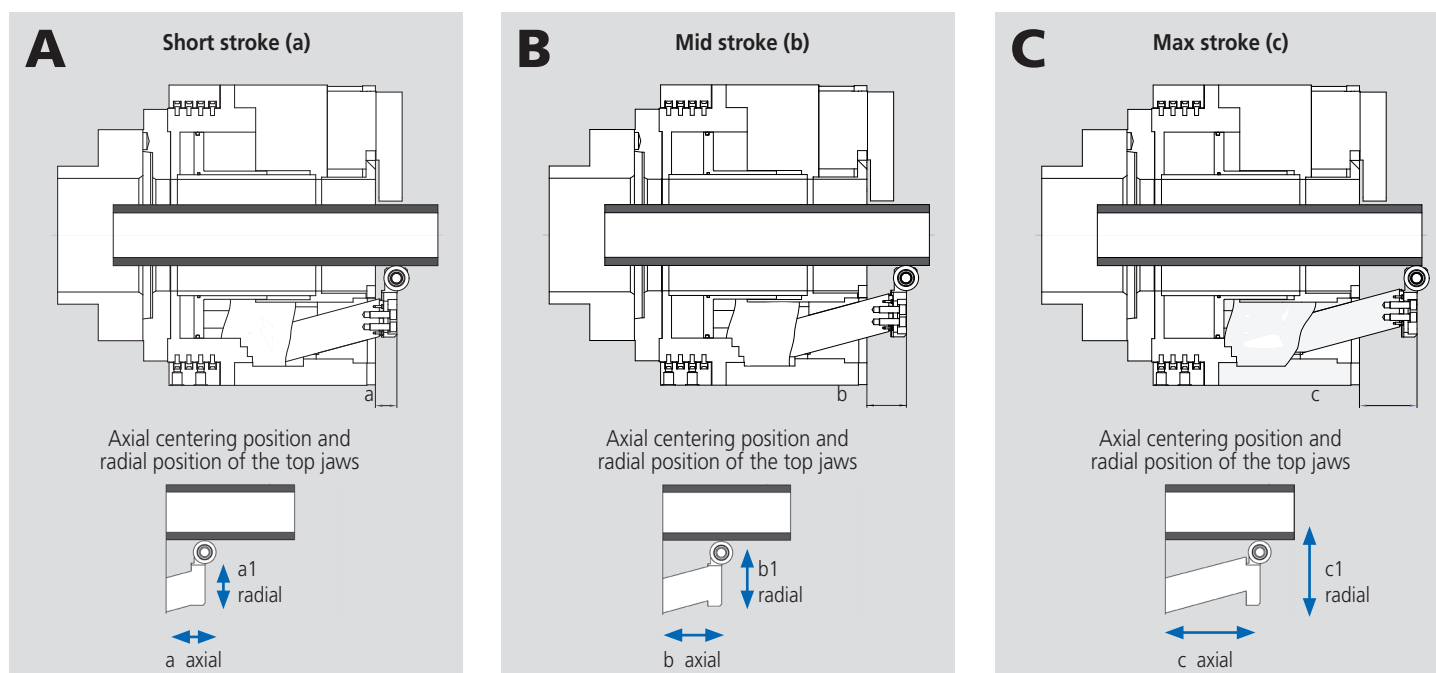
BIG BORE BB-FZA 740-275

Machining of bent pipe with chuck with integrated centering jaws:

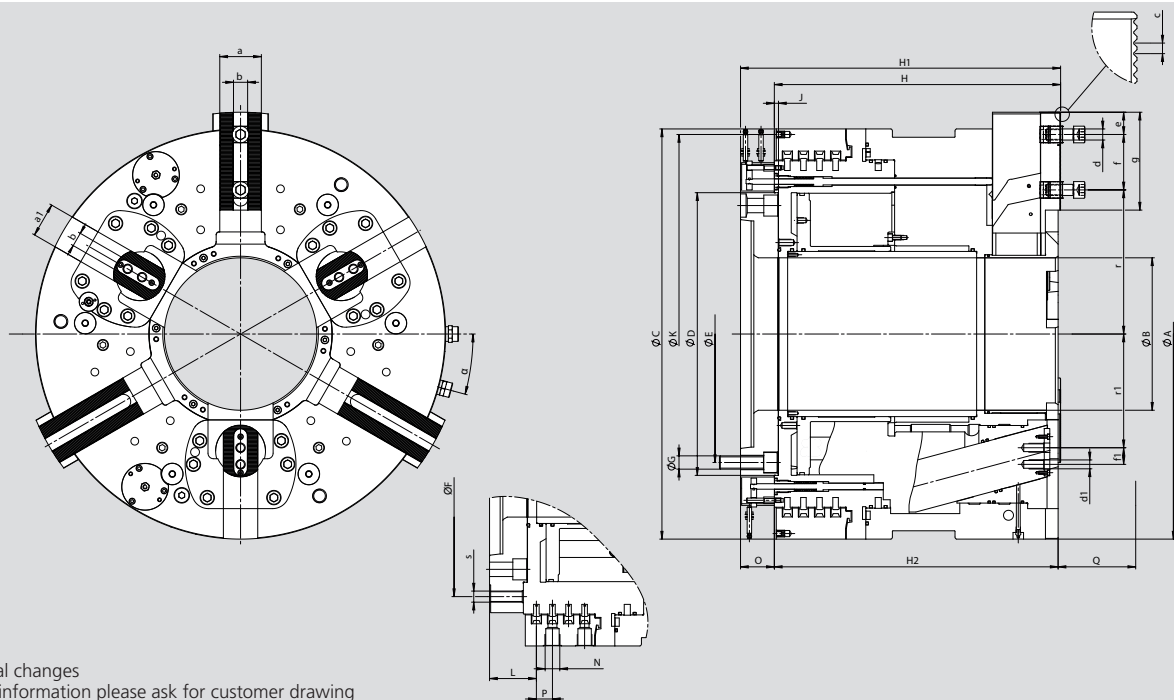


Adjustability of the axial centering position:

By changing the radial position of the top jaws, the axial centering position can be changed. The axial centering position is dependent from the radial adjustment of the top jaws.



Main dimensions and technical data



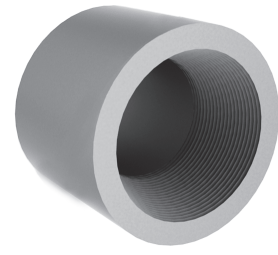
All hoses must be min. 3/4".

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

SMW-AUTOBLOK Type			BB-FZA2G-740-275-A20	BB-FZA2G-800-330-A20	BB-FZA2G-920-390-A20
Id. No.			054159	054300	054228
Chuck diameter	A	mm	740	800	920
Through hole	B	mm	275	330	390
	C	mm	740	800	920
	D	mm	510	510	550
	E	mm	463.6	463.6	463.6
	F	mm	562	615	724
	G	mm	M24	M24	M24
	H	mm	516.5	516.5	546.5
Chuck height	H1	mm	577.5	577.5	607.5
	H2	mm	512	512	542
	J	mm	7.5	7.5	7.5
	K	mm	720/6xM8	780/6xM8	890/6xM8
	L	mm	84.5	84.5	86.5
Connection for air hoses	N	inch	G 3/4"	G 3/4"	G 3/4"
	O	mm	61	61	61
	P	mm	3x29	3x29	3x31
Centering jaws axial stroke	Q	mm	140	140	160
	a	mm	75	75	75
	a1	mm	62	62	62
	b	mm	25.5 H7	25.5 H7	25.5 H7
	c	inch	3/32" x 90°	3/32" x 90°	3/32" x 90°
Jaw mounting bolts	d	mm	M20	M20	M20
Jaw mounting bolts	d1	mm	M16	M16	M16
	e	min.	30	30	30
	f	max.	100	100	135
	f1	mm	30	30	30
	g	mm	176.6	176.6	190
	r	min.	260	287.5	321
	r1	min.	205.2	232.7	275.3
	s	mm	M20	M20	M24
	α°	deg.	15	15	15
Speed max.		r.p.m.	900	750	600
Gripping force compensating jaws at 6 bar		kN (lbf)	90 (20200)	90 (20200)	150 (33300)
Gripping force centering jaws at 6 bar		kN (lbf)	100 (22500)	140 (31100)	140 (31100)
Jaw stroke compensating jaws total		mm (inch)	38.1 (1 1/2")	38.1 (1 1/2")	38.1 (1 1/2")
rapid stroke		mm (inch)	29.6 (1.16")	29.6 (1.16")	29.6 (1.16")
clamping stroke		mm (inch)	8.5 (0.34")	8.5 (0.34")	8.5 (0.34")
Jaw stroke centering jaws		mm (inch)	37.5 (1.47")	37.5 (1.47")	42.7 (1.68")
Air consumption jaw stroke at 6 bar					
Centering		liter	92	105	135
Compensating		liter	28	28	50
Weight (without top jaws)		kg (lbs)	1080 (2400)	1350 (3000)	1850 (4.100)
Operating pressure min./max.		bar (psi)	2/8 (29/116)	2/8 (29/116)	2/8 (29/116)
Moment of inertia		kg·m²	88	121	230



Couplings



Overview Couplings

Page 27

SF-RZ

Page 28

SF-RAZ

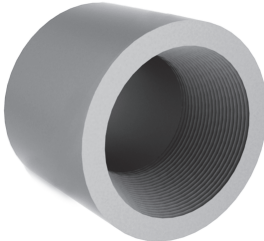
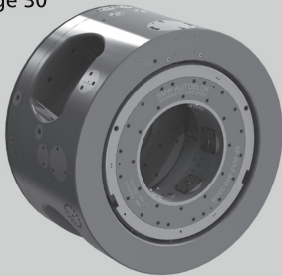
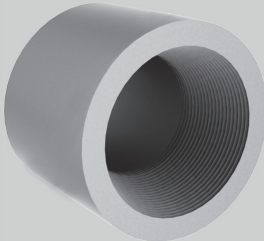
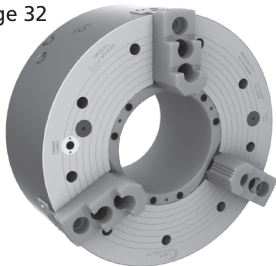
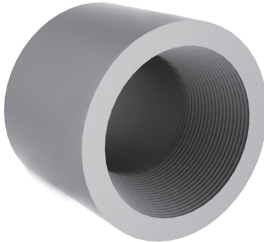
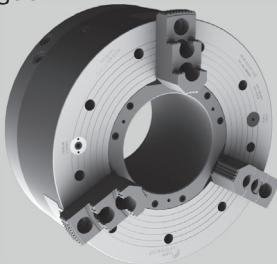
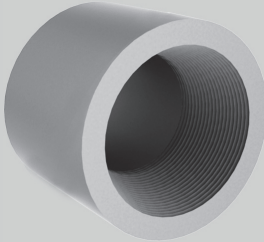
Page 30

BB-N

Page 32

BB-N-ES

Page 34

CHUCK	APPLICATION	OCTG PRODUCT	CUSTOMER BENEFITS
SF-RZ Page 28 	NEW Hydraulic ring indexing chuck for threading of couplings in 1 set up with the original SMW Type SF-RZ (3 jaw self centering clamping).		▪ 3 jaw self centering clamping ▪ Quick jaw movement more couplings per hour ▪ Compact design and light weight ▪ Easy retrofit on existing machines
SF-RAZ Page 30 	Hydraulic ring indexing chuck for threading of couplings in 1 set up with the original SMW Type SF-RAZ (6 jaw clamping: 3 jaw self centering, 3 jaw compensating).		▪ 6 jaw clamping for low deformation of coupling ▪ Quick jaw movement more couplings per hour ▪ Rigid strong design and highest accuracy for all premium couplings
BB-N Page 32 	Threading of couplings in 2 set ups with the original SMW Big Bore Type BB-N (3-jaw clamping).		▪ Quick jaw movement more couplings per hour ▪ Can be used for other work pieces besides coupling ▪ O.D. and I.D. clamping
BB-N-ES Page 34 	Threading of couplings in 2 set ups with the original SMW Big Bore Type BB-N-ES (3-jaw clamping).		▪ Quick jaw movement more couplings per hour ▪ Large jaw stroke for easy loading of couplings

- 3 self centering jaws
- large evacuation windows for easy chip flow
- fully automatic and controlled indexing



Application/ customer benefits

- Machining of couplings up to 5 1/2" in one set up
- Indexing angle 180°
- 3 self centering jaws external clamping
- Compact design and light weight
- Standard mounting for easy retrofit on existing machines

Technical features

- Hydraulic operated, automatic ring indexing chuck
- All functions controlled by proximity switches
- Extremely accurate and rigid indexing mechanism
- Optional: pendulum clamping inserts, central coolant supply

NEW

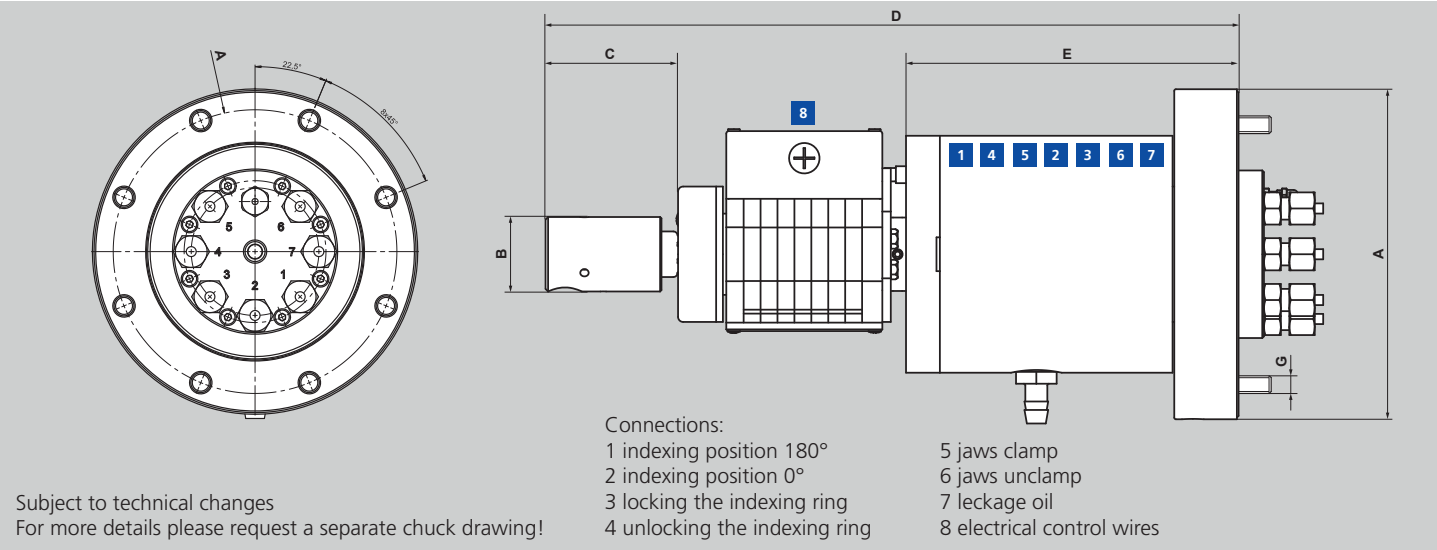
Standard equipment

Chuck with mounting bolts

Accessories

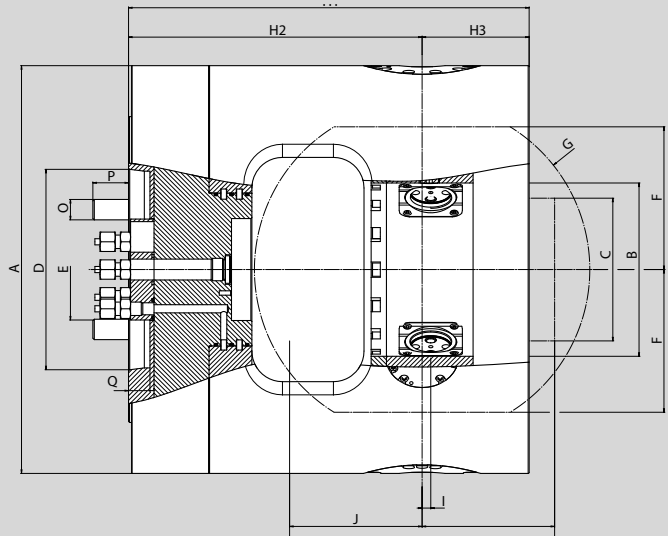
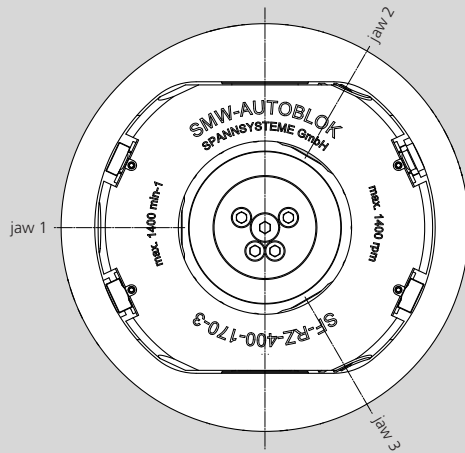
7-way oil distributor, Connection kit for coolant supply

MDV 65 7-way oil distributor



SMW-AUTOBLOK Type			MDV 65
Id. No.			045920
	A	mm	195
	B	mm	44
	C	mm	78.3
	D	mm	331.2
	E	mm	196.5
	F	mm	170
	G	mm	8x M12
Max. speed		r.p.m.	1400
Weight		kg	28

Main dimensions and technical data



Subject to technical changes
For more details please request a separate chuck drawing!

SMW-AUTOBLOK Type			SF-RZ 400
Id. No.			054934
Chuck o.d.	A	mm	400
Indexing ring i.d.	B	mm	170
Max. workpiece o.d.	C	mm	140
Spindle mounting	D		A11
Connection panel o.d. *	E	mm	99
Height indexing ring	F	mm	140
Swing indexing ring	G	mm	329
	H1	mm	393
	H2	mm	288
Indexing axis	H3	mm	105
Jaw axis	I	mm	8,5
	J	mm	130
	K	mm	130
Max.length of workpiece	L	mm	260
Clamping stroke	M	mm	5.7
Mounting bolts	O	mm	M20
	P	mm	35
	Q	mm	21
Max. speed		r.p.m.	1400
Max. pressure		bar	50
Max. clamping force		kN	120
Weight		kg	225
Moment of inertia		kg·m ²	6

* Required spindle through hole: min. 100mm (other dimensions on request)

- 3 self centering and 3 compensating jaws
- large evacuation windows for easy chip flow
- fully automatic and controlled indexing



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
- Extremely accurate and rigid indexing mechanism
- For external clamping only

Standard equipment

Chuck with mounting bolts

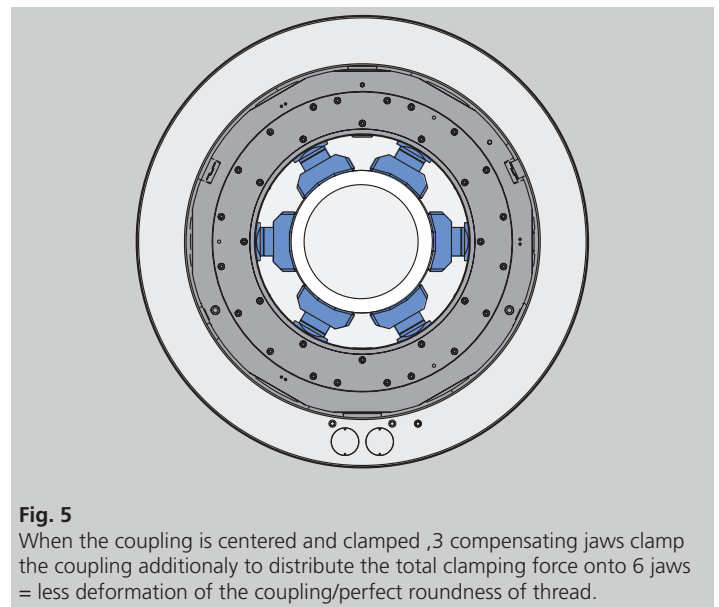
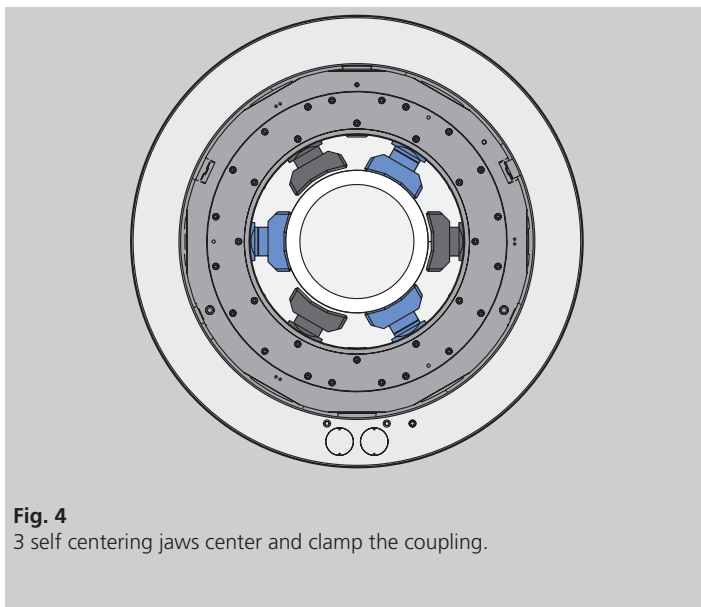
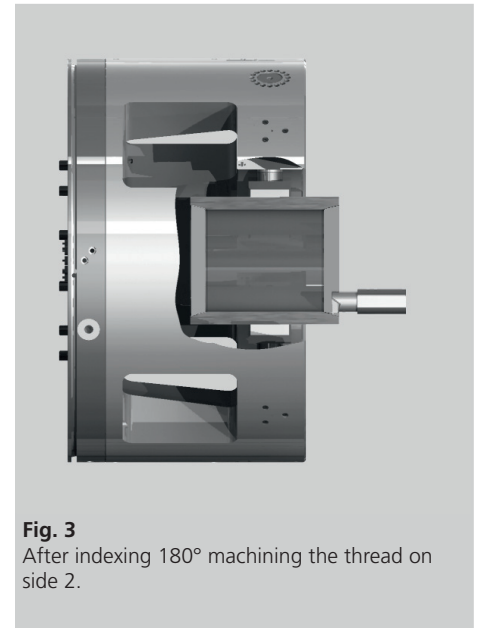
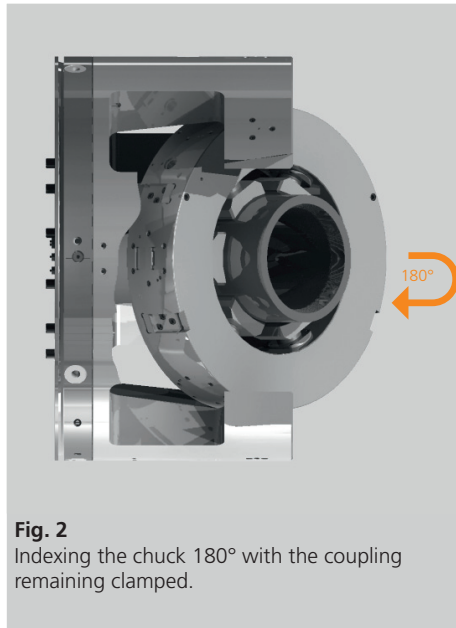
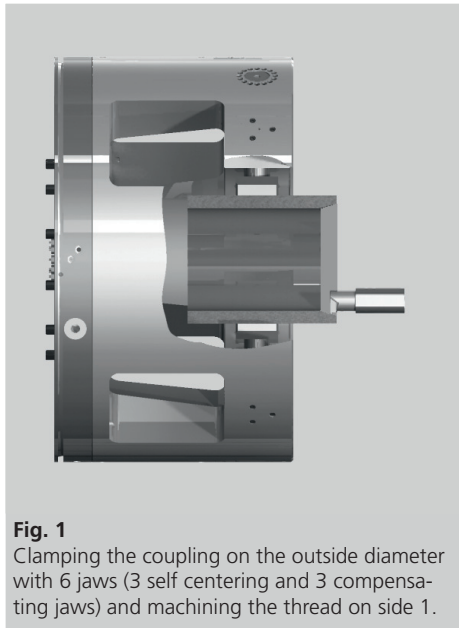
Ordering example

BIG BORE SF-RAZ 950-3+3 A20

Accessories

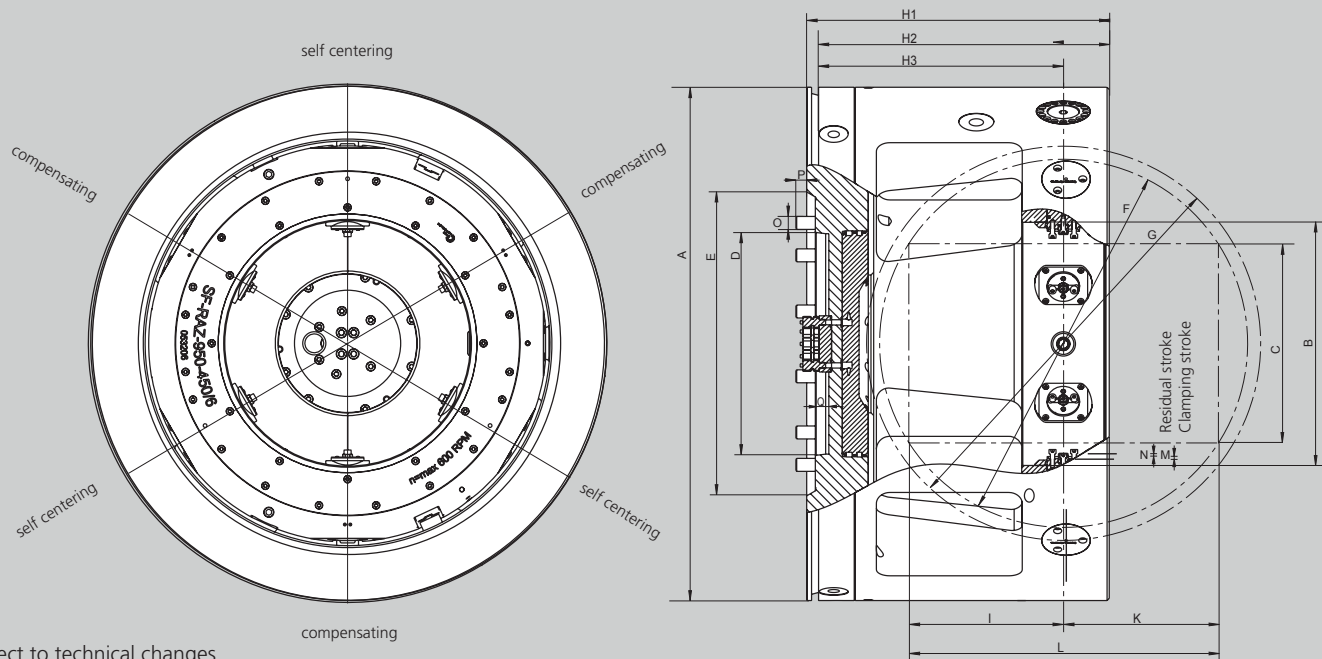
Hydraulic manifold including electric manifold, hose kit

Machining of a coupling in 1 set up:



Main dimensions and technical data

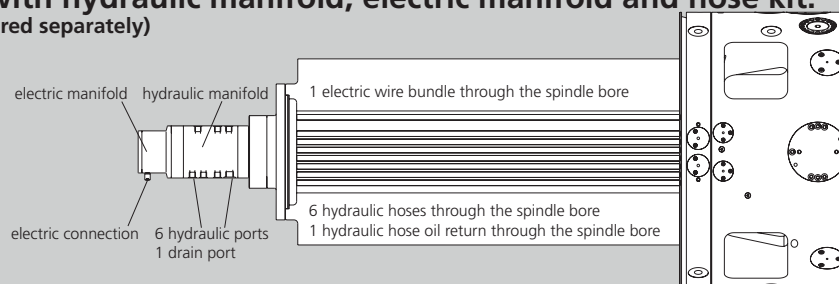
Datasheet shows no jaw dimensions and radial covers for switches and adjustments.
Datasheet shows only general dimensions!



Subject to technical changes
For more details please request a separate chuck 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
	H1	mm	456	501	560	610
	H2	mm	440	485	544	594
	H3	mm	355	400	459	509
	I	mm	221.5	250	286	312
	K	mm	221.5	250	286	312
Max. lenght of workpiece	L	mm	443	500	572	624
Clamping at recom. 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
	Q	mm	21	21	25	
Max. speed		r.p.m.	800	700	600	530
Max. pressure		bar	70	70	70	70
Max. gripforce		kN	250	250	250	250
Weight		kg	1018	1290	1650	2155
Moment of inertia		kg·m²	63	104	176	282

Installation of SF-RAZ with hydraulic manifold, electric manifold and hose kit: (All these accessories must be ordered separately)

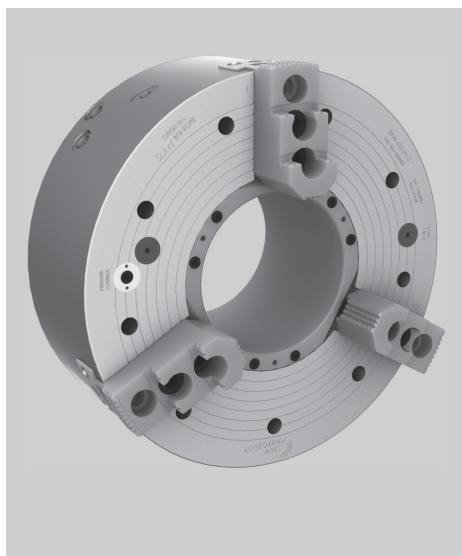


BB-N

INCH
serration

Big Bore front-end pneumatic power chucks

- EXTRA LARGE THROUGH HOLE Ø 140 - 410 mm
- standard jaw stroke
- 3 jaws



Application/ customer benefits

- Machining of couplings
- 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

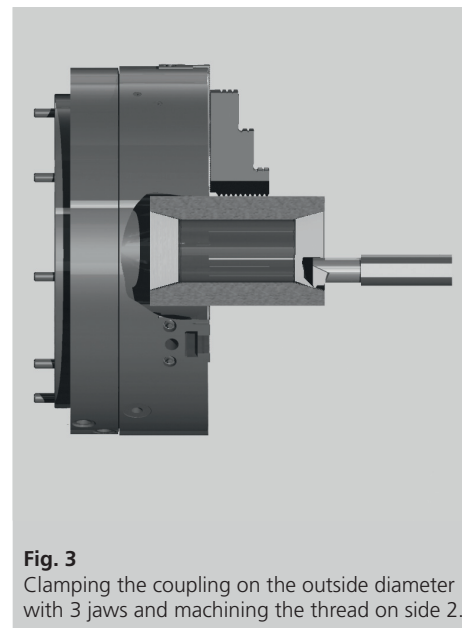
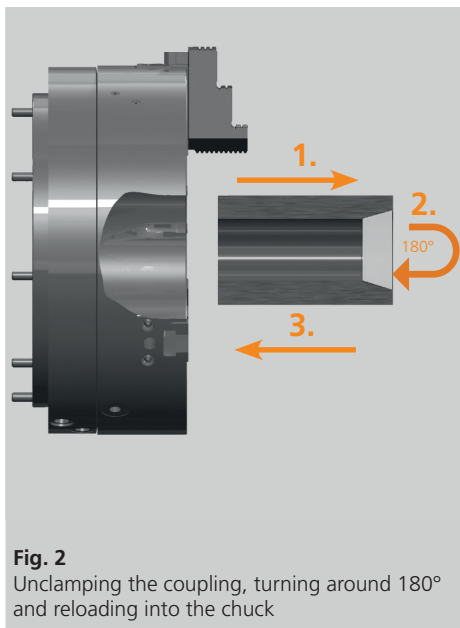
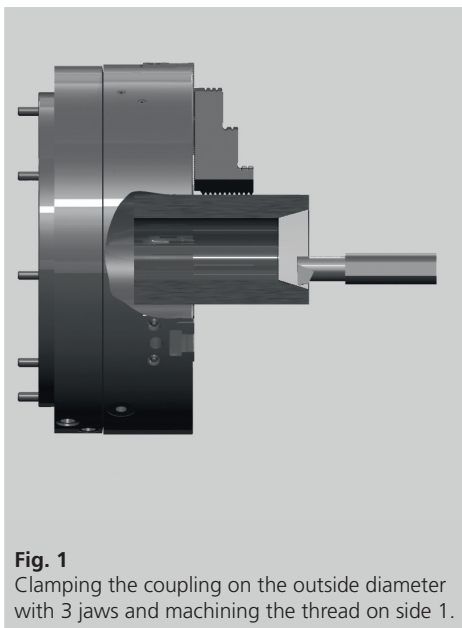
Accessories

Control unit AC-BB page 34

Control unit AC-XN page 35

Jaws page 36/37

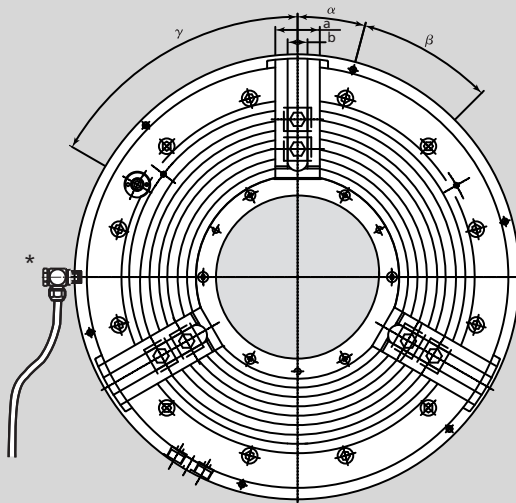
Machining of a coupling in 2 set ups:



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	053830	053832	053834	053836	053838
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	cm²	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	liter	21	16	36	32	34	52	108
Weight (without top jaws)	kg	150	150	230	200	270	420	650
Moment of inertia	kg-m²	3.22	5.66	8.53	8	15	28	71.25

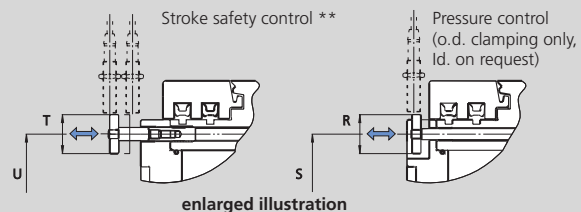
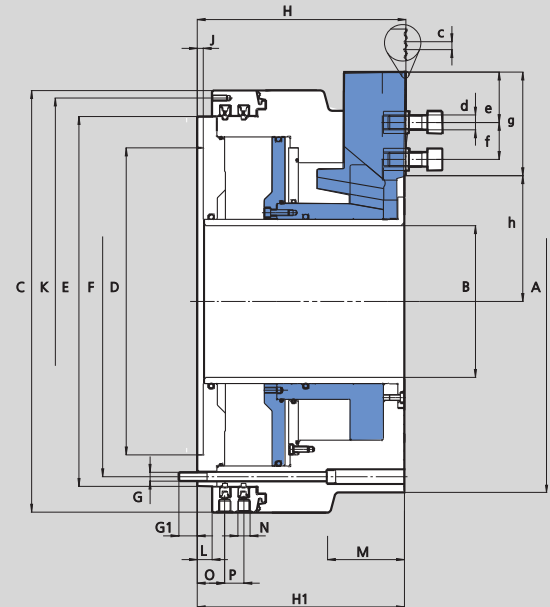
Main dimensions and technical data



* all hoses must be min. 1/2" up to chuck size 600 and 3/4" from chuck size 630 on!
** BB-N-400-140 no stroke safety control

Subject to technical changes
For more details please request a separate chuck drawing!

Jaw position: Open for external clamping



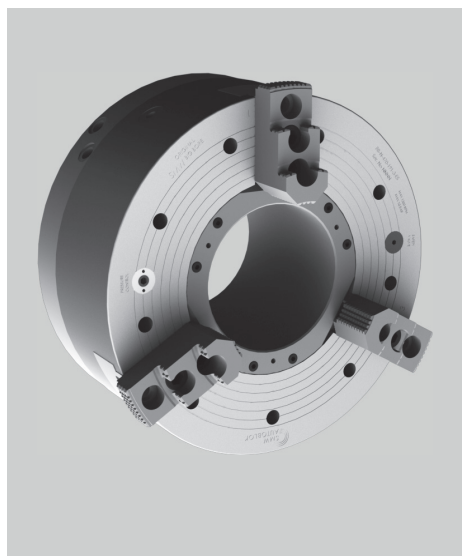
SMW-AUTOBLOK BB-N Type			400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.			052300	053535	053830	053832	053834	053836	053838
Mounting	A	mm	2310	2310	2415	2415	2450	2510	2700
			422	470	540	570	605	662	800
	B	mm	140	191	205	230	275	310	410
			467	467	570	570	605	685	850
	C	mm	310	310	415	415	450	510	700
			400	400	500	500	535	610	775
Fixing bolts circle	D H6	mm	374	374	474	474	508	580	745
			M12	M12	M12	M12	M12	M16	M16
	E	mm	26	26	27	27	27	30	30
			196	196	225	225	225	263	305
	F	mm	194	194	223	223	223	261	303
			8	8	8	8	8	8	8
Thread circle 6 x M8	G	mm	448	448	550	550	585	666	830
			20	20	20	20	20	20	25
	H	mm	70	-	98	98	-	115	154
			N	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
Pneumatic connection	O	mm	37	37	37	37	37	39.5	44.5
			26	26	26	26	26	33	33
	P	mm	35	35	35	35	35	42	35
			374	374	474	474	508	580	745
	R	mm	57	57	57	57	57	75	75
			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 ISO 4762 12.9	d	mm	M20	M20	M20	M20	M20	M24	M24
			min.	13	13	14	14	16	16
T-nuts distance	min./max.	f	mm	38/85	38/85	38/102	38/102	38/94	47/103
Serration length	g	mm	117.5	117	138	138	130	142	171.5
			min./max.	94.5/101.5	124/131	133.5/142	143.5/152	165/173.5	190.5/200.5
	h	mm	20	20	15	15	15	15	15
			α°	9 x 40	9 x 40	12 x 30	12 x 30	12 x 30	12 x 30
(Pressure control)	γ°		37	83	60	60	60	60	60

BB-N-ES

INCH
serration

Big Bore front-end pneumatic power chucks

- EXTRA LARGE THROUGH HOLE Ø 140 - 560 mm
- 3 jaws - extended jaw stroke



Application/ customer benefits

- Machining of couplings
- 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-ES 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 400-140/Z310

Accessories

Control unit AC-BB page 34
Control unit AC-XN page 35
Jaws page 38/39

Machining of a coupling in 2 set ups:

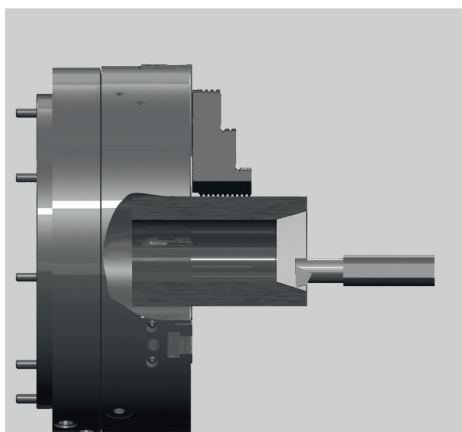


Fig. 1
Clamping the coupling on the outside diameter with 3 jaws and machining the thread on side 1.

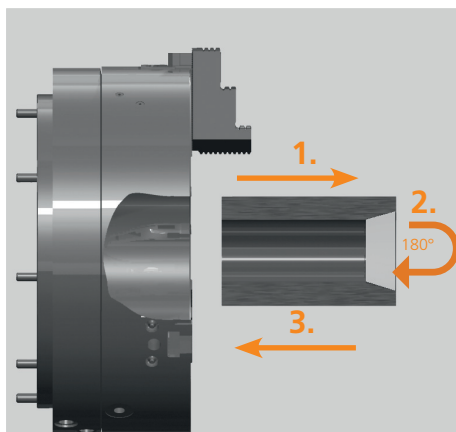


Fig. 2
Unclamping the coupling, turning around 180° and reloading into the chuck

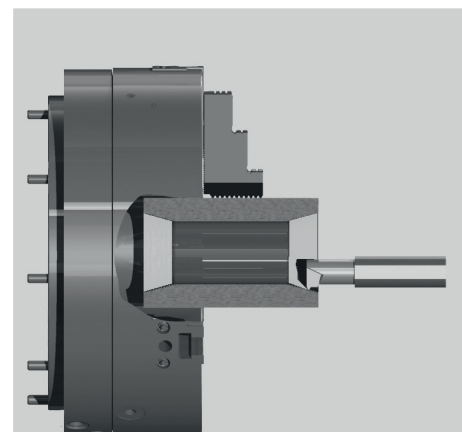


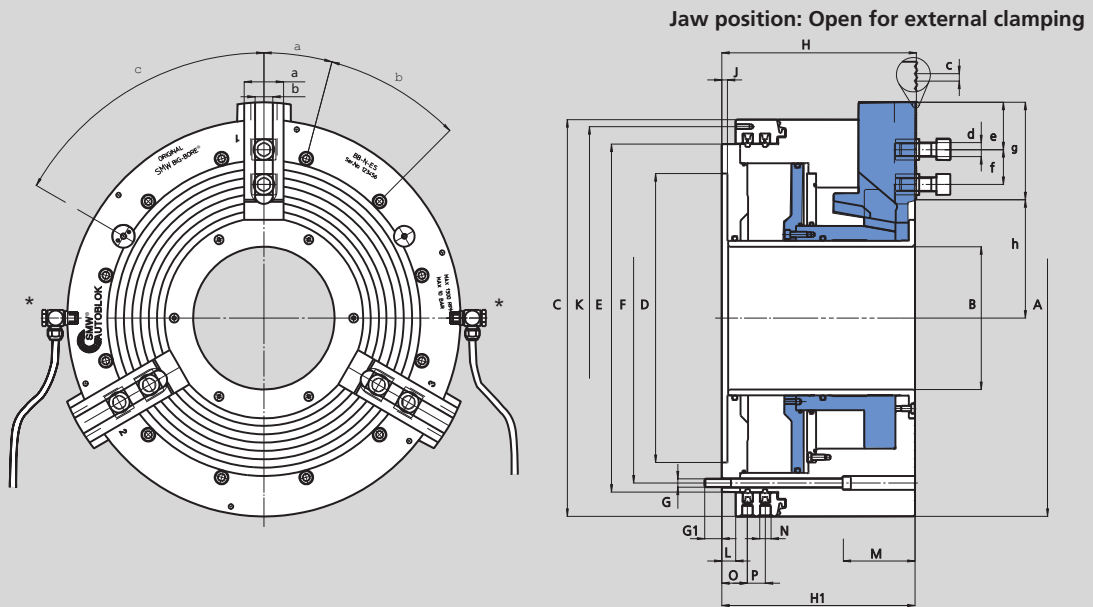
Fig. 3
Clamping the coupling on the outside diameter with 3 jaws and machining the thread on side 2.

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	17.2	13.4	15
Clamping stroke per jaw	mm	7	7	8.5	8.5	8.5	8.2	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	1270	1340	1090
Gripping force at 6 bar	kN	130	115	190	170	185	220	200	170
Max. speed	r.p.m.	1300	1300	1300	1300	1100	1000	750	450
Air consumption/jaw stroke at 6 bar	liter	29	22	41	37	39	48	79	57
Weight (without top jaws)	kg	200	190	340	325	360	630	970	960
Moment of inertia	kg-m ²	6.5	9.83	16.4	16.1	19	36	105	160

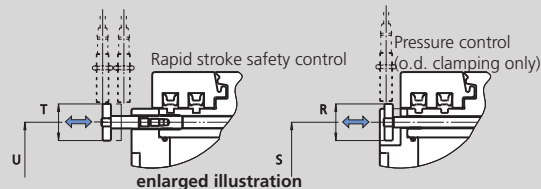
*must not be used for clamping

Main dimensions and technical data



*all hoses must be min. 1/2" up to chuck size 600 and 3/4" from chuck size 630 on!
BB-N-ES 1000 needs 2 hoses per function open/close (see installation manual)

Subject to technical changes
For more details please request a separate chuck 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
	F	mm	374	374	474	474	508	580	745	815
	G	mm	M12	M12	M12	M12	M12	M16	M16	M16
Fixing bolts circle	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
	K	mm	448	448	550	550	585	666	830	910
	L	mm	20	20	20	20	20	20	25	33
	M	mm	-	-	-	-	-	-	-	224
	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"
Pneumatic connection	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°
Bolt ISO 4762 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

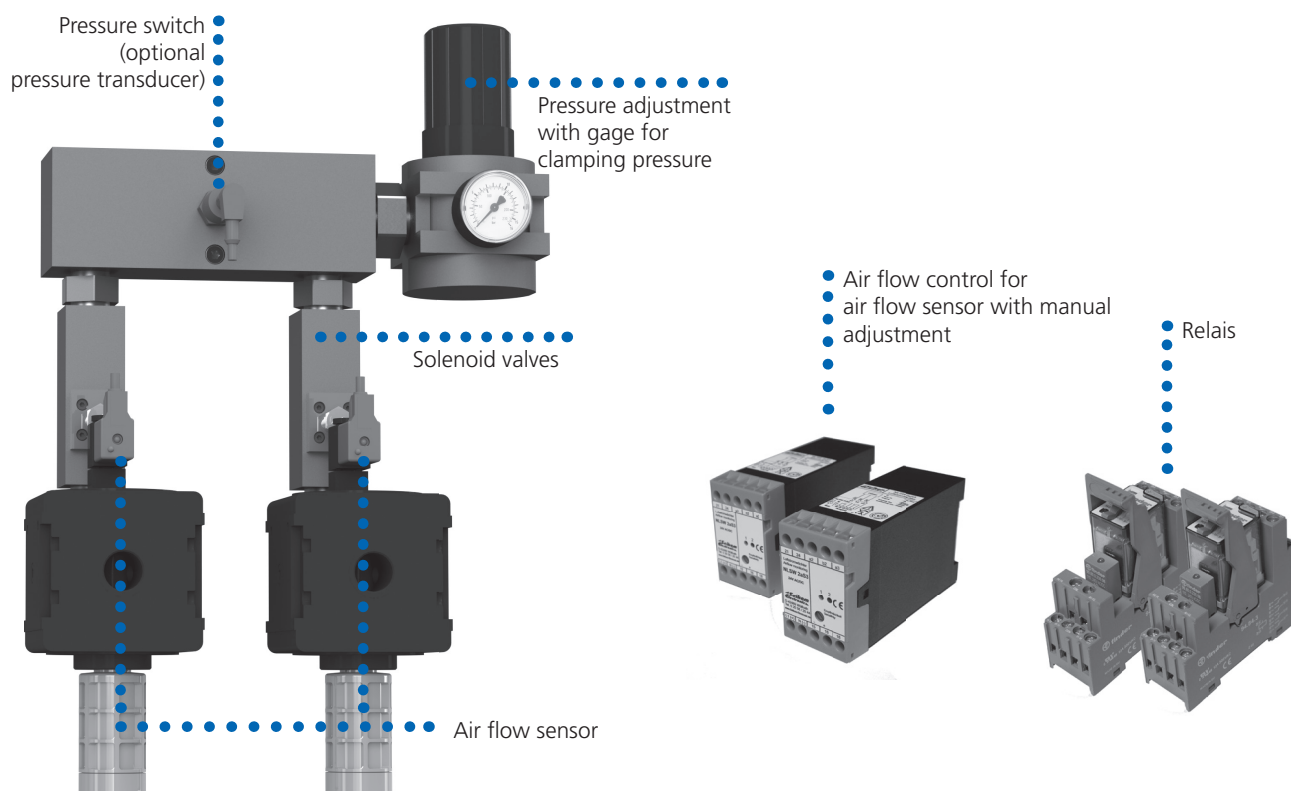
AC-BB

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 Big Bore chucks Type BB-N, BB-N ES and CC-Chucks

- 1/2" or 3/4" design for SP and Big Bore chucks
- Actuation via foot pedal or push button (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"	204288
AC-BB	110 V	1/2"	204289
AC-BB	220 V	1/2"	204290
AC-BB	24 V	3/4"	204284
AC-BB	110 V	3/4"	204285
AC-BB	220 V	3/4"	204286

Standard equipment:

as shown, without hoses and fittings

Approx. dimensions (w x h x d)

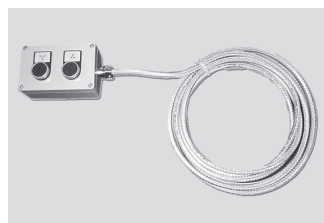
222 x 465 x 128 mm

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



- Electronic safety control unit
- for Big Bore chucks
- proximity switch for pressure and stroke control signals

AC-XN

Control unit
for pneumatic chucks

Universal, electronic micro-processor compact control unit for Big Bore chucks in 1/2" / 3/4" 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" / 3/4" pneumatic parts
- To be actuated by an external signal

Pneumatic
outputs
clamp/
unclamp

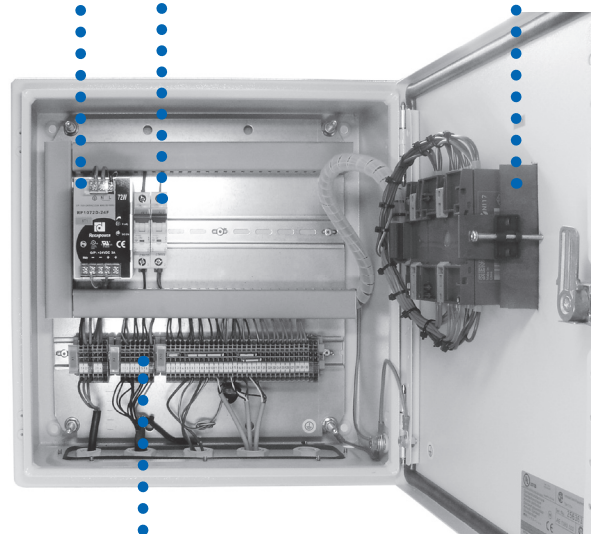
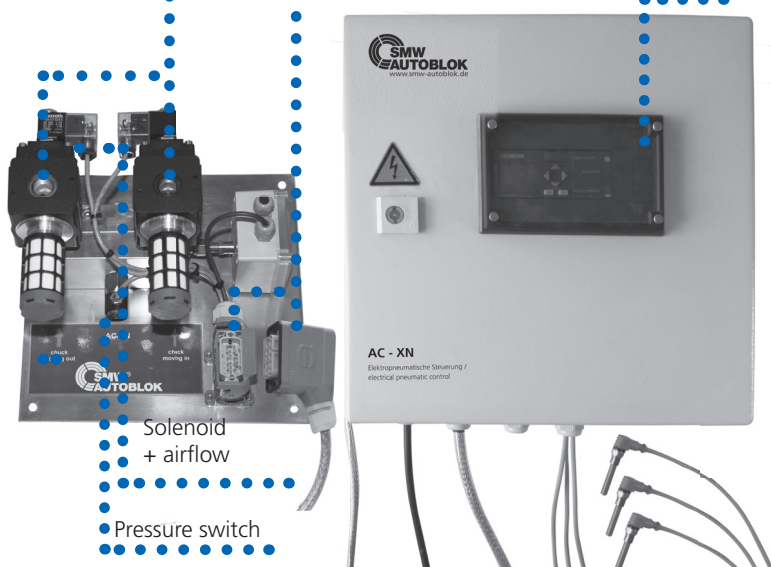
Connector
Control unit/
Pneumatic modul
with 5 m cable

Display in English
with programming
buttons (OK button
is also reset)

Transformer

Fuse

SPS



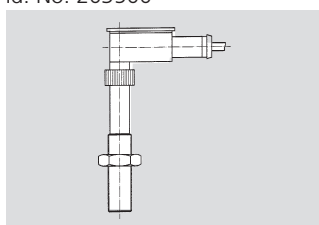
Connecting terminal

Accessories:

Foot pedal F2
with 4 m cable
Id. No. 013324



Proximity switch for pressure and stroke control signals
M8x1
Id. No. 203500



Air service unit 1/2"
Id. No. 192074
Air service unit 3/4"
Id. No. 199790



Order review:

Control unit AC-XN complete 1/2"	Id. No. 203491
Control unit AC-XN complete 3/4"	Id. No. 203490

Standard equipment:

Control unit
WxHxD = 380 x 380 x 220 mm

Pneumatic module 1/2" or 3/4"
WxHxD = 300 x 300 x 130 mm

3 pcs. Proximity switch M8x1
(Id. No. 203500) included

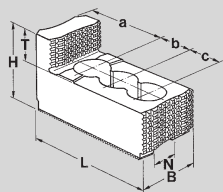
Jaws BB-N

INCH
serration

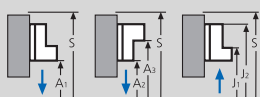
Standard Jaws for Big Bore Type BB-N

Extra Large through hole Ø 140 - 560 mm
• 3 jaws - extended jaw stroke

GUB Hard reversible top jaws

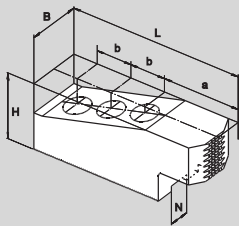


Gripping ranges

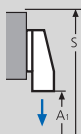


Chuck BB-N ES	400-140	470-191	500-205	500-230 600-275	630-310	800-410
Jaw Type	GUB 500	GUB 500	GUB 500	GUB 500	GUB 630	GUB 800
Id.No./set	12084546	12084546	12084546	12084546	12086446	12088046
B	60	60	60	60	75	75
H	75	75	75	75	85	85
L	140	140	140	140	160	220
T	2x19	2x19	2x19	2x19	30	30
N	25.5	25.5	25.5	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
A1	65-238	100-273	150-358	175-378	275-485	320-590
A2	110-284	145-320	200-405	225-425	275-485	330-600
A3	294-470	330-505	385-590	410-610	475-685	590-865
J1	175-350	210-385	265-470	285-490	395-610	500-770
J2	355-530	390-565	445-650	465-670	595-810	760-1030
S	585	620	705	725	820	1050

GAB Hard top jaws

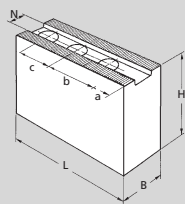


Gripping ranges

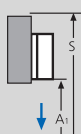


Chuck BB-N ES	400-140	470-191	500-205	500-230 600-275	630-310	800-410
Jaw Type	GAB 500	GAB 500	GAB 500	GAB 500	GAB 630	GAB 800
Id.No./set	12085146	12085146	12085146	12085146	12086546	12089046
B	55	55	55	55	75	75
H	73	73	73	73	82	82
L	195	195	195	195	245	320
N	25.5	25.5	25.5	25.5	30	30
Serration	3/32" 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
A1	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



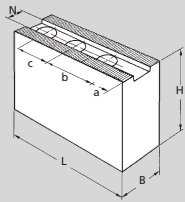
Chuck BB-N ES	400-140	470-191	500-205	500-230 600-275	630-310	800-410
Jaw Type	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBC-D 630	WBC-D 800
Id.No./pc.	12075050	12075050	12075050	12075050	12076440	12078040
B	60	60	60	60	80	80
H	60	60	60	60	80	80
L	170	170	170	170	240	320
N	25.5	25.5	25.5	25.5	30	30
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/pc.	3.6	3.6	3.6	3.6	11	15
A1	25-195	60-230	105-315	125-325	110-325	95-365
S	545	580	660	680	815	1010

Jaws BB-N

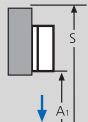
Main dimensions and technical data

INCH
serration

WBCL Soft top jaws long version

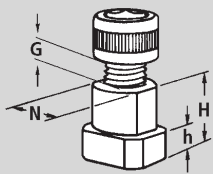


Gripping ranges



BB-N ES	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 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/pc.	4.5	4.5	4.5	4.5	15	18
A1	-	0-155	35-245	55-265	25-195	25-235
S	-	575	660	680	845	1020

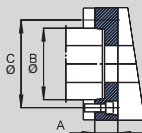
NST T-nuts



BB-N ES	400-140	470-191	500-205	500-230 600-275	630-310	800-410
Jaw Type	NST	NST	NST	NST	NST	NST
Id.No./set	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 ISO 4762 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

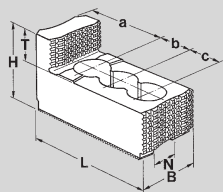
Jaws BB-N-ES

INCH
serration

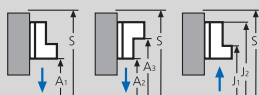
Standard Jaws for Big Bore Type BB-N-ES

- Extra Large through hole Ø 140 - 560 mm
- 3 jaws - extended jaw stroke

GUB Hard reversible top jaws

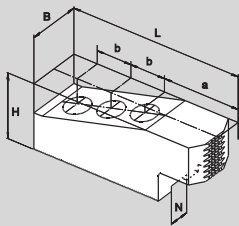


Gripping ranges

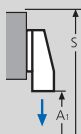


Chuck BB-N ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
Jaw Type	MHB-D 500	GUB 500	GUB 500	GUB 500	GUB 630	GUB 800	GUB 800
Id.No./set	12084546	12084546	12084546	12084546	12086446	12088046	12088046
B	60	60	60	60	75	75	75
H	75	75	75	75	85	85	85
L	140	140	140	140	160	220	220
T	2 x 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

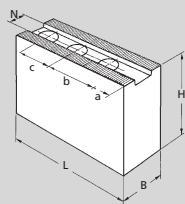


Gripping ranges

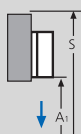


Chuck BB-N ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
Jaw Type	GAB 500	GAB 500	GAB 500	GAB 500	GAB 630	GAB 800	GAB 800
Id.No./set	12085146	12085146	12085146	12085146	12086546	12089046	12089046
B	55	55	55	55	75	75	75
H	73	73	73	73	82	82	82
L	195	195	195	195	245	320	320
N	25.5	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

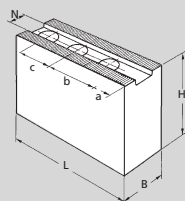


Gripping ranges

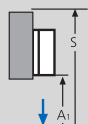


Chuck BB-N ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
Jaw Type	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBC-D 630	WBC 800	WBC-D 800
Id.No./pc.	12075050	12075050	12075050	12075050	12076440	12078040	12078040
B	60	60	60	60	80	80	80
H	60	60	60	60	80	80	80
L	170	170	170	170	240	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
c	38	38	38	38	50	60	60
kg/pc.	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

WBCL Soft top jaws long version

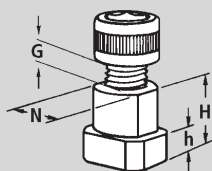


Gripping ranges



BB-N ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
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./pc.	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/pc.	4.5	4.5	4.5	4.5	15	18	18
A1	-	0-150	60-275	85-275	25-210	25-255	115-405
S	-	595	720	720	895	1070	1220

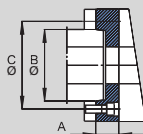
NST T-nuts



BB-N ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
Jaw Type	NST	NST	NST	NST	NST	NST	NST
Id.No./set	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 ISO 4762 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		
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

Pneumatic Diagrams

Summary of pneumatic cycles and parts

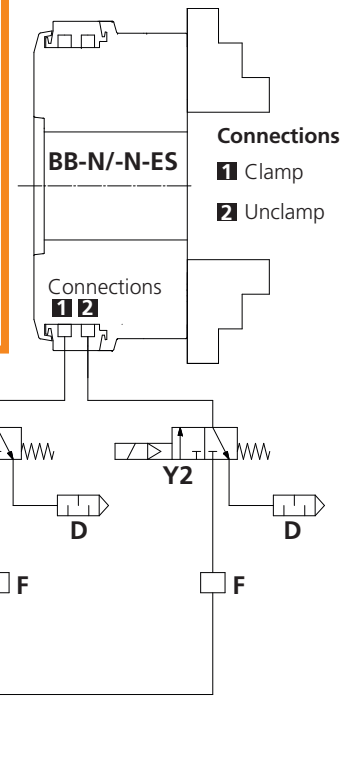
- Cycle clamp BB-N/ BB-N-ES
- Cycle clamp BB-SC

Common parts for all Big Bore air circuits:

V	non return valve towards the pneumatic system
S	accumulator (approx. 90 normal liter/ 23 gallon)
W	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
D	silencer 3/4", min. flowrate 15000 l/min (3963 gallon/min); rec. Type: 2311; Festo, Esslingen, Germany
F	Air flow sensor

Used connection parts for time measuring according to page 7:

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



Cycle clamp BB-N/ BB-N-ES

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

O = 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 clamp / unclamp	Valve Y1 unclamp	Valve Y2 clamp
1. chuck open	X	
2. chuck clamp		O

Cycle step mode/ inching BB-SC

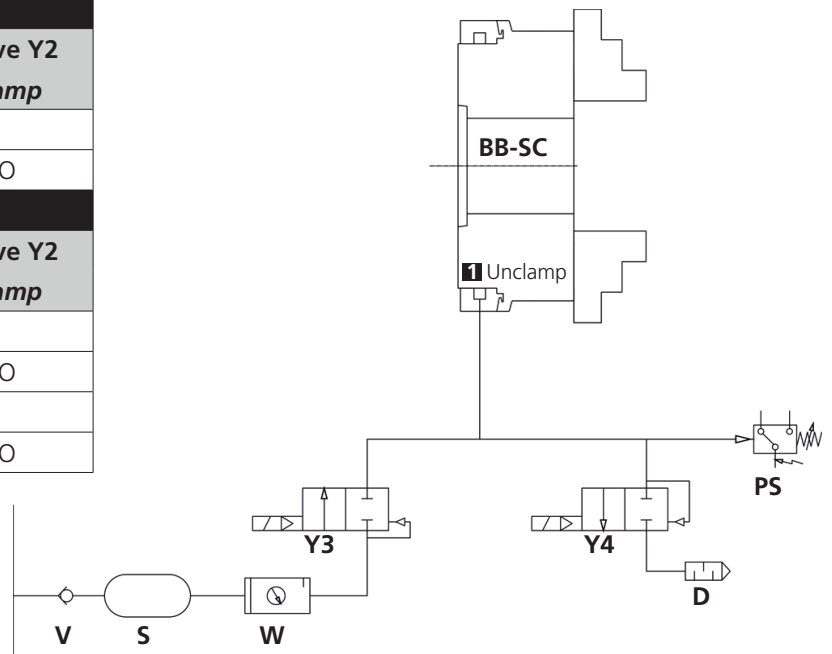
action clamp / unclamp	Valve Y1 unclamp	Valve Y2 clamp
1. chuck open	X	
2. chuck clamp		O
3. step open	O	
4. step close		O

X = Valve permanently actuated

O = 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:

Y1/Y2	3/2 solenoid valve 1", min. flowrate 3900 l/min (1031 gallon/min); rec. Type: NL6-SOV; Bosch Rexroth, Germany
Y3/Y4	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
PS	pressure switch, 0-10 bar, 4-20 mA; rec. Type: A-10-6-BG410-HD1Z-AA-AGZ; WIKA, Klingenberg, Germany
Q	Quick exhaust valves, min. flowrate 6800 l/min (1765 gallon/min) rec. Type: 573, 1"; Bosch Rexroth, Germany

Summary of pneumatic cycles and parts

- Cycle clamp BB-AZ2G
- Cycle clamp BB-FZA2G

Pneumatic Diagrams

Cycle compensating clamp BB-AZ2G

action	Valve Y1	Valve Y2	Valve Y3
clamp/ unclamp	clamp comp.	clamp self cent.	unclamp

1. chuck open		-	O
2. chuck compensating clamp	O	-	

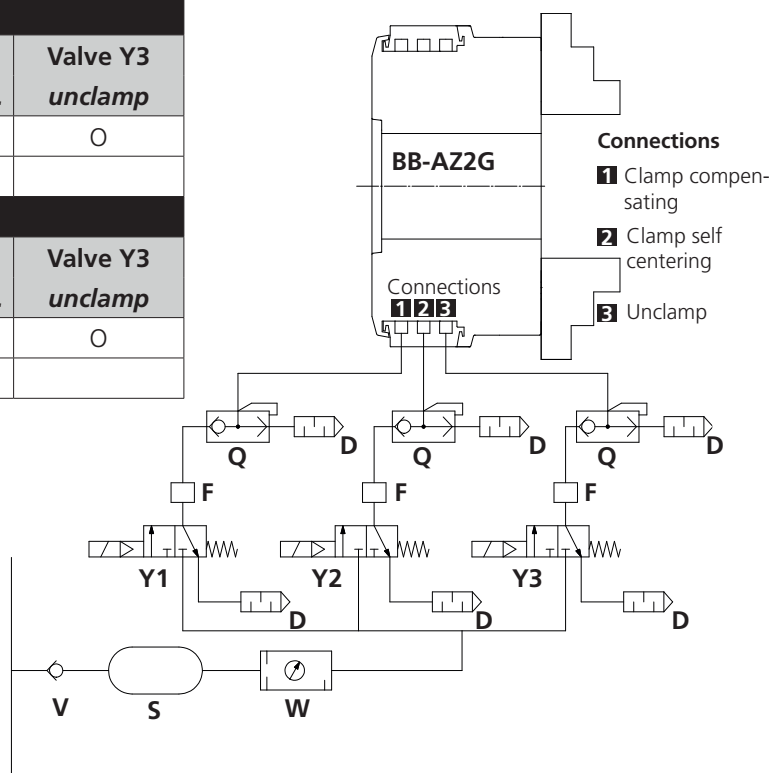
Cycle self centering clamp BB-AZ2G

action	Valve Y1	Valve Y2	Valve Y3
clamp/ unclamp	clamp comp.	clamp self cent.	unclamp

1. chuck open	-		O
2. chuck centering clamp	-	O	

O = Valve actuated for jaw movement

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



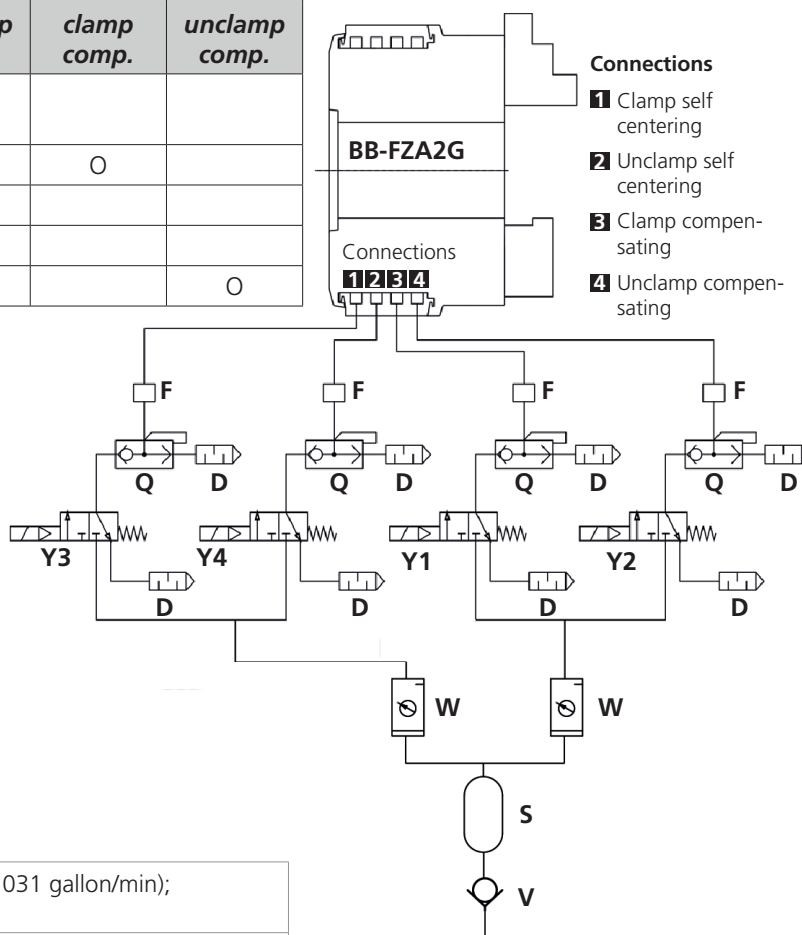
Cycle BB-FZA2G

action when pipe is loaded	Valve Y1	Valve Y2	Valve Y3	Valve Y4
	clamp cent.	unclamp cent.	clamp comp.	unclamp comp.

1. self centering jaws forward and clamp	O			
2. compensating jaws clamp			O	
3. centering jaws open and retract		O		
4. machining of pipe				
5. compensating jaws open				O

O = Valve actuated for jaw movement

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



Pneumatic connection parts for BB-AZ2G and BB-FZA2G:

Y1/Y2/ Y3/Y4	3/2 solenoid valve 1", min. flowrate 3900 l/min (1031 gallon/min); rec. Type: NL6-SOV; Bosch Rexroth, Germany
Q	Quick exhaust valves, min. flowrate 6800 l/min (1765 gallon/min) rec. Type: 573, 1"; Bosch Rexroth, Germany



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