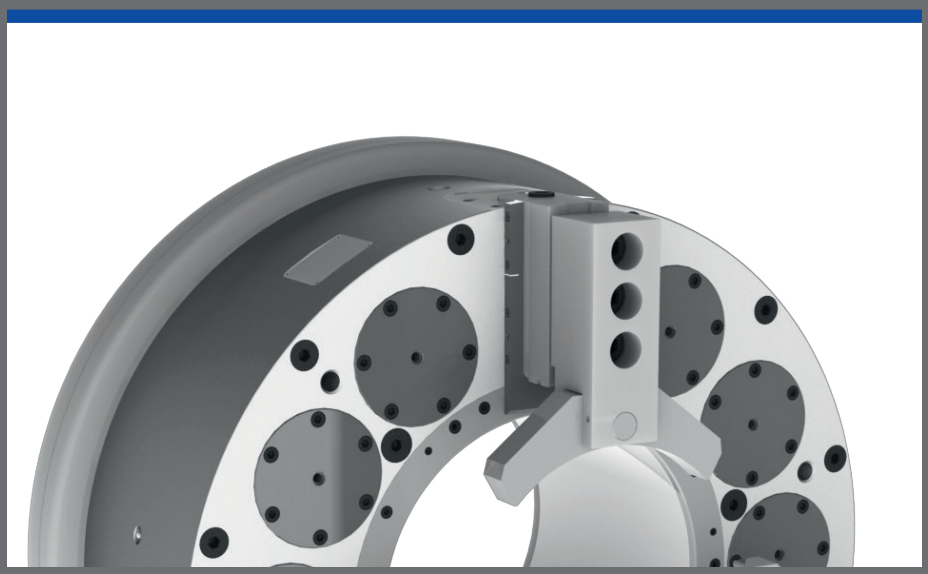
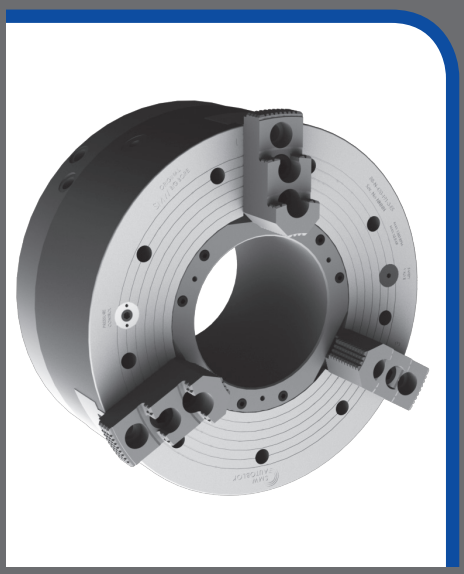
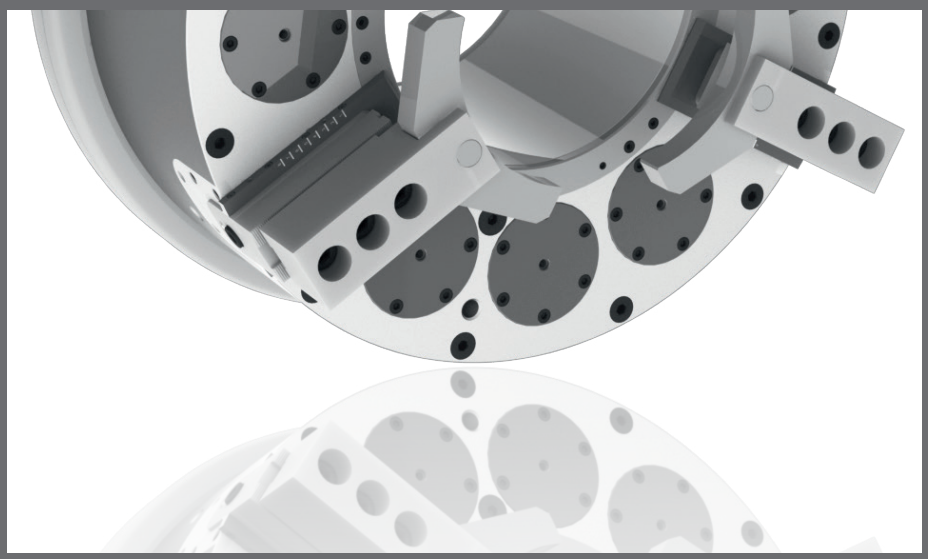
CATALOG OCTG 15E

Chucks for Oil Country Tubular Goods







SMW® AUTOBLOK

Customer Benefits

SMW-Autoblok is the Inventor

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

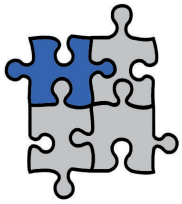
Worldwide Service + Support

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

Partner of Oil Industrie

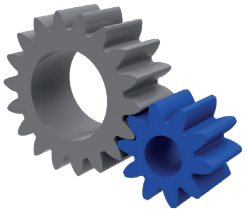
Working closely with our customers, we are able to provide new and innovative solutions as challenges arise.

Widest Range of OCTG Products



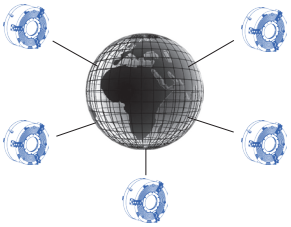
SMW-AUTOBLOK offers a complete range of OCTG chucks as standard product.The need for expensive "special product" chucks with long lead times is eliminated.

Fast Time and High Accuracy



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

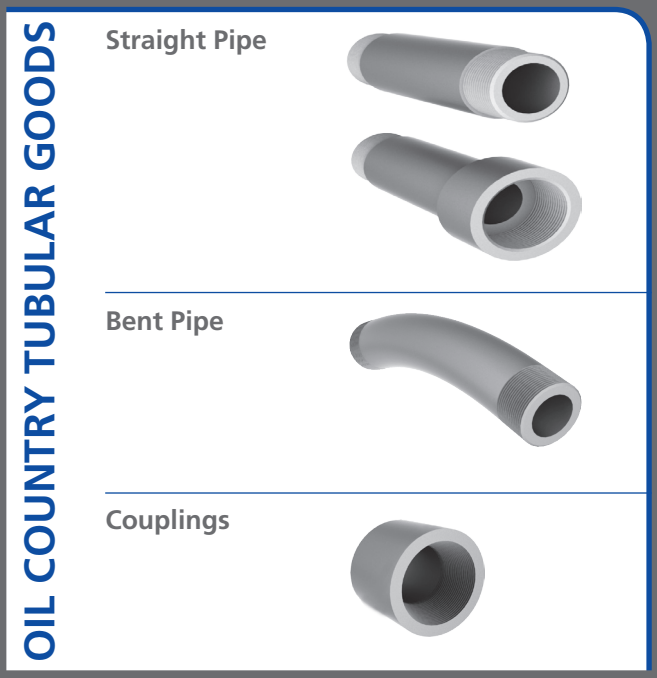
Applications Worldwide



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

Content

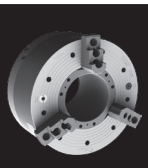
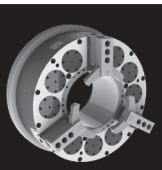
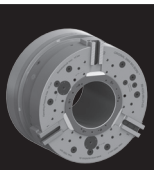
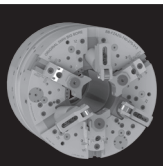
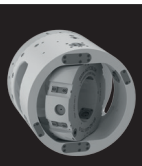
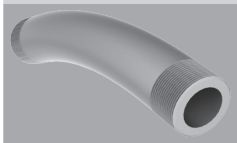
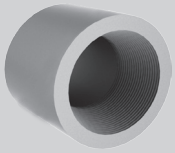
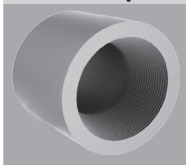
Applications



Chapters

Chuck finder for Oil Country Tubular Goods:

- Straight Pipe
- Bent Pipe
- Couplings

Machining OCTG Product \ Chuck Type	 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

Performance Characteristics

Explanation of the end product properties

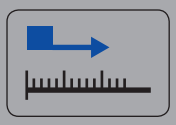
Big Bore

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.

Quick Clamping Circle

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

ES



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

Spring Clamp

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

Low Maintenance

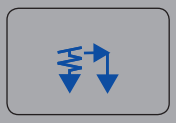
proofline® series
fully sealed – low maintenance

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

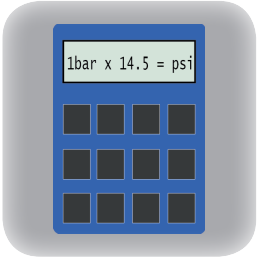
AZ

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

FZA



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 cm²	=	0.155 square inches
1 bar	=	14.5 psi	1 liter	=	1.05 quarts (qt)
1 kN	=	220.46 lbf	1 kg·m²	=	3417 lb square inches
1 kg	=	2.2046 lbs	1 liter/min	=	0.264 galon/min

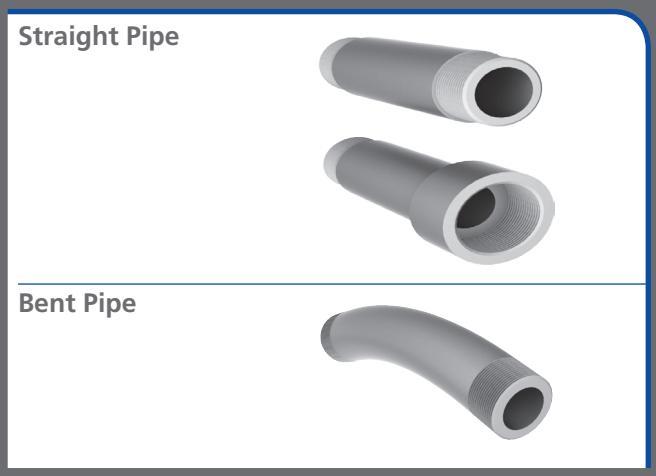
Data sheet

Performance Characteristics

OCTG chuck	Size	Outside Dia. Max	Work piece capacity	Time for a full clamping	Time for a full opening	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 ▪ Big Bore ▪ Quick Clamping Circle	400-140	467	140	-	-	266	196	155
	470-191	470	191	4.5	3.0	191	196	160
	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 ▪ Big Bore ▪ Quick Clamping Circle ▪ Extended Stroke	400-140	467	140	on request	on request	216	240	200
	470-191	470	191	4.5	3.0	191	240	195
	500-205	570	205	6.0	4.5	316	280	340
	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 ▪ Big Bore ▪ Spring Clamp ▪ Low Maintenance	600-275	750	275	3	3	150	320.5	516
	850-395	925	395	3	3	170	375.5	1025
	1020-565	1095	565	4.5	4.5	170	375.5	1256
BB-AZ2G ▪ Big Bore ▪ Self centering or compensating ▪ Extended Stroke	685-275	685	275	on request	on request	266	380.5	800
	740-330	740	330	on request	on request	266	380.5	875
	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 ▪ Big Bore ▪ Sequence chuck	740-275	740	275	on request	on request	149	516.5	1100
	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 ▪ Hydraulic indexing chuck ▪ Low Maintenance	750	750	185	2	2	250	456	1018
	840	840	275	2	2	250	501	1286
	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.

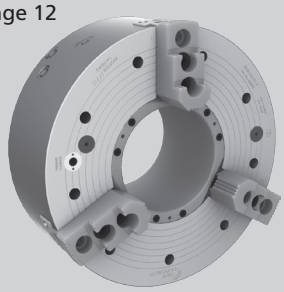
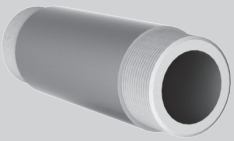
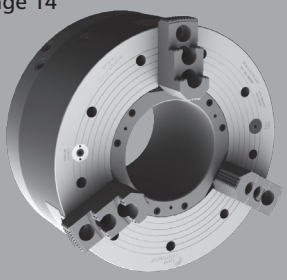
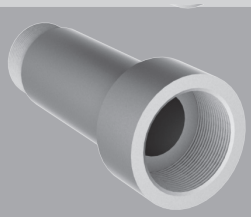
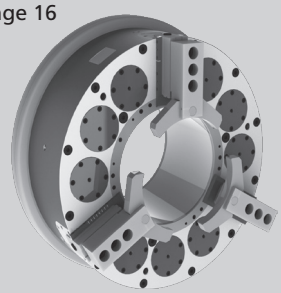
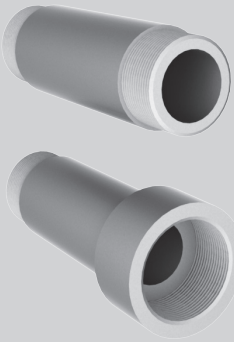
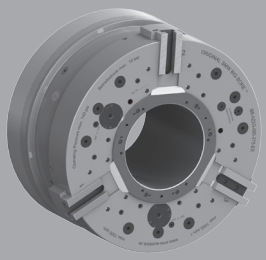
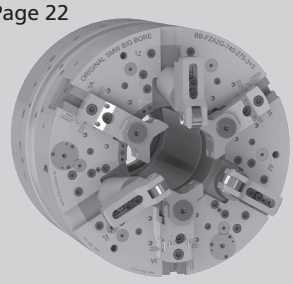
Pipe



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 availabitlity 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 programable cycle

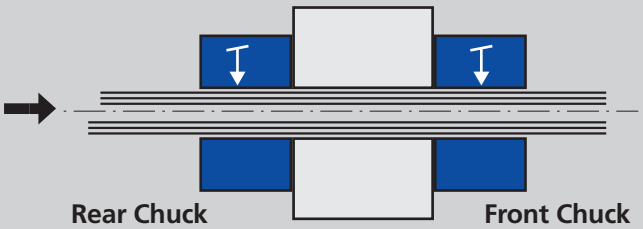
Pipe Clamping

Recommended Combinations

Self centering clamping | Self centering or compensating clamping | 3+3-Combination

Combination A

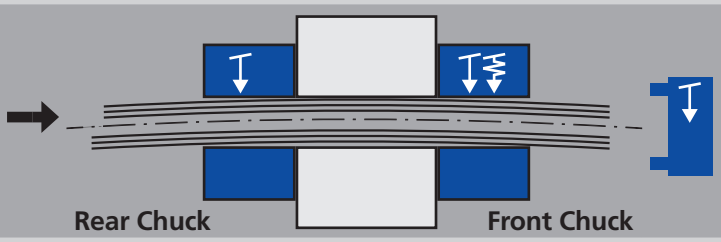
Pipe Loading



Note:
This combination can be only used for straight pipe!

Combination B

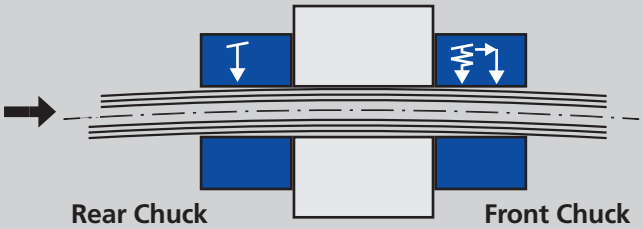
Pipe Loading



Centering

Combination C

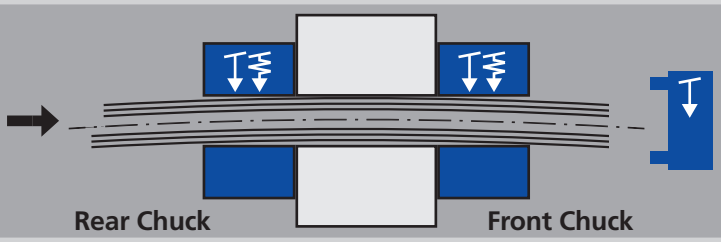
Pipe Loading



Note:
No centering necessary!

Combination D

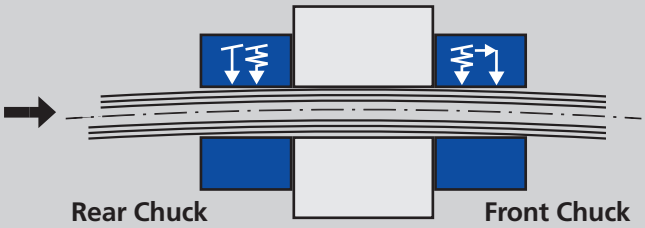
Pipe Loading



Centering

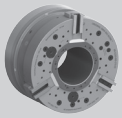
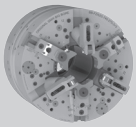
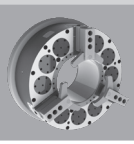
Combination E

Pipe Loading



Note:
No centering necessary!

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

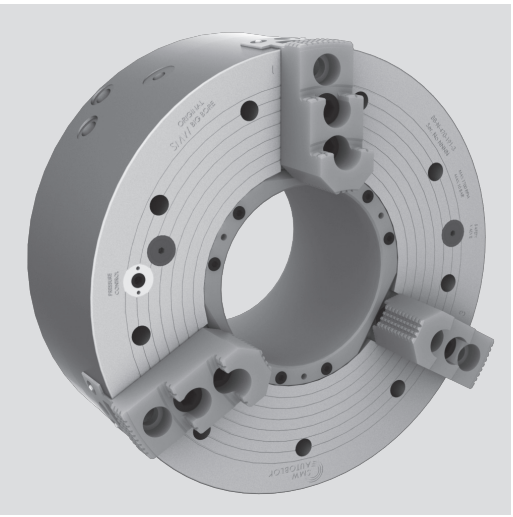
Turret
by customer

BIG BORE® BB-N

INCH
serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 140 - 410 mm

- chuck size 400 - 800
- 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/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 (only for external clamping)
- Jaw stroke control for OD and ID 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 298-300)

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

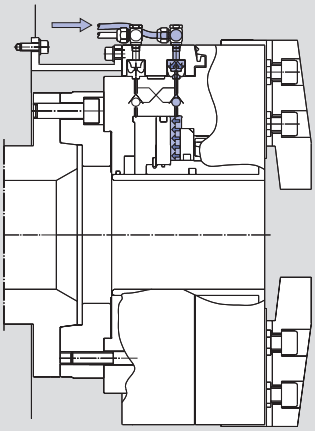


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber.
When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

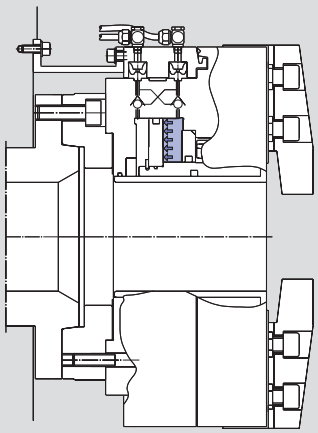


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore.
The clamping pressure is maintained by the twin non-return valve.
The chuck can start to rotate.

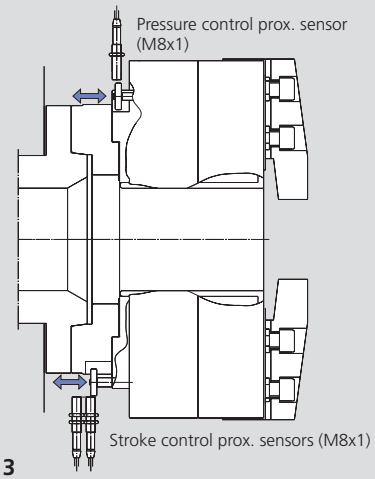
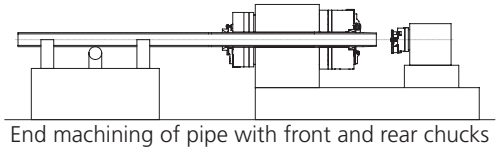


Fig. 3
Pressure control: If the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending an alarm signal.
Jaw stroke control: If the part is clamped in a not correct jaw stroke position, the switch ring moves into the proximity-switch field sending an alarm signal.*

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



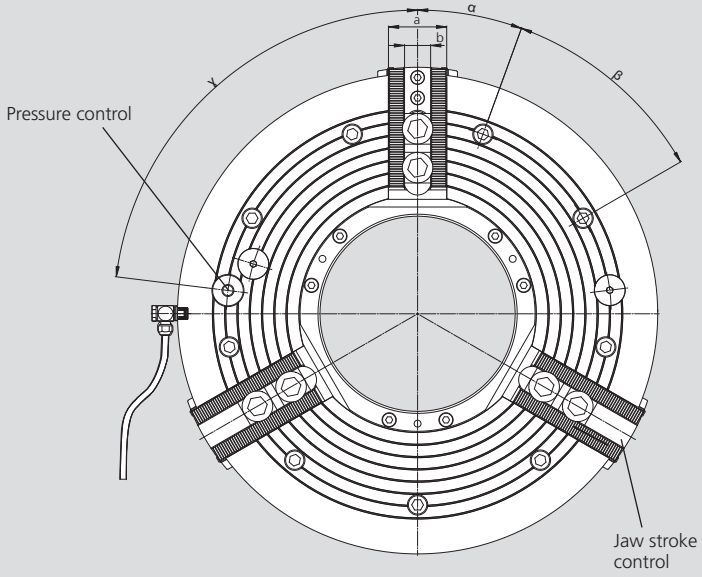
End machining of pipe with front and rear chucks

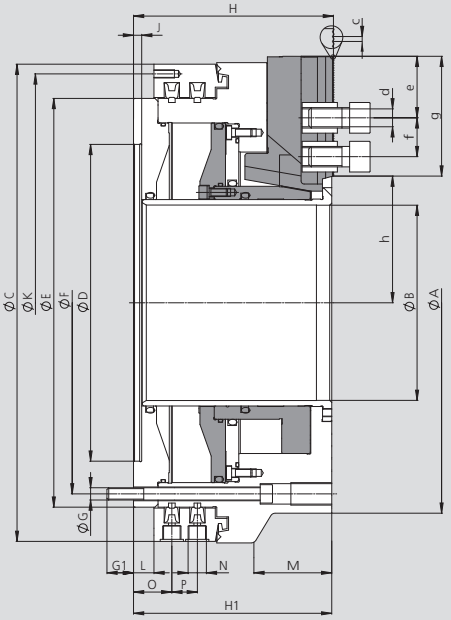
Technical data

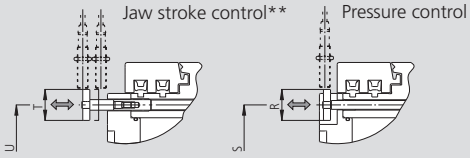
SMW-AUTOBLOK BB-N Type		400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.		**052300**	**053535**	**053830**	**053832**	**053834**	**053836**	**053838**
Through-hole	mm (inch)	140 (5.51“)	191 (7.52“)	205 (8.07“)	230 (9.06“)	275 (10.83“)	310 (12.20“)	410 (16.14“)
Stroke per jaw	mm (inch)	7 (0.28“)	7 (0.28“)	8.5 (0.33“)	8.5 (0.33“)	8.5 (0.33“)	10 (0.39“)	12 (0.47“)
Operating pressure min./max.	bar (psi)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)
Piston area	cm^2	710	565	1024	940	990	1270	2064
Gripping force at 6 bar	kN (lbf)	160 (35969)	115 (25853)	210 (47210)	190 (42714)	200 (44962)	220 (49458)	330 (74186)
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 (lbs)	150 (331)	150 (331)	230 (507)	200 (441)	270 (595)	420 (926)	650 (1433)
Moment of inertia	$kg \cdot m^2$	3.22	5.66	8.53	8	15	28	71.25

Main dimensions and technical data

Jaw position: Open for external clamping







enlarged illustration

* All hoses/piping must be at least 1/2" ID., and min. 3/4" ID from size 630 on!
** BBN-400-140 has no stroke control

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 for customer drawing.

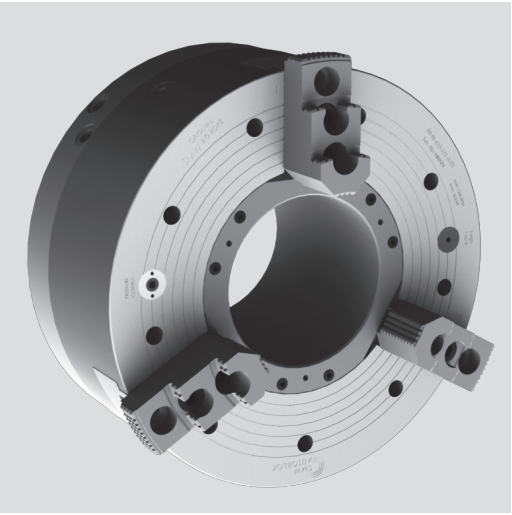
SMW-AUTOBLOK BB-N Type			400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.			052300	053535	053830	053832	053834	053836	053838
Mounting			Z310	Z310	Z415	Z415	Z450	Z510	Z700
	A	mm	422	470	540	570	605	662	800
	B	mm	140	191	205	230	275	310	410
	C	mm	467	467	570	570	605	685	850
	D H6	mm	310	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 6x M8	**K**	mm	448	448	550	550	585	666	830
	L	mm	20	20	20	20	20	20	25
	M	mm	70	-	98	98	-	115	154
Pneumatic connection	**N**	inch	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
	O	mm	37	37	37	37	37	39.5	44.5
	P	mm	26	26	26	26	26	33	33
	R	mm	35	35	35	35	35	42	35
	S	mm	374	374	474	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
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.	**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-ES

INCH serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 140 - 560 mm

- chuck size 400 - 1000
- extended jaw stroke
- 3 jaws



Application/customer benefits

- End machining of long pipe with collars
- Rapid and clamping stroke for short clamping cycles
- Full spindle bore can be used

Technical features

- Air chuck for external clamping with built-in pneumatic cylinder
- Rapid and clamping stroke
- Air feed via distributor ring and SMW-profile seals, at stopped spindle
- Built in non-return valves maintain the air pressure during machining
- Clamping pressure level constantly checked by a safety control system (only for external clamping)
- Clamping stroke control (no clamping in rapid stroke) is monitored

Standard equipment

3 jaw chuck
2 elbow unions G 1/2" (4 for BB-N 1000)
12 mounting bolts (9 for the BB-N-ES 400)
1 lifting eye bolt
1 set T-nuts with bolts
1 set soft top jaws
without distributor ring bracket

Ordering example

BIG BORE BB-N-ES 400/Z310

Accessories

Control unit AC-BB/AC-XN
(see general catalog pages 298-300)

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

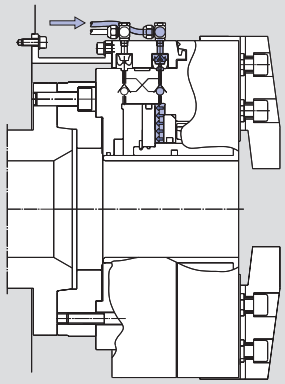


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber.
When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

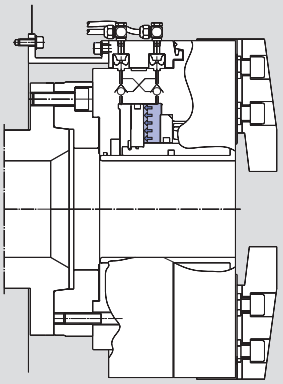


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore.
The clamping pressure is maintained by the twin non-return valve.
The chuck can start to rotate.

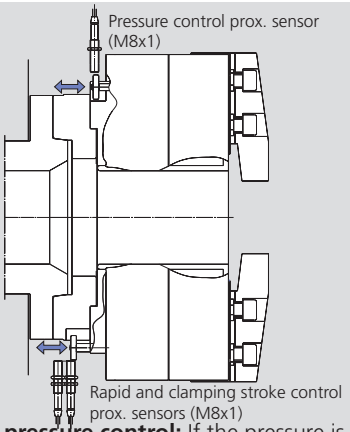
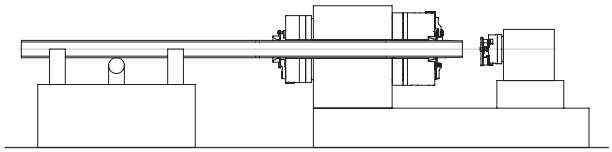
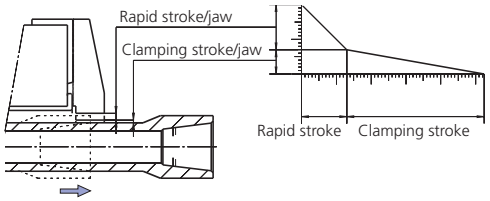


Fig. 3
Safety pressure control: If the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending an alarm signal.
Jaw stroke control: If the part is clamped in a not correct jaw stroke position, the switch ring moves into the proximity-switch field sending an alarm signal.



End machining of pipe with front and rear chucks



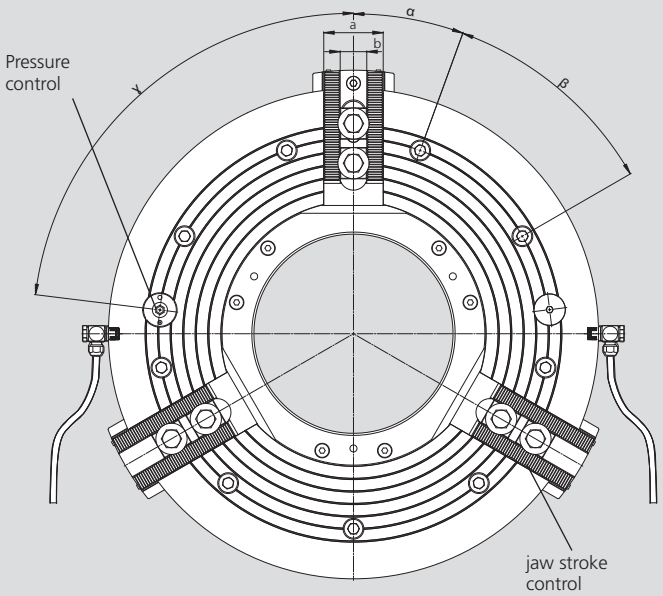
Technical data

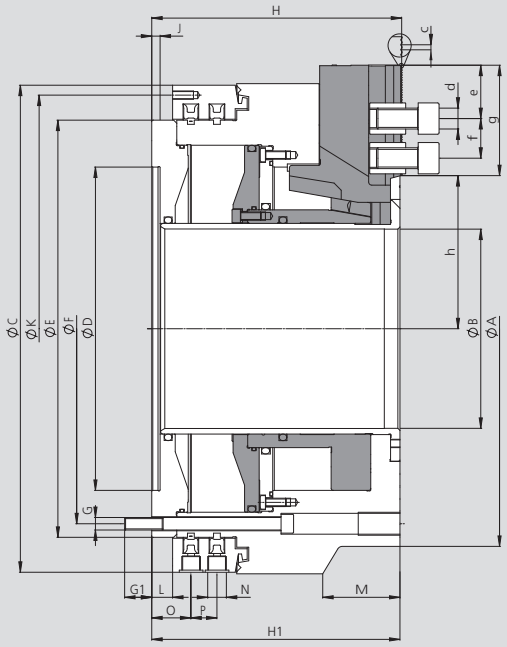
SMW-AUTOBLOK BB-N-ES Type		400-140	470-191	500-205	500-230	600-275	630-325	850-375	1000-560
Id. No.		052330	053536	052651	052652	052990	052653	052654	052655
Through-hole	mm (inch)	140 (5.51")	191 (7.52")	205 (8.07")	230 (9.06")	275 (10.83")	325 (12.80")	375 (14.76")	560 (22.05")
Total stroke per jaw	mm (inch)	20 (0.79")	20 (0.79")	25.4 (1")	25.4 (1")	25.4 (1")	25.4 (1")	25.4 (1")	25.4 (1")
Rapid stroke per jaw*	mm (inch)	13 (0.51")	13 (0.51")	16.9 (0.67")	16.9 (0.67")	16.9 (0.67")	17.2 (0.67")	13.4 (0.53")	15 (0.59")
Clamping stroke per jaw	mm (inch)	7 (0.28")	7 (0.28")	8.5 (0.33")	8.5 (0.33")	8.5 (0.33")	8.2 (0.32")	12 (0.47")	10.4 (0.41")
Operating pressure min./max.	bar (psi)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)
Piston area	cm^2	705	565	1004	895	954	1270	1340	1090
Gripping force at 6 bar	kN (lbf)	130 (29225)	115 (25853)	190 (42714)	170 (38218)	185 (41590)	220 (49458)	200 (44962)	170 (38218)
Max. speed	r.p.m.	1300	1300	1100	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 (lbs)	200 (441)	190 (419)	340 (750)	325 (717)	360 (794)	630 (1389)	970 (2138)	960 (2116)
Moment of inertia	$kg \cdot m^2$	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

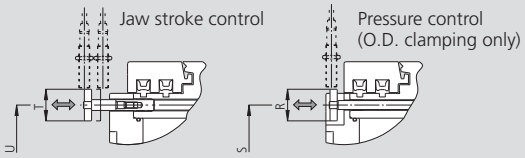




* All hoses/piping must be at least 1/2" ID, and min 3/4" ID from chuck size 630 on.

BB-N-ES 1000 needs 2 hoses per function open/close (see installation manual).

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



enlarged illustration

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

SMW-AUTOBLOK BB-N-ES Type			400-140	470-191	500-205	500-230	600-275	630-325	850-375	1000-560
Id. No.			052330	053536	052651	052652	052990	052653	052654	052655
Mounting			Z310	Z310	Z415	Z415	Z450	Z510	Z700	Z700
	A	mm	467	470	570	570	605	685	850	1000
	B	mm	140	191	205	230	275	325	375	560
	C	mm	467	467	570	570	605	685	850	925
	D H6	mm	310	310	415	415	450	510	700	700
	E	mm	400	400	500	500	535	610	775	850
Fixing bolts circle	**F**	mm	374	374	474	474	508	580	745	815
	G	mm	M12	M12	M12	M12	M12	M16	M16	M16
	G1	mm	26	26	25	25	25	30	30	30
	H	mm	240	240	282	282	282	307.5	354	332
	H1	mm	238	238	280	280	280	305.5	352	330
	J	mm	8	8	8	8	8	8	8	10
Thread circle 6 x M8	**K**	mm	448	448	550	550	585	666	830	910
	L	mm	20	20	20	20	20	20	25	33
	M	mm	-	-	-	-	-	-	-	224
Pneumatic connection	**N**	inch	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
	O	mm	37	37	37	37	37	39.5	44.5	52.5
	P	mm	26	26	26	26	26	33	33	33
	R	mm	35	35	35	35	35	42	35	42
	S	mm	374	374	474	474	508	575	745	815
	T	mm	35	35	35	35	35	35	35	35
	U	mm	374	374	474	474	508	580	745	815
	a	mm	57	57	57	57	57	75	75	75
	b	mm	25.5	25.5	25.5	25.5	25.5	30	30	30
Serration	**c**	inch	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
Bolt 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	deg.	20	20	15	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	12 x 30
(Pressure control)	**γ**	deg.	83	83	60	60	60	60	60	60

BIG BORE®
BB-SC
INCH serration

Front-end spring clamp power chucks
EXTRA LARGE THROUGH HOLE Ø 275 - 565 mm
- chuck size 600 - 1020
- 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 spindle bore can be used

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
- Stroke control
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment
Chuck with mounting bolts
1 set of soft top jaws
1 set of T-nuts and bolts

Ordering example
Big Bore SC 850-395
Id. No. 053350

Accessories
Air control AC-SC

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

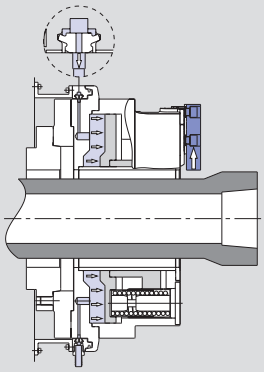


Fig. 1
Chuck open (only at stopped spindle).
The SMW profile seal collapses radial under the air pressure and seals against the chuck body. The cylinder chamber is filled.
The piston is compressing the springs, the jaws open.

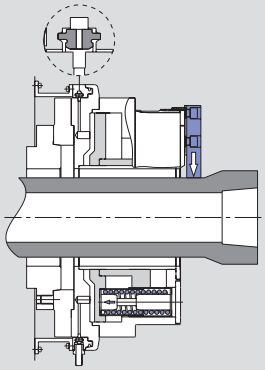


Fig. 2
Chuck clamped.
The SMW profile seal lifts off the chuck body due to elastic force. The springs expand and transmit their force onto the jaws via the wedge hook drive. The spindle can rotate.

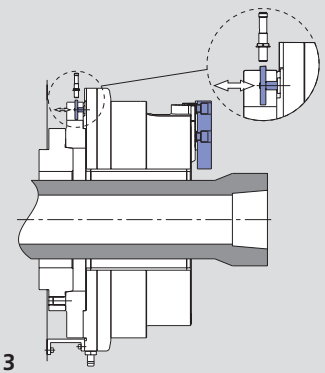
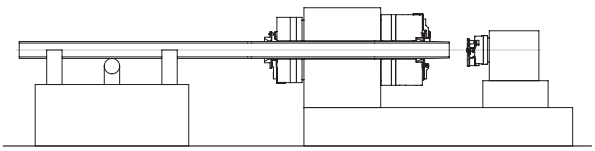
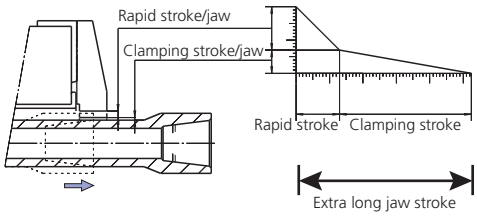


Fig. 3
Stroke control.
The position of the jaws can be monitored via a mechanical cam by 1 or 2 proximity switches.



End machining of tubes with front and rear chucks



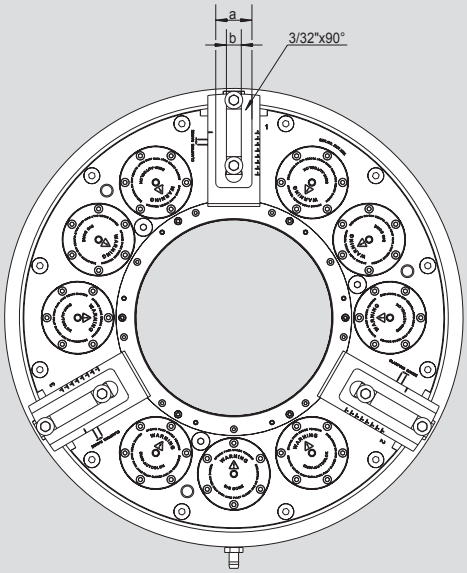
Technical data

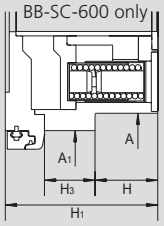
SMW-AUTOBLOK Type		BB-SC 600-275			BB-SC 850-395			BB-SC 1020-565		
Id. No.		**053540**			**053350**			**053570**		
Chuck trough hole	mm (inch)	275 (10.83")			395 (15.55")			565 (22.24")		
Total stroke per jaw	mm (inch)	25.4 (1")			27 (1.06")			27 (1.06")		
Rapid stroke per jaw*	mm (inch)	16.9 (0.67")			15 (0.59")			15 (0.59")		
Clamping stroke per jaw	mm (inch)	8.5 (0.33")			12 (0.47")			12 (0.47")		
Operating pressure at 9 springs	bar (psi)	5 (73)			5 (73)			5 (73)		
Max. gripping force at 3/6/9 springs	kN (lbf)	50 (11240)	100 (22480)	150 (33721)	57 (12814)	113 (25403)	170 (38218)	57 (12814)	113 (25403)	170 (38218)
Max. speed	r.p.m.	1000			700			420		
Air consumption to open at 5 bar (73 psi)	liter	60			115			139		
Weight (without jaws)	kg (lbs)	510 (1124)			930 (2050)			1260 (2779)		
Moment of inertia	kg·m²	34			101			223		

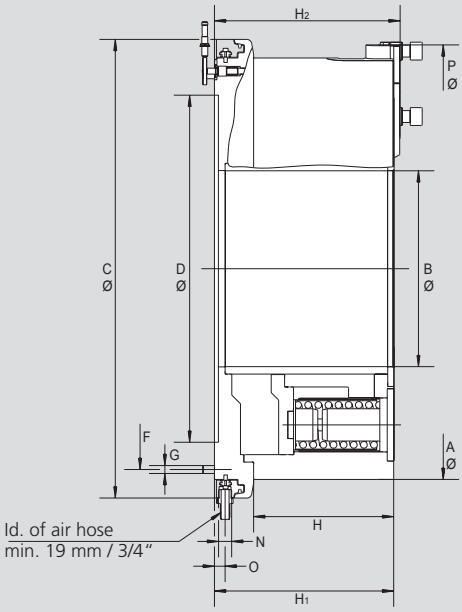
* must not be used for clamping

BIG BORE®
BB-SC

INCH serration







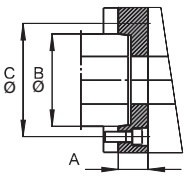
Opening pressure with all springs mounted
min. 5 bar (73 psi), max. 8 bar (116 psi)

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

SMW-AUTOBLOK Type			BB-SC 600-275	BB-SC 850-395	BB-SC 1020-565
Mounting			**Z520**	**Z700**	**Z870**
	A	mm	605	850	1020
(BB-SC-600-275)	**A1**	mm	675	-	-
Through hole	**B**	mm	275	395	565
	C	mm	750	925	1095
	D H6	mm	520	700	870
	F	mm	640	810	980
	G		M12 (12x)	M16 (12x)	M16 (12x)
	H		126.7	282.5	282.5
	H1		307.5	361.5	361.5
	H2		320.5	374.5	374.5
(BB-SC-600-275)	**H3**		102	-	-
	N		G 3/4"	G 3/4"	G 3/4"
	O		21.5	21.5	21.5
max. swing	**P**		655.8	902.8	1074
	a		58	73	73
	b		25.5	30	30
Rapid stroke		mm	16.9	15	15
Clamping stroke		mm	8.5	12	12
Total clamping stroke		mm	25.4	27	27

Spindle-Adapters

Spindle-Adapters
ISO-A DIN 55026



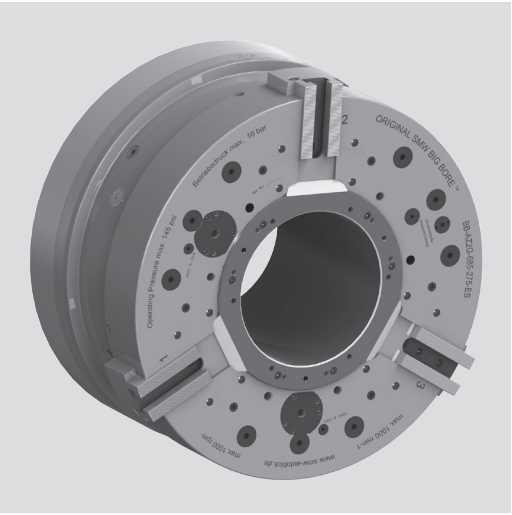
BB-SC	600-275			850-395		1020-565		
Spindle nose	A11	A15	A20	A15	A20	A15	A20	A28
Id. No.	on request	053590	053591	053362	053358	on request	053595	053596

BIG BORE®
BB-AZ2G

INCH serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 275 - 560 mm

- chuck size 685 - 1000
- self centering or compensating clamping
- chuck with extra long 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
- Stroke control for each jaw
- Extra long rapid and clamping stroke (1 1/2" total)
- Pressure control

Technical features

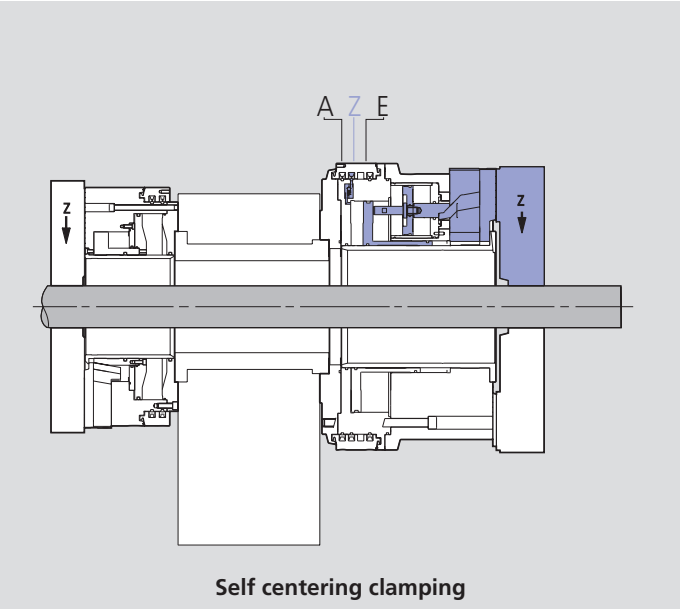
- Air chuck with built-in pneumatic cylinders for self centering or compensating clamping mode
- Air feed for both functions via distributor ring and SMW-AUTOBLOK profile seals at stopped spindle
- Built-in non return valves maintain the air pressure during machining
- Rapid and clamping stroke
- For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

Standard equipment

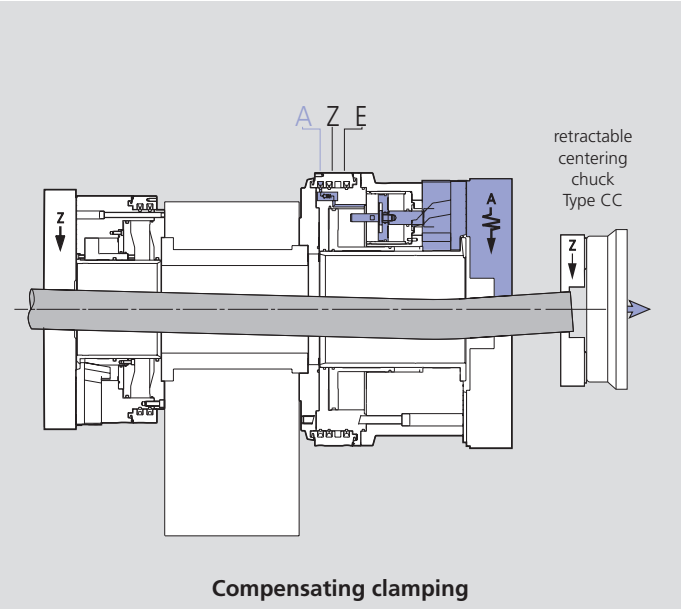
Chuck with mounting bolts
1 set of T-nuts with bolts

Ordering example

Big Bore BB-AZ2G 685-275- A15



Self centering clamping



Compensating clamping

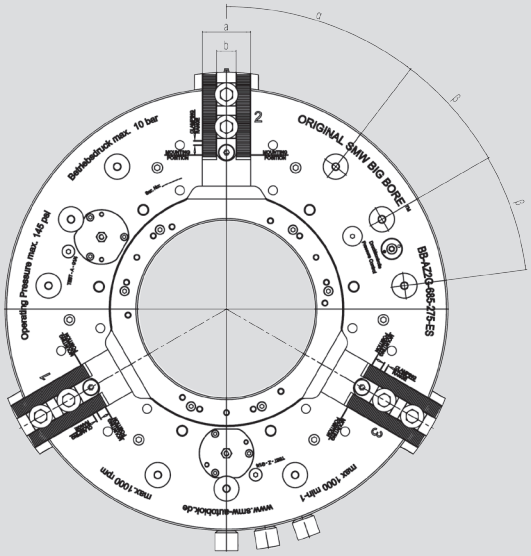
Technical data

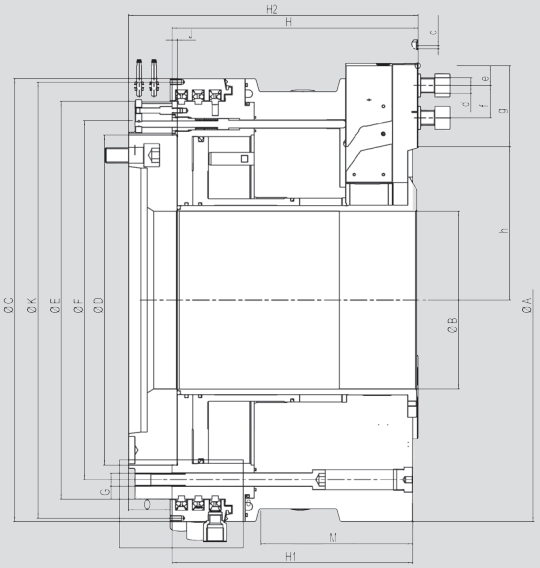
SMW-AUTOBLOK Type		BB-AZ2G 685-275	BB-AZ2G 740-330	BB-AZ2G 800-390	BB-AZ2G 1000-560
Through-hole	mm (inch)	275 (10.83")	330 (13")	390 (15.35")	560 (22.05")
Total stroke per jaw	mm (inch)	38.1 (1 1/2")	38.1 (1 1/2")	38.1 (1 1/2")	38.1 (1 1/2")
Rapid stroke per jaw*	mm (inch)	28.7 (1.13")	28.7 (1.13")	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 at 6 bar self centering	kN (lbf)	160 (35969)	160 (35969)	180 (40466)	180 (40466)
Gripping force at 6 bar compensating	kN (lbf)	90 (20233)	90 (20233)	90 (20233)	90 (20233)
Max. speed	r.p.m.	1000	850	750	500
Air consumption/jaw stroke at 6 bar					
Centering	liter	57	57	63	66
Compensating	liter	72	71	76	76
Open	liter	27	27	27	27
Weight (without top jaws)	kg (lbs)	800 (1764)	875 (1929)	1000 (2204)	1420 (3131)
Moment of inertia	$kg \cdot m^2$	51.5	68.4	90.5	221.4
Compensating stroke	mm (inch)	+/- 3.5 (0.14")	+/- 3.5 (0.14")	+/- 3.5 (0.14")	+/- 3.5 (0.14")

* must not be used for clamping

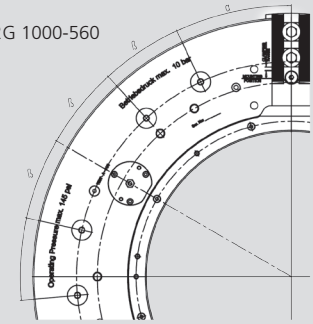
BIG BORE®
BB-AZ2G

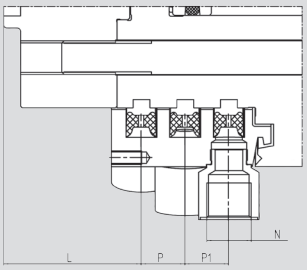
INCH serration





BB-AZ2G 1000-560





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

All hoses must be min. 3/4" I.D.

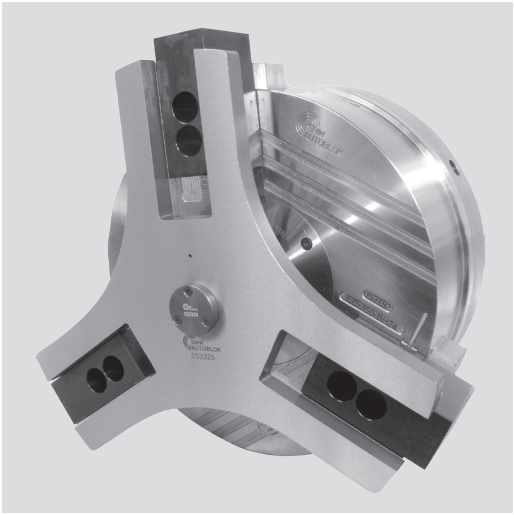
SMW-AUTOBLOK Type			BB-AZ2G 685-275	BB-AZ2G 740-330	BB-AZ2G 800-390	BB-AZ2G 1000-560
Id. No.			**054198**	**054308**	**054199**	**054230**
Mounting			**A20**	**A20**	**A20**	**A28**
Chuck diameter	**A**	mm	685	740	800	1000
Through hole	**B**	mm	275	330	390	560
	C	mm	685	740	775	970
	D H6	mm	510	510	590	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
min.	**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
min./max.	**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

CC

INCH
serration

Stationary centering and dampening chuck, pneumatic Ø 240 - 470 mm

■ **with integrated dampener**



Application/customer benefits

- Axial positioning and centering of tubes when a BB-AZ2G chuck on the main spindle is used in compensating clamping mode
- Integrated hydraulic dampener with fixed and position for controlled decelaration and positioning of tubes
- Suitable for O.D. and I.D. centering

Technical features

- Stationary pneumatic clamping unit with integrated dampener/endstop
- Operating pressure 2–10 bar (29–145 psi)
- Monitoring of endposition of the axial stop via prox. switch (prox. switch not included with the chuck)

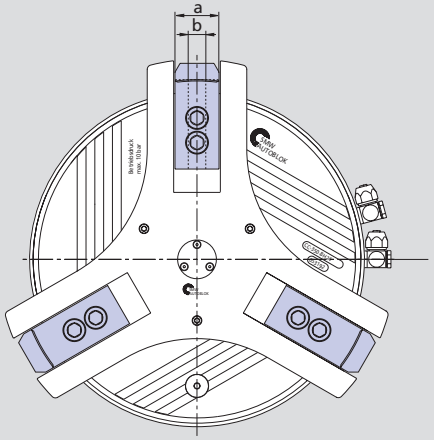
Standard equipment

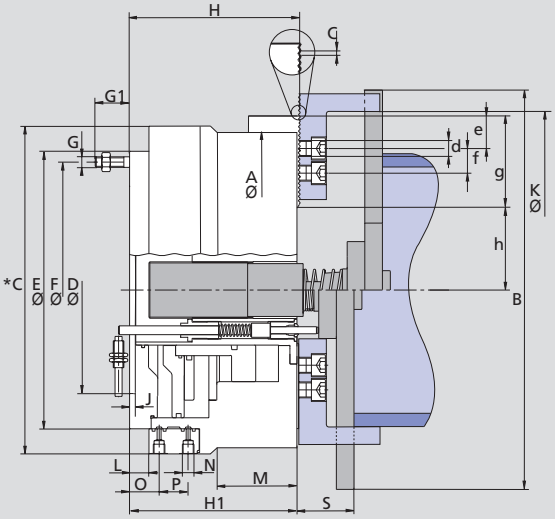
3-jaw centering chuck
1 set of soft top jaws

Ordering example

Stationary centering chuck CC-350

* Chuck CC-240 has no ring

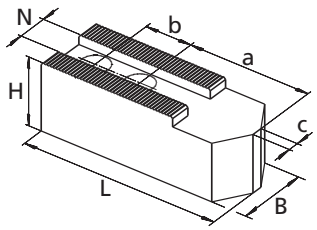




Subject to technical changes.
For more detailed information please ask for customer drawing.

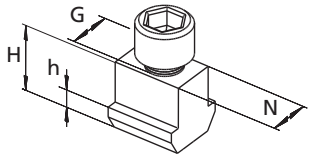
SMW-AUTOBLOK Type			CC 240 Z	CC 350 Z	CC 470 Z
Id. No.			**053290**	**053192**	**054470**
	A	mm	240	360	470
	B	mm	306	446	550
	C	mm	250	372	n.a.
	D H6	mm	195	235	310
	E	mm		315	400
	F	mm	223.8	290.5	374
	G/G1	mm	M12/39	M12/39	M12/26
	H	mm	135.5	191.5	239.5
	H1	mm	134	190	238
	J	mm	6.5	6.5	8
Clamping Ø max.	**K**	mm	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**	mm	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**	mm	9.5	12	15
T-nut distance min./max.	**f**	mm	22/41.5	25/72	35/68
Length of serration	**g**	mm	59	95	99
min./max.	**h**	mm	53/66	85/109	128/153
Stroke/jaw		mm (inch)	12.7 (0.5")	24 (0.94")	25 (0.98")
Pressure min./max.		bar (psi)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)
Piston area		cm²	290	486	652
Air consumption/jaw stroke at 6 bar		liter	5.5	13.5	21
Weight (without top jaws)		kg (lbs)	53 (11915)	115 (25853)	260 (58450)

AWB-D
Soft top jaws



Chuck Type	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	081603
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



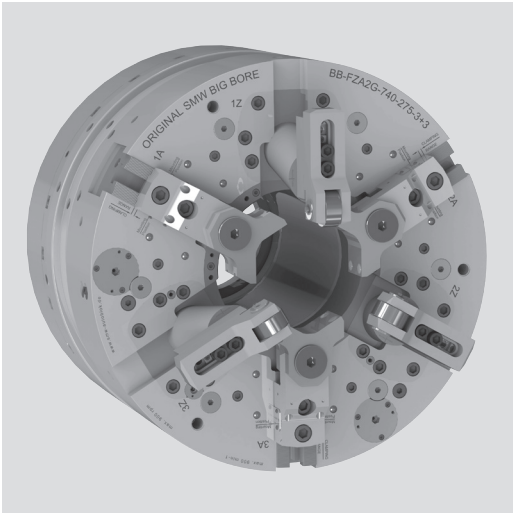
Chuck Type	CC 240 Z	CC 350 Z	CC 470 Z
T-nut type	NST 17-4	NST 21-5	NST 21-5
T-nut Id. No./piece	013864	033429	014812
N	17	21	25.5
H	26.5	30	29
h	9.5	11	11
G	M12	M16	M20
Bolt ISO 4762 12.9	M12 x 30	M16 x 35	M20 x 40

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

BIG BORE®
BB-FZA2G

Front-end pneumatic 6-jaw sequence chucks
EXTRA LARGE THROUGH HOLE Ø 275 - 390 mm

- chuck size 740 - 920
- 3 integrated centering jaws and 3 compensating jaws



Application/customer benefits

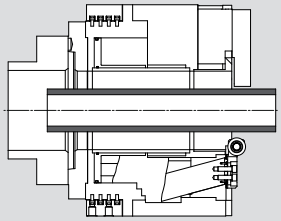
- Extra long axial and radial stroke for centering jaws
- Adjustability of the axial centering position for pipe threading
- Extra long rapid and clamping stroke (1 1/2" total) for compensating jaws
- Stroke control for centering jaws
- Stroke control for each compensating jaw
- Pressure control

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
- Extra long jaw stroke
- It is possible to adjust the axial centering position through the radial position of the centering jaws

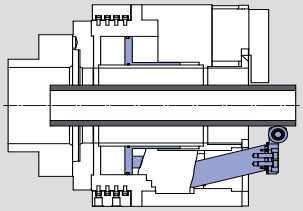
Machining of bent pipe with chuck with integrated centering jaws:

1



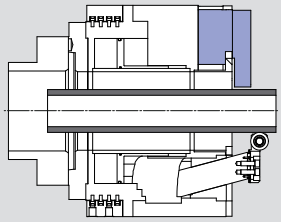
Chuck open, load pipe.

2



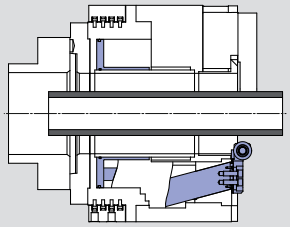
Centering jaws move forward axially to center the pipe at the threading area.

3



Compensating jaws pick up the pipe at the centered position.

4

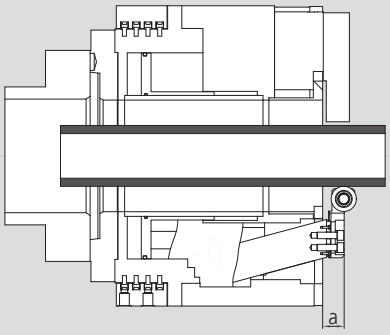


Centering jaws open and retract back axially into the chuck body. The pipe can now be machined.

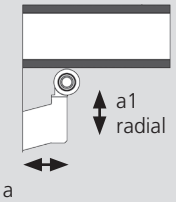
Adjustability of the axial centering position

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.

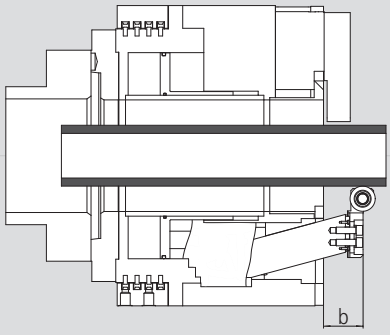
A **Short stroke (a)**



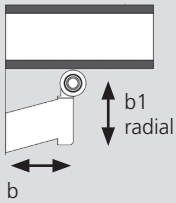
Axial centering position and radial position of the top jaws.



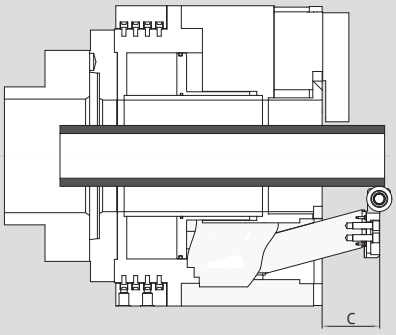
B **Mid stroke (b)**



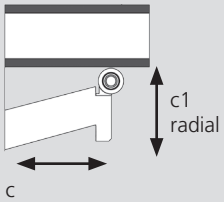
Axial centering position and radial position of the top jaws.



C **Max stroke (c)**

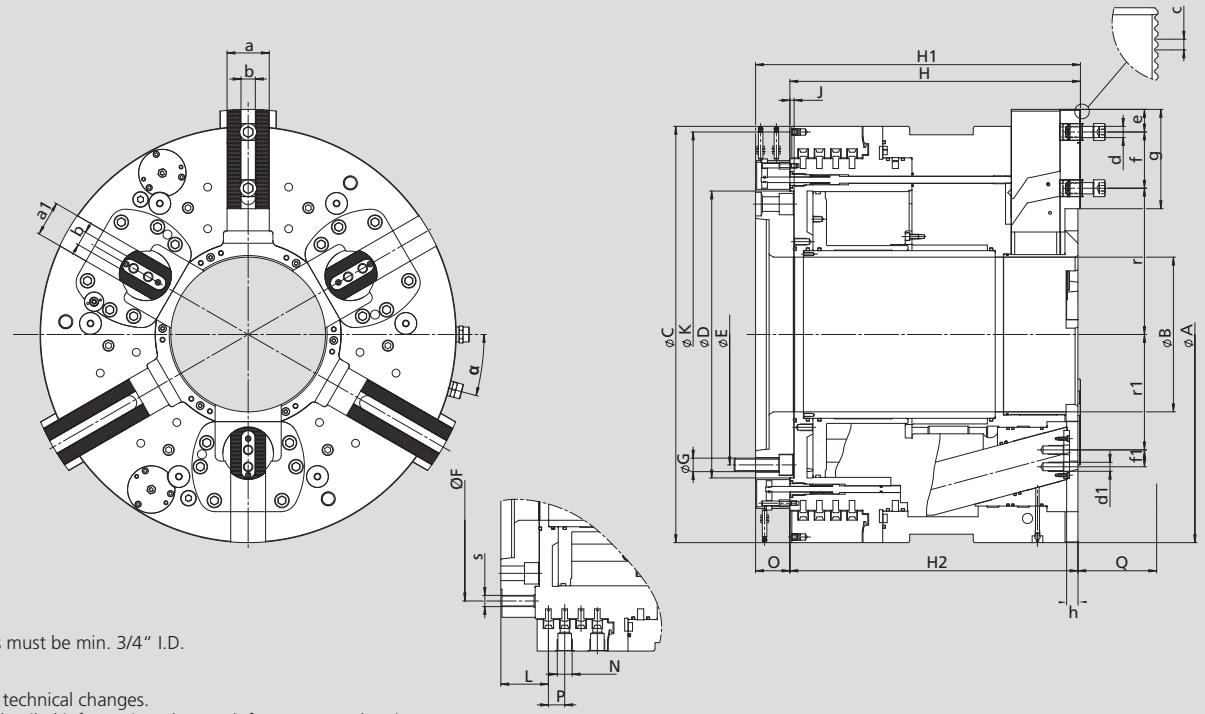


Axial centering position and radial position of the top jaws.



BIG BORE®
BB-FZA2G

■ Main dimensions and technical data

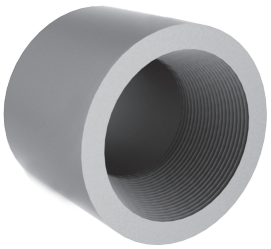


* all hoses must be min. 3/4" I.D.

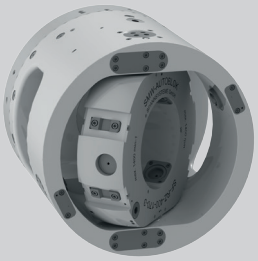
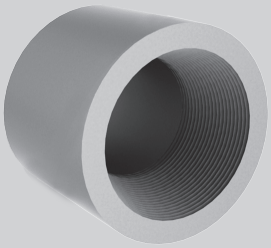
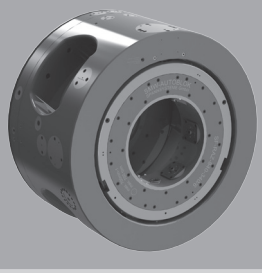
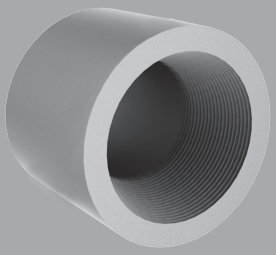
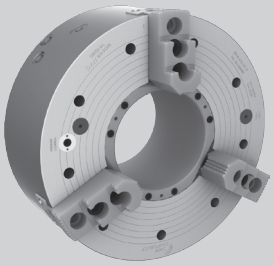
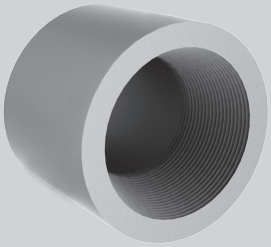
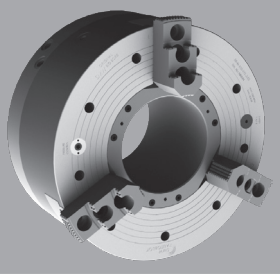
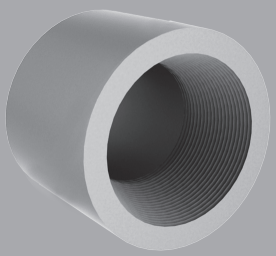
Subject to technical changes.
For more detailed information please ask for customer drawing.

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	463,5
	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"	G3/4"	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
min.	**e**	mm	30	30	30
max.	**f**	mm	100	100	135
	f1	mm	30	30	30
	g	mm	176.6	176.6	190
Serration to face of chuck	**h**	mm	19	19	19
	r	mm	260	287.5	321
	r1	mm	205.2	232.7	270.3
	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)	83 (18660)	83 (18660)	137 (30799)
Gripping force centering jaws at 6 bar		kN (lbf)	100 (22481)	114 (25628)	102 (22930)
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)	27.2 (1.07")	27.2 (1.07")	27.2 (1.07")
clamping stroke		mm (inch)	10.9 (0.43")	10.9 (0.43")	10.9 (0.43")
Jaw stroke centering jaws		mm (inch)	37.5 (1.48")	37.5 (1.48")	42.7 (1.68")
Air consumption centering at 6 bar (87psi) max.		liter	92	92	142
Air consumption compensating at 6 bar (87psi) max.		liter	30	30	54
Weight (without top jaws)		kg (lbs)	1140 (2513)	1350 (2976)	1850 (4079)
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



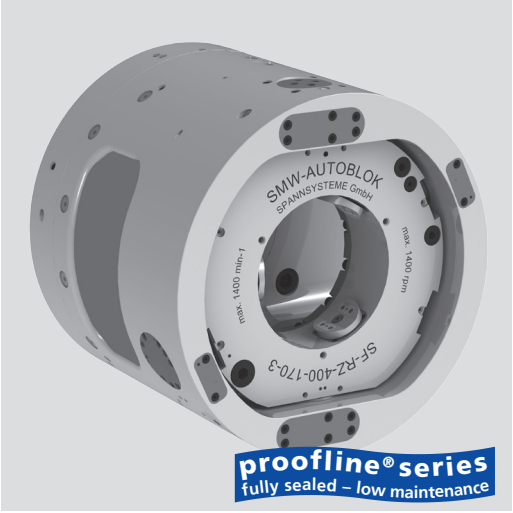
Overview Couplings

CHUCK	APPLICATION	OCTG PRODUCT	CUSTOMER BENEFITS
SF-RZ NEW Page 28 	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 excisting 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

SF-RZ

2 Position hydraulic ring indexing chuck

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



Application/customer benefits

NEW

- Machining of couplings up to 5 1/2" in one set up
- Indexing 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
- Extremly accurate and rigid indexing mechanism
- Optional: pendulum clamping inserts, central coolant supply

Standard equipment

Chuck with mounting bolts

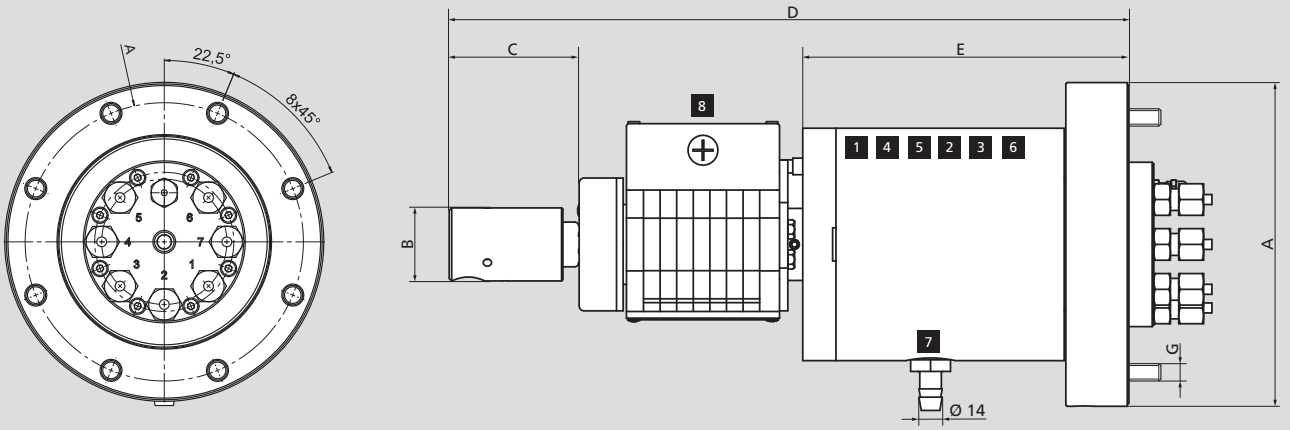
Ordering example

SF-RZ 400

Accessories

7-way oil distributor
Connection kit for coolant supply

MDV 65 7-way oil distributor



Connections:

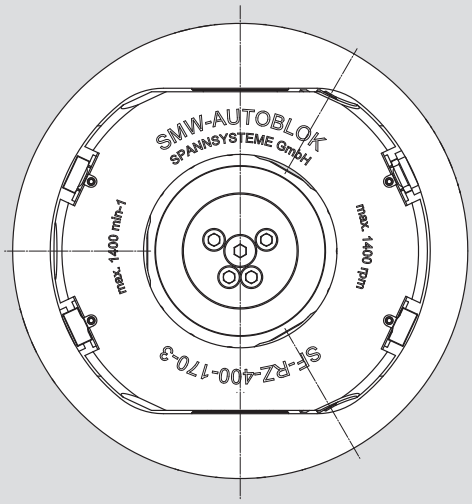
1 indexing position 180°
2 indexing position 0°
3 locking the indexing ring
4 unlocking the indexing ring
5 jaws clamp
6 jaws unclamp
7 leckage oil
8 electrical control wires

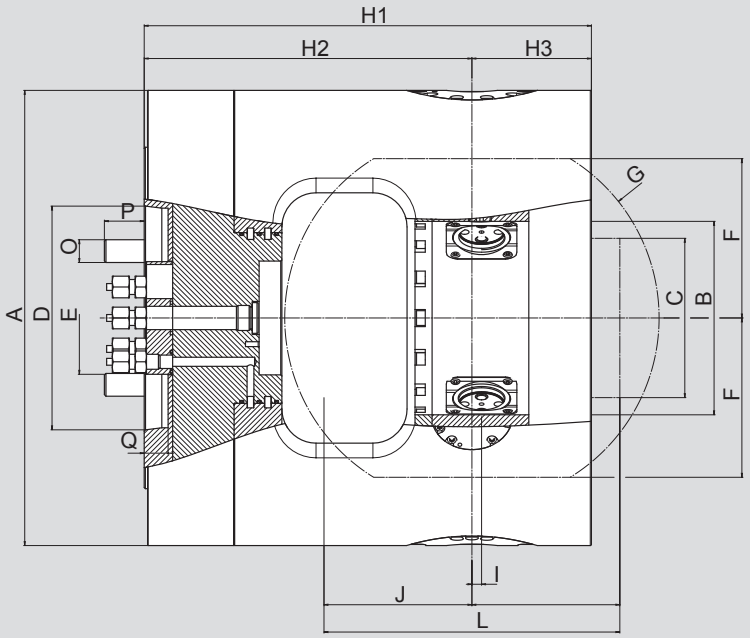
Subject to technical changes
For more detailed information please ask for customer drawing

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	8xM12
Max. speed	r.p.m.	1400
Weight	kg	28

For exact position of the connecting ports, please ask for a customer drawing.
All ports (1-6) are G 3/8".

Main dimensions and technical data





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

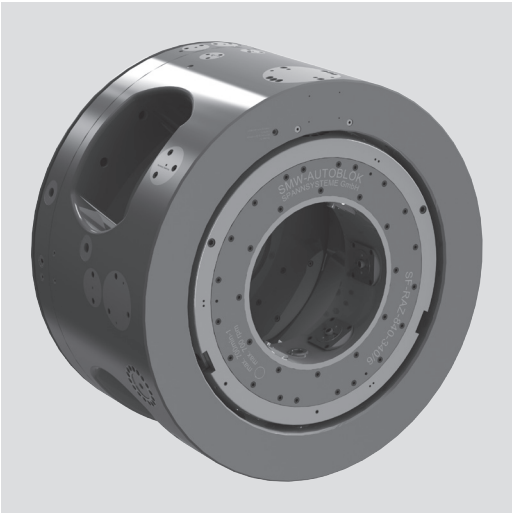
SMW-AUTOBLOK Type			SF-RZ 400
Id. No.			**054394**
Chuck O.D.	**A**	mm	400
Indexing ring I.D.	**B**	mm	170
Max. workpiece O.D.	**C**	mm	140
Spindle mounting	**D**		A11
Connection flange O.D.	**E**	mm	99
Height indexing ring	**F**	mm	140
Swing indexing ring	**G**	mm	329
	H_1	mm	393
	H_2	mm	288
Indexing axis	**H_3**	mm	105
Jaw axis to indexing axis	**I**	mm	8.5
	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		$kg \cdot m^2$	6

SF-RAZ

Tongue & groove

2 Position hydraulic ring indexing chuck

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



Application/customer benefits

- Machining of couplings in one set up
- Indexing 180° in 2 seconds
- 6 jaw clamping for perfect roundness of the coupling = ideal for premium threads
- High-Low clamping (roughing-finishing)

Technical features

- Hydraulic, automatic ring indexing chuck
- All functions controlled by proximity switches
- Extremly accurate and rigid indexing mechanism
- For external clamping only
- Automatic central lubrication

Standard equipment

Chuck with mounting bolts

Ordering example

SF-RAZ 950-3+3 A 20

Accessories

Hydraulic manifold including electric manifold, hose kit

Machining of a coupling in 1 set up:

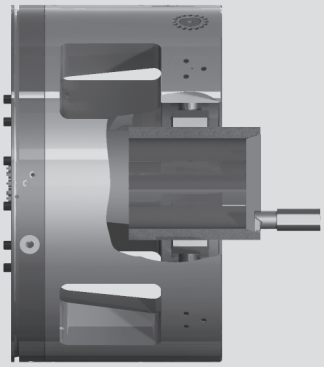


Fig. 1
Clamping the coupling on the outside diameter with 6 jaws (3 self centering and 3 compensating jaws) and machining the thread on side 1.

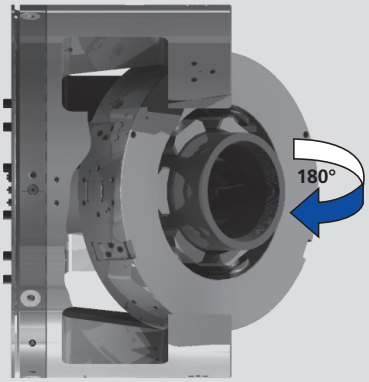


Fig. 2
Indexing the chuck 180° with the coupling remaining clamped.

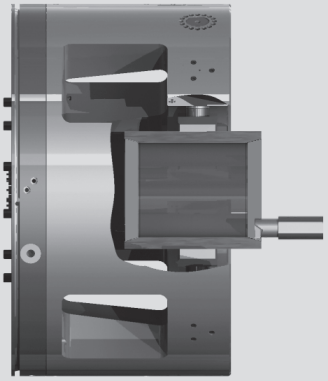


Fig. 3
After indexing 180°, machining the thread on side 2.

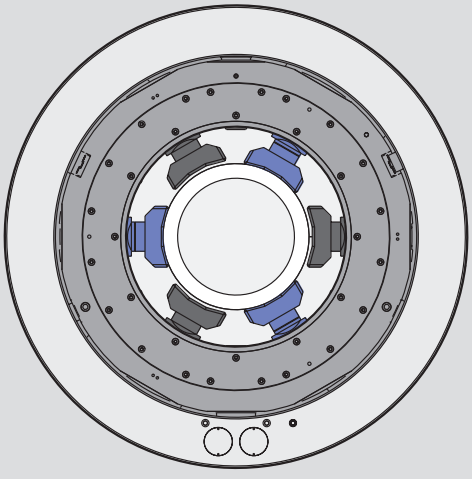


Fig. 4
3 self centering jaws center and clamp the coupling.

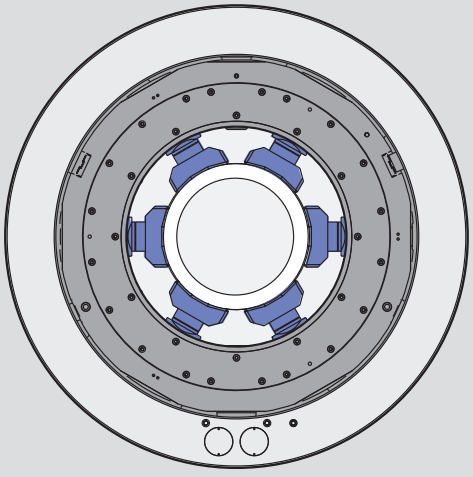
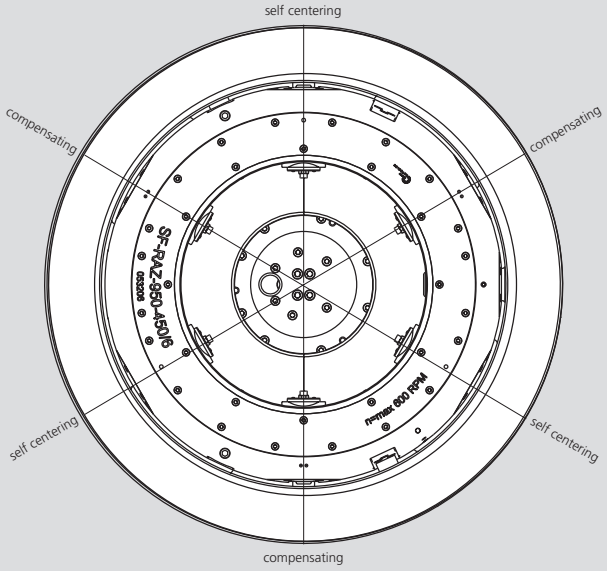
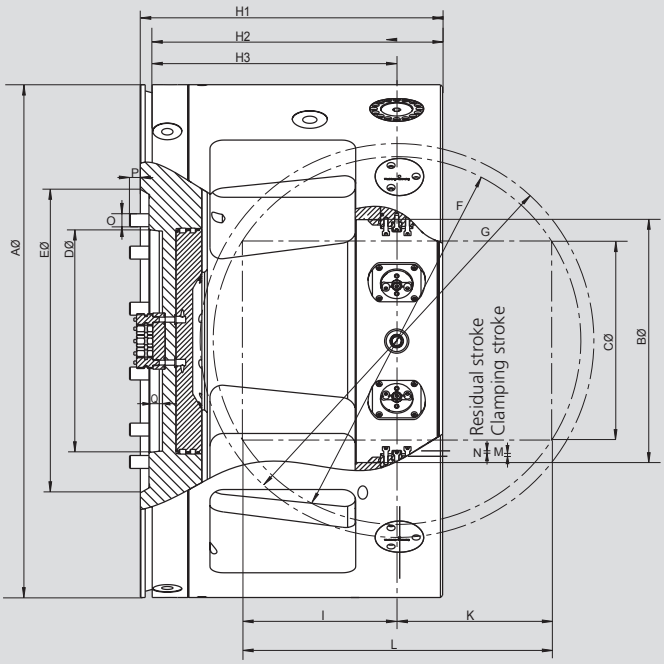


Fig. 5
When the coupling is centered and clamped, 3 compensating jaws clamp the coupling additionally to distribute the total clamping force onto 6 jaws = less deformation of the coupling/perfect roundness of thread.

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

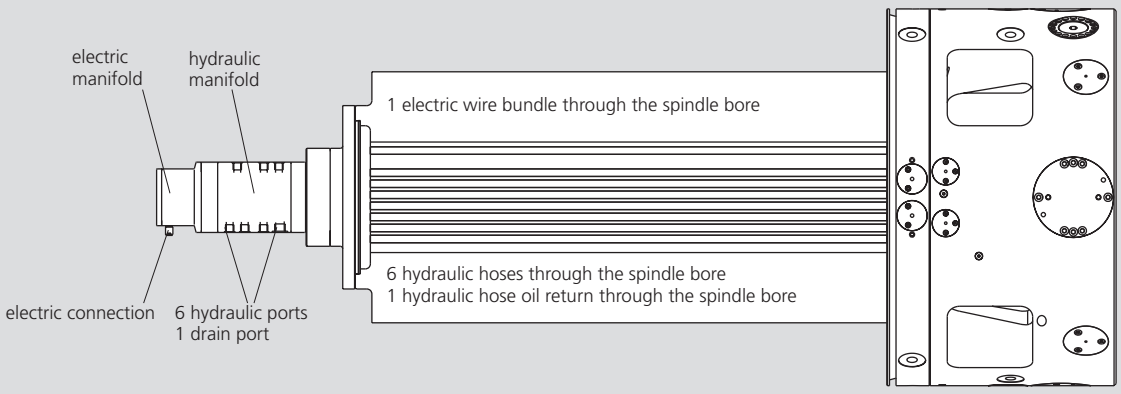




Subject to technical changes.
For more detailed information please ask for customer drawing.

SMW-AUTOBLOK Type			SF-RAZ 750	SF-RAZ 840	SF-RAZ 950	SF-RAZ 1050
Id. No.			**053090**	**053097**	**053206**	**053900**
Chuck O.D.	**A**	mm	750	840	950	1050
Indexing ring I.D.	**B**	mm	250	340	450	550
Max. workpiece O.D.	**C**	mm	185	275	368	468
Spindle mounting	**D**		A15	A15	A20	A20
Recess for spindle O.D.	**E**	mm	435	435	562	562
Max. swing workpiece	**F**	mm	480	570	680	780
Swing indexing ring	**G**	mm	526	618	728	828
	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. length of workpiece	**L**	mm	443	500	572	624
Clamping at rec. clamping stroke	**M**	mm	5.5	5.5	5.5	5.5
Recom. residual stroke	**N**	mm	4.5	4.5	4.5	4.5
Total jaw stroke	**S**	mm	10	10	10	10
Mounting bolts	**O**	mm	M24	M24	M24	M24
	P	mm	37	37	36	36
Max. speed		r.p.m.	800	700	600	530
Max. pressure		bar (psi)	70 (1015)	70 (1015)	70 (1015)	70 (1015)
Max. grip force		kN (lbf)	250 (56202)	250 (56202)	250 (56202)	250 (56202)
Weight		kg (lbs)	1018 (2244)	1200 (2646)	1650 (3638)	2155 (4751)

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

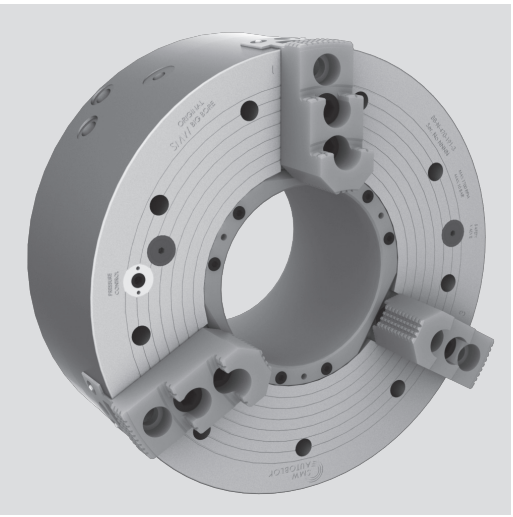


BIG BORE® BB-N

INCH
serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 140 - 410 mm

- chuck size 400 - 800
- 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/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 (only for external clamping)
- Jaw stroke control for OD and ID 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 298-300)

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

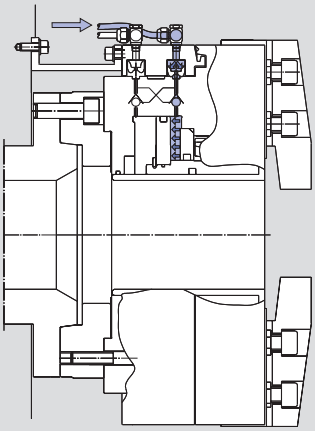


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber.
When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

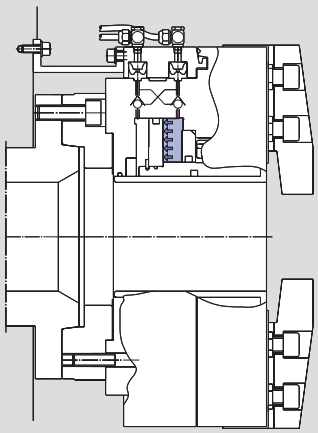


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore.
The clamping pressure is maintained by the twin non-return valve.
The chuck can start to rotate.

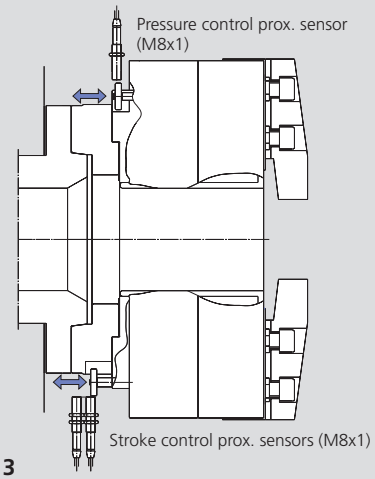
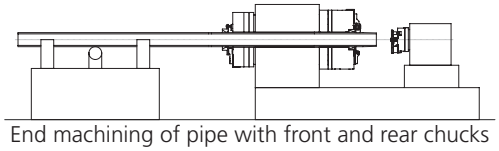


Fig. 3
Pressure control: If the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending an alarm signal.
Jaw stroke control: If the part is clamped in a not correct jaw stroke position, the switch ring moves into the proximity-switch field sending an alarm signal.*

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

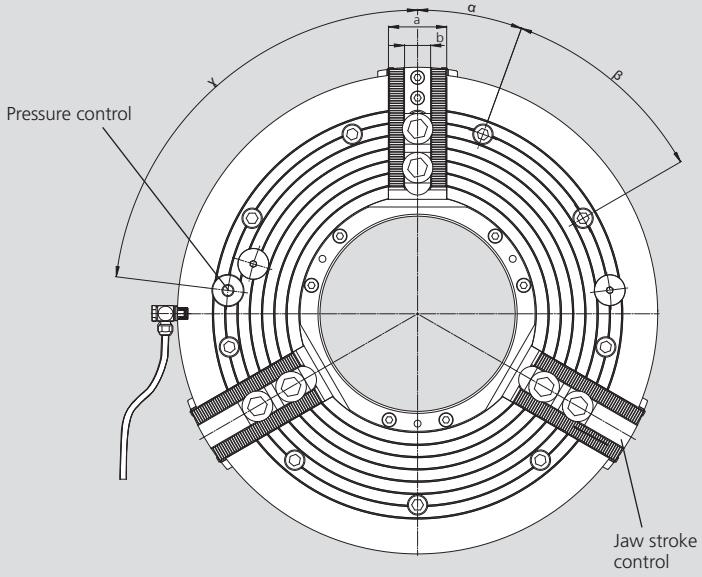


End machining of pipe with front and rear chucks

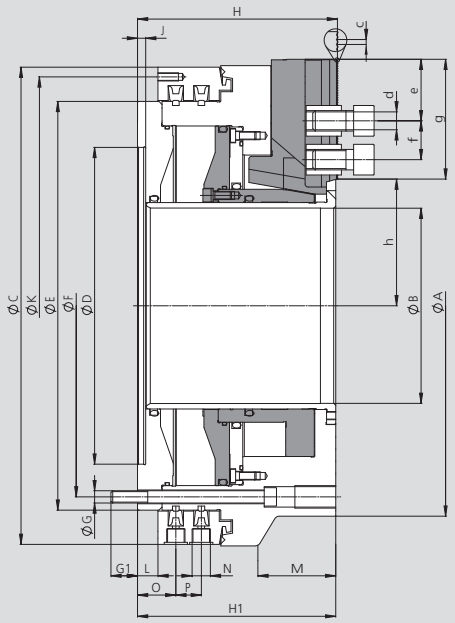
Technical data

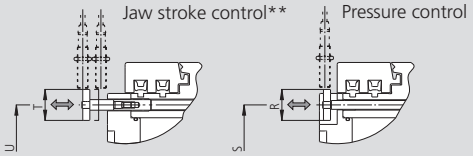
SMW-AUTOBLOK BB-N Type		400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.		**052300**	**053535**	**053830**	**053832**	**053834**	**053836**	**053838**
Through-hole	mm (inch)	140 (5.51“)	191 (7.52“)	205 (8.07“)	230 (9.06“)	275 (10.83“)	310 (12.20“)	410 (16.14“)
Stroke per jaw	mm (inch)	7 (0.28“)	7 (0.28“)	8.5 (0.33“)	8.5 (0.33“)	8.5 (0.33“)	10 (0.39“)	12 (0.47“)
Operating pressure min./max.	bar (psi)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)
Piston area	cm^2	710	565	1024	940	990	1270	2064
Gripping force at 6 bar	kN (lbf)	160 (35969)	115 (25853)	210 (47210)	190 (42714)	200 (44962)	220 (49458)	330 (74186)
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 (lbs)	150 (331)	150 (331)	230 (507)	200 (441)	270 (595)	420 (926)	650 (1433)
Moment of inertia	$kg \cdot m^2$	3.22	5.66	8.53	8	15	28	71.25

Main dimensions and technical data



Jaw position: Open for external clamping





enlarged illustration

* All hoses/piping must be at least 1/2" ID., and min. 3/4" ID from size 630 on!
** BBN-400-140 has no stroke control

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 for customer drawing.

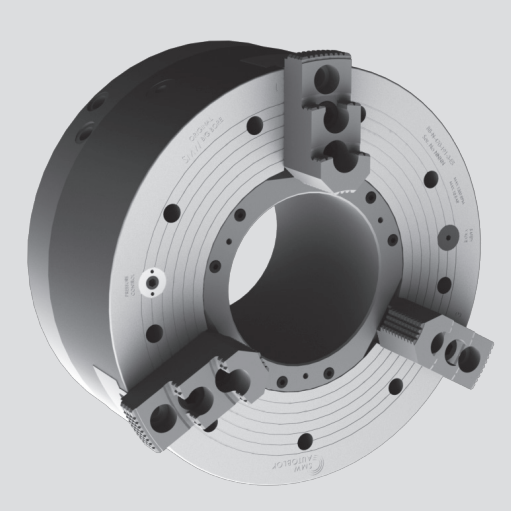
SMW-AUTOBLOK BB-N Type			400-140	470-191	500-205	500-230	600-275	630-310	800-410
Id. No.			052300	053535	053830	053832	053834	053836	053838
Mounting			Z310	Z310	Z415	Z415	Z450	Z510	Z700
	A	mm	422	470	540	570	605	662	800
	B	mm	140	191	205	230	275	310	410
	C	mm	467	467	570	570	605	685	850
	D H6	mm	310	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 6x M8	**K**	mm	448	448	550	550	585	666	830
	L	mm	20	20	20	20	20	20	25
	M	mm	70	-	98	98	-	115	154
Pneumatic connection	**N**	inch	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
	O	mm	37	37	37	37	37	39.5	44.5
	P	mm	26	26	26	26	26	33	33
	R	mm	35	35	35	35	35	42	35
	S	mm	374	374	474	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
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.	**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-ES

INCH serration

Front-end pneumatic power chucks
EXTRA LARGE THROUGH HOLE Ø 140 - 560 mm

- chuck size 400 - 1000
- extended jaw stroke
- 3 jaws



Application/customer benefits

- End machining of long pipe with collars
- Rapid and clamping stroke for short clamping cycles
- Full spindle bore can be used

Technical features

- Air chuck for external clamping with built-in pneumatic cylinder
- Rapid and clamping stroke
- Air feed via distributor ring and SMW-profile seals, at stopped spindle
- Built in non-return valves maintain the air pressure during machining
- Clamping pressure level constantly checked by a safety control system (only for external clamping)
- Clamping stroke control (no clamping in rapid stroke) is monitored

Standard equipment

3 jaw chuck
2 elbow unions G 1/2" (4 for BB-N 1000)
12 mounting bolts (9 for the BB-N-ES 400)
1 lifting eye bolt
1 set T-nuts with bolts
1 set soft top jaws
without distributor ring bracket

Ordering example

BIG BORE BB-N-ES 400/Z310

Accessories

Control unit AC-BB/AC-XN
(see general catalog pages 298-300)

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

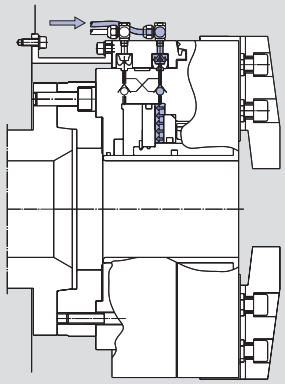


Fig. 1
Open/close movement (only possible at stopped spindle). The profile seals deform radially under the pneumatic pressure, sealing on the chuck body and filling the cylinder chamber.
When the clamping pressure is reached, the air feed is stopped, closing the twin non-return valve.

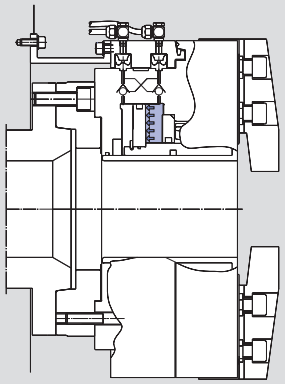


Fig. 2
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore.
The clamping pressure is maintained by the twin non-return valve.
The chuck can start to rotate.

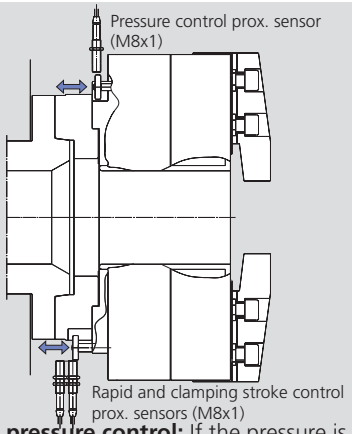
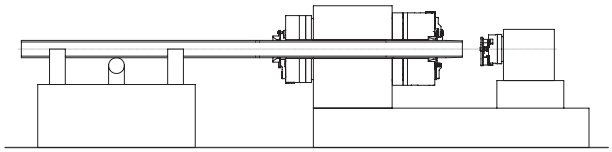
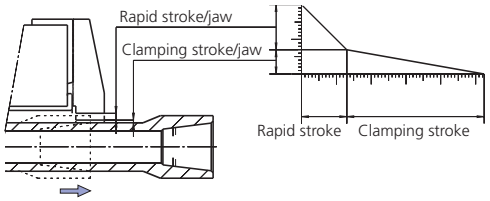


Fig. 3
Safety pressure control: If the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending an alarm signal.
Jaw stroke control: If the part is clamped in a not correct jaw stroke position, the switch ring moves into the proximity-switch field sending an alarm signal.



End machining of pipe with front and rear chucks



Technical data

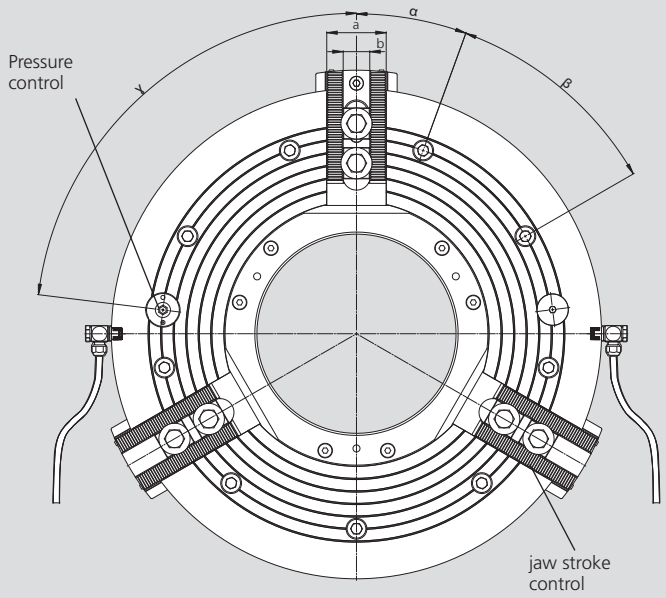
SMW-AUTOBLOK BB-N-ES Type		400-140	470-191	500-205	500-230	600-275	630-325	850-375	1000-560
Id. No.		052330	053536	052651	052652	052990	052653	052654	052655
Through-hole	mm (inch)	140 (5.51")	191 (7.52")	205 (8.07")	230 (9.06")	275 (10.83")	325 (12.80")	375 (14.76")	560 (22.05")
Total stroke per jaw	mm (inch)	20 (0.79")	20 (0.79")	25.4 (1")	25.4 (1")	25.4 (1")	25.4 (1")	25.4 (1")	25.4 (1")
Rapid stroke per jaw*	mm (inch)	13 (0.51")	13 (0.51")	16.9 (0.67")	16.9 (0.67")	16.9 (0.67")	17.2 (0.67")	13.4 (0.53")	15 (0.59")
Clamping stroke per jaw	mm (inch)	7 (0.28")	7 (0.28")	8.5 (0.33")	8.5 (0.33")	8.5 (0.33")	8.2 (0.32")	12 (0.47")	10.4 (0.41")
Operating pressure min./max.	bar (psi)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)	2/10 (29/145)
Piston area	cm^2	705	565	1004	895	954	1270	1340	1090
Gripping force at 6 bar	kN (lbf)	130 (29225)	115 (25853)	190 (42714)	170 (38218)	185 (41590)	220 (49458)	200 (44962)	170 (38218)
Max. speed	r.p.m.	1300	1300	1100	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 (lbs)	200 (441)	190 (419)	340 (750)	325 (717)	360 (794)	630 (1389)	970 (2138)	960 (2116)
Moment of inertia	$kg \cdot m^2$	6.5	9.83	16.4	16.1	19	36	105	160

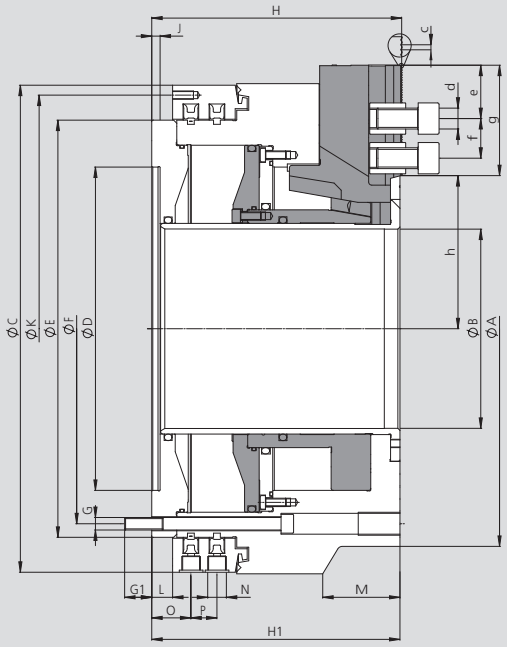
* must not be used for clamping

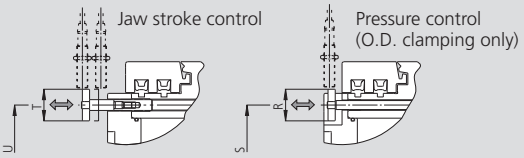
BIG BORE®
BB-N-ES

INCH serration

Jaw position: Open for external clamping







enlarged illustration

* All hoses/piping must be at least 1/2" ID, and min 3/4" ID from chuck size 630 on.

BB-N-ES 1000 needs 2 hoses per function open/close (see installation manual).

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 for customer drawing.

SMW-AUTOBLOK BB-N-ES Type			400-140	470-191	500-205	500-230	600-275	630-325	850-375	1000-560
Id. No.			**052330**	**053536**	**052651**	**052652**	**052990**	**052653**	**052654**	**052655**
Mounting			**Z310**	**Z310**	**Z415**	**Z415**	**Z450**	**Z510**	**Z700**	**Z700**
	A	mm	467	470	570	570	605	685	850	1000
	B	mm	140	191	205	230	275	325	375	560
	C	mm	467	467	570	570	605	685	850	925
	D H6	mm	310	310	415	415	450	510	700	700
	E	mm	400	400	500	500	535	610	775	850
Fixing bolts circle	**F**	mm	374	374	474	474	508	580	745	815
	G	mm	M12	M12	M12	M12	M12	M16	M16	M16
	G1	mm	26	26	25	25	25	30	30	30
	H	mm	240	240	282	282	282	307.5	354	332
	H1	mm	238	238	280	280	280	305.5	352	330
	J	mm	8	8	8	8	8	8	8	10
Thread circle 6 x M8	**K**	mm	448	448	550	550	585	666	830	910
	L	mm	20	20	20	20	20	20	25	33
	M	mm	-	-	-	-	-	-	-	224
Pneumatic connection	**N**	inch	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"
	O	mm	37	37	37	37	37	39.5	44.5	52.5
	P	mm	26	26	26	26	26	33	33	33
	R	mm	35	35	35	35	35	42	35	42
	S	mm	374	374	474	474	508	575	745	815
	T	mm	35	35	35	35	35	35	35	35
	U	mm	374	374	474	474	508	580	745	815
	a	mm	57	57	57	57	57	75	75	75
	b	mm	25.5	25.5	25.5	25.5	25.5	30	30	30
Serration	**c**	inch	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°	3/32" x 90°
Bolt 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	deg.	20	20	15	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	12 x 30
(Pressure control)	**γ**	deg.	83	83	60	60	60	60	60	60

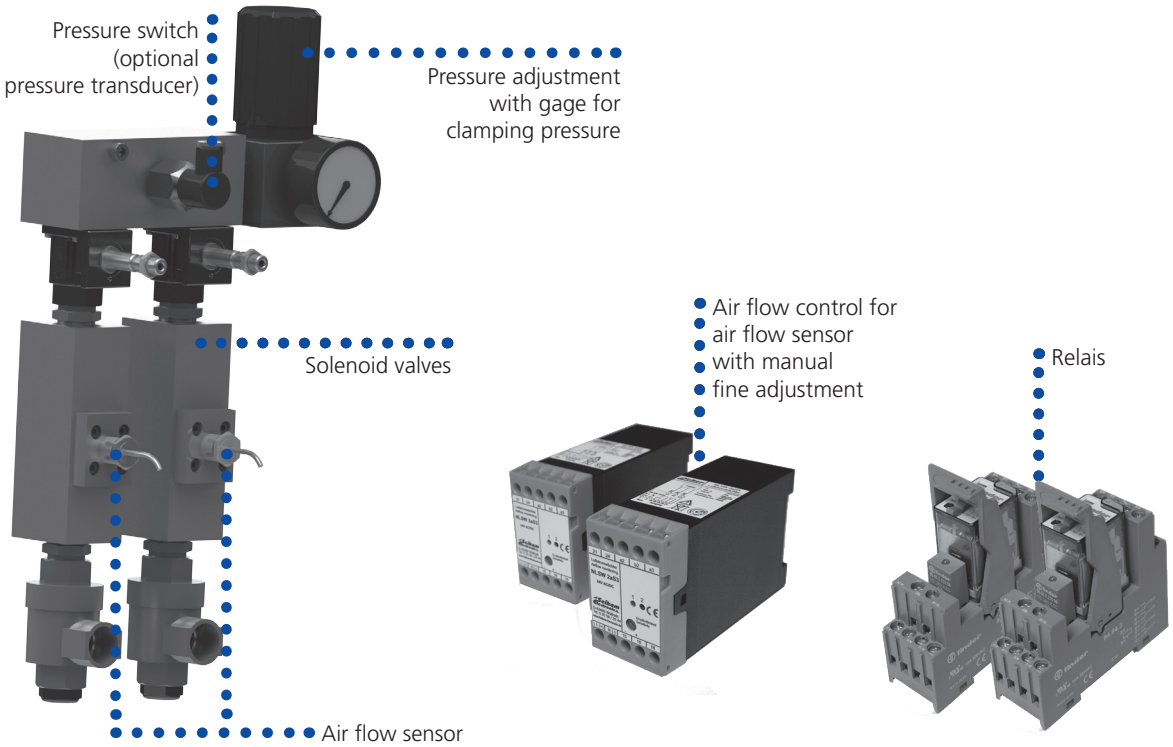
AC-BB

Control unit for
SP and Big Bore chucks

- Electronic safety control unit
- for SP and Big Bore chucks
- without pressure control
- without stroke control

Electropneumatic control unit for SP and Big Bore® chucks

- **1/2” or 3/4” design for SP and Big Bore chucks**
- **Actuation via foot pedal or push botton (not included in the supply range)**
- **Clamping control via air flow sensors**
- **Quick chuck actuation via diaphragm valves with quick exhaust**
- **Airflow control with LED for ready and air flow. Adjustable air flow sensor sensitivity**



SMW-AUTOBLOK Type	Voltage	Size	Id. No.
AC-BB	24 V	1/2”	202342
AC-BB	110 V	1/2”	202343
AC-BB	220 V	1/2”	202344
AC-BB	24 V	3/4”	202837
AC-BB	110 V	3/4”	202838
AC-BB	220 V	3/4”	202839

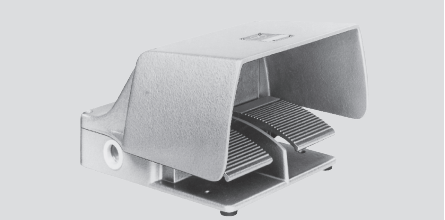
Standard equipment:

as shown, without hoses and fittings

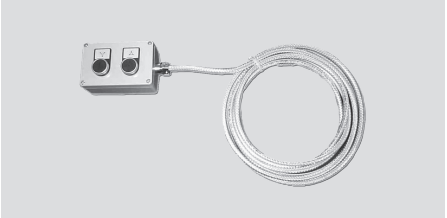
Approx. dimensions (w x h x d)
222 x 465 x 128 mm

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

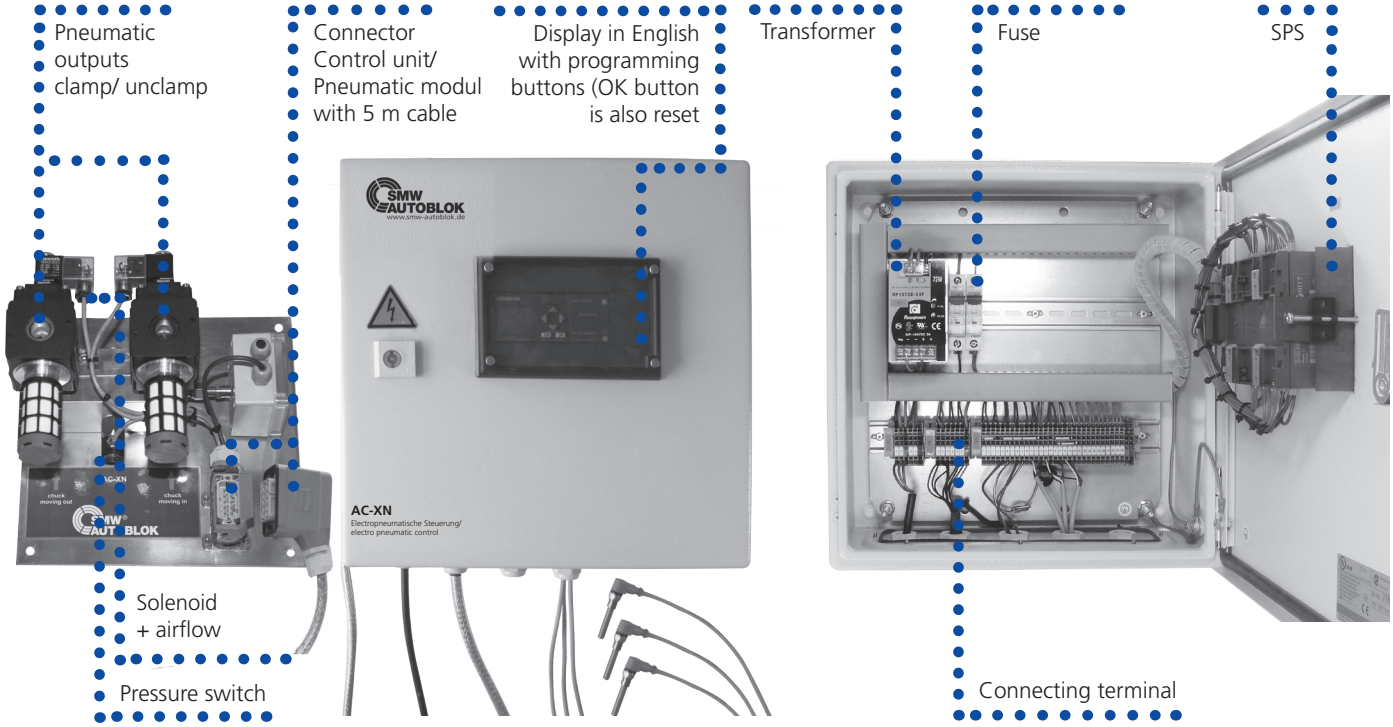
AC-XN

Control unit
for pneumatic chucks

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

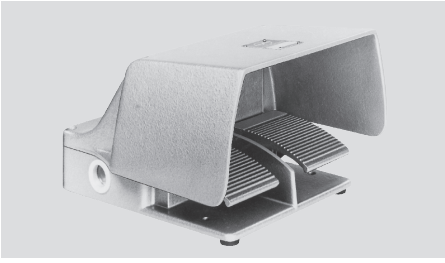
Universal, electronic micro-processor compact control unit for Big Bore chucks in 1/2”/ 3/4” design

- 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

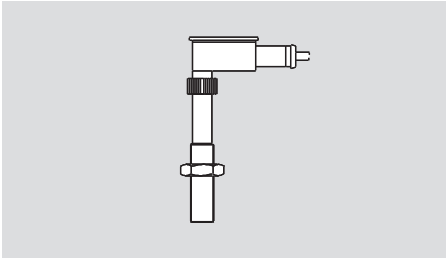


Accessories:

Foot pedal F2
with 4 m cabel
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

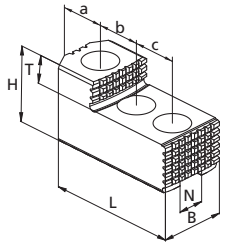
3 pcs. Proximity switch M8x1
(Id. No. 203500) included

BIG BORE® BB-N

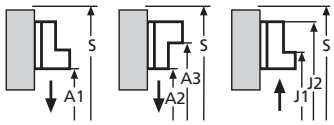
INCH
serration

■ **Top jaws**
■ **T-nuts**

GUB
Hard reversible top jaws

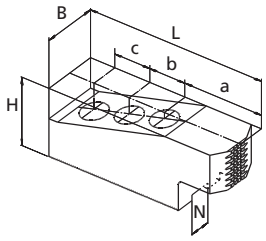


Gripping ranges

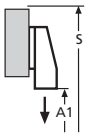


Chuck BB-N	400-140	470-191	500-205	500-230 600-275	630-310	800-410
Jaw type	GUB 500	GUB 500	GUB 500	GUB 500	GUB 630	GUB 800
Id. No../set	12084546	12084546	12084546	12084546	12086446	12088046
B	60	60	60	60	75	75
H	75	75	75	75	85	85
L	140	140	140	140	160	220
T	2x19	2x19	2x19	2x19	30	30
N	25.5	25.5	25.5	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
A_1	65-238	100-273	150-358	175-378	275-485	320-590
A_2	110-284	145-320	200-405	225-425	275-485	330-600
A_3	294-470	330-505	385-590	410-610	475-685	590-865
J_1	175-350	210-385	265-470	285-490	395-610	500-770
J_2	355-530	390-565	445-650	465-670	595-810	760-1030
S	585	620	705	725	820	1050

GAB
Hard top jaws

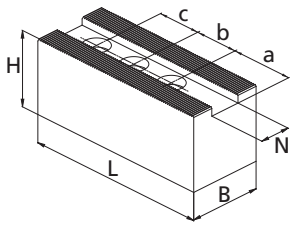


Gripping ranges

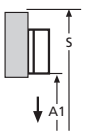


Chuck BB-N	400-140	470-191	500-205	500-230 600-275	630-310	800-410
Jaw type	GAB 500	GAB 500	GAB 500	GAB 500	GAB 630	GAB 800
Id. No./set	12085146	12085146	12085146	12085146	12086546	12089046
B	55	55	55	55	75	75
H	73	73	73	73	82	82
L	195	195	195	195	245	320
N	25.5	25.5	25.5	25.5	30	30
Serration	3/32" x 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
A_1	25-140	60-175	50-260	70-280	105-320	95-365
S	585	620	705	725	820	1010

WBSA-D / WBC-D
Soft top jaws



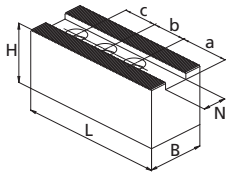
Gripping ranges



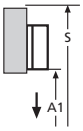
Chuck BB-N	400-140	470-191	500-205	500-230 600-275	630-310	800-410
Jaw type	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBC-D 630	WBC-D 800
Id. No./pc.	12075050	12075050	12075050	12075050	12076440	12078040
B	60	60	60	60	80	80
H	60	60	60	60	80	80
L	170	170	170	170	240	320
N	25.5	25.5	25.5	25.5	30	30
Serration	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/piece	3.6	3.6	3.6	3.6	11	15
A_1	25-195	60-230	105-315	125-325	110-325	95-365
S	545	580	660	680	815	1010

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

WBCL
Soft top jaws long version

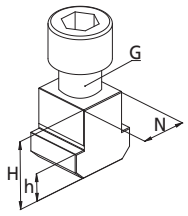


Gripping ranges



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 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 / piece	4.5	4.5	4.5	4.5	15	18
A_1	-	0-155	35-245	55-265	25-195	25-235
S	-	575	660	680	845	1020

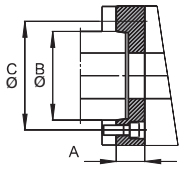
NST
T-nuts



Chuck BB-N	400-140	470-191	500-205	500-230 600-275	630-310	800-410
T-nut type	NST	NST	NST	NST	NST	NST
Id. No./pc.	12065020	12065020	12065020	12065020	13063900	13063900
N	25.5	25.5	25.5	25.5	30	30
H	34	34	34	34	44	44
h	15	15	15	15	18	18
G	M20	M20	M20	M20	M24	M24
Bolt ISO 4762 12.9	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	
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 spindle adapters are available on request

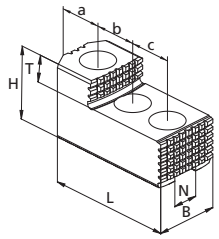
For additional jaws and accessories please ask for our 150 pages special catalogue!

BIG BORE®
BB-N-ES

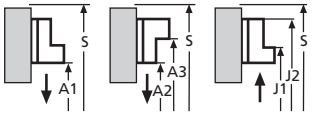
INCH serration

■ Top jaws
■ T-nuts

GUB
Hard reversible top jaws

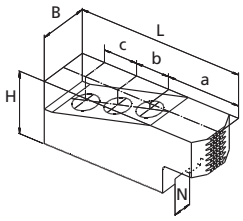


Gripping ranges



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.	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
A_1	78-264	113-270	175-388	200-388	295-500	320-610	470-760
A_2	125-310	160-315	225-435	250-435	295-500	330-620	480-770
A_3	310-495	345-500	410-620	435-620	495-700	590-865	745-1030
J_1	-	-	-	-	-	-	-
J_2	-	-	-	-	-	-	-
S	635	640	765	765	870	1070	1250

GAB
Hard top jaws



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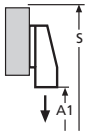
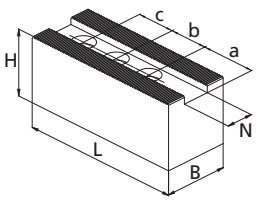


Chuck BB-N-ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
Jaw type	GAB 500	GAB 500	GAB 500	GAB 500	GAB 630	GAB 800	GAB 800
Id. No.	12085146	12085146	12085146	12085146	12086546	12089046	12089046
B	55	55	55	55	75	75	75
H	73	73	73	73	82	82	82
L	195	195	195	195	245	320	320
N	25.5	25.5	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
A_1	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



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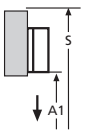


Chuck BB-N-ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
Jaw type	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBSA-D 500	WBC-D 630	WBC 800	WBC-D 800
Id. No.	12075050	12075050	12075050	12075050	12076440	12078040	12078040
B	60	60	60	60	80	80	80
H	60	60	60	60	80	80	80
L	170	170	170	170	240	320	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/piece	3.6	3.6	3.6	3.6	11	15	15
A_1	35-220	70-225	130-335	155-335	135-340	95-385	245-535
S	590	595	720	720	865	1060	1210

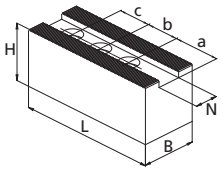
For additional jaws and accessories please ask for our 150 pages special catalogue!

■ Top jaws
■ T-nuts
■ Adapters

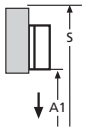
BIG BORE®
BB-N-ES

INCH serration

WBCL
Soft top jaws long version

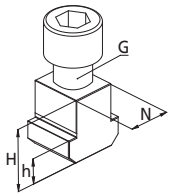


Gripping ranges



Chuck 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	4.5	4.5	4.5	4.5	15	18	18
A_1	-	0-150	60-275	85-275	25-210	25-255	115-405
S	-	595	720	720	895	1070	1220

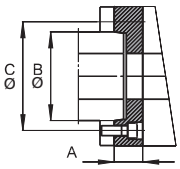
NST
T-nuts



Chuck BB-N-ES	400-140	470-191	500-205	500-230 600-275	630-325	850-375	1000-560
T-nut type	NST	NST	NST	NST	NST	NST	NST
Id. No.	12065020	12065020	12065020	12065020	13063900	13063900	13063900
N	25.5	25.5	25.5	25.5	30	30	30
H	34	34	34	34	44	44	44
h	15	15	15	15	18	18	18
G	M 20	M 20	M 20	M 20	M 24	M24	M 24
Bolt ISO 4762 12.9	M20 x 40	M20 x 40	M20 x 40	M20 x 40	M24 x 60	M24 x 60	M24 x 60

Spindle-Adapters for BIG BORE chucks

ISO-A DIN 55026
Spindle-Adapters



BB-N-ES		400-140/470-191			500-205/500-230			600-275			630-325			850-375		1000-560	
Spindle nose		A8	A11	A15	A11	A15	A20	A11	A15	A20	A11	A15	A20	A15	A20	A15	A20
Id. No.		24184020	24114020	24124020	24115030	24125020	24175020	24116020	24126020	24176020	24116320	24126320	24176320	24128020	24178020	on request	
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 spindle adapters are available on request

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

Pneumatic Diagrams

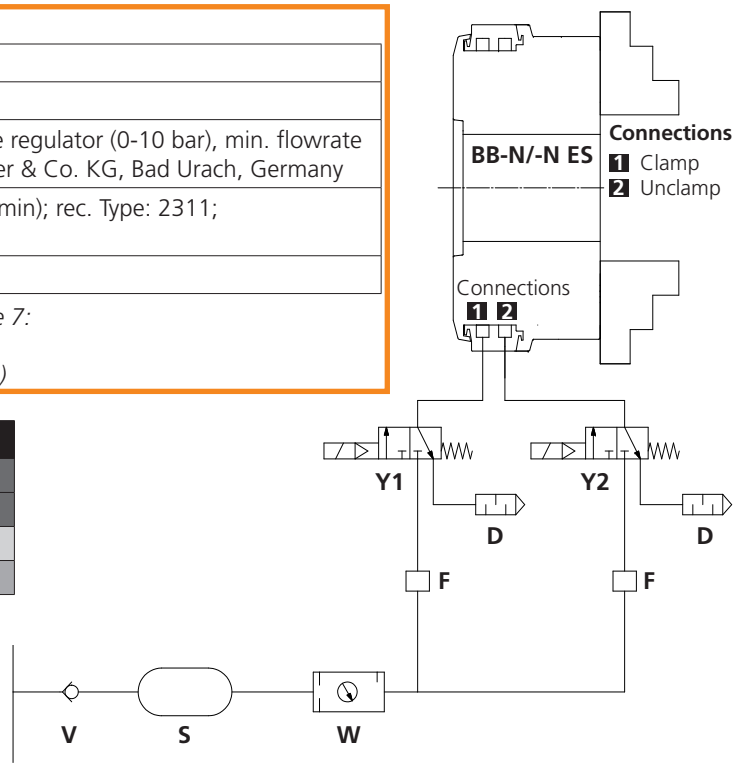
Sumary of pneumatic cycles and parts

- 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)*



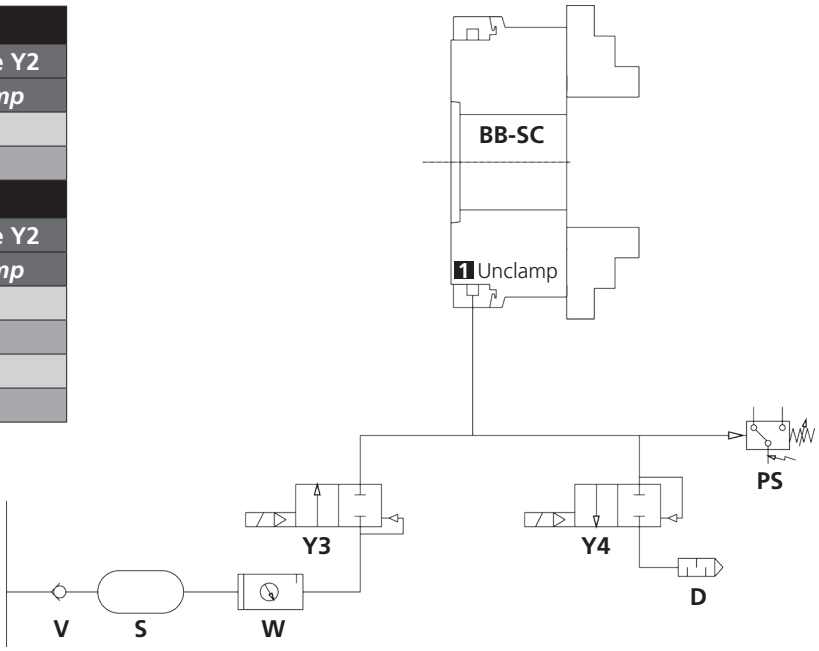
Cycle clamp BB-N/ BB-N ES		
action	**Valve Y1**	**Valve Y2**
clamp / unclamp	***clamp***	***unclamp***
1. chuck open		O
2. chuck clamp	O	

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	**Valve Y1**	**Valve Y2**
clamp / unclamp	***unclamp***	***clamp***
1. chuck open	X	
2. chuck clamp		O
Cycle step mode/ inching BB-SC		
action	**Valve Y1**	**Valve Y2**
clamp / unclamp	***unclamp***	***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

Sumary of pneumatic cycles and parts

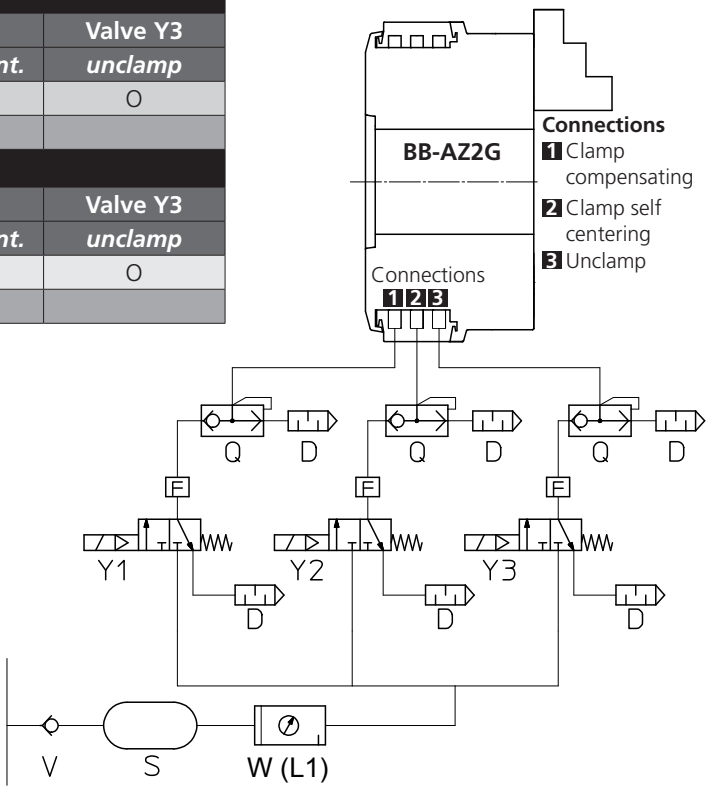
- Cycle clamp BB-AZ2G
- Cycle clamp BB-FZA2G

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

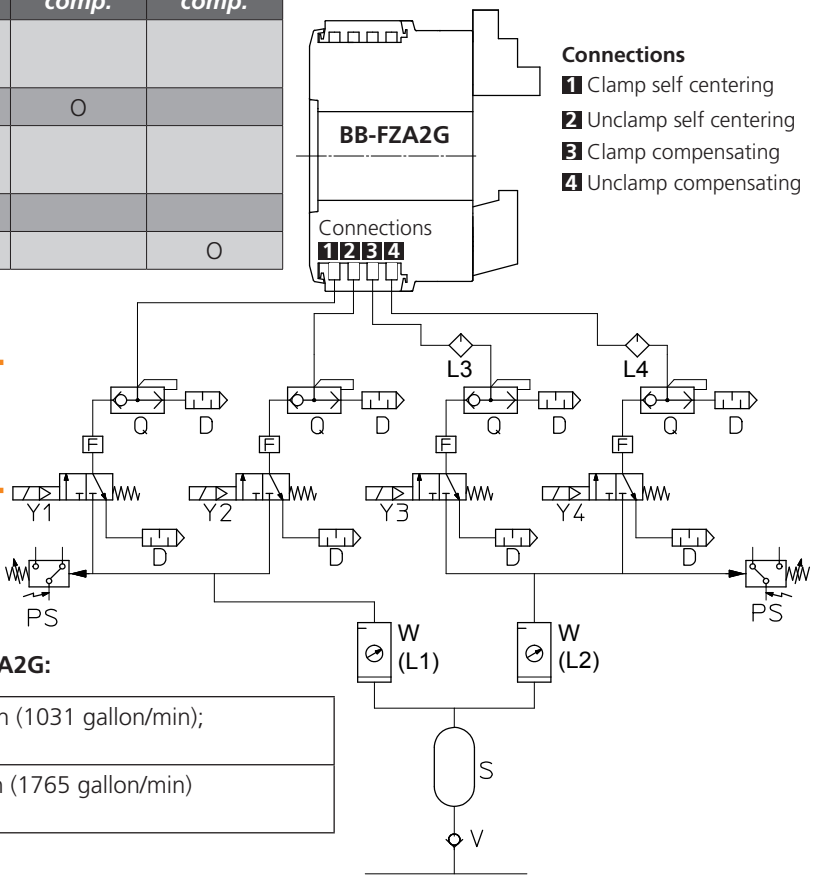
NOTE:
All valves, hoses and fittings must be at least 3/4"



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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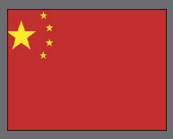

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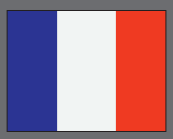

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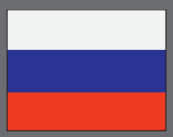

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