

CUSTOMER BENEFITS

SMW-AUTOBLOK is the inventor



SMW-AUTOBLOK - the inventor and pacemaker in technology for OCTG chucks. More than 40 years of experience ensure 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 industry



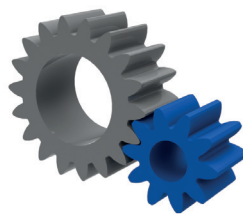
Working closely with our customers, we are able to provide new and innovative solutions as challenges arise.

Widest range of OCTG products



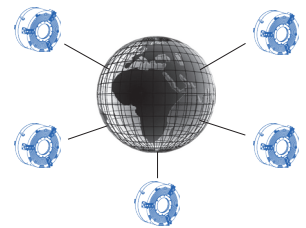
SMW-AUTOBLOK offers a complete range of OCTG chucks as standard products. The need for expensive "special product" chucks with long lead times is eliminated.

Fast time and high accuracy



Improving production processes with rapid chuck actuation, SMW-AUTOBLOK's OCTG chucks increase productivity and decrease machine downtimes.

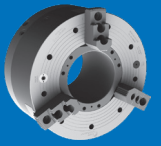


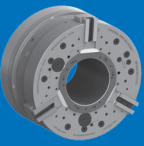

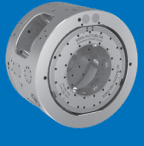
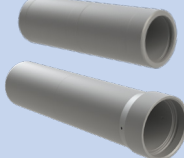




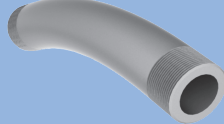




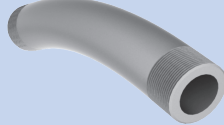

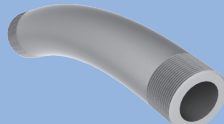

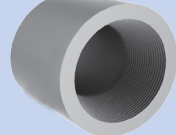

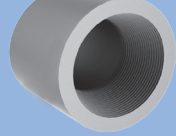




Applications worldwide



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

Chuck finder for Oil Country Tubular Goods: Introduction

- Straight pipes
- Bent pipes
- Couplings

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



Ideal



Possible

Big Bore



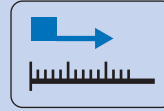
Big Bore is synonymous for **self contained air chucks with large through holes**. Big Bore chucks allow for the full spindle bore of the machine to be utilized.

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



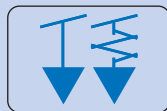
Spring clamp technology ensures the quickest clamping cycles and the highest degree of safety under any conditions.

Low maintenance



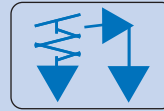
Proofline chucks are **fully sealed** and **low maintenance** allowing for long service intervals, minimizing machine downtime.

AZ-2G

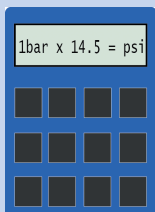


AZ-2G chucks offer the versatility of clamping either **compensating** or **self centering**.

FZA-2G



FZA-2G chucks **sequence 3 centering jaws** along with **3 compensating jaws** integrated within the same chuck body.



Conversion table (US)

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

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
	mm	mm	mm	max.	max.	kN	mm	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-RAZ2G ▪ 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 information please contact SMW-AUTOBLOK.



BIG BORE® BB-SC

INCH SERRATION

Front-end spring clamp power chuck 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 pipes / 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 possible
- 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
- Permanently grease lubricated for constant grip force
- 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

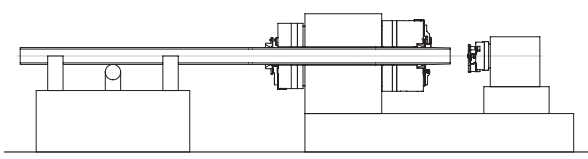
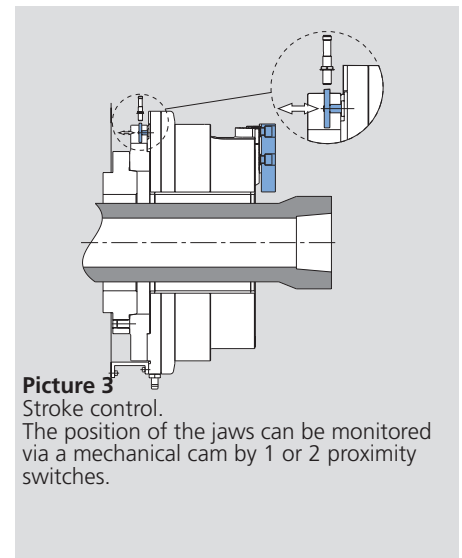
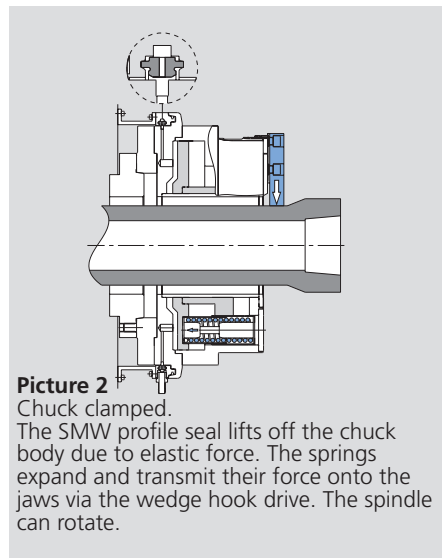
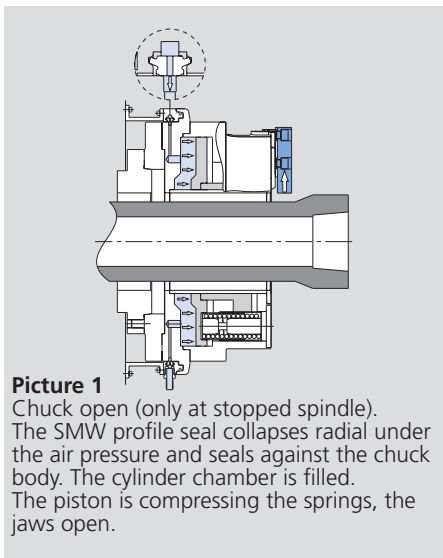
Ordering example

Big Bore SC 850-395
Id. No. 053350

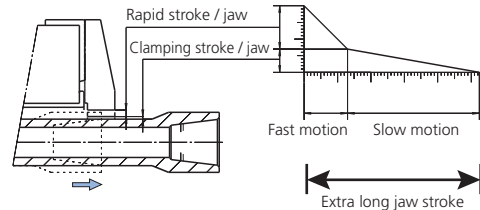
Accessories

Air control AC-SC

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



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		
Through-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-m ²	34			101			223		

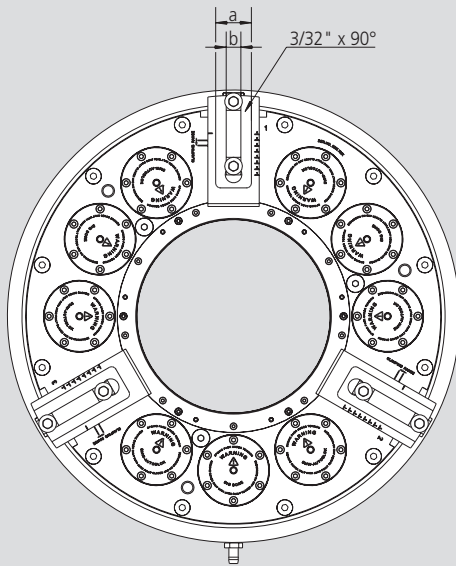
* May not be used for clamping.



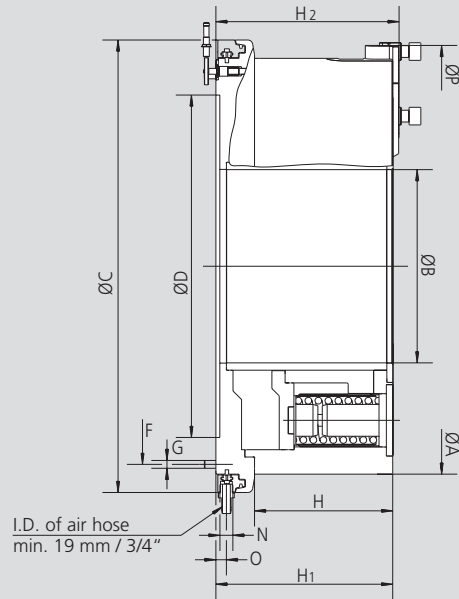
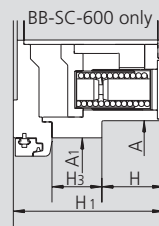
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■ Main dimensions and technical data



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



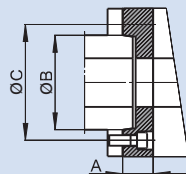
I.D. of air hose
min. 19 mm / 3/4"

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

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

Pneumatic diagrams

Summary of pneumatic cycles and parts

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

Common parts for all Big Bore air circuits:

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

Used connection parts for time measuring according to page 7:

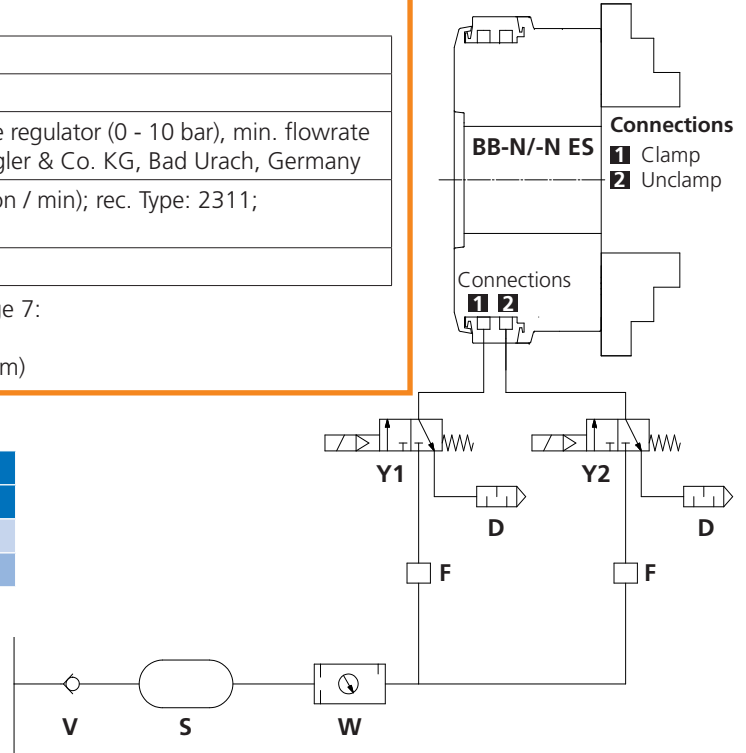
- Length of hoses from air control to chuck: 3000 mm
- Inside dia. of hoses from air control to chuck 3/4" (19 mm)

Cycle clamp BB-N / BB-N ES

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

○ = Valve actuated for jaw movement

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



Cycle standard clamp BB-SC

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

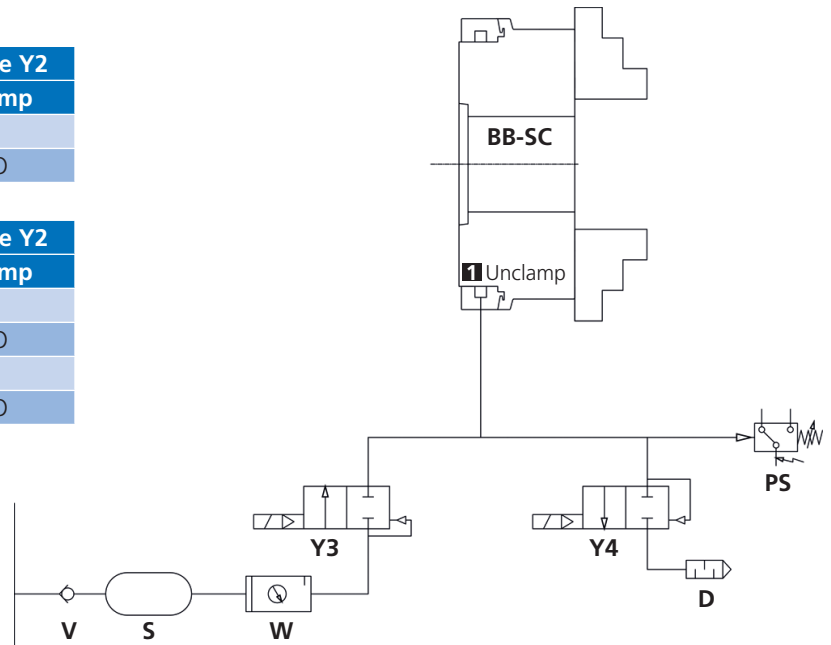
Cycle step mode / inching BB-SC

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

X = Valve permanently actuated

○ = Valve actuated for jaw movement

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



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

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