

Clamping of pipes with

BIG BORE 2G chucks

BB-EXL2G

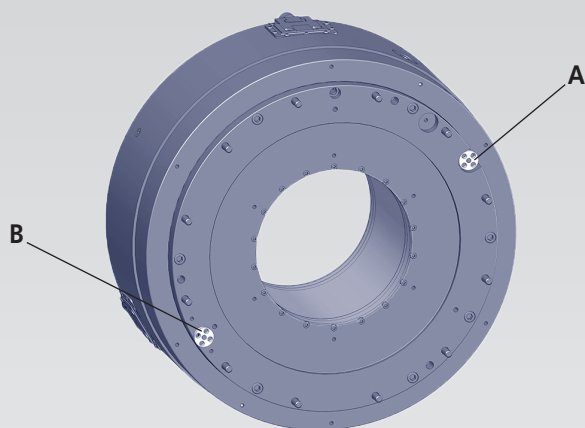
BB-AZ2G

BB-FZA2G

BB-EXL-SC2G

BIG BORE BB-N-EXL2G

- Self centering
- Extra long jaw stroke
- Jaw jogging

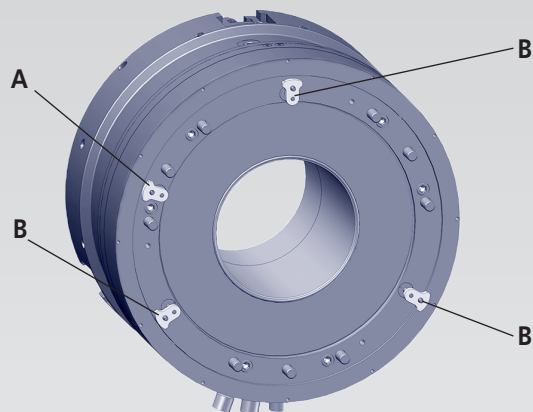


Safety features:

- A:** Pressure control
B: Stroke control

BIG BORE BB-AZ2G

- Self centering or compensating
- Extra long jaw stroke

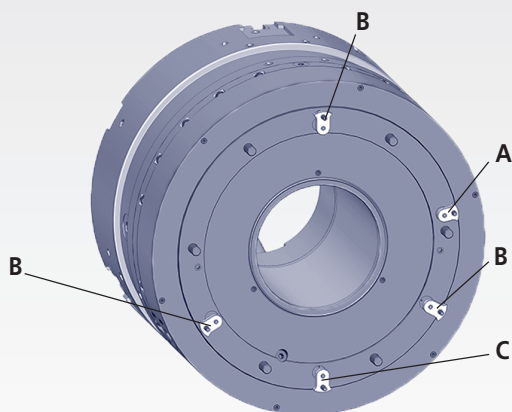


Safety features:

- A:** Pressure control
B: Individual stroke control for each jaw

BIG BORE BB-FZA2G

- 6 jaw sequence chuck
(3 centering jaws - 3 compensating jaws)
- Extra long jaw stroke (radial and axial)

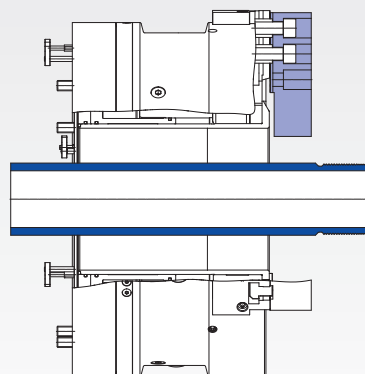


Safety features:

- A:** Pressure control for compensating jaws
B: Individual stroke control for each compensating jaw
C: Stroke control for retracted centering jaws

All 2G chucks

- Extra long jaw stroke
→ Extra large clearance between pipe and jaws



Extra long jaw stroke for:

- Safe loading of pipe, no hitting of the jaws
- Safe unloading of the threaded pipe with **no** damage of the finished thread

Clamping glossary

Extra long jaw stroke: The extra long jaw stroke allows a long radial movement of the master jaws of the Big Bore 2G chuck. It can be either a fully usable clamping jaw stroke or a combination of rapid stroke and clamping stroke.

An **extra long jaw stroke** allows safe loading and unloading of the pipe.

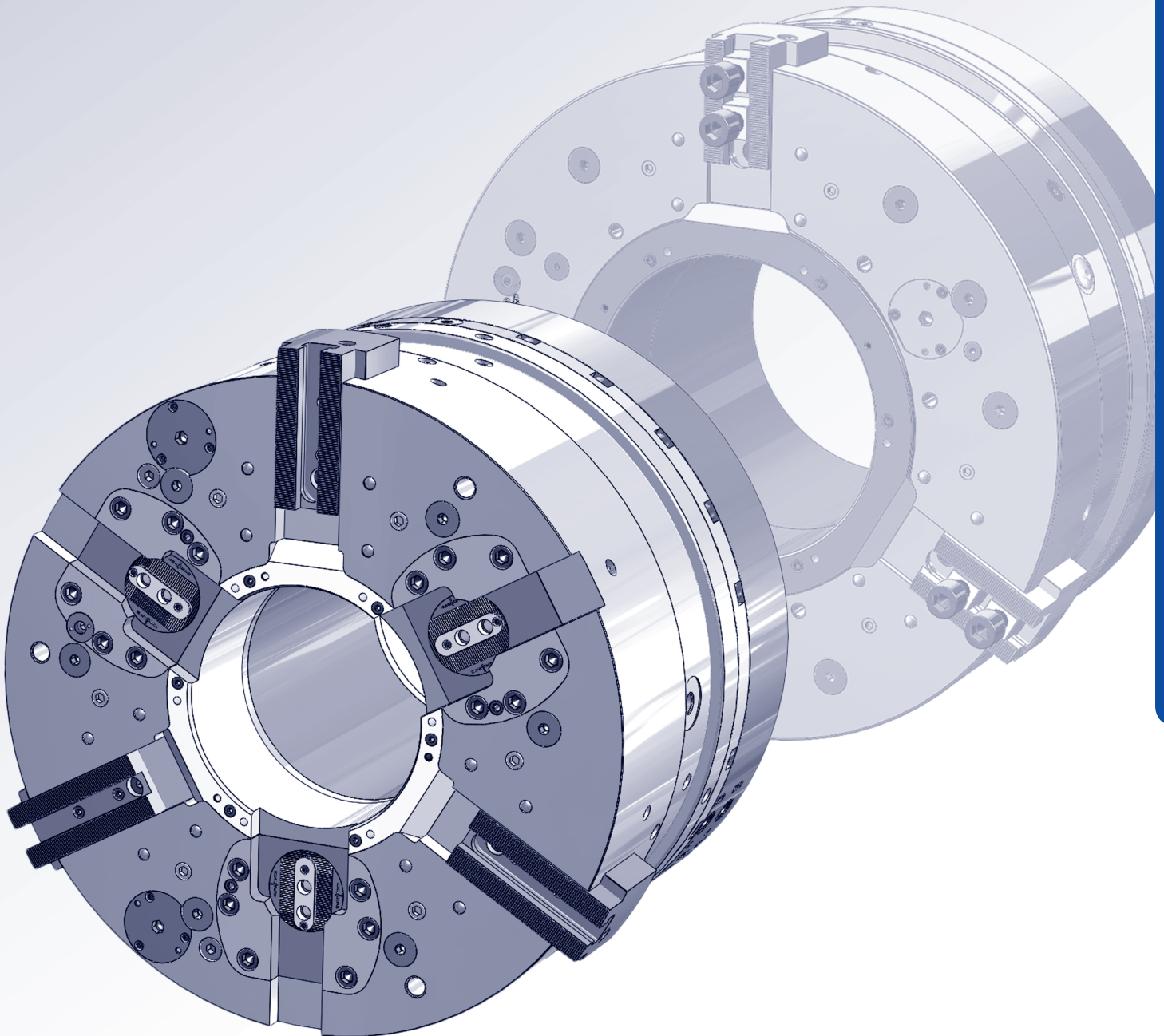
Individual stroke control for each jaw: In compensating clamping mode, all 3 jaws of the Big Bore 2G chucks make a different radial movement to compensate for the misalignment of the pipe to be clamped. A single central jaw stroke control cannot detect if the jaw stroke on one of the master jaws bottoms out and yet cannot hold the pipe in the requested position anymore.

The **individual stroke control for each jaw** ensures that all 3 jaws are within the correct clamping stroke and will clamp the pipe safe and accurate. The signals are picked up by proximity switches, and are monitored by the air control unit.

Stroke control for the retracted jaws: On the 6 jaw sequence chuck Big Bore FZA2G, the centering jaws are used only in static mode to align the pipes machining area to the center line of the machine. The pipe position is maintained when the compensating jaws clamp. The centering jaws are then retracted to allow threading at the centered area. In order to make sure that the centering jaws are retracted and do not interfere with the threading tool during machining, the retracted position of the centering jaws is monitored by a **stroke control** system via a proximity switch.

Pressure control: During the machining of a pipe, the air pressure to create the gripping force is maintained by a built in safety valve system.

In case there is a drop in clamping pressure, a built in **pressure control** will detect the low pressure and pick up an alarm signal via proximity switch. All Big Bore 2G chucks have such a pressure control as a standard feature.

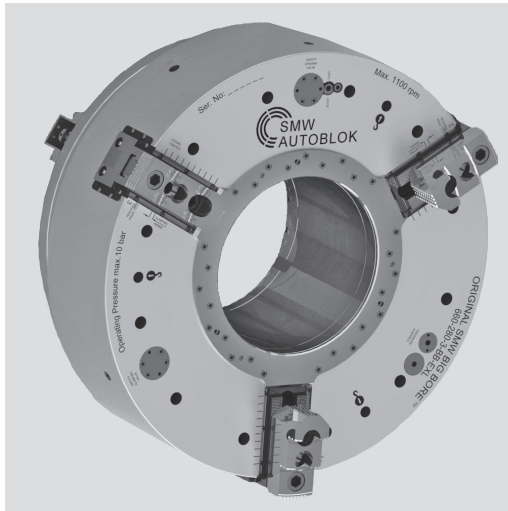


BIG BORE® BB-EXL2G

INCH SERRATION

Front-end pneumatic power chucks EXTRA large through-hole Ø 191 - 390 mm

- Chuck size 510 - 900
- 3 jaws
- Extended extra long jaw stroke



Application/customer benefits

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

Technical features

- Suitable for jaw jog mode
- Air chuck for external clamping with built-in pneumatic cylinder
- Air feed via distributor ring and SMW-profile seals, at stopped spindle
- Built in non-return valves maintain the air pressure during machining
- Clamping pressure level constantly checked by a safety control system (only for external clamping)
- Clamping stroke control (no clamping in rapid stroke) is monitored
- Extra long jaw stroke (1 1/2" total)

Standard equipment

- 3 jaw chuck
- 2 elbow unions G 1/2"
- 12 mounting bolts
- 3 lifting eye bolt, 1 set T-nuts with bolts
- 1 set soft top jaws
- Without distributor ring bracket

Ordering example

Big Bore BB-EXL2G 660 / Z450

Accessories

Control unit AC-BB / AC-XN
(see general catalog pages 350-353)

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

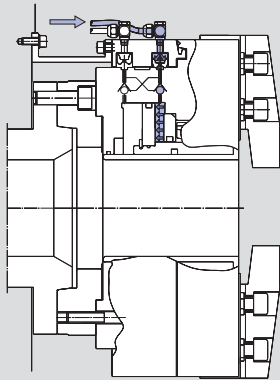


Fig. 1

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 non-return valve.

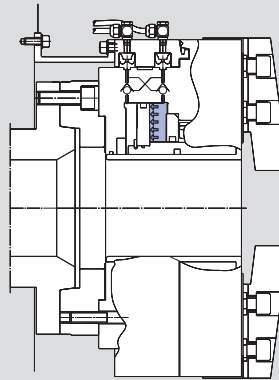


Fig. 2

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.

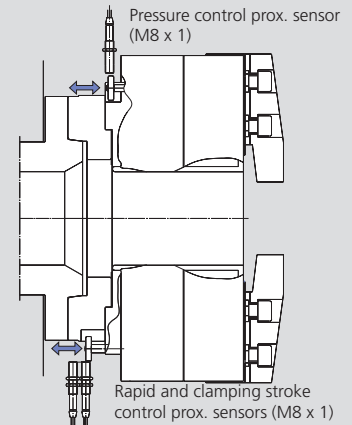
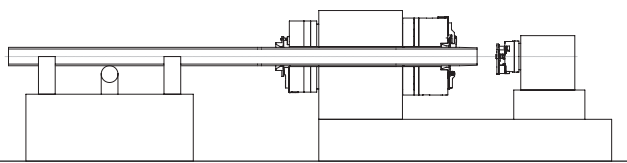
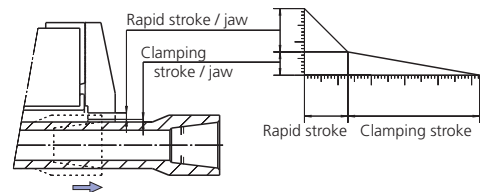


Fig. 3

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.



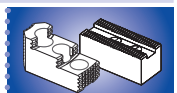
End machining of pipe with front and rear chucks



Technical data

SMW-AUTOBLOK Type		BB-EXL2G 510-191	BB-EXL2G 660-280	BB-EXL2G 900-390
Id. No.		77784553	77784566	77784588
Through hole	mm (inch)	191 (7.52")	280 (11.02")	390 (15.35")
Total stroke per jaw	mm (inch)	38.5 (1.52")	38.5 (1.52")	38.5 (1.52")
Rapid stroke per jaw*	mm (inch)	30 (1.18")	30 (1.18")	30 (1.18")
Clamping stroke per jaw	mm (inch)	8.5 (0.33")	8.5 (0.33")	8.5 (0.33")
Operating pressure min. / max.	bar (psi)	2 / 10 (29 / 145)	2 / 10 (29 / 145)	2 / 10 (29 / 145)
Piston area	cm ²	760	1300	1800
Gripping force at 6 bar (87 psi)	kN (lbf)	115 (25853)	195 (43838)	270 (60698)
Max. speed	r.p.m.	1300	1100	750
Air consumption/jaw stroke at 6 bar (87 psi)	liter	37	58	78
Weight (without top jaws)	kg (lbs)	260 (573)	470 (1036)	950 (2094)
Moment of inertia	kg·m ²	10	30.4	112

* May not be used for clamping.



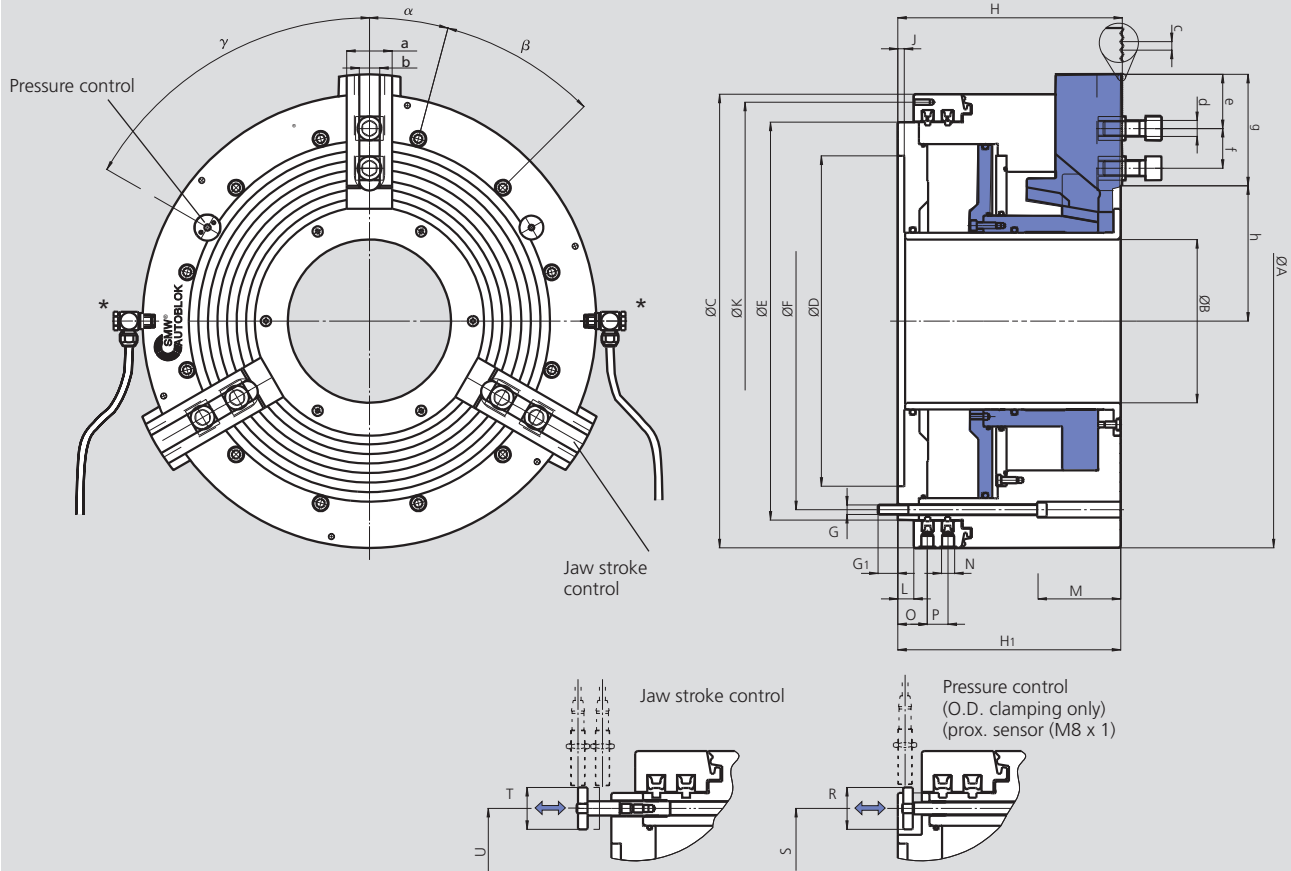
SMW-AUTOBLOK
340

BIG BORE® BB-EXL2G

INCH SERRATION

Main dimensions and technical data

Jaw position: Open for external clamping



enlarged illustration

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

SMW-AUTOBLOK Type			BB-EXL2G 510-191	BB-EXL2G 660-280	BB-EXL2G 900-390
Mounting			Z310	Z450	Z700
Fixing bolts circle	A	mm	520	673	900
	B	mm	191	280	390
	C	mm	520	665	852
	D H6	mm	310	450	700
	E	mm	446	585	775
	F	mm	414	558	745
	G	mm	M12	M12	M16
	G1	mm	25	25	29
	H	mm	277	292	323
	H1	mm	270	285	314
Thread circle 6 x M8	J	mm	8	8	8
	K	mm	500	640	830
	L	mm	25	25	33
	M	mm	115	110	143
Pneumatic connection	N	inch	G 1/2"	G 1/2"	G 1/2"
	O	mm	46,5	46	54,5
	P	mm	36	36	33
	R	mm	35	35	35
	S	mm	414	554	745
	T	mm	35	35	35
	U	mm	414	554	745
	a	mm	57	62	75
	b	mm	25,5	25,5	30
	c	inch	3/32" x 90°	3/32" x 90°	3/32" x 90°
Bolt ISO 4762 12.9	d	mm	M20	M20	M24
Min.	e	mm	15	15	18
T-nuts distance min. / max.	f	mm	30 / 84	30 / 107	36 / 150
Serration length	g	mm	110	142	194
Min. / max.	h	mm	151,5 / 190	199,5 / 238	262 / 300,5
	alpha	deg.	20	15	15
	beta	deg.	9 x 40	12 x 30	12 x 30
(Pressure control)	gamma	deg.	83	60	60

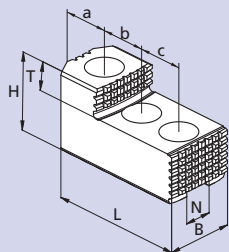
BIG BORE® BB-EXL2G

INCH SERRATION

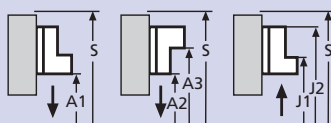
■ Top jaws
■ T-nuts

MHB-D

Hard reversible top jaws



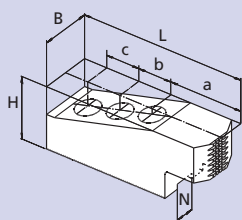
Gripping ranges



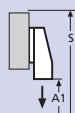
Chuck BB-EXL2G	510-191	660-280	900-390
Jaw type	MHB-D 500	MHB-D 500	MHB-D 800
Id. No.	12084546	12084546	12088046
B	60	60	75
H	75	75	85
L	140	140	220
T	2 x 19	2 x 19	30
N	25.5	25.5	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	46	46	51
b	38	38	62
c	38	38	62
kg / set	6.6	6.6	19.5
A1			
A2			
A3			
J1			
J2			
S			

GAB

Hard top jaws



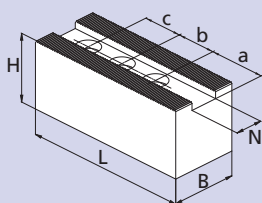
Gripping ranges



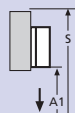
Chuck BB-EXL2G	510-191	660-280	900-390
Jaw type	GAB 500*	GAB 660	GAB 800
Id. No.	12085146	12086646	12089046
B	55	55	75
H	73	73	82
L	195	255	320
N	25.5	25.5	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	96	156	165
b	38	38	60
c	38	38	60
kg / set	16.5	26.7	40.5
A1			
S			

WBSA-D / WBC-D

Soft top jaws



Gripping ranges



Chuck BB-EXL2G	510-191	660-280	900-390
Jaw type	WBSA-D 500	WBSA-D 500	WBC 800
Id. No.	12075050	12075050	12078040
B	60	60	80
H	60	60	80
L	170	170	320
N	25.5	25.5	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	69	69	165
b	38	38	60
c	38	38	60
kg / piece	3.6	3.6	15
A1			
S			

* For small clamping dia. please use GAB-660.



JAWS-CATALOG

Request or
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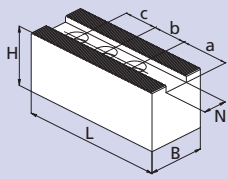
JAWS 17E

BIG BORE® BB-EXL2G

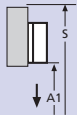
INCH SERRATION

- Top jaws
- T-nuts
- Adapters

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

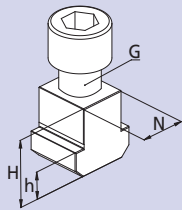


Gripping ranges



Chuck BB-EXL2G	510-191	660-280	900-390
Jaw type	WBC-D 502	WBC-D 502	WBCL-D 800
Id. No.	12075140	12075140	12079040
B	60	60	80
H	60	60	80
L	205	205	390
N	25.5	25.5	30
Serration	3/32" x 90°	3/32" x 90°	3/32" x 90°
a	104	104	230
b	38	38	60
c	38	38	60
kg	4.5	4.5	18
A1			
S			

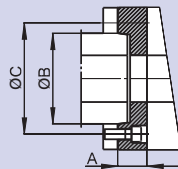
NST T-nuts



Chuck BB-EXL2G	510-191	660-280	900-390
T-nut Typ	NST	NST	NST
Id. No.	12065020	12065020	13063900
N	25.5	25.5	30
H	34	34	44
h	15	15	18
G	M 20	M 20	M24
Bolt ISO 4762 12.9	M20 x 40	M20 x 40	M24 x 60

Spindle-Adapters for BIG BORE BB-EXL2G chucks

ISO-A DIN 55026 Spindle-Adapters



BB-EXL2G	510-191			660-280			900-390	
Spindle nose	A11	A15	A20	A11	A15	A20	A15	A20
Id. No.	24115120	24125120	24175120	24116620	24126620	24176620	24128020	24178020

Bayonet and camlock spindle adapters are available on request.

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