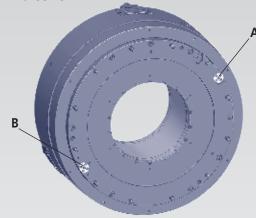
# Clamping of pipe with BIG BORE 2G chucks BB-N-EXL2G BB-AZ2G BB-FZA2G BB-FZA2G BB-EXL-SC2G

## **BIG BORE BB-N-EXL2G**

- Self centering
- Extra long jaw stroke
- Jaw jogging

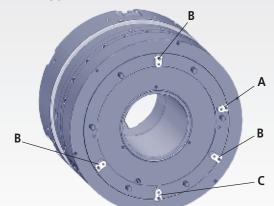


#### Safety features:

A: Pressure control B: Stroke control

## **BIG BORE BB-FZA2G**

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

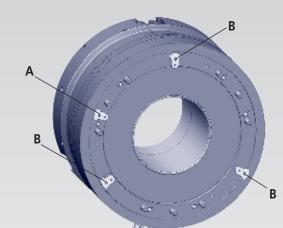


#### Safety features:

A: Pressure control for compensating jawsB: Individual stroke control for each jawC: Stroke control for retracted centering jaws

### **BIG BORE BB-AZ2G**

- Self centering or compensating
- Extra long jaw stroke

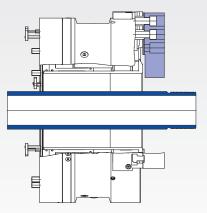


### Safety features:

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

# 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 is 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 a safe loading and unloading of the pipe.

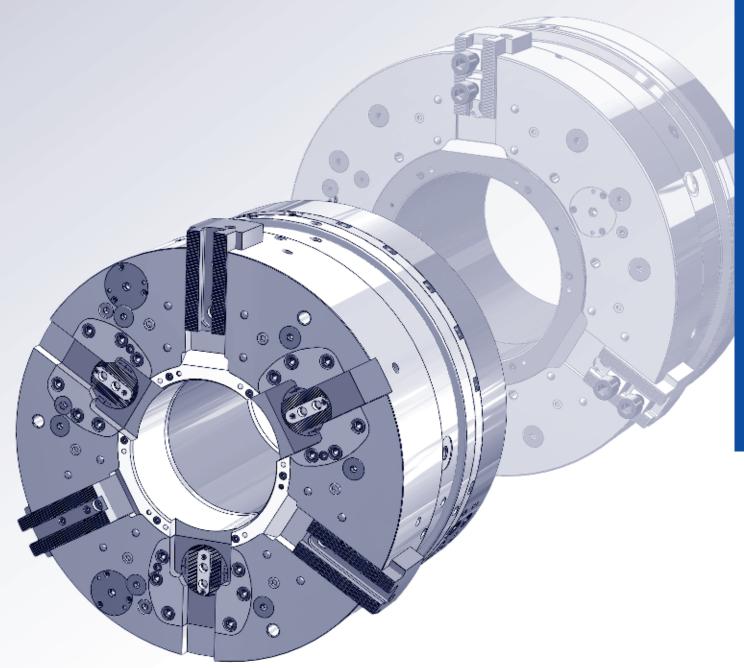
**Individual stroke control for each jaw:** In compensating clamping mode, all 3 jaws of the Big Bore 2G chucks make a different radial movement to compensate for the misalignment of the pipe to be clamped. A single central jaw stroke control cannot detect if the jaw stroke on one of the master jaws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

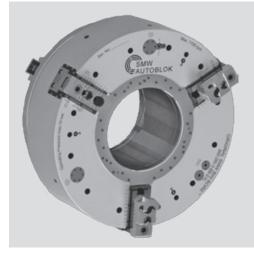
**Stroke control for the retracted jaws:** On the 6 jaw sequence chuck Big Bore FZA2G, the centering jaws are used only in static mode to align the pipes machining area to the center line of the machine. The pipe position is maintained when the compensating jaws clamp. The centering jaws are then retracted to allow the 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 are 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 a proximity switch. All Big Bore 2G chucks have such a pressure control as a standard feature.



# BIG BORE® BB-N-EXL2G



#### Front-end pneumatic power chucks EXTRA LARGE THROUGH HOLE Ø 191 - 390 mm Chuck size 510 - 900 3 jaws

# Application/customer benefits

extended extra long jaw stroke

- End machining of long pipe 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 machiningClamping 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**

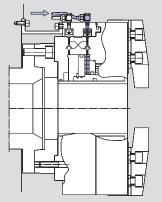
#### 3 iaw chuck

- 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
- Accessories Control unit AC-BB/AC-XN (see page 274-276)

Ordering example

Big Bore BB-N-EXL2G 660/Z450

# 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.

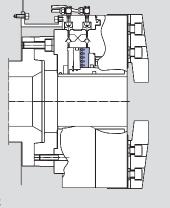
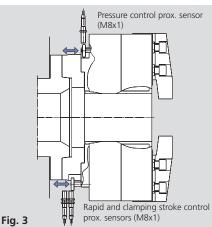


Fig. 2 The SMV

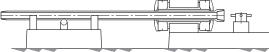
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore. The clamping pressure is maintained by the twin non-return valve.

The chuck can start to rotate



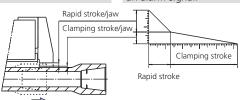
#### Safety pressure control: If the pressure is less than a pre-set safety level, the switch ring moves into the proximity-switch field, sending

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-EXL2G Type 510-191 660-280 900-390 Id. No. 77784553 77784566 77784588 Through-hole mm 191 280 390 Total stroke per jaw mm 38.5 38.5 38.5 Rapid stroke per jaw\* mm 30 30 30 8.5 8.5 8.5 Clamping stroke per jaw mm Operating pressure min./max. 2/10 2/10 2/10 bar 1300 1800 **Piston** area cm<sup>2</sup> 760 Gripping force at 6 bar kΝ 115 195 270 1300 1100 Max. speed r.p.m. 750 Air consumption/jaw stroke at 6 bar liter 37 58 78 260 470 950 Weight (without top jaws) kg Moment of inertia ka·m<sup>2</sup> 10 30.4 112 \*must not be used for clamping



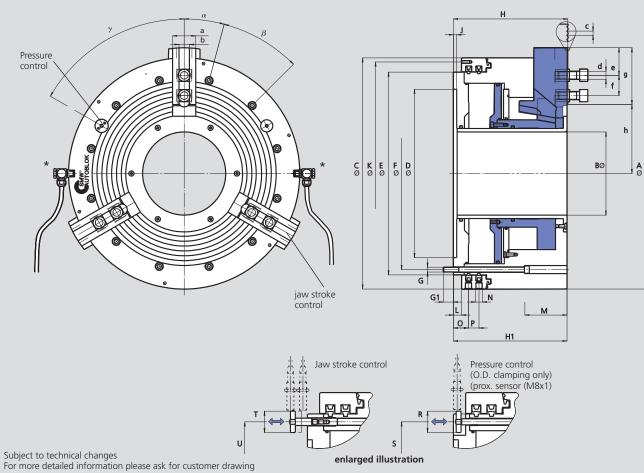
262 SMW-AUTOBLOK

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# Main dimensions and technical data

#### **G BORE**<sup>®</sup> B **B-N-EXL2G** В **INCH** serration

#### Jaw position: Open for external clamping



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       J     mm     8     8     8       Thread circle 6 x M8     K     mm     500     640     830       J     mm     8     8     8     8       Pneumatic connection     N     inch     6 1/2"     G 1/2"     G 1/2"       P     mm     35     35     35     35       R     mm     35     35     35       M     mm     115     110     143	SMW-AUTOBLOK E	B-N-EXL2G Type		510-191	660-280	900-390
B     mm     191     280     390       C     mm     520     665     852       D H6     mm     310     450     700       E     mm     446     585     775       Fixing bolts circle     F     mm     414     558     745       G     mm     M12     M12     M16     M16       G     mm     A14     558     745       G     mm     M12     M12     M16       G1     mm     277     292     323       H     rm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     K     mm     500     640     830       M     mm     500     640     830     8       P     mm     6112     G     1/2*       M     mm     150     G     1/2*       P     mm     36     36     33     <	Mounting		Z310	Z450	Z700	
C     mm     520     665     852       D H6     mm     310     450     700       E     mm     446     585     775       Fixing bolts circle     F     mm     414     558     745       G     mm     M12     M12     M16     16       G1     mm     25     25     29     323       H1     mm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     K     mm     500     640     830       Intead circle 6 x M8     K     mm     25     25     33       Pneumatic connection     N     inth     61/2"     G1/2"     G1/2"       Pneumatic connection     N     inch     G1/2"     G1/2"     G1/2"       Pneumatic connection     N     inch     G1/2"     G1/2"     G1/2"       Pneumatic connection     N     inch     G1/2"     G1/2"     G1/2"     G1/2" </th <th></th> <th>А</th> <th>mm</th> <th>520</th> <th>673</th> <th>900</th>		А	mm	520	673	900
D H6     mm     310     450     770       E     mm     446     585     775       Fixing bolts circle     F     mm     414     558     745       G     mm     414     558     745       G     mm     M12     M12     M16       G1     mm     277     292     323       H     mm     277     292     323       H     mm     270     285     314       D m     8     8     8     8       Thread circle 6 x M8     K     mm     2500     640     830       Iterat circle 6 x M8     K     mm     25     25     33       M     mm     115     110     143       Pheumatic connection     N     inch     G 1/2"     G 1/2"     G 1/2"       P     mm     36     35     35     35     35       P     mm     355     35     35     35		В	mm	191	280	390
E     mm     446     585     775       Fixing bolts circle     F     mm     414     558     745       G     mm     M12     M12     M12     M16       G     mm     25     25     29       H     mm     277     292     323       H     mm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     K     mm     25     25     33       Thread circle 6 x M8     M     9     0     640     830       Pneumatic connection     N     inch     61/2"     G 1/2"     G 1/2"       Pneumatic connection     N     inch     G 1/2"     G 1/2"     G 1/2"       O     mm     36     36     33     35       Pa     M     35     35     35       Pite     mm     35     35     35       Pite     M     35     35     35		С	mm	520	665	852
Fixing bolts circle     F     mm     414     558     745       G     mm     M12     M12     M12     M16       G1     mm     25     25     29       H     mm     277     292     323       H1     mm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     K     mm     250     25     33       M     mm     255     25     33       M     mm     115     110     143       Pneumatic connection     N     inch     G 1/2"     G 1/2"     G 1/2"       O     mm     36     36     33     35       Pneumatic connection     N     inch     G 1/2"     G 1/2"     G 1/2"       O     mm     36     35     35     35       R     mm     35     35     35       M     414     554     745       R		<b>D</b> H6	mm	310	450	700
G     mm     M12     M12     M16       G1     mm     25     25     29       H     mm     277     292     323       H1     mm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     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"       Pneumatic connection     N     inch     G 1/2"     G 1/2"     G 1/2"       P     mm     36     36     33     35       R     mm     35     35     35       S     mm     414     554     745       M     35     35     35     35       G     mm     57     62     75       B     mm     3/32" x 90°     3/32"		E	mm	446	585	775
G1     mm     25     25     29       H     mm     277     292     323       H1     mm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     K     mm     500     640     830       L     mm     25     25     33       M     mm     115     110     143       Pneumatic connection     N     ind     61/2"     61/2"       P     mm     36     36     33       P     mm     35     35     35       P     mm     35     35     35       R     mm     35     35     35       G     mm     414     554     745       A     mm     57     62     75       B     mm     25.5     25.5     30       Serration     c     inch     3/32" x 90°     3/32" x 90°       Bolt IS0 4762 12.9	Fixing bolts circle	F	mm	414	558	745
H     mm     277     292     323       H1     mm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     K     mm     500     640     830       Image: Connection K     mm     25     25     33       M     mm     215     33       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       R     mm     35     35     35       M     mm     554     745       M     mm     57     62     75       M     mm     25.5     25.5     30       Serration     c     ind <id>3732"x 90°     3/32"x 90°     3/32"x 90°       Serration     c     ind     30/26     3/32"x 90°     3/32"x 90°</id>		G	mm		M12	M16
H1     mm     270     285     314       J     mm     8     8     8       Thread circle 6 x M8     K     mm     500     640     830       L     mm     25     25     33       M     mm     115     110     143       Pneumatic connection     N     inch     6 1/2"     6 1/2"     6 1/2"       Pneumatic connection     N     inch     6 1/2"     6 1/2"     6 1/2"       Pneumatic connection     N     inch     6 1/2"     6 1/2"     6 1/2"       Pneumatic connection     N     inch     6 1/2"     6 1/2"     6 1/2"       Pneumatic connection     N     inch     6 1/2"     6 1/2"     6 1/2"       Pneumatic connection     N     M     46.     34.5     33       Pneumatic connection     N     M     35     35     35       Pneumatic connection     M     M     414     554     745       Pneumatic Stince     Mm     52.5		G1	mm	25	25	29
J     mm     8     8     8       Thread circle 6 x M8     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"       O     mm     46.5     46     54.5       P     mm     36     36     33       R     mm     35     35     35       R     mm     35     35     35       M     M414     554     745       M     MM     554     745       M     MM     35     35       M     MM     36     35       M     MM     35     35       M     MM     35     35       M     MM     554     745       M     MM     57     62     75       M     MM20     M24     33/32" x 90° </td <td></td> <td>Н</td> <td>mm</td> <td>277</td> <td>292</td> <td>323</td>		Н	mm	277	292	323
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     355     35     35       S     mm     414     554     745       T     mm     35     35     35       U     mm     414     554     745       T     mm     35     35     35       U     mm     414     554     745       T     mm     57     62     75       b     mm     25.5     30     30       Serration     c     inch     3/32" x 90°     3/32" x 90°       Bolt ISO 4762 12.9     d     mm     M20     M20     M24		H1	mm	270	285	314
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     G 1/2"     G 1/2"     G 1/2"       P     mm     36     36     33       P     mm     36     36     33       R     mm     35     35     35       S     mm     414     554     745       J     mm     35     35     35       J     mm     414     554     745       J     mm     55     30     35       J     mm     25.5     25.5     30       Serration     cc     inch     3/32" x 90°     3/32" x 90°     3/32" x 90°       Serration     cc     inch     3/32" x 90°     3/32" x 90°     3/32" x 90°       Serration     inch     mm     M20     M20     M24       Min <td></td> <td>J</td> <td>mm</td> <td>8</td> <td>8</td> <td>8</td>		J	mm	8	8	8
M     mm     115     110     143       Pneumatic connection     N     inch     G 1/2"     G 1/2"     G 1/2"       O     mm     46.5     G 1/2"     G 1/2"       O     mm     46.5     46     54.5       P     mm     36     36     33       R     mm     355     535     55       S     mm     414     554     745       Imm     35     35     35     35       U     mm     414     554     745       Imm     35     35     35     35       U     mm     414     554     745       Imm     57     62     75     30       Imm     25.5     25.5     30     35       Serration     Inch     3/32" x 90°     3/32" x 90°     3/32" x 90°       Serration e     Inch     MM     15     18     18       ISO 4762 12.9     Imm     M20     M20 <t< td=""><td>Thread circle 6 x M8</td><td>K</td><td>mm</td><td>500</td><td>640</td><td>830</td></t<>	Thread circle 6 x M8	K	mm	500	640	830
Pneumatic connection     N     inch     G G 1/2"     G G 1/2"     G G 1/2"       O     mm     46.5     46     54.5       P     mm     36     36     33       R     mm     355     53.5     54.5       Mm     414     554     745       G     mm     414     554     745       M     414     554     745       M     414     554     745       M     414     554     745       M     57     62     745       M     57.5     30     75       M     25.5     25.5     30       Serration     c     inch     3/32" x 90°     3/32" x 90°       Serration et min. f     mm     15     15		L	mm	25	25	33
O     mm     446.5     446     54.5       P     mm     36     36     33       R     mm     36     36     35       R     mm     355     35     35       M     414     554     745       T     mm     35     35     35       U     mm     414     554     745       U     mm     414     554     745       U     mm     57     62     745       M     25.5     25.5     30     30       Serration     ct     3/32" x 90°     3/32" x 90°     3/32" x 90°       Bolt ISO 4762 12.9     dm     M20     M20     M24       min. e     mm     30/84     30/107     36/150		M	mm	115	110	143
P     mm     36     36     33       R     mm     35     35     35       R     mm     414     554     745       T     mm     35     35     35       U     414     554     745       U     mm     57     62     75       M     332*x 90°     332*x 90°     332*x 90°       Serration     c     inch     332*x 90°     332*x 90°       Bolt ISO 4762 12.9     mm     MM20     M20     M24       T-nuts distance min./max. f     mm     30/84     30/107     36/150	Pneumatic connection	N	inch	G 1/2 "	G 1/2 "	G 1/2 "
R     mm     35     35     35       S     mm     414     554     745       T     mm     35     35     35       U     mm     414     554     745       U     mm     414     554     745       U     mm     414     554     745       U     mm     57     62     745       Serration     rmm     25.5     25.5     30       Serration     rmm     3/32" x 90°     3/32" x 90°     3/32" x 90°       Bolt ISO 4762 12.9     mm     MM20     MM20     M24       min. e     mm     30/84     30/107     36/150		0	mm	46.5	46	54.5
s     mm     414     554     745       T     mm     35     35     35       U     mm     414     554     745       U     mm     414     554     745       a     mm     57     62     745       b     mm     25.5     25.5     30       Serration     c     inch     3/32 " x 90°     3/32 " x 90°     3/32 " x 90°       Bolt ISO 4762 12.9     d     mm     M20     M20     M20     M24       min. e     mm     30/84     30/107     36/150		Р	mm	36	36	33
T     mm     35     35     35       U     mm     414     554     745       a     mm     57     62     75       b     mm     25.5     25.5     30       Serration     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     30/84     30/107     36/150		R	mm	35	35	35
U     Imm     414     554     745       a     Imm     414     554     745       b     Imm     57     62     75       b     Imm     25.5     25.5     30       Serration     c     inch     3/32" x 90°     3/32" x 90°     3/32" x 90°       Bolt ISO 4762 12.9     d     Imm     M20     M20     M24       min. e     Imm     15     15     18       T-nuts distance     min./max. f     Imm     30/84     30/107     36/150		S	mm	414	554	745
a     mm     57     62     75       b     mm     25.5     25.5     30       Serration     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		Т	mm	35	35	35
b     mm     25.5     30       Serration     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		U	mm	414	554	745
Serration     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		а	mm	57	62	75
Bolt ISO 4762 12.9     mm     M20     M20     M24       min. e     mm     15     15     18       T-nuts distance     min./max. f     mm     30/84     30/107     36/150		b	mm	25.5	25.5	30
min. e     mm     15     18       T-nuts distance     min./max. f     mm     30/84     30/107     36/150	Serration	с	inch	3/32 " x 90°	3/32 " x 90°	3/32 " x 90°
T-nuts distance min./max. <b>f</b> mm 30/84 30/107 36/150	Bolt ISO 4762 12.9	d	mm	M20	M20	M24
		min. <b>e</b>	mm	15	15	18
	T-nuts distance	min./max. <b>f</b>	mm	30/84	30/107	36/150
Serration length <b>g</b> mm 110 142 194	Serration length	g	mm	110	142	194
min./max. h mm 151.5/190 199.5/238 262/300.5		min./max. <b>h</b>	mm	151.5/190	199.5/238	262/300.5
α° 20 15 15		α°		20	15	15
β° 9x40 12x30 12x30		β°		9x40	12x30	12x30
(Pressure control) γ° 83 60 60	(Pressure control)	γ°		83	60	60

# BIG BORE® BB-N-EXL2G

### ∎ Top jaws ∎ T-nuts

GUB Hard reversible top jaws	Chu BB-N
	Jaw t
a	Id. No
Ť b	В
H <sup>1</sup>	Н
	L
	Т
	Ν
	Serra
·	а
	b

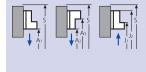
Chuck BB-N-EXL2G	510-191	660-280	900-390
Jaw type	GUB 500	GUB 500	GUB 800
ld. No.	12084546	12084546	12088046
В	60	60	75
Н	75	75	85
L	140	140	220
Т	2 x 19	2 x 19	30
Ν	25.5	25.5	30
Serration	3/32 " x 90°	3/32 " x 90°	3/32 " x 90°
а	46	46	51
b	38	38	62
С	38	38	62
kg/set	6.6	6.6	19.5
A1			
A2			
Аз			
J1			
J2			
S			

Gripping ranges

GAB

Hard top jaws

**Gripping ranges** 

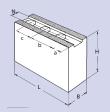


Chuck BB-N-EXL2G	510-191	660-280	900-390
Jaw type	GAB 500	GAB 500	GAB 800
Id. No.	12085146	12085146	12089046
В	55	55	75
Н	73	73	82
L	195	195	320
Ν	25.5	25.5	30
Serration	3/32 " x 90°	3/32 " x 90°	3/32 " x 90°
a	96	96	165
b	38	38	60
С	38	38	60
kg/set	16.5	16.5	40.5
A1			
S			

510-191

WBSA-D/WBC-D Soft top jaws

**Gripping ranges** 



↓ Å₁

Chuck

**BB-N-EXL2G** WBSA-D 500 WBSA-D 500 WBC 800 Jaw type ld. No. 12075050 12075050 12078040 В 60 60 80 Н 60 60 80 170 320 L 170 Ν 25.5 25.5 30 3/32" x 90° Serration 3/32 " x 90° 3/32 " x 90° 69 165 а 69 b 38 38 60 38 38 60 С kg/piece 3.6 3.6 15 A1 S

660-280

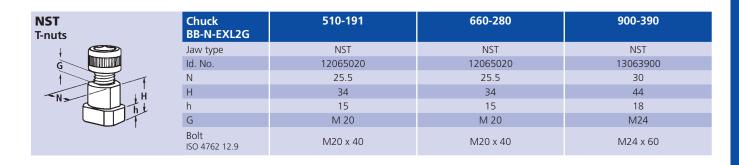
900-390





# BIG BORE® BB-N-EXL2G

90
800
040
90°
()



# Adapters for BIG BORE BB-N-EXL2G chucks

ISO-A DIN 55026 mounting adapters



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

Bayonet and camlock flanges are available on request

