

Clamping of pipes with

BIG BORE 2G chucks

BB-EXL2G

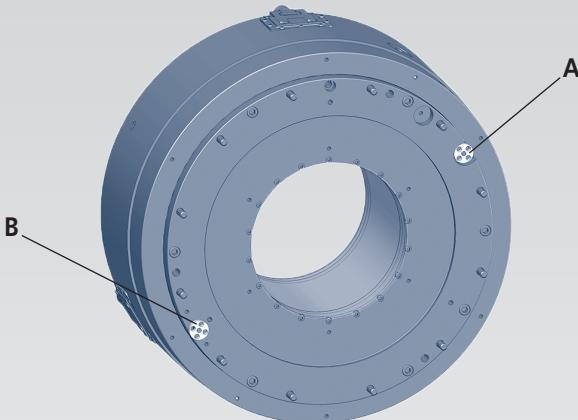
BB-AZ2G

BB-FZA2G

BB-EXL-SC2G

BIG BORE BB-N-EXL2G

- Self centering
- Extra long jaw stroke
- Jaw jogging

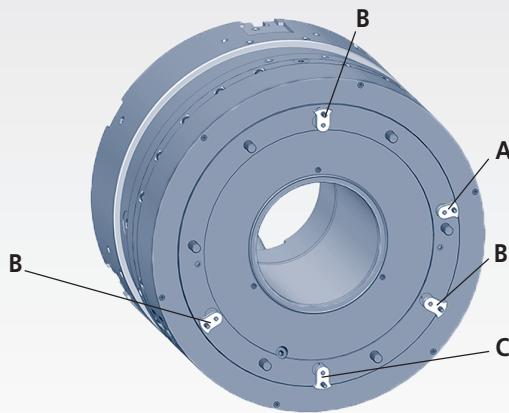


Safety features:

- A:** Pressure control
B: Stroke control

BIG BORE BB-FZA2G

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

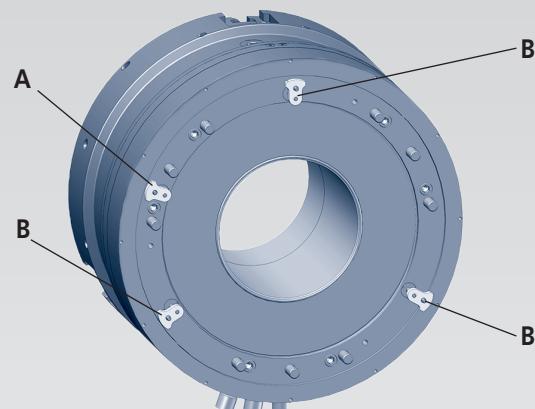


Safety features:

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

BIG BORE BB-AZ2G

- Self centering or compensating clamping
- Extra long jaw stroke

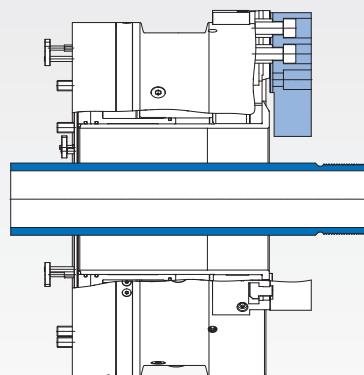


Safety features:

- 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 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.

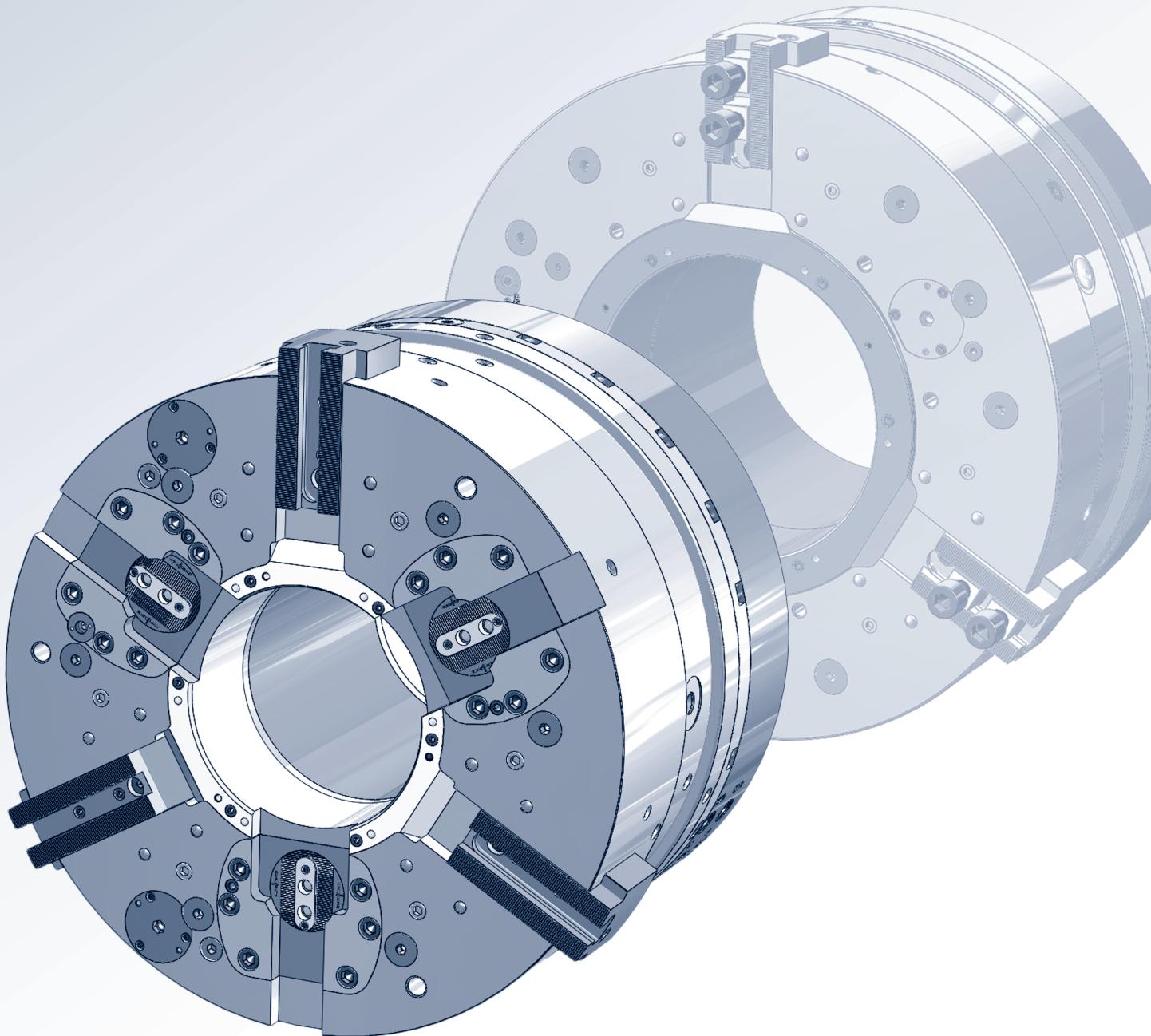
Individual stroke control for each jaw: In compensating clamping mode, all 3 jaws of the Big Bore 2G chucks make a different radial movement to compensate for the misalignment of the pipe to be clamped. A single central jaw stroke control cannot detect if the jaw stroke on one of the master jaws bottoms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

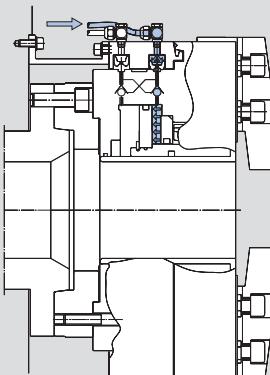
Ordering example

Big Bore BB-EXL2G 660 / Z450

Accessories

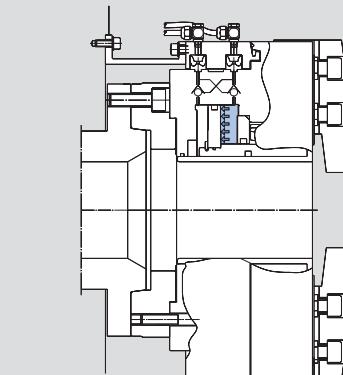
Control unit AC-BB / AC-XN
(see general catalog pages 378-381)

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



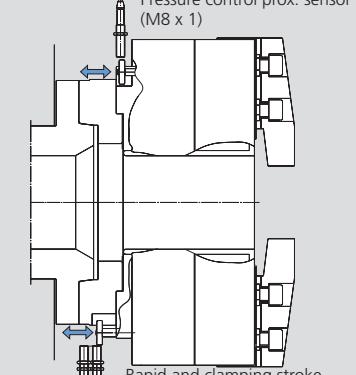
Picture 1

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.



Picture 2

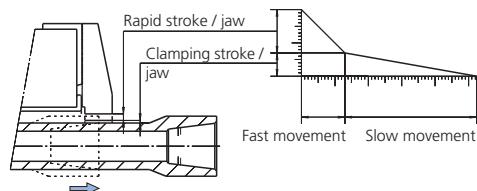
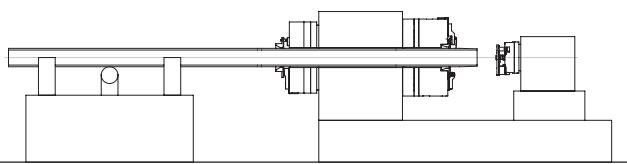
The SMW profile seals lift to the expanded position, not touching the chuck body anymore. The clamping pressure is maintained by the twin non-return valve. The chuck can start to rotate.



Picture 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

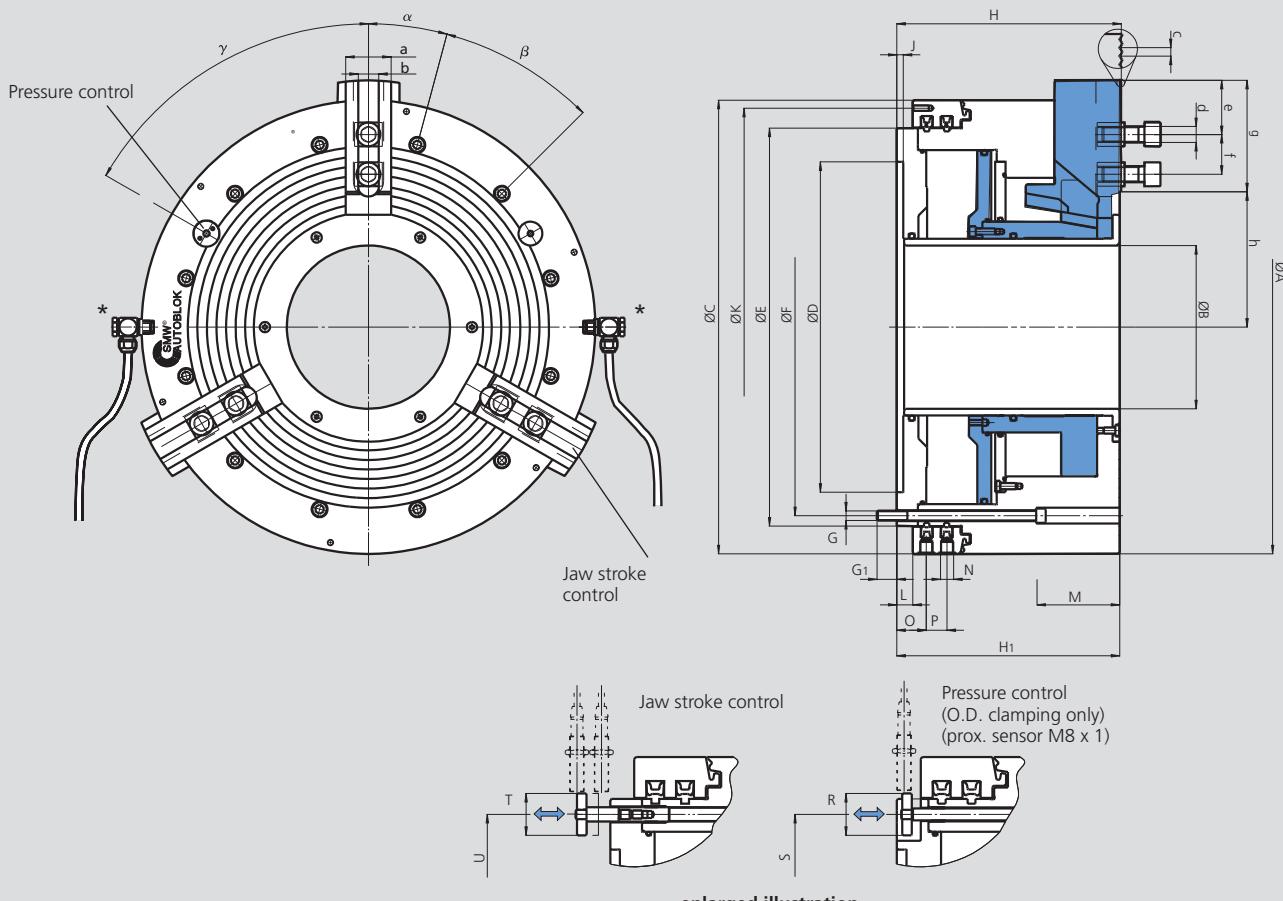
| SMW-AUTOBLOK Type | BB-EXL2G 510-191 | BB-EXL2G 660-280 | BB-EXL2G 900-390 |
|---|-------------------|-------------------|-------------------|
| Id. No. | 77784553 | 77784566 | 77784588 |
| Through-hole | mm (inch) | 191 (7.52") | 280 (11.02") |
| Total stroke per jaw | mm (inch) | 38.5 (1.52") | 38.5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

* May not be used for clamping.



■ Main dimensions and technical data

Jaw position: Open for external clamping



Subject to technical changes.

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 |
| | A | mm | 520 | 673 |
| | B | mm | 191 | 280 |
| | C | mm | 520 | 665 |
| | D H6 | mm | 310 | 450 |
| | E | mm | 446 | 585 |
| Fixing bolts circle | F | mm | 414 | 558 |
| | G | mm | M12 | M12 |
| | G1 | mm | 25 | 25 |
| | H | mm | 277 | 292 |
| | H1 | mm | 270 | 285 |
| | J | mm | 8 | 8 |
| Thread circle 6 x M8 | K | mm | 500 | 640 |
| | L | mm | 25 | 25 |
| | M | mm | 115 | 110 |
| Pneumatic connection | N | inch | G 1/2 " | G 1/2 " |
| | O | mm | 46.5 | 46 |
| | P | mm | 36 | 36 |
| | R | mm | 35 | 35 |
| | S | mm | 414 | 554 |
| | T | mm | 35 | 35 |
| | U | mm | 414 | 554 |
| | a | mm | 57 | 62 |
| | b | mm | 25.5 | 25.5 |
| Serration | c | inch | 3/32" x 90° | 3/32" x 90° |
| Bolts ISO 4762 12.9 | d | mm | M20 | M20 |
| Min. | e | mm | 15 | 15 |
| T-nuts distance min. / max. | f | mm | 30 / 84 | 30 / 107 |
| Serration length | g | mm | 110 | 142 |
| Min. / max. | h | mm | 151.5 / 190 | 199.5 / 238 |
| | α | deg. | 20 | 15 |
| | β | deg. | 9 x 40 | 12 x 30 |
| (Pressure control) | v | deg. | 83 | 60 |

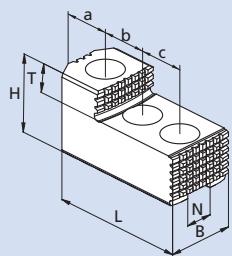
BIG BORE® BB-EXL2G

INCH SERRATION

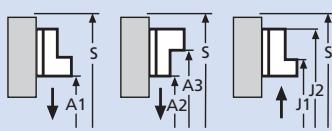
■ Top jaws

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

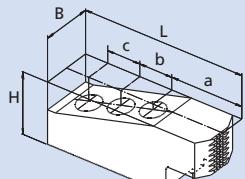
J1

J2

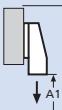
S

GAB

Hard top jaws



Gripping ranges



Chuck BB-EXL2G

510-191

660-280

900-390

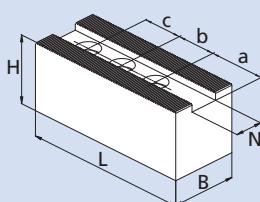
| | | | |
|-----------|-------------|-------------|-------------|
| Jaw type | GAB 500* | GAB 660 | GAB 800 |
| Id. No. | 12085146 | 12086646 | 12089046 |
| B | 55 | 55 | 75 |
| H | 73 | 73 | 82 |
| L | 195 | 255 | 320 |
| N | 25.5 | 25.5 | 30 |
| Serration | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° |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

A1

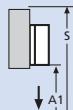
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WBSA-D / WBC-D

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. (pc.) | 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 hard top jaws type GAB-660.



JAWS-CATALOG

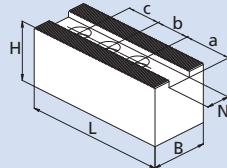
Request or
download:
www.smw-autoblok.de

BIG BORE® BB-EXL2G

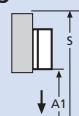
INCH SERRATION

- Top jaws
- T-nuts
- Adapters

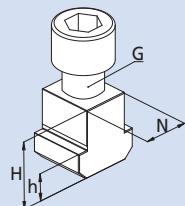
WBC-D, WBCL-D Soft top jaws long version



Gripping ranges



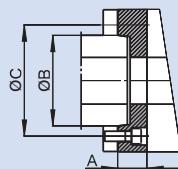
NST T-nuts



| Chuck BB-EXL2G | 510-191 | 660-280 | 900-390 |
|-------------------|-------------|-------------|-------------|
| Jaw type | WBC-D 502 | WBC-D 502 | WBCL-D 800 |
| Id. No. (piece) | 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 / piece | 4.5 | 4.5 | 18 |
| A1 | | | |
| S | | | |

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.

JAWS-CATALOG

Request or download:
www.smw-autoblok.de



JAWS 22E