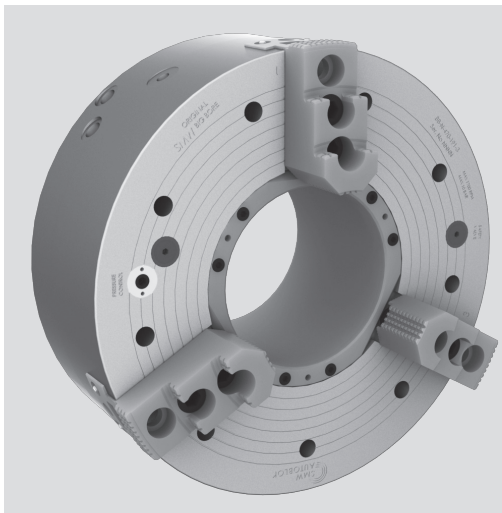


# BIG BORE® BB-N

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 pipes
- 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
- 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

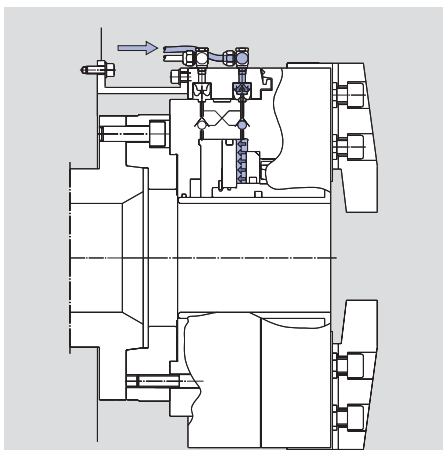
### Ordering example

BIG BORE BB-N 470-191 / Z310

### Accessories

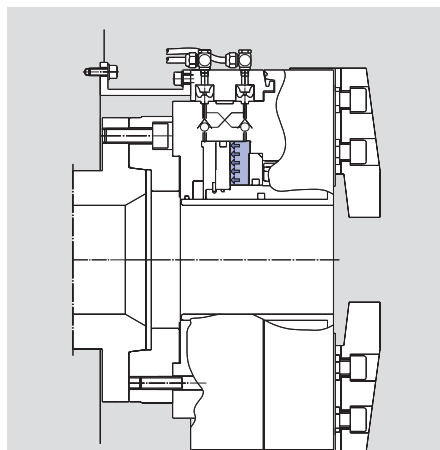
Control unit AC-BB / AC-XN  
(see general catalog pages 350-353)

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



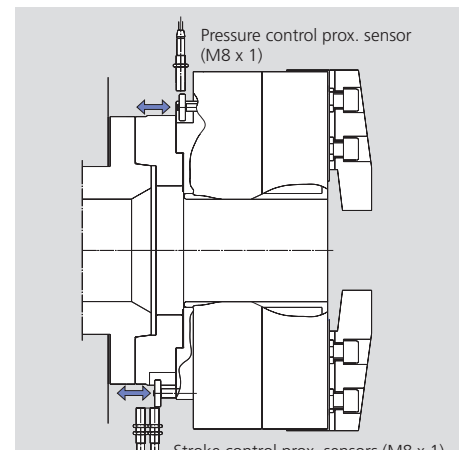
Picture 1

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 twin non-return valve.



Picture 2

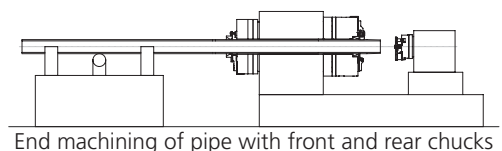
The SMW-profile seals lift to the expanded position, not touching the chuck body anymore. The clamping pressure is maintained by the twin non-return valve. The chuck can start to rotate.



Picture 3

**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.



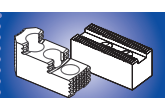
End machining of pipe with front and rear chucks

### Technical data

| SMW-AUTOBLOK Type BB-N              |           | 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                         | cm²       | 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·m²     | 3.22              | 5.66              | 8.53              | 8                 | 15                | 28                | 71.25             |



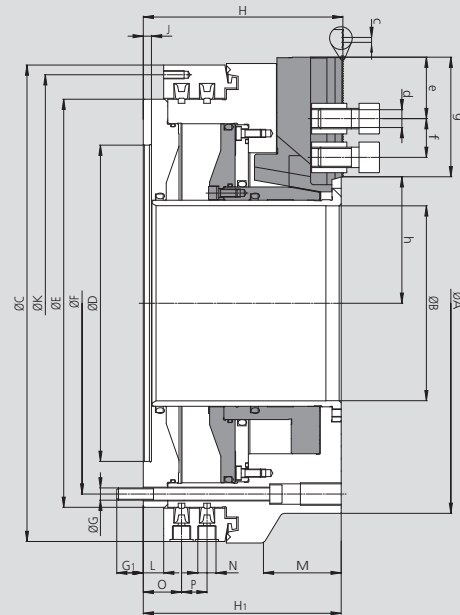
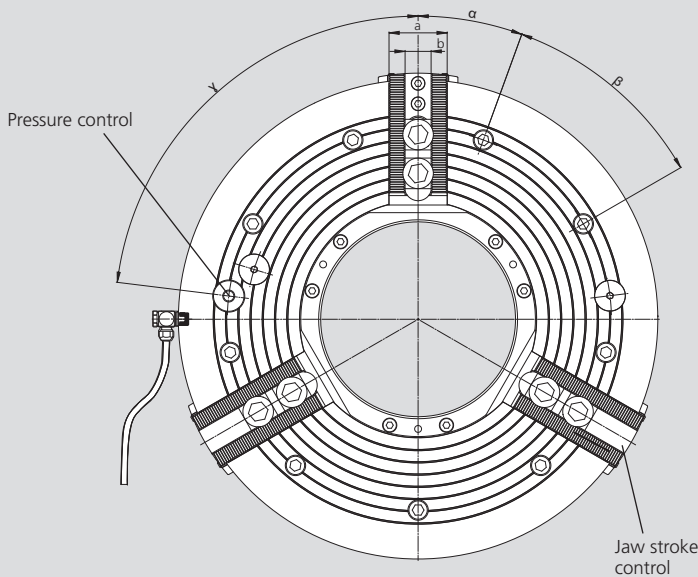
SMW-AUTOBLOK  
329



SMW-AUTOBLOK  
328

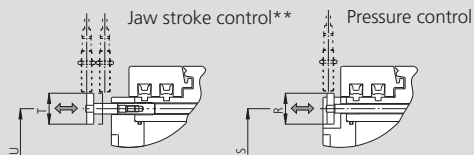
## Main dimensions and technical data

Jaw position: Open for external clamping



- \* All hoses / piping must be at least 1/2" ID. and min. 3/4" ID. from size 630 on!
- \*\* BB-N-400-140 has no stroke control and no switch valve for pressure control inside clamping

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 our customer service.

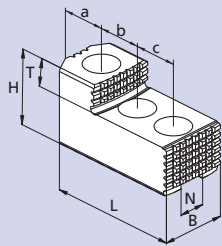
| SMW-AUTOBLOK Type BB-N      |      |      | 400-140      | 470-191     | 500-205     | 500-230     | 600-275     | 630-310       | 800-410     |
|-----------------------------|------|------|--------------|-------------|-------------|-------------|-------------|---------------|-------------|
| Id. No.                     |      |      | 052300       | 053535      | 053830      | 053832      | 053834      | 053836        | 053838      |
| Mounting                    |      |      | Z310         | Z310        | Z415        | Z415        | Z450        | Z510          | Z700        |
| Fixing bolts circle         | 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         |
|                             | F    | mm   | 374          | 374         | 474         | 474         | 508         | 580           | 745         |
|                             | G    | mm   | M12          | M12         | M12         | M12         | M12         | M16           | M16         |
| Thread circle 6 x M8        | 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           |
| Pneumatic connection        | 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         |
|                             | N    | inch | G 1/2"       | G 1/2"      | G 1/2"      | G 1/2"      | G 1/2"      | G 1/2"        | G 1/2"      |
| Serration                   | 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          |
|                             | 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° |
|                             | 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

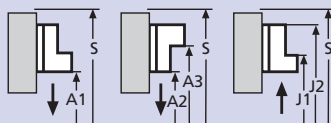
INCH  
SERRATION

■ Top jaws  
■ T-nuts

## MHB-D Hard reversible top jaws

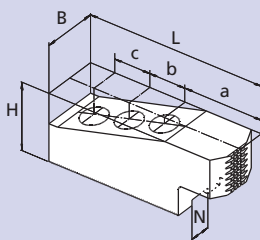


### Gripping ranges

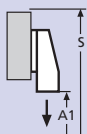


| Chuck<br>BB-N | 400-140     | 470-191     | 500-205     | 500-230     | 600-275     | 630-310     | 800-410     |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Jaw type      | MHB-D 500   | MHB-D 500   | MHB-D 500   | MHB-D 500   | MHB-D 500   | MHB-D 630   | MHB-D 800   |
| Id. No. / set | 12084546    | 12084546    | 12084546    | 12084546    | 12084546    | 12086446    | 12088046    |
| B             | 60          | 60          | 60          | 60          | 60          | 75          | 75          |
| H             | 75          | 75          | 75          | 75          | 75          | 85          | 85          |
| L             | 140         | 140         | 140         | 140         | 140         | 160         | 220         |
| T             | 2x19        | 2x19        | 2x19        | 2x19        | 2x19        | 30          | 30          |
| N             | 25.5        | 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° | 3/32" x 90° |
| a             | 46          | 46          | 46          | 46          | 46          | 30          | 51          |
| b             | 38          | 38          | 38          | 38          | 38          | 50          | 62          |
| c             | 38          | 38          | 38          | 38          | 38          | 50          | 62          |
| kg / set      | 6.6         | 6.6         | 6.6         | 6.6         | 6.6         | 13.5        | 19.5        |
| A1            | 65-238      | 100-273     | 150-358     | 175-378     | 224-424     | 275-485     | 320-590     |
| A2            | 110-284     | 145-320     | 200-405     | 225-425     | 348-548     | 275-485     | 330-600     |
| A3            | 294-470     | 330-505     | 385-590     | 410-610     | 447-647     | 475-685     | 590-865     |
| J1            | 175-350     | 210-385     | 265-470     | 285-490     | 307-506     | 395-610     | 500-770     |
| J2            | 355-530     | 390-565     | 445-650     | 465-670     | 504-704     | 595-810     | 760-1030    |
| S             | 585         | 620         | 705         | 725         | 735         | 820         | 1050        |

## GAB Hard top jaws

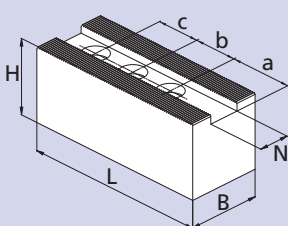


### Gripping ranges

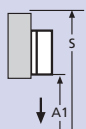


| Chuck<br>BB-N | 400-140     | 470-191     | 500-205     | 500-230     | 600-275     | 630-310     | 800-410     |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Jaw type      | GAB 500     | GAB 500     | GAB 500     | GAB 500     | GAB 500     | GAB 630     | GAB 800     |
| Id. No. / set | 12085146    | 12085146    | 12085146    | 12085146    | 12085146    | 12086546    | 12089046    |
| B             | 55          | 55          | 55          | 55          | 55          | 75          | 75          |
| H             | 73          | 73          | 73          | 73          | 73          | 82          | 82          |
| L             | 195         | 195         | 195         | 195         | 195         | 245         | 320         |
| N             | 25.5        | 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° | 3/32" x 90° |
| a             | 96          | 96          | 96          | 96          | 96          | 113         | 165         |
| b             | 38          | 38          | 38          | 38          | 38          | 50          | 60          |
| c             | 38          | 38          | 38          | 38          | 38          | 50          | 60          |
| kg / set      | 16.5        | 16.5        | 16.5        | 16.5        | 16.5        | 31.5        | 40.5        |
| A1            | 25-140      | 60-175      | 50-260      | 70-280      | 107-308     | 105-320     | 95-272      |
| S             | 585         | 620         | 705         | 725         | 700         | 820         | 1010        |

## WBSA-D / WBC-D Soft top jaws



### Gripping ranges



| Chuck<br>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  | WBSA-D 500  | WBC-D 630   | WBC-D 800   |
| Id. No. / pc. | 12075050    | 12075050    | 12075050    | 12075050    | 12075050    | 12076440    | 12078040    |
| B             | 60          | 60          | 60          | 60          | 60          | 80          | 80          |
| H             | 60          | 60          | 60          | 60          | 60          | 80          | 80          |
| L             | 170         | 170         | 170         | 170         | 170         | 240         | 320         |
| N             | 25.5        | 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° | 3/32" x 90° |
| a             | 69          | 69          | 69          | 69          | 69          | 110         | 165         |
| b             | 38          | 38          | 38          | 38          | 38          | 50          | 60          |
| c             | 38          | 38          | 38          | 38          | 38          | 50          | 60          |
| kg / piece    | 3.6         | 3.6         | 3.6         | 3.6         | 3.6         | 11          | 15          |
| A1            | 25-195      | 60-230      | 105-315     | 125-325     | 161-362     | 110-325     | 95-272      |
| S             | 545         | 580         | 660         | 680         | 707         | 815         | 1010        |

JAWS-CATALOG

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[www.smw-autoblok.de](http://www.smw-autoblok.de)

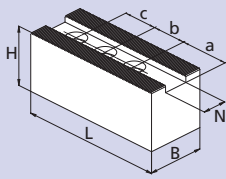


# BIG BORE® BB-N

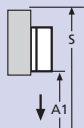
- Top jaws
- T-nuts
- Adapters

INCH  
SERRATION

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

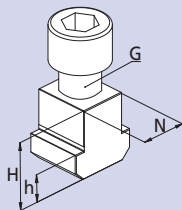


### Gripping ranges



| 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 502   | WBC-D 800   | WBCL-D 800  |
| Id. No. / piece | 12075140    | 12075140    | 12075140    | 12075140    | 12075140    | 12078040    | 12079040    |
| B               | 60          | 60          | 60          | 60          | 60          | 80          | 80          |
| H               | 60          | 60          | 60          | 60          | 60          | 80          | 80          |
| L               | 205         | 205         | 205         | 205         | 205         | 320         | 390         |
| N               | 25.5        | 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° | 3/32" x 90° |
| a               | 104         | 104         | 104         | 104         | 104         | 165         | 230         |
| b               | 38          | 38          | 38          | 38          | 38          | 60          | 60          |
| c               | 38          | 38          | 38          | 38          | 38          | 60          | 60          |
| kg / piece      | 4.5         | 4.5         | 4.5         | 4.5         | 4.5         | 15          | 18          |
| A1              | -           | 0-155       | 35-245      | 55-265      | 91-292      | 25-195      | 25-235      |
| S               | -           | 575         | 660         | 680         | 707         | 845         | 1020        |

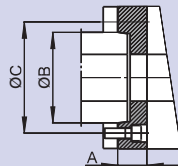
## NST T-nuts



| 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      | NST      |
| Id. No. / piece    | 12065020 | 12065020 | 12065020 | 12065020 | 12065020 | 13063900 | 13063900 |
| N                  | 25.5     | 25.5     | 25.5     | 25.5     | 25.5     | 30       | 30       |
| H                  | 34       | 34       | 34       | 34       | 34       | 44       | 44       |
| h                  | 15       | 15       | 15       | 15       | 15       | 18       | 18       |
| G                  | M20      | M20      | M20      | M20      | M20      | M24      | M24      |
| Bolt ISO 4762 12.9 | M20 x 40 | 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.

### JAWS-CATALOG

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