

AL-D

INCH
SERRATION

AL-M

METRIC
SERRATION

High precision power chuck Ø 125 - 400 mm

- Closed center
- Long stroke
- 2 and 3 jaws (4 jaws only Ø 400 mm)



Application/customer benefits

- For chucking parts
- Suitable for vertical machines
- Long clamping stroke (possibility to clamp 1st and 2nd operation with the same jaws)

AL-D: Master jaws with INCH SERRATION (1/16" x 90°, 3/32" x 90°)

AL-M: Master jaws with METRIC SERRATION (1.5 mm x 60°)
(suitable for japanese chuck top jaws)

Technical features

- EXTRA long jaw stroke
- Gripping force transmission via wedge hook
- Case hardened body to assure greatest precision and long chuck life

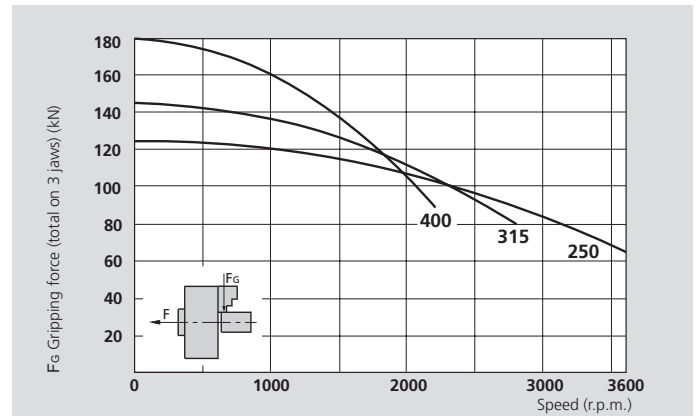
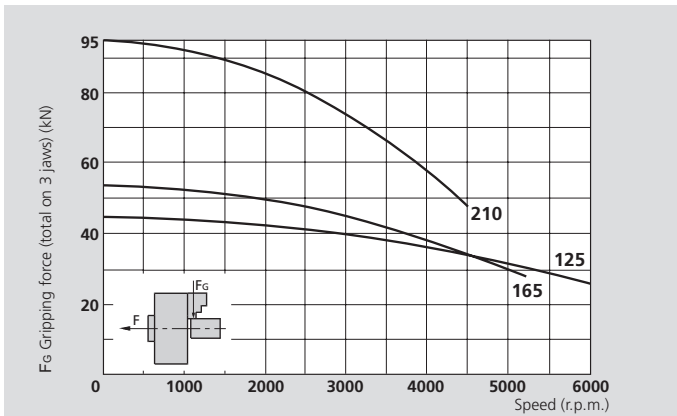
Standard equipment

- 2-, 3- or 4-jaw chuck
- 1 set T-nuts with bolts
- 1 set soft top jaws
- Mounting bolts

Ordering example

- 3-jaw chuck AL-D 210 / A6
- or
- 2-jaw chuck AL-M 250 / Z220

Actual gripping force diagrams



The data in the diagrams refer to 3-jaw chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

△ Safety advice / danger of damage:

When using taller / heavier jaws and / or clamping on a bigger diameter reduce draw pull / rotating speed accordingly.

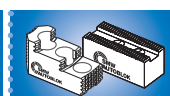
Technical data

| SMW-AUTOBLOK Type | | AL-D 125 AL-M 125 | | AL-D 165 AL-M 165 | | AL-D 210 AL-M 210 | | AL-D 250 AL-M 250 | | AL-D 315 AL-M 315 | | AL-D 400 AL-M 400 | | | |
|--|-------------------|----------------------|----------------|----------------------|-----------|----------------------|-----------------|----------------------|-----------------|----------------------|-----------------|----------------------|-----------------|-----|--|
| Number of jaws | | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 4 | |
| Radial jaw stroke | mm | 6 | | 7 | | 8.5 | | 10 | | 12 | | 13 | | | |
| Axial piston stroke | mm | 15 | | 17 | | 21 | | 25 | | 30 | | 33 | | | |
| Max. draw pull* | kN | 17 | 25 | 20 | 30 | 35 | 53 | 45 | 68 | 54 | 80 | 67 | 100 | 100 | |
| Max. gripping force* | kN | 30 | 45 | 36 | 54 | 63 | 95 | 83 | 125 | 97 | 145 | 120 | 180 | 180 | |
| Max. speed | r.p.m. | 6000 | | 5200 | | 4500 | | 3600 | | 2800 | | 2000 | | | |
| Weight (without top jaws) | kg | 5.5 | | 9.5 | | 19 | | 32 | | 56 | | 84 | | | |
| Moment of inertia | kg·m ² | 0.011 | | 0.032 | | 0.105 | | 0.26 | | 0.69 | | 1.6 | | | |
| Recommended actuating cylinders | | Type | SIN-S 85 / 100 | | SIN-S 100 | | SIN-S 100 / 125 | | SIN-S 125 / 150 | | SIN-S 125 / 150 | | SIN-S 150 / 175 | | |
| Id.No. AL-D 2 jaws (Center mounting) | | | 77160113 | | 77160116 | | 77160121 | | 77160125 | | 77160131 | | 77160140 | | |
| Id.No. AL-D 3 jaws (4 jaws 77160540) (C. m.) | | | 77160313 | | 77160316 | | 77160321 | | 77160325 | | 77160331 | | 77160340 | | |
| Id.No. AL-M 2 jaws (Center mounting) | | | 77160213 | | 77161516 | | 77161521 | | 77161525 | | 77160231 | | 77160240 | | |
| Id.No. AL-M 3 jaws (4 jaws 77160640) (C. m.) | | | 77160413 | | 77161616 | | 77161621 | | 77161625 | | 77160431 | | 77160440 | | |

* For internal clamping reduce the draw pull by 30%.



SMW-AUTOBLOK
466



SMW-AUTOBLOK
468



SMW-AUTOBLOK
327

High precision power chuck Ø 125 - 400 mm

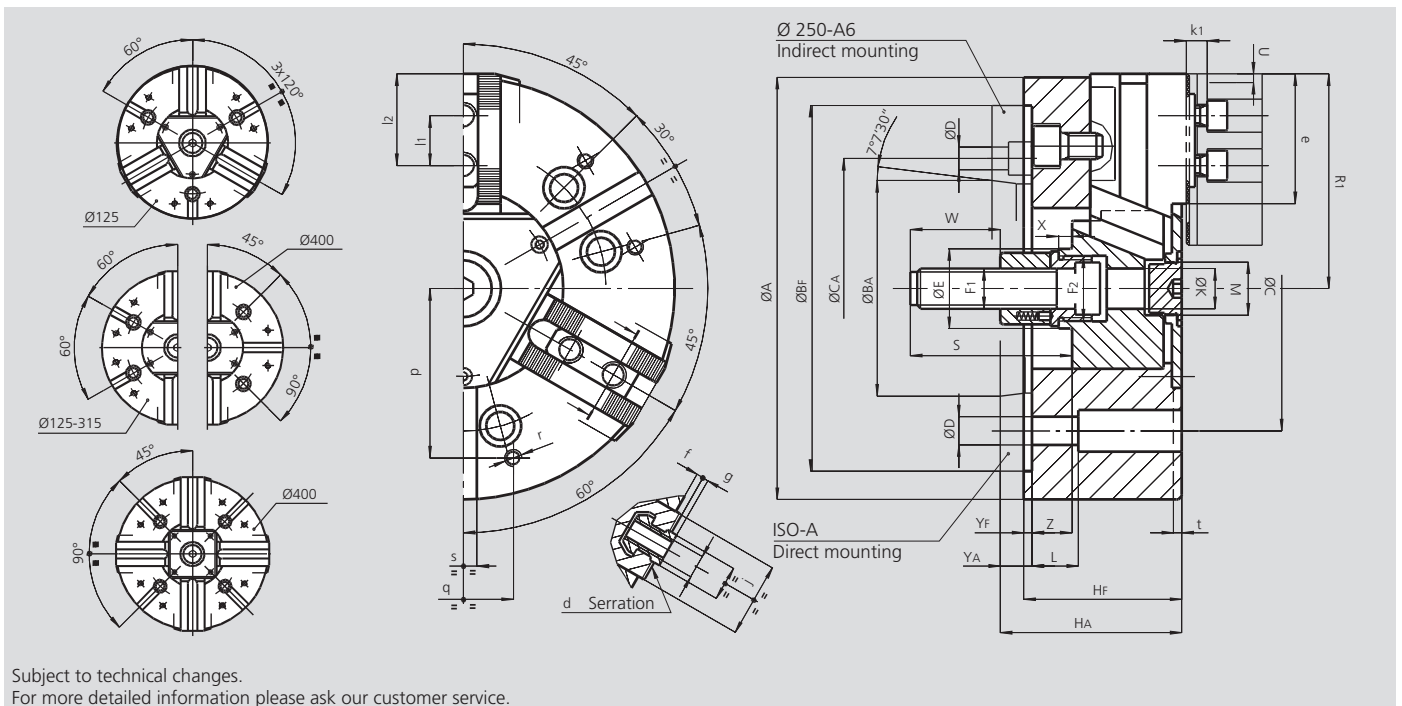
AL-D

AL-M

- Closed center
- Long stroke
- 2 and 3 jaws (4 jaws only Ø 400 mm)

INCH
SERRATION

METRIC
SERRATION



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

| SMW-AUTOBLOK Type | | | AL-D 125 AL-M 125 | | AL-D 165 AL-M 165 | | AL-D 210 AL-M 210 | | AL-D 250 AL-M 250 | | | AL-D 315 AL-M 315 | | AL-D 400 AL-M 400 | |
|-------------------|-----------------|------|----------------------|--------|----------------------|--------|----------------------|---------|----------------------|---------|---------|----------------------|---------|----------------------------|---------|
| Mounting | | | Z115 | A4 | Z140 | A5 | Z170 | A6 | Z220 | A6 | A8 | Z220 | A8 | Z300 | A11 |
| | A | mm | 127 | | 165 | | 210 | | 254 | | | 315 | | 390 | |
| | BF/BA H6 | mm | 115 | 63.513 | 140 | 82.563 | 170 | 106.375 | 220 | 106.375 | 139.719 | 220 | 139.719 | 300 | 196.869 |
| | C | mm | 82.6 | | 104.8 | | 133.4 | | 171.4 | - | 171.4 | 171.4 | | 235 | |
| | CA | mm | - | - | - | - | - | - | - | 133.4 | - | - | - | - | - |
| | D | mm | 11.5 | | 11.5 | | 13.5 | | 17 | 13.5 | 17 | 17 | | 21 | |
| | E | mm | 25 | | 32 | | 41 | | 47 | | | 47 | | 86 | |
| | F1 | mm | M12 x 1.25 | | M16 | | M20 | | M24 | | | M24 | | M24 | |
| | F2 | mm | M18 x 1.5 | | M24 x 2 | | M32 x 1.5 | | M38 x 1.5 | | | M38 x 1.5 | | M75 x 2 | |
| | HF/HA | mm | 59 | 67 | 71 | 81 | 85 | 97 | 95 | 114 | 109 | 105 | 119 | 116 | 131 |
| | K | mm | 9 | | 17 | | 20 | | 25 | | | 25 | | 65 | |
| | L | mm | 32 | | 23 | | 32 | | 28 | | | 38 | | 54 | |
| | M | mm | M16 x 1.5 | | M24 x 1.5 | | M32 x 1.5 | | M32 x 1.5 | | | M38 x 1.5 | | M68 x 2 | |
| Chuck open | R1 | mm | 67 | | 86 | | 109 | | 133 | | | 164 | | 202 | |
| | S | mm | 77 | | 104 | | 97 | | 103 | | | 103 | | 105 | |
| Jaw stroke | U | mm | 6 | | 7 | | 8.5 | | 10 | | | 12 | | 13 | |
| | W | mm | 40 | | 52 | | 55 | | 60 | | | 60 | | 60 | |
| | X | mm | 12 | | 17 | | 8 | | 8 | | | 8 | | 8 | |
| | YF/YA | mm | 5 | 13 | 5 | 15 | 5 | 17 | 5 | 24 | 19 | 5 | 19 | 6 | 21 |
| Max. / min. | Z | mm | 15 / 0 | | 17 / 0 | | 21 / 0 | | 24 / -1 | | | 30 / 0 | | 33 / 0 | |
| AL-D | d | inch | 1/16" x 90° | | 1/16" x 90° | | 1/16" x 90° | | 1/16" x 90° | | | 1/16" x 90° | | 3/32" x 90° ⁽¹⁾ | |
| AL-M | d | mm | 1.5 x 60° | | 1.5 x 60° | | 1.5 x 60° | | 1.5 x 60° | | | 1.5 x 60° | | 1.5 x 60° | |
| | e | mm | 37 | | 49 | | 61 | | 77 | | | 99 | | 116 | |
| | f | mm | 3 | | 4 | | 3 | | 4 | | | 4 | | 6 | |
| | g | mm | 2.5 | | 2.5 | | 3 | | 3.5 | | | 3.5 | | 3.5 | |
| | j | mm | 26 | | 30 | | 36 | | 45 | | | 45 | | 62 | |
| | k1 | mm | 10 | | 10 | | 11 | | 12 | | | 12 | | 14 | |
| AL-D | l1 | mm | 16 | | 16.5 | | 23 | | 30 | | | 30 | | 38 | |
| AL-M | l1 | mm | 16 | | 20 | | 25 | | 30 | | | 30 | | 38 | |
| Max. / min. | l2 | mm | 30 / 23 | | 40 / 24 | | 50 / 33 | | 62 / 43 | | | 84 / 43 | | 90 / 49 | |
| AL-D | m | mm | M8 | | M10 | | M12 | | M16 | | | M16 | | M20 | |
| AL-M | m | mm | M8 | | M10 | | M12 | | M12 | | | M16 | | M20 | |
| AL-D | n h8 | mm | 12 | | 14 | | 17 | | 21 | | | 21 | | 25.5 | |
| AL-M | n h8 | mm | 12 | | 12 | | 14 | | 16 | | | 21 | | 22 | |
| | p | mm | 52 | | 65 | | 80 | | 102 | | | 120 | | 150 | |
| | q | mm | 30 | | 36 | | 45 | | 60 | | | 60 | | 80 | |
| | r | mm | M6 | | M8 | | M8 | | M10 | | | M10 | | M12 | |
| | s | mm | 12 | | 16 | | 16 | | 16 | | | 16 | | 20 | |
| | t | mm | 5 | | 5 | | 5 | | 5 | | | 5 | | 5 | |

⁽¹⁾ Serration 1/16 x 90° on request.