

- Pull-down effect of inclined master jaws
- Tongue & groove master jaws
- 3 jaws

### Application/customer benefits

- 1st or 2nd operation of parts requesting close squareness and parallelism tolerances
- For chucking parts
- External clamping only

**RAN:** Inclined master jaws with pull-down effect and TONGUE & GROOVE

### Technical features

- Chuck only available with 3 tongue & groove master jaws
- Clamping on raw diameters with carbide inserts, increases the pull-down effect thanks to the penetration into the workpiece
- Central bore for coolant and / or air
- Chuck body and internal parts case hardened

### Standard equipment

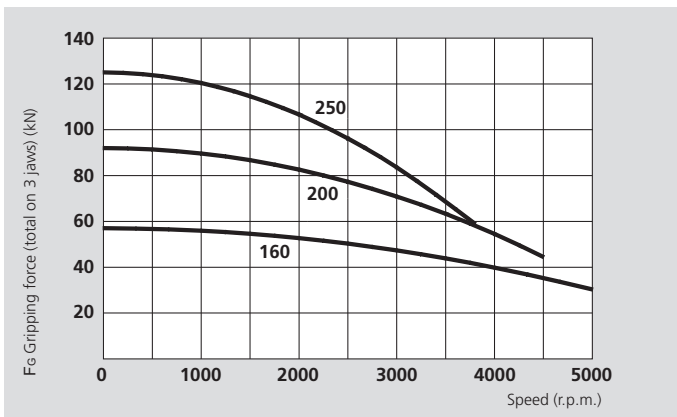
3-jaw chuck  
Mounting bolts

### Ordering example

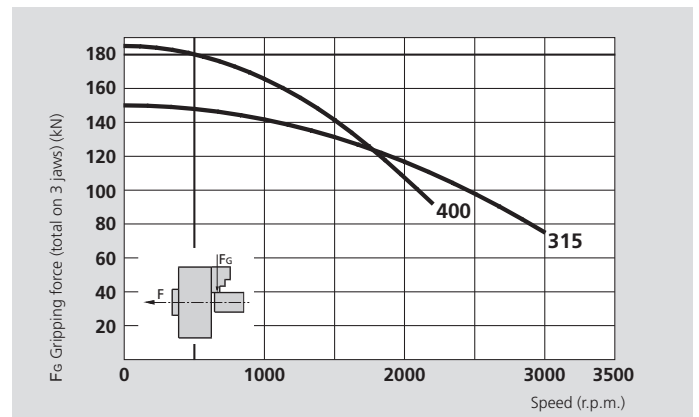
3-jaw chuck RAN 200 / A6  
or  
3-jaw chuck RAN 315 / A8



## 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               |                   | RAN 160 | RAN 200        | RAN 250         | RAN 315         | RAN 400         |
|---------------------------------|-------------------|---------|----------------|-----------------|-----------------|-----------------|
| Number of jaws                  |                   | 3       | 3              | 3               | 3               | 3               |
| Radial jaw stroke               | mm                | 5       | 5              | 6               | 8               | 8               |
| Axial jaw stroke (pull-down)    | mm                | 1.25    | 1.25           | 1.5             | 2               | 2               |
| Axial piston stroke             | mm                | 20      | 20             | 25              | 32              | 32              |
| Max. draw pull                  | kN                | 25      | 40             | 55              | 65              | 80              |
| Max. gripping force             | kN                | 57      | 92             | 125             | 150             | 185             |
| Max. speed                      | r.p.m.            | 5000    | 4500           | 3800            | 3000            | 2200            |
| Weight (without top jaws)       | kg                | 10      | 17             | 31              | 54              | 95              |
| Moment of inertia               | kg·m <sup>2</sup> | 0.034   | 0.10           | 0.26            | 0.65            | 1.85            |
| Top jaw reference mass          | kg                | 0.58    | 0.92           | 1.25            | 2.15            | 3.6             |
| Recommended actuating cylinders |                   | Type    | SIN-S 85 / 100 | SIN-S 100 / 125 | SIN-S 125 / 150 | SIN-S 125 / 150 |
| Id. No. RAN (Center mounting)   |                   |         | 77383216       | 77383220        | 77383225        | 77383231        |
|                                 |                   |         |                |                 |                 | 77383240        |



SMW-AUTOBLOK  
472



SMW-AUTOBLOK  
466



SMW-AUTOBLOK  
327

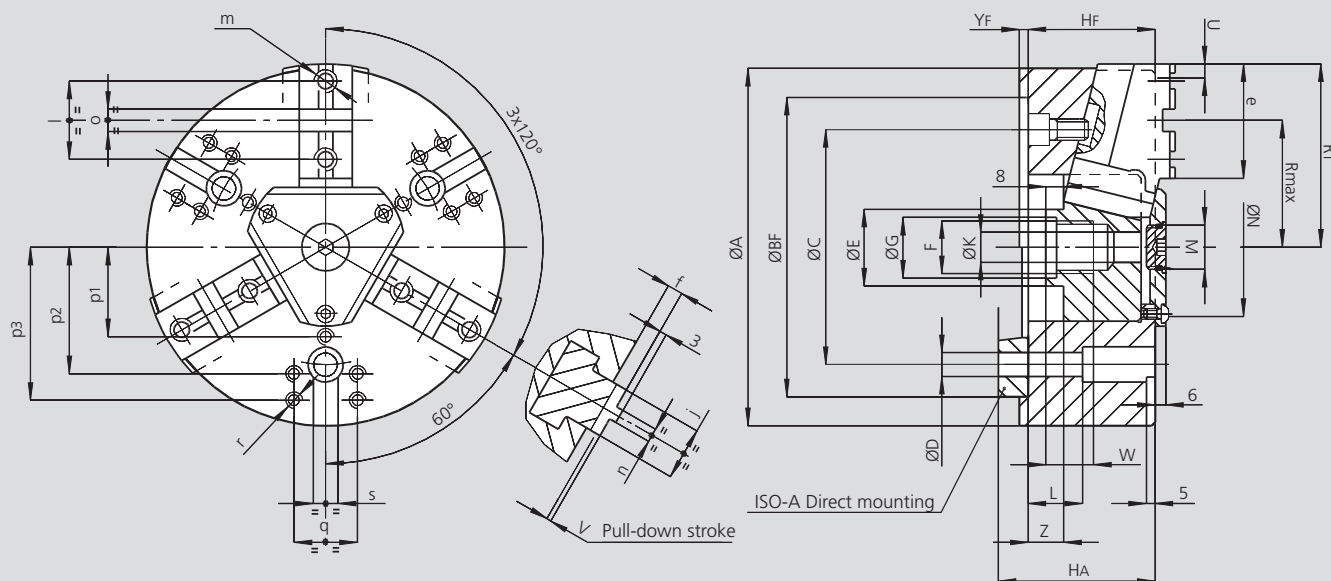
# High precision pull-down chuck Ø 160 - 400 mm

- Pull-down effect of inclined master jaws
- Tongue & groove master jaws
- 3 jaws

# RAN

TONGUE & GROOVE

1



Subject to technical changes.

For more detailed information please ask our customer service.

| SMW-AUTOBLOK Type       |              |    | RAN 160 |    | RAN 200   |    | RAN 250   |     | RAN 315   |     | RAN 400   |     |
|-------------------------|--------------|----|---------|----|-----------|----|-----------|-----|-----------|-----|-----------|-----|
| Mounting                |              |    | Z140    | A5 | Z170      | A6 | Z220      | A8  | Z220      | A8  | Z300      | A11 |
|                         | <b>A</b>     | mm | 165     |    | 203       |    | 250       |     | 305       |     | 390       |     |
|                         | <b>BF H6</b> | mm | 140     |    | 170       |    | 220       |     | 220       |     | 300       |     |
| Fixing holes circle     | <b>C</b>     | mm | 104.8   |    | 133.4     |    | 171.4     |     | 171.4     |     | 235       |     |
| Fixing holes diameter   | <b>D</b>     | mm | 11.5    |    | 13.5      |    | 17        |     | 17        |     | 21        |     |
|                         | <b>E</b>     | mm | 32      |    | 41        |    | 47        |     | 47        |     | 66        |     |
|                         | <b>F</b>     | mm | M24 x 2 |    | M32 x 1.5 |    | M38 x 1.5 |     | M38 x 1.5 |     | M56 x 2   |     |
|                         | <b>G</b>     | mm | 25      |    | 33        |    | 39        |     | 39        |     | 57        |     |
|                         | <b>HF/HA</b> | mm | 66      | 81 | 72        | 89 | 87        | 106 | 95        | 114 | 104       | 125 |
| Central through-hole    | <b>K</b>     | mm | 16      |    | 18        |    | 25        |     | 25        |     | 36        |     |
|                         | <b>L</b>     | mm | 13      |    | 22        |    | 18        |     | 18        |     | 54        |     |
|                         | <b>M</b>     | mm | M20 x 1 |    | M24 x 1   |    | M28 x 1.5 |     | M28 x 1.5 |     | M52 x 1.5 |     |
|                         | <b>N</b>     | mm | 75      |    | 90        |    | 105       |     | 112       |     | 145       |     |
| Chuck open              | <b>R1</b>    | mm | 85      |    | 104       |    | 128       |     | 155       |     | 198       |     |
| Chuck open              | <b>Rmax</b>  | mm | 56      |    | 72        |    | 88        |     | 105       |     | 133       |     |
| Radial clamp. stroke    | <b>U</b>     | mm | 5       |    | 5         |    | 6         |     | 8         |     | 8         |     |
| Pull-down clamp. stroke | <b>V</b>     | mm | 1.25    |    | 1.25      |    | 1.5       |     | 2         |     | 2         |     |
|                         | <b>W</b>     | mm | 20      |    | 25        |    | 25        |     | 25        |     | 35        |     |
|                         | <b>YF</b>    | mm | 5       |    | 5         |    | 5         |     | 5         |     | 6         |     |
| Axial wedge stroke      | <b>Z</b>     | mm | 20      |    | 20        |    | 25        |     | 32        |     | 32        |     |
|                         | <b>e</b>     | mm | 57      |    | 65        |    | 84        |     | 103       |     | 130       |     |
| Chuck open              | <b>f</b>     | mm | 8.25    |    | 8.25      |    | 8.5       |     | 9         |     | 11        |     |
|                         | <b>j</b>     | mm | 24      |    | 30        |    | 36        |     | 36        |     | 45        |     |
|                         | <b>l</b>     | mm | 38      |    | 44.4      |    | 54        |     | 63.5      |     | 76.2      |     |
|                         | <b>m</b>     | mm | M10     |    | M12       |    | M16       |     | M16       |     | M20       |     |
|                         | <b>n h8</b>  | mm | 7.94    |    | 7.94      |    | 12.7      |     | 12.7      |     | 12.7      |     |
|                         | <b>o H7</b>  | mm | 12.68   |    | 12.68     |    | 19.03     |     | 19.03     |     | 19.03     |     |
|                         | <b>p1</b>    | mm | -       |    | -         |    | 60        |     | 65        |     | 85        |     |
|                         | <b>p2</b>    | mm | 65      |    | 72        |    | 100       |     | 90        |     | 120       |     |
|                         | <b>p3</b>    | mm | -       |    | 87        |    | -         |     | 120       |     | 150       |     |
|                         | <b>q</b>     | mm | 36      |    | 36        |    | 60        |     | 60        |     | 80        |     |
|                         | <b>r</b>     | mm | M8      |    | M8        |    | M10       |     | M10       |     | M12       |     |
|                         | <b>s</b>     | mm | 16      |    | 14        |    | 16        |     | 20        |     | 20        |     |