



## **ROTA-S** *plus 2.0*

**Jaw quick-change chuck with  
angled serrated base jaw  
interface**

# Versatile useable manual lathe chuck with jaw quick-change system for jaw change in 60 seconds.

The ROTA-S plus 2.0 manual lathe chuck is specifically designed for storage solutions and conventional lathes without hydraulic or pneumatic cylinders. The jaw quick-change system makes the chucks suitable for flexible production starting from batch size 1. There is no need to rebores the jaws on the chuck. The angled jaw interface makes the manual lathe chucks compatible with the predecessor ROTA-S ROTA-S plus as well as the "F" system (Forkardt).



## Advantages – Your benefits

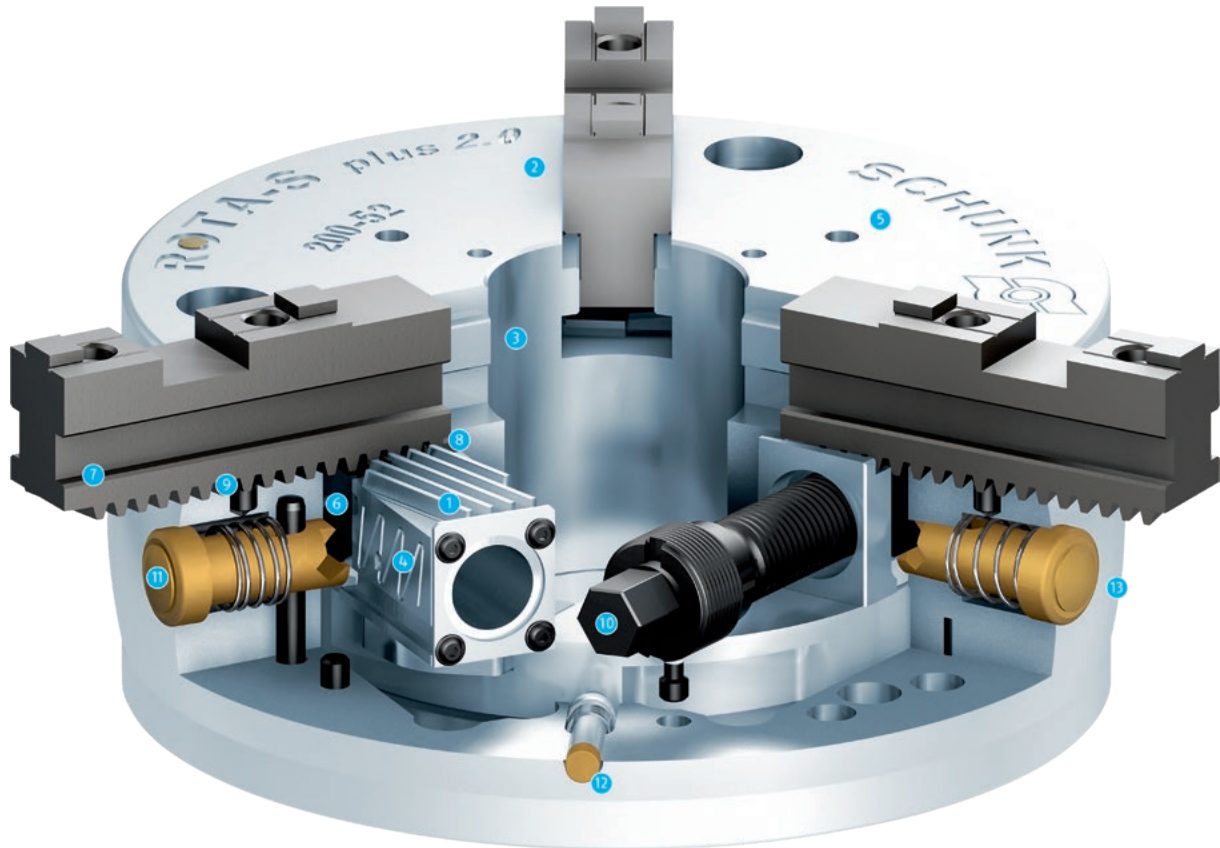
- + Convenient jaw quick-change system**  
Minimizing set-up times and costs
- + Large through-hole**  
Machining all standard pipe diameters
- + High efficiency of the wedge bar system**  
Process-reliable clamping due to high clamping forces
- + High jaw quick-change repeat accuracy**  
No reboring of already machined jaws necessary
- + Visual safety devices**  
Maximum operating safety
- + Optimized lubrication system**  
Consistently high clamping forces ensured
- + Modular center sleeve system**  
Optimal adjustment to new clamping tasks thanks to the exchangeable center sleeves
- + Excellent clamping force/torque ratio**  
Perfect use of the machine performance
- + Angled serrated base jaws SFG**  
Compatible with the ROTA-S plus and "F" system (Forkardt)
- + Ergonomic, light safety spanner wrench**  
Ensures easy operation
- + All sides of the functional parts are hardened and ground**  
High run-out and jaw change repeat accuracy

## Technical data

| Description            | Max. rotational speed<br>[min <sup>-1</sup> ] | Max. clamping force<br>[kN] | Max. torque<br>[Nm] | Stroke/jaw<br>[mm] | Through-hole<br>[mm] |
|------------------------|-----------------------------------------------|-----------------------------|---------------------|--------------------|----------------------|
| ROTA-S plus 2.0 160-42 | 5400                                          | 65                          | 80                  | 6.5                | 42                   |
| ROTA-S plus 2.0 200-52 | 4800                                          | 100                         | 120                 | 7                  | 52                   |
| ROTA-S plus 2.0 250-62 | 4200                                          | 160                         | 210                 | 7.7                | 62                   |
| ROTA-S plus 2.0 315-92 | 3400                                          | 180                         | 220                 | 9.8                | 92                   |
| ROTA-S plus 400-102    | 2200                                          | 230                         | 280                 | 12                 | 102                  |
| ROTA-S plus 500-162    | 1500                                          | 270                         | 320                 | 12                 | 162                  |
| ROTA-S plus 630-252    | 1000                                          | 270                         | 350                 | 15                 | 252                  |
| ROTA-S plus 800-252    | 1000                                          | 270                         | 350                 | 15                 | 252                  |
| ROTA-S plus 1000-402   | 900                                           | 270                         | 350                 | 15                 | 402                  |

## Function ROTA-S plus 2.0

The tangentially movable wedge bars in the chuck are driven by turning the thread spindle. The wedge bars transmit the force to the base jaws, generating a jaw movement that is synchronous and radial to the axis of rotation.



- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>1 Wedge bar actuation system</b><br/>It offers high run-out accuracies even at high speeds</p> <p><b>2 Hardened and extremely rigid base body</b><br/>Therefore a longer service life at highest precision. Even with maximum clamping force</p> <p><b>3 Large through-hole</b><br/>For machining all conventional bar diameters (optionally: with enlarged through-hole)</p> <p><b>4 Optimized lubrication system</b><br/>For a high level of efficiency</p> <p><b>5 Mounting thread</b><br/>For workpiece stops or cover plates</p> <p><b>6 Jaw quick-change system</b><br/>Shortest set-up times due to individual unlocking of jaws</p> <p><b>7 Base jaws with diagonal serration (SFG)</b><br/>Compatible with the ROTA-S plus and "F" system (Forkardt)</p> | <p><b>8 Locking mechanism</b><br/>Ensures secure intermeshing of the base jaw serration with the wedge bar serration</p> <p><b>9 Plunger pin</b><br/>For pre-positioning the base jaw</p> <p><b>10 Actuation via hexagon connection</b><br/>This ensures easy operation</p> <p><b>11 Push button for jaw change</b><br/>For shortest set-up times</p> <p><b>12 Indicator pin</b><br/>For visual stroke monitoring of the manual lathe chuck</p> <p><b>13 Special shaping with "edge profile for coolant run-off"</b><br/>Therefore less coolant is in the spindle bearing or machine spindle</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Spindel with hexagon connection

The vise can be easily actuated via a standard hexagon connection using either conventional socket wrenches, extensions or torque wrenches.



### Wedge bar system with wiper

Wipers at the end of the wedge bars prevent dirt and fine chips from penetrating into the lathe chuck and the chuck mechanism.



### Central lubrication system

Two lubrication nipples positioned on the chuck body facilitate lubrication of all functional surfaces. The special shape of the grease grooves ensures constant lubrication of the friction surfaces. This improves the clamping behavior during operation.



### Maximum operating safety

To ensure safe working, an indicator pin shows when the chuck mechanism is close to the stroke end position. As soon as the indicator pin moves outwards, the workpiece is no longer clamped correctly and machining must not be started.

#### 1 Indicator pin



## Correct jaw change

When the base jaw is fully inserted into the guideway, the slide positions the base jaw serration for the wedge bar. The base jaw holds the locking slide in the release position. The chuck can now be actuated.

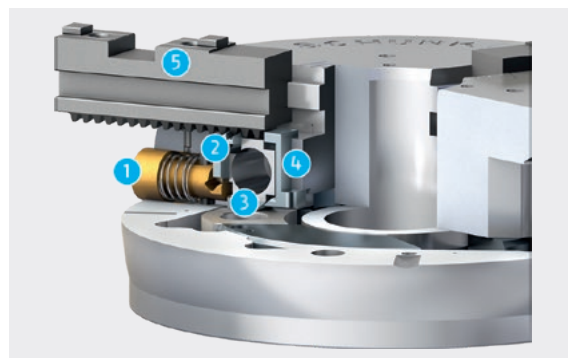
- ① Push button
- ② Slide
- ③ Traverse slide
- ④ Locking slide
- ⑤ Base jaw



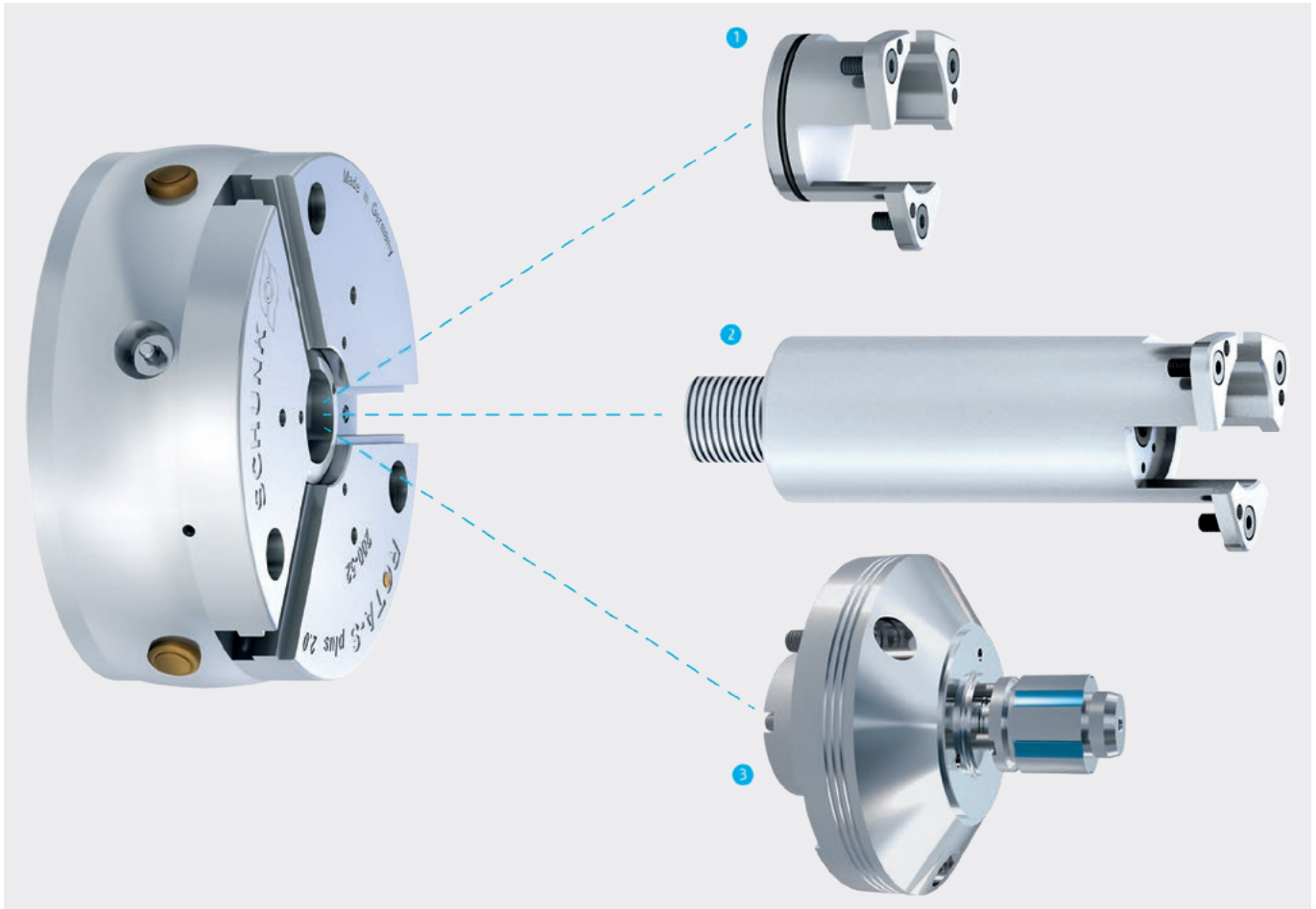
## Incorrect jaw change

If the base jaw is not fully inserted into the guideway, the locking slide prevents the chuck being clamped.

- ① Push button
- ② Slide
- ③ Traverse slide
- ④ Locking slide
- ⑤ Base jaw



## Modular center sleeve system



The modular center sleeve system increases flexibility for the most various applications in everyday life.

**1 Closed center sleeve**

The closed center sleeve prevents penetration of chips and coolant into the through-hole.

**2 Adjustable stop in the center sleeve**

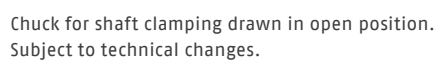
The adjustable stop ensures that all workpieces are stopped with high repeat accuracy in the same selectable position. This makes handling quick and easy.

**3 Expansion arbor**

To clamp small inner clamping diameters, the ROTA-S plus 2.0 in sizes  $\varnothing$  200 mm and  $\varnothing$  250 mm can be retrofitted with an expansion arbor. However, a taper must be ground into the chuck body in order to do this.

① Modular center sleeve system up to size 315 possible.





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## Technical data

| Spindle type | Spindle size | ID      | Max. rotational speed<br>[min <sup>-1</sup> ] | Max. clamping force<br>[kN] | Max. torque<br>[Nm] | Weight<br>[kg] |
|--------------|--------------|---------|-----------------------------------------------|-----------------------------|---------------------|----------------|
| -            | Z920         | 0814290 | 900                                           | 270                         | 350                 | 720            |

## Scope of delivery

Chuck, 1 set of base jaws with screws, chuck mounting screws, actuation key, eye bolt and operating manual

## Note

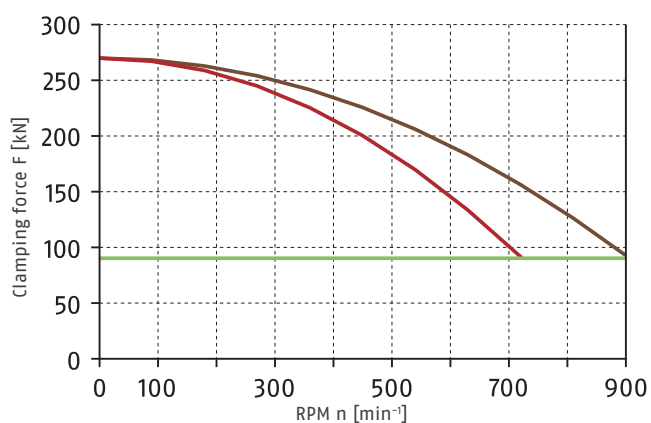
### Enlargement of the through-hole

Enlargement of the through-hole to a maximum  $\varnothing$  412 mm available upon request.

## Further technical data

| Chuck type           | Through-hole<br>[mm] | Stroke/jaw<br>[mm] | Tooth pitch<br>[mm] | Center jaw height<br>[mm] |
|----------------------|----------------------|--------------------|---------------------|---------------------------|
| ROTA-S plus 1000-402 | 402                  | 15                 | 8.5                 | 128                       |

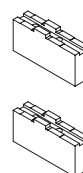
## Clamping force-RPM-diagram



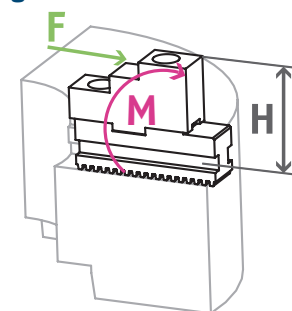
Required minimum clamping force  $F_{spmin}$  33%

SFA-AL 1000  
32 kg

SFA 1000  
81.79 kg



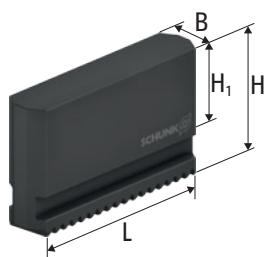
## Load of base jaw guidance



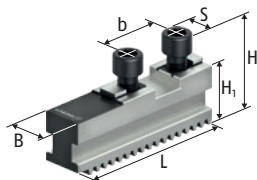
$M_{max} = 11520 \text{ Nm}$

## Base jaws, Soft monoblock jaws

with angled serration



SMB  
Soft monoblock jaws



SFG  
Base jaws

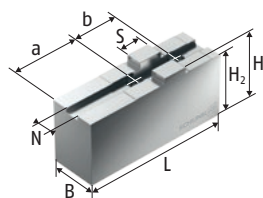
### Technical data

| Chuck type           | Description | ID                      | N<br>[mm] | S<br>[mm] | B<br>[mm] | H<br>[mm] | H1<br>[mm] | L<br>[mm] | b<br>[mm] | Screws | m/SET<br>[kg] |
|----------------------|-------------|-------------------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|--------|---------------|
| ROTA-S plus 1000-402 | SMB 630-800 | <a href="#">0163106</a> |           |           | 65        | 130       | 88         | 230       |           |        | 40.2          |
| ROTA-S plus 1000-402 | SFG 1000    | <a href="#">0157108</a> | 40        | 24        | 65        | 72        | 68         | 314       | 82        | M20    | 27.1          |

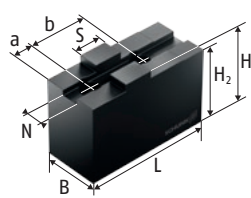
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on [schunk.com](http://schunk.com)

## Soft top jaws

with tongue and groove



SFA-AL  
Soft top jaws



SFA  
Soft top jaws

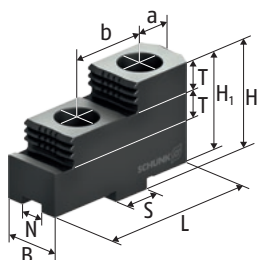
## Technical data

| Chuck type           | Description | ID                      | N<br>[mm] | S<br>[mm] | B<br>[mm] | H<br>[mm] | H2<br>[mm] | L<br>[mm] | a<br>[mm] | b<br>[mm] | Screws | m/SET<br>[kg] |
|----------------------|-------------|-------------------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|--------|---------------|
| ROTA-S plus 1000-402 | SFA 630     | <a href="#">0153106</a> | 24        | 40        | 65        | 118       | 110        | 260       | 129       | 82        | M20    | 39.6          |
| ROTA-S plus 1000-402 | SFA 1000    | <a href="#">0153108</a> | 24        | 40        | 76        | 150       | 142        | 350       | 219       | 82        | M20    | 81.8          |
| ROTA-S plus 1000-402 | SFA-AL 1000 | <a href="#">0172108</a> | 24        | 40        | 80        | 155       | 147        | 350       | 219       | 82        | M20    | 32.0          |

Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on [schunk.com](https://www.schunk.com)

## Hard stepped top jaws

with tongue and groove



SHF  
Hard stepped top jaws

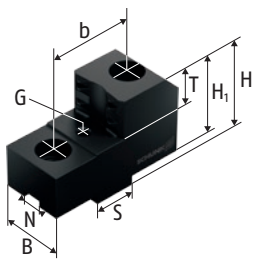
### Technical data

| Chuck type           | Description | ID                      | N<br>[mm] | S<br>[mm] | B<br>[mm] | H<br>[mm] | H1<br>[mm] | L<br>[mm] | T<br>[mm] | a<br>[mm] | b<br>[mm] | Screws | m/SET<br>[kg] |
|----------------------|-------------|-------------------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|--------|---------------|
| ROTA-S plus 1000-402 | SHF 630     | <a href="#">0155106</a> | 24        | 40        | 65        | 105       | 97         | 185       | 30        | 41        | 82        | M20    | 18.0          |

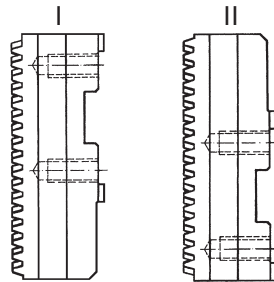
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## Claw jaws

with tongue and groove



SZKA  
Claw jaws



Position of base jaws

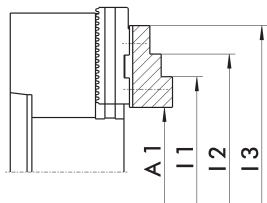
## Technical data

| Chuck type           | Clamping range ØD | Swing diameter SDmax | Position of base jaws | Description | ID                      | N    | S    | B    | H    | H1   | L    | T    | G  | b    | Screws | m/SET |
|----------------------|-------------------|----------------------|-----------------------|-------------|-------------------------|------|------|------|------|------|------|------|----|------|--------|-------|
|                      | [mm]              | [mm]                 |                       |             |                         | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |    | [mm] |        | [kg]  |
| ROTA-S plus 1000-402 | 388 - 876         | 1179                 | I                     | SZKA 631    | <a href="#">0139200</a> | 24   | 40   | 65   | 97   | 89   | 173  | 42   | M8 | 82   | M20    | 13.5  |
| ROTA-S plus 1000-402 | 549 - 1037        | 1179                 | I                     | SZKA 632    | <a href="#">0139201</a> | 24   | 40   | 65   | 97   | 89   | 145  | 42   | M8 | 82   | M20    | 11.8  |
| ROTA-S plus 1000-402 | 81 - 537          | 1179                 | II                    | SZKA 631    | <a href="#">0139200</a> | 24   | 40   | 65   | 97   | 89   | 173  | 42   | M8 | 82   | M20    | 13.5  |
| ROTA-S plus 1000-402 | 212 - 697         | 1179                 | II                    | SZKA 632    | <a href="#">0139201</a> | 24   | 40   | 65   | 97   | 89   | 145  | 42   | M8 | 82   | M20    | 11.8  |

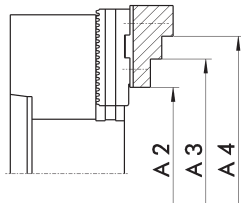
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## Hard stepped top jaws

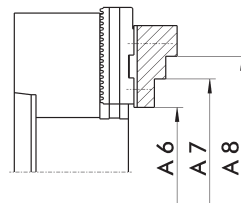
with tongue and groove



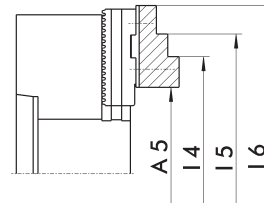
Position of base jaws II



Position of base jaws I



Position of base jaws II



Position of base jaws I

### O.D. clamping

| Chuck type           | Description | ID                      | A1<br>[mm] | A3<br>[mm] | A4<br>[mm] | A5<br>[mm] | A7<br>[mm] | A8<br>[mm] |
|----------------------|-------------|-------------------------|------------|------------|------------|------------|------------|------------|
| ROTA-S plus 1000-402 | SHF 630     | <a href="#">0155106</a> | 45 - 495   | 387 - 839  | 547 - 1000 | 382 - 835  | 49 - 500   | 208 - 661  |

### I.D. clamping

| Chuck type           | Description | ID                      | I1<br>[mm] | I2<br>[mm] | I4<br>[mm] |
|----------------------|-------------|-------------------------|------------|------------|------------|
| ROTA-S plus 1000-402 | SHF 630     | <a href="#">0155106</a> | 209 - 657  | 367 - 818  | 544 - 996  |

## Accessories

### Clamping force tester

For measuring the jaw clamping force of 2, 3 and 6-jaw chucks up to 6,000 RPM.



| Suitable for         | Description | ID                      |
|----------------------|-------------|-------------------------|
| ROTA-S plus 1000-402 | IFT Set     | <a href="#">1404235</a> |

### Extension set for large chucks

For use as an extension of the IFT measuring head for measuring the jaw clamping force of large chucks of Ø 400 mm and more.



| Suitable for         | Description     | ID                      |
|----------------------|-----------------|-------------------------|
| ROTA-S plus 1000-402 | IFT adapter set | <a href="#">1498512</a> |

### Torque wrench

Torque wrench for actuation of SCHUNK manual lathe chucks.



| Suitable for         | Description       | ID                      |
|----------------------|-------------------|-------------------------|
| ROTA-S plus 1000-402 | SSH-D-3/4" 80-400 | <a href="#">1301023</a> |

### Square actuation wrench

Spanner wrench for manual actuation of the SCHUNK ROTA-S plus and ROTA-G manual lathe chucks.



| Suitable for         | Description     | ID                      |
|----------------------|-----------------|-------------------------|
| ROTA-S plus 1000-402 | SSH-VK SW24-420 | <a href="#">8700132</a> |

### Long square actuation wrench

Spanner wrench for manual actuation of the SCHUNK ROTA-S plus and ROTA-G manual lathe chucks.



| Suitable for         | Description     | ID                       |
|----------------------|-----------------|--------------------------|
| ROTA-S plus 1000-402 | SSH-VL SW24-600 | <a href="#">88004486</a> |

### Square connection for torque wrench

Extension for torque wrench for actuation of SCHUNK ROTA-S plus and ROTA-G manual chucks.



| Suitable for         | Description     | ID                      |
|----------------------|-----------------|-------------------------|
| ROTA-S plus 1000-402 | SAV-I 3/4"-SW24 | <a href="#">8705087</a> |

## Grease

### LINOMAX plus

High-performance grease as standard for regularly lubricating SCHUNK manual and power lathe chucks and steady rests.



| Bundle    | Description            | ID                      |
|-----------|------------------------|-------------------------|
| Cartridge | LINOMAX plus cartridge | <a href="#">1342585</a> |
| Can       | LINOMAX plus can       | <a href="#">1342586</a> |
| Bucket    | LINOMAX plus bucket    | <a href="#">1342587</a> |

### Grease gun

Auxiliary tools for lubrication of all kinds of SCHUNK products. The grease gun can be used for cartridges of all types of SCHUNK grease.



| Bundle    | Description | ID                      |
|-----------|-------------|-------------------------|
| Cartridge | Grease gun  | <a href="#">9900543</a> |



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