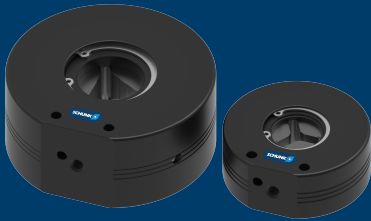


# TRIBOS SVP Mini/SVP RM



## Assembly and operating manual

### 1 General

#### 1.1 About this manual

This manual is part of the product and contains important information for safe and correct use. It must be kept accessible at all times. Personnel must have read and understood this manual before starting any work. All safety notes and the associated specifications in particular must be observed and complied with. Illustrations may differ from the actual design.

#### 1.2 Applicable documents

- General terms of business
- Catalog data sheet of the purchased product
- TRIBOS polygonal toolholder assembly and operating manual

The other applicable documents can be downloaded from [schunk.com](http://schunk.com).

#### 1.3 Warranty

The warranty is valid for 24 months from the date of delivery from the production facility if the product is used as intended and in compliance with the prescribed operating data.

The clamping frequency of the product is a minimum of 5000 clamping operations.

Wear parts and parts that come in contact with the tool or machine are not covered by the warranty.

#### 1.4 Illustration of warnings

##### WARNING

###### Dangers for persons!

Non-observance can lead to irreversible injury and even death.

##### CAUTION

###### Dangers for persons!

Non-observance can cause minor injuries.

##### NOTICE

###### Material damage!

Information about avoiding material damage.

#### 1.5 Scope of delivery

- Product
- Assembly and Operating Manual

#### 1.6 Accessories

The following accessories for the product are available separately:

- Actuation key for tightening and loosening the clamping screw
- Table bracket for mounting

### 2 Basic safety notes

#### 2.1 Notes on safe operation

- The bleed screw of the hydraulic system is sealed with resin. **Do not remove this seal!**
- Maintain and service the product on a regular basis.
- All repair work must be performed by SCHUNK.
- The operational safety and function of the product must not be impaired by external influences.
- Follow the country-specific applicable safety, accident prevention, and environmental protection regulations for the application field of the product.

#### 2.2 Appropriate use

- The product is designed for loading and changing tools in TRIBOS-Mini or TRIBOS-RM toolholders.
- The product is intended for industrial use.
- The product may only be used and operated within the scope of the technical data and the specifications in this manual, ▶ Chap. 4.

#### 2.3 Inappropriate use

The product is not being used as intended if:

- The information in the technical data is not observed when using and operating the product ▶ Chap. 4.
- The maintenance and storage instructions are not observed ▶ Chap. 6.
- The clamping screw is actuated with a mechanical screwdriver.
- The specifications in this manual have not been observed.

#### 2.4 Ambient conditions and operating conditions

The ambient and operating conditions must correspond or be adapted to the version of the product and the specifications in the technical data.

#### 2.5 Structural changes, spare parts

Structural changes such as modification and reworking, e.g. additional threads, bore holes or attachments, may only be carried out with the written approval of SCHUNK. Only use original spare parts and spares authorized by SCHUNK.

#### 2.6 Personnel qualifications

- All operations may only be carried out by personnel that are qualified and instructed for the respective operation.
- Personnel qualifications must comply with the on-site country-specific requirements and laws.

#### 2.7 Personal protective equipment

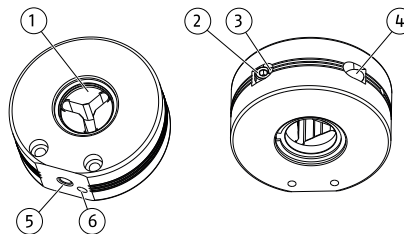
- When working on and with the product, follow the respective country-specific legal requirements for occupational health and safety, and wear the necessary personal protective equipment.
- Follow country-specific accident prevention regulations and the general safety notes.

#### 2.8 Transport

To avoid product damage, the transport and handling of the product must be adapted according to the version, weight and packaging of the product. If necessary, use additional aids.

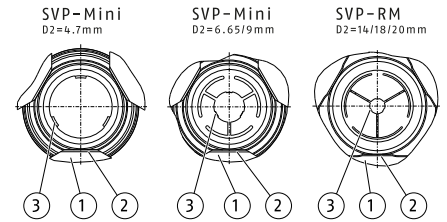
Only use original SCHUNK packaging for storage and shipping.

### 3 Structure



- |   |                                     |
|---|-------------------------------------|
| 1 | Intermediate sleeve                 |
| 2 | Clamping screw                      |
| 3 | Locking pin – only for SVP RM       |
| 4 | Center plug – only for SVP RM       |
| 5 | Thread for vertical mounting        |
| 6 | Bore hole for anti-twist protection |

### 4 Technical data

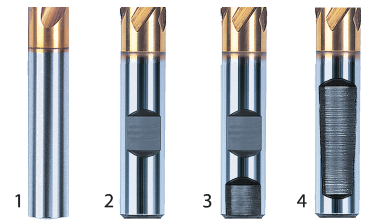


D2	Outer diameter
1	Intermediate sleeve
2	Engaging surface 3x120°
3	Clamping surface (120° angular offset)

#### 4.1 General data

Max. tightening torque of the clamping screw [Nm]	5
Operating temperature range [°C]	+15 to +25
Relative air humidity [%]	20 to 80
Tool shank tolerance	h6
Min. tool shank hardness [HRC]	50
Min. tool shank strength [N/mm <sup>2</sup> ]	1000

#### 4.2 Permitted shank types



1. Shank type according to DIN 1835-1 form A and DIN 6535 form HA
2. Shank type according to DIN 1835-1 form B and DIN 6535 form HB (up to Ø 20 mm)
3. Shank type according to DIN 1835-1 form B and DIN 6535 form HB (from Ø 25 mm)
4. Shank type according to DIN 1835-1 form E and DIN 6535 form HE

Tool shanks with recesses (forms 2, 3 and 4) can impair the balancing grade and concentricity of the TRIBOS polygonal toolholder.

### 5 Operation

#### 5.1 Operation (clamping/undamping)

##### CAUTION

###### Risk of injury from tools with sharp edges!

Sharp edges on tools can cause cuts.

- Wear protective gloves when assembling the tool.

##### NOTICE

###### Risk of deformation of the intermediate sleeve.

The product may only be operated with the toolholder inserted.

##### NOTICE

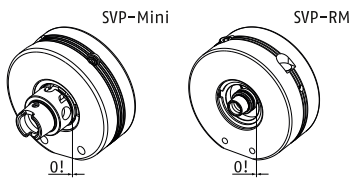
The actuating screw must not be screwed in as far as the stop at temperatures above +25°C! The toolholder will otherwise be exposed to overpressure!

##### NOTICE

###### Material damage due to incorrect minimum clamping depth!

Too small a clamping depth of the tool leads to a loss of accuracy and torque on the product.

- Observe the minimum clamping depth of the tool.



0! at stop

The product must be unclamped when loading the workpiece. Initial tension inhibits loading and can damage the intermediate sleeve.

For clamping, proceed as follows:

1. Observe the technical data ▶ Chap. 4 and the marking on the product.
2. Make sure that the product is in an unclamped state.
3. Clean any dust and dirt from all product surfaces that come into contact with the workpiece.
4. The tool must be free of burrs and dirt on the shank.
5. Insert the toolholder into the intermediate sleeve up to the stop surface until it engages over the flat areas.  
**ATTENTION:** Failure to comply could result in plastic deformation and loss of function for the clamping device and the toolholder. The position is automatically specified via the 3 segments of the intermediate sleeve.
6. The tool must be inserted into the toolholder at least to the minimum clamping depth.
7. Screw the clamping screw in by hand.  
**NOTE:** Observe the "Max. tightening torque of the clamping screw" specified ▶ Chap. 4.
8. **The clamping screw may not be actuated with a mechanical screwdriver!**
9. Check that the workpiece is firmly in place.

**NOTE:** The instructions for clamping and releasing must be observed ▶ Chap. 5.2.

**IMPORTANT!** The product may only be operated without a workpiece for the settings and functional tests!

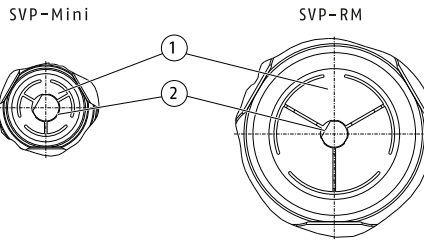
**Releasing with the TRIBOS-Mini:** In order to release, approx. 4 key turns are required. The clamping screw is not secured from falling out!

**Releasing with the TRIBOS-RM:** In order to release, approx. 14 key turns are required. The clamping screw is secured against falling out with a locking pin!

- Only apply force to the TRIBOS toolholder in the clamping device when it is correctly positioned in the intermediate sleeve (toolholder engaged over flat areas). Failure to comply could result in plastic deformation and loss of function!
- **In order to avoid a loss of function, the wear to the intermediate sleeve should be at maximum 0.04 mm.**

## 5.2 Notes on clamping and releasing

- Due to production and material tolerances as well as different tool shank diameters, it is possible that tools or workpieces can be fitted or released before the clamping screw is screwed as far as the stop.
- Tool shanks with recesses, especially DIN 1835 Form E or DIN 6535 Form HE, are often twisted and can therefore frequently not be inserted into the TRIBOS toolholder or quickly lead to poor run-out accuracy. The same is also true of tool shanks that fall below h6 quality (no torque) or exceed it (cannot be fitted). During the tensioning of Form E or HE shanks, the position of the recesses with respect to the pressure segments must be noted:



- |   |  |
|---|--|
| 1 | Toolholder                               |
| 2 | Shank DIN 1835-1 form E/DIN 6535 form HE |

In this shank position in the TRIBOS toolholder, the clamping surfaces bear on the **full shank**, thereby achieving a similar effect as that of a **full shank clamping**. The tool shank must be hard enough to prevent plastic deformation of the tool shank. ▶ Chap. 4  
At lower hardnesses or strengths, there is less coverage of the pressing connection, resulting in decreased power transmission of the clamping system.

## 5.3 Troubleshooting

### Tool is not clamped

- excessive production and material tolerances of the tool shank
- ⇒ Use tool with the correct tool shank tolerance.
- Clamping piston was removed during lubrication of the clamping screw
- ⇒ Insert clamping piston into product
- Wear on the intermediate sleeve or oil loss from the product
- ⇒ Send the product to SCHUNK for inspection

### Workpiece cannot be joined

- Product is not completely unclamped
- ⇒ Unclamp the product
- Tool shanks with recesses, especially DIN 1835 form E or DIN 6535 form HE, are often distorted
- ⇒ Use a tool without distortion
- Material accumulations on the tool shank, e.g. due to marking
- ⇒ Remove or smoothen the shank marking with fine sandpaper or a grindstone.

### Workpiece cannot be removed

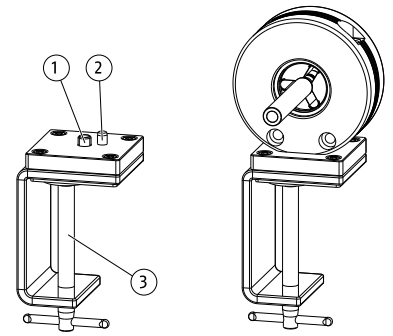
- Fine particles in the coolant can lead to the tool getting stuck in the toolholder.
- ⇒ Insert a punch through the rear opening of the TRIBOS toolholder and use it to free the tool by sliding it or with light blows.

If you have any questions regarding troubleshooting, our technical after-sales service is available during our business hours:

**Service telephone: +49-7133-103-2956**  
**service.toolholder@de.schunk.com**

## 5.4 Mounting the clamping device

An optional bracket is available for mounting the product vertically on a worktop:



- |   |                              |
|---|------------------------------|
| 1 | Mounting thread              |
| 2 | Anti-rotation protection pin |
| 3 | Table clamp                  |

## 6 Maintenance and storage

If you have any questions regarding maintenance and servicing, our technical after-sales service is available during our business hours:

**Service telephone: +49-7133-103-2956**  
**service.toolholder@de.schunk.com**

**All repair work must be performed by SCHUNK!**

### 6.1 Cleaning

Clean the clamping bore during every tool change with a cleaning agent containing solvents and a cleaning brush. Do not clean the product mechanically.

### 6.2 Lubricating the clamping screw

#### CAUTION

**Allergic reactions if lubricating grease comes into contact with the skin.**

- Wear protective gloves to lubricate the clamping screw.

It is necessary to adapt the cleaning and lubrication of the clamping screw to the ambient conditions. Especially in the case of high clamping frequencies, high operating temperatures, and abrasive dirt or dust. Grease the clamping screw with MICROGLEIT TN3102/Lino-3550-32 after approx. every 1000 clamping operations.

### 6.3 Storage

- Lightly oil the entire surface of the product.
- Only store the product in an unclamped state and protected against corrosion.
- Store the product in a suitable transport container.
- Protect the product from excessive temperature fluctuations.

**NOTE:** Before recommissioning, clean the product and check for damage, functionality and tightness!

## 7 Disposal

- Follow local regulations on dispatching product components for recycling or proper disposal.
- Alternatively, you can return the product to SCHUNK for correct disposal.

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### Technical changes:

We reserve the right to make alterations for the purpose of technical improvement.

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