

Vacuum Gripper

Type GSW-V 20-32

Assembly and Operating Manual



Dear Customer,

Congratulations on choosing a SCHUNK product. By choosing SCHUNK, you have opted for the highest precision, top quality and best service.

You are going to increase the process reliability of your production and achieve best machining results – to the customer's complete satisfaction.

SCHUNK products are inspiring.

Our detailed assembly and operation manual will support you.

Do you have further questions? You may contact us at any time – even after purchase. You can reach us directly at the mentioned addresses in the last chapter of these instructions.

Kindest Regards,

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1 About this manual

1.1 Purpose/validity

This manual is part of the module and describes the safe and proper use during all phases of operation.

This manual is valid only for the module specified on the front page.

1.2 Target groups

Target group	Task
Manufacturer, operator	<ul style="list-style-type: none"> ➔ Keep this manual available for the personnel at all times. ➔ Require personnel to read and observe this manual and the applicable documents, especially the safety notes and warnings.
Skilled personnel, fitter	<ul style="list-style-type: none"> ➔ Read, observe and follow this manual and the applicable documents, especially the safety notes and warnings.

Tab. 1

1.3 Applicable documents






You can find the following documents on our homepage:

Document	Purpose
Catalog	Technical data or application parameters of the module and information on accessories. The last version is always valid.
Assembly and Operating Manuals for toolholders	Detailed information about assembly, adjustment and commissioning of the toolholder.
General terms of business	Including notes on the warranty.

Tab. 2

1.4 Symbols in this manual

To give you quick access to information, the following symbols will be used in this guide:

Symbol	Designation
 WARNING	Dangers for persons. Nonobservance can cause death or serious injuries.
 NOTICE	Information on avoiding material damage.
	Handling instruction, also measures in a warning or note.
1. 2. 3. ...	Step-by-step handling instruction. → Observe the order.
	Component/spare part represented in a graphic.
	Part/detail shown in a graphic which is part of a spare part or which must be provided by the customer.
(10), (/10/)	Reference in the text or in a handling instruction to a part that is represented in a graphic.

Tab. 3

2 Basic safety notes

2.1 Intended use

The module was designed for suction and temporarily holding of workpieces or objects.

The module is intended for installation in a machine. The requirements of the applicable guidelines must be observed and complied with.

The module may be used only in the context of its defined application parameters. Any other use or use exceeding that specified is an infringement of use for intended purpose.

NOTICE

The use of the GSW-V with a shrink holder is classed as improper use. The manufacturer bears no liability for damage resulting from such use.

2.2 Environmental and operating conditions

→ The module may be used only in the context of its defined application parameters (see chapter 5, page 9 and catalog).

2.3 Controlled production

The module represents the state of the art and the recognized safety rules at the time of delivery. However, it can present risks if, for example:

- The module is not used in accordance with its intended purpose.
- The module is not installed or maintained properly.
- The EC Machinery Directive, the VDE directives, the safety and accident-prevention regulations valid at the usage site, or the safety and installation notes are not observed.

2.3.1 Protective equipment

- ➔ Provide protective equipment per EC Machinery Directive.

2.3.2 Constructional changes, attachments, or modifications

Additional drill holes, threads, or attachments that are not offered as accessories by SCHUNK may be attached only with permission of SCHUNK.

2.4 Personnel qualification

The assembly, initial commissioning, maintenance, and repair of the module may be performed only by trained specialist personnel.

Every person called upon by the operator to work on the module must have read and understood the complete Assembly and Operating Manual, especially chapter 2 "Basic safety notes". This applies particularly to occasional personnel such as maintenance personnel.

2.5 Safety-conscious working

- ➔ Avoid any manner of working that may interfere with the function and operational safety of the module.
- ➔ Observe the safety and accident-prevention regulations valid at the usage site.

2.6 Notes on particular risks

Risk of injury from objects falling and being ejected

- ➔ Provide protective equipment to prevent objects from falling or being ejected, such as processed workpieces, tools, chips, fragments, rejects.

3 Warranty

The warranty is valid for 24 months from the delivery date to the production facility under the following conditions:

- Intended use in 1-shift operation
- Observation of the ambient conditions and operating conditions (see chapter 2.2, page 6)

Parts touching the workpiece and wearing parts are not part of the warranty. Also observe our general terms of business.

4 Scope of delivery

The scope of delivery includes:

- Vacuum Gripper Type GSW-V in the ordered model.

Note

Base body of GSW-V und suction cups are individually or combined available in different sizes and diameters. Further Information can be found in our catalog or on our website www.schunk.com.

➔ Order accessories separately.

➔ For additional accessories, see catalog.

5 Technical Data

Further technical data can be found in our catalog. The most recent version applies.

		Type	20	25	32
Mechanical Operating data	weight [kg]		0,12	0,15	0,23
	leak tightness IP		67	67	67
	Ambient temperature [°C]				
	Min. [°C]		-10	-10	-10
	Max. [°C]		+90	+90	+90
Operating data for media connection	Max. vacuum [bar]		-0,8	-0,8	-0,8
	pressure medium		machine cooling water (filtered, max. particle size 30 microns)		
	minimum pressure [bar]		20	20	20
	maximum pressure [bar]		60	60	60
	pressure medium		compressed air		
	minimum pressure [bar]		4	4	4
	maximum pressure [bar]		8	8	8
	Air consumption at 4bar [l/min.]		220	200	250
Air consumption at 6bar [l/min.]		300	300	350	

Tab. 4

6 Assembly

6.1 Mechanical connection

⚠ WARNING

Risk of injury when the machine/system moves unexpectedly

➔ Switch off power supply.

Note

Do not use a shrink holder!

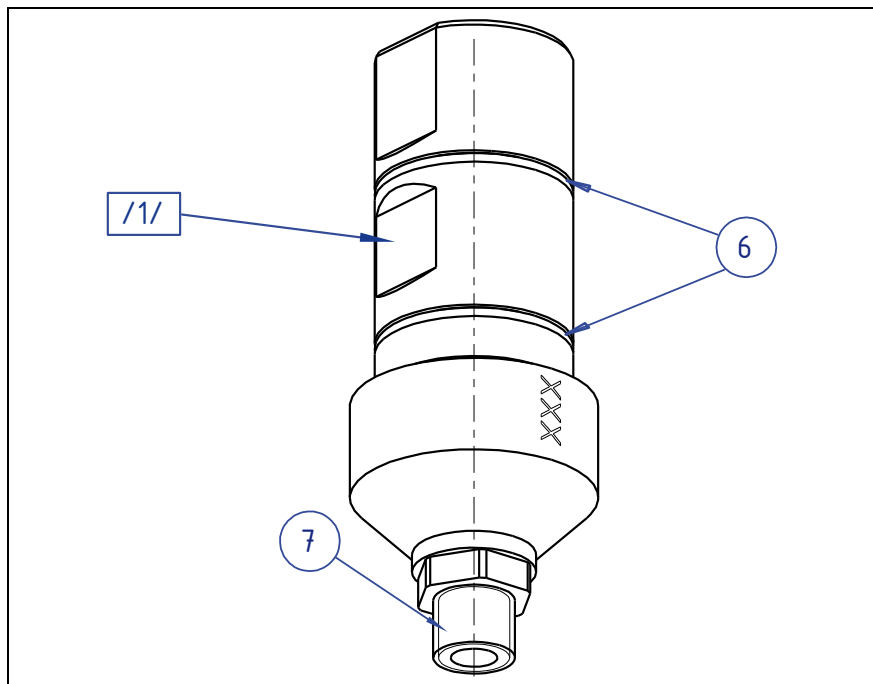


Fig. 1

1. Check whether the O-rings (6) are fitted on the shank, fit O-rings (6) if necessary.
2. Clamp the module in the toolholder with the shank or using the clamping face (/1/).
3. Screw in the suction cup at the reducing piece (7). Consider the thread size! (See chapter 10, from page 16) or: Replace the suction cup directly with a reducing piece.

6.2 Assembly example

6.2.1 Toolholder TENDO

The TENDO toolholder clamps the shank of the GSW-V using distributed clamping.

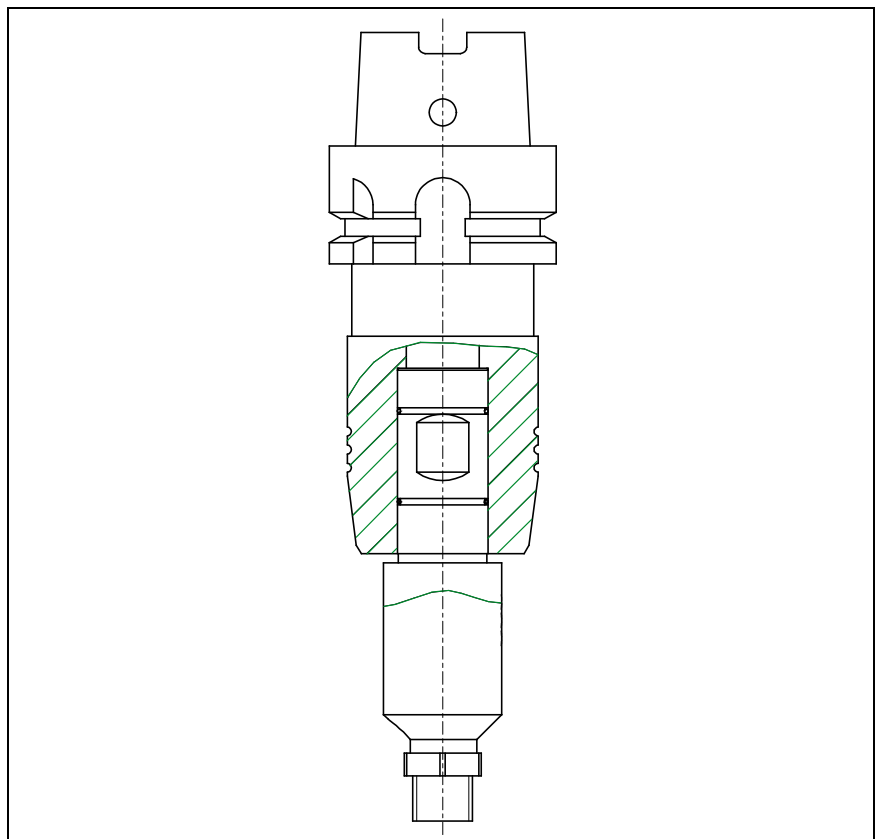


Fig. 2 Sectional view of the GSW-V clamped in the TENDO

6.2.2 Toolholder WELDON

The shank of the GSW-V is clamped in the clamping face (/1/) using the set screw (/2/) of the WELDON toolholder.

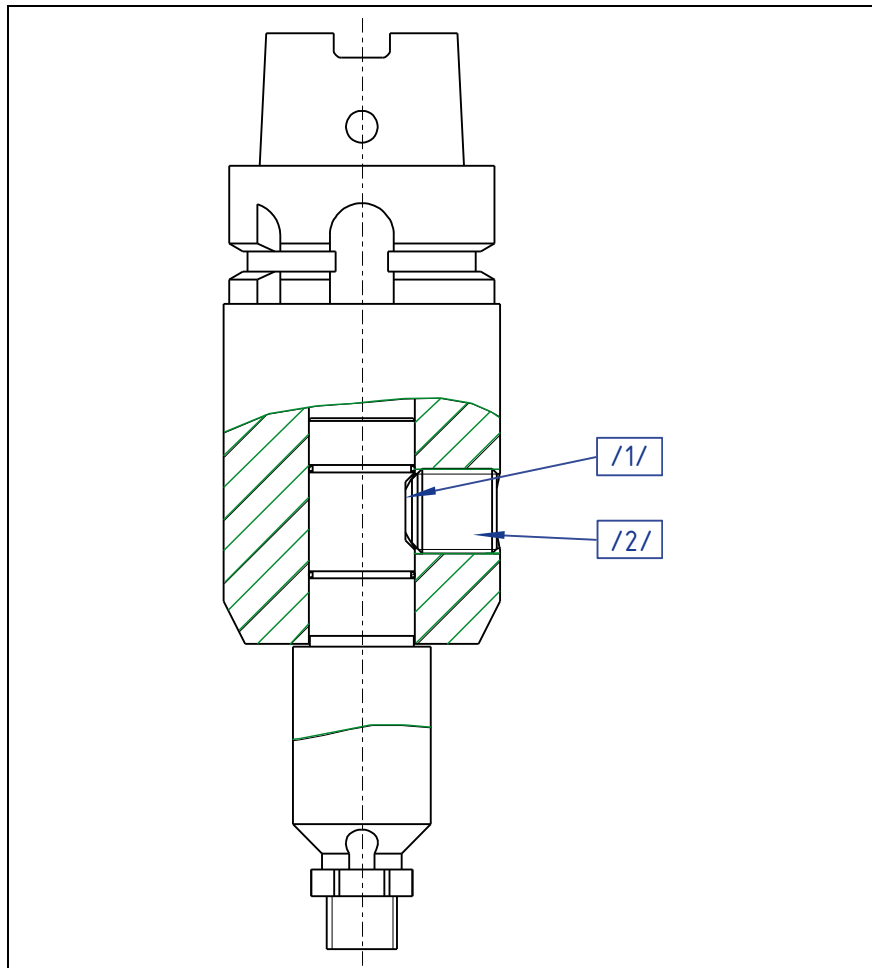


Fig. 3 Sectional view of the GSW-V clamped in the WELDON

7 Trouble-shooting

7.1 Is there no air/cooling water coming out of the GSW-V

Possible cause	Corrective action
Nozzle got choked/ dirty.	➔ Control the nozzle, and if necessary clean it.

Tab. 5

7.2 Loss of workpiece

Possible cause	Corrective action
Nozzle got choked/ dirty.	➔ Control the nozzle, and if necessary ➔ clean it.
The recommended workpiece weight is exceeded / technical data were exceeded.	➔ Consider the technical data (See chapter 5, page 9)

Tab. 6

8 Maintenance and care

8.1 Notes

The GSW-V is maintenance-free.

→ Cleaning the nozzle (if necessary).

The suction cup is a wear part and has to be maintained.

→ Regular visual inspection of the suction cup. If necessary, replace the suction cup.

Spare parts and wearing parts can be replaced and exchanged if necessary. (see chapter 10, at page 16)

8.2 Cleaning the nozzle

(Item see chapter 9 "Assembly drawing", page 15)

 WARNING
Risk of injury when the machine/system moves unexpectedly
→ Switch off power supply.

1. Remove the GSW-V from the machine.
2. Turn out the suction cup with the reducing piece (7).
3. Rinse or sparge (with compressed air) the GSW-V until the nozzle is free again.
4. Turn in again the suction cup with the reducing piece (7).

9 Assembly drawing

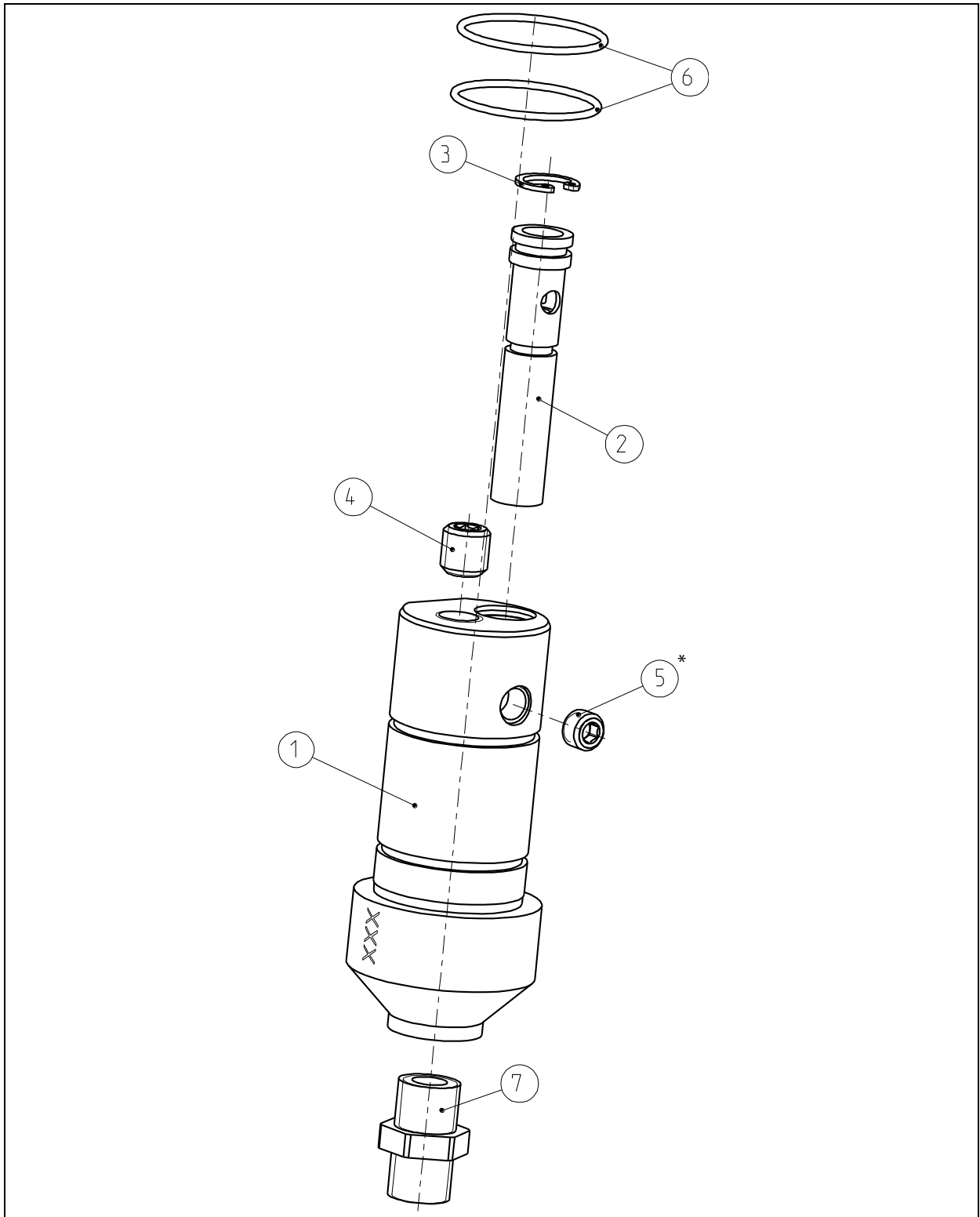


Fig. 4

*for size GSW-V 32

10 Spare parts

(Item see chapter 9 "Assembly drawing", page 15)

10.1 GSW-V 20

Item	ID-No.	Quantity	Designation
1	5518730	1	Housing GSW-V
2	9952178	1	Vacuum insert
3	9939202	1	Safety ring DIN 472, 13 x 1,00
4	9942019	3	Set screw ISO 4026/45H, M4 x 4mm, polyamide-coated
6	9611115	2	O-ring DIN 3771, 18,00 x 1,00mm
7	9952180	1	Reducing piece G1/4 AG / G1/8 AG

Tab. 7 Base body (ID-No. 0309120)

Suction cup with GSW-V20 ID-No.	Suction cup individually ID-No.	Designation
0309121	0309135	Suction cup type 30 G1/4
0309122	0309136	Suction cup type 80 G1/4
0309123	0309137	Suction cup type 125 G1/4

Chart 8 Suction cup (Wear part: Must be controlled at every maintenance on damage, and if necessary has to be replaced).

10.2 GSW-V 25

Item	ID-No.	Quantity	Designation
1	5518731	1	Housing GSW-V
2	9952178	1	Vacuum insert
3	9939202	1	Safety ring DIN 472, 13 x 1,00
4	9670521	2	Set screw DIN 915/45H, M8 x 6mm, polyamide-coated
6	9939228	2	O-ring DIN 3771, 23,00 x 1,00mm
7	9952180	1	Reducing piece G1/4 AG / G1/8 AG

Tab. 9 Base body (Id-No. 0309125)

Suction cup with GSW-V20 ID-No.	Suction cup individually ID-No.	Designation
0309126	0309135	Suction cup type 30 G1/4
0309127	0309136	Suction cup type 80 G1/4
0309128	0309137	Suction cup type 125 G1/4

Chart 10 Suction cup (Wear part: Must be controlled at every maintenance on damage, and if necessary has to be replaced)

10.3 GSW-V 32

Item	ID-No.	Quantity	Designation
1	5518732	1	Housing GSW-V
2	9952178	1	Vacuum insert
3	9939202	1	Safety ring DIN 472, 13 x 1,00
4	9670522	1	Set screw DIN 915/45H, M10 x 10mm, polyamide-coated
5	9670521	1	Set screw DIN 913/A2, M8 x 6mm, polyamide-coated
6	9935428	2	o-ring DIN 3771, 29,00 x 1,50mm
7	9952179	1	Reducing piece G1/4

Tab. 11 Base body (Id.-No. 0309130)

Suction cup with GSW-V20 ID-No.	Suction cup individually ID-No.	Designation
0309131	0309135	Suction cup type 30 G1/4
0309132	0309136	Suction cup type 80 G1/4
0309133	0309137	Suction cup type 125 G1/4

Chart 12 Suction cup (Wear part: Must be controlled at every maintenance on damage, and if necessary has to be replaced)

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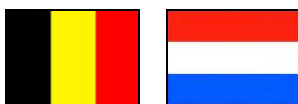
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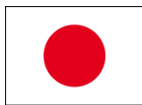
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