

Vacuum grippers

GSW-V 20-32

Assembly and Operating Manual



Imprint

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Technical changes:

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

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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.

Kindest Regards

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1 About this manual

This instruction is an integral part of the product and contains important information for a safe and proper assembly, commissioning, operation, maintenance and help for easier trouble shooting.

Before using the product, read and note the instructions, especially the chapter "Basic safety notes".

1.1 Warnings

The following key words and symbols are used to highlight dangers.

1.1.1 Key words

DANGER	Dangers for persons. Non-compliance will inevitably cause irreversible injury or death.
WARNING	Dangers for persons. Non-compliance may cause irreversible injury or death.
CAUTION	Dangers for persons. Non-observance may cause minor injuries.
NOTICE	Information about avoiding material damage

1.1.2 Symbols



Warning about a danger point



Warning about hand injuries



General mandatory sign to prevent material damage

1.2 Applicable documents

- General terms of business
- Catalog data sheet of the purchased product

The documents listed here, can be downloaded on our homepage www.schunk.com

2 Basic safety notes

2.1 Intended use

The module was designed to suction and to temporarily hold workpieces or objects.


The module is intended for installation in a machine/system. 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 ([👉 6, Page 9](#)).

The module is intended for industrial use.

To use this unit as intended, it is also essential to observe the technical data and installation and operation notes in this manual and to comply with the maintenance intervals.

2.2 Not intended use

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

2.3 Environmental and operating conditions

- Make sure that the module has a sufficient size for the application.
- Observe Maintenance and lubrication intervals Link Wartungs- und Schmierintervalle.
- Make sure that the environment is free from splash water and vapors as well as from abrasion or processing dust. Exceptions are modules that are designed especially for contaminated environments.

2.4 Product safety

Dangers arise from the module, if:

- the module is not used in accordance with its intended purpose.
- the module is not installed or maintained properly.
- the safety and installation notes are not observed.

Avoid any manner of working that may interfere with the function and operational safety of the module.

Wear protective equipment.

NOTE

More information are contained in the relevant chapters.

2.4.1 Protective equipment

Provide protective equipment per EC Machinery Directive.

2.4.2 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.

2.5 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 the chapter "Basic safety notes" ([👉 2, Page 5](#)). This applies particularly to personnel only used occasionally, such as maintenance personnel.

2.6 Notes on particular risks

Generally valid:

- Remove the energy supplies before installation, modification, maintenance, or adjustment work.
- Make sure that no residual energy remains in the system.
- Do not move parts by hand when the energy supply is connected.
- Do not reach into the open mechanism or the movement area of the module.
- Perform maintenance, modifications, and additions outside of the danger zone.
- For all work, secure the unit against accidental operation.
- Take a precautionary approach by maintenance and disassembly.
- Only specially trained staff should disassemble the module.



WARNING

Risk of injury from objects falling and being ejected

- The danger zone must be surrounded by a safety fence during operation.



WARNING

While disassembling uncontrollable moves of parts of the gripper possible!

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
- Observe the mandatory maintenance and lubrication intervals
- Observe the environmental and operating conditions

Parts touching the work piece and wear parts are not part of the warranty.

4 Scope of delivery

The scope of delivery includes:


- Vacuum grippers GSW-V in the ordered model.

NOTE

Base body of GSW-V and suction unit are available individually and combined in different sizes and diameters.

5 Accessories

A wide range of accessories are available for this module.

For information about which accessories can be used with the appropriate product version  catalog.



6 Technical data

Size	20	25	32
Mechanical operating data			
Weight [kg]	0.12	0.15	0.23
IP rating	67	67	67
Ambient temperature [°C]			
Min.	-10	-10	-10
Max.	90	90	90
Max. vacuum [bar]	-0.8	-0.8	-0.8
Operating data for media connection			
Pressure medium	Cooling lubricant (filtered, max. particle size 30 µm)		
Min. pressure [bar]	20	20	20
Max. pressure [bar]	60	60	60
Pressure medium	Compressed air, standard for quality of the compressed air according to ISO 8573-1: 7 4 4		
Min. pressure [bar]	4	4	4
Max. pressure [bar]	8	8	8
Air consumption at 4 bar [l/min.]	220	200	250
Air consumption at 6 bar [l/min.]	300	300	350

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

7 Assembly

7.1 Mechanical connection

	 WARNING
	<p>Warning: Risk of injury when the machine/system moves unexpectedly! Remove the energy supplies before starting with assembly and adjustments. Make sure that no residual energy remains in the system.</p>

Check the evenness of the bolting surface The values relate to the entire bolting surface.

Requirements for levelness of the bolting surface (Dimensions in mm)

Diameter	Permissible unevenness
< 100	< 0.02
> 100	< 0.05

Mounting

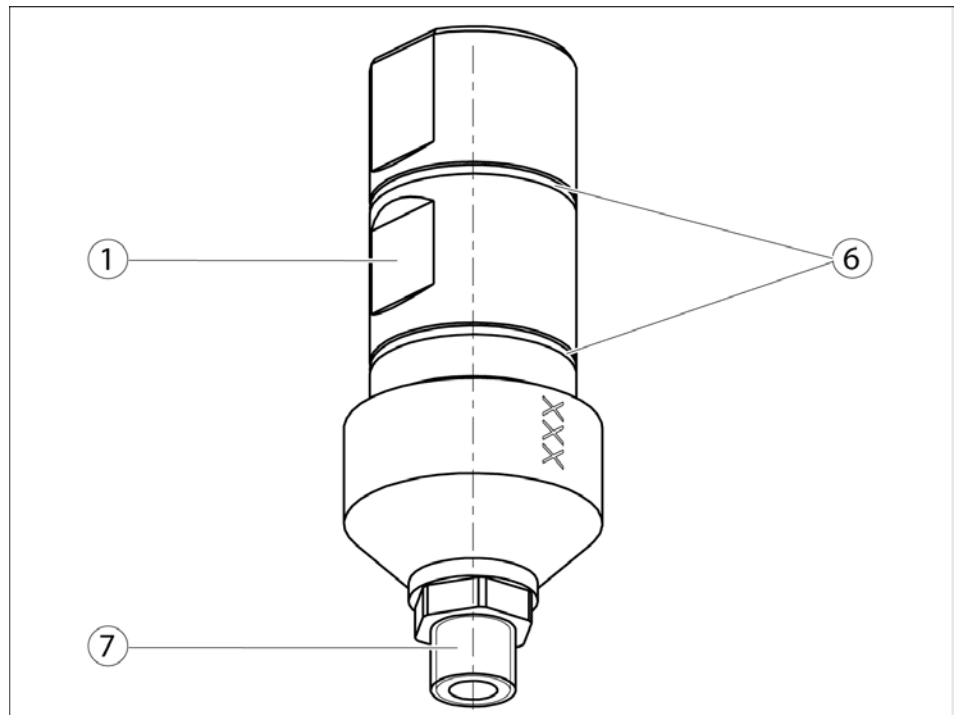


Fig. 1 Assembly options

NOTE

Do not use a shrink holder!

- 1 Check whether the O-rings (6) are fitted on the shank; fit O-rings (6) if necessary.
- 2 Clamp the module with the shank or via the clamping face (1) in the toolholder.
- 3 Screw in the suction unit reducer (7). Note thread size! ([10, Page 15](#))
Or: replace the reducer directly for the suction unit.

7.2 Assembly example

7.2.1 TENDO reducer

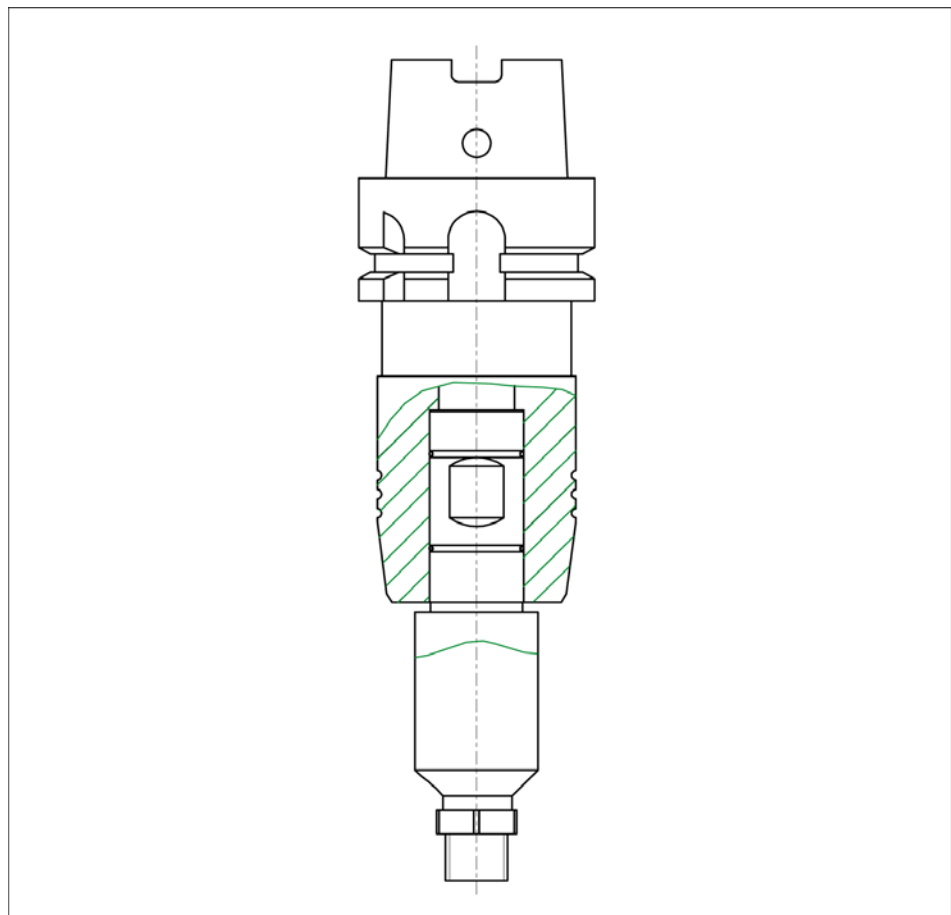


Fig. 2 Sectional view of the GSW-V clamped in the TENDO

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

7.2.2 WELDON toolholder

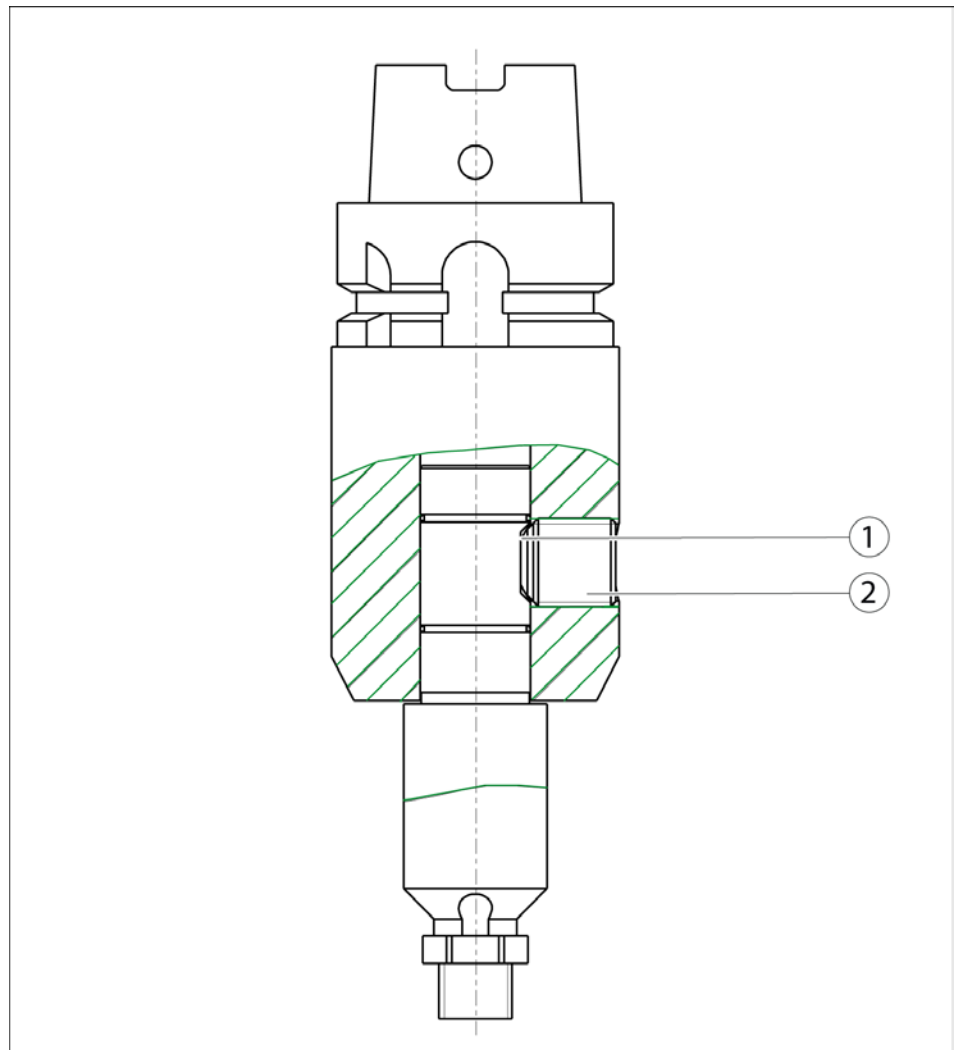


Fig. 3 Sectional view of the GSW-V clamped in the WELDON

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

8 Troubleshooting

8.1 Does no air/cooling water come out of the GSW-V?

Possible cause	Corrective action
Nozzle clogged/dirty	Check and, if need be, clean the nozzle (👉 9.2, Page 14)

8.2 Loss of workpiece

Possible cause	Corrective action
Nozzle clogged/dirty	Check and, if need be, clean the nozzle (👉 9.2, Page 14)
The recommended workpiece weight is exceeded / technical data exceeded	Pay attention to the technical data (👉 6, Page 9)

9 Maintenance and Care

9.1 Notes



- If need be, clean the magnetic surface
- If need be, wearing part can be ordered or replaced ([👉 10, Page 15](#))

Original spare parts

When replacing damaged parts (wearing parts/spare parts) only use SCHUNK original spares.

9.2 Cleaning the nozzle

Position of the position numbers ([👉 10, Page 15](#))

	 WARNING
	<p>Warning: Risk of injury when the machine/system moves unexpectedly! Remove the energy supplies before starting with assembly and adjustments. Make sure that no residual energy remains in the system.</p>

- 1 Remove the GSW-V from the machine.
- 2 Screw out the suction unit with reducer (7).
- 3 GSW-V rinse or blow out (compressed air) until the nozzle is clean again.
- 4 Screw in the suction unit with reducer (7) again.

10 Assembly drawing

The following figure is an example image.
It serves for illustration and assignment of the spare parts.
Variations are possible depending on size and variant.

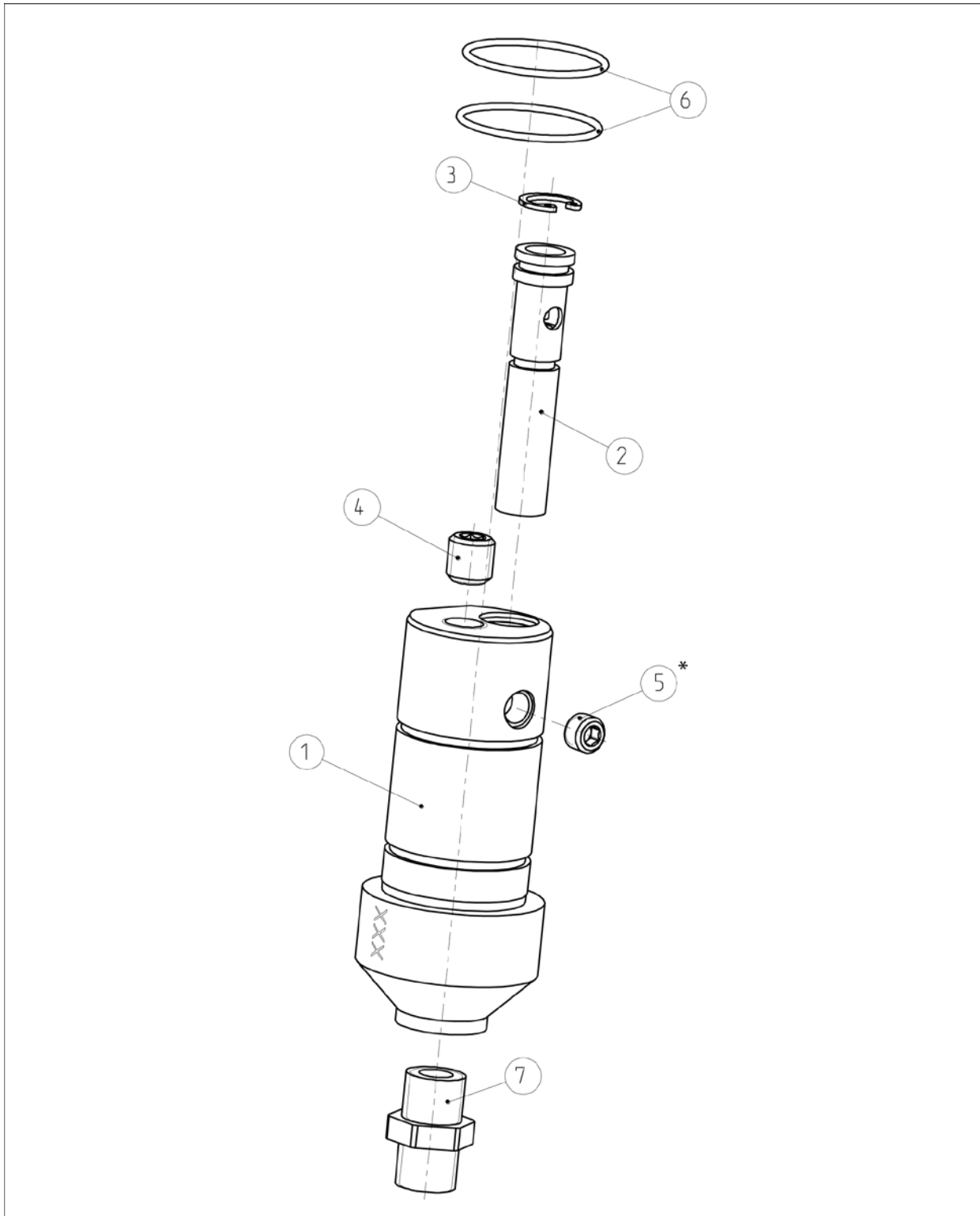


Fig. 4

* starting from Size GSW-V 32

11 Spare and wearing parts

Position of the position numbers ([👉 10, Page 15](#))

11.1 GSW-V 20

Base body (ID no. 0309120)

Item	ID number	Quantity	Designation
1	5518730	1	GSW-V housing
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 4 mm, PA coated
6	9611115	2	O ring DIN 3771, 18.00 x 1.00 mm
7	9952180	1	Reducer G1/4 AG / G1/8 AG

Suction unit (wearing part: check for defects during maintenance and replace if need be)

Suction unit with GSW-V20 ID number	Individual suction ID number	Designation
0309121	0309135	Suction unit type 30 G1/4
0309122	0309136	Suction unit type 80 G1/4
0309123	0309137	Suction unit type 125 G1/4

11.2 GSW-V 25

Base body (ID no. 0309125)

Item	ID number	Quantity	Designation
1	5518731	1	GSW-V housing
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 6 mm, PA coated
6	9939228	2	O ring DIN 3771, 23.00 x 1.00 mm
7	9952180	1	Reducer G1/4 AG / G1/8 AG

Suction unit (wearing part: check for defects during maintenance and replace if need be)

Suction unit with GSW-V20 ID number	Individual suction ID number	Designation
0309126	0309135	Suction unit type 30 G1/4
0309127	0309136	Suction unit type 80 G1/4
0309128	0309137	Suction unit type 125 G1/4

11.3 GSW-V 32

Base body (ID no. 0309130)

Item	ID number	Quantity	Designation
1	5518732	1	GSW-V housing
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 10 mm, PA coated
5	9670521	1	Set-screw DIN 913/A2, M8 x 6 mm, PA coated
6	9935428	2	O ring DIN 3771, 29.00 x 1.50mm
7	9952179	1	Reducer G1/4

Suction unit (wearing part: check for defects during maintenance and replace if need be)

Suction unit with GSW-V20 ID number	Individual suction ID number	Designation
0309131	0309135	Suction unit type 30 G1/4
0309132	0309136	Suction unit type 80 G1/4
0309133	0309137	Suction unit type 125 G1/4

