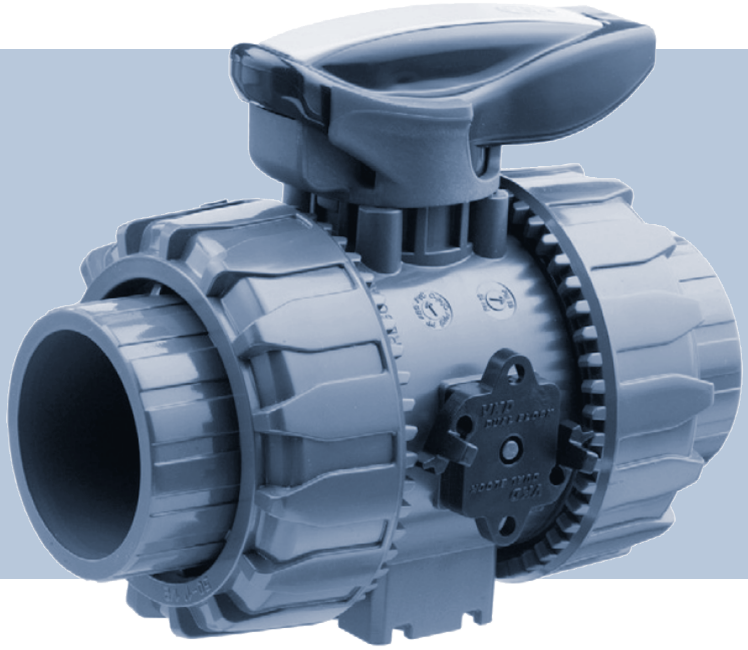
bürkert
FLUID CONTROL SYSTEMS

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

Type 2657

Ball valve, manually operated, plastic body



Operating Instructions

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

Technical documentation 2604/03_GBen_00805851_1292784395_9007200547627019 / Original DE

Table of contents

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

1 About this document

The document is an important part of the product and guides the user to safe installation and operation. The information and instructions in this document are binding for the use of the product.

- Before using the product for the first time, read and observe the whole safety chapter.
- Before starting any work on the product, read and observe the respective sections of the document.
- Keep the document available for reference and give it to the next user.
- Contact the Bürkert sales office for any questions.

Further information concerning the product at Products.

- Enter the article number from the type label in the search bar.

The illustrations in these instructions may vary depending on the product variant.

1.1 Symbols

DANGER!

Warns of a danger that leads to death or serious injuries.

WARNING!

Warns of a danger that can lead to death or serious injuries.

CAUTION!

Warns of a danger that can lead to minor injuries.

NOTICE!

Warns of property damage on the product or the installation.

Indicates important additional information, tips and recommendations.

Refers to information in this document or in other documents.

- Indicates a step to be carried out.

✓ Indicates a result.

Menu Indicates a software user-interface text.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

1.2 Terms and abbreviations

The terms and abbreviations are used in this document to refer to following definitions.

Product	Plastic ball valve Type 2657

1.3 Manufacturer

Bürkert Fluid Control Systems

Christian-Bürkert-Str. 13–17

74653 Ingelfingen

GERMANY

The contact addresses are available at Contact.

Need more information or additional products?

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MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

2 Safety

2.1 Intended use

Improper use of the Type 2657 plastic ball valve may be dangerous to people, nearby equipment and the environment.

- The device is designed to shut off or control neutral and aggressive media.
- It may not be used in potentially explosive atmospheres.
- When using the device, the permissible data, operating and usage conditions specified in the contract documents and operating instructions must be observed. These are described in System description [▶ 8] and Technical data [▶ 10].
- When using outdoors, check the ambient conditions.
- The device must be used in conjunction with third-party devices and components that have been recommended or approved by Bürkert.
- The prerequisites for safe and trouble-free operation are correct transport, storage and installation as well as careful operation and maintenance.
- Only use the device for its intended purpose.

Restrictions

If required, observe existing restrictions when exporting the device.

Foreseeable misuse

- The Type 2657 plastic ball valve may not be used in potentially explosive atmospheres.
- Only use the Type 2657 plastic ball valve with media that do not attack the body or seal material.
- Do not place the body under mechanical stress (e.g. by placing objects on it or standing on it).
- Do not make any external alterations to the body. Do not paint body parts or screws.

2.2 Basic safety instructions

These safety instructions do not take into account any

- unforeseen occurrences or events that may arise during installation, operation or maintenance of the devices.
- local safety regulations that are within the operator's scope of responsibility, including those relating to the installation personnel.

DANGER!

Danger due to high pressure

- Acute risk of injury when intervening in the system.
- Before loosening lines and valves, shut off the pressure and drain the lines.
- Observe applicable accident prevention and safety regulations!

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

DANGER!

Danger when using aggressive media

A leaking medium can cause injuries

- Make sure pipe connections are correctly done.
- Regularly check the tightness of the plastic ball valve.
- Use protective clothing.

WARNING!

General hazardous situations

Ensure the following to prevent injuries:

- Ensure that the system cannot be activated unintentionally.
- The device may only be operated in perfect condition and in accordance with the operating instructions.
- The generally accepted engineering standards must be followed when planning and operating the device.
- Maintenance must always be carried out by qualified and skilled staff and with the appropriate tools!
- Slowly close the armatures to avoid water hammers.

CAUTION!

Danger when using volatile media

If volatile media such as hydrogen peroxide (H2O2) or sodium hypochlorite (NaClO) are used, there is an acute risk of injury. The media can evaporate with a dangerous pressure increase in the dead space between the ball and body.

- If you have any questions related to safety, please contact our sales departments (telephone no. or address can be found on the last pages of these operating instructions).

The Type 2657 plastic ball valve has been developed with due consideration given to accepted safety rules and is state-of-the-art. Nevertheless, dangerous situations can still occur.

Failure to observe these operating instructions and the information contained therein, or any unauthorised modifications to the device, will void all liability on our part and will also invalidate the warranty on the device and its accessories!

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

3 System description

3.1 Intended area of application

The Type 2657 plastic ball valve (referred to below as plastic ball valve) can be used for shutting off (2-way variant) or controlling (3-way variant) media flows in industrial applications in a wide variety of ways.

It is particularly suitable for usage conditions with high requirements in the areas of thermal or vibration stresses, as well as for applications with aggressive media.

3.2 General description

The plastic ball valve for shutting off media flows is available in various device variants and materials for a wide variety of applications. It is equipped with a dual-block device. The dual-block device makes it possible to lock the union nuts of the screwed plastic ball valve in a fixed position. It then securely holds the union nuts in place under a wide variety of usage conditions (vibrations or thermal expansion). The dual-block device only allows clockwise rotations.

The plastic ball valve can be supplied complete with pneumatic actuator (Type 2658, 8805) or electric actuator (Type 8804) on request.

3.3 Labelling

The plastic ball valve is provided with a type label that enables unique identification and displays the most important technical data.

Do not remove the type label from the plastic ball valve! It is crucial for identification during installation and maintenance.

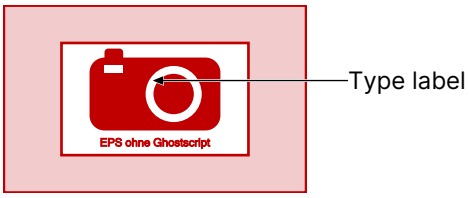


Fig. 1: Position of the type label

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

3.3.1 Type label

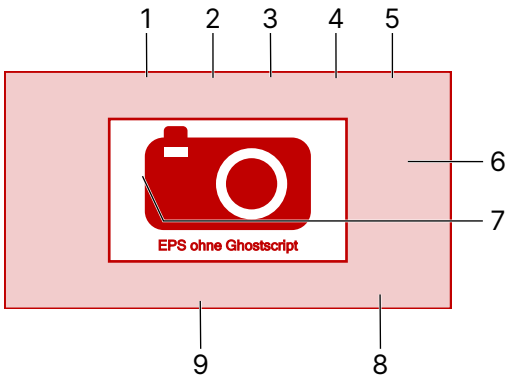


Fig. 2: Example

1	Type	2	Switch position
3	Orifice	4	Sealing material
5	Body material	6	Operating pressure
7	Port connection	8	Manufacture code
9	Article number		

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

4 Technical data

4.1 Standards and directives

This product complies with the legal requirements applicable at the time of placing on the market and has been developed and tested in accordance with the relevant European directives/regulations and harmonized standards. The conformity is documented and, if necessary, supported by evidence. The EU Declaration of Conformity can be found behind the respective type on the home page country.burkert.com

4.2 Operating conditions

WARNING!

Risk of injury

Loss of function if operated above permitted temperature range!

- Avoid heat sources that could lead to the permissible temperature range being exceeded.

Permitted temperatures

Ambient temperature	Pressure temperature diagrams [▶ 13]
Storage temperature	–40...+55°C.
Medium temperature	Pressure temperature diagrams [▶ 13]
Media	Aggressive, neutral gaseous and liquid media and vapours which do not attack the body and seal materials.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

4.3 Mechanical data

Exploded view of 2-way variant

Fig. 3: Exploded view of 2-way plastic ball valve variant

Position	Term	Material
1	Key insert	PVC-U
2	Handle	PVC-U
3	O-ring	EPDM-FKM
4	Ball spindle	PVC-U/PP/PVC-C/PVDF
5	Seals	PTFE
6	Ball	PVC-U/PP/PVC-C/PVDF
7	Body	PVC-U/PP/PVC-C/PVDF
8	O-ring (position 5)	EPDM-FKM
9	O-ring	EPDM-FKM
10	O-ring	EPDM-FKM
11	Seal carrier	PVC-U/PP/PVC-C/PVDF
12	Connection parts	PVC-U/PP/PVC-C/PVDF
13	union nuts	PVC-U/PP/PVC-C/PVDF
14	Spring for locking (optional)	Stainless steel
15	Manual safety lever with lock (optional)	PP-GR
16	Dual-block device	POM

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

Exploded view of 3-way variant

Fig. 4: Exploded view of 3-way plastic ball valve variant

Position	Term	Material
1	Key insert	PVC-U
2	Handle	PVC-U
3	O-ring	EPDM-FKM
4	Ball spindle	PVC-U/PP/PVC-C/PVDF
5	Seals	PTFE
6	Ball	PVC-U/PP/PVC-C/PVDF
7	Body	PVC-U/PP/PVC-C/PVDF
8	O-ring (position 5)	EPDM-FKM
9	O-ring	EPDM-FKM
10	O-ring	EPDM-FKM
11	Seal carrier	PVC-U/PP/PVC-C/PVDF
12	Connection parts	PVC-U/PP/PVC-C/PVDF
13	union nuts	PVC-U/PP/PVC-C/PVDF
16	Spring for locking (optional)	Stainless steel
17	Manual safety lever with lock (optional)	PP-GR
25	Position indicator	POM
26	Dual-block device	POM

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

4.4 Pressure temperature diagrams

The fluidic data depends on the material properties of the plastic ball valve.

Information on the chemical resistance of thermoplastic and elastomer materials can be found in our resistance table - online at country.burkert.com or as a brochure (order no. 00896009)

- At operating temperatures above 20 °C, reduce the operating pressure as follows, depending on the material:

Fig. 5: PVC

Fig. 6: PVC-C

Fig. 7: PP-H

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

Fig. 8: PVDF

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

5 Installation

5.1 Safety instructions

WARNING!

Danger due to improper installation

Improper installation may result in injuries as well as damage to the device and its surroundings.

- Installation may only be carried out by authorised technicians using the appropriate tools.

WARNING!

Danger due to unintentional operation of the system

Unintentional start-up of the system during installation work may result in injuries and property damage.

- Take appropriate measures to prevent the system from being operated unintentionally.

CAUTION!

Danger when using volatile media

If volatile media such as hydrogen peroxide (H2O2) or sodium hypochlorite (NaClO) are used, there is an acute risk of injury. The media can evaporate with a dangerous pressure increase in the dead space between the ball and body.

- If you have any questions related to safety, please contact our sales departments (telephone no. or address can be found on the last pages of this manual).

5.2 Procedure for installation

The plastic ball valve must be installed using different procedures depending on the material.

5.2.1 Adhesive connections (PVC-U, PVC-C)

Procedure for valve and fitting adhesive connections:

- Angle the pipe ends at approx. 15°.
- Remove all traces of dirt and grease from the entire length where the adhesive is to be applied. To do this, use a clean, absorbent paper towel or a brush wetted with cleaner.
- Repeat the same procedure on the inner surface of the socket. Let the surfaces dry for a few minutes before applying the adhesive

Only use adhesives suitable for connecting PVC products.

- Wait at least 24 hours after applying adhesive to perform the pressure test.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

5.2.2 Heating element sockets – welding (PP-H, PVDF)

Procedure:

- Angle the pipe ends at approx. 15°.
- Check the external pipe diameter/internal diameter of the socket according to the following table.

Nominal diameter DN [mm]	Pipe external Ø de [mm]	Socket internal Ø da [mm]
10	16	15.85 ... 15.95
15	20	19.85 ... 19.95
20	25	24.85 ... 24.95
25	32	31.85 ... 31.95
32	40	39.75 ... 39.95
40	50	49.75 ... 49.95
50	63	62.65 ... 62.95

- Set the temperature controller of the welding device to 250... 270 °C.
- Observe the heating, welding and cooling times according to the following tables.

Always let the welded joints cool down at room temperature!

Welding parameters

Nominal diameter DN [mm]	Pipe external Ø [mm]	Minimum thickness [mm]	Heating time [s]
10	16	2.5 (PP-H) - 1.5 (PV DF)	5 (PP-H) - 4 (PV DF)
15	20	2.5 (PP-H) - 1.9 (PV DF)	5 (PP-H) - 4 (PV DF)
20	25	2.7 (PP-H) - 1.9 (PV DF)	7 (PP-H) - 8 (PV DF)
25	32	3.0 (PP-H) - 2.4 (PV DF)	8 (PP-H) - 10 (PV DF)
32	40	3.7 (PP-H) - 2.4 (PV DF)	12 (PP-H) - 12 (PV DF)
40	50	4.6 (PP-H) - 3.0 (PV DF)	16 (PP-H) - 18 (PV DF)
50	63	3.6 (PP-H) - 3.0 (PV DF)	24 (PP-H) - 20 (PV DF)

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

Nominal diameter DN [mm]	Pipe external Ø [mm]	Welding time [s]	Cooling time [s]
10	16	4 (PP-H) - 4 (PV DF)	2
15	20	4 (PP-H) - 4 (PV DF)	2
20	25	4 (PP-H) - 4 (PV DF)	2
25	32	6 (PP-H) - 4 (PV DF)	4
32	40	6 (PP-H) - 4 (PV DF)	4
40	50	6 (PP-H) - 4 (PV DF)	4
50	63	8 (PP-H) - 6 (PV DF)	6

5.3 Wall mount and installation plate (optional)

The way the plastic ball valve is installed must guarantee secure integration into the pipeline system.

An appropriate mount accommodates the dead weight of the plastic ball valve and the stresses resulting from the system being operated.

An injection-moulded mount is used for fixing, into which stainless steel threaded bushings can be pressed (accessories).

- Fix the plastic ball valve to an appropriate substructure using standard screws.

An installation plate (see Wall mount, 2-way variant [▶ 18]), which is available as an accessory, can be used for installing the 2-way variant on a wall.

- Before fixing to the wall, attach the installation plate to the mount of the plastic ball valve using screws.

The dimensions of the screws required for fixing match those of the threaded inserts in the ball valve.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

5.3.1 Wall mount, 2-way variant

▸ Attach the plastic ball valve to the wall.

- M4 for DN 10 ... 25
- M6 for DN 32 ... 50

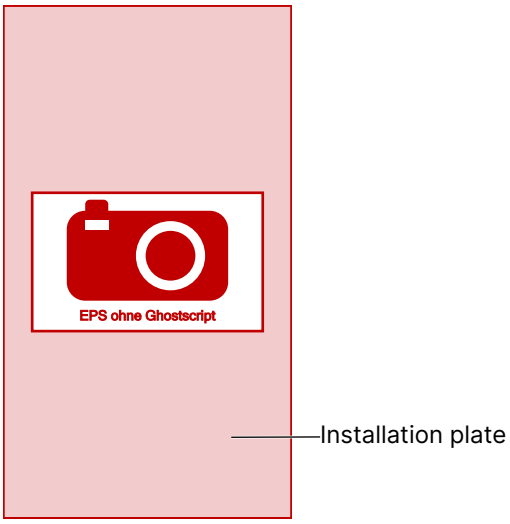


Fig. 9: Installation plate

5.3.2 Fixing, 3-way variant

▸ The 3-way variant can be fixed to a substructure using standard screws and nuts.

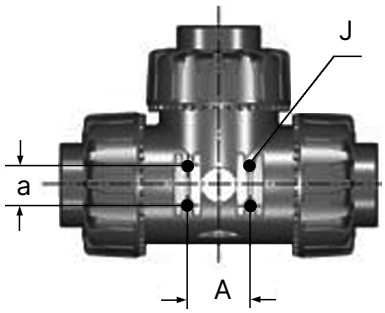


Fig. 10: Dimensions for fixing

Nominal diameter, ball valve	Dimension a	Dimension A	J (nut)
10/15/20/25	20	31	M5
32/40/50	30	50	M6

Fig. 11: Fixing nut (nut 1 of 4)

5.4 Installation into the pipeline

DANGER!

Danger due to high pressure in the system.

Acute risk of injury when intervening in the system.

- Before loosening lines and valves, turn off the pressure and vent the lines.
- Slowly close the armatures to avoid water hammers.

DANGER!

A damaged armature may result in escaping medium.

Stresses can occur between the pipeline and armature in the event of significant temperature fluctuations.

If the pipelines cannot compensate for these fluctuations, the armature may get damaged.

- Fix the pipelines so that any stresses can be compensated for.

WARNING!

Danger when using aggressive media

A leaking medium can cause injuries.

- Make sure that the pipe connections are done correctly.
- Regularly check the tightness of the plastic ball valve.
- Use protective clothing.

CAUTION!

Danger when using volatile media

If volatile media such as hydrogen peroxide (H2O2) or sodium hypochlorite (NaClO) are used, there is an acute risk of injury. The media can evaporate with a dangerous pressure increase in the dead space between the ball and body.

- If you have any questions related to safety, please contact our sales departments (telephone no. or address can be found on the last pages of this manual).

5.4.1 Installation into the pipeline

Procedure:

- Check whether the pipes to be connected to the valve are level. This prevents any mechanical stresses on the fitting.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

- Unscrew the union nuts (Mechanical data [▶ 11]) and push them onto the pipes.
- Glue, weld or screw the connection parts (Mechanical data [▶ 11]) of the plastic ball valve to the pipe ends.

Also observe the detailed instructions in the Procedure for installation [▶ 15].

- Place the plastic ball valve between the two connection parts and tighten the union nuts by hand.
- Do not use any tools that could damage the surface when tightening the union nuts.
- If necessary, fix the pipeline in place with mounts or use the mount provided on the plastic ball valve.
- Install the dedicated dual-block device for the union nuts (Mechanical data [▶ 11]) on the body.

5.5 Removing the plastic ball valve from the pipeline

DANGER!

Danger when using aggressive media

A leaking medium can cause injuries.

- Make sure that the pipe connections are done correctly.
- Regularly check the tightness of the plastic ball valve.
- Use protective clothing.

Procedure:

- Shut off the pressure at a suitable point and drain the lines.
- Unlock the union nuts by pressing on the dual-block device (Mechanical data [▶ 11]) according to the following images:.

Unlocking union nuts

It is also possible to completely remove the blocking device from the ball valve body (Mechanical data [▶ 11]).

- Loosen both union nuts (Mechanical data [▶ 11]) and remove the ball valve from the line.
- Before disassembling the valve, hold it vertically and open it 45° to remove any remaining liquid.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

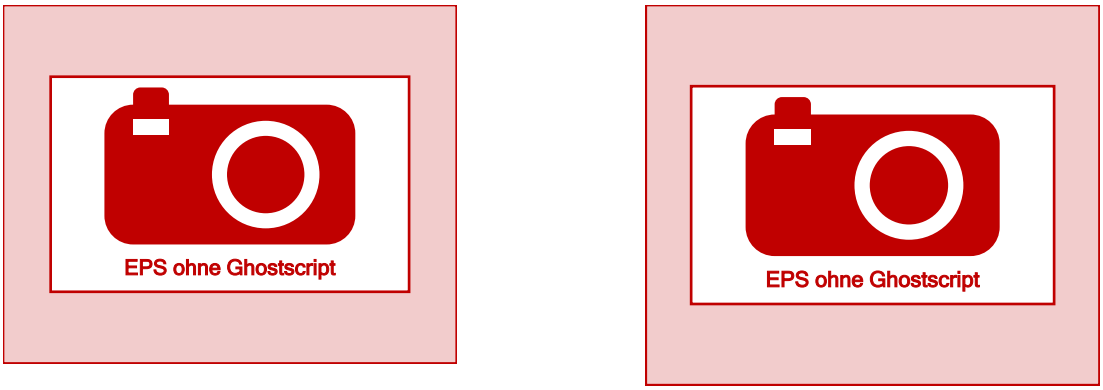
5.6 Locking the handle

The plastic ball valve can be equipped with a handle lock (optional).

- If a handle lock (Mechanical data [▶ 11]) is installed, it must first be disengaged before you can turn the handle (see following image).

The handle lock can be engaged at 0° and 90° positions.

Locking the handle



It is also possible to attach a padlock to secure the handle.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

6 Start-up

6.1 Safety instructions

WARNING!

Risk of injury due to improper operation

Improper operation may result in injuries as well as damage to the device and the surrounding area.

- Before start-up, ensure that the operating personnel are aware of and have completely understood the contents of the operating instructions.
- The safety instructions and the intended use must be observed.
- Only adequately trained personnel may start up the system/device.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

7 Maintenance, troubleshooting

7.1 Safety instructions

DANGER!

Danger due to high pressure in the system

Acute risk of injury when intervening in the system.

- Before loosening lines and valves, shut off the pressure and drain the lines.
- Observe the applicable accident prevention and safety regulations!

WARNING!

Danger due to unintentional operation of the system

Unintentional start-up of the system during maintenance and repair work may lead to injuries and material damage.

- Take appropriate measures to prevent the system from being operated unintentionally.

7.2 Maintenance work

The plastic ball valve does not require maintenance during operation in accordance with the information given in these instructions.

7.3 Fault

Fault	Remedy
The plastic ball valve is mechanically blocked.	Check whether there are particles between the ball and seals and remove them if so.

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

8 Accessories and spare parts

CAUTION!

Risk of injury and/or damage due to incorrect parts

Incorrect accessories may cause injuries and damage to the device and the area around it.

- Only use original accessories from Bürkert GmbH & Co. KG.

8.1 Accessories

Term	ID no.
Manual safety lever with lock (Mechanical data [▶ 11])	on request
Installation plates (Wall mount, 2-way variant [▶ 18])	

8.2 Spare parts

- Spare part sets, ball valve Type 2657, 2-way variant:

Nominal diameter (DN)	Order no. ball seal PTFE O-rings EP DM	Order no. ball seal PTFE O-Ringe FKM
10	207 486	207 495
15	677 710	207 496
20	207 487	207 497
25	207 488	207 498
32	207 489	207 499
40	207 490	207 500
50	207 491	207 501

- Spare part sets for 3-way variants on request

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026

9 Logistics

9.1 Transport and storage

- Protect the device against moisture and dirt in the original packaging during transportation and storage.
- Avoid UV radiation and direct sunlight.
- Protect connections, if present, from damage with protective caps.
- Observe the permitted storage temperature.

9.2 Return

No work or tests will be carried out on the device until a valid Contamination Declaration has been received.

- To return a used device to Bürkert, contact the Bürkert sales office. A return number is required.

9.3 Disposal

Environmentally friendly disposal

- Follow national regulations regarding disposal and the environment.
- Collect electrical and electronic devices separately and dispose of them as special waste.

Further information at country.burkert.com

MAN 1000732264 EN Version: - Status: RL (released | freigegeben) printed: 07.04.2026