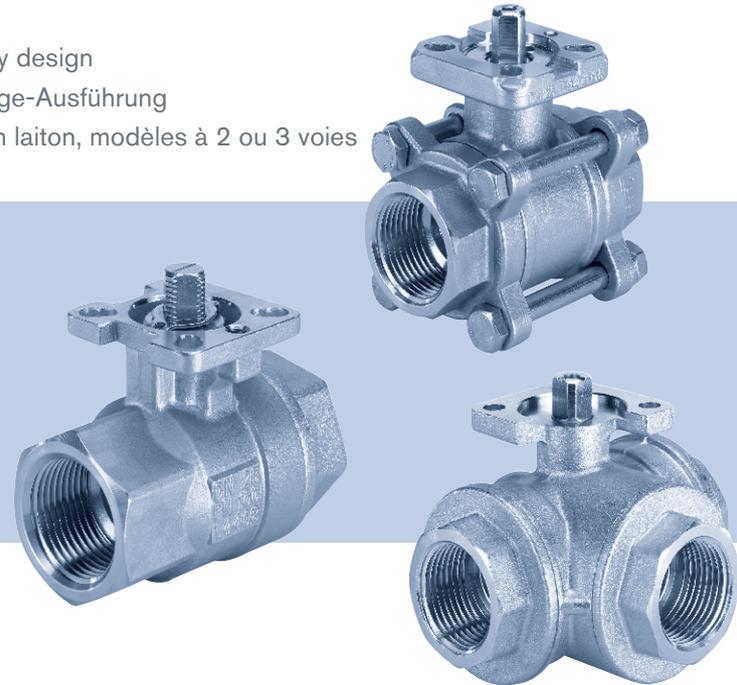


Type 2651, 2654, 2654 Hygienic, 2660, TKU 001

Stainless-steel and brass ball valves in 2-way and 3-way design

Kugelhähne aus Edelstahl und Messing in 2- und 3-Wege-Ausführung

Robinets à boisseau sphérique en acier inoxydable et en laiton, modèles à 2 ou 3 voies



Operating Instructions

Bedienungsanleitung

Manuel d'utilisation

We reserve the right to make technical changes without notice.
Technische Änderungen vorbehalten.
Sous réserve de modification techniques.

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Operating Instructions 1507/05_EU-ML_00805911 / Original DE

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1 OPERATING INSTRUCTIONS

The operating instructions describe the entire life cycle of the device. Keep these instructions in a location which is easily accessible to every user and make these instructions available to every new owner of the device.

The operating instructions contain important safety information.

Failure to observe these instructions may result in hazardous situations.

- ▶ The operating instructions must be read and understood.

1.1 Symbols



DANGER!

Warns of an immediate danger.

- ▶ Failure to observe the warning may result in a fatal or serious injury.



WARNING!

Warns of a potentially dangerous situation.

- ▶ Failure to observe the warning may result in serious injuries or death.



CAUTION!

Warns of a possible danger.

- ▶ Failure to observe this warning may result in a medium or minor injury.

NOTE!

Warns of damage to property.

- ▶ Failure to observe the warning may result in damage to the device or the equipment.



Indicates important additional information, tips and recommendations.



Refers to information in these operating instructions or in other documentation.

▶ designates instructions for risk prevention.

→ designates a procedure which you must carry out.

2 INTENDED USE

The ball valves types 2651, 2654, 2654 Hygienic, 2660 and TKU 001 (in general below as "Ball valves") are intended for the installation to pneumatic or electric rotary actuators. They can be used indoors as well as outdoors, in compliance with the permissible operating conditions.

Non-intended use of the ball valves can be dangerous to people, nearby equipment and the environment.

- ▶ The ball valves are used for shutting off media flows in a wide range of industrial applications.
- ▶ The ball valves may be used only in conjunction with third-party devices and components recommended and authorized by Bürkert.
- ▶ During use observe the authorised data and operating conditions specified in the contract documents and operating instructions as well as the range of applications described in ["5 System Description"](#).
- ▶ Correct transportation, correct storage and installation and careful use and maintenance are essential for reliable and faultless operation.
- ▶ Operate the ball valves only with media which do not corrode the housing or seal material.
- ▶ Use the ball valves only as intended.

2.1 Restrictions

If exporting the System/Device, observe any existing restrictions.

3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not make allowance for any:

- Contingencies and events which may arise during the installation, operation and maintenance of the devices.
- Local safety regulations; the operator is responsible for observing these regulations, also with reference to the installation personnel.



WARNING!

Unintentional activation or non-permitted impairment may cause general hazardous situations through to physical injury.

To prevent injury, ensure that:

- ▶ The system cannot be activated unintentionally.
- ▶ Installation and repair work may be carried out by authorized technicians only and with the appropriate tools.
- ▶ After an interruption in the power supply or fluid supply, ensure that the process is restarted in a defined or controlled manner.
- ▶ The device may be operated only when in perfect condition and in consideration of the operating instructions.
- ▶ Do not physically stress the housing (e.g. by placing objects on it or standing on it).
- ▶ Do not make any external modifications to the housing.
- ▶ The general rules of technology apply to application planning and operation of the device.



DANGER!

Danger – high pressure.

There is a serious risk of injury when reaching into the equipment.

- ▶ Turn off the pressure and release the pressure in the pipes before loosening pipes and valves!



CAUTION!

The general rules of technology apply to application planning and operation of the device.

Failure to observe these rules may result in injuries and/or damage to the device and possibly the area around it as well.

- ▶ Observe the general rules of technology!

NOTE!

The ball valves were developed with due consideration given to the accepted safety rules and are state-of-the-art. Nevertheless, dangerous situations may occur.

- ▶ Operate the ball valves only when they are in perfect condition and in accordance with the operating instructions.

4 GENERAL INFORMATION

4.1 Contact addresses

Germany

Bürkert Fluid Control Systems
Sales Center
Christian-Bürkert-Str. 13-17
D-74653 Ingelfingen
Tel.: +49 (0)7940 - 10 91 111
Fax: +49 (0)7940 - 10 91 448
E-mail: info@de.burkert.com

International

Contact addresses can be found on the final pages of the printed operating instructions.

And also on the Internet at: www.burkert.com

4.2 Warranty

The warranty is only valid if the device is used as intended in accordance with the specified application conditions.

4.3 Information on the Internet

The operating instructions and data sheets for Type 2651, 2654, 2654 Hygienic, 2660 and TKU 001 can be found on the Internet at: www.burkert.com

5 SYSTEM DESCRIPTION

The ball valves are used for shutting off media flows in a wide range of industrial applications.

They are particularly suitable for application conditions which make high demands in the areas of thermal loads and are also suitable for applications which use aggressive media.

The ball valves are available in different sizes. They are equipped with a mechanical interface as per ISO 5211 which is used to install a pneumatic or electric rotary actuator.



On request the ball valves can be supplied complete with a pneumatic actuator (Types 2652, 2655, 8805) or an electric actuator (Type 8804).

6 TECHNICAL DATA

Allowable temperatures

Stainless-steel housing -10...+200 °C
(see pressure-temperature graph)

Brass housing -20...+150 °C
(see pressure-temperature graph)



The temperature limit values of the actuators are usually lower. Therefore, the lowest temperature limit values of included system components (ball valve and actuator) must be observed.

Allowable Media Aggressive, neutral, gaseous and liquid media

Allowable pressure range Depending on the design between 0 and 16/25/40/63/100 bar (see data sheets and pressure-temperature graph)

Material

Type	Housing	Ball	Sealing
2651	Stainless steel 1.4408	Stainless steel 1.4401	PTFE
2654	Stainless steel 1.4408	Stainless steel 1.4401	PTFE
2654 Hygienic	Stainless steel 1.4435	Stainless steel 1.4435	PTFE (FDA)
2660	Brass, nickel-plated	Brass, hard chrome-plated	PTFE
TKU 001	Stainless steel 1.4408	Stainless steel 1.4401	PTFE
	Steel 1.0619		

Pressure-temperature graphs

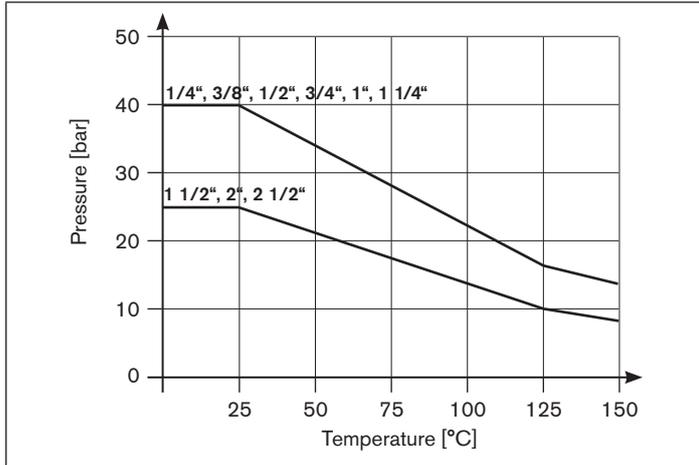


Fig. 1: Pressure-temperature Graph brass housing (Type 2660)

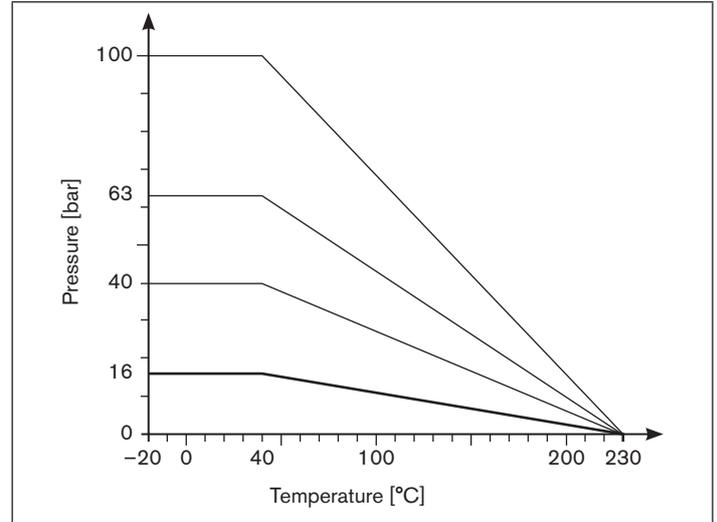


Fig. 2: Pressure-temperature Graph stainless-steel housing (Types 2651, 2654, 2654 Hygienic, TKU 001)

7 INSTALLATION



DANGER!

Risk of injury from high pressure in the equipment.

There is a serious risk of injury when reaching into the equipment.

- ▶ Turn off the pressure and release the pressure in the pipes before loosening pipes and valves.



WARNING!

Risk of injury due to improper installation.

Improper installation may result in injuries as well as damage to the device and the area around it.

- ▶ This work may be carried out by authorised technicians only and with the appropriate tools.

Risk of injury due to unintentional activation.

Hazardous situations may arise due to unintentional activation of the system.

- ▶ Take appropriate measures to prevent the equipment from being unintentionally activated.



Check that the pipes which are to be connected to the ball valve are on one level. This will prevent mechanical tension on the screw joint.

- Screw the ball valve to the pipe.
- Check that the ball valve is firmly attached to the pipe to ensure appropriate tightness.

8 OPERATION AND FUNCTIONS



WARNING!

Danger due to improper operation.

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

- ▶ The operating personnel must know and have understood the contents of the operating instructions.
- ▶ Observe the safety instructions and intended use.
- ▶ Only adequately trained personnel may operate the equipment/ the device.

8.1 Operation

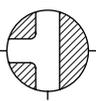
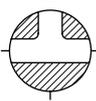
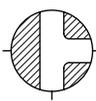
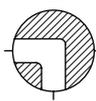
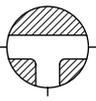
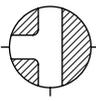
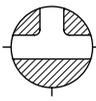
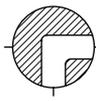
Via the mechanical interface as per ISO 5211, the ball valves can be connected to a pneumatic rotary actuator (e.g. Types 2050, 2051 or 2052) or an electric rotary actuator (e.g. Types 3003, 3004 or 3005).

The operating instructions of the actuators you can find on the Bürkert homepage: www.burkert.com

8.2 Functions

The ball valves are available in 2-way or 3-way design.

The 3-way designs are available with the following switching positions:

Ball bore		T			L
Position 	0°				
	90°				
Switching position		T1	T2	T3	L4

9 SPARE PARTS



CAUTION!

Risk of injury and / or damage by the use of incorrect parts.

Incorrect accessories and unsuitable spare parts may cause injuries and damage the device and the surrounding area.

- ▶ Use original accessories and original spare parts from Bürkert only.

Wearing part-sets for type 2654 and 2654 Hygienic

- Components:
- 4 V-shaped packings
 - O-ring
 - thrust washer
 - 2 seats
 - 2 body gaskets

Wearing part-set	Type 2654	Type 2654 Hygienic (PTFE-FDA)
	Order No.	Order No.
DN10	773127	773013
DN12	770180	-
DN15	789821	773014
DN20	789822	773015
DN25	789823	773016
DN32	789824	773017
DN40	789825	773018

Wearing part-set	Type 2654	Type 2654 Hygienic (PTFE-FDA)
	Order No.	Order No.
DN50	789826	773019
DN65	789827	773020
DN80	789828	773021
DN100	789829	773022

10 MAINTENANCE

The ball valves are maintenance-free when operated according to the instructions indicated in this manual.

11 TRANSPORT, STORAGE, DISPOSAL

NOTE!

Transport damages.

Inadequately protected equipment may be damaged during transport.

- ▶ During transportation protect the device against wet and dirt in shock-resistant packaging.
- ▶ Avoid exceeding or dropping below the allowable storage temperature.
- ▶ Protect the pneumatic connections from damage by placing caps on them.

Incorrect storage may damage the device.

- ▶ Store the device in a dry and dust-free location!
- ▶ Storage temperature $-40...+55$ °C.

Damage to the environment caused by device components contaminated with media.

- ▶ Dispose of the device and packaging in an environmentally friendly manner.
- ▶ Observe applicable regulations on disposal and the environment.
- ▶ Observe national waste disposal regulations.

www.burkert.com