BROEN
VALVE TECHNOLOGIES

TECHNICAL MANUAL

Ballofix®

Disclaimer:
The technical data is non-binding and does not reflect the warranted characteristics of the products. It is subject to change. Please consult our General Terms and Conditions. Further information is available on request. It is the responsibility of the project leader and his/her executors to select products suitable for the intended purpose and to ensure that pressure ratings and performance data are not exceeded. Installation instructions must always be read and followed.
The system must always be depressurised and drained before any components, whether defective or otherwise, are removed, modified or repaired.

Contents

BROEN

An international company

BROEN is known for its leading role in intelligent flow control solutions. We offer a wide range of tube systems, fittings and valves using a variety of materials and technologies. The solutions are used in water, heating, refrigeration, gas and fire protection systems in residential, commercial and industrial buildings. We possess exhaustive knowledge of the applications' characteristics and our thorough knowledge enables us to develop innovative products and services which are optimised to modern needs and the future requirements of the plumbing industry.

BROEN is part of the stock exchange listed Dutch industrial group Aalberts Industries, which has two main spheres of activity: Industrial Services and Flow Control. A target-oriented approach to the market, a decentralised management structure and innovative solution of its assignments are the background to Aalberts Industries' leading position in several of its market fields. Aalberts Industries' ongoing target is continuous growth and development.

BROEN
VALVE TECHNOLOGIES

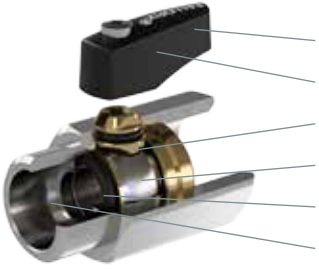
1 BALLOFIX®

Ballofix®

1 Ballofix®

1.1 Ballofix®

BROEN offers a wide range of ball valves for water, heating and gas installations. The original Ballofix® valve was developed in the 1960s and now, more than 120 million Ballofix® valves have been fitted the world over.
Ballofix® assures you the best quality, functionality and design.
Our product range is under constant development and is suitable for all common tube systems and unions.



Wide range:

BROEN delivers the industry's widest range of ball valves. In addition to standard Ballofix® with female and male ends, the range also includes Ballofix® with filters, angled, eccentric, non-return valves, gun metal, etc. Explore our wide range from page 29.

Simple design:

The Ballofix® valve with its six large contact surfaces assures easy installation. The slim design also facilitates installation close to other building components.

Can be fitted independently of the direction of flow:

All standard Ballofix® valves can be fitted independently of the direction of flow.

Opened and closed with a screwdriver or a handle:

All Ballofix® ball valves can be fitted with a handle. The handle can be purchased already fitted or as an accessory.

Two types of Ballofix® handles are available:

- internal hexagon
- fixed with a screw

In addition to this, versions are available for locking with a key.

For further information, see under "Useful information" on pages 27.

Internal stop:

All standard Ballofix® valves have an internal stop and each individual Ballofix® is tested for tightness.

Ballofix® – the original!

Available with all common types of union:

Ballofix® can be delivered and combined with unions from other AI sister companies.

- Press fittings for both V and M jaws from VSH
- Tectite fittings for direct push installation from Pegler-Yorkshire
- Compression fittings from VSH
- PVDF Press fittings for Alupex from Henco

Ballofix® with VSH press fittings

Ballofix® with press ends is an original Ballofix® fitted with universal press fittings suitable for both V og M jaws. Ballofix® Press is available with a combination of press fittings and thread, so that the valve can be used as a transitional fitting.

VSH XPress is a complete system with fittings and tube from 15-108 mm for domestic water installations and installations for various types of treated water, heating and refrigeration installations. The system has many advantages, including:

- Can be pressed with most makes of M-profile pressing tools
- Complete system range with fittings, tube and valves
- O-ring with "leak before pressed"
- Laser-welded joints
- All welded joints are pressure tested
- Extremely precise tolerances mean that the pipe easily presses home into fittings
- Suitable for all types of pipe which conform to EN 10312 (previously DIN 2394)

Ballofix® with VSH compression fittings

Ballofix® with VSH connectors is the original Ballofix® fitted with VSH compression fittings.

Compression is the quick, secure solution for installation and renovation of installations.
This thoroughly tested system has been used for many years for many different purposes and is today one of the most commonly used methods of connection. The compression of the cut helps to seal metallically while at the same time holding the tube in the desired position.
The system is designed for optimum user friendliness when it comes to installation thanks to the broad, dimensionally stable swirvel nuts which can be installed without the use of specialist tools. Compression fittings can be used on copper tube, precision steel tube (stainless and galvanised) and PEX tube.

Ballofix® with VSH press fittings

Ballofix® with push ends is the original Ballofix® with fittings for direct push assembly. Ballofix® is also available with a combination of press fittings and thread, so that the valve can be used as a transitional fitting.

Tectite is a unique union system which is advantageous for use anywhere you would normally use compression fittings. Tectite push fittings allow a quick, professional assembly of copper, precision steel and PEX tube entirely without the use of tools. After assembly the tube can be turned, making it even easier to line up for a professional installation. Apart from being quick and simple to assemble, the system can also be demounted and alterations made. All this requires is a simple Tectite disconnecting tool.

1.2 Technical data

Ballofix®

Technical characteristics			
Material	Dezincification resistant (DZR) brass EN 12164/EN 12165 CW626N		
Finish	Chrome		
Specifications			
Medium	Water		
Temperature	Max. 100°C (with non-return valve max. 90°C)		
Pressure	Max. 10 bar		
Assembly measurements - thread lengths			
Dimension	**Male**	**Female**	**Loose swirvel nut**
1/4"	7 mm	8.5 mm	-
3/8"	8.5 mm	8.5 mm	-
1/2"	8.5 mm	9.5 mm	-
3/4"	9.5 mm	13.5 mm	8.5 mm
1"	19.0 mm	16.0 mm	-

TABLE 1: TECHNICAL CHARACTERISTICS OF BALLOFIX ® FOR WATER AND HEATING INSTALLATIONS.

Ballofix® with VSH press fittings

Technical characteristics	
Material	Dezincification resistant (DZR) brass EN 12164/EN 12165 CW626N
Finish	Chrome
Specifications	
Medium	Water
Temperature	Max. 100°C
Pressure	Max. 10 bar
Insertion depth	Ø 10-12-15-18 mm = 24.0 mm. Ø 22 mm = 28.5 mm.
Jaw	Both M and V jaw can be used

TABLE 2: TECHNICAL CHARACTERISTICS OF BALLOFIX® WITH VSH PRESS FITTINGS.

Ballofix® with VSH compression fittings

Technical characteristics	
Material	Dezincification resistant (DZR) brass EN 12164/EN 12165 CW626N
Finish	Chrome
Specifications	
Medium	Water
Temperature	Max. 100°C
Pressure	Max. 10 bar

TABLE 3: TECHNICAL CHARACTERISTICS OF BALLOFIX® WITH VSH COMPRESSION FITTINGS.

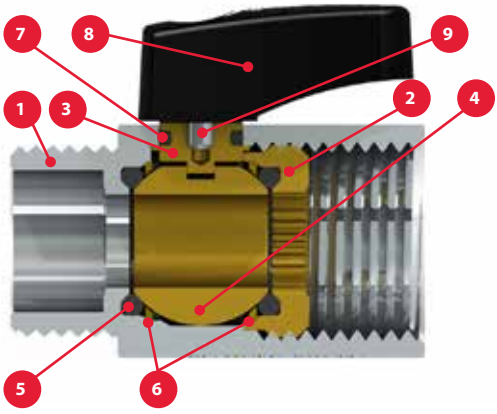
Ballofix® with VSH press fittings

Technical characteristics	
Material	Dezincification resistant (DZR) brass EN 12164/EN 12165 CW626N
Finish	Chrome
Specifications	
Medium	Water
Temperature	Max. 95°C
Pressure	Max. 10 bar
Insertion depth	Ø 12 mm = 18.0 mm. Ø 15 mm = 24.0 mm. Ø 18-22 mm = 24.5 mm.

TABLE 4: TECHNICAL CHARACTERISTICS OF BALLOFIX® WITH TECTITE PUSH FITTINGS.

Ballofix® valves are made from dezincification resistant (DZR) or standard brass as well as gun metal in accordance with EN 12164/EN 12165.
The article number indicates what material a valve is made from:
For Ballofix® made from DZR brass, the first digit in the BROEN no. is 4.
For Ballofix® made from standard brass, the first digit in the BROEN no. is 3.

All Ballofix® valves can be fitted with a handle. The handle can be delivered with the valve or purchased as an accessory.



Product description			
No.	**Component**	**Material**	**Standard**
1	**Valve housing**	Brass - CW626N	EN 12164/EN12165
2	Locking screw	Brass - CW626N	EN 12164/EN12165
3	Stem	Brass - CW626N	EN 12164/EN12165
4	Ball	Brass - CW626N	EN 12164/EN12165
5	O-Ring	Rubber - EPDM	
6	Back-up Ring	Brass - CW626N	EN 12164/EN12165
7	O-Ring	Rubber - EPDM	
8	Handle	Fibreglass reinforced nylon	
9	Screw	Stainless steel	AISI 304/EN 1.4301

1.3 Useful information

Assembly instructions - press fitting

CUTTING THE TUBE

Cutting tube to length

After measuring, the tubes can be cut to length using a tube cutter, a fine-toothed handsaw or an electric saw suitable for the tube material. The tube must always be cut all the way through. Never partially cut the tube and break it off as this increases the risk of corrosion. Cutting tools for use on stainless steel must not previously have been used on other materials.

When using an electric pipe cutter, apply only very low torque as the tube may otherwise become deformed.

Do not use an oil-cooled saw, angle grinder or blowtorch.

Deburring the tube


DEBURRING THE TUBE

The tube ends must be carefully and thoroughly deburred inside and out after being cut to length. This is in order to avoid any damage to the O-ring when inserting the tube into the ball valve. Deburring the inside of the tube prevents pitting and corrosion. A hand deburrer suitable for the material or an electrical tube deburrer may be used to debur both the inside and outside of the tube. Any burrs sticking to the tube must be removed.

Calibration

Always ensure that the tube ends are radial and evenly rounded. The tube ends must be calibrated before pressing, especially in the case of copper tubes coated in accordance with DIN EN1057 R220, e.g. WICU tubes.

Marking the insertion depth


MARKING THE INSERTION DEPTH

In order to ensure a good, secure joint, the required insertion depth (see table 22) must be marked on the tube. Reliable pressing with the corresponding tensile strengths can only be achieved if the individual elements are correctly installed.

The correct application of pressure behind the bead is of crucial importance for tensile strength.

The marking on the tube must remain visible (but close to the fitting) after the connection is pressed to identify any movement before or after pressing.

Checking the fitting and tube

Before assembly, the fitting must be checked to ensure that the O-rings are present and correctly positioned. The tube, fitting and O-ring must be examined for any foreign objects (e.g. dirt, burrs), which must be removed, if present.

CHECKING THE VALVE/TUBE

2.4.6 Assembly of ball valve and tube

Insert the tube carefully into the ball valve until it reaches the insertion depth marking, while at the same time rotating and pushing it in the direction of the axis. The insertion depth marking must remain visible. Heavy-handed and careless insertion of the tube into the ball valve may damage the O-ring and should therefore be avoided.

ASSEMBLING THE VALVE/TUBE

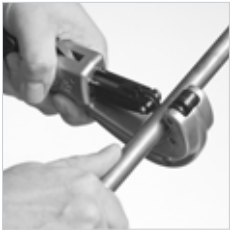
If assembly is difficult because of the tight tolerances involved, a little water or soap may be used.

Under no circumstances may oil, fat or silicone spray be used as a lubricant.

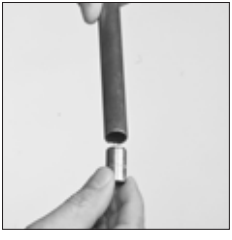
Assembly instructions - compression:

Only use a tube of the same dimension as that stated on the swirvel nut.

Assembly of copper tube, thin-walled precision tube and stainless steel tube:
Cut the tube to the correct length with a pipe cutter or a hacksaw. Remove any burrs with a suitable tool.

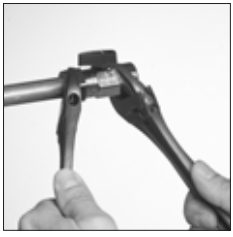


Insert a stud bushing on the soft copper tube.



Fit the swirvel nut, cutting ring and fitting.

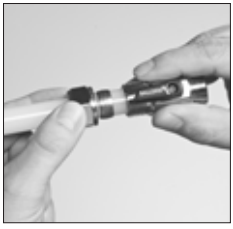
Tighten the swirvel nut with your fingers and then with a wrench by the number of turns indicated in the table on the next page.



Assembly of PEX tube:
Cut the tube to the right length.

Insert a stud bushing.

Assemble the swirvel nut, cutting ring and ball valve.



Tighten the swirvel nut with your fingers and then with a wrench by the number of turns indicated in the table.

Prescribed number of turns with wrench:

Dimension	Stainless steel tube	Galvanised steel tube	Copper tube	PEX tube	Width across flats
8 mm	1	1	1	1 1/4	14
10 mm	1	1	1	1 1/4	17
12 mm	1	1	1	1 1/4	19
15 mm	3/4	1	3/4	1 1/4	24
18 mm	3/4	1	3/4	1 1/4	27
22 mm	3/4	1	3/4	1 1/4	32

Important:

The swirvel nut should never be tightened by more than the prescribed values. Over-tightening the swirvel nut may cause leaks, breakage of the swirvel nut and post-tensioning corrosion.

Reassembly of demounted joint:

A joint can easily be taken apart and reassembled:
Pressure is re-exerted on the compression ring by tightening the swirvel nut - first with your fingers then with a wrench by a 1/8 - 1/4 turn.
The compression ring can be removed by sawing at an angle across the ring without damaging the tube. Break off the ring with a screwdriver.

Assembly instructions - push fitting

The joining methods are almost identical for all types of Tectite fittings and associated tube types. Variations, such as the use of stud bushings in PEX tubes, are described in the instructions.
To avoid damage to fittings and O-rings, the products should not be removed from their packaging until immediately before use.

Before installation

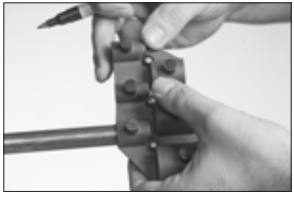
Select the correct size of tube and fittings for the installation. Check that the parts are clean and free of any faults or damage. Extra lubricant or sealing material must not be used.
Any labels, tape, etc., must be removed from the end of the tube without damaging it.
Check that the tube is round, clean and without scratches or other damage.
If the tube has already been used in an installation, cut the tube behind the jaw marks to ensure that there are no scratches on it.

Cutting and marking

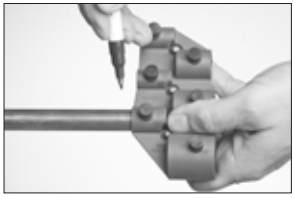
Cut the copper tube correctly with a pipe cutter - PEX tubing is cut with pipe shears. If using a hacksaw, choose one with fine teeth. Check that the end of the tube has been cut straight, deburred and bevelled.

Remove any shavings and burrs on the outside of the tube using the correct deburring tool. Ensure that the tube is also deburred on the inside. Clean the end of the tube to remove all shavings or impurities – this helps to avoid damaging the O-ring when the tube is pushed into place.

To make a correct joint, the tube must pressed securely home into the ball valve. In order to ensure this is done correctly, mark the insertion depth on the tube (see table on the next page).



Tectite push fittings – insertion depth for 10 - 28 mm tube (all variants)



Dimension	Insertion depth
10 mm	Approx. 23 mm
12 mm	Approx. 23 mm
15 mm	Approx. 23 mm
18 mm	Approx. 23 mm
22 mm	Approx. 27 mm
28 mm	Approx. 31 mm

PEX TUBE: Check that the correctly dimensioned stud bushing has been inserted in the tube.

When assembling chrome-plated copper tubes, a groove must be made with a Tectite grooving tool to ensure optimum contact.

Assembly

Push the tube into the push coupling through the demounting ring until it rests on the grip ring.

Continue rotating the tube until it reaches the bottom of the valve and you hear a "click". Check that the insertion mark lines up with the mouth of the fittings. Pull the tube to ensure that the coupling is seated correctly.

IMPORTANT!

Press and turn the tube into the fitting by hand only. Inserting a damaged pipe end will require extra effort. For this reason, ensure that the tube is round and deburred.

Tectite push fittings with straight ends must not be used together with soldered fittings, as the heat will damage the non-metallic parts. Heat must therefore never be used - directly or indirectly - on Ballofix® push fittings. When using Ballofix® with push fittings in installations with soldered fittings, the valve must be demounted and not remounted until the tube has cooled.

Separation

Use Tectite's demounting tool. The forked side with the Tectite logo on it is placed around the tube and the other side around the fitting.
The plastic demounting tool can be used if demounting is only done as an exception.

Squeeze the demounting tool with one hand until the demounting ring in the fitting is compressed. Twist the tube out with the other hand.

Check both the tube and the fitting for any damage before re-establishing the joint.

Two shut-off methods

Ballofix® is supplied ready for a handle to be screwed into the neck of the valve ball. This method provides good leverage when turning the ball. If you do not wish to use a handle, the valve can be operated with a screwdriver or an adjustable wrench, since the valve is fitted with a screwdriver slot and flat surfaces on the neck of the ball. When fitting a handle is not expedient, such as when connected to fittings, the best solution is a simple Ballofix fitted with a countersunk ball neck with an internal hexagon.

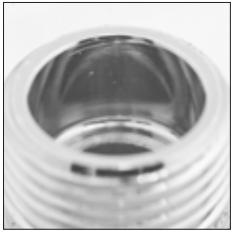
How to stop the valves jamming

The Ballofix® shut-off function must be activated at regular intervals by opening and closing the valve. This avoids the ball getting stuck due to limestone deposits. How often this needs to be done will depend on the quality of the water at the installation site.

Please note whether the bearing surface is flat or conical

The bearing surface at the threaded end of a Ballofix® can be either flat or conical.

Ballofix® with a **flat** bearing surface is used when the valves are used together with couplings such as Pipefix®, which comes with rubber seals at the transition to copper tube and brass females. Flat bearing surfaces can also be used together with fibre seals.



Flat bearing surface

Ballofix® with **conical** bearing surfaces are used when the valves are used together with ferrule couplings. A ferrule coupling consists of a ferrule and a swirvel nut.

Conical bearing surface

NB: Pipefix® cannot be used on valves with conical bearing surfaces as leaks may occur in the system. This is because the substantial surface pressure to which the rubber seal is exposed when the swirvel nut is tightened can damage the rubber seal.

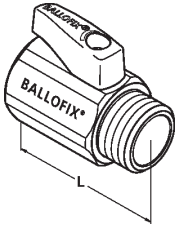
Ballofix® valves are supplied as standard without a swirvel nut and with flat bearing surfaces. All Ballofix® fittings supplied with a ferrule connection have conical bearing surfaces.

1.4 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition, BROEN's products conform to the directives of nationally and internationally recognised institutions with regard to gas, drinking water and other water installations.

Ballofix® with handle

(female × male)

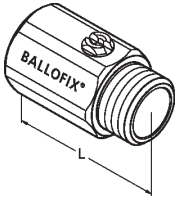


Dimension	L	H	Handle - colour	Article No.
1/4 × 1/4	44.1			42100400-228002
3/8 × 3/8	44.9			42100300-228002
1/2 × 3/8	45.4			43154700-226002
1/2 × 1/2	44.4			4354500-226002
1/2 × 1/2*	44.4			83154500-226002
1/2 × 1/2	44.4		Blue	43545BL-231002
1/2 × 1/2	44.4		Chrome	43545KR-331002
1/2 × 1/2	44.4		Red	4354510-231002
3/4 × 3/4	52.2			44150100-226002
1 × 1	72.0			45150200-226002

* Material: Gun metal

Ballofix® without handle

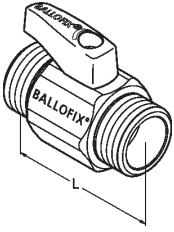
(female × male)



Dim.	L	H	Article No.
1/4 × 1/4	44.1		42100400-225002
3/8 × 3/8	44.9		42100300-225002
1/2 × 1/2	44.4		4354500-225002
3/4 × 3/4	52.2		44150100-225002
1 × 1	72.0		45150200-225002

Ballofix® with handle

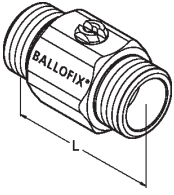
(2 × male)



Dimension	L	H	Article No.
3/8 × 3/8	43.5		42100500-226002
1/2 × 1/2	45.4		43100700-226002
3/4 × 3/4	48.9		44100900-226002

Ballofix® without handle

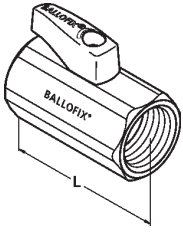
(2 × male)



Dimension	L	H	Article No.
3/8 × 3/8	44.0		42100500-225002
1/2 × 1/2	45.4		43100700-225002

Ballofix® with handle

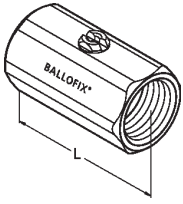
(2 × female)



Dimension	L	H	Article No.
1/4 × 1/4	45.4		42100200-228002
3/8 × 3/8	45.9		42100100-228002
1/2 × 1/2	46.7		43100800-226002
3/4 × 3/4	56.2		44150300-226002
1 × 1	75.0		45150400-226002

Ballofix® without handle

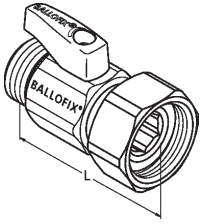
(2 × female)



Dimension	L	H	Article No.
1/4 × 1/4	45.4		42100200-225002
3/8 × 3/8	45.9		42100100-225002
1/2 × 1/2	46.7		43100800-225002
3/4 × 3/4	56.2		44150300-225002
1 × 1	75.0		45150400-225002

Ballofix® with handle

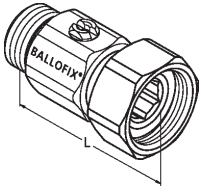
(swirvel nut × male)



Dimension	L	H	Article No.
1/2 × 1/2	46.2		42176600-226002
3/4 × 3/4	55.9		44147900-228002

Ballofix® without handle

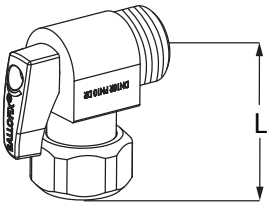
(swirvel nut × male)



Dimension	L	H	Article No.
1/2 × 1/2	46.2		42176600-225002
3/4 × 3/4	55.9		44147900-225002

Ballofix® angle with handle

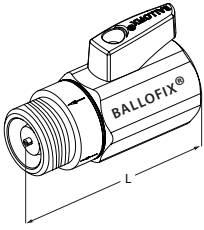
(swirvel nut × male)



Dimension	L	H	Article No.
1/2 × 1/2	26.7		42171700-226002

Ballofix® with non-return valve and handle

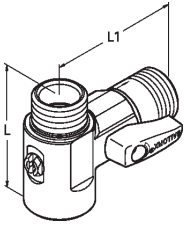
(female × male)



Dimension	L	H	Article No.
1/2 × 1/2	55.3		43100900-226002

Ballofix® tee with non-return valve and handle

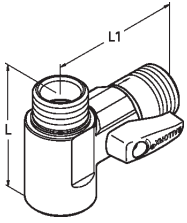
(female × male)



Dimension	L	L1	Article No.
1/2 × 1/2 × 1/2	47.1	52.1	42101300-226308

Ballofix® tee with non-return valve and handle, without shut-off

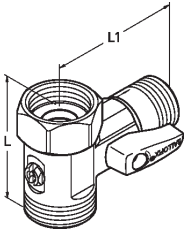
(female × male)



Dimension	L	L1	Article No.
1/2 × 1/2 × 1/2	47.1	52.0	42101500-226308

Ballofix® tee with non-return valve and handle

(male × swirvel nut)



Dimension	L	L1	Article No.
3/4 × 3/4 × 1/2	50.9	52.1	42101700-226308

Ballofix® tee with non-return valve, without handle

(female × male)

Dimension	L	L1	Article No.
3/4 × 3/4	50.9		43102000-200008

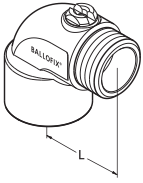
Ballofix® angle with handle

(female × male)

Dimension	L	H	Article No.
1/2 × 1/2	38.5		42174500-228002

Ballofix® angle without handle

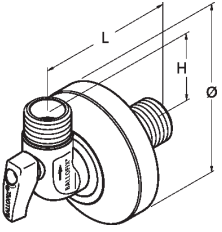
(female × male)



Dimension	L	H	Article No.
1/2 × 1/2	38.5		42197500-325008

Ballofix® angle, with flange and handle

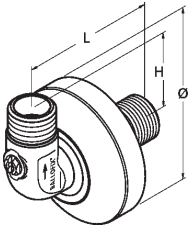
(2 × male)



Dimension	L	H	Ø	Article No.
1/2 × 1/2	67.0	38.5	70.0	42100000-331208

Ballofix® angle, with flange, without handle

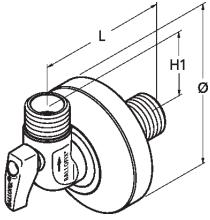
(2 × male)



Dimension	L	H	Ø	Article No.
1/2 × 1/2	67.0	38.5	70.0	42100000-325208

Ballofix® angle, with non-return valve, flange and handle

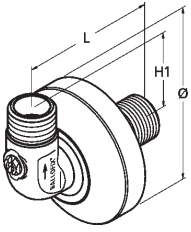
(2 × male)



Dimension	L	H1	Ø	Article No.
1/2 × 1/2	67.0	38.5	70.0	42100000-331508

Ballofix® angle, with non-return valve and flange, without handle

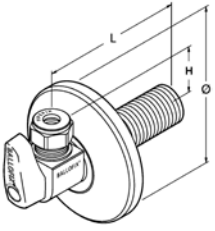
(2 × male)



Dimension	L	H1	Ø	Article No.
1/2 × 1/2	67.0	38.5	70.0	42100000-325508

Ballofix® angle (D profile) with flange and handle

(male × Pipefix®)



Dimension	L	H	Ø	Article No.
1/2 × 10	79.0	24.0	70.0	42199700-231248

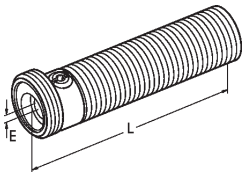
Ballofix® angle (D profile) with flange, without handle

(male × Pipefix®)

Dimension	L	H	Ø	Article No.
1/2 × 10	79.0	24.0	70.0	42199700-200248

Ballofix® eccentric tail piece, long model

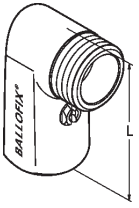
(2 × male)



Dimension	L	E	Article No.
3/4 × 1/2	85.0	2.0	43107500-200002

Ballofix® angled fitting connection without handle

(female × male)



Dimension	L	H	Article No.
1/2 × 3/4	61.0		33110300-300008

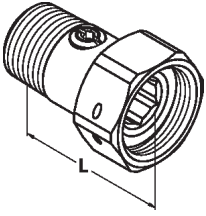
Ballofix® fitting connection without handle

(female × male)

Dimension	L	H	Article No.
1/2 × 3/4	41.0		3321100-300002

Ballofix® meter tail piece without handle

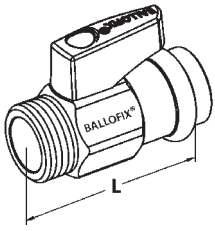
(male × swirvel nut)



Dimension	L	H	Article No.
1/2 × 3/4	40.0		42123400-100002

Ballofix® with handle

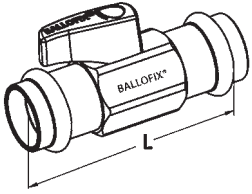
(male × press)



Dimension	L	H	Article No.
1/2 × 15	59.2		4382100-226002
3/4 × 22	62.9		44100200-226002

Ballofix® with handle

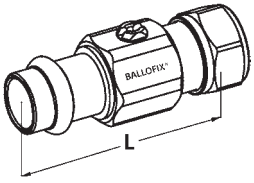
(2 × press)



Dimension	L	H	Article No.
15 × 15	82.9		4382400-226002
18 × 18	87.6		44100300-226002
22 × 22	88.2		44100400-226002

Ballofix® without handle

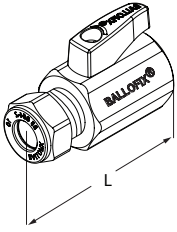
(press × compression)



Dimension	L	H	Article No.
15 × 15	61.2		4382300-225042

Ballofix® with handle

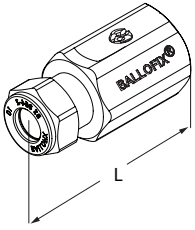
(female × compression)



Dimension	L	H	Article No.
1/2 × 10	45.4		43169900-226032
1/2 × 12	45.4		43169700-226032
1/2 × 15	44.4		43150100-226032
3/4 × 22	54.6		44154500-226032

Ballofix® without handle

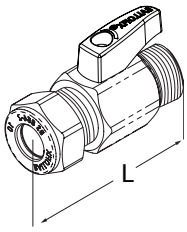
(female × compression)



Dimension	L	H	Article No.
3/8 × 12	44.5		42179600-225032
1/2 × 10	45.4		43169900-225032
1/2 × 12	45.4		43169700-225032
1/2 × 15	44.4		43150100-225032
3/4 × 22	54.6		44154500-225032

Ballofix® with handle

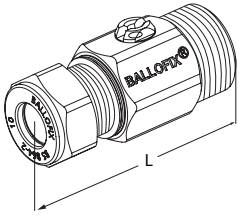
(male × compression)



Dimension	L	H	Article No.
1/2 × 10	44.5		42174100-226032
1/2 × 12	43.5		42174200-226032
1/2 × 15	44.5		42174300-226032

Ballofix® without handle

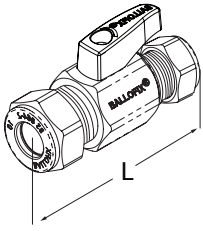
(male × compression)



Dimension	L	H	Article No.
1/2 × 12	43.5		42174200-225032
1/2 × 15	44.5		42174300-225032

Ballofix® with handle

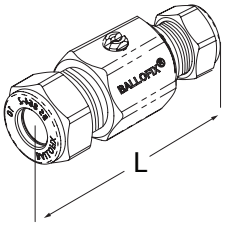
(2 × compression)



Dimension	L	H	Article No.
8	43.2		42178200-226052
10	43.5		42555400-226062
12	43.5		42555700-226062
15	44.5		42556300-226062
16	44.5		42136800-226052
18	49.2		44153700-226052
22	49.2		44153800-226052
10 × 8	43.5		42178300-226052
12 × 8	43.5		42178500-226052
12 × 10	43.5		42555600-228062
15 × 10	43.5		42555900-228062
15 × 12	43.5		42179000-228052

Ballofix® without handle

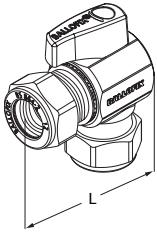
(2 × compression)



Dimension	L	H	Article No.
8	43.2		42178200-225052
10	43.5		42178400-225052
15	44.5		42513900-225062
16	44.5		42136800-225052
18	49.2		44153700-225052
22	49.2		44153800-225052
28	65.0		45152500-225052
10 × 8	43.5		42178300-225052
12 × 8	43.5		42178500-225052
12 × 10	43.5		3255600-200062
15 × 10	43.5		42555900-225062
16 × 10	43.5		42179200-225052
16 × 12	43.5		42179300-225052

Ballofix® angled with handle

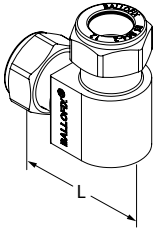
(2 × compression)



Dimension	L	H	Article No.
10	20.0		42170500-226052
12	20.0		42193700-226052
15	20.0		42193900-226052
22	23.0		44194500-226052
10 × 12	20.0		42170700-226052
10 × 15	20.0		42171100-226052
15 × 12	20.0		42194100-226052

Ballofix® angle without handle

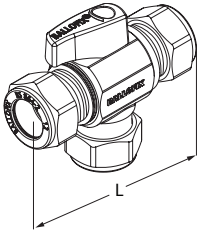
(2 × compression)



Dimension	L	H	Article No.
10	20.0		42170500-225052
12	20.0		42193700-225052
15	20.0		42193900-225052
10 × 12			42170700-225052
10 × 15	20.0		42171100-025052

Ballofix® tee with handle

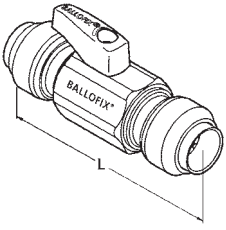
(3 × compression)



Dimension	L	H	Article No.
12 × 12 × 12	45.5		42193600-226072
12 × 15 × 12	45.5		42194000-226072
15 × 15 × 15	46.5		42193800-226072

Ballofix® with handle

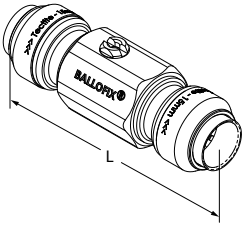
(2 × push)



Dimension	L	H	Article No.
10 × 10	83		42182000-226162
10 × 12	84		42182100-226162
12 × 12	84		42182200-226162
15 × 15	84		42182500-226162
22 × 22	100		44100600-228002

Ballofix® without handle

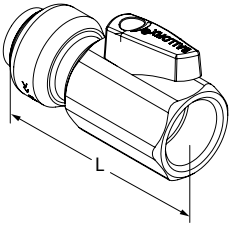
(2 × push)



Dimension	L	H	Article No.
10 × 15	82		43101800-225002
15 × 15	84		42182500-225162
22 × 22	100		44100600-225002

Ballofix® with handle

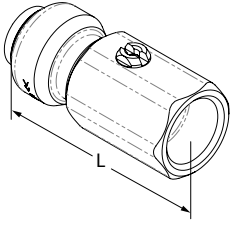
(female × push)



Dimension	L	H	Article No.
10 × 1/2	60.1		43100100-226002
15 × 1/2	62.1		43100200-226152

Ballofix® without handle

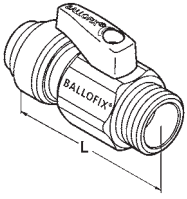
(female × push)



Dimension	L	H	Article No.
10 × 1/2	60.1		43100100-225002
15 × 1/2	62.1		43100200-225002

Ballofix® with handle

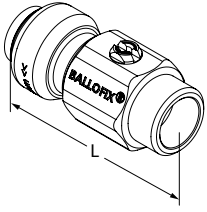
(push × male)



Dimension	L	H	Article No.
10 × 3/8	58.4		42182300-226152
12 × 3/8	58.6		42182400-226152
12 × 1/2	58.6		42182600-226152
15 × 3/8	58.4		42182700-226152
15 × 1/2	60.5		43100300-226152

Ballofix® without handle

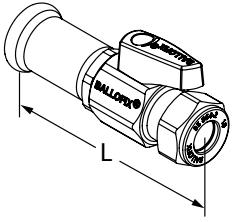
(push × male)



Dimension	L	H	Article No.
15 × 1/2	60.5		43100300-225152

Ballofix® Henco, straight

(press × compression)



Dimension	L	H	Article No.
16 × 10	58.4		42004900-225032

BROEN
VALVE TECHNOLOGIES

2 BALLOFIX® RADIATOR

Ballofix®

2 Ballofix® radiator

2.1 Ballofix® radiator

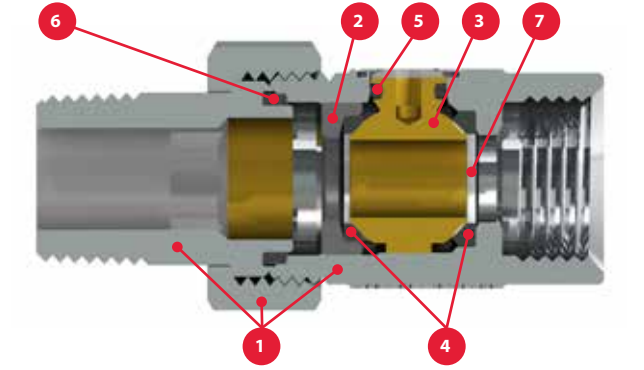
Ballofix® radiator is designed to add the final aesthetic touch to radiator installations. In addition to its traditional use on radiators, the valve can also be used as a shut-off immediately in front of any visible heating or refrigeration unit to achieve a perfect functional solution.

- Simple design
- Functional and reliable
- Short construction length despite shut-off facility

2.2 Technical data

Technical characteristics		
Material	Brass - EN 12164 CW614N	
Finish	Nickel plated brass	
Specifications		
Medium	Water	
Pressure	Max. 10 bar	
Assembly measurements - thread lengths		
Dimension	**Male**	**Female**
3/8"	10.1 mm	8.5 mm
1/2"	11.4 mm	10.5 mm
3/4"	12.7 mm	12.0 mm

TABLE 5: TECHNICAL CHARACTERISTICS OF BALLOFIX ® RADIATOR.



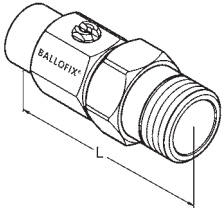
Product description			
No.	**Component**	**Material**	**Standard**
1	Valve housing/tail piece	Brass - CW614N	
2	Locking ring	PSU	
3	Ball	Brass - CW626N	EN 12164/EN12165
4	Teflon seal	PTFE	
5	Teflon seal	PTFE	
6	Teflon seal	PTFE	
7	Locking ring	PSU	

2.3 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

Ballofix® straight radiator tail piece

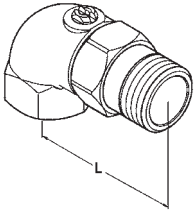
(female × male)



Dimension	L	H	Article No.
3/8 × 3/8	60.0		3224400-100002
1/2 × 1/2	69.0		3335400-100002
3/4 × 3/4	81.5		3408400-100002

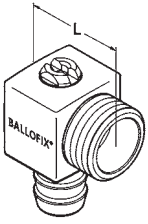
Ballofix® angle radiator tail piece

(female × male)



Dimension	L	H	Article No.
3/8 × 3/8	52.1		3224100-100002
1/2 × 1/2	59.5		3323200-100002

Ballofix® radiator drain tap



Dimension	L	H	Article No.
3/8 × 1/8	26.0		3214500-100002
1/2 × 1/8	26.0		3214700-100002

BROEN
VALVE TECHNOLOGIES

3 BALLOFIX® - GAS

Ballofix®

3 Ballofix® - GAS

3.1 Ballofix® - GAS

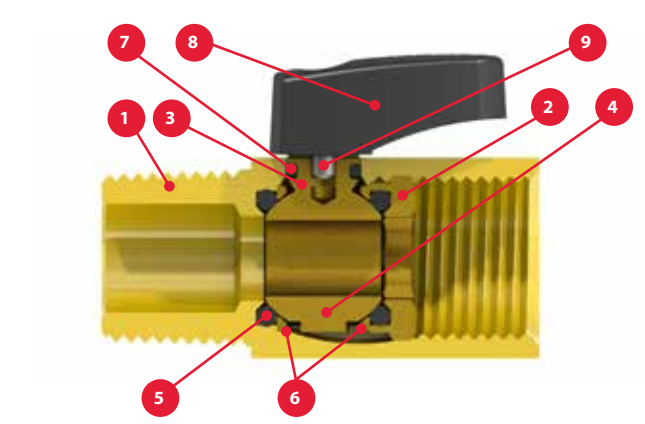
Ballofix® - GAS is designed for use in gas installations and can be used for 1st, 2nd and 3rd family gases. The valve is particularly well-suited for use together with VSH Super gas sampling valves, in order to comply with requirements for testing and shut-off in gas-consuming apparatus. The range of sizes also facilitates the use of shut-off valves for lead-in to buildings.

- Simple design
- Functional and reliable
- DG-approved

3.2 Technical data

Technical characteristics		
Material	Brass - EN 12164 CW614N	
Finish	Yellow varnish	
Specifications		
Medium	Gas	
Pressure	Max. 4 bar	
Assembly measurements - thread lengths		
Dimension	**Male**	**Female**
1/4"	11.4 mm	9.0 mm
3/8"	11.4 mm	9.0 mm
1/2"	15.0 mm	10.0 mm
3/4"	16.0 mm	14.0 mm
1"	19.0 mm	16.0 mm

TABLE 6: TECHNICAL CHARACTERISTICS OF BALLOFIX ® FOR GAS INSTALLATIONS.



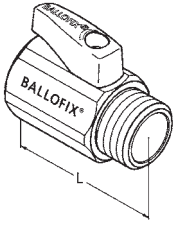
Product description			
No.	**Component**	**Material**	**Standard**
1	**Valve housing**	Brass - CW 614 N	
2	Locking ring	Brass - CW 614 N	
3	Stem	Brass - CW 614 N	
4	Ball	Brass - CW 614 N	
5	O-Ring	Rubber - NBR (Nitrile)	
6	Back-up Ring	Brass - CW 614 N	
7	O-Ring	Rubber - NBR (Nitrile)	
8	Handle	Fibreglass reinforced nylon	
9	Screw	Stainless steel	AISI 304 / EN 1.4301

3.3 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

Ballofix® with handle - GAS

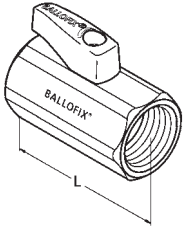
(female × male)



Dimension	L	H	Article No.
3/8 × 3/8	45.0		32502GU-601002
1/2 × 1/2	54.5		33502GU-601002
3/4 × 3/4	63.0		34502GU-601002
1 × 1	72.0		35502GU-601002

Ballofix® with handle - GAS

(2 × female)



Dimension	L	H	Article No.
1/2 × 1/2	56.0		33504GU-601002
3/4 × 3/4	65.0		34504GU-601002
1 × 1	75.0		35504GU-601002

BROEN
VALVE TECHNOLOGIES

4 BALLOFIX® LOCKABLE

Ballofix®

4 Ballofix® lockable

4.1 Ballofix® lockable

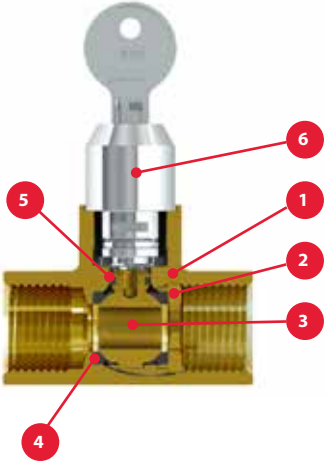
Ballofix® lockable can be used anywhere where there is a need for a lockable shut-off valve. Obvious areas of use include schools, daycare facilities and other buildings open to the public. Ballofix® lockable is also the obvious choice for secure installations with a special focus on operation by professional staff.

- Tall stem facilitates insulation
- Functional and reliable

4.2 Technical data

Technical characteristics	
Material	Brass - EN 12164 CW614N
Finish	Untreated brass
Specifications	
Medium	Water
Pressure	Max. 16 bar
Assembly measurements - thread lengths	
Dimension	**Female**
1/4"	9 mm
3/8"	9 mm
1/2"	10 mm
3/4"	14 mm
1"	16 mm

TABLE 7: TECHNICAL CHARACTERISTICS OF BALLOFIX® LOCKABLE.



Product description			
No.	**Component**	**Material**	**Standard**
1	**Valve housing**	Brass - CW602N/CW617N	
2	Locking screw	Brass - CW626N/CW614N	EN 12164/EN12165
3	Ball/stem	Brass - CW626N/CW614N	EN 12164/EN12165
4	Seal	Teflon - PTFE	
5	O-Ring	Rubber - EPDM	
6	Lock	Chromed brass	

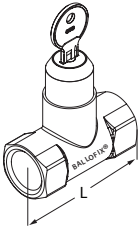
Please note that the configuration of the valve may vary depending on its dimensions

4.3 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

Ballofix® lockable valve

(2 × female)



Dimension	L	H	Article No.
1/2	57.0		3399300-000009
3/4	62.2		3499300-000009
1	75.5		3599300-000009
1 1/2	98.0		37199300-000009
2	115.0		38199300-000009

BROEN
VALVE TECHNOLOGIES

5 FILTERFIX®

Ballofix®

5 Filterfix®

5.1 Filterfix®

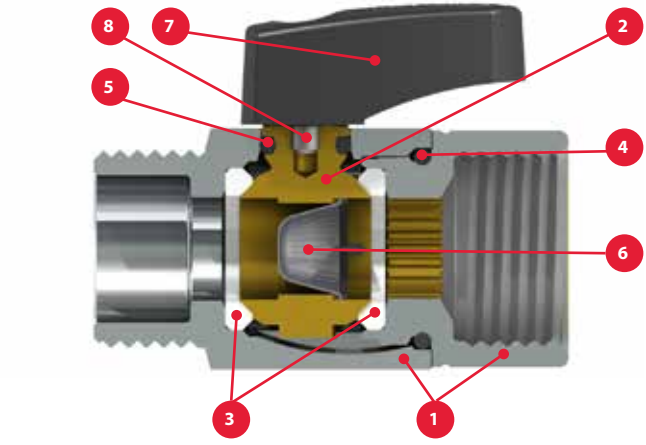
Filterfix® is a Ballofix® shut-off valve with a built-in filter for the protection of installation devices such as secondary meters, electronic fittings, toilets, etc.

- Filter with a mesh of 420 my
- Combines the Ballofix® ball valve's shut-off function with filter functionality
- Simple shut-off for cleaning the filter

5.2 Technical data

Technical characteristics			
Materials			
Valve housing	Brass - CW626N		
Filter	Stainless steel		
Finish	Chrome		
Specifications			
Medium	Water		
Temperature	Max. 120°C		
Pressure	Max. 16 bar		
Kv values	1/2" = 2.0 m^3/h, 3/4" = 4.8 m^3/h		
Spare parts	**Type**	**Article No.**	**Pcs./carton**
	1/2" filter	3361508-000009	5
	3/4" filter	3462208-000009	5
	1/2" filter cover	4385503-200005	Sold individually
	3/4" filter cover	3357103-200005	Sold individually

TABLE 8: TECHNICAL CHARACTERISTICS OF FILTERFIX® FOR WATER AND HEATING INSTALLATIONS.



Product description			
No.	**Component**	**Material**	**Standard**
1	**Valve housing**	Brass - CW626N	EN 12164/EN12165
2	Ball/stem	Brass - CW626N	EN 12164/EN12165
3	Seal	Teflon - PTFE	
4	O-Ring	Rubber - EPDM	
5	O-Ring	Rubber - EPDM	
6	Filter	Stainless steel	AISI 304/EN 1.4301
7	Handle	Fibreglass reinforced nylon	
8	Screw	Stainless steel	AISI 304/EN 1.4301

5.4 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

5.3 Useful information

Assembly instructions

To ensure that the filter remains correctly in place inside the valve, the valve must be installed correctly in relation to the water's direction of flow.
An ⇒ arrow on the valve indicates the correct direction of flow through the valve.

Cleaning the filter

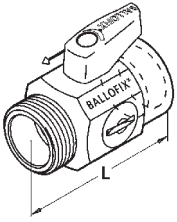
Shut off the valve

Open the filter cover with a coin or screwdriver

Remove the filter with pliers then clean or replace it

Filterfix® with handle

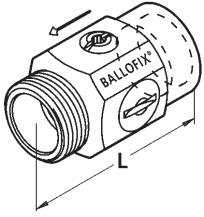
(female × male)



Dimension	L	H	Article No.
1/2 × 1/2	49.2		4362500-226402
3/4 × 3/4	54.1		4462500-226402

Filterfix® ball valve without handle

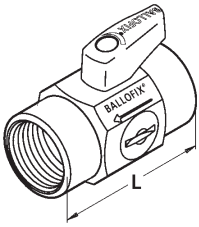
(female × male)



Dimension	L	H	Article No.
1/2 × 1/2	49.2		4362500-225402

Filterfix® with handle

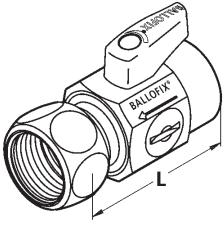
(2 × female)



Dimension	L	H	Article No.
1/2 × 1/2	49.4		4362400-226402

Filterfix® with handle

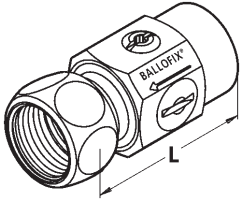
(female × swirvel nut)



Dimension	L	H	Article No.
1/2 × 1/2	45.9		4362600-228402

Filterfix® without handle

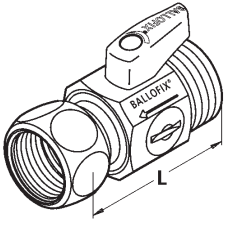
(female × swirvel nut)



Dimension	L	H	Article No.
1/2 × 1/2	45.9		4362600-225402

Filterfix® with handle

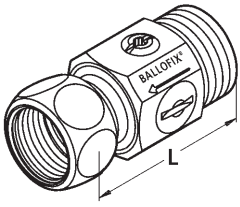
(male × swirvel nut)



Dimension	L	H	Article No.
1/2 × 1/2	45.4		4362900-228402

Filterfix® without handle

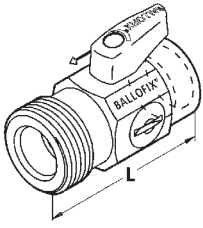
(male × swirvel nut)



Dimension	L	H	Article No.
1/2 × 1/2	45.4		4362900-225402

Filterfix® non-return valve with handle

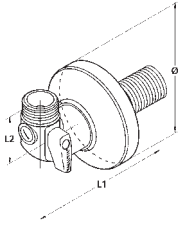
(male × female)



Dimension	L	H	Article No.
1/2 × 1/2	55.9		4363000-228402
1/2 × 3/4	55.7		4362800-228402

Filterfix® angle with flange and handle

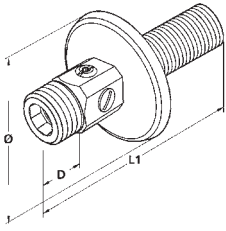
(2 × male)



Dimension	L1	L2	Ø	Article No.
1/2 × 1/2	69.0	39.3	70.0	4363400-328568

Filterfix® straight valve with flange, without handle

(2 × male)



Dimension	L1	L2	Ø	Article No.
1/2 × 3/4	98.0	10.0	70.0	4363600-300568

BROEN
VALVE TECHNOLOGIES

6 PIPEFIX®

Ballofix®

6 Pipefix® compression fittings for copper tube and brass female

6.1 Pipefix® compression fittings

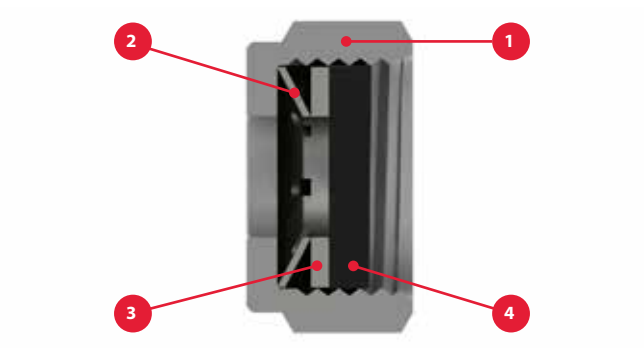
Pipefix® is a compression fitting used for the connection of 8, 10, 12 and 15 mm copper tubes, as well as hoses with brass females, to Ballofix® shut-off valves with 3/8" and 1/2" threads.

- Simple and secure connection of copper tubes and hoses with brass females to Ballofix®
- ETA approved without the use of stud bushings
- A sound professional solution
- Demountable

6.2 Technical data

Technical characteristics		
Materials		
Swirvel nut	Brass	
Seal	EPDM	
Glide ring	Stainless steel	
Ferrule	Stainless steel	
Finish	Chrome	
Specifications		
Medium	Water	
Temperature	Max. 120°C	
Pressure	Max. 10 bar	
Spare parts	**Type**	**Article No.**
	Nylon insert for 10 mm	3209718-000002
	Nylon insert for 12 mm	3210910-000000

TABLE 9: TECHNICAL CHARACTERISTICS OF PIPEFIX® FOR WATER AND HEATING INSTALLATIONS.

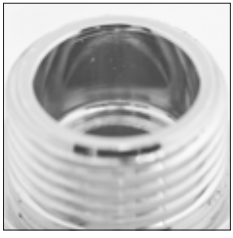


Product description			
No.	**Component**	**Material**	**Standard**
1	Swirvel nut	Brass - CW617N	
2	Locking ring	Stainless steel	AISI 304/EN 1.4301
3	Washer	Stainless steel	AISI 304/EN 1.4301
4	Seal	Rubber - EPDM	

6.3 Useful information

Please note whether the bearing surface is flat or conical

The bearing surface at the threaded end of a Ballofix® can be either flat or conical. Valves with **flat** bearing surfaces must always be used with Pipefix® compression connections.



Flat bearing surface

Ballofix® with **conical** bearing surfaces must not be used with Pipefix®, because leakages may otherwise occur in the system. This is because the substantial surface pressure to which the rubber seal is exposed when the swirvel nut is tightened can damage the rubber seal.

Conical bearing surface

Assembly instructions

Assembly

The copper tube must be deburred before assembly with Pipefix®. The copper tube must be fixed to prevent it rotating in the same direction. Tighten Pipefix® until firm resistance is felt and then tighten one extra half turn.

Demounting

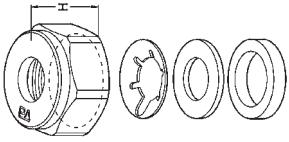
Screw off the swirvel nut. Break the connection with a screwdriver or cutting pliers. The joint can then be demounted quickly and easily.

6.4 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

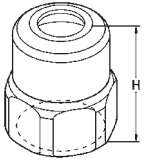
Pipefix® has been assessed by the Danish authorities for use with drinking water and, because of the minimal contact with water, it has been exempted from approval and is thus legal for use in both hot and cold domestic water installations.

Pipefix® compression coupling



Dimension	H	Article No.	
3/8 × 10	12.5	1920000-244007	
3/8 × 12	12.5	1920100-254007	
1/2 × 8	14.2	1918000-236007	
1/2 × 10	14.2	1918100-246007	
1/2 × 12	14.2	1918200-256007	
1/2 × 15	14.2	1918300-266007	

Pipefix® compression coupling, tall model



Dimension	H	Article No.
1/2 × 10	28.0	3209710-300002
1/2 × 12	28.0	3210909-300002

BROEN
VALVE TECHNOLOGIES

7 UNIFIX®

Ballofix®

7 Unifix® fittings for joining steel tubes

7.1 Unifix® fittings

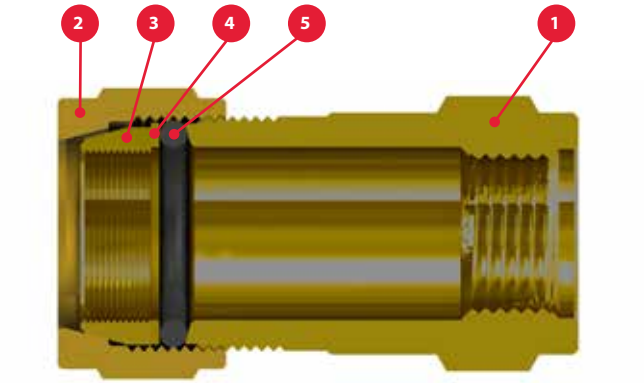
Unifix® is the perfect repair coupling for steel tubing, without the need for thread cutting or welding. Can be used with both black and galvanised steel tubing.

- Dimensions from 3/8" to 2"
- No thread cutting
- No welding
- Flexible insertion depth

7.2 Technical data

Technical characteristics		
Materials		
Housing	Brass - CW617N	
Ferrule	Stainless steel	
Disc	Stainless steel	
Seal	EPDM	
Finish	Untreated brass	
Specifications		
Medium	Water	
Temperature	Max. 120°C	
Pressure	Max. 16 bar	
Installation measurements		
Dimension	**The tube (mm)**	**Width across flats (mm)**
10	17.2	32
15	21.3	37
20	26.9	42
25	33.7	50
32	42.4	62
40	48.3	67
50	60.3	82

TABLE 10: TECHNICAL CHARACTERISTICS OF UNIFIX ® FOR HEATING INSTALLATIONS.



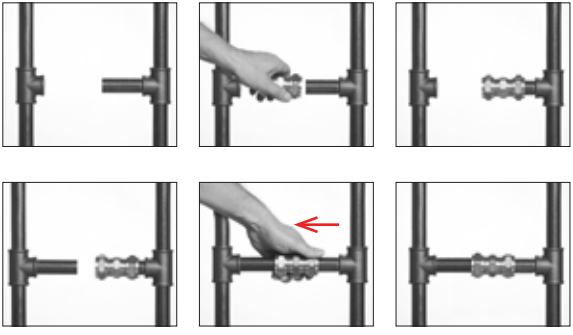
Product description			
No.	**Component**	**Material**	**Standard**
1	Housing	Brass - CW617N	EN 12164/EN12165
2	Swirvel nut	Brass - CW617N	EN 12164/EN12165
3	Cutting ring	Brass - CW617N	EN 12164/EN12165
4	Washer	Stainless steel	AISI 304/EN 1.4301
5	O-Ring	Rubber - EPDM	

7.3 Useful information

Unifix® must not be buried in soil or cast into concrete because of the risk of corrosion.

Assembly instructions

1. Cut the tube with a pipe cutter, hacksaw or bayonet saw.
2. Deburr the pipe ends inside and out.
3. Make sure that the pipe ends are free from rust and metal shavings.
4. Assemble the coupling by pushing it past the rubber seal.
5. Tighten the coupling until you meet firm resistance, but so that further tightening is possible. Do not grease the coupling.
6. Test the joint under pressure for any leaks.



7.4 Approvals and Certificates

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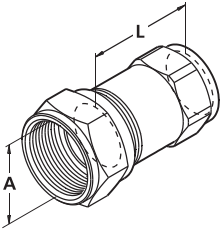
Unifix® ferrule coupling for joining steel tube

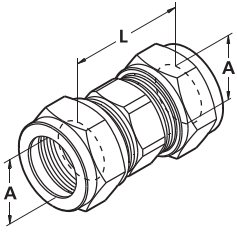
(female x ferrule)



Dimension	A	L	Article No.
3/8	16.7-17.5	50	3011700-000041
1/2	21.0-21.8	50	3010100-000041
3/4	26.5-27.3	52	3010200-000041
1	33.3-34.2	59	3010300-000041
1 1/4	42.0-42.9	64	3010400-000045
1 1/2	47.9-48.8	70	3011800-000045
2	59.7-60.8	78	3011900-000045

Unifix® ferrule coupling for joining steel tube

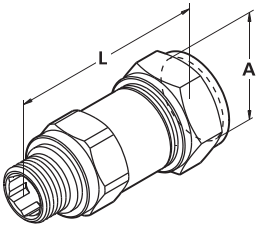
(2 × ferrule)



Dimension	A	L	Article No.
1/2	21.0-21.8	40	3010900-000061
3/4	26.5-27.3	46	3011000-000061
1	33.3-34.2	50	3011100-000061
1 1/4	42.0-42.9	50	3011200-000061
1 1/2	47.9-48.8	58	3015700-000065
2	59.7-60.8	60	3015800-000065

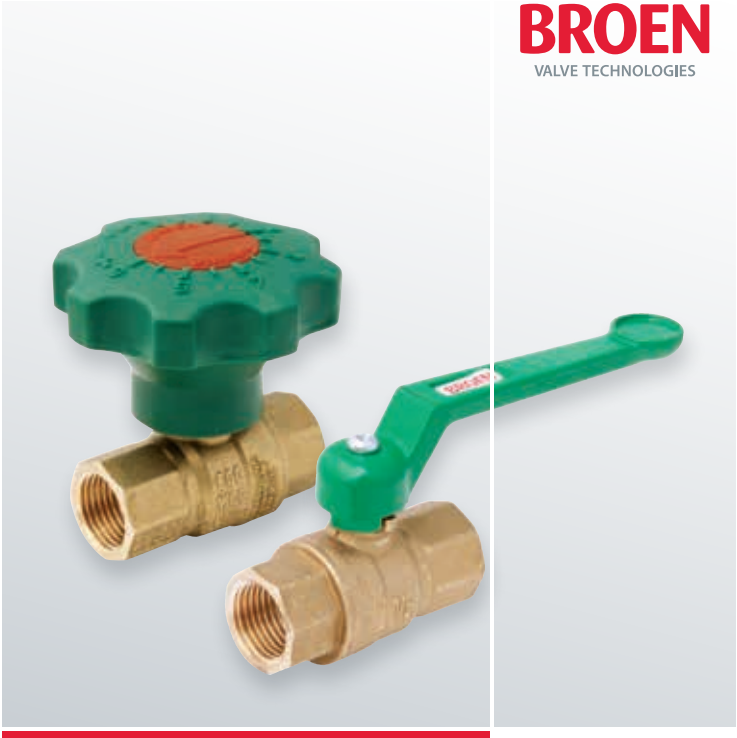
Unifix® ferrule coupling for joining steel tube

(male × ferrule)



Dimension	A	L	Article No.
3/8	16.7-17.5	64.5	3012300-000041
1/2	21.0-21.8	64.5	3012400-000041
3/4	26.5-27.3	68.0	3012500-000041
1	33.3-34.2	77.1	3012600-000041
1 1/4	42.0-42.9	86.3	3012700-000045
1 1/2	47.9-48.8	92.5	3012800-000045
2	59.7-60.8	104.0	3012900-000045

BROEN
VALVE TECHNOLOGIES



8 UNIKUM® & TECNICA®

Ballofix®

8 Unikum® & Tecnica® ball valves

8.1 Unikum® & Tecnica® ball valves

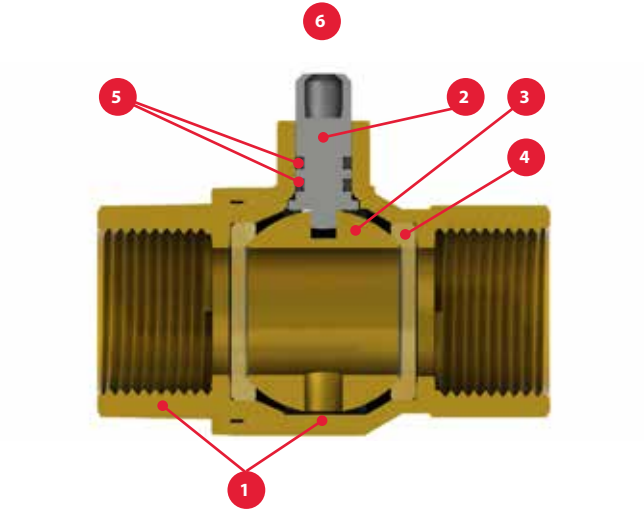
Unikum® og Tecnica® valves are equally well-suited to both heating installations and domestic water systems.

- 360° geared closure
- The unique handle provides protection against surges
- Full throughflow

8.2 Technical data

Technical characteristics	
Materials	
Valve housing	Brass - CW617N
UNIKUM® handle	Glass fibre reinforced plastic
Finish	Untreated brass
Specifications	
Medium	Water
Temperature	UNIKUM® = Max. +90°C. TECNICA® = Max. +150°C
Pressure	1/4"-1/2" = Max. 64 bar, 3/4"-1" = Max. 40 bar, 1 1/4"-2" = Max. 25 bar

TABLE 11: TECHNICAL CHARACTERISTICS OF UNIKUM® / TECNICA® FOR WATER AND HEATING INSTALLATIONS.



Product description			
No.	**Component**	**Material**	**Standard**
1	**Valve housing**	Brass - CW617N	EN 12164 /EN12165
2	Stem	Brass - CuZn39Pb3	
3	Ball (1/2" - 1")	Brass - CuZn39Pb3	
3a	Ball (1 1/4" - 2")	Brass - CW617N	EN 12164 /EN12165
4	Seal	Teflon - PTFE	
5	O-Ring	Rubber - NBR (Nitrile)	
6a	Handle - Unikum	Plastic	
6b	Handle - Tecnica	Aluminium	

8.3 Useful information

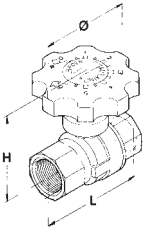
The scaled handle with 360° gear closure prevents surges. The height of the handle facilitates insulation around the valve.
The handle can be demounted by removing a single screw, which prevents undesired alteration of the handle position.
Tecnica® has the same valve housing as Unikum®, but has another type of handle (90° open & close function).

8.4 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

Unikum® full flow valve with gear handle

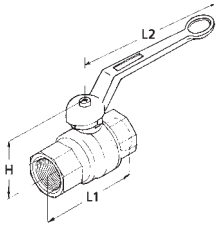
(2 × female)



Dimension	L	H	Ø	Article No.
1/4 × 1/4	50.1	56.2	70.0	3285069-000003
3/8 × 3/8	50.1	56.1	70.0	3285469-000003
1/2 × 1/2	61.7	59.3	70.0	3338069-000003
3/4 × 3/4	71.2	63.0	70.0	3457469-000003
1/1	83.3	69.0	70.0	3551269-000003
1 1/4 × 1 1/4	98.0	75.0	70.0	3650469-000003
1 1/2 × 1 1/2	109.0	106.0	120.0	3700269-000003
2 × 2	133.0	114.0	120.0	3800269-000003

Unikum® full flow valve with handle

(2 × female)



Dimension	L1	H	L2	Article No.
1/4 × 1/4	50.1	33.0	100.0	3284969-060003
3/8 × 3/8	50.1	33.0	100.0	3285369-060003
1/2 × 1/2	61.7	40.0	100.0	3337969-060005
3/4 × 3/4	71.2	45.0	100.0	3457369-060005
1 × 1	83.3	53.0	120.0	3551169-060003
1 1/4 × 1 1/4	98.0	58.0	120.0	3650369-060003
1 1/2 × 1 1/2	109.0	72.0	150.0	3700169-060003
2 × 2	133.0	80.0	150.0	3800169-060003

BROEN
VALVE TECHNOLOGIES

9 WALLFIX®

Ballofix®

9 Wallfix® wall fittings for copper tube

9.1 Wallfix® wall fittings

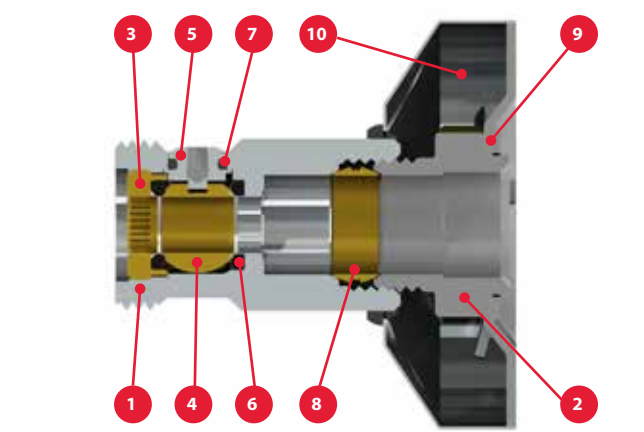
Wallfix® is a combination of the Ballofix® shut-off valve and a wall coupling for the external connection of 12 mm and 15 mm copper tubing.

- Combines connection to copper tubes with shut-off functionality
- Seals off moisture ingress at tube ducting
- An elegant, professional solution

9.2 Technical data

Technical characteristics			
Materials			
Valve housing	Brass CW626N		
Wall flange	Stainless steel		
Rose	Metal		
Finish	Chrome		
Specifications			
Medium	Water		
Temperature	Max. 120°C		
Pressure	Max. 16 bar		
Spare parts		**Type**	**Article No.**
		Rose	96R0005-200005
		Reduction bushing 12 mm	3097406
		Ferrule 12 mm	3003812-000005
		Ferrule 15 mm	3003815-000005
		Mounting template	3297008-000005

TABLE 12: TECHNICAL CHARACTERISTICS OF WALLFIX® FOR WATER AND HEATING INSTALLATIONS.



Product description			
No.	**Component**	**Material**	**Standard**
1	**Valve housing**	Brass - CW626N	EN 12164/EN12165
2	Valve housing - flange	Brass - CW626N	EN 12164/EN12165
3	Locking screw	Brass - CW626N	EN 12164/EN12165
4	Ball	Brass - CW626N	EN 12164/EN12165
5	Stem	Brass - CW626N	EN 12164/EN12165
6	Seal	Teflon - PTFE	
7	O-Ring	Rubber - EPDM	
8	Ferrule	Brass - CW602N	EN 12164/EN12165
9	Wall flange	Stainless steel	AISI 304/EN 1.4301
10	Rose	Brass - CW617N	EN 12164/EN12165

9.3 Useful information

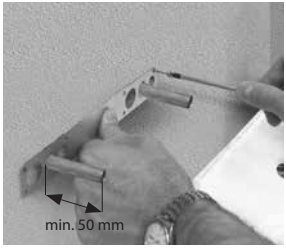
Assembly instructions

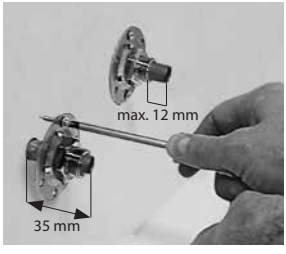
Guide the copper tube through the wall. If there is a plastic cap on, do not remove it. Remember to use a stud bushing on soft copper tubing.

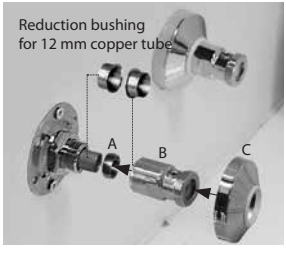
The mounting template ensures centre distance and height for wall-mounted mixer taps. It fits 12 and 15 mm copper tubes. Fill any holes in the plaster around the tubes – also under the template. The template is made of aluzinc and can be left in place under tiles or other wall covering if required.

Check that the centre distance is 150-153 mm. Cut the tube to 35 mm from the finished wall. This can wait until the wall flange has been fitted if needed. Affix the flange with at least 3 x Ø 5 mm brass screws. In brickwork, use Ø 5 × 30 mm with plug. To prevent the ingress of water, the holes should be sealed with silicone before assembly. It is important that the foam rubber seal is in place to seal off the tubes.

Check that the tube juts max. 12 mm out from the surface of the wall – without the ferrule (A). The ferrule (A) and the Ballofix®. When using 12 mm copper tube, use the following reduction bushings, as shown in the picture. Tighten the Ballofix® by one turn. Straighten the Ballofix® and tighten with a single head wrench. Fit the wall rose (C) to the Ballofix® valve before assembling fittings or Pipefix®.



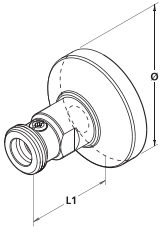




9.4 Approvals and Certificates

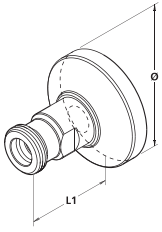
BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

Wallfix® straight tail piece with flange and shut-off, without handle



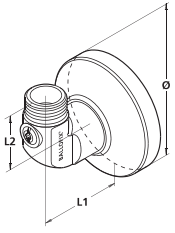
Dimension	L1	Ø	Article No.
3/4 × 15 (or 12 mm)	60	63	42197400-325232

Wallfix® straight tail piece with flange, without shut-off and handle



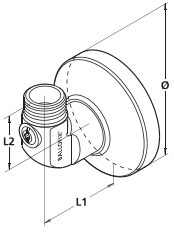
Dimension	L1	Ø	Article No.
3/4 × 15 (or 12 mm)	45	63	3097400-200002

Wallfix® angle with flange, without handle



Dimension	L1	L2	Ø	Article No.
1/2 × 15 (or 12 mm)	46	32	63	42197500-325238

Wallfix® angled with flange, without handle and rear flange



Dimension	L1	L2	Ø	Article No.	
1/2 × 15 (or 12 mm)	46	32	63		

BROEN
VALVE TECHNOLOGIES

10 XPRESS®

Ballofix®

10 XPress® full flow ball valve

10.1 XPress® full flow ball valve

XPress® full flow ball valves can be used in pressure tube systems made of stainless and galvanised steel as well as copper. Covered by extended 10-year system warranty for XPress tube systems. Leakage indicator with XPress® "Leak Before Pressed" O-ring. Can be used in drinking water installations as well as in cooling and heating systems. Use M-jaws for pressing.

- Quick and simple connection technology
- One ball valve for three systems: stainless steel, galvanised steel and copper
- A sound professional solution

10.2 Technical data

Technical characteristics	
Materials	
Valve housing	Gun metal
O-Ring	EPDM
Handle	Zinc plated with plastic coating
Specifications	
Medium	Water
Temperature	0°C to +130°C
Pressure class	PN16
Press jaw profile	M

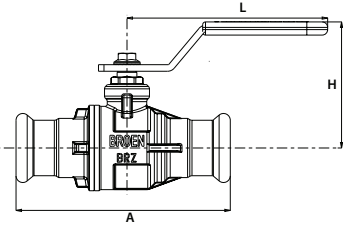
TABLE 13: TECHNICAL CHARACTERISTICS FOR XPRESS® FOR WATER, REFRIGERATION AND HEATING INSTALLATIONS.

10.3 Approvals and Certificates

BROEN ApS is a certified ISO 9001 company and also has 14001 environmental certification. In addition to this, BROEN's products comply with the directives of internationally recognised institutions on drinking water, gas and other water installations.

XPress® full flow press valve with handle, short stem

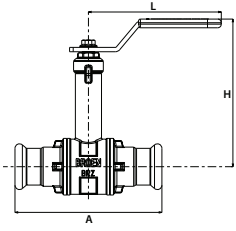
(2 × press)



Dimension	L	H	A	Article No.	
15 mm	91.5	54	84	96N0800	
18 mm	91.5	54	84	96N0801	
22 mm	91.5	57.5	98	96N0802	
28 mm	126.5	65	105	96N0803	
35 mm	126.5	71	125	96N0804	
42 mm	141.5	83	147	96N0805	
54 mm	141.5	91	168	96N0806	

XPress® full flow press valve with handle, long stem

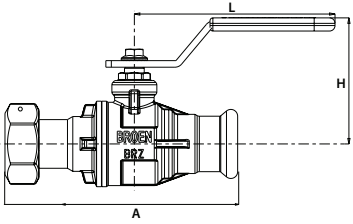
(2 × press)



Dimension	L	H	A	Article No.
15 mm	91.5	98	86	96N0807
18 mm	91.5	98	86	96N0808
22 mm	91.5	102	101	96N0809
28 mm	126.5	111	110	96N0810
35 mm	126.5	116	127	96N0811
42 mm	141.5	132	151	96N0812
54 mm	141.5	140	171	96N0813

XPress® full flow press valve with handle, short stem

(swirvel nut × press)



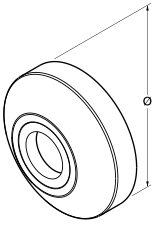
Dimension	L	H	A	Article No.
3/4 × 15	91.5	54	85	96N0814
3/4 × 18	91.5	54	85	96N0815
3/4 × 22	91.5	57.5	96.5	96N0816

BROEN
VALVE TECHNOLOGIES

11 ACCESSORIES

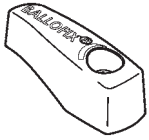
Ballofix®

Flange



Dimension	Ø	Article No.
1/2	70.0	96R0009-200005

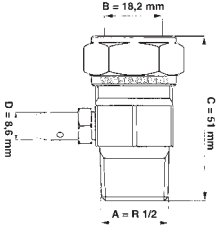
Handle with screw



Dimension	Colour	Article No.
3/8 - 1/2	Black	4354550-030004
3/8 - 1/2	Blue	43545BL-035004
3/8 - 1/2	Chrome	43545KR-235004
3/8 - 1/2	Red	4354510-035004
3/4 - 2	Black	44100050-030004

VSH Super compression fittings

Gas sampling valve RG 1/2



Dimension	A	B	C	D	Article No.
1/2	-	18.2	51	8.6	408947 018

VSH Super compression fittings

Reducer

Dimension	A	B	C	D	Article No.
10 × 8	-	-	-	-	088507.1
12 × 8	-	-	-	-	088508.2
15 × 8	-	-	-	-	088510.4
12 × 10	-	-	-	-	088509.3
15 × 10	-	-	-	-	088511.5
15 × 12	-	-	-	-	088512.6
18 × 12	-	-	-	-	088513.7
22 × 12	-	-	-	-	088516.1
18 × 15	-	-	-	-	088514.8
22 × 15	-	-	-	-	088517.0
22 × 18	-	-	-	-	088518.1
22 × 20	-	-	-	-	088593.1

BROEN
VALVE TECHNOLOGIES

12 GUARANTEE AND DELIVERY CONDITIONS

Ballofix®

12 Guarantee and delivery conditions

Please contact BROEN for the latest warranty conditions applicable to Ballofix®.

Customer service

If you have any questions about our products, you are always welcome to telephone BROEN's Customer Service on +45 6471 2095 or to request a visit from one of our sales consultants.

Terms and conditions of sale and delivery

BROEN's products are subject to the terms and conditions of sale of the Danish plumbing wholesalers.

Product guarantee

All BROEN's products are manufactured at factories with internationally approved quality management systems and with respect for the environment. BROEN guarantees this. BROEN's quality management system is certified in accordance with ISO 9001.

For your own notes

BROEN
VALVE TECHNOLOGIES

Ballofix®	Mini ball valves and full flow ball valves with connections for all common union technologies for water and heating installations.
Ballorex	Valves for the regulation of heating and refrigeration installations.
Comap	Thermostats, sensors and presettable return lock shields for temperature regulation.
Henco	Press and push fitting system in PVDF/Alupex for water, heating and refrigeration installations.
Meibes	Technical room systems for central and district heating installations.
Seppelfricke	Shut-off valves and fittings for water and gas installations.
Tectite	Stainless steel, galvanised steel and copper push fittings for water, heating, refrigeration, and compressed air installations.
VSH Super	Compression fittings for water, heating and gas installations.
VSH XPress	Press fitting system in stainless steel, galvanised steel and copper for water, heating, refrigeration, gas and fire protection installations.

BFTH-2016-2.0-UK

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