

Ball valves



ISO 7-1

2-part ball valve female/female - 316 stainless steel

1000 lbs/PN63 - Full bore - Lockable handle or wing handle

Model 58143

BSP female thread

Model 58145

NPT female thread



Specifications

Dimensions: DN8 to DN80 (1/4" to 3")

Connection: BSP female thread ISO 7-1
or NPT

Pressure: PN63 (1000 lbs)

Temperature: -20°C to +150°C

Material: 316 or CF8M stainless steel
(for the parts that can come into contact with the
transported fluid)
PTFE gaskets

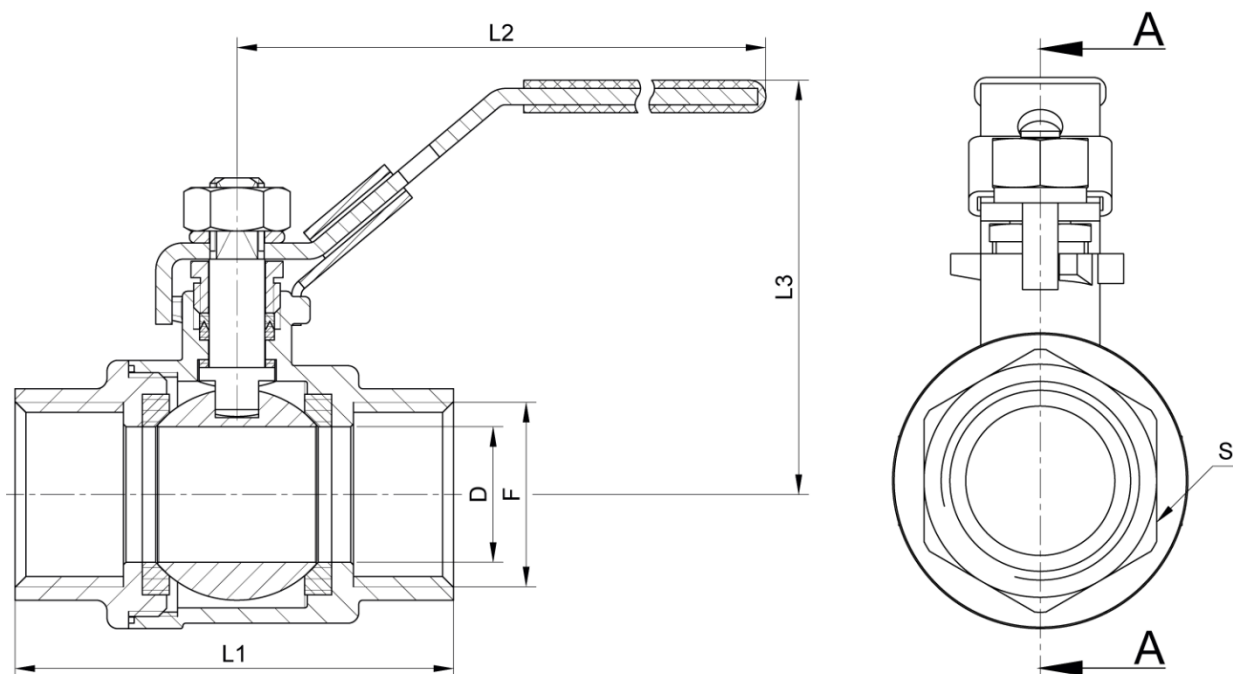
ISO 9001
BUREAU VERITAS
Certification



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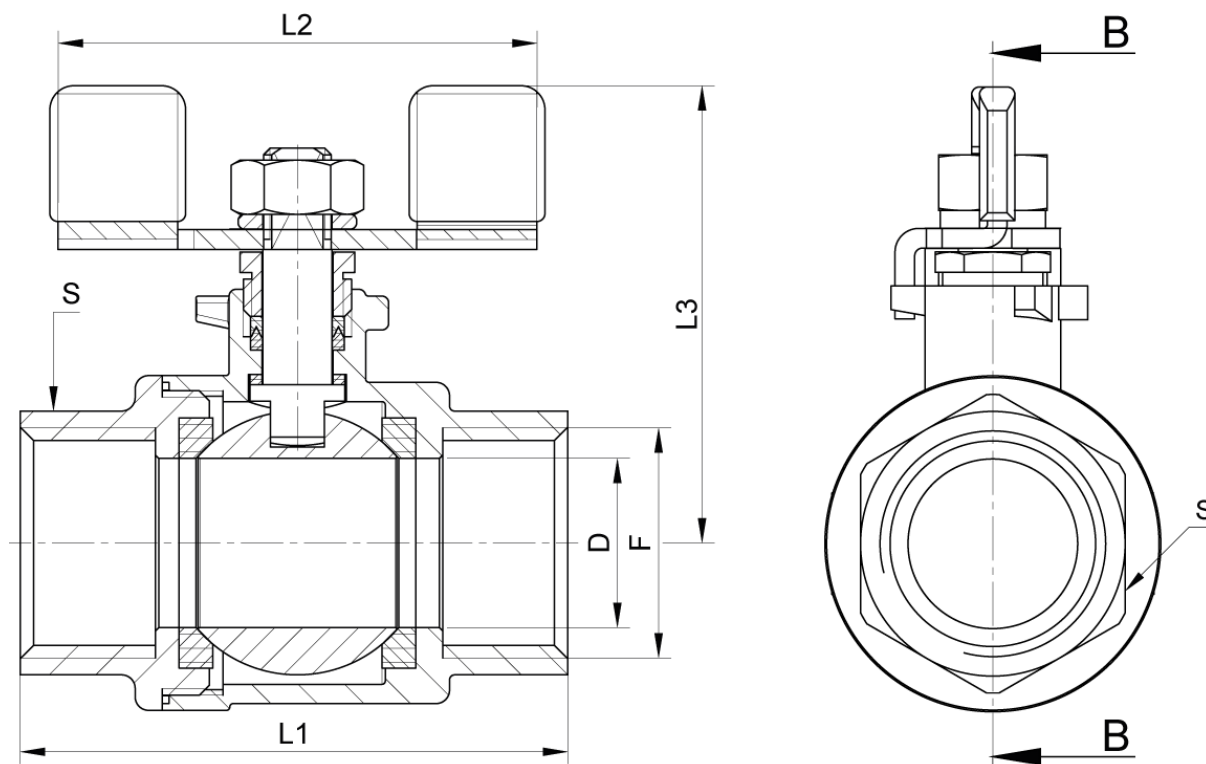
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58143/58145-F V0726



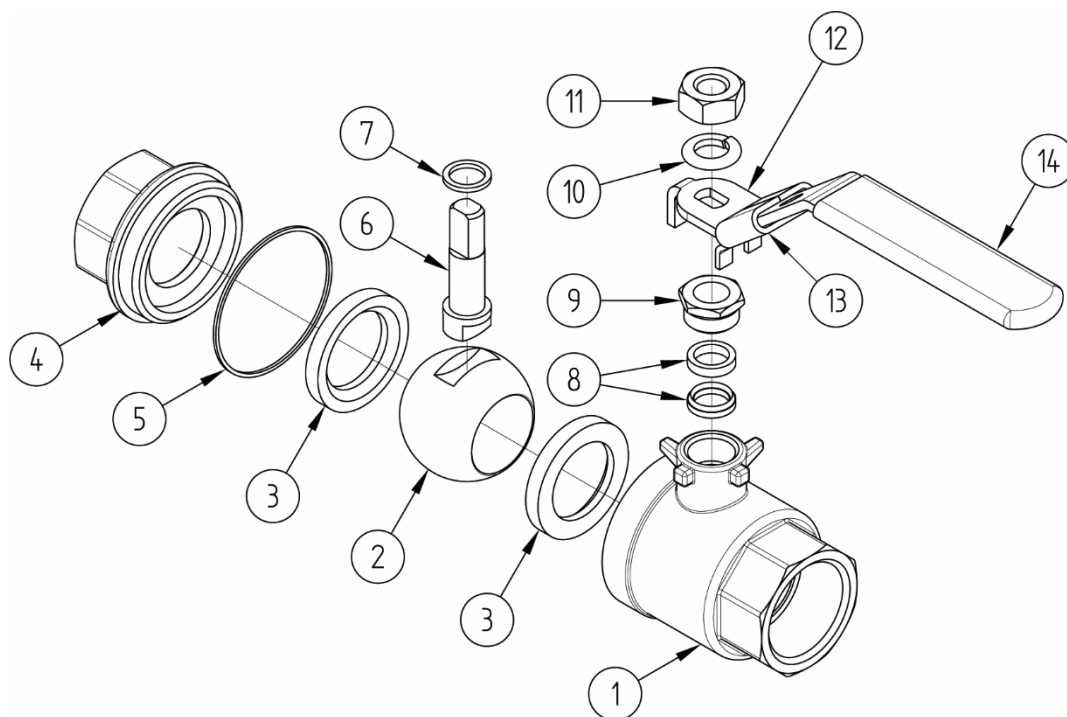
A-A CROSS SECTION

DN (mm)	NB (inches)	D (mm)	L1 (mm)	L2 (mm)	L3 (mm)	S (mm)	Weight (kg)	F BSP (inches)	Red handle Part no. BSP	Blue handle Part no. BSP	F NPT (inches)	Red handle Part no. NPT
8	1/4"	9	54	110	54	19	0.25	Rp 1/4"	458143-8	458143-8B	NPT 1/4"	458145-8
10	3/8"	13	54	110	54.5	22	0.25	Rp 3/8"	458143-10	458143-10B	NPT 3/8"	458145-10
15	1/2"	15	57	115	57.5	26	0.32	Rp 1/2"	458143-15	458143-15B	NPT 1/2"	458145-15
20	3/4"	20	68	115	60.5	33	0.46	Rp 3/4"	458143-20	458143-20B	NPT 3/4"	458145-20
25	1"	25	80	128	77	39	0.77	Rp 1"	458143-25	458143-25B	NPT 1"	458145-25
32	1 1/4"	32	91	128	81	50	1.12	Rp 1 1/4"	458143-32	458143-32B	NPT 1 1/4"	458145-32
40	1 1/2"	38	103	155	96	55	1.74	Rp 1 1/2"	458143-40	458143-40B	NPT 1 1/2"	458145-40
50	2"	50	124	155	105	67	2.65	Rp 2"	458143-50	458143-50B	NPT 2"	458145-50
65	2 1/2"	65	160	260	135	85	5.35	Rp 2 1/2"	458143-65	458143-65B	-	-
80	3"	80	185	260	145	98	7.43	Rp 3"	458143-80	458143-80B	-	-
100	4"	100	207	335	180	121	12.65	Rp 4"	458143-100	-	-	-



B-B Cross Section

DN (mm)	NB (inches)	D (mm)	F (inches)	L1 (mm)	L2 (mm)	L3 (mm)	S (mm)	Weight (kg)	Wing handle Part no. BSP
8	1/4"	9	Rp 1/4"	54	60	54	19	0.25	458143-8P
10	3/8"	13	Rp 3/8"	54	60	54.5	22	0.25	458143-10P
15	1/2"	15	Rp 1/2"	57	60	57.5	26	0.32	458143-15P
20	3/4"	20	Rp 3/4"	68	60	60.5	33	0.46	458143-20P
25	1"	25	Rp 1"	80	80	77	39	0.77	458143-25P
32	1"1/4	32	Rp 1"1/4	91	80	81	50	1.12	458143-32P



N°	Part Name	Material
1	BODY	EN 1.4408
2	BALL	ASTM CF8M
3	SEAT RING	PTFE
4	FLANGE (FEMALE THREADED END)	EN 1.4408
5	BODY GASKET	PTFE
6	SHAFT	AISI 316
7	SHAFT RING	PTFE
8	SHAFT PACKING	PTFE
9	SHAFT NUT (GLAND)	AISI 304
10	LOCK WASHER	A2
11	HANDLE NUT	A2
12	HANDLE	AISI 304
13	LOCKING DEVICE	AISI 304
14	HANDLE COVERING	PLASTIC

Use

This valve is a shut-off valve: it must be either fully open or fully closed.

Do not leave the valve partially open: an opening default, or leaving the ball valve partially open to decrease flow, could lead to cavitation which is likely to damage the valve.

You must lift the locking device **I3** to be able to turn the valve's handle **I2**. You must always turn the handle by a complete 1/4 turn, until it cannot be turned any further.

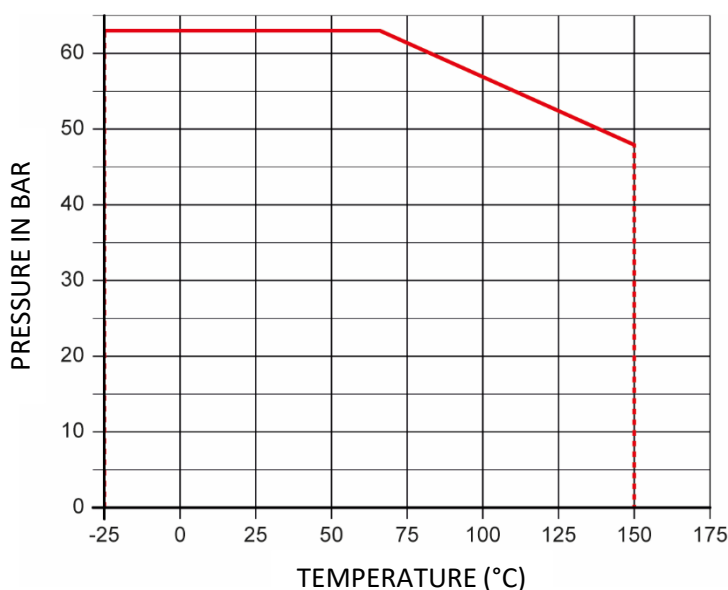
Turn the valve's handle 1/4 turn (90°) clockwise to close the valve or 1/4 turn (90°) anti-clockwise to open it.

The valve is open if the handle is in line with the piping.

You can lock the handle with a padlock, in the open or closed position.

Pressure and temperature

For pressure/temperature ratings, see the graph below.



Warning: If the valve is used with fluids that have a temperature above 60°C then people could burn themselves if they touch it.

Fluids

This valve is suitable for non-abrasive and non-coagulable fluids, as long as the fluids are chemically compatible with the valve parts that they can come into contact with.



Warning: Beware of hazardous materials - follow the instructions provided by the suppliers.

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Flow coefficient and pressure loss

Dimensions	DN8	DN10	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80
	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Kv (m³/h)	10.7	20.7	28.5	50.7	79.2	129.0	183.0	317.0	535.0	811.0

The flow coefficient Kv defines water flow rate through a device (valve, check valve etc.) for a pressure loss (ΔP) of 1 bar. Kv is expressed mathematically as:

$$\Delta P = \frac{Q^2}{K_v^2} \quad \text{so:} \quad K_v = \frac{Q}{\sqrt{\Delta P}} \quad \begin{array}{l} Q \text{ in m}^3/\text{h} \\ \Delta P \text{ in bar} \end{array} \quad \begin{array}{l} K_v \text{ in m}^3/\text{h} \\ C_v \text{ in GPM (Gallons} \\ \text{per minute - US)} \end{array} \quad C_v = 1.16 \times K_v$$

Assembly and maintenance instructions

Installation

You can install the valve in any position. However, check that there is enough space to move the valve's handle where you are planning to install the valve.

Check that the installation is clean and free from foreign bodies that could damage the valve.

Check that all piping is perfectly aligned and that the piping support structure is dimensioned so that the valve is not subject to any external stresses. The piping support structure must only support the pipes, not the valve.

How to install a valve with threaded ends:

Use a wrench that is suitable for the hexagon-shaped valve ends. You must not use the valve's handle when you are tightening the assembly (this could damage the valve).

Use a product that is suitable for the working conditions (e.g. pipe sealant model **5291**, PTFE tape, etc.) to make sure the valve's threaded connections are sealed correctly.

Clean the installation leaving the valve open so that there are no foreign bodies between the ball and the body. Check the valve is operating correctly.

Pressure test the installation according to the relevant standards (e.g. EN 12266-1), but do not exceed the valve's specifications.

Maintenance

The valve does not require any specific maintenance if it is used in normal operating conditions.

If the valve is never opened or closed during normal operation then you should regularly open and close the valve to check that it is still working correctly.

If any leaks appear around the shaft **6**, during operation or during the valve installation testing phase, tighten the shaft nut **9**. You can usually stop leaks by tightening the nut by 30 to 60°. But you must not over tighten the nut, as this could reduce the system's service life.

You may need to change some of the valve's parts due to unusual wear and tear, or if a fluid has damaged the valve and caused a leak or malfunction.

If this is the case see the 'Assembly / Disassembly' and 'Spare Parts' sections below.

Assembly / Disassembly

The maintenance and removal/installation of the valve must be carried out by personnel who are qualified and trained for this type of intervention.



Warning: Before you work on the valve, check that the installation has been stopped and that the piping is empty and is not pressurised.

Warning: If the valve is used with fluids that have a temperature above 60°C then people could burn themselves if they touch it.

Warning: Beware of hazardous materials - follow the instructions provided by the suppliers.

Unscrew the female threaded end flange **4** and remove the gasket **5** and seat rings **3**.

Unscrew the handle nut **11**, remove the lock washer **10** and the handle/wing handle **12**.

Unscrew the shaft nut **9** and remove the packings **8**.

Push the shaft **6** towards the inside of the valve's body in order to remove it, then remove the shaft ring **7**.

Clean and inspect all of the parts of the valve. Replace any worn parts. You are strongly advised to replace any sealing parts that have been disassembled.

Follow the disassembly steps in reverse to reassemble the ball valve.

Spare parts



Gasket kits

A gasket kit contains:

- 2 seat rings **3**
- 1 body gasket **5**
- 1 shaft ring **7**
- 2 packings **8**

(quantity could vary according to the DN)

DN (mm)	NB (inches)	Gasket kit Part no.
8	1/4"	D5311-8
10	3/8"	D5311-10
15	1/2"	D5311-15
20	3/4"	D5311-20
25	1"	D5311-25

DN (mm)	NB (inches)	Gasket kit Part no.
32	1 1/4"	D5311-32
40	1 1/2"	D5311-40
50	2"	D5311-50
65	2 1/2"	D5311-65
80	3"	D5311-80

Handle **12; 13; 14**



DN (mm)	NB (inches)	Handle Part no.
8 to 10	1/4" to 3/8"	D5191-810
15	1/2"	D5191-15
20	3/4"	D5191-20
25 to 32	1" to 1 1/4"	D5191-2532

DN (mm)	NB (inches)	Handle Part no.
40 to 50	1 1/2" to 2"	D5191-4050
65 to 80	2 1/2" to 3"	D5193-6580
100	4"	D5193-100

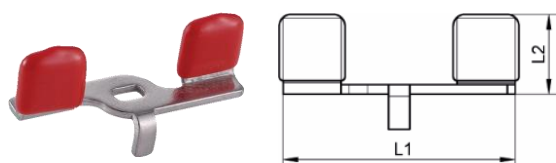
Handle covering **14**



DN (mm)	NB (inches)	Red covering Part no.
8 to 20	1/4" to 3/4"	D5471R-820
25 to 32	1" to 1 1/4"	D5471R-2532
40 to 50	1 1/2" to 2"	D5471R-4050
65 to 80	2 1/2" to 3"	D5471R-6580

DN (mm)	NB (inches)	Blue covering Part no.
8 to 20	1/4" to 3/4"	D5471B-820
25 to 32	1" to 1 1/4"	D5471B-2532
40 to 50	1 1/2" to 2"	D5471B-4050
65 to 80	2 1/2" to 3"	D5471B-6580

Wing handle

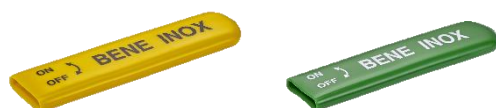


DN (mm)	NB (inches)	L1 (mm)	L2 (mm)	Flat side (mm)	Wing handle Part no.
8 to 20	1/4" to 3/4"	60	21	5	458137-60
25 to 32	1" to 1 1/4"	80	21	6.5	458137-82

Customisation possibilities



Handle covering **14**



DN (mm)	NB (inches)	Yellow covering Part no.
8 to 20	1/4" to 3/4"	D5471J-820
25 to 32	1" to 1 1/4"	D5471J-2532
40 to 50	1 1/2" to 2"	D5471J-4050
65 to 80	2 1/2" to 3"	D5471J-6580

DN (mm)	NB (inches)	Green covering Part no.
8 to 20	1/4" to 3/4"	D5471V-820
25 to 32	1" to 1 1/4"	D5471V-2532
40 to 50	1 1/2" to 2"	D5471V-4050
65 to 80	2 1/2" to 3"	D5471V-6580

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Standards and compliance

- Connection: BSP female thread in accordance with EN ISO 7-1 (Rp) or NPT female taper thread in accordance with the standard ANSI B1.20.1.
- Leak testing according to EN 12266/API 598.
- This valve complies with European Pressure Equipment Directive (PED) 2014/68/EU (formerly 97/23/EC).
- ACS certified (French certification for drinking-water piping sanitary compliance).