

Ball Valves, Universal Series

This range of valves has patented **seal wear compensating** technology for **reliable** and **durable** sealing, **protecting** any system whether under pressure or **vacuum**.

Product Advantages

Durability & Reliability

Automatic seal wear compensation for long-term reliability
Robust, corrosion-resistant materials
100% leak-tested in production
Date coding to guarantee quality and traceability

Versatility & Performance

Ideal for ensuring the performance of pneumatic circuits
Customised valves for all special applications
Unequalled performance under vacuum
Smooth operation thanks to self-lubricating seals
Large range of working pressures and temperatures
Lever can be repositioned and replaced
Many configurations to satisfy all system requirements



Applications

- Pneumatics
- Vacuum
- Transportation
- Packaging
- Textile
- Sawmill
- Rubber & Plastics

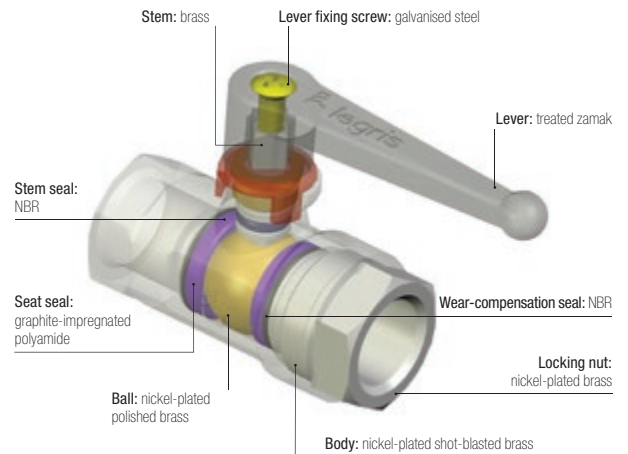
Technical Characteristics

Compatible Fluids	Industrial fluids
Working Pressure	Vacuum to 40 bar
Working Temperature	-40°C to + 80°C

Tightening Torques	Threads	G1/8	G1/4	G3/8	G1/2	G3/4	G1	
	daN.m	0.10 to 0.20	0.10 to 0.20	0.15 to 0.25	0.20 to 0.35	0.50 to 0.70	0.50 to 0.70	
	Threads	G1¼	G1½	G2				
	daN.m	0.40 to 0.60	0.80 to 1.20	0.80 to 1.20				

Reliable performance is dependent upon the type of fluid conveyed, component materials and tubing being used.
Guaranteed for use with a vacuum of 755 mm Hg (99 % vacuum).

Component Materials



Silicone-free

Regulations

DI: 97/23/EC (module PED A - diameters greater than 25 mm)
DI: 2006/42/EC (Machinery Directive)
DI: 2002/95/EC (RoHS)
RG: 1907/2006 (REACH)

Universal Series

Installation Options

Lockable Valves

Our lockable ball valves have been developed in order to prevent potentially dangerous consequences caused by unintended operation. Lockable in different positions, this range meets international safety requirements, such as ISO 4414.

The valves are lockable:

- at one point: models 0432 and 0439
- at three points: models 0437 and 0438

Vented Valves

To stop fluid circulation and vent the circuit, 2 venting systems are provided:

- with threaded exhaust, to allow discharge of downstream media
- with pin-hole vent, for applications with no special discharge requirement

Fluid flow direction is indicated by an arrow on the valve body.

Mountable Valves

On steel plate:

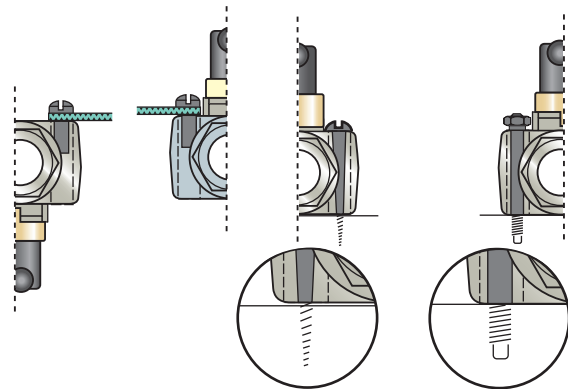
- bulkhead fixing
- complete valve below bulkhead

On frame:

- assemble with bolts

On wooden panel:

- assemble with woodscrews



Universal Customised Valve Series

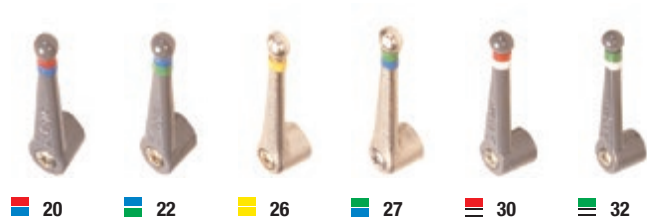
Based on the standard components of the universal series, this range allows the valve to be adapted to specific needs. There are 6 product versions available on request.

Product Codes

Valve type	0402 04 10 22		
0400	DN	Thread	Suffix
0401			
0402	04 = 4 mm	10 = 1/8"	20 = blue/red
...	05 = 5 mm	13 = 1/4"	22 = green/blue
	26 = yellow/yellow
	40 = 40 mm	48 = 2"	27 = blue/green
			30 = white/red
			32 = white/green

Identification

Each series may be easily identified by a colour marking on the lever.



Suffix Specification

Identification		Body		Lever			Ball		Stem and Wear-Compensation Seals			Seat Seals			Application Examples
Suffix on the body	Colour bands on the lever	Nickel-plated brass	Chemical nickel-plated brass	Standard	Nickel-plated brass	Chemical nickel-plated brass	Nickel-plated polished brass	Chemical nickel-plated brass	EPDM	FKM	PTFE white	Rilsan: graphite-impregnated	Filled PTFE	PTFE white	
20	Blue/Red	•		•			•			•		•			Hydrocarbons
22	Green/Blue	•		•				•		•			•		Industrial fluids and high temperature
26*	Yellow/Yellow	•			•			•			•	olive		•	Corrosive liquids or high temperature and compatible for use at -50°C
27	Blue/Green		•			•		•		•			•		Industrial fluids and/or harsh environments
30**	White/Red	•		•			•		•			•			Gaseous oxygen circuits
32	White/Green	•		•			•		•				•		Water and steam circuits

*degreased **oxygen-compatible grease

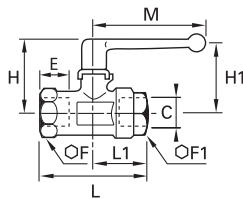
A usage chart in this chapter shows which type of valve to use according to the fluid being conveyed.

Universal Series

0402 2/2 In-Line Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



DN	C		E	F	F1	H	H1	L	L1	M	Kg
4	G1/8	0402 04 10	8	-	14	35	29	44	25	48	0.094
7	G1/8	0402 07 10	8	19	19	38	31	51	27	48	0.165
	G1/4	0402 07 13	12	19	19	38	31	53	28	48	0.156
10	G3/8	0402 10 17	12	24	24	45	43	59	31	69	0.244
13	G1/2	0402 13 21	15	27	27	47	44	67	34	69	0.292
20	G3/4	0402 20 27	16.5	32	38	63	54	80	39	108	0.655
23	G1	0402 23 34	19	41	46	67	57	94	47	108	1.036
32	G1 1/4	0402 32 42*	21.5	55	60	97	115	112	59	180	2.467
	G1 1/2	0402 32 49*	22	55	60	97	115	120	62	180	2.340
40	G1 1/2	0402 40 49*	22	55	55	104	-	111	55	190	2.445
	G2	0402 40 48*	26	70	70	104	-	122	61	190	2.614

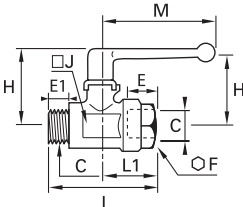
*Models with EC marking

Maximum working pressure: 40 bar

0401 2/2 In-Line Ball Valve, Male/Female BSPP Thread



Nickel-plated brass, NBR



DN	C		E	E1	F	H	H1	J	L	L1	M	Kg
4	G1/8	0401 04 10	8	7	14	35	29	14	45	25	48	0.094
5	G1/8	0401 05 10	8	7	19	38	31	19	51	27	48	0.160
7	G1/4	0401 07 13	12	9	19	38	31	19	52	28	48	0.150
10	G3/8	0401 10 17	12	11	24	45	43	24	58	31	69	0.234
13	G1/2	0401 13 21	15	12	27	47	44	27	66	34	69	0.286
18	G3/4	0401 18 27	16.5	12	38	63	54	39	79	39	108	0.652
23	G1	0401 23 34	19	15	46	67	57	48	91	47	108	0.952
32	G1 1/4	0401 32 42*	21.5	18	60	97	115	55	113	59	108	2.385

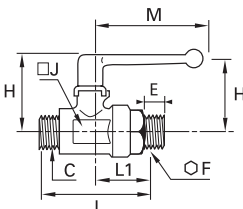
*Models with EC marking

Maximum working pressure: 40 bar

0400 2/2 In-Line Ball Valve, Male BSPP Thread



Nickel-plated brass, NBR



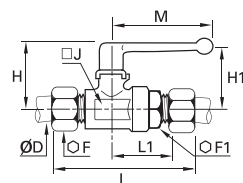
DN	C		E	F	H	H1	J	L	L1	M	Kg
4	G1/8	0400 04 10	7	14	35	29	14	45	25	48	0.094
7	G1/4	0400 07 13	9	19	38	31	19	60	36	48	0.166
10	G3/8	0400 10 17	11	24	45	43	24	70	43	69	0.252
13	G1/2	0400 13 21	12	27	47	44	27	78	45	69	0.324
18	G3/4	0400 18 27	12	38	63	54	39	90	50	108	0.714

Maximum working pressure: 40 bar

0411 2/2 In-Line Ball Valve with Connections for Use with Steel Tube



Nickel-plated brass, NBR



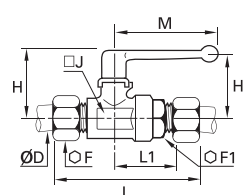
DN	ØD		F	F1	H	H1	J	L	L1	M	Kg
4	6	0411 04 06	14	19	38	31	19	76	30	48	0.173
6	8	0411 06 08	17	19	38	31	19	77	30	48	0.195
7	10	0411 07 10	19	19	38	31	19	78	31	48	0.210
10	12	0411 10 12	22	24	45	43	24	85	36	69	0.310

Maximum working pressure: 40 bar

0414 2/2 In-Line Ball Valve with Compression Connections



Nickel-plated brass, NBR

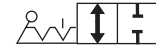


DN	ØD		F	F1	H	H1	J	L	L1	M	Kg
4	6	0414 04 06	13	19	38	31	19	72	31	48	0.177
6	8	0414 06 08	14	19	38	31	19	74	30	48	0.180
7	10	0414 07 10	19	19	38	31	19	78	31	48	0.210
10	12	0414 10 12	22	24	45	43	24	86	36	69	0.308

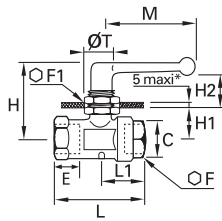
Maximum working pressure: 40 bar

Universal Series

0446 2/2 In-Line Panel-Mountable Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



DN	C		E	F	F1	H	H1	H2	L	L1	M	ØT	Kg
4	G1/8	0446 04 10	8	14	22	37	14	12	44	25	48	16.5	0.112
7	G1/4	0446 07 13	12	19	24	45	19	14	53	28	48	20.5	0.188
10	G3/8	0446 10 17	12	24	27	50	21	21	59	31	69	20.5	0.294
13	G1/2	0446 13 21	15	27	27	51	23	21	67	34	69	20.5	0.338

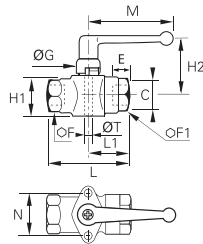
Maximum working pressure: 20 bar

*For G1/8 version, maximum panel thickness = 3 mm

6402 2/2 In-Line Ball Valve for Screw Fixing, Female BSPP Thread



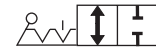
Nickel-plated brass, NBR



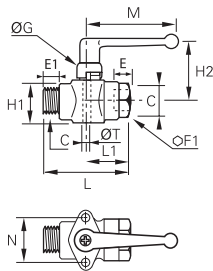
DN	C		E	F	F1	G	H1	H2	L	L1	M	N	ØT	Kg
4	G1/8	6402 04 10	8	14	14	18	18	30	44	25	48	25	4x70	0.132
7	G1/4	6402 07 13	12	19	19	19	24	31	53	28	48	31	5x80	0.216
10	G3/8	6402 10 17	12	24	24	20	30	45	59	31	69	31	5x80	0.324
13	G1/2	6402 13 21	15	27	27	20	34	47	67	34	69	34	6x100	0.404
20	G3/4	6402 20 27	16.5	32	38	27	44	52	80	39	108	43	8x125	0.830
23	G1	6402 23 34	19	41	46	27	53	56	94	47	108	51	8x125	1.290

Maximum working pressure: 40 bar

6401 2/2 In-Line Ball Valve for Screw Fixing, Male/Female BSPP Thread



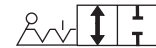
Nickel-plated brass, NBR



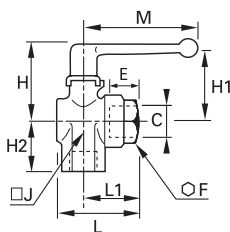
DN	C		E	E1	F	G	H1	H2	L	L1	M	N	ØT	Kg
4	G1/8	6401 04 10	8	7	14	18	18	30	45	25	48	25	4x70	0.127
7	G1/4	6401 07 13	12	9	19	19	24	31	52	28	48	31	5x80	0.212
10	G3/8	6401 10 17	12	11	24	20	30	45	58	31	69	31	5x80	0.306
13	G1/2	6401 13 21	15	12	27	20	34	47	67	34	69	34	6x100	0.394

Maximum working pressure: 40 bar

0472 2/2 Right-Angled Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



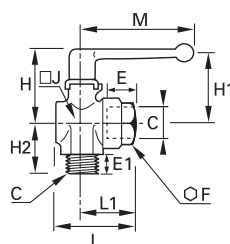
DN	C		E	F	H	H1	H2	J	L	L1	M	Kg
4	G1/8	0472 04 10	8	14	35	29	18	14	34	25	48	0.096
6	G1/8	0472 06 10	8	19	38	31	20	22	37	27	48	0.183
	G1/4	0472 06 13	12	19	38	31	24	22	38	28	48	0.191
9	G3/8	0472 09 17	12	24	45	43	27	25	46	31	69	0.260
12	G1/2	0472 12 21	15	27	47	44	33	29	49	34	69	0.312
18	G3/4	0472 18 27	16.5	38	59	51	40	39	60	39	108	0.704
23	G1	0472 23 34	19	46	63	55	47	48	72	47	108	1.062

Maximum working pressure: 20 bar

0471 2/2 Right-Angled Ball Valve, Male/Female BSPP Thread



Nickel-plated brass, NBR

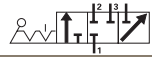


DN	C		E	E1	F	H	H1	H2	J	L	L1	M	Kg
4	G1/8	0471 04 10	8	7	14	35	29	19	14	34	25	48	0.096
6	G1/8	0471 06 10	8	7	19	38	31	22	22	37	27	48	0.182
	G1/4	0471 06 13	12	9	19	38	31	25	22	38	28	48	0.187
9	G3/8	0471 09 17	12	11	24	45	43	28	25	46	31	69	0.256
12	G1/2	0471 12 21	15	12	27	47	44	32	29	49	34	69	0.303
18	G3/4	0471 18 27	16.5	12	38	59	51	37	39	60	39	108	0.682
23	G1	0471 23 34	19	15	46	63	55	44	48	72	47	108	1.020

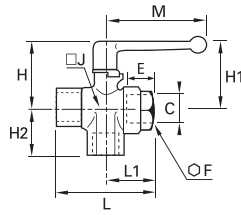
Maximum working pressure: 20 bar

Universal Series

0482 3/3 Right-Angle Ported Ball Valve, Female BSPP Thread

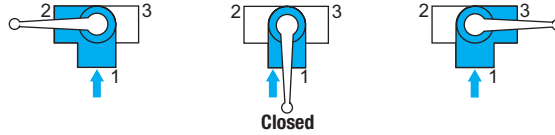


Nickel-plated brass, NBR



DN	C		E	F	H	H1	H2	J	L	L1	M	Kg
4	G1/8	0482 04 10	8	14	35	29	18	14	44	25	48	0.102
6	G1/4	0482 06 13	12	19	38	31	24	22	53	28	48	0.200
9	G3/8	0482 09 17	12	24	45	43	27	25	59	31	69	0.284
12	G1/2	0482 12 21	15	27	47	44	33	29	67	34	69	0.346
18	G3/4	0482 18 27	16.5	38	59	51	40	39	80	39	108	0.742
23	G1	0482 23 34	19	46	63	55	47	48	94	47	108	1.160

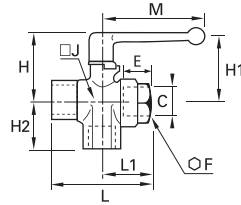
Maximum working pressure: 20 bar



0483 3/3 Right-Angle Ported Ball Valve Without Closed Position, Female BSPP Thread

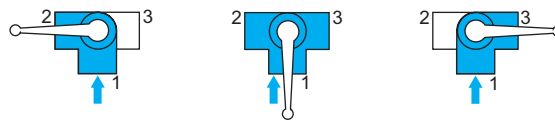


Nickel-plated brass, NBR



DN	C		E	F	H	H1	H2	J	L	L1	M	Kg
4	G1/8	0483 04 10	8	14	35	29	18	14	44	25	48	0.102
6	G1/4	0483 06 13	12	19	38	31	24	22	53	28	48	0.196
9	G3/8	0483 09 17	12	24	45	43	27	25	59	31	69	0.278
12	G1/2	0483 12 21	15	27	47	44	33	29	67	34	69	0.340
18	G3/4	0483 18 27	16.5	38	59	51	40	39	80	39	108	0.716
23	G1	0483 23 34	19	46	63	55	47	48	94	47	108	1.066

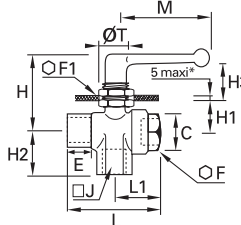
Maximum working pressure: 20 bar



0448 3/3 Panel-Mountable Right-Angled Ball Valve, Female BSPP Thread



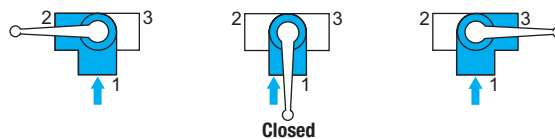
Nickel-plated brass, NBR



DN	C		E	F	F1	H	H1	H2	H3	J	L	L1	M	ØT	Kg
4	G1/8	0448 04 10*	8	14	22	37	14	18	12	14	44	25	48	16.5	0.126
6	G1/4	0448 06 13	12	19	24	45	19	24	14	22	53	28	48	20.5	0.230
9	G3/8	0448 09 17	12	24	27	50	21	27	21	25	59	31	69	20.5	0.328
12	G1/2	0448 12 21	15	27	27	51	23	33	21	29	67	34	69	20.5	0.392

Maximum working pressure: 20 bar

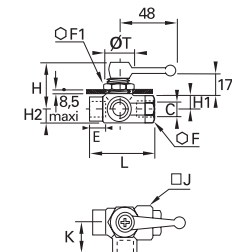
*For G1/8 version: maximum panel thickness = 3 mm



0452 3/2 Panel-Mountable Equal Plane Ball Valve, Female BSPP Thread

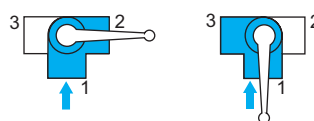


Nickel-plated brass, NBR



DN	C		E	F	F1	H	H1	H2	J	K	L	ØT	Kg
4	G1/8	0452 04 10	8	14	22	39	10	8	16	18	25	19	0.130
6	G1/4	0452 06 13	12	19	24	40	11	11	23	24	28	20	0.206

Maximum working pressure: 20 bar

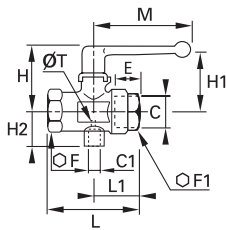


Universal Series, Vented

0489 3/2 In-Line Vented Ball Valve, Female BSPP and Metric Thread



Nickel-plated brass, NBR



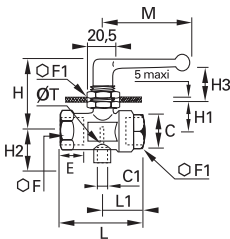
DN	C	C1		E	F	F1	H	H1	H2	L	L1	M	ØT	Kg
7	G1/4	M5x0.8	0489 07 13	12	24	24	46	43	17	59	31	69	2	0.270
10	G3/8	M5x0.8	0489 10 17	12	24	24	46	43	17	59	31	69	2	0.243
13	G1/2	G1/8	0489 13 21	15	27	27	47	44	24	67	34	69	2	0.310
18	G3/4	G1/4	0489 18 27	16.5	32	38	63	54	33	80	39	108	2.5	0.670
23	G1	G1/4	0489 23 34	19	41	46	67	57	37	94	47	108	3	1.050

Maximum working pressure: 40 bar

0449 3/2 Panel-Mountable In-Line Ball Valve, Female BSPP and Metric Thread



Nickel-plated brass, NBR



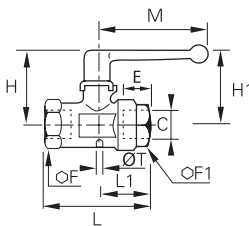
DN	C	C1		E	F	F1	H	H1	H2	H3	L	L1	M	ØT	Kg
7	G1/4	M5x0.8	0449 07 13	12	24	27	50	20	17	21	59	31	69	2.5	0.313
10	G3/8	M5x0.8	0449 10 17	12	24	27	50	20	17	21	59	31	69	2.5	0.291
13	G1/2	G1/8	0449 13 21	15	27	27	52	23	24	21	67	34	69	4	0.352

Maximum working pressure: 20 bar

0469 3/2 In-Line Vented Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



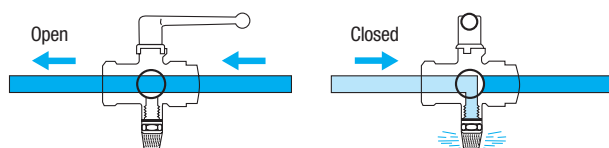
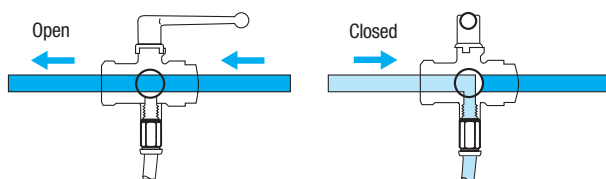
DN	C		E	F	F1	H	H1	L	L1	M	ØT	Kg
4	G1/8	0469 04 10	8	14	14	35	29	44	25	48	1.5	0.092
7	G1/4	0469 07 13	12	24	24	46	43	59	31	70	2	0.268
10	G3/8	0469 10 17	12	24	24	46	43	59	31	70	2	0.246
13	G1/2	0469 13 21	15	27	27	47	44	67	34	70	2	0.293
18	G3/4	0469 18 27	16.5	32	38	63	54	80	39	108	2.5	0.668
23	G1	0469 23 34	19	41	46	67	57	94	47	108	3	1.026

Maximum working pressure: 40 bar

Operation of Vented Ball Valves

With vent connected to a tube = collection of purged media

With vent connected to a silencer = noiseless discharge to atmosphere



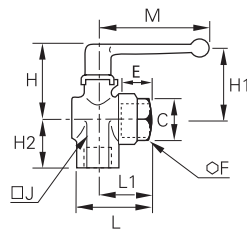
You will find our ranges of fittings, tubing and silencers in Chapters 1, 3 and 4.

Universal Series, Vented

0462 3/2 Right-Angled Ball Valve with Vent, Female BSPP Thread



Nickel-plated brass, NBR



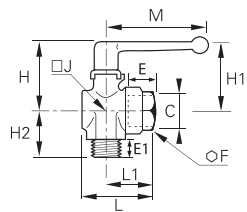
DN	C		E	F	H	H1	H2	J	L	L1	M	Kg
6	G1/8	0462 06 10	8	19	38	31	20	22	37	27	48	0.192
	G1/4	0462 06 13	12	19	38	31	24	22	38	28	48	0.185
9	G3/8	0462 09 17	12	24	45	43	27	25	46	31	69	0.261
12	G1/2	0462 12 21	15	27	47	44	33	29	49	34	69	0.311
18	G3/4	0462 18 27	16.5	38	59	51	40	39	60	39	108	0.698
23	G1	0462 23 34	19	46	63	55	47	48	72	47	108	1.066

Maximum working pressure: 20 bar

0461 3/2 Right-Angled Ball Valve with Vent, Male/Female BSPP Thread



Nickel-plated brass, NBR



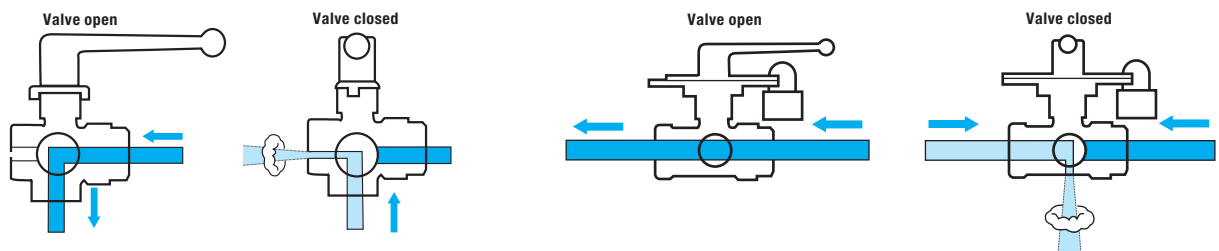
DN	C		E	E1	F	H	H1	H2	J	L	L1	M	Kg
6	G1/8	0461 06 10	8	7	19	38	31	20	22	37	27	48	0.182
	G1/4	0461 06 13	12	9	19	38	31	24	22	38	28	48	0.186
9	G3/8	0461 09 17	12	11	24	45	43	27	25	46	31	69	0.257
12	G1/2	0461 12 21	15	12	27	47	44	33	29	49	34	69	0.304
18	G3/4	0461 18 27	16.5	12	38	59	51	40	39	60	39	108	0.648

Maximum working pressure: 20 bar

Operation of Right-Angled Vented Ball Valves

Operation of Lockable Vented Ball Valves

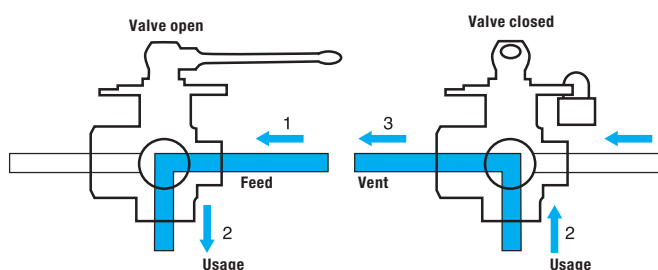
With pin-hole vent = purge to atmosphere without silencer



Removable lever: where the lever is obstructed in its movement, it can be refitted the opposite way.

Operation of 3/2 Lockable Valves

Drilled below and square in the horizontal plane, these valves provide a connection between: either port 1 and port 2, or port 2 and port 3.



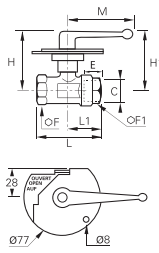
Removable lever: where the lever is obstructed in its movement, it can be refitted the opposite way.

Universal Series, Lockable

0432 2/2 In-Line Lockable Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



DN	C		E	F	F1	H	H1	L	L1	M	Kg
4	G1/8	0432 04 10	8	19	19	59	54	51	27	69	0.415
7	G1/4	0432 07 13	12	19	19	59	54	59	28	69	0.396
10	G3/8	0432 10 17	12	24	24	60	55	59	31	69	0.460
13	G1/2	0432 13 21	15	27	27	62	57	67	34	69	0.510
20	G3/4	0432 20 27	16.5	32	38	66	56	80	39	108	0.800
23	G1	0432 23 34	19	41	46	70	59	94	47	108	1.186

Maximum working pressure: 40 bar

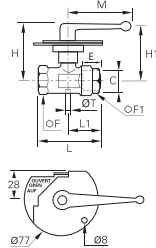
Handle is not removable.

Fixed and mobile plates: zinc-plated steel.

0439 3/2 In-line Vented Lockable Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



DN	C		E	F	F1	H	H1	L	L1	M	ØT	Kg
4	G1/8	0439 04 10	8	19	19	59	54	51	27	69	2	0.410
7	G1/4	0439 07 13	12	24	24	60	55	59	31	69	2	0.480
10	G3/8	0439 10 17	12	24	24	60	55	59	31	69	2	0.460
13	G1/2	0439 13 21	15	27	27	62	57	67	34	69	2	0.514
18	G3/4	0439 18 27	16.5	32	38	66	56	80	39	108	2.5	0.810
23	G1	0439 23 34	19	41	46	70	59	94	47	108	3	1.185

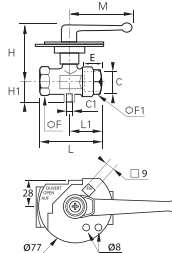
Maximum working pressure: 40 bar

Handle is not removable, locking plates are zinc-plated steel.

0436 3/2 In-Line Lockable Ball Valve with Threaded Exhaust Port, Female BSPP and Metric Thread



Nickel-plated brass, NBR



DN	C	C1		E	F	F1	H	H1	L	L1	M	Kg
10	G3/8	M5x0.8	0436 10 17	12	24	24	60	17	60	32	69	0.475
13	G1/2	G1/8	0436 13 21	15	27	27	60	24.5	67.5	34.5	69	0.500
18	G3/4	G1/4	0436 18 27	16.5	32	38	69.5	33	80	39.5	108	0.850
23	G1	G1/4	0436 23 34	19	32	38	69.5	33	80	39.5	108	1.215

Maximum working pressure: 40 bar

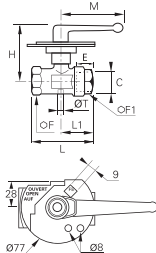
Handle is not removable.

Fixed and mobile plates: zinc-plated steel

0437 3/2 In-line Vented 3-Point Lockable Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



DN	C		E	F	F1	H	L	L1	M	ØT	Kg
7	G1/4	0437 07 13	12	24	24	60	59	32	69.5	2	0.476
10	G3/8	0437 10 17	12	24	24	60	60	32	69.5	2	0.447
13	G1/2	0437 13 21	15	27	27	60	67.5	34.5	69.5	2	0.510
18	G3/4	0437 18 27	16.5	32	38	69.5	80	39.5	108.5	2.5	0.820
23	G1	0437 23 34	19	41	46	73	94.5	47.5	108.5	3	1.192

Maximum working pressure: 40 bar

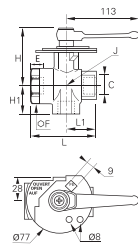
Handle is not removable

Locking plates are zinc-plated steel

0438 3/2 Right-Angled 3-Point Lockable Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



DN	C		E	F	H	H1	J	L	L1	Kg
9	G3/8	0438 09 17	12	38	76	34	39	73	35	0.970
12	G1/2	0438 12 21	15	38	76	37	39	78	38	0.947
18	G3/4	0438 18 27	16.5	38	76	40	39	80	40	0.905
23	G1	0438 23 34	19	46	80	47	48	94	47	1.295

Maximum working pressure: 20 bar

Fixed plate: zinc-plated steel, mobile plate: steel, grey epoxy-coated

Removable handle: where the handle is obstructed in its movement, it can be refitted opposite the original position.