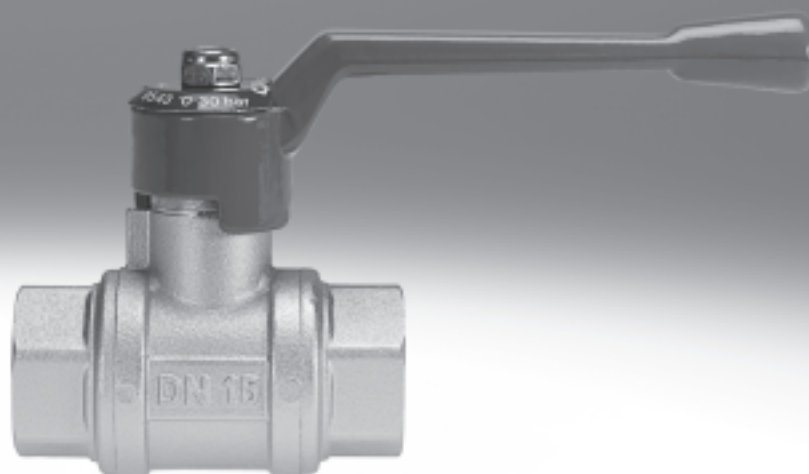


Ball valves and shut-off valves

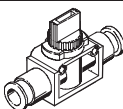
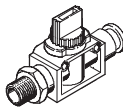
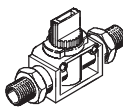
FESTO



Ball valves and shut-off valves

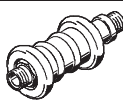
Product range overview

FESTO

Function	Design	Type	Pneumatic connection		2/2-way valves	3/2-way valves	→ Page/Internet
			Thread	For tubing O.D. [mm]			
Shut-off valves	With QS push-in connector ¹⁾ at both ends						
		HE	–	6	■	■ ²⁾	7
				8	■	■ ²⁾	
				10	■	■ ²⁾	
				12	■	■ ²⁾	
	With PTFE-coated connecting thread and QS push-in connector ¹⁾						
		HE	R1/8	6	■	■	8
			R1/4	8	■	■	
			R3/8	10	■	■	
			R1/2	12	■	■	
	With PTFE-coated connecting thread at both ends						
		HE	R1/8	–	■	■	8
			R1/4		■	■	
			R3/8		■	■	

1) for standard O.D. plastic tubing



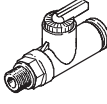
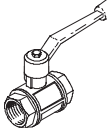
2) Free of copper, PTFE and silicone

Function	Design	Type	Pneumatic connection		→ Page/Internet
			Thread	For tubing O.D. [mm]	
Hand slide valves	With connecting thread at both ends				
		W	M5	–	10
			G1/8		
			G1/4		
			G3/8		
			G1/2		
			G3/4		

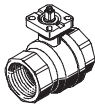
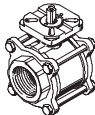
Ball valves and shut-off valves

Product range overview

FESTO

Function	Design	Type	Pneumatic connection		→ Page/Internet
			Thread	For tubing O.D. [mm]	
Ball valves QH/QHS, manually actuated	With QS push-in connector ¹⁾ at both ends				
		QH	—	4	14
				6	
	With QS push-in connector ¹⁾ at both ends, with bulkhead connector at one end				
		QHS	—	6	14
	With PTFE-coated connecting thread and QS push-in connector ¹⁾				
		QH	R ¹ / ₈	4	14
				6	
	With connecting thread at both ends				
		QH	G ¹ / ₄	—	16
			G ³ / ₈		
			G ¹ / ₂		
			G ³ / ₄		
			G1		
			G1 ¹ / ₂		

1) for standard O.D. plastic tubing

Function	Design	Type	Connecting thread ¹⁾	Nominal size [mm]	Flanged connection to ISO 5211	Max. operating pressure [bar]	➔ Page/Internet
Ball valves VAPB, mechanically actuated ²⁾	Brass						
		VAPB	R1/4	15	F03	40	vapb
			R3/8	15	F03	40	
			R1/2	15	F03	40	
			R3/4	20	F03	40	
			R1	25	F0304	40	
			R1 1/4	32	F0405	40	
			R1 1/2	40	F0405	25	
			R2	50	F05	25	
		R2 1/2	63	F07	25		
	Stainless steel, corrosion-resistant						
		VAPB-...-CR	R1/4	10	F0304	63	vapb
			R3/8	12	F0304		
			R1/2	16	F0304		
			R3/4	20	F0304		
			R1	25	F0405		
			R1 1/4	32	F0405		
			R1 1/2	40	F0507		
			R2	50	F0507		
			R2 1/2	63	F0710		
			R3	80	F0710		
			R4	100	F10		

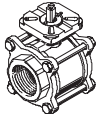
1) Cylindrical barrel with female thread to DIN 2999

2) Ball valve drive units QH-DR → www.festo.com

Ball valves and shut-off valves

Product range overview

FESTO

Function	Design	Type	Connecting thread ¹⁾	Nominal size [mm]	Flanged connection to ISO 5211	Max. operating pressure [bar]	→ Page/Internet
Ball valves VZBA, 3-way, mechanically actuated ²⁾		Stainless steel, corrosion-resistant					
		VZBA-...-R	R ¹ / ₄	10	F0304	63	vzba
			R ³ / ₈	12	F0304		
			R ¹ / ₂	16	F0304		
			R ³ / ₄	20	F0304		
			R1	25	F0405		
			R1 ¹ / ₄	32	F0405		
			R1 ¹ / ₂	40	F0507		
			R2	50	F0507		
			R2 ¹ / ₂	63	F0710		
			R3	80	F0710		
			R4	100	F10		

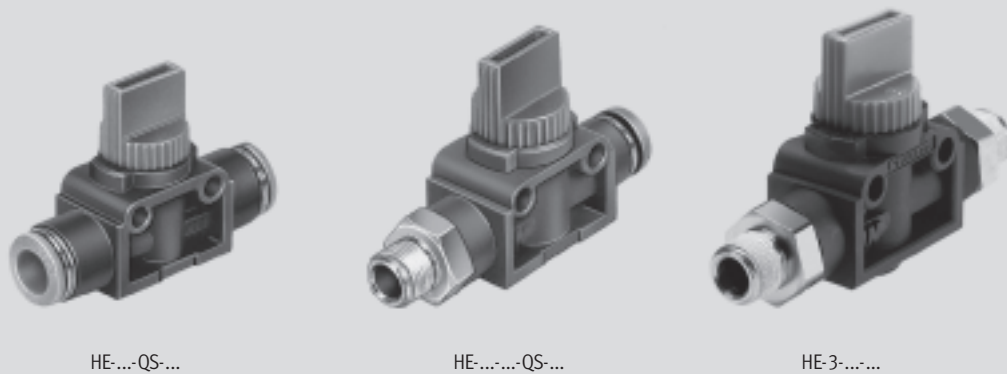
1) Cylindrical barrel with female thread to DIN 2999


2) Ball valve drive units QH-DR → www.festo.com

Shut-off valves HE

Features

FESTO



-  - Flow rate
300 ... 800 l/min

- Connection R $\frac{1}{8}$... R $\frac{1}{2}$
- With QS push-in connector for standard O.D. tubing at both ends
- With connecting thread and push-in connector
- With connecting thread at both ends
- Designs with connecting thread can be turned 360°

Air flow is fully blocked in both directions with this valve.

Shut-off valves HE

Type codes

FESTO

HE – 3 – – QS-6

Type	
HE	Shut-off valve

Function	
2	2/2-way
3	3/2-way

Screw-in and connecting thread	
Connecting thread at one end	
1/8	Pipe thread R1/8
1/4	Pipe thread R1/4
3/8	Pipe thread R3/8
1/2	Pipe thread R1/2
Connecting thread at both ends	
1/8-1/8	Pipe thread R1/8
1/4-1/4	Pipe thread R1/4
3/8-3/8	Pipe thread R3/8

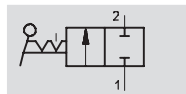
Tubing connection	
Type of connection	
QS	Push-in connector for standard O.D. tubing
For tubing O.D.Ø	
6	6 mm
8	8 mm
10	10 mm
12	12 mm

Shut-off valves HE

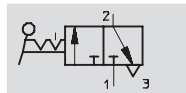
Technical data

FESTO

Function



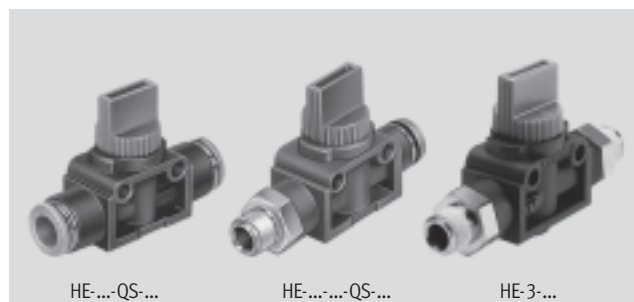
2/2-way



3/2-way

Flow rate

280 ... 840 l/min



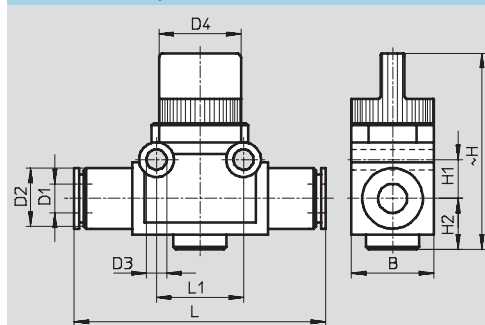
General technical data					
Push-in connector for tubing O.D.	[mm]	6	8	10	12
Type of mounting	2 through-holes in housing In-line installation				
Nominal size	[mm]	5	5	7	7

Operating and environmental conditions		
Operating medium	Filtered compressed air, lubricated or unlubricated	
Operating pressure	[bar]	-0.75 ... +10
Temperature of medium	[°C]	0 ... 60

Technical data – QS push-in connector at both ends					
Push-in connector for tubing O.D.	[mm]	6	8	10	12
Standard nominal flow rate	HE-2 [l/min]	280	390	760	830
1x2	HE-3 [l/min]	280	390	780	840
Materials	Housing: Polybutylene terephthalate				
Note on material	Free of copper, PTFE and silicone → Ordering data				
Weight	[g]	25	27	44	50

Dimensions – QS push-in connector, both ends

Download CAD Data → www.festo.com/us/cad



Tubing O.D. D1	B	D2 Ø	D3 Ø	D4 Ø	H	H1	H2	L	L1
6	17	12.5	4.2	16.5	40.5	8	10.5	53.2	18
8	17	15	4.2	16.5	40.5	8	10.5	56	18
10	21.7	17.5	4.2	19.5	41	11	10.5	65	24
12	21.7	21	4.2	19.5	41	11	10.5	70.2	24

Shut-off valves HE

Technical data

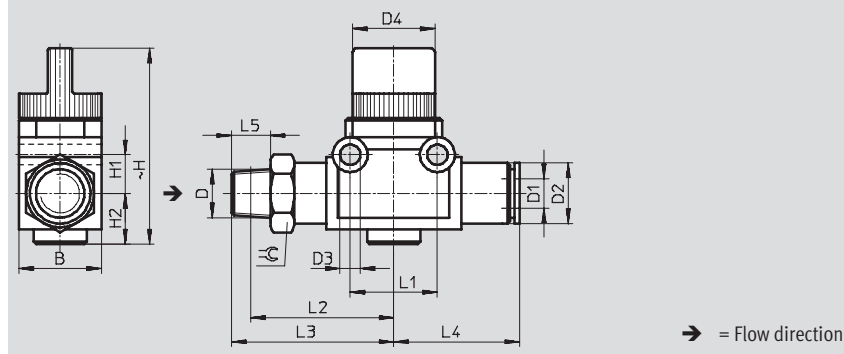
FESTO

Technical data – Connecting thread at one or both ends							
Connecting thread			R1/8	R1/4	R3/8	R1/2	
Push-in connector for tubing O.D.			[mm]	6	8	10	12
Standard nominal flow rate		HE-2	[l/min]	310	400	730	780
1 x 2		HE-3	[l/min]	300	380	730	800
Permissible tightening torque			[Nm]	7 ... 9	12 ... 14	22 ... 24	28 ... 30
Materials			Housing: Polybutylene terephthalate				
			Threaded connection: Nickel-plated brass				
Weight	Connecting thread at one end		[g]	33	45	70	95
	Connecting thread at both ends		[g]	42	80	96	–

Dimensions – Connecting thread at one end

Download CAD Data → www.festo.com/us/cad

With PTFE-coated pipe thread and QS push-in connector, can be rotated 360°

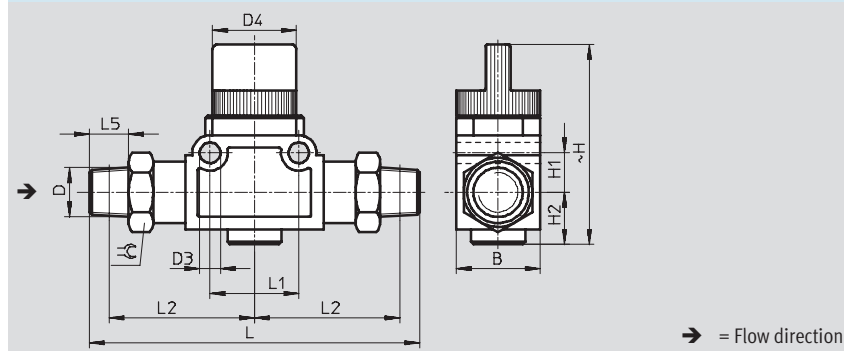


Connecting thread D	B	D1 Ø	D2 Ø	D3 Ø	D4 Ø	H	H1	H2	L1	L2	L3	L4	L5	↻
R $\frac{1}{8}$	17	6	12.5	4.2	16.5	40.5	8	10.5	18	29.5	33.5	26	8	14
R $\frac{1}{4}$	17	8	15	4.2	16.5	40.5	8	10.5	18	30.5	36.5	28	11	14
R $\frac{3}{8}$	21.7	10	17.5	4.2	19.5	41	11	10.5	24	37	43.5	32.5	12	17
R $\frac{1}{2}$	21.7	12	21	4.2	19.5	41	11	10.5	24	38.5	46.5	35.5	15	21

Dimensions – Connecting thread at both ends

Download CAD Data → www.festo.com/us/cad

With PTFE-coated pipe thread at both ends, can be rotated 360°

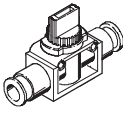
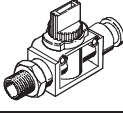



Connecting thread D	B	D3 Ø	D4 Ø	H	H1	H2	L	L1	L2	L5	↻
R $\frac{1}{8}$	17	4.2	16.5	40.5	8	10.5	67	18	29.5	8	14
R $\frac{1}{4}$	21.7	4.2	19.5	41	11	10.5	85	24	36.5	11	17
R $\frac{3}{8}$	21.7	4.2	19.5	41	11	10.5	87	24	37	12	17

Shut-off valves HE

Technical data

FESTO

Ordering data							
	Description	Connecting thread	For tubing O.D. [mm]	2/2-way valves		3/2-way valves	
				Part No.	Type	Part No.	Type
	QS push-in connector, both ends	–	6	153 467	HE-2-QS-6	153 475	HE-3-QS-6 ¹⁾
			8	153 468	HE-2-QS-8	153 476	HE-3-QS-8 ¹⁾
			10	153 469	HE-2-QS-10	153 477	HE-3-QS-10 ¹⁾
			12	153 470	HE-2-QS-12	153 478	HE-3-QS-12 ¹⁾
	With PTFE-coated pipe thread and QS push-in connector	R1/8	6	153 471	HE-2-1/8-QS-6	153 479	HE-3-1/8-QS-6
		R1/4	8	153 472	HE-2-1/4-QS-8	153 480	HE-3-1/4-QS-8
		R3/8	10	153 473	HE-2-3/8-QS-10	153 481	HE-3-3/8-QS-10
		R1/2	12	153 474	HE-2-1/2-QS-12	153 482	HE-3-1/2-QS-12
	With PTFE-coated pipe thread at both ends	R1/8	–	–	–	153 296	HE-3-1/8-1/8
		R1/4				153 297	HE-3-1/4-1/4
		R3/8				153 298	HE-3-3/8-3/8

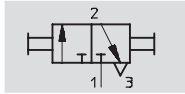
1) Free of copper, PTFE and silicone

Hand slide valves W

Technical data

FESTO

Function



3/2-way

- Valve for pressurising and exhausting pneumatic control systems
- Suitable for a vacuum

Flow rate

280 ... 840 l/min

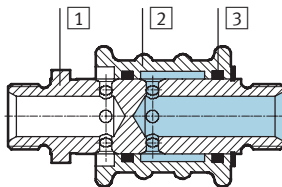


W-3-1/4

Technical data							
Connecting thread		M5	G1/8	G1/4	G3/8	G1/2	G3/4
Nominal size	[mm]	2.5	3	7	9	12	18
Standard nominal flow rate 1 > 2	[l/min]	120	600	1,000	1,400	2,000	6,800
Pressure range	[bar]	-0.95 ... +8					
Actuating force at 6 bar operating pressure	[N]	10	10	20	20	20	30
Type of mounting		In-line installation					
Operating medium		Filtered compressed air, lubricated or unlubricated Vacuum					
Temperature range	[°C]	-10 ... +60 °C					
Weight	[g]	25	40	110	280	300	400

Materials

Sectional view



Hand slide valve		
1	Threaded plug	Nickel plated brass
2	Slide sleeve	Blue anodised aluminium
3	Seals	Nitrile rubber

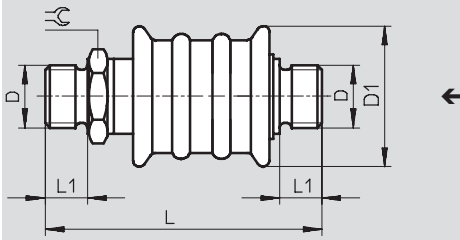
Hand slide valves W

Technical data

FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad



Connecting thread D	D1 Ø	L	L1	≡
M5	20	46.4	5	9
G $\frac{1}{8}$	24	51.3	6.5	14
G $\frac{1}{4}$	34.5	70.4	8	17
G $\frac{3}{8}$	45	79.4	9	27
G $\frac{1}{2}$	45	82.4	10.5	27
G $\frac{3}{4}$	50	99	12	32

Ordering data

	Connecting thread	Part No.	Type
With metric thread at both ends	M5	4 451	W-3-M5
With pipe thread at both ends	G $\frac{1}{8}$	2 339	W-3- $\frac{1}{8}$
	G $\frac{1}{4}$	2 340	W-3- $\frac{1}{4}$
	G $\frac{3}{8}$	2 341	W-3- $\frac{3}{8}$
	G $\frac{1}{2}$	2 342	W-3- $\frac{1}{2}$
	G $\frac{3}{4}$	4 052	W-3- $\frac{3}{4}$

Ball valves QH/QHS, manually actuated

Key features

FESTO



Flow rate
148 ... 84,000 l/min

Variants:

- With 2 push-in connectors
- With connecting thread and push-in connector
- With bulkhead connector
- With external thread
R $\frac{1}{8}$, PTFE-coated
- Via female thread
G $\frac{1}{4}$... G1 $\frac{1}{2}$

Air flow is fully blocked in both directions with these valves by turning the lever.

Ball valves QH/QHS, manually actuated

Type codes

FESTO

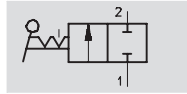
		QH	—	QS-4	—	1/8
Type						
QH	Ball valve					
QHS	Ball valve with bulkhead fitting					
Tubing connection						
Type of connection						
QS	Push-in connector for standard O.D. tubing					
For tubing O.D.						
4	4 mm					
6	6 mm					
Screw-in and connecting thread						
1/8	Pipe thread R1/8					
1/4	Pipe thread G1/4					
3/8	Pipe thread G3/8					
1/2	Pipe thread G1/2					
3/4	Pipe thread G3/4					
1	Pipe thread G1					
1 1/2	Pipe thread G1 1/2					

Ball valves QH/QHS, manually actuated

FESTO

Technical data – with QS plug-in connector

Function



2/2-way

- Suitable for a vacuum

Flow rate

148 ... 560 l/min



Technical data						
Pneumatic connection	Thread	–	–	R1/8	R1/8	–
	Tubing O.D. [mm]	4	6	4	6	6
Design		Ball valve				
Valve function		2/2-way, bi-stable				
Sealing principle		Soft				
Type of mounting		In-line installation		Can be screwed in		Bulkhead fitting
Actuation type		Manual				
Nominal size [mm]		2.5	4	2.5	2.5	4
Standard nominal flow rate [l/min]		148	533	235	560	528
Permissible tightening torque [Nm]		–	–	7 ... 9		–
Materials		Housing: Polybutylene terephthalate				
		Threaded connection: Nickel-plated brass				
Weight [g]		12	13	14	15	17

Operating and environmental conditions		
Operating pressure	[bar]	–1 ... +10
Operating medium		Filtered compressed air, lubricated or unlubricated
Ambient temperature	[°C]	0 ... +60

Dimensions		Download CAD Data → www.festo.com/us/cad
QS push-in connector, both ends		
Tubing O.D. D1	D2 Ø	H
		H1
		L
		L1

Tubing O.D. D1	D2 Ø	H	H1	L	L1
4	11	15	13	38	17
6	11	15	13	41.5	17.5

Ball valves QH/QHS, manually actuated

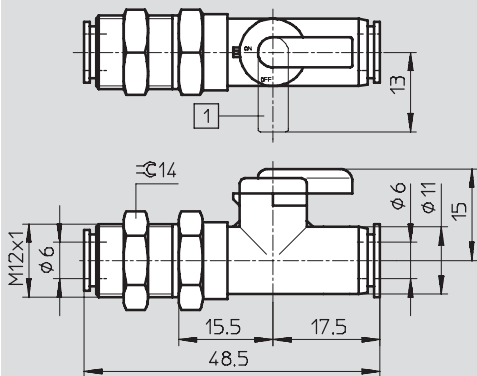
Technical data – with QS plug-in connector

FESTO

Dimensions

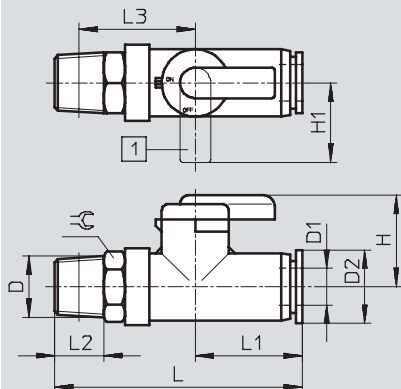
Download CAD Data → www.festo.com/us/cad

QS push-in connector at both ends, bulkhead connector at one end



1 Closed


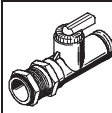
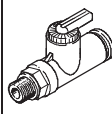
With PTFE-coated connecting thread and QS push-in connector



1 Closed

Tubing O.D. D1	D Ø	D2 Ø	H	H1	L	L1	L2	L3	≡C
4	R1/8	11	15	13	41.5	17	8	20	10
6	R1/8	11	15	13	42	17.5	8	20	10

Ordering data

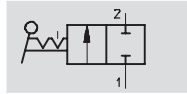
	Description	Connecting thread	For tubing O.D. [mm]	Part No.	Type
	QS push-in connector, both ends	–	4	153 483	QH-QS-4
			6	153 484	QH-QS-6
	QS push-in connector, both ends, bulkhead connector at one end	–	6	153 485	QHS-QS-6
	With PTFE-coated connecting thread and QS push-in connector	R1/8	4	153 486	QH-QS-4-1/8
			6	153 487	QH-QS-6-1/8

Ball valves QH/QHS, manually actuated

Technical data – with female thread

FESTO

Function



2/2-way

- Nominal size 10 ... 40 mm
- Female thread G $\frac{1}{4}$...G1 $\frac{1}{2}$
- Suitable for a vacuum

Flow rate

3,400 ... 84,000 l/min



Technical data							
Pneumatic connection	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{3}{4}$	G1	G1 $\frac{1}{2}$	
Design	Ball valve						
Valve function	2/2-way, bi-stable						
Sealing principle	Soft						
Type of mounting	In-line installation						
Actuation type	Manual						
Nominal size [mm]	10	12	15	20	25	40	
Standard nominal flow rate [l/min]	3,400	7,500	11,500	21,000	33,000	84,000	
Actuation torque [Nm]	4	4	8	12	15	25	
Weight [g]	175	180	340	600	815	1,750	

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating and environmental conditions		
Operating pressure [bar]	-0.95 ... +30	
Operating medium	Filtered compressed air, lubricated or unlubricated, water, vacuum ¹⁾	
Ambient temperature [°C]	-20 ... +180	

1) Other media upon request

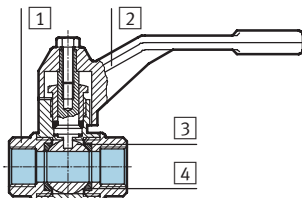


Note

Not permitted for poisonous gas such as natural gas.

Materials

Sectional view



Ball valve		
1	Housing	Brass
2	Lever	Painted aluminium
3	Ball	Hard chrome plated
4	Seals	Polytetrafluoroethylene

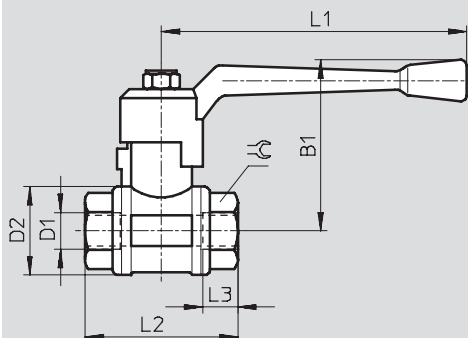
Ball valves QH/QHS, manually actuated

Technical data – with female thread

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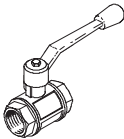
Dimensions

Download CAD Data → www.festo.com/us/cad



Connecting thread D1	B1	D2 Ø	L1	L2	L3	⌀
G1/4	56	30	100	52	11.5	21.5
G3/8	56	30	100	52	11.5	21.5
G1/2	59	35	100	64	15	27
G3/4	72	44	120	74	16.3	32
G1	77	51	120	88	19.1	41
G1 1/2	100	73	150	105.5	21.4	55

Ordering data

	Description	Connecting thread	For tubing O.D. [mm]	Part No.	Type
	With connecting thread at both ends	G1/4	–	9 541	QH-1/4
		G3/8		9 542	QH-3/8
		G1/2		9 543	QH-1/2
		G3/4		9 544	QH-3/4
		G1		9 545	QH-1
		G1 1/2		6 837	QH-1 1/2

Note: This product conforms to ISO 1179-1 and to ISO 228-1



Note

Not permitted for poisonous gas
such as natural gas.

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