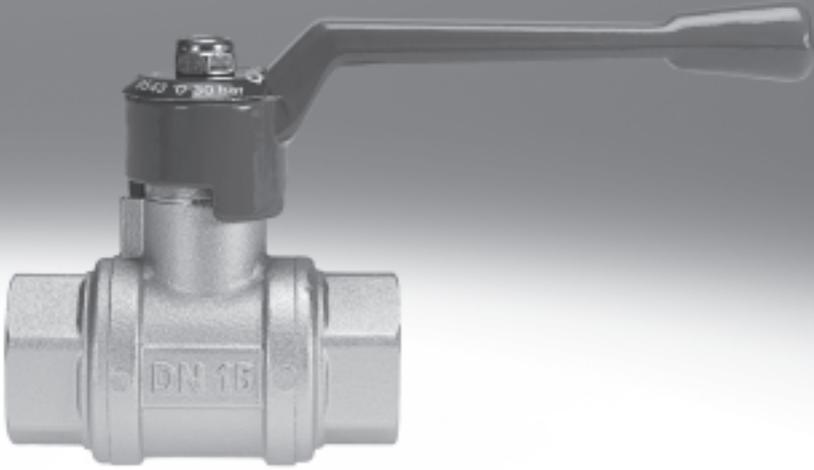


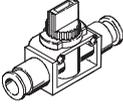
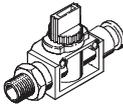
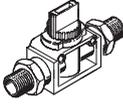
Ball valves and shut-off valves



Ball valves and shut-off valves

Product range overview

FESTO

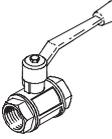
Function	Design	Type	Pneumatic connection		2/2-way valves	3/2-way valves	→ Page/Internet
			Thread	For tubing O.D. [mm]			
Shut-off valves	With QS push-in connector ¹⁾ at both ends						
		HE	-	6	■	■ ²⁾	7
				8	■	■ ²⁾	
				10	■	■ ²⁾	
				12	■	■ ²⁾	
	With PTFE-coated connecting thread and QS push-in connector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

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	R ¹ / ₄	15	F03	40	vapb
			R ³ / ₈	15	F03	40	
			R ¹ / ₂	15	F03	40	
			R ³ / 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	R ¹ / ₄	10	F0304	63	vapb
			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

Ball valves and shut-off valves

Product range overview

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		

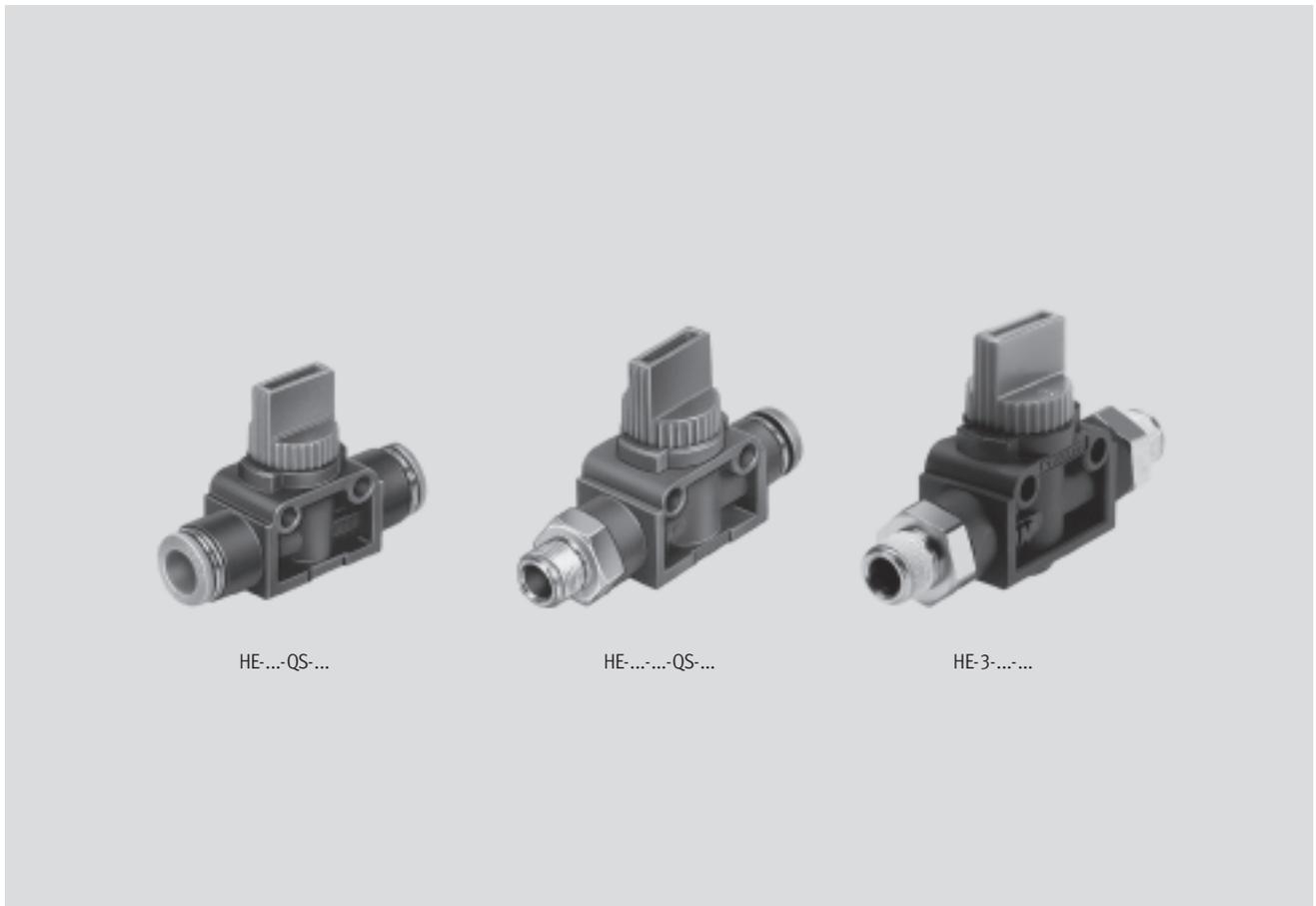
1) Cylindrical barrel with female thread to DIN 2999

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

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

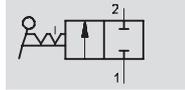
Tubing connection	
Type of connection	
QS	Push-in connector for standard O.D. tubing
For tubing O.D.∅	
6	6 mm
8	8 mm
10	10 mm
12	12 mm

Shut-off valves HE

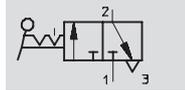
Technical data

FESTO

Function



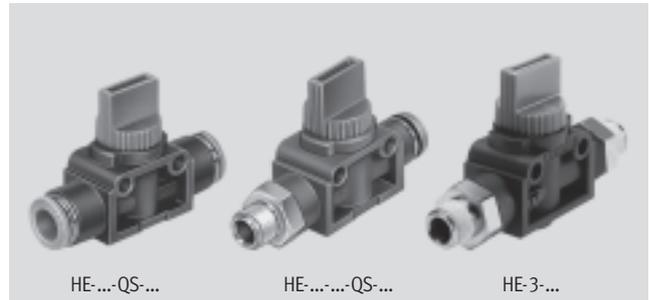
2/2-way



3/2-way

Flow rate

280 ... 840 l/min

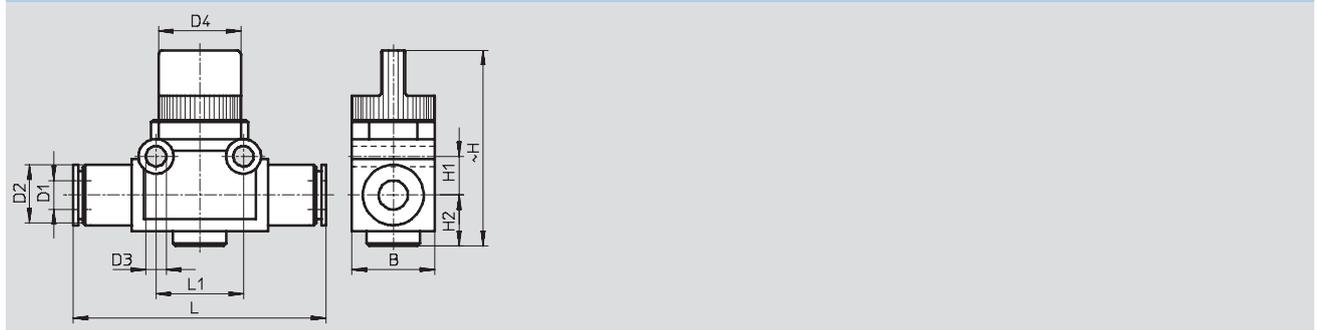


General technical data					
Push-in connector for tubing O.D.	[mm]	6	8	10	12
Type of mounting		2 through-holes in housing In-line installation			
Nominal size	[mm]	5	5	7	7

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 ∅	D3 ∅	D4 ∅	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

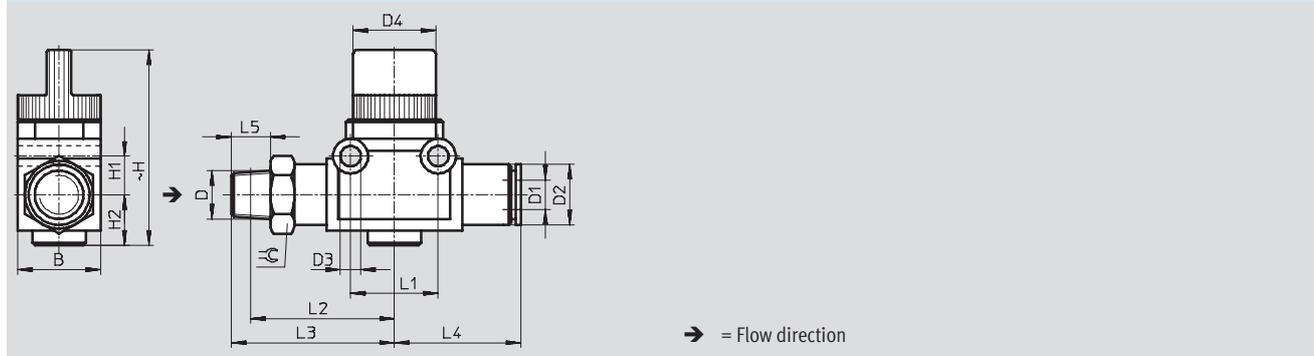
Technical data

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
	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

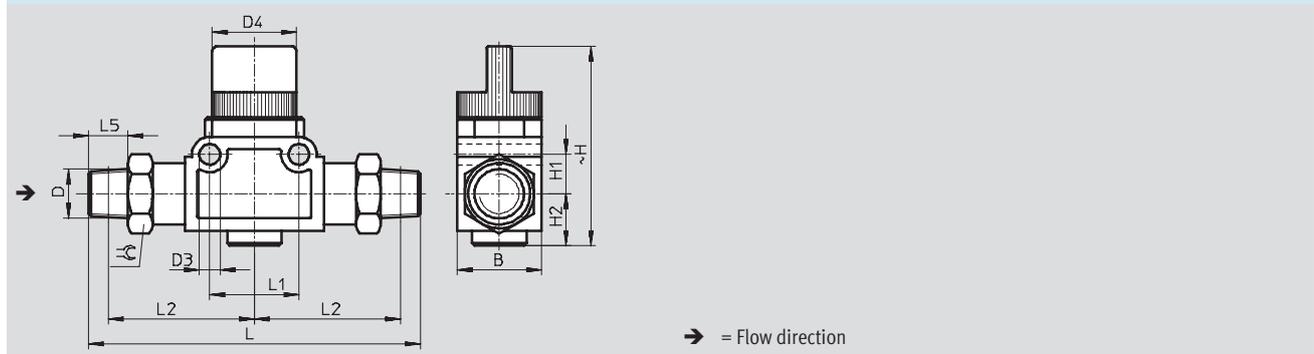
With PTFE-coated pipe thread and QS push-in connector, can be rotated 360°



Connecting thread D	B	D1 ∅	D2 ∅	D3 ∅	D4 ∅	H	H1	H2	L1	L2	L3	L4	L5	↻
R1/8	17	6	12.5	4.2	16.5	40.5	8	10.5	18	29.5	33.5	26	8	14
R1/4	17	8	15	4.2	16.5	40.5	8	10.5	18	30.5	36.5	28	11	14
R3/8	21.7	10	17.5	4.2	19.5	41	11	10.5	24	37	43.5	32.5	12	17
R1/2	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°

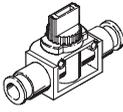


Connecting thread D	B	D3 ∅	D4 ∅	H	H1	H2	L	L1	L2	L5	↻
R1/8	17	4.2	16.5	40.5	8	10.5	67	18	29.5	8	14
R1/4	21.7	4.2	19.5	41	11	10.5	85	24	36.5	11	17
R3/8	21.7	4.2	19.5	41	11	10.5	87	24	37	12	17

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

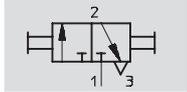
1) Free of copper, PTFE and silicone

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

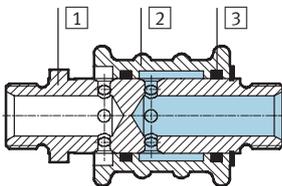
280 ... 840 l/min



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

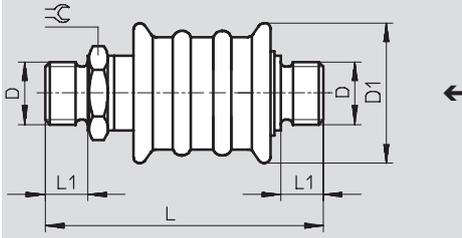
Hand slide valves W

Technical data

FESTO

Dimensions

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



← Flow direction

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 $\frac{1}{4}$... G $1\frac{1}{2}$

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

Ball valves QH/QHS, manually actuated

Type codes

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

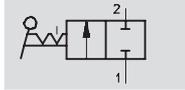
1/8	Pipe thread R1/8
1/4	Pipe thread G1/4
3/8	Pipe thread G3/8
1/2	Pipe thread G1/2
3/4	Pipe thread G3/4
1	Pipe thread G1
1 1/2	Pipe thread G1 1/2

Ball valves QH/QHS, manually actuated

Technical data – with QS plug-in connector

FESTO

Function



2/2-way

- Suitable for a vacuum

Flow rate

148 ... 560 l/min

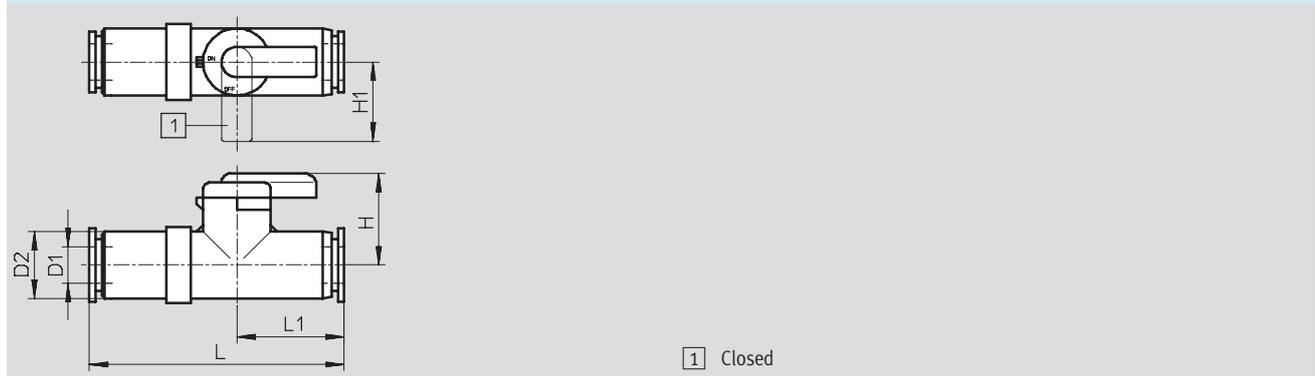


Technical data						
Pneumatic connection	Thread	–	–	R1/8	R1/8	–
	Tubing O.D.	[mm]	4	6	4	6
Design		Ball valve				
Valve function		2/2-way, bi-stable				
Sealing principle		Soft				
Type of mounting		In-line installation		Can be screwed in		Bulkhead fitting
Actuation type		Manual				
Nominal size	[mm]	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 ∅	H	H1	L	L1
4	11	15	13	38	17
6	11	15	13	41.5	17.5

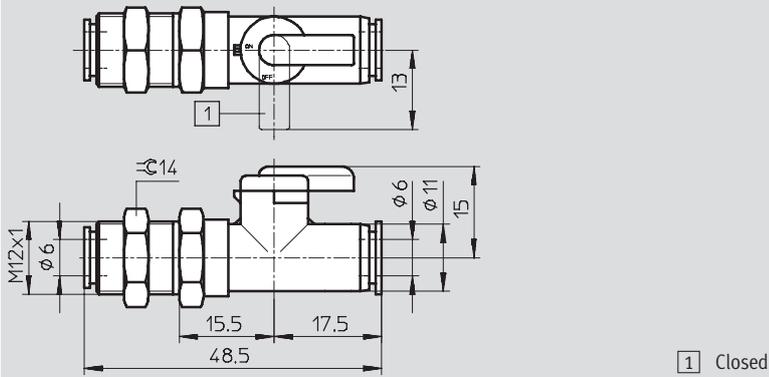
Ball valves QH/QHS, manually actuated

Technical data – with QS plug-in connector

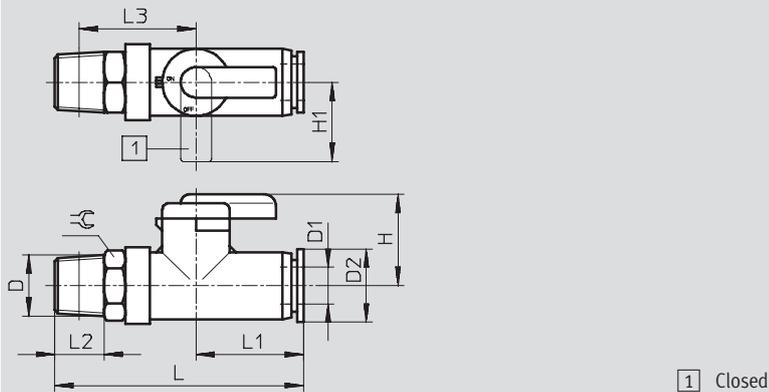
Dimensions

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

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

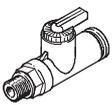


With PTFE-coated connecting thread and QS push-in connector



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

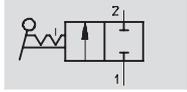
Ordering data

	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

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

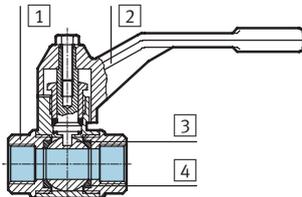
Operating and environmental conditions		
Operating pressure	[bar]	-0.95 ... +30
Operating medium	Filtered compressed air, lubricated or unlubricated, water, vacuum ¹⁾	
Ambient temperature	[°C]	-20 ... +180

1) Other media upon request

-  - Note
Not permitted for poisonous gas such as natural gas.

Materials

Sectional view



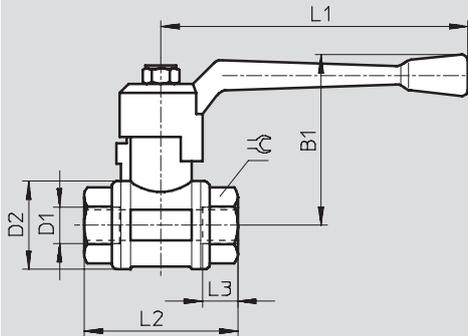
Ball valve		
1	Housing	Brass
2	Lever	Painted aluminium
3	Ball	Hard chrome plated
4	Seals	Polytetrafluoroethylene

Ball valves QH/QHS, manually actuated

Technical data – with female thread

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.

Product Range and Company Overview

A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components
Complete custom engineered solutions



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Comprehensive engineering support and on-site services



Complete Systems
Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical
Electromechanical actuators, motors, controllers & drives



Pneumatics
Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



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