













Valve Technology






Vacuum Valves

Overview

Electro-Pneumatic Valves		Technical Data		Description	Page
	Solenoid Valve PEVM	Nom. width (mm)		pneumatically controlled vacuum valve to control a suction circuit	5.3
	Valve Islands VI	Nom. width (mm)	6	simultaneous vacuum control of several suction circuits	5.5
		Flow rate (l/min)	800		
		Control	Profi-Bus		

Solenoid Valves		Technical Data		Application	Page
	Solenoid Valve EMVK	Nom. width (mm)	2 ... 4	directly controlled pneumatic valve for control suction circuits or ejectors	5.11
	Solenoid Valve EMV	Nom. width (mm)	10 ... 25	directly controlled vacuum valve to control suction circuits	5.13
		Flow rate (l/min)	430 ... 1200		
		Control	24 V DC / 230 V		
	Impulse Valve IMV	Nominal width (mm)	10 ... 25	directly controlled, bistable vacuum valve to control individual circuits on systems with several suction circuits	5.15
		Flow rate (l/min)	350 ... 1350		
		Control	24 V DC / 230 V		
	Reversing Valve UV	Nom. width (mm)	10 ... 25	directly controlled vacuum valve to control suction circuits when using vacuum blowers	5.17
		Flow rate (l/min)	24 V DC		
		Control			

Manually controlled Valves		Technical Data		Application	Page
	Handslide Valve HSV	Nom. width (mm)	9 ... 23	manual control suction circuits	5.19
		Flow rate (l/min)	200 ... 880		
	2/2-Ways-Ball valve KV	Nom. width (mm)	12 ... 30	manual switching on and off of individual suction pads	5.21
		Flow rate (l/min)	430 ... 1450		
	3/2-Ways Ball valve KV	Nom. width (mm)	19 ... 30	manual switching on and off of individual suction pads with simultaneous ventilation (large volumes)	5.23
		Flow rate (l/min)	550 ... 1550		
	Foot Interruptor FUB	Nom. width (mm)	7	manual control of suction circuits via foot control	5.25
		Flow rate (l/min)	100		
	Vacuum Regulation Valve VRV	Nom. width (mm)	0 ... 24	adjustment of the operational vacuum	5.27
		Flow rate (l/min)	135 ... 300		
	Pressure Regulation Valve DRV	Nom. width (mm)			5.29
		Flow rate (l/min)			

Automatic Valves		Technical Data		Application	Page
	Non-return Valve RSV	Nom. width (mm)	8 ... 22	safety valve between vacuum generator and safety tank.	5.31
		Flow rate (l/min)	150 ... 1400		
	Flow Valve SV	Nom. width (mm)		valve that closes automatically any unoccupied suction pad	5.33
		Flow rate (l/min)			
	Flow Valve SVE	Nom. width (mm)		adjustable valve that closes automatically any unoccupied suction pad	5.35
		Flow rate (l/min)			
	Flow Resistance SW	Nom. width (mm)		liwiths the flow rate of unoccupied suction pads	5.37
		Flow rate (l/min)			
	Touch Valve TV	Nom. width (mm)		automatic opening of suction pads when being set down on workpieces	5.39
		Flow rate (l/min)			

Electro-Pneumatic Valves

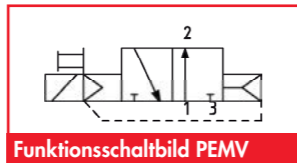
3/2-ways pneumatic valve PEMV

Description

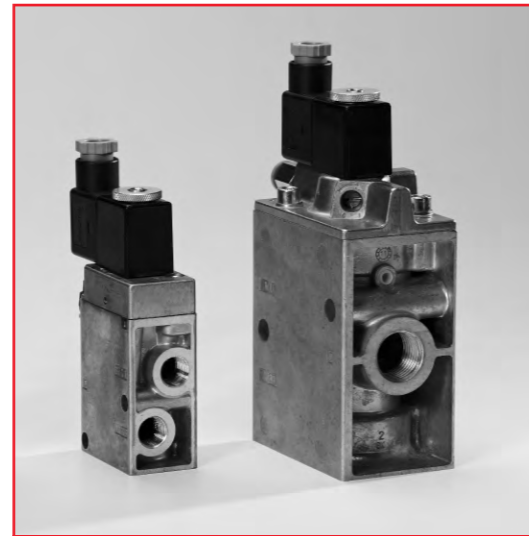
Robust 3/2-ways valve, pneumatically controlled with spring return for vacuum and compressed air applications. The valves are generally supplied in NO design (currentless open); in case of a sudden power failure the valve remains in the condition „suction“. Due to the pneumatic control the valve have a low electrical power consumption with a simultaneous high flow rate.

Application

- for „suction“ and „release“ control
- control of ejectors and pneumatic parts
- any mounting position



Funktionsschaltbild PEMV



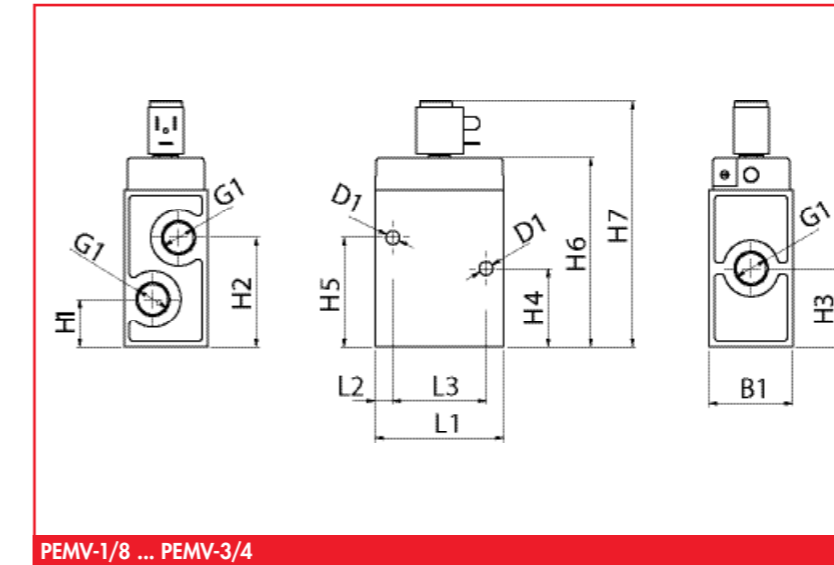
PEMV-1/8 ... PEMV-3/4

FEZER

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Electro-Pneumatic Valves

3/2-ways pneumatic valve PEMV



PEMV-1/8 ... PEMV-3/4

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Article number

Type		Replacement magnet coil	Replacement connection plug	suitable Ventilation filter		suitable Vacuum filter	
PEMV-3/2-1/8-24V	1.51.2.0084	2.51.2.0072	2.51.2.0071	BFS-1/8	1.53.1.0012	VFK-1/8	1.53.2.0020
PEMV-3/2-1/4-24V	1.51.2.0085	2.51.2.0072	2.51.2.0071	BFS-1/4	1.53.1.0013	VFK-1/4	1.53.2.0018
PEMV-3/2-1/2-24V	1.51.2.0086	2.51.2.0072	2.51.2.0071	BFS-1/2	1.53.1.0014	VFK-1/2	1.53.2.0021
PEMV-3/2-3/4-24V	1.51.2.0087	2.51.2.0072	2.51.2.0071	BFS-3/4	1.53.1.0016	VFK-3/4	1.53.2.0022

Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Switch. cycles (1/min)	Switching time (ms)	Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)				
PEMV-3/2-1/8-24V	-0,95 ... 8	5	9,0	2,5	1200	30	-5 ... +45	0,30
PEMV-3/2-1/4-24V	-0,95 ... 8	7	13,3	3,7	1200	45	-5 ... +45	0,40
PEMV-3/2-1/2-24V	-0,95 ... 8	14	53,3	14,8	800	90	-5 ... +45	1,25
PEMV-3/2-3/4-24V	-0,95 ... 8	19	84,6	23,5	800	40	-5 ... +45	1,45

Electrical data

Type	Voltage (V)	Power (W)	Safety class	Isolation class	On-time	Connection
PEMV-3/2-1/8-24V	24	4,5	IP 65	H	100 %	MSSD-F, 3S
PEMV-3/2-1/4-24V	24	4,5	IP 65	H	100 %	MSSD-F, 3S
PEMV-3/2-1/2-24V	24	4,5	IP 65	H	100 %	MSSD-F, 3S
PEMV-3/2-3/4-24V	24	4,5	IP 65	H	100 %	MSSD-F, 3S

Dimensions

Type	L1	L2	L3	B1	H1	H2	H3	H4	H5	H6	H7	D1	G1
PEMV-3/2-1/8-24V	45	6	40	26	12,5	31,5	22	12,5	12,5	65	97	5,5	G1/8
PEMV-3/2-1/4-24V	50	6	45	30	17	41	29	12,5	22,5	80	112	6,5	G1/4
PEMV-3/2-1/2-24V	80	11	58	52	30	68	49	49	68	118	165	8,5	G1/2
PEMV-3/2-3/4-24V	92	10	72	68	34	78	56	56	78	138	171	8,5	G3/4

Electro-Pneumatic Valves

Valve island VI

Description

Compact valve island with bistable vacuum valves for control of several independantly working suction circuits. The valve islands require compressed air (4 - 8 bar) and have a central vacuum connection.

The vacuum supply can be achieved by vacuum pumps or ejectors. The valve islands are controlled by a Profi-Bus-DP system and can thus be easily integrated in a higher control.

Via an internal Bus connection two valve islands can be integrated as Bus participants. The bistable valve design also guarantees adequate safety in case of a power failure as the valves keep their switch position and engaged workpieces are kept safely suspended.

Application

- Single control of suction pads
- control of several independantly working suction circuits
- any mounting position

Control

- connection of higher field bus knots or on control blocks
- standard design for Profibus-DP, 12MBd
- connection possibility of up to 32 entrances
- valve island is treated as exit module with up to 8 exits
- connection of two valve islands as „Master-Slave“ possible

Designs

- Basic design with fixing brackets and 8 mm plug connector
- control of 3-6 suction circuits with integrated blow-off impulse
- control of 7-8 suction circuits w/o integrated blow-off impulse. Blow-off impulse can be realised via a separate pneumatic valve

Accessories

To complement and connect the systems there are various accessories available.

- Entrance modules for the connection of sensors
- BUS connection cable for valve islands and entrance modules
- connection cable for entrance modules to the sensors

Electro-Pneumatic Valves

Valve island VI



VI-14-4I-1A ... VI-14-8I



Application example

Electro-Pneumatic Valves

Valve island VI

Article number

Type	w/o blow-off function	with blow-off function -1A
VI-14-3I-(1A)-PROFI	1.51.3.0054	1.51.3.0011
VI-14-4I-(1A)-PROFI	1.51.3.0042	1.51.3.0019
VI-14-5I-(1A)-PROFI	1.51.3.0055	1.51.3.0053
VI-14-6I-(1A)-PROFI	1.51.3.0043	1.51.3.0012
VI-14-7I-PROFI*	1.51.3.0056	---
VI-14-8I-PROFI*	1.51.3.0007	---
VI-14-3I-(1A)-INTERN	1.51.3.0049	1.51.3.0052
VI-14-4I-(1A)-INTERN	1.51.3.0048	1.51.3.0051
VI-14-5I-(1A)-INTERN	1.51.3.0047	1.51.3.0050
VI-14-6I-(1A)-INTERN	1.51.3.0046	1.51.3.0017
VI-14-7I-INTERN*	1.51.3.0045	---
VI-14-8I-INTERN*	1.51.3.0008	---

* blow-off function possible via separate pneumatic valve!

Technical data

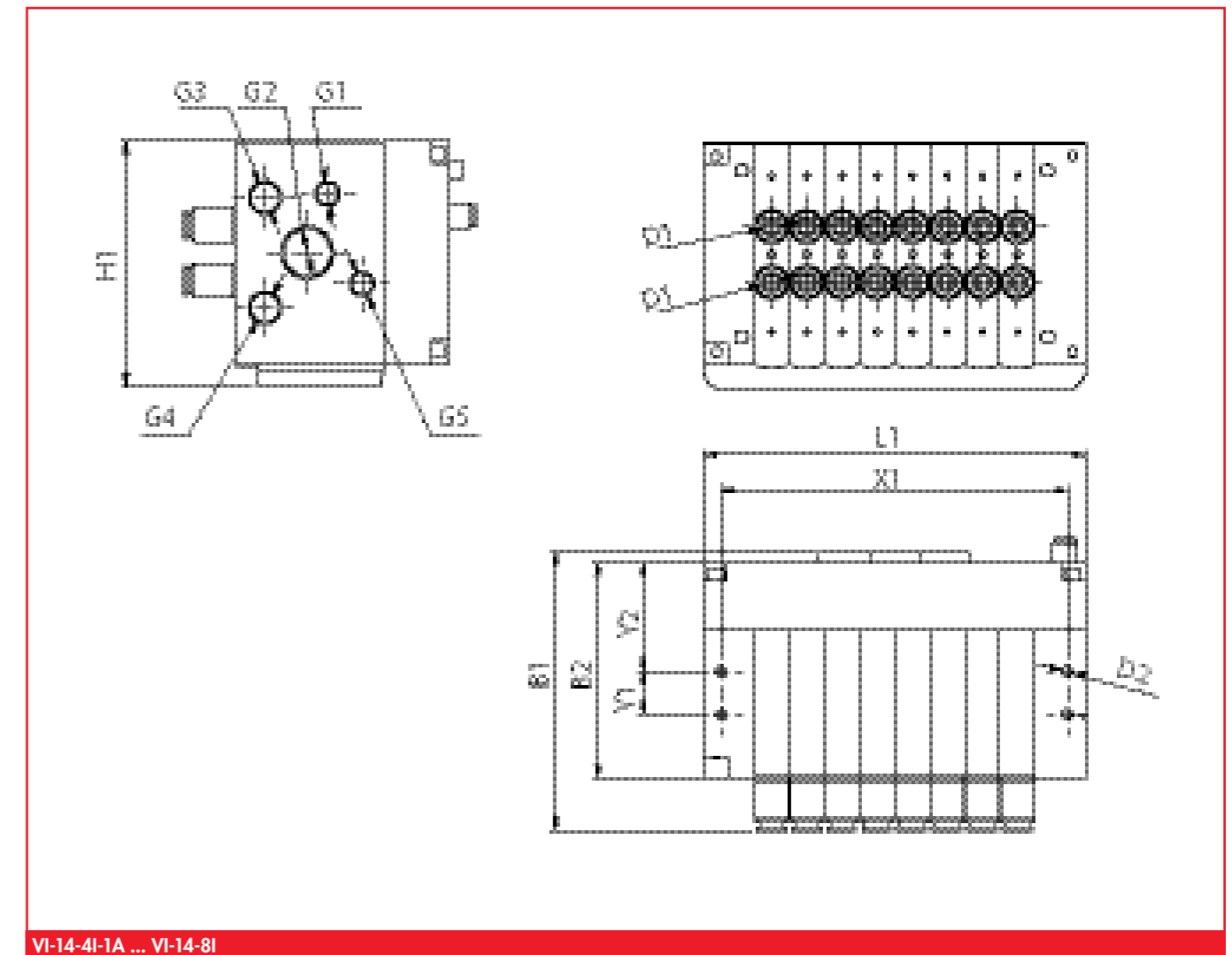
Pressure range:	(bar)	-1 ... 8
Control pressure:	(bar)	3 ... 8
Nominal width:	(mm)	6
Flow rate at vacuum (-1bar):	(m ³ /h)	0,6
	(l/s)	2,2
Flow rate at compressed air (6bar):	(m ³ /h)	1,8
	(l/s)	6,6
Switching time on:	(ms)	25
Switching time off:	(ms)	35
Temperature:	(°C)	-5 ... +50
Weight:	(kg)	0,460

Electrical data

Operating voltage:	(V)	20,4 ... 26,4
electrical power consumption:	(W)	0,9
Safety class:		IP65
Isolation class:		H
On-time:		100%
Electrical connection:		M9

Electro-Pneumatic Valves

Valve island VI



VI-14-4I-1A ... VI-14-8I

Dimensions:

Type	L1	B1	B2	H1	D1	D2	G1	G2	G3	G4	G5	X1	Y1	Y2
VI-14-4I-1A-PROFI	124	111	85	98	8	4,2	G1/8	G1/2	G1/4	G1/4	G1/8	138	17	85
VI-14-6I-1A-PROFI	152	111	85	98	8	4,2	G1/8	G1/2	G1/4	G1/4	G1/8	138	17	85
VI-14-8I-PROFI	152	111	85	98	8	4,2	G1/8	G1/2	G1/4	G1/4	G1/8	138	17	85
VI-14-4I-1A-INTERN	152	111	85	98	8	4,2	G1/8	G1/2	G1/4	G1/4	G1/8	138	17	85
VI-14-6I-1A-INTERN	152	111	85	98	8	4,2	G1/8	G1/2	G1/4	G1/4	G1/8	138	17	85
VI-14-8I-INTERN	152	111	85	98	8	4,2	G1/8	G1/2	G1/4	G1/4	G1/8	138	17	85

Electro-Pneumatic Valves

Accessories for valve islands

Voltage plug BSS-

Connection plug to supply the valve islands with voltage. The plugs are available with PG7- and PG9-screw connections.

Article number

Type	
BSS-PG7	2.51.3.0014
BSS-PG9	2.51.3.0015



BSS- ...

Connection cable for DP-Bus VBK-DP

The cables connect the valve islands (Master/Slave) to the entrance modules on BUS systems. Up to 4 units can be connected, which can work as BUS participants.

Article number

Type	
VBK-DP-M9B90-5P-M9S90-5P-0,5M	2.51.3.0017
VBK-DP-M9B90-5P-M9S90-5P-1M	2.51.3.0016
VBK-DP-M9B90-5P-M9S90-5P-2,5M	2.51.3.0005



VBK-DP- ...

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Electro-Pneumatic Valves

Accessories for valve islands

Entrance module EM-

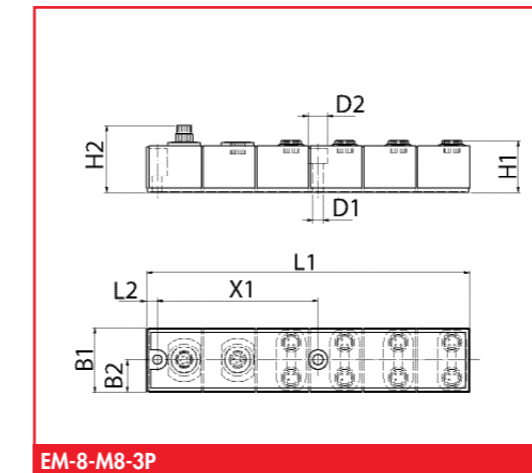
Entrance modules are used for connection of sensoric elements like vacuum switches, initiators, etc. There are two modules with 8 or 16 singly occupied entrances. Each with an M8 connection and 3 pins. The 16-entrance module has additional LED condition displays. The connection cables for the sensor technology can be found in chapter „Connection Elements“

Entrance modules

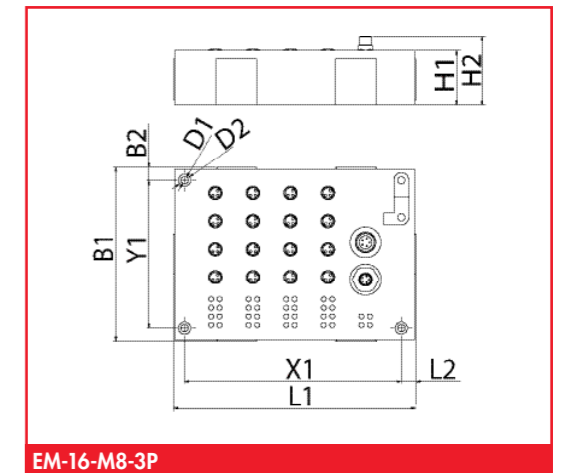
Type	
EM-8-M8-3P	6.35.4.0280
EM-16-M8-3P-LED	6.35.4.0279



EM-8-M8-3P ... EM-16-M8-3P



EM-8-M8-3P



EM-16-M8-3P

Dimensions

Type	L1	L2	B1	B2	H1	H2	X1	Y1	D1	D2
EM-8-M8-3P	151	5,1	30	15	24,5	31,5	75	---	7	4,3
EM-16-M8-3P	142	8,5	102	7,5	32	40	127	87	7	4,3

Electro-Pneumatic Valve

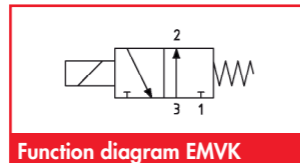
3/2-ways solenoid valve EMVK

Description

Robust 3/2-ways valve, directly controlled with spring return for vacuum and compressed air applications. The valves are generally in NO design (currentless open), which keeps the valve in the „suction“-condition in case of a sudden power failure. The valves are equipped with a thread connection for installation.

Application

- for „suction“ and „release“ control
- control of ejectors and pneumatic parts
- separate blow-off impulse with max. 8 bar
- any mounting position



Function diagram EMVK



EMVK-1/8" ... EMVK-1/4"

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Article number

Type		suitable ventilation filter		suitable vacuum filter	
EMVK-3/2-1/8-24V	1.51.2.0093	BFS-1/8	1.53.1.0012	VFK-1/8	1.53.2.0020
EMVK-3/2-1/4-24V	1.51.2.0067	BFS-1/4	1.53.1.0013	VFK-1/4	1.53.2.0018

Technical data

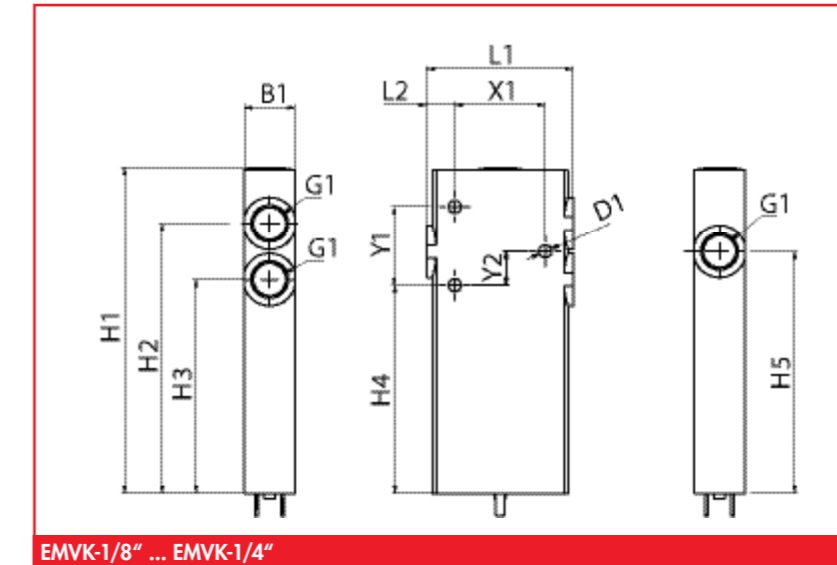
Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Switch.cycles (1/min)	Switching time (ms)	Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)				
EMVK-3/2-1/8-24V	-0,95 ... 8	3	3,3	0,9	1200	8	-5 ... +45	0,12
EMVK-3/2-1/4-24V	-0,95 ... 8	4	4,7	1,3	800	10	-5 ... +45	0,27

Electrical data

Type	Voltage (V)	Power (W)	Safety class	Isolation class	On-time	Connection
EMVK-3/2-1/8-24V	24	3,7	IP 65	H	100 %	Stecker 2S
EMVK-3/2-1/4-24V	24	8,5	IP 65	H	100 %	Stecker 2S

Electro-Pneumatic Valves

3/2-ways solenoid valve EMVK



EMVK-1/8" ... EMVK-1/4"

Dimensions

Type	L1	L2	B1	H1	H2	H3	H4	H5	D1	G1	X1	Y1	Y2
EMVK-3/2-1/8-24V	45	10	14	95	79,5	63,5	61,5	71,5	4,5	G1/8	25	20	10
EMVK-3/2-1/4-24V	52	10	18	115	95,5	75,5	73,5	85,5	4,5	G1/4	32	28	12

Connection cable

Type	Electrical connection	Switching condition display	Material	Length	
AK-EMVK-2,5M-PUR-LED	6.35.3.1328	Stecker - 90°	LED	PUR	2,5 m
AK-EMVK-5M-PUR-LED	6.35.3.1329	Stecker - 90°	LED	PUR	5 m
AK-EMVK-10M-PUR-LED	6.35.3.1330	Stecker - 90°	LED	PUR	10 m

Solenoid Valves

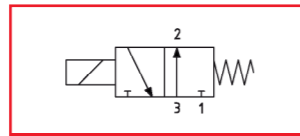
3/2-Ways-Solenoid Valve EMV

Description

Robust 3/2-ways valve, directly controlled with spring return. The valves are generally in NO design (currentless open), which keeps the valve in the „suction“-condition in case of a sudden power failure.

Application

- for „suction“ and „release“ control
- any mounting position
- separate blow-off impulse with max.2 bar



Switching diagram EMV



EMV 1/2" - EMV 1"

Article number

Type	Valve	Valve complete *	Replacement plug	suitable ventilation filter	suitable vacuum filter	
EMV-3/2-R1/2-24V	1.51.2.0016	1.51.2.0015	2.51.2.0015	BFS-1/2	1.53.1.0014	VF-1/2
EMV-3/2-R1/2-230V	1.51.2.0014	1.51.2.0013	2.51.2.0014	BFS-1/2	1.53.1.0014	VF-1/2
EMV-3/2-R3/4-24V	1.51.2.0020	1.51.2.0019	2.51.2.0020	BFS-3/4	1.53.1.0015	VF-3/4
EMV-3/2-R3/4-230V	1.51.2.0018	1.51.2.0017	2.51.2.0019	BFS-3/4	1.53.1.0015	VF-3/4
EMV-3/2-R1-24V	1.51.2.0024	1.51.2.0023	2.51.2.0020	BFS-1	1.53.1.0016	VF-11/4
EMV-3/2-R1-230V	1.51.2.0022	1.51.2.0021	2.51.2.0019	BFS-1	1.53.1.0016	VF-11/4

* incl. ventilation filter and 2 hose nipples

Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Switch.cycles (1/min)	Switching time (ms)	Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)				
EMV-3/2-R1/2-24V	-1 ... +1	12	36	10,0	70	30	-5 ... +45	1,0
EMV-3/2-R1/2-230V	-1 ... +1	12	36	10,0	70	30	-5 ... +45	1,0
EMV-3/2-R3/4-24V	-1 ... +1	20	70	19,4	70	130	-5 ... +45	5,6
EMV-3/2-R3/4-230V	-1 ... +1	20	70	19,4	70	130	-5 ... +45	5,6
EMV-3/2-R1-24V	-1 ... +1	25	73	20,3	70	130	-5 ... +45	5,4
EMV-3/2-R1-230V	-1 ... +1	25	73	20,3	70	130	-5 ... +45	5,4

Electrical data

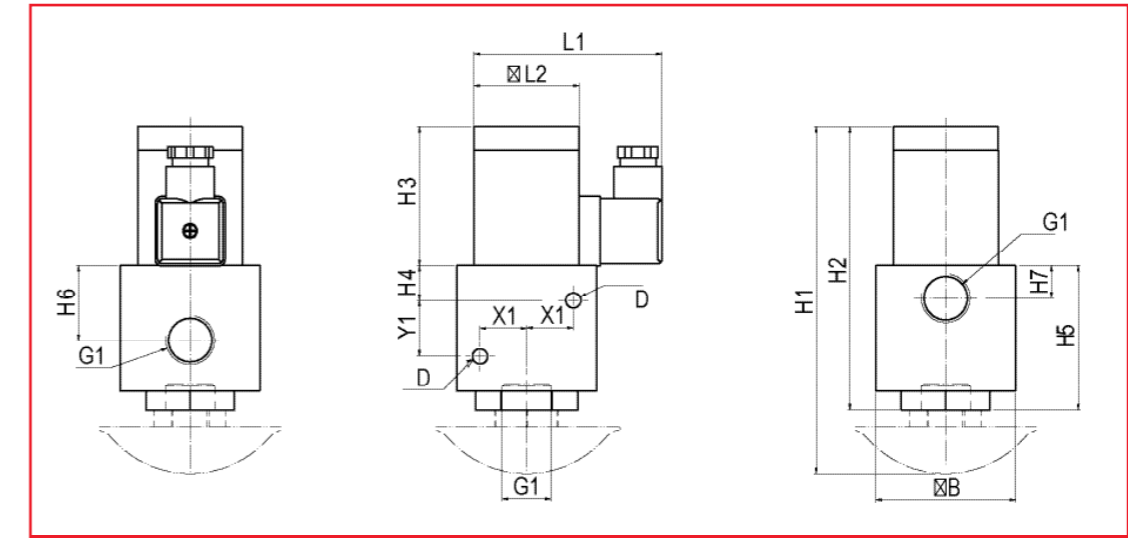
Type	Voltage (V)	Current consump. (A)	Safety class	Isolation class	On-time	Connection
EMV-3/2-R1/2-24V	24	0,76	IP 65	F	100 %	DIN 43650, Form A
EMV-3/2-R1/2-230V	230, 50Hz	0,16	IP 65	F	100 %	DIN 43650, Form A
EMV-3/2-R3/4-24V	24	1,70	IP 65	F	100 %	DIN 43650, Form A
EMV-3/2-R3/4-230V	230, 50Hz	0,16	IP 65	F	100 %	DIN 43650, Form A
EMV-3/2-R1-24V	24	1,70	IP 65	F	100 %	DIN 43650, Form A
EMV-3/2-R1/4-230V	230, 50Hz	0,16	IP 65	F	100 %	DIN 43650, Form A

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Solenoid Valves

3/2-ways solenoid valve EMV



EMV 1/2" - EMV 1"

Dimensions

Type	L1	L2	B1	B2	H1	H2	H3	H4	H5	H6	H7	D1	G1	X1	Y1
EMV-3/2-R1/2-24V	88	45	60	80	162	121	60	14	62	32	14	6,5	G1/2	20	25
EMV-3/2-R1/2-230V	88	45	60	80	162	121	60	14	62	32	14	6,5	G1/2	20	25
EMV-3/2-R3/4-24V	130	80	100	80	257	206	80	30	118	75	30	9	G3/4	40	45
EMV-3/2-R3/4-230V	130	80	100	80	257	206	80	30	118	75	30	9	G3/4	40	45
EMV-3/2-R1-24V	130	80	100	80	257	206	80	30	118	75	30	9	G1	40	45
EMV-3/2-R1-230V	130	80	100	80	257	206	80	30	118	75	30	9	G1	40	45

Connections and control

Type	Hose connections			Electrical control for „suction“ - „release“				
	1	2	3	Function:	Terminal 1	Terminal 2	Terminal 3	Description
EMV-3/2-R1/2	Ventilation	Suction Pad	Vacuum	Suction:		-		
				Release:		-	+	positive switching
EMV-3/2-R3/4	Ventilation	Suction Pad	Vacuum	Suction:		-		
				Release:		-	+	positive switching
EMV-3/2-R1	Ventilation	Suction Pad	Vacuum	Suction:		-		
				Release:		-	+	positive switching

FEZER

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Solenoid Valves

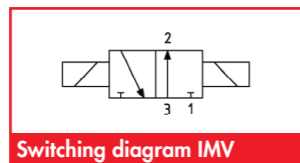
3/2-ways impulse valve IMV

Description

Robust 3/2-ways valve, directly controlled in bistable design (with permanent magnet). The valves are only controlled via a current impulse and keep their position in case of a sudden power failure.

Application

- „suction“ and „release“ control for several, different suction circuits
- any mounting position
- separate blow-off impulse with max.2 bar overpressure



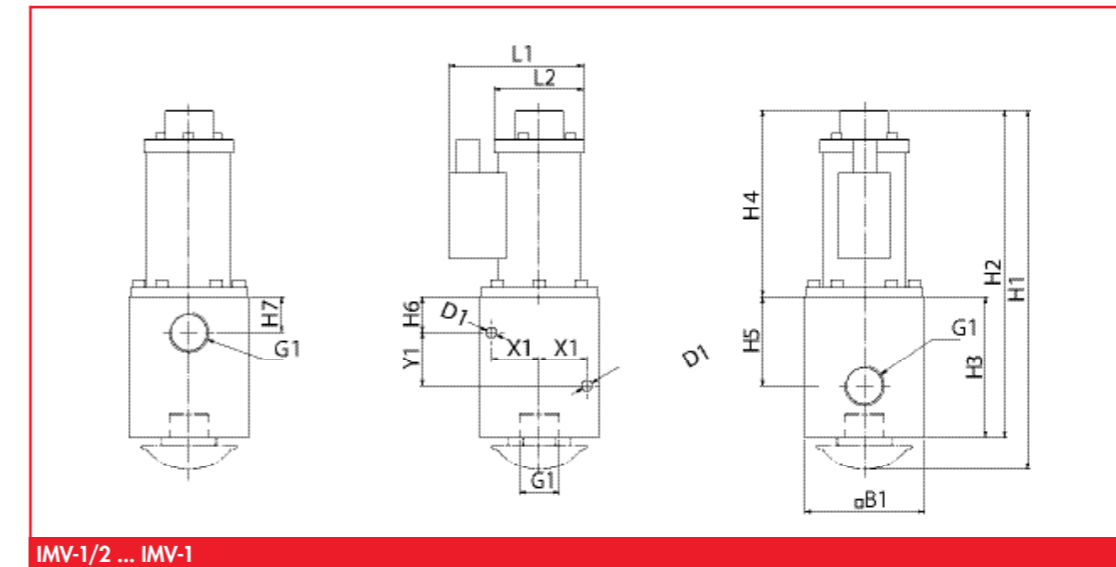
Switching diagram IMV



IMV 1/2" - IMV 1"

Solenoid Valves

3/2-ways impulse valve IMV



IMV-1/2 ... IMV-1

Article number

Type	Valve	Valve complete *	Replacement plug	Suitable ventilation filter		Suitable vacuum filter	
IMV-3/2-R1/2-24V	1.51.2.0047	1.51.2.0048	2.51.2.0015	BFS-1/2	1.53.1.0014	VF-1/2	1.53.2.0002
IMV-3/2-R3/4-24V	1.51.2.0036	1.51.2.0035	---	BFS-3/4	1.53.1.0015	VF-3/4	1.53.2.0006
IMV-3/2-R3/4-230V	1.51.2.0058	1.51.2.0057	---	BFS-3/4	1.53.1.0015	VF-3/4	1.53.2.0006
IMV-3/2-R1-24V	1.51.2.0034	1.51.2.0033	---	BFS-1	1.53.1.0016	VF-11/4	1.53.2.0003
IMV-3/2-R1/4-230V	1.51.2.0060	1.51.2.0032	---	BFS-1	1.53.1.0016	VF-11/4	1.53.2.0003

* incl. ventilation filter and 2 hose nipples

Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Switch.cycles (1/min)	Switching time (ms)	Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)				
IMV-3/2-R1/2-24V	-1 ... +1	10	36	10,0	30	30	0 ... +45	1,0
IMV-3/2-R3/4-24V	-1 ... +1	20	70	19,4	20	45	0 ... +45	5,6
IMV-3/2-R3/4-230V	-1 ... +1	20	70	19,4	20	45	0 ... +45	5,6
IMV-3/2-R1-24V	-1 ... +1	25	73	20,3	20	45	0 ... +45	5,4
IMV-3/2-R1-230V	-1 ... +1	25	73	20,3	20	45	0 ... +45	5,4

Electrical data

Type	Voltage (V)	Current consump. (A)	Safety class	Isolation class	On-time	Connection
IMV-3/2-R1/2-24V	24	1,20	IP43	E	40 %	DIN 43650, Form A
IMV-3/2-R3/4-24V	24	4,50	IP43	E	40 %	Terminal box
IMV-3/2-R3/4-230V	230, 50Hz	0,47	IP43	E	40 %	Terminal box
IMV-3/2-R1-24V	24	4,50	IP43	E	40 %	Terminal box
IMV-3/2-R1-230V	230, 50Hz	0,47	IP43	E	40 %	Terminal box

Dimensions

Type	L1	L2	B1	H1	H2	H3	H4	H5	H6	H7	D1	G1	X1	Y1
IMV-3/2-R1/2-24V	52	40	60	181	142	65	77	16,5	15	20	6,5	G1/2	20	25
IMV-3/2-R3/4-24V	106	40	100	315	273	118	155	43	30	41	9	G3/4	40	45
IMV-3/2-R3/4-230V	106	40	100	315	273	118	155	43	30	41	9	G3/4	40	45
IMV-3/2-R1-24V	113	75	100	315	273	118	155	43	30	41	9	G1	40	45
IMV-3/2-R1-230V	113	75	100	315	273	118	155	43	30	41	9	G1	40	45

Connections and control

Type	Hose connections			electrical control for „suction“ - „release“				
	1	2	3	Function:	Terminal 1	Terminal 2	Terminal 3	Description
IMV-3/2-R1/2	Ventilat.	Suction Pad	Vacuum	Suction:	-	+	-	negative switching
				Release:	-	+	-	
IMV-3/2-R3/4	Ventilat.	Suction Pad	Vacuum	Suction:	+	-	-	polarity reversal
				Release:	-	-	+	
IMV-3/2-R1	Ventilat.	Suction Pad	Vacuum	Suction:	+	-	-	polarity reversal
				Release:	-	-	+	

Solenoid Valves

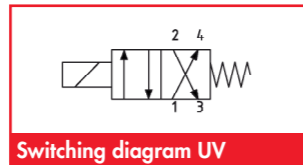
4/2-ways reversing valve UV

Description

Robust 4/2-ways valve, directly controlled with spring return. The reversing valves are designed for vacuum blowers. The valves generally in NO design (currentless open), which keeps the valve in the „suction“ position in case of a sudden power failure. Delivery with electrical connection plug.

Application

- „suction“ and „release“ control on applications with blowers
- applications that require a high flow rate
- any mounting position



Switching diagram UV



UV-11/2 ... UV-2

Article number

Type	Valve	Replacement connection plug	suitable ventilation filter		suitable vacuum filter	
UV-R11/2-24V	1.51.2.0039	2.51.2.0015	BF-11/2	1.53.1.0010	VF-11/4B	1.53.2.0004
UV-R11/2-230V	1.51.2.0038	2.51.2.0014	BF-11/2	1.53.1.0010	VF-11/4B	1.53.2.0004
UV-R2-24V	1.51.2.0069	2.51.2.0015	BF-11/2	1.53.1.0010	VF-21/2	1.53.2.0005
UV-R2-230V	1.51.2.0070	2.51.2.0014	BF-11/2	1.53.1.0010	VF-21/2	1.53.2.0005

Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Switch.cycles (1/min)	Switching time (ms)	Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)				
UV-R11/2-24V	-0,5 ... +0,5	45	360	100	120	90	0 ... +45	4,0
UV-R11/2-230V	-0,5 ... +0,5	45	360	100	120	90	0 ... +45	4,0
UV-R2-24V	-0,5 ... +0,5	57	420	116	100	110	0 ... +45	6,0
UV-R2-230V	-0,5 ... +0,5	57	420	116	100	110	0 ... +45	6,0

Electrical data

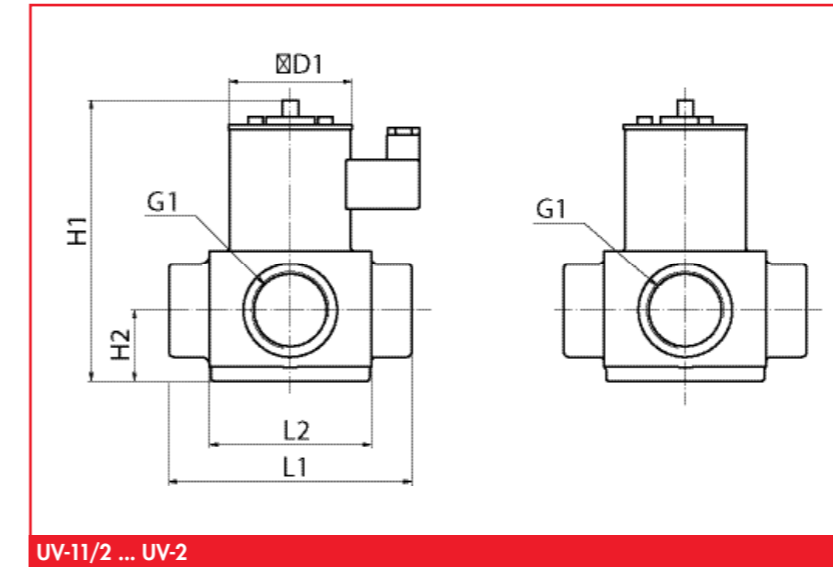
Type	Voltage (v)	Current consump. (A)	Safety class	Isolation class	On-time	Connection
UV-R11/2-24V	24	1,55	IP55	F	100%	DIN 43650, Form A
UV-R11/2-230V	230, 50Hz	0,19	IP55	F	100%	DIN 43650, Form A
UV-R2-24V	24	1,70	IP55	F	100%	DIN 43650, Form A
UV-R2-230V	230, 50 Hz	0,23	IP55	F	100%	DIN 43650, Form A

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Solenoid Valves

4/2-ways reversing valve UV



UV-11/2 ... UV-2

Dimensions

Type	L1	L2	H1	H2	D1	G1
UV-R11/2-24V	150	100	174,5	44,5	76	G11/2
UV-R11/2-230V	150	100	174,5	44,5	76	G11/2
UV-R2-24V	150	100	240,5	62,5	102	G2
UV-R2-230V	150	100	240,5	62,5	102	G2

Connections and control

Type	Hose connections				electrical control for „suction“ - „release“				
	1	2	3	4	Function:	Terminal 1	Terminal 2	Terminal 3	Description
UV-R11/2	Suct. side	Ventilation	Press. side	Suction Pad	Suction:	+	-		negative switching
	Blower		Blower		Release:		-		
UV-R2	Suct. side	Ventilation	Press. side	Suction Pad	Suction:	+	-		negative switching
	Blower		Blower		Release:		-		

FEZER

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Manually controlled Valves

3/2-ways handslide valve HSV

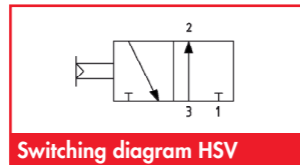
FEZER
Simply move more.

Description

3/2-ways valve for manually-operated valves with two positions for „suction“ and „release“. The design SK is equipped with a safety button which prevents the valves from accidental operation.

Application

- vacuum control on manual lifters
- single control of suction plates
- any mounting position



Switching diagram HSV



HSV 1/4 ... HSV-3/4-SK

Article number

Type	Article number
HSV-3/2-1/4	1.51.1.0004
HSV-3/2-3/8	1.51.1.0007
HSV-3/2-1/2	1.51.1.0002
HSV-3/2-1/2-SK*	1.51.1.0024
HSV-3/2-3/4	1.51.1.0005
HSV-3/2-3/4-SK*	1.51.1.0025

* Design with safety button

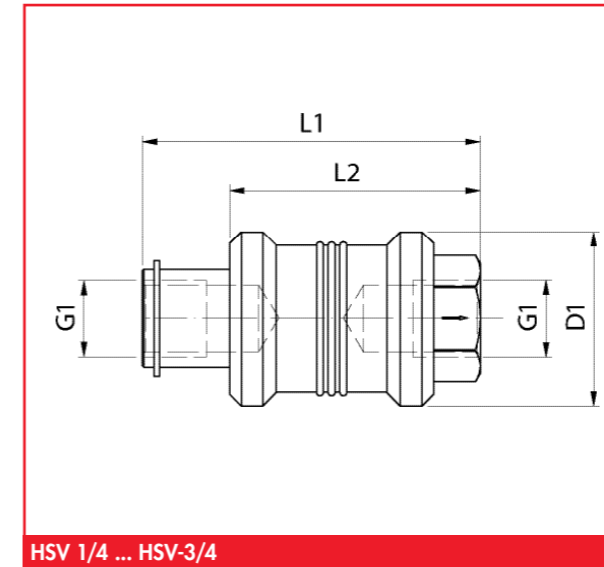
Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)		
HSV-3/2-1/4	-1 ... 0	9	12	3,3	-10 ... +60	0,05
HSV-3/2-3/8	-1 ... 0	13	21	5,8	-10 ... +60	0,07
HSV-3/2-1/2	-1 ... 0	19	33	9,2	-10 ... +60	0,07
HSV-3/2-1/2-SK	-1 ... 0	16	29	8,1	-10 ... +60	0,07
HSV-3/2-3/4	-1 ... 0	26	59	16,4	-10 ... +60	0,12
HSV-3/2-3/4-SK	-1 ... 0	23	53	14,7	-10 ... +60	0,12

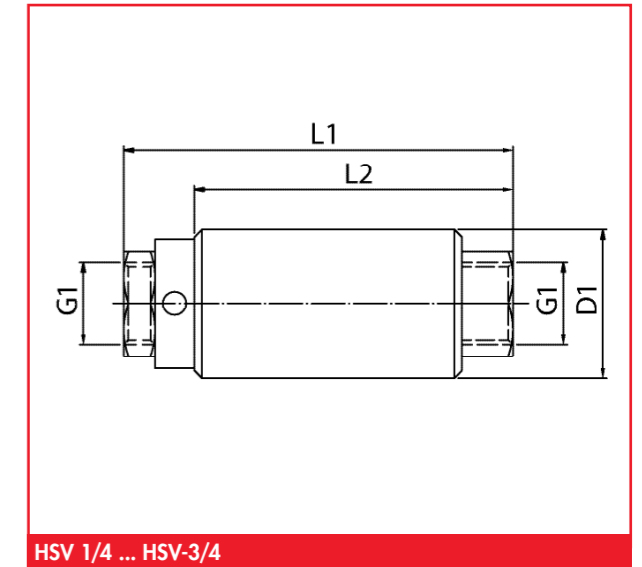
Manually controlled Valves

3/2-ways handslide valve HSV

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HSV 1/4 ... HSV-3/4



HSV 1/4 ... HSV-3/4

Dimensions

Type	L1	L2	D1	G1
HSV-3/2-1/4	58	43	30	G1/4
HSV-3/2-3/8	70	52	35	G3/8
HSV-3/2-1/2	80	59	40	G1/2
HSV-3/2-1/2-SK	100	73	38	G1/2
HSV-3/2-3/4	100	70	50	G3/4
HSV-3/2-3/4-SK	125	85	52	G3/4

Manually controlled Valves

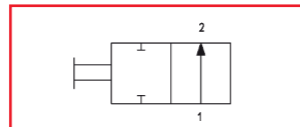
2/2-ways ball valve KV

Description

2/2-ways valve as ball valve in robust grey cast iron design with hand lever

Application

- manual switching on and off of single suction pads
- any mounting position



Switching diagram KV



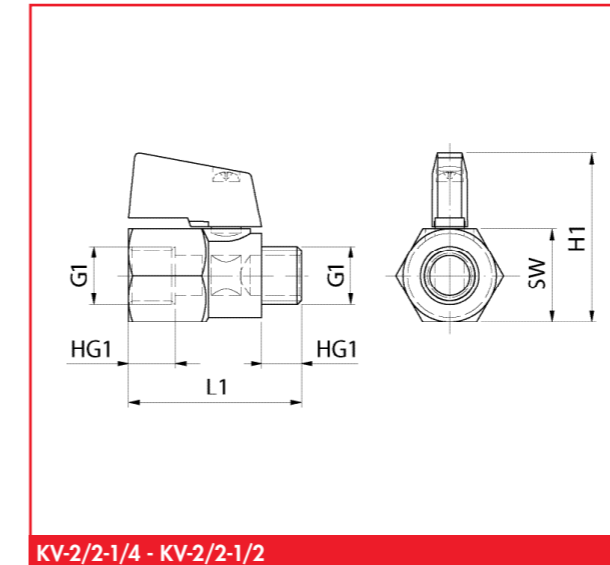
KV-2/2-1/4 - KV-2/2-1

FEZER

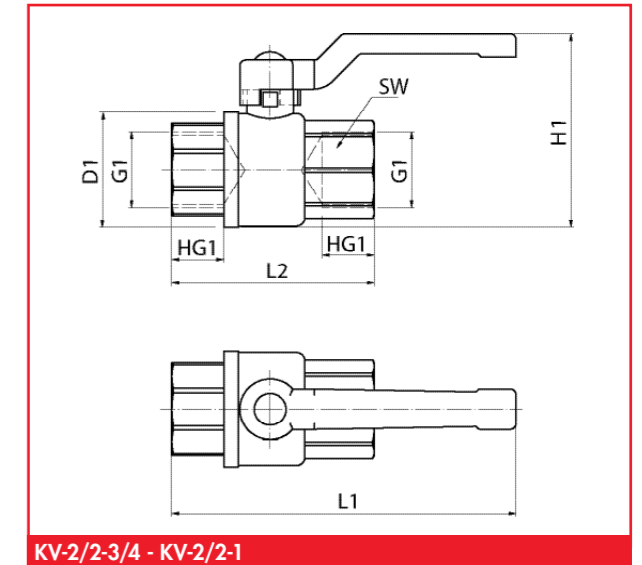
Simply move more.

Manually controlled Valves

2/2-ways ball valve KV



KV-2/2-1/4 - KV-2/2-1/2



KV-2/2-3/4 - KV-2/2-1

FEZER

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Article number

Type	Article number	Replacement lever
KV-2/2-1/4	1.51.1.0011	2.51.1.0025
KV-2/2-3/8	1.51.1.0008	2.51.1.0025
KV-2/2-1/2	1.51.1.0009	2.51.1.0025
KV-2/2-3/4	1.51.1.0014	2.51.1.0026
KV-2/2-R1	1.51.1.0012	2.51.1.0026
KV-2/2-R11/4	1.51.1.0013	2.51.1.0026

Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)		
KV-2/2-1/4	-1 ... 0	12	25	6,9	-10 ... +60	0,07
KV-2/2-3/8	-1 ... 0	14	26	7,2	-10 ... +60	0,07
KV-2/2-1/2	-1 ... 0	19	60	16,6	-10 ... +60	0,10
KV-2/2-3/4	-1 ... 0	24	110	30,6	-10 ... +60	0,34
KV-2/2-R1	-1 ... 0	30	150	41,7	-10 ... +60	0,60
KV-2/2-R11/4	-1 ... 0	36	180	50,0	-10 ... +60	0,80

Dimensions

Type	L1	L2	H1	D1	G1	HG1	SW
KV-2/2-1/4	39	---	37	---	G1/4	8	21
KV-2/2-3/8	41	---	37	---	G3/8	8	21
KV-2/2-1/2	45	---	42	---	G1/2	10	25
KV-2/2-3/4	120	72	67	38	G3/4	18	32
KV-2/2-R1	136	85	90	48	G1	21	40
KV-2/2-R11/4	158	97	98	59	G1 1/4	23	48

Manually controlled Valves

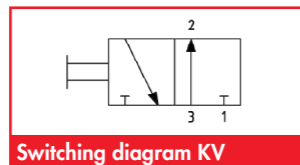
3/2-ways ball valve KV

Description

3/2-ways valve as ball valve in robust grey die-cast design with hand lever. For the ventilation channel appropriate ventilation filters are available.

Application

- manual switching on and off of individual suction pads
- additional ventilation channels
- any mounting position



Article number

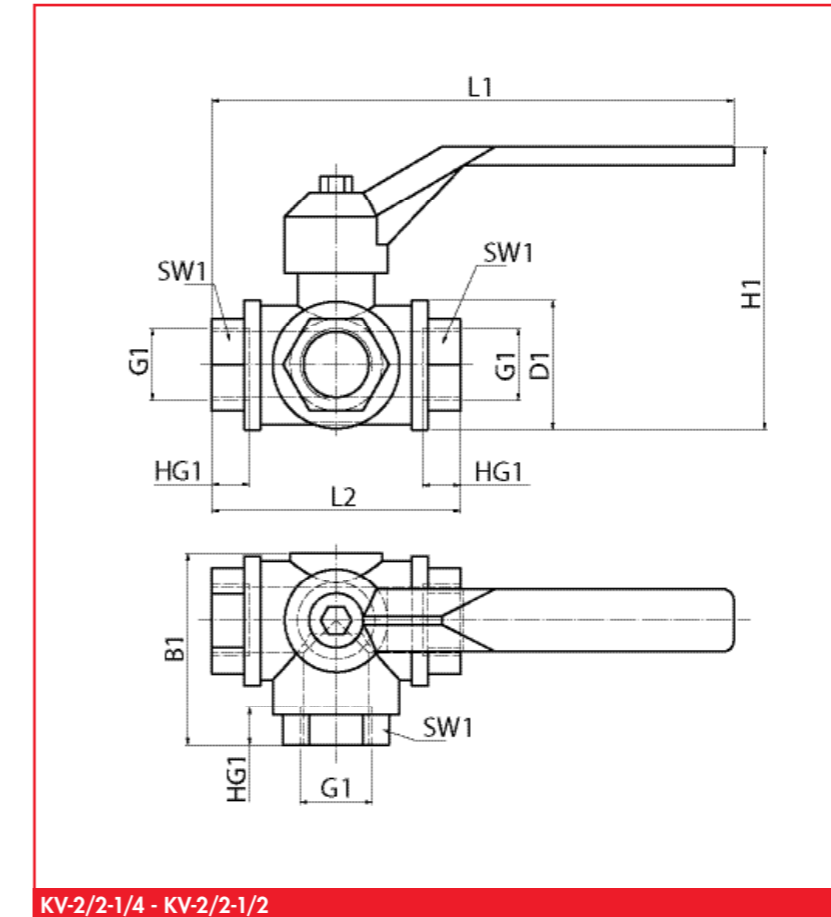
Type		Replacement lever	suitable ventilation filter	
KV-3/2-1/2	1.51.1.0018	2.51.1.0004	BFS-R1/2	1.53.1.0014
KV-3/2-3/4	1.51.1.0021	2.51.1.0005	BFS-R3/4	1.53.1.0015
KV-3/2-1	1.51.1.0016	2.51.1.0003	BFS-R1	1.53.1.0016
KV-3/2-11/4	1.51.1.0020	2.51.1.0020	BF-R11/4	1.53.1.0007

Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)		
KV-3/2-1/2	-1 ... 0	19	60	16,6	0 ... +60	0,75
KV-3/2-3/4	-1 ... 0	24	110	30,6	0 ... +60	1,25
KV-3/2-1	-1 ... 0	30	150	41,7	0 ... +60	1,90
KV-3/2-11/4	-1 ... 0	36	180	50,0	0 ... +60	2,25

Manually controlled Valves

3/2-ways ball valve KV



Dimensions

Type	L1	L2	B1	H1	D1	G1	HG1	SW1
KV-3/2-1/2	166	78	60	89	39	G1/2	19	27
KV-3/2-3/4	193	92	70	105	47	G3/4	23	34
KV-3/2-1	224	105	81	125	55	G1	25	41
KV-3/2-11/4	228	120	92	137	65	G11/4	28	50

Manually controlled Valves

3/2-ways foot interruptor FUB

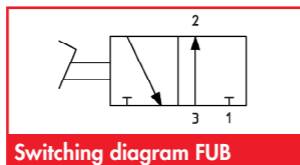
FEZER
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Description

3/2-ways valve with spring return as foot interruptor. As precaution against accidental operation the foot interruptor is equipped with a safety hood. In the initial position the valve is set on „suction“ and ventilates on actuation.

Application

- vacuum working stands
- stationary vacuum clamping devices



Switching diagram FUB



FUB-R1/4

Article number

Type		suitable ventilation filter	
FUB-1/4	1.51.1.0001	BFS-R1/4	1.53.1.0013

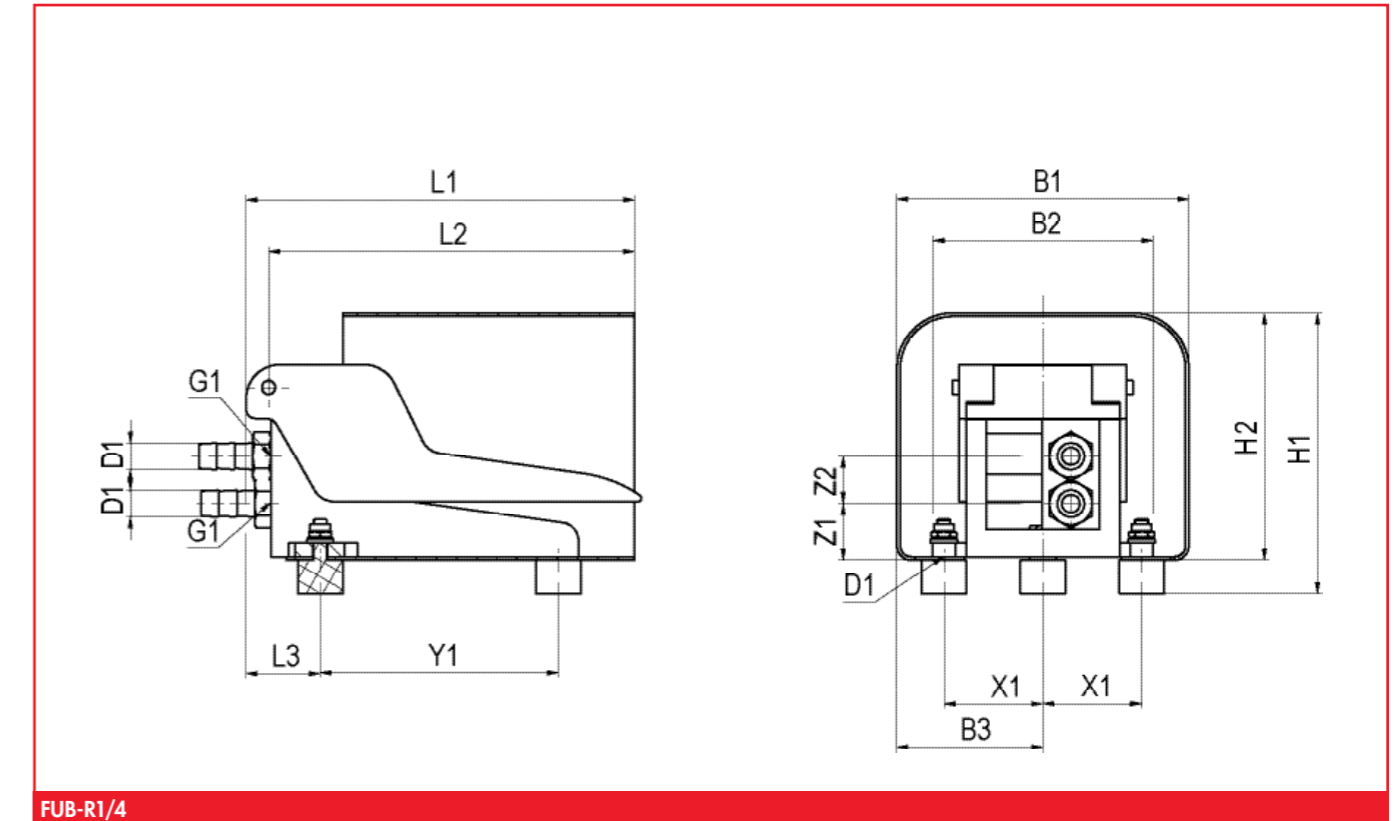
Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)		
FUB-1/4	-1 ... 0	7	6	1,67	0 ... +60	2,5

Manually controlled Valves

3/2-ways foot interruptor FUB

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Dimensions

Type	L1	L2	L3	B1	B2	B3	H1	H2	D1	G1	X1	Y1	Z1	Z2
FUB-1/4	181	171	33	130	98	65	125	114	12	G1/4	44	106	23	21

Manually controlled Valves

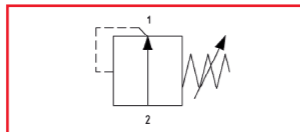
Vacuum regulation valves VRV

Description

Robust regulation valve in brass design with adjustment screw. This valve allows to adjust the vacuum level independent of the used vacuum generator.

Application

- adjustment of pressure variations
- applications with different vacuum levels
- steplessly adjustable
- any mounting position



Switching diagram VRV



VRV-1/2 - VRV-3/4

Article number

Type	Article number
VRV-1/2	1.51.7.0001
VRV-3/4	1.51.7.0002

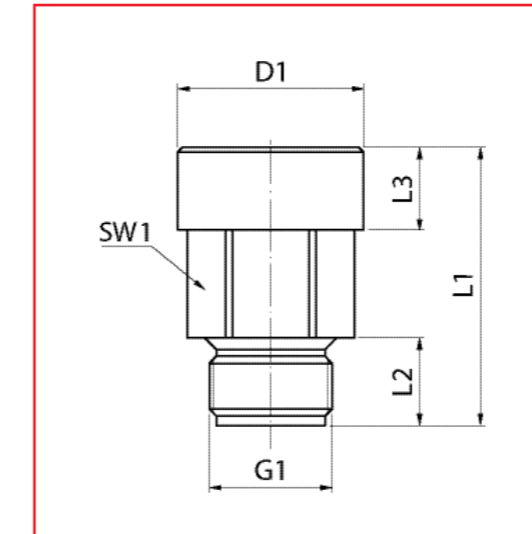
Technical data

Type	Range (bar)	Exactness (%)	Nominal width (mm)	Flow rate		Temperature (°C)	Weight (kg)
				(m³/h)	(l/s)		
VRV-1/2	-0,98 ... 0	+/- 2,5	18	8	2,2	0 ... +60	0,12
VRV-3/4	-0,98 ... 0	+/- 2,5	24	18	5,0	0 ... +60	0,21

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Manually controlled Valves

Vacuum regulation valves VRV



VRV-1/2 - VRV-3/4

Dimensions

Type	L1	L2	L3	D1	G1	SW1
VRV-1/2	51	18	16	30	G1/2	27
VRV-3/4	54	18	16	40	G3/4	32

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Simply move more.

Manually controlled Valves

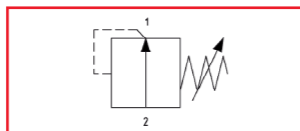
Pressure regulation valve DRV

Description

Pressure regulation valve with stable aluminum die-cast housing with manometer and rotary knob with arrest.

Application

- adjustment of required operating pressures
- supply of valves and ejectors with fixed operating pressures
- any mounting position



Switching diagram DRV



DRV-1/4 ... DRV-3/4

Article number

Type	Article number
DRV-1/8	1.51.2.0066
DRV-1/4	1.51.2.0055
DRV-3/8	1.51.2.0089
DRV-1/2	1.51.2.0030
DRV-3/4	1.51.2.0091

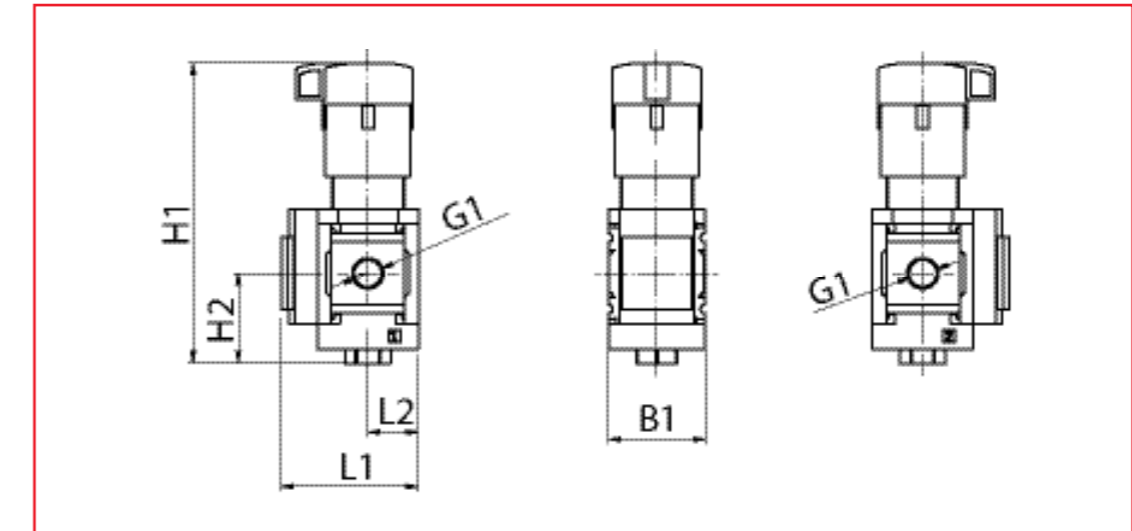
Technical data

Type	Pressure range (bar)	Flow rate (m³/h)	Flow rate (l/s)	Temperature (°C)	Weight (kg)
DRV-1/8	-0,5 ... +12	56	15,5	+10 ... +60	0,73
DRV-1/4	-0,5 ... +12	102	28,3	+10 ... +60	0,73
DRV-3/8	-0,5 ... +12	270	75	+10 ... +60	0,73
DRV-1/2	-0,5 ... +12	330	62	+10 ... +60	0,73
DRV-3/4	-0,5 ... +12	1440	400	+10 ... +60	1,40

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Manually controlled Valves

Pressure regulation valve DRV



DRV-1/4 ... DRV-3/4

Dimensions

Type	L1	L2	B1	H1	H2	G1
DRV-1/8	77	31	67	188	54	G1/8
DRV-1/4	77	31	67	188	54	G1/4
DRV-3/8	77	31	67	188	54	G3/8
DRV-1/2	77	31	67	188	54	G1/2
DRV-3/4	109	45	90	225	58	G3/4

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Automatic Valves

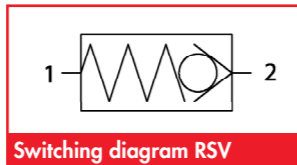
Non-return valves RSV

Description

Spring-loaded non-return valve in robust brass design. Available with inside and outside thread and in compact design.

Application

- Precaution of the vacuum system in case of power outage or failure of the vacuum generator
- used for ECO-modules (energy saving systems)
- any mounting position

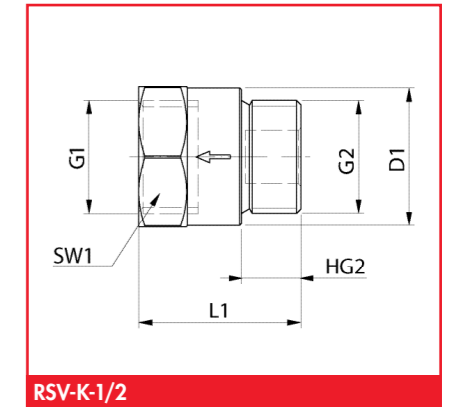
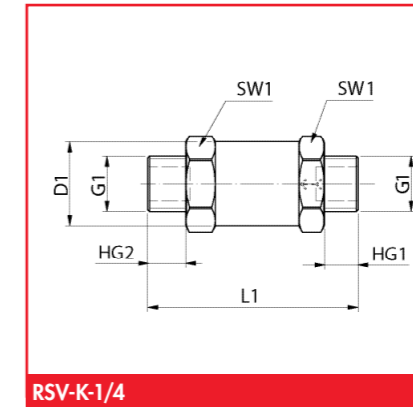
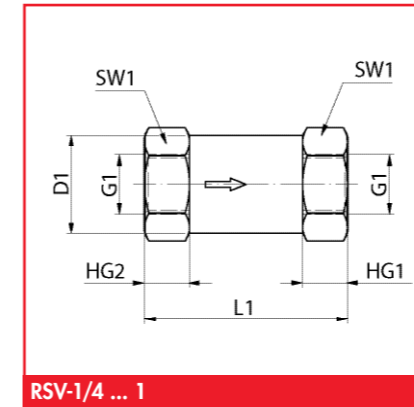


FEZER
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Automatic Valves

Non-return valves RSV

FEZER
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Article number

Type	Article number
RSV-K-1/4	1.51.4.0009
RSV-1/4	1.51.4.0004
RSV-3/8	1.51.4.0008
RSV-K-1/2	1.51.4.0001
RSV-1/2	1.51.4.0003
RSV-3/4	1.51.4.0007
RSV-1	1.51.4.0006

Technical data

Type	Pressure range (bar)	Nominal width (mm)	Flow rate		Temperature (°C)	Weight (kg)
			(m³/h)	(l/s)		
RSV-K-1/4	-1 ... +16	8	9	2,5	0 ... +80	0,04
RSV-1/4	-1 ... +16	8	14	3,9	0 ... +80	0,10
RSV-3/8	-1 ... +16	8	24	6,7	0 ... +80	0,18
RSV-K-1/2	-1 ... +16	12	32	8,9	0 ... +80	0,06
RSV-1/2	-1 ... +16	12	41	11,4	0 ... +80	0,19
RSV-3/4	-1 ... +16	16	52	14,4	0 ... +80	0,28
RSV-1	-1 ... +16	22	85	23,6	0 ... +80	0,41

Dimensions

Type	L1	D1	G1	HG1	HG2	SW1
RSV-K-1/4	38	20	G1/4	7	10	20
RSV-1/4	45	22	G1/4	12	12	22
RSV-3/8	54	34,5	G3/8	10	10	23
RSV-K-1/2	30	25	G1/2	11	12	26
RSV-1/2	57	34,5	G1/2	10	10	27
RSV-3/4	64	41,5	G3/4	12	12	33
RSV-1	75	48	G1	14,5	14,5	40

Automatic Valves

Flow valves SV

Description

Robust flow valve in galvanized steel design. When a pad is not occupied the ball inside the valve closes automatically and prevents a decrease of the vacuum. The valves are available in 3 assembly designs.

- on suspension bolt
- on suction plate retainers with central vacuum feed
- on suction pad with basic body and separate vacuum feed (required adapter ASV-M12 or M16)

Application

- on different grades of occupancy of the suction pads (workpieces with changing dimensions)
- any mounting position



Switching diagram SV



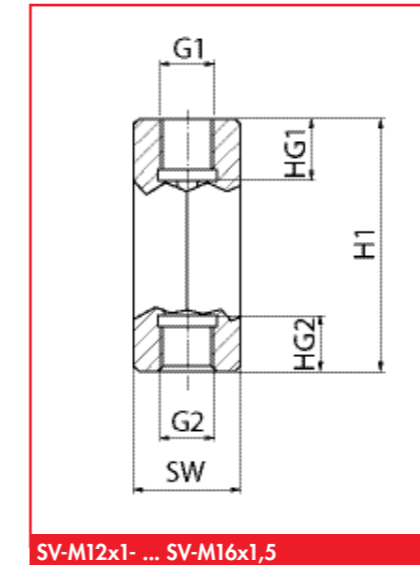
SV-M12x1-1/8 ... SV-M16

FEZER

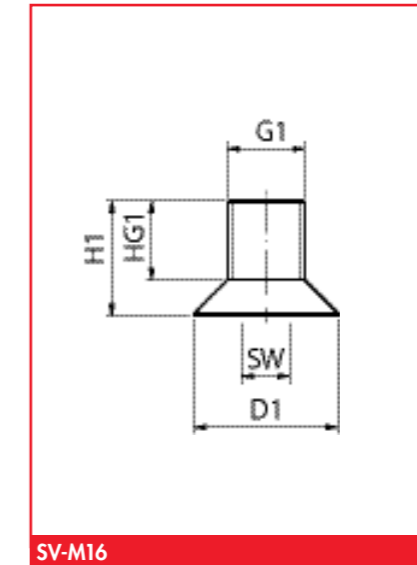
Simply move more.

Automatic Valves

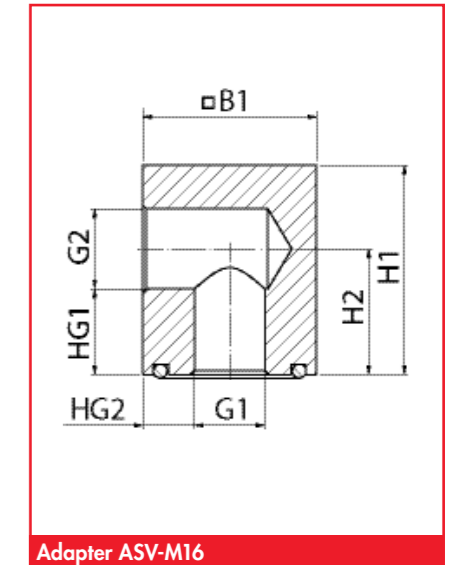
Flow valves SV



SV-M12x1- ... SV-M16x1,5



SV-M16



Adapter ASV-M16

FEZER

Simply move more.

Article number

Type		Adapter ASV- ...
SV-M12x1-1/8	1.51.6.0053	---
SV-M12x1-1/4	1.51.6.0061	---
SV-M12x1-3/8	1.51.6.0054	---
SV-M16x1,5-1/4	1.51.6.0062	---
SV-M16x1,5-3/8	1.51.6.0102	---
SV-M16	1.51.6.0059	1.31.3.0023

Dimensions

Type	H1	H2	B1	D1	G1	G2	HG1	HG2	SW
SV-M12x1-1/8	45	---	---	---	M12x1	G1/8	11	10	19
SV-M12x1-1/4	45	---	---	---	M12x1	G1/4	11	10	19
SV-M12x1-3/8	45	---	---	---	M12x1	G3/8	11	10	19
SV-M16x1,5-1/4	45	---	---	---	M16x1,5	G1/4	11	10	19
SV-M16x1,5-3/8	45	---	---	---	M16x1,5	G3/8	11	10	19
SV-M16	24	---	---	33	M16	---	16,5	---	10
ASV-M16	30	18	25	---	M16	3/8	11	5	---

Technical data

Type	Pressure range (bar)	Suction power* at pB = -0,6 bar		Suction power* at pB = -0,3 bar		Flow rate on ventilation**		Temperature (°C)	Weight (kg)
		(m³/h)	(l/s)	(m³/h)	(l/s)	(m³/h)	(l/s)		
SV-M12x1-1/8	-1 ... -0,3	1,5	0,41	2,0	0,55	15	4,16	0 ... +60	0,09
SV-M12x1-1/4	-1 ... -0,3	2,0	0,55	2,5	0,69	15	4,16	0 ... +60	0,09
SV-M12x1-3/8	-1 ... -0,3	2,5	0,69	3,0	0,83	20	5,55	0 ... +60	0,08
SV-M16x1,5-1/4	-1 ... -0,3	4,0	1,11	4,5	1,25	20	5,55	0 ... +60	0,08
SV-M16x1,5-3/8	-1 ... -0,3	4,0	1,11	4,5	1,25	20	5,55	0 ... +60	0,07
SV-M16	-1 ... -0,3	4,5	1,25	5,5	1,52	20	5,55	0 ... +60	0,04

* required suction power to close the flow valve

** against atmospheric pressure

Automatic Valves

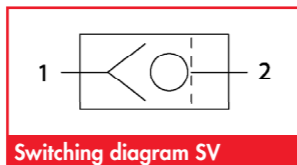
Flow valves SVE

Description

Robust flow valve with internal, adjustable flow body. If the suction pad is not occupied the flow body closes automatically and prevents a decrease of the vacuum. The sensitivity of the flow valve can be adjusted to the used suction pads and the existing flow conditions.

Application

- on different grades of occupancy of the suction pads (workpieces with changing dimensions)
- on suction pads with high own volume
- any mounting position



Article number

Type	Article number
SVE-1/2	1.51.6.0106
SVE-3/4	1.51.6.0001

Technical data

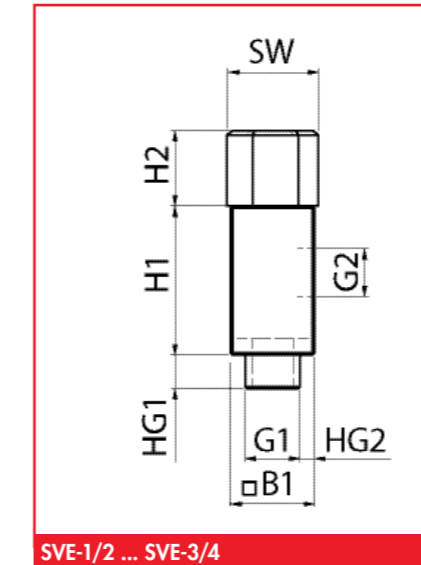
Type	Pressure range (bar)	Suction power* at pB = -0,6 bar		Suction power* at pB = -0,3 bar		Flow rate on ventilation**		Temperature (°C)	Weight (kg)
		(m³/h)	(l/s)	(m³/h)	(l/s)	(m³/h)	(l/s)		
SVE-1/2	-1 ... -0,3	4 ... 15	1,11 ... 4,16	5 ... 20	1,38 ... 5,55	25	6,94	0 ... +60	0,15
SVE-3/4	-1 ... -0,3	7 ... 20	1,94 ... 5,55	7 ... 25	1,94 ... 6,94	35	9,72	0 ... +60	0,20

* required suction power to close the flow valve

** against atmospheric pressure

Automatic Valves

Flow valves SVE



Dimensions

Type	H1	H2	B1	G1	G2	HG1	HG2	SW
SVE-1/2	40	18	25	G1/2	G1/2	10	10	19
SVE-3/4	48	18	30	G3/4	G1/2	12	10	19

Automatic Valves

Flow resistances SW

FEZER
Simply move more.

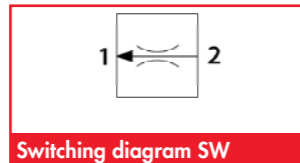
Description

Valve body in robust, galvanized steel design. The reduction of the cross sections is done by nozzle inserts which can be exchanged at any time; thus the valve can be adjusted to different flow conditions. The valves are available in 3 different assembly designs.

- on suspension bolt
- on suction plate retainer with central vacuum feed
- on suction pad with basic body and separate vacuum feed (necessary adapter ASV-M12 or M16)

Application

- on porous workpieces
- different grades of occupancy of the suction pads (workpieces with changing dimensions)
- any mounting position



Article number

Type	Flow resistance								Adapter ASV- ...
	0,25	0,50	0,75	1,00	1,25	1,50	1,75	2,00	
SW-M8x1-M5	1.51.6.0116	1.51.6.0117	1.51.6.0118	1.51.6.0119	1.51.6.0120	1.51.6.0121	1.51.6.0122	1.51.6.0123	---
SW-M8x1-1/8	1.51.6.0124	1.51.6.0125	1.51.6.0126	1.51.6.0127	1.51.6.0128	1.51.6.0129	1.51.6.0130	1.51.6.0131	---
SW-M12x1-1/8-	1.51.6.0063	1.51.6.0065	1.51.6.0056	1.51.6.0067	1.51.6.0069	1.51.6.0071	1.51.6.0073	1.51.6.0075	---
SW-M12x1-1/4-	1.51.6.0064	1.51.6.0066	1.51.6.0055	1.51.6.0068	1.51.6.0070	1.51.6.0072	1.51.6.0074	1.51.6.0076	---
SW-M12x1-3/8-	1.51.6.0132	1.51.6.0133	1.51.6.0057	1.51.6.0134	1.51.6.0135	1.51.6.0136	1.51.6.0137	1.51.6.0138	---
SW-M16x1,5-1/4-	1.51.6.0077	1.51.6.0078	1.51.6.0079	1.51.6.0080	1.51.6.0081	1.51.6.0082	1.51.6.0083	1.51.6.0084	---
SW-M16x1,5-3/8-	1.51.6.0107	1.51.6.0108	1.51.6.0109	1.51.6.0110	1.51.6.0111	1.51.6.0112	1.51.6.0113	1.51.6.0114	---
SW-M12-	1.51.6.0085	1.51.6.0086	1.51.6.0087	1.51.6.0088	1.51.6.0089	1.51.6.0090	1.51.6.0091	1.51.6.0092	1.31.3.0022
SW-M16-	1.51.6.0093	1.51.6.0094	1.51.6.0095	1.51.6.0096	1.51.6.0097	1.51.6.0098	1.51.6.0099	1.51.6.0100	1.31.3.0023

Technical data

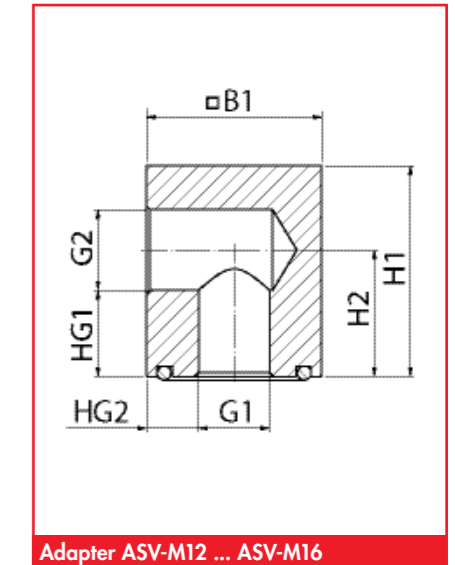
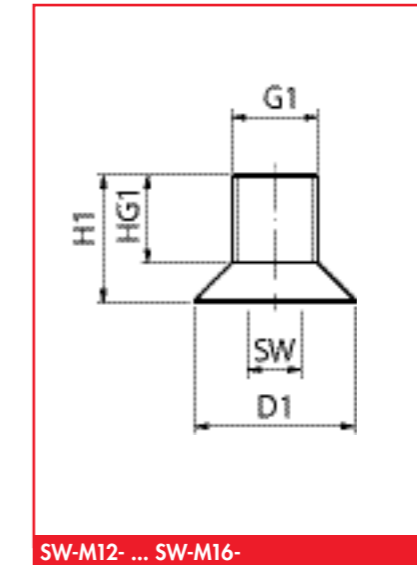
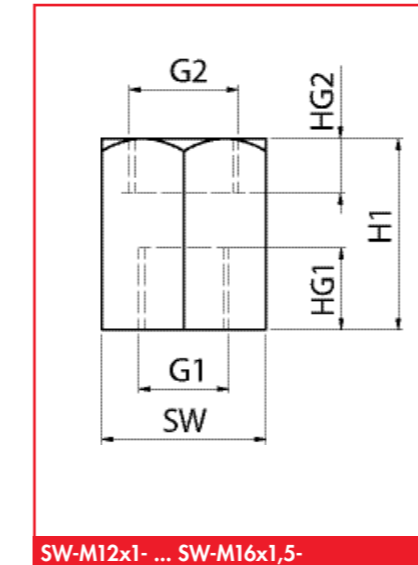
Type	Pressure range (bar)	Suction power* at $p_B = -0,6 \text{ bar}$		Suction power* at $p_B = -0,3 \text{ bar}$		Flow rate on ventilation**		Temperature (°C)	Weight (kg)
		(m³/h)	(l/s)	(m³/h)	(l/s)	(m³/h)	(l/min)		
SW...-0,25	-1 ... 0	0,01	0,003	0,01	0,003	0,01	0,003	0 ... +60	0,04 ... 0,10
SW...-0,50	-1 ... 0	0,16	0,044	0,15	0,042	0,16	0,044	0 ... +60	0,04 ... 0,10
SW...-0,75	-1 ... 0	0,31	0,086	0,29	0,081	0,31	0,086	0 ... +60	0,04 ... 0,10
SW...-1,00	-1 ... 0	0,52	0,144	0,50	0,139	0,52	0,144	0 ... +60	0,04 ... 0,10
SW...-1,25	-1 ... 0	0,96	0,266	0,93	0,258	0,96	0,266	0 ... +60	0,04 ... 0,10
SW...-1,50	-1 ... 0	1,35	0,375	1,30	0,361	1,35	0,375	0 ... +60	0,04 ... 0,10
SW...-1,75	-1 ... 0	1,82	0,505	1,74	0,483	1,82	0,505	0 ... +60	0,04 ... 0,10
SW...-2,00	-1 ... 0	2,21	0,614	2,10	0,583	2,21	0,614	0 ... +60	0,04 ... 0,10

* required suction power to keep up the requested operational vacuum
on several suction pads the suction power must be multiplied with quantity of the suction pads
** against atmospheric pressure

Automatic Valves

Flow resistances SW

FEZER
Simply move more.



Dimensions

Type	H1	H2	B1	D1	G1	G2	HG1	HG2	SW
SW-M8x1-M5	28	---	---	---	M8x1	M5	12	10	13
SW-M8x1-1/8	28	---	---	---	M8x1	G1/8	12	10	13
SW-M12x1-1/8-	28	---	---	---	M12x1	G1/8	12	10	15
SW-M12x1-1/4-	28	---	---	---	M12x1	G1/4	12	10	24
SW-M12x1-3/8-	28	---	---	---	M12x1	G3/8	12	10	24
SW-M16x1,5-1/4-	28	---	---	---	M16x1,5	G1/4	12	10	24
SW-M16x1,5-3/8-	28	---	---	---	M16x1,5	G3/8	12	10	24
SW-M12-	22	---	---	27	M12	---	12,5	---	8
SW-M16-	23	---	---	33	M16	---	14,2	---	10
ASV-M12	30	18	25	---	M12	1/4	11	5	--
ASV-M16	30	18	25	---	M16	3/8	11	5	--

Automatic Valves

Touch valves TV

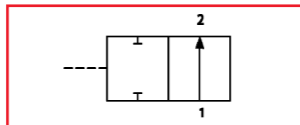
Description

Robust touch valve in galvanized steel design. The suction pad engages only when it is placed on the workpiece. Otherwise it stays closed. The valves are available in 2 assembly designs.

- on suction plate retainers with central vacuum feed (disc ZS-TV-M16 necessary when an articulated suction plate retainer SAK-M16-M16x1,5 is used)
- on suction pads with base bodies and separate vacuum feed (necessary adapter ASV-M12 or M16)

Application

- different grade of occupancy of the suction pads (workpieces with changing dimensions)
- any mounting position



Switching diagram TV



TV-M12 ... TV-M16

Article number

Type		Intermediate disc ZS-TV- ...		Adapter ASV- ...	
TV-M12	1.51.5.0002	---	---	ASV-M12-1/4	1.31.3.0022
TV-M16	1.51.5.0009	ZS-TV-M16	2.31.1.0059	ASV-M16-3/8	1.31.3.0023

Technical data

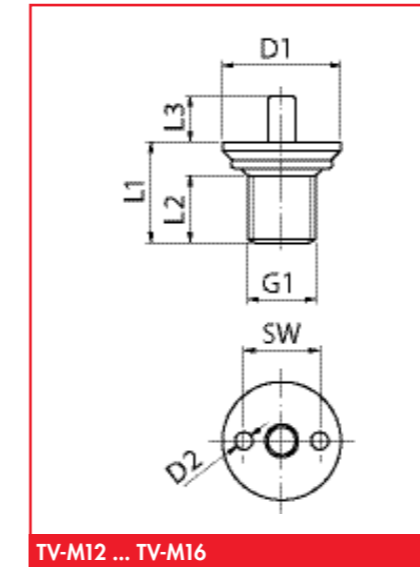
Type	Pressure range (bar)	Flow rate		max.own stroke (HW) suction pad (mm)	Temperature (°C)	Weight (kg)
		(m³/h)	(l/s)			
TV-M12	-1 ... 0	2,9	0,8	8	0 ... +60	0,017
TV-M16	-1 ... 0	5,5	1,5	9	0 ... +60	0,035

NB

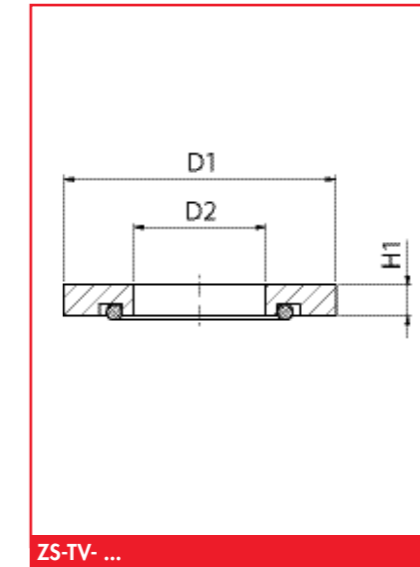
- When pads with touch valves are being used they must always fully sit on the workpiece as they will cause leakage when placed half on/half off.
- The own stroke of the pad (HW) must be smaller than the stroke of the touch valve, otherwise no full ventilation is possible.

Automatic Valves

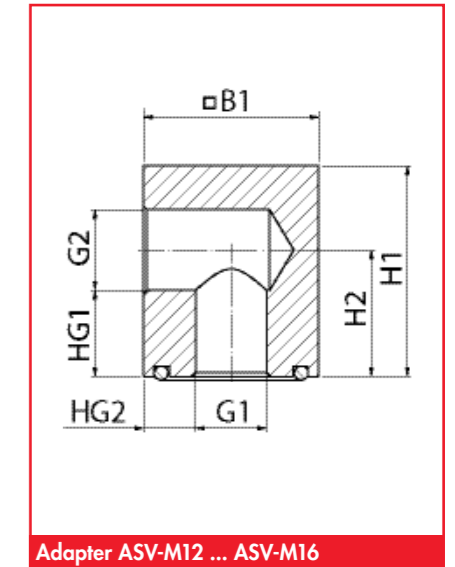
Touch valves TV



TV-M12 ... TV-M16



ZS-TV- ...



Adapter ASV-M12 ... ASV-M16

Dimensions

Type	L1	L2	L3	B1	H1	H2	D1	D2	G1	G2	HG1	HG2	SW
TV-M12	18	10	10	---	---	---	26	4,1	M12	---	---	---	15
TV-M16	24	16	10,9	---	---	---	30	4,1	M16	---	---	---	18
ZS-TV-M16	---	---	---	---	4	---	35	17	---	---	---	---	---
ASV-M12-1/4	---	---	---	25	30	18	---	---	M12	G1/4	11	5	---
ASV-M16-3/8	---	---	---	25	30	18	---	---	M16	G3/8	11	5	---