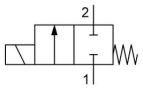
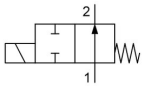
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2/2-Way solenoid valve - direct-acting
Series SL002, SL003





normally closed



normally open

Design type	2/2-way solenoid valve with elastomer seal, direct-acting, normally closed or normally open
Connection	G1/8"...G1/2" according to ISO228/1
Materials	Body Brass, Guide tube stainless steel, Internal parts Stainless steel similar 1.4104, Seal NBR, EPDM, Ruby, FKM or PTFE (only for normally closed valves (de-energized closed))
Mounting type	Installation in rigid piping system or via mounting thread
Mounting position	any
Application range	gaseous and liquid media that do not attack the materials used
Viscosity	max. 12mm ^{2} /s (cst)
Switching time	10...30ms
Medium temperature	depending on the sealing material and Solenoid coil
Ambient temperature	see table "Solenoid coils"

Electrical data:

Coil type	Type BDA, Connector width 32mm (Standard coil) Type BDV, Connector width 32mm (Coil for humid environment) Type GDH/GDV, Connector width 32mm (Coil for higher pressures, Coil for humid environment)
Electrical connection	connector according to EN175301-803 Form A (see separate data sheet)
Voltage type	AC and DC voltage
Standard voltage	230V/50-60Hz, 24V/50-60Hz, 24VDC
Special voltages	12...380V/50Hz or 60Hz, 12...220VDC
Permissible voltage fluctuation	AC +10%/-15% DC +10%/-5%
Power consumption	see table "Power consumption of the solenoid coils"
Duty cycle	100% duty cycle (continuous operation)
Degree of protection	IP65 according to EN 60529 with correctly mounted device connector (protection against dust ingress and water jets)
Application note	When ordering, please specify voltage and type of current. We always recommend installing a strainer upstream to prevent malfunctions in the event of contamination of the medium. These valves can also be used for rough vacuum applications. The maximum nominal housing pressure can be 40 bar. The maximum switchable pressure is the differential pressure between the valve inlet and outlet. For DC, the specified differential pressure values apply for a medium temperature of max. 80°C and an ambient temperature of 40°C. At higher media temperatures, the permissible differential pressure decreases by 0.4% per °Celsius. ATEX: The valves may only be used for media that are not explosive.

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Type code

			SL002	-	3	-	2	-	N	-	A	S	01	-	01
		Function NC - normally closed	SL002												
	Type	Function NO - normally open	SL003												
	Connection	G1/8"			18										
		G1/4"			14										
		G3/8"			38										
		G1/2"			12										
	Nominal size	1,5mm					1,5								
		2,0mm					2								
		2,5mm					2,5								
		3,0mm					3								
		4,5mm					4,5								
		5,0mm					5								
	Seal	Standard seal FKM (V) - Leave blank													
		NBR							N						
		EPDM							E						
		PTFE only for normally closed valves (de-energized closed)							T						
		Ruby							R						
	Coil	without coil - Leave blank													
		BDA Standard coil - Approval CE									A				
		BDV Coil for humid environment - Approval CE-CSA-UL-VDE									C				
		GDV Coil for higher pressures - Coil for humid environment - Approval CE-CSA-UL-VDE									E				
		GDH Coil for higher pressures - Coil for humid environment - Approval CE									D				
		Y1 Coil for ATEX areas with 3 m cable (only for normally closed valves (de-energized closed))									H				
	Device connector	without device connector - Leave blank													
		Standard										S			
		with integrated yellow LED and VDR										L			
		with moulded PVC cable (2 m)										M			
	Voltage	220-230V/50-60Hz											01		
		230V/50-240V/60Hz											02		
		24VDC											03		
		24V/50-60Hz											04		
		12VDC											05		
		48VDC											06		
		110VDC											07		
		220VDC											08		
		42V/50Hz											10		
		48V/50Hz											11		
		110V/50-60Hz											13		
		110V/50-120V/60Hz											14		
		380V/50-60Hz											16		
		220-240V/50-60Hz											20		
	Special version	described in the item text													01

Available nominal sizes depending on the thread and the seat seal

Connection thread	DN 1,5 mm	DN 2 mm	DN 2,5 mm	DN 3 mm	DN 4,5 mm	DN 5,5 mm
G 1/8"	N, E, V, R, T	N, E, V, R, T	N, E, V, R, T	N, E, V, R, T		
G 1/4"		N, E, V, R, T	N, E, V, R, T	N, E, V, R, T	N, E, V, T	N, E, V, T
G 3/8"					N, E, V, T	N, E, V, T
G 1/2"					N, E, V, T	N, E, V, T

Possible applications of the individual sealing materials

Material	Medium temperature	Application examples
NBR	-10...+90°C	Air, Water, neutral gases and liquids
EPDM	-10...+140°C	Hot water, Steam, Oxygen
Ruby*	-40...+180°C	Heavy fuel oil, aggressive media
PTFE*	-40...+180°C	aggressive media
FKM	-10...+140°C	Gasoline, Diesel, Air, Oils, Water, neutral gases and liquids
*With hard sealing materials such as ruby and PTFE, a normal, slight leakage of 2cm³/min at a pressure of 1bar may occur.		

Solenoid coils

Type	Degree of protection	Insert	Ambient temperature	Approvals
BDA	IP65	Medium temperature up to max. 120°C	-10...+40°C	CE
BDV	IP65	Medium temperature up to max. 180°C, high humidity	-20...+60°C	CE-CSA-UL-VDE
GDV.....S	IP65	Medium temperature up to max. 180°C, high humidity	-20...+60°C	CE
GDV.....Y	IP65	Medium temperature up to max. 180°C, high humidity	-20...+60°C	CE-CSA-UL-VDE
GDH	IP65	Medium temperature up to max. 180°C, high humidity	-20...+40°C	CE
Y1	Ex II 2G Ex mb IIC T4 Ex II 2D Ex mb tb IIIC T130°C	in hazardous area, Zones 1/2/21/22, ignition group T4, max. 70°C medium temperature	-20...+50°C	ATEX

Permissible differential pressures in bar and Kv values

Seat seal	Nominal size DN[mm]	normally closed NC SL002						normally open NO SL003		Kv value [m ³ /h Water]
		Coil BD.		Coil Y1		Coil GD.		Coil BD., Y1	Coil GD.	
		AC	DC	AC	DC	AC	DC	AC and DC	AC and DC	
N, E, V, T	1,5	30	18	25	18	40	30	25	35	0,08
R	1,5	35	15	22	10	40	40	35	35	0,08
N, E, V, T	2,0	22	16	14	8	35	30	20	30	0,12
R	2,0	25	9	11	6	40	25	30	34	0,12
N, E, V, T	2,5	14	9	10	7	30	25	14	17	0,19
R	2,5	14	5	9	5	40	20	16	17	0,19
N, E, V, T	3	10	6	4	2	25	20	10	15	0,24
R	3	10	4	5	2,5	20	15	10	15	0,24
N, E, V	4,5	5	2	1,3	0,3	12	8	4	6	0,39
T	4,5	5	1,5	1,3	0,3	12	6	4	6	0,39
N, E, V	5,5	3	1	0,9	0,2	10	5	-	3,5	0,54
T	5,5	3,5	1	0,9	0,2	7	5	-	3,5	0,54

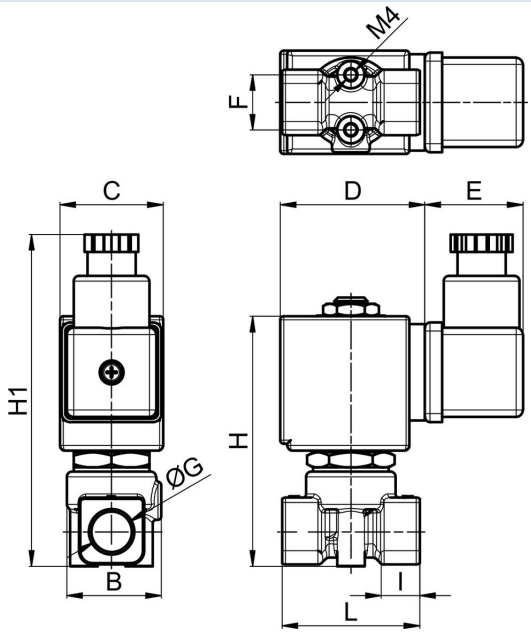
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Power consumption of the solenoid coils

Voltage	Tightening torque (Alternating current) VA	Holding force (Alternating current) VA	Holding force (Direct current) operating temperature W	Type
24V/50-60Hz	25	14,5	-	BDA08024DS
42V/50Hz	25	14,5	-	BDA08042AS
48V/50Hz	25	14,5	-	BDA08048AS
110V/50-60Hz	25	14,5	-	BDA08110DS
220-230V/50-60Hz	25	14,5	-	BDA08223DS
380V/50-60Hz	25	14,5	-	BDA08380DS
12VDC	-	-	8	BDA08012CS
24VDC	-	-	8	BDA08024CS
110VDC	-	-	8	BDA08110CS
24V/50-60Hz	25	17	-	BDV08024DY
230V/50Hz 240V/60Hz	25	16	-	BDV08230AY
110V/50Hz 120V/60Hz	25	15	-	BDV08110AY
24VDC	-	-	11	BDV08024CY
24V/50-60Hz	43	26	-	GDV14024DY
110V/50Hz 120V/60Hz	43	23	-	GDV14110AY
230V/50Hz 240V/60Hz	43	27	-	GDV14230AY
12VDC	-	-	14	GDH14012CS
24VDC	-	-	14	GDV14024CY
48VDC	-	-	14	GDH14048CS
220VDC	-	-	14	GDV14220CS
220-240V/50-60Hz	-	max. 9,2	-	Y1220-240V/50-60Hz
24VDC	-	-	10,1	Y124VDC

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Dimensions



Connection G	B	C	D	E	F	H	H1	I	L	Weight [approx. kg]	Coil	Type
G1/8"	28	30	42	36	16	78	92	7	40	0,32	BD.	SL002/SL003
G1/8"	28	52	55	36	16	78	92	7	40	0,60	GD.	SL002/SL003
G1/8"	28	36	47	25	16	78	114	7	40	0,44	Y1	SL002/SL003

Connection G	B	C	D	E	F	H	H1	I	L	Weight [approx. kg]	Coil	Type
G1/4"	28	30	42	36	16	78	92	7	40	0,32	BD.	SL002/SL003
G1/4"	28	52	55	36	16	78	92	7	40	0,60	GD.	SL002/SL003
G1/4"	28	36	47	25	16	78	114	7	40	0,44	Y1	SL002/SL003

Connection G	B	C	D	E	F	H	H1	I	L	Weight [approx. kg]	Coil	Type
G3/8"	26	30	42	36	16	76	90	10	46	0,37	BD.	SL002/SL003
G3/8"	26	52	55	36	16	76	90	10	46	0,65	GD.	SL002/SL003
G3/8"	26	36	47	25	16	76	112	10	46	0,49	Y1	SL002/SL003

Connection G	B	C	D	E	F	H	H1	I	L	Weight [approx. kg]	Coil	Type
G1/2"	26	30	42	36	16	76	90	10	58	0,37	BD.	SL002/SL003
G1/2"	26	52	55	36	16	76	90	10	58	0,65	GD.	SL002/SL003
G1/2"	26	36	47	25	16	76	112	10	58	0,49	Y1	SL002/SL003

Illustrations non-binding
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