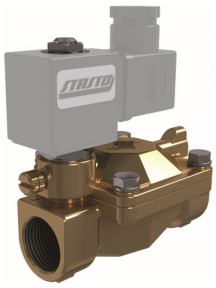
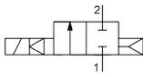
Partnership. With Guarantee.

2/2-Way solenoid valve pilot-operated
Series 21WA and 21W

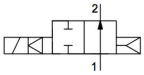
21WA



21W



de-energized closed



de-energized open

Design type	2/2-way solenoid valve with diaphragm seal, pilot-operated, de-energized closed or de-energized open
Connection	21WA: G3/8"...G1/2" according to ISO228/1 21W: G3/4"...G2" according to ISO228/1
Materials	Body Brass, Internal parts Brass and Stainless steel similar 1.4104, Diaphragm material NBR, FKM or EPDM (only 21W)
Mounting type	Installation in rigid piping system
Mounting position	any
Application range	gaseous and liquid media that do not attack the materials used
Viscosity	max. 12mm^2/s (cst)
Switching time	depending on operating pressure and medium
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)
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 properly mounted device connector (protection against dust ingress and water jets)
Application note	When ordering, please specify voltage and type of current. We recommend always installing a strainer upstream to prevent malfunctions in the event of contamination of the medium. These valves can also be used for rough vacuum if the minimum differential pressure of 0.2 bar is present.. ATEX: The valves may only be used for media that are not explosive.

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Type code 21WA

		21WA	3	K0	B	130	-	M	-	BDA	-	230V/50-60Hz
		G3/8"	3									
	Connection	G1/2"	4									
		de-energized closed		K0								
	Function	de-energized open		Z0								
		NBR			B							
	Seal	FKM			V							
	Nominal size	13,0mm				130						
		without manual override (Leave blank)										
	Manual emergency override	mechanical manual override (only for normally closed valves de-energized)						M				
		BDA Standard coil - Approval CE								BDA		
		BDV Coil for humid environment - Approval CE-CSA-UL-VDE								BDV		
		Y1 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized)								Y1		
	Coil	Y2 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized)								Y2		
		230V/50-60Hz										230V/50-60Hz
		24V/50-60Hz										24V/50-60Hz
		24VDC										24VDC
		12...380V/50Hz or 60Hz										
	Voltage	12...220VDC										

Type code 21W

		21W	3	K	B	190	-	MR	-	BDA	-	230V/50-60Hz
		G3/4"	3									
		G1"	4									
		G11/4"	5									
		G11/2"	6									
	Connection	G2"	7									
		de-energized closed		K								
	Function	de-energized open		Z								
		NBR			B							
		FKM			V							
	Seal	EPDM			E							
		19mm				190						
		25mm				250						
		35mm				350						
		40mm				400						
	Nominal size	50mm				500						
		without manual override (Leave blank)										
	Manual emergency override	mechanical manual override/adjustable closing delay (only for normally closed valves de-energized)						MR				
		BDA Standard coil - Approval CE								BDA		
		BDV Coil for humid environment - Approval CE-CSA-UL-VDE								BDV		
		Y1 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized)								Y1		
	Coil	Y2 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized)								Y2		
		230V/50-60Hz										230V/50-60Hz
		24V/50-60Hz										24V/50-60Hz
		24VDC										24VDC
		12...380V/50Hz or 60Hz										
	Voltage	12...220VDC										

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
FKM	-10...140°C	Oils, Gasoline, Diesel

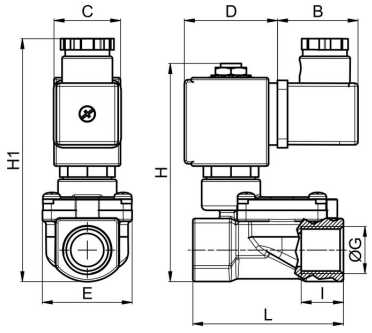
Solenoid coils

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. 160°C, high humidity	-20...+60°C	CE-CSA-UL-VDE
Y1/Y2	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. 80°C medium temperature	-20...+50°C	ATEX

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
220-230V/50-60Hz	25	14,5	-	BDA08223DS
24V/50-60Hz	25	14,5	-	BDA08024DS
24VDC	-	-	8	BDA08024CS
380V/50-60Hz	25	14,5	-	BDA08380DS
110V/50-60Hz	25	14,5	-	BDA08110DS
48V/50Hz	25	14,5	-	BDA08048AS
42V/50Hz	25	14,5	-	BDA08042AS
110VDC	-	-	8	BDA08110CS
12VDC	-	-	8	BDA08012CS
230V/50Hz 240V/60Hz	25	16	-	BDV08230AY
24V/50-60Hz	25	17	-	BDV08024DY
24VDC	-	-	11	BDV08024CY
110V/50Hz 120V/60Hz	25	15	-	BDV08110AY
220-240V/50-60Hz	-	max. 9,2	-	Y1220-240V/50-60Hz
24VDC	-	-	10,1	Y124VDC
220-240V/50-60Hz	-	max. 9,2	-	Y2220-240V/50-60Hz
24VDC	-	-	10,1	Y224VDC

Dimensions 21WA



Connection G	Nominal size DN[mm]	Pressure range [bar]	B	C	D	E	H	H1	L	I	Kv value [m^3/h Water]	Weight [approx. kg]	Coil	Type
G3/8"	13	0,2-16	36	30	42	40	97	111	60	15	3,6	0,6	BD.	21WA3.0.130
G3/8"	13	0,2-16	36	36	43	40	97	133	60	15	3,6	0,72	Y1/Y2	21WA3.0.130
G1/2"	13	0,2-16	36	30	42	40	97	111	66	15	4,2	0,6	BD.	21WA4.0.130
G1/2"	13	0,2-16	36	36	43	40	97	133	66	15	4,2	0,72	Y1/Y2	21WA4.0.130

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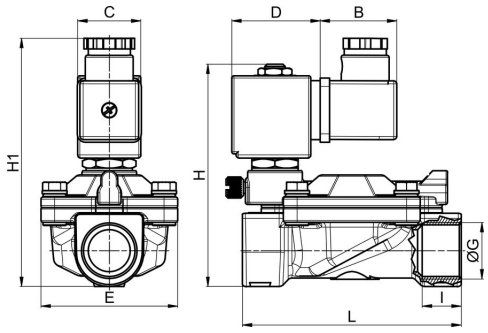
Dimensions 21W



Connection G	Nominal size DN[mm]	Pressure range [bar]	B	C	D	E	H	H1	I	L	Kv value [m³/h Water]	Weight [approx. kg]	Coil	Type
G3/4"	19	0,2-16	36	30	42	65	105	119	17	104	8,4	1,2	BD.	21W3..190
G3/4"	19	0,2-16	36	36	43	65	105	141	17	104	8,4	1,3	Y1/Y2	21W3..190
G1"	25	0,2-16	36	30	42	65	112	126	17	104	11,4	1,2	BD.	21W4..250
G1"	25	0,2-16	36	36	43	65	112	148	17	104	11,4	1,3	Y1/Y2	21W4..250
G11/4"	35	0,2-10	36	30	42	98	125	139	21	144	24,0	2,7	BD.	21W5..350
G11/4"	35	0,2-10	36	36	43	98	125	161	21	144	24,0	2,8	Y1/Y2	21W5..350
G11/2"	40	0,2-10	36	30	42	98	125	139	21	144	31,2	2,7	BD.	21W6..400
G11/2"	40	0,2-10	36	36	43	98	125	161	21	144	31,2	2,8	Y1/Y2	21W6..400
G2"	50	0,2-10	36	30	42	118	141	155	25	172	45,0	4,9	BD.	21W7..500
G2"	50	0,2-10	36	36	43	118	141	177	25	172	45,0	5,0	Y1/Y2	21W7..500

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