





Servo-assisted 2/2 way diaphragm valve

- Servo-assisted diaphragm valve with diameter of up to DN50
- Hard-coupled diaphragm opens without differential pressure
- Vibration-proof, block screwed coil system
- Damped design for quiet closing
- Energy-saving power reduction in all DC versions



Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type 2518 Cable Plug DIN EN 175301-803 - Form A	▶
	Type 1087 Timer	▶

Type description

The 0290 valve is a servo-assisted solenoid valve of the S.EV series. The valve opens without differential pressure. The opening process is supported by the fixed coupling of the diaphragm to the plunger. In the process, the integrated 'soft-kick' function opens in a manner that is gentle on the material. Various diaphragm material combinations are available depending on the application. The range of housings is rounded off by stainless steel and cast iron versions. The solenoid coils are encapsulated with a chemically resistant epoxy. 'Kick and drop' electronics are moulded into all DC versions for reduced electrical power consumption. In combination with a plug in accordance with DIN EN 175301-803 Form A, the valves satisfy protection class IP65 and when in combination with a stainless steel or plastic housing then NEMA 4X.

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1. General technical data

Product characteristics

Nominal size

Standard version	DN12 ... DN50 mm
With approval according to DIN EN 161	DN12 ... DN25 mm

Materials

Body	Brass, stainless steel 1.4581
Coil	Epoxide
Inner valve parts	Brass, stainless steel
Seal	NBR, FKM, EPDM

Switching times [ms]

Opening	Pressure build-up 0 ... 90 %
Closing	Pressure reduction 100 ... 10 %
Pressure data [bar]	Overpressure with respect to atmospheric pressure
Thermal insulation class coil	H

Measurement at the valve outlet 6 bar and 20 °C

Electrical data

Electrical connection	Cable plug for cable Ø 7 mm, according to DIN EN 175 301 - 803 Form A (included in delivery)
Nominal operating mode	Continuous operation 100 % duty cycle
Voltage tolerance	± 10 %
Protection class	IP65 with cable plug

Performance data

Flow	Measurement at +20 °C, 1 bar pressure at the valve inlet and free outlet
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Media data

Media

NBR	Neutral media, compressed air, water, hydraulic oil
FKM	Per solutions, hot oils
EPDM	Oil and grease-free media, e.g. hot water
NBR with approval according to DIN EN 161	Fuel gases of the 1st, 2nd and 3rd gas family

Media temperature¹⁾

NBR	-10 °C to +80 °C
FKM	0 °C to +120 °C
EPDM	-30 °C to +120 °C
NBR with approval according to DIN EN 161	0 °C to +80 °C

Environment and installation

Ambient temperature

Standard version	Max. +55 °C
With approval according to DIN EN 161	0 °C to +55 °C
Installation position	Any, preferably actuator face up

1.) Max. medium temperature for variants with high-performance electronics (encryption .../UC) is 90 °C.

2. Circuit functions

Circuit function	Description
	Type: A, Solenoid valve 2/2 way Servo-assisted Normally closed

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp

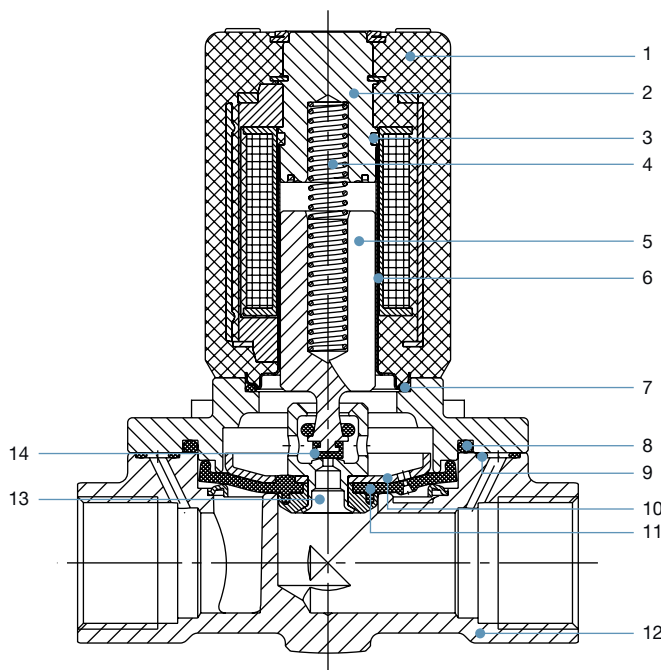


Bürkert resistApp – Chemical Resistance Chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

3.2. Material specifications



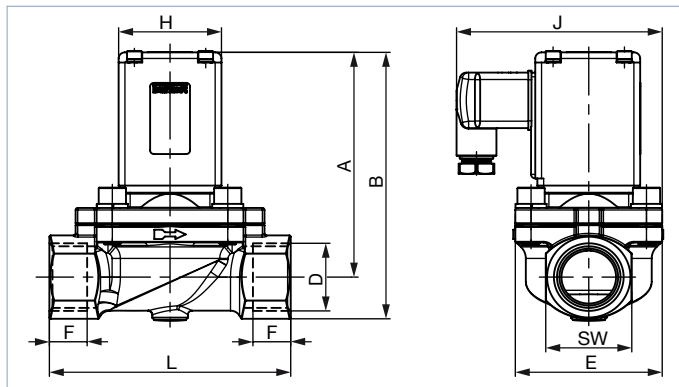
No.	Element	Material
1	Coil	Epoxide
2	Stopper	1.4105 or 1.4113
3	Shading ring (AC variant only)	Brass variant: Copper Stainless steel variant: Silver
4	Spring	1.4310
5	Magnetic core	1.4105
6	Core guide tube	1.4303
7	O-ring	(see order table)
8	O-ring	(see order table)
9	O-ring	(see order table)
10	Diaphragm plate	Brass variant: CuZn37 Stainless steel variant: 1.4401
11	Diaphragm	(see order table)
12	Body	Brass or stainless steel 1.4581
13	Pilot valve seat and nipple	Brass variant: CuZn39Pb3 Stainless steel variant: 1.4401
14	Seat seal	(see order table)

4. Dimensions

4.1. Threaded version

Note:

- Dimensions in mm
- The dimensions D1 and F1 apply to G-threads
- The dimensions D2 and F2 apply to NPT-threads

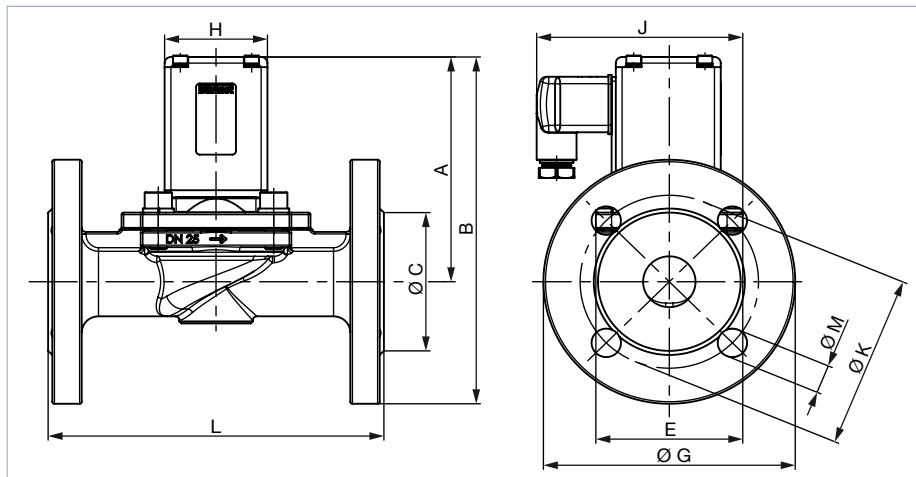


DN	A	B	G		NPT		E	L	SW	J	H
			D1	F1	D2	F2					
12	80	94	G ½	14	NPT ½	13,7	40	74,5	27	81	40
20	106	122	G ¾	16	NPT ¾	14	60	100	32	93	49
25	110,5	131	G 1	18	NPT 1	16,8	70	115	41	98	49
32	120	145	G 1¼	20	NPT 1¼	17,3	85	126	50	106	49
40	124	154	G 1½	22	NPT 1½	17,3	85	126	60	106	49
50	176	211	G 2	24	NPT 2	17,6	115	164	70	133	72
65	176	218,5	G 2½	27	NPT 2½	23,6	115	179	85	133	72

4.2. Flange version according to DIN EN 1092-1

Note:

Angaben in mm



DN	A	B	C	E	Ø G	L	M	K	J	H
25	110,5	170,5	68	70	120	160	14	85	98	49
32	120	190	78	85	140	180	18	100	106	49
40	126	201	88	85	150	200	18	110	106	49
50	176	258,5	102	115	165	230	18	125	133	72

5. Performance specifications

5.1. Power consumption

Standard version

Nominal size [mm]	K _v value water P→A [m ³ /h]	Port connection A/B and P	Pressure range [bar]	Electrical power consumption				Switching times		Weight [kg]
				Inrush AC [VA]	UC [W]	Operation AC [VA/W]	UC [W]	Opening [ms]	Closing [ms]	
12	1.8	G ½	0 ... 16	100	80	25/10	6	100 to 250	700 to 2000	1.0
20	6.5	G ¾	0 ... 16	120	100	32/16	9			1.4
25	10.0	G 1	0 ... 16	120	100	32/16	9	300 to 1000	700 to 4000	1.8
32	16.0	G 1¼	0 ... 12	120	100	32/16	9			2.7
40	16.0	G 1½	0 ... 12	120	100	32/16	9			3.1
50	38.0	G 2	0 ... 12	-	30	-	30			6.5

Gas valve according to DIN EN 161 (variable code PO17)

Nominal size [mm]	K _v value water P→A [m ³ /h]	Port connection A/B and P	Pressure range [bar]	Electrical power consumption				Switching times		Weight [kg]
				Inrush AC [VA]	UC [W]	Operation AC [VA/W]	UC [W]	Opening [ms]	Closing [ms]	
12	1.8	G ½	0 ... 5	100 to 120	80	25/10	6	120 to 150	130 to 250	1.0
20	6.5	G ¾	0 ... 5		100	32/16	9			1.4
25	10.0	G 1	0 ... 5		100	32/16	9	1.8		

6. Ordering information

6.1. Bürkert eShop – Easy ordering and quick delivery



Bürkert eShop – Easy ordering and fast delivery

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6.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

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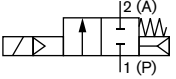
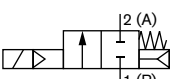
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6.3. Ordering chart

Brass body

Note:

All valves with cable plug.

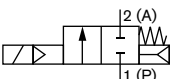
Circuit function	Port connection	Orifice	K _v value water [m ³ /h]	Pressure range [bar]	Diaphragm material	Article no. per voltage/frequency [V/Hz]			
						024/50	024/UC/DC ^{1.)}	230/50	110/50
A, Solenoid valve 2/2 way Servo-assisted Normally closed 	G ½	12	1.8	0 ... 16	NBR	043816	050294	044373	049500
					FKM	048707	049229	042886	059240
					EPDM	045931	049050	044816	049055
	G ¾	20	6.5	0 ... 16	NBR	058766	049518	045292	057127
					FKM	053910	053674	049745	067973
					EPDM	065033	058427	045290	069138
	G 1	25	10.0	0 ... 16	NBR	048171	053675	045293	053869
					FKM	066270	066981	058627	067974
					EPDM	054245	057155	045291	064887
A, Solenoid valve 2/2 way Servo-assisted Normally closed 	G 1¼	32	16.0	0 ... 12	NBR	085290	085291	052513	085292
					FKM	120631	017457	087203	137478
					EPDM	087204	072962	085259	073763
	G 1½	40	16.0	0 ... 12	NBR	085294	085295	085297	085296
					FKM	228118	089619	087663	-
					EPDM	073290	079629	087732	-
	G 2	50	38.0	0 ... 12	NBR	-	085299 ^{3.)}	085301 ^{2.)}	085300 ^{2.)}
					EPDM	-	120104 ^{3.)}	077494 ^{2.)}	121308 ^{2.)}
					FKM	-	120952 ^{3.)}	088551 ^{2.)}	-

1.) The coil for UC (universal current) has internal high-performance electronics. Please check that adequate performance is available (see "1. General technical data" on page 3).

2.) The valve is supplied with a cable plug with integrated rectifier.

3.) DC only

Stainless steel body

Circuit function	Port connection	Orifice	K _v value water [m ³ /h]	Pressure range [bar]	Diaphragm material	Article no. per voltage/frequency [V/Hz]			
						024/50	024/UC/DC ^{1.)}	230/50	110/50
A, Solenoid valve 2/2 way Servo-assisted Normally closed 	G ½	12	1.8	0 ... 16	NBR	043659	053595	043654	052358
					FKM	048708	049987	042888	058407
					EPDM	045765	048606	043553	049053
	G ¾	20	6.5	0 ... 16	NBR	068338	018754	065121	-
					FKM	065362	066381	064701	066594
					EPDM	066460	059910	065025	025870
	G 1	25	10.0	0 ... 16	NBR	068510	061974	065414	067696
					FKM	018121	065542	066125	069477
					EPDM	059890	018348	059901	054044

Gas valve according to DIN EN 161 (variable code PO17)

Note:

All valves with cable plug.

Circuit function	Port connection	Orifice	K _v value water [m³/h]	Pressure range [bar]	Diaphragm material	Article no. per voltage/frequency [V/Hz]		
						024/UC	230/50	230/UC
A, Solenoid valve 2/2 way Servo-assisted Normally closed 	G ½	12	1.8	0...5	NBR	280855	266512	281001
	G ¾	20	6.5			280877	266513	280878
	G 1	25	10.0			280879	266515	280880

Other versions on request	
Approval UL, UR, CSA	Voltage 042/50, 110/50, 240/60
Process connection Flange connection according to DIN EN 1092 - 1 (DN25 ... DN50)	

6.4. Ordering chart accessories

Cable plug Type 2518, form A acc. to DIN EN 175301 - 803

Note:











For other versions see data sheet **Type 2518** ▶.

Cable plug	Dimensions	Version	Voltage	Article no.
		Without circuitry (AC/DC)	0...250 V AC/DC	314802
		With LED (AC/DC)	12...24 V AC/DC	314812
		With LED and varistor (AC/DC)	12...24 V AC/DC	314820
		With rectifier, LED and varistor	12...24 V AC/DC	314816

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Timer Type 1087, form A acc. to DIN EN 175301 - 803
Note:

 For more information on the timer, see data sheet **Type 1087** ▶.

Timer	Approval	Product code	Voltage range	Article no.
Analogue version 	–	1087-A-BCH-UC-28	10...30 V AC/DC	348828 
	–	1087-A-BDK-UC-28	24...240 V AC/DC	348829 
	cURus	1087-A-BCH-UC-28*PU01	10...30 V AC/DC	348906 
	cURus	1087-A-BDK-UC-28*PU01	24...240 V AC/DC	348907 
Digital version 	–	1087-A-BFW-UC-29	10...48 V AC/DC	348830 
	–	1087-A-BDX-UC-29	110...240 V AC/DC	348831 
	cURus	1087-A-BFW-UC-29*PU01	10...48 V AC/DC	348908 
	cURus	1087-A-BDX-UC-29*PU01	110...240 V AC/DC	348909 

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