

DATA SHEET

Type 0290



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 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

Dimensions Detailed information can be found in chapter "4. Dimensions" on page 5.

Nominal size

Standard version DN12 ... DN50

With approval according to DIN EN 161 DN12 ... DN25

Materials

Body Brass, stainless steel 1.4581

Coil Epoxide

Inner valve parts Brass, stainless steel

Seal NBR, FKM, EPDM

Thermal insulation class coil H

Performance data

Response times^{1.)}

DN12...DN25 Opening: 100...250 ms

Closing: 700...2000 ms

DN32...DN65 Opening: 100...250 ms

Closing: 700...2000 ms

DN12...DN25 Opening: 120...150 ms

with approval according to DIN EN 161 Closing: 130...250 ms

Pressure data [bar] Overpressure to the atmospheric pressure

Electrical data

Voltage 024/50, 024/DC, 024/UC, 110/50, 230/50

Voltage tolerance ± 10 %

Nominal operating mode Continuous operation 100 % duty cycle (unless otherwise specified on the type plate)

Electrical connection Cable plug according to DIN EN 175 301 - 803 Form A

Protection class IP65 with cable plug

Medium data

Medium

NBR Neutral media, compressed air, water, hydraulic oil, oils without additives

FKM Per solutions, hot oils with additives

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

Medium temperature^{2.)}

NBR - 10 °C... + 80 °C

FKM 0 °C... + 120 °C

EPDM - 30 °C... + 120 °C

NBR with approval according to DIN EN 161 0 °C... + 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

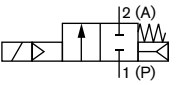
Approvals and certificates

with approval according to DIN EN 161 (optional)

1.) Measured with water at the valve outlet at 6 bar and + 20 °C. Öffnen: Druckaufbau 0...90 %, Schließen: Druckabbau 100...10 %

2.) 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

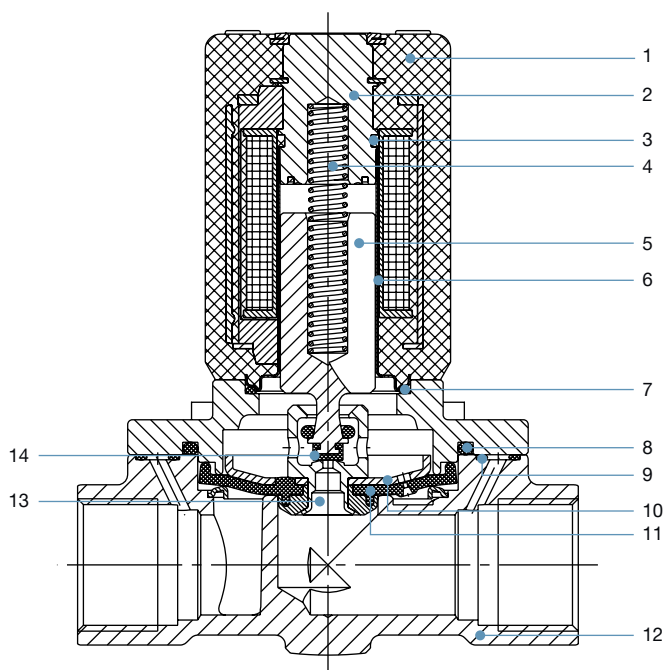


Bürkert resistApp – Chemical Resistance Chart

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



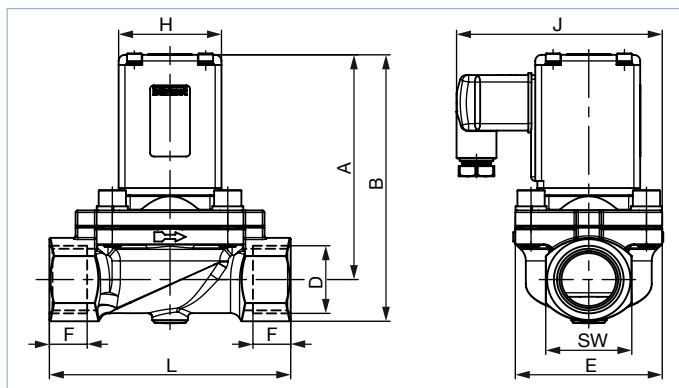
No.	Element	Material
1	Coil	Epoxide
2	Stopper	1.4105 or 1.4113
3	Shading ring (AC variant only)	Brass variant: Copper Stainless steel variant: Silver
4	Spring	1.4310
5	Magnetic core	1.4105 or 1.4113
6	Core guide tube	1.4303
7	O-ring	NBR, FKM, EPDM
8	O-ring	NBR, FKM, EPDM
9	O-ring	NBR, FKM, EPDM
10	Diaphragm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

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

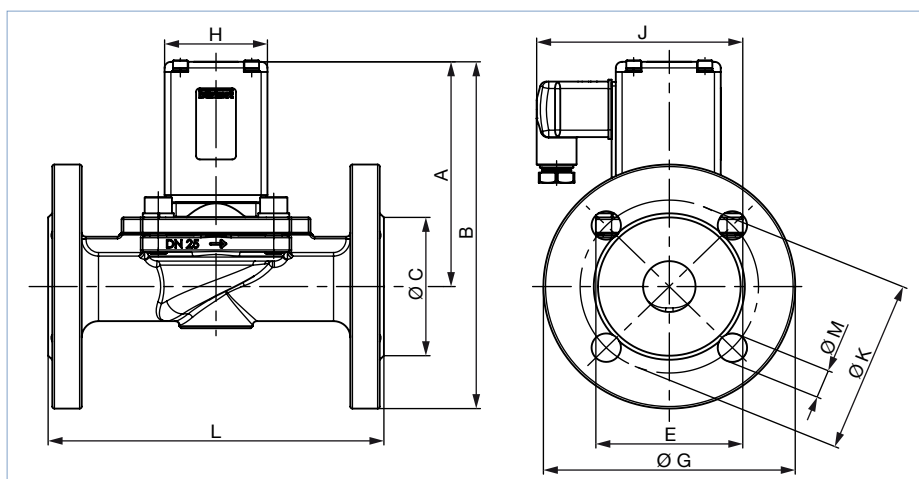


DN	A	B	G		NPT		E	L	SW	J	H
			D1	F1	D2	F2					
12	80	94	G ½	14	NPT ½	13,7	40	74,5	27	81	40
20	106	122	G ¾	16	NPT ¾	14	60	100	32	93	49
25	110,5	131	G 1	18	NPT 1	16,8	70	115	41	98	49
32	120	145	G 1¼	20	NPT 1¼	17,3	85	126	50	106	49
40	124	154	G 1½	22	NPT 1½	17,3	85	126	60	106	49
50	176	211	G 2	24	NPT 2	17,6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

- Flange versions on request
- Angaben in mm



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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	K _v value water P→A	Port connection A/B and P	Electrical power consumption				Weight
			Inrush		Operation		
			AC	UC	AC	UC	
[mm]	[m³/h]		[VA]	[W]	[VA/W]	[W]	[kg]
12	1.8	G ½	100	80	25/10	6	1.0
20	6.5	G ¾	120	100	32/16	9	1.4
25	10.0	G 1	120	100	32/16	9	1.8
32	16.0	G 1¼	120	100	32/16	9	2.7
40	16.0	G 1½	120	100	32/16	9	3.1
50	38.0	G 2	–	30	–	30	6.5

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

Nominal size	K _v value water P→A	Port connection A/B and P	Electrical power consumption				Weight
			Inrush		Operation		
			AC	UC	AC	UC	
[mm]	[m³/h]		[VA]	[W]	[VA/W]	[W]	[kg]
12	1.8	G ½	100 to 120	80	25/10	6	1.0
20	6.5	G ¾		100	32/16	9	1.4
25	10.0	G 1		100	32/16	9	1.8

6. Ordering information

6.1. Bürkert eShop – Easy ordering and quick delivery

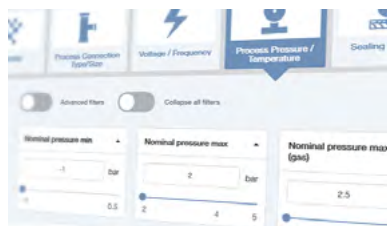


Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

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6.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

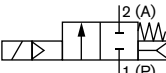
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6.3. Ordering chart

Brass body

Note:

All valves with cable plug.

Circuit function	Port connection	Orifice	K _v value water [m³/h]	Pressure range [bar]	Weight [kg]	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 	NBR diaphragm								
	G ½	12	1.8	0...16	0.7	043816 	050294 	044373 	049500 
	G ¾	20	6.5	0...16	1.4	058766 	049518 	045292 	057127 
	G 1	25	10.0	0...16	1.8	048171 	053675 	045293 	053869 
	G 1¼	32	16.0	0...12	2.6	085290 	085291 	052513 	085292 
	G 1½	40	16.0	0...12	3.0	085294 	085295 	085297 	085296 
	G 2	50	38.0	0...12	6.7	–	085299  ^{3.)}	085301  ^{2.)}	085300  ^{2.)}
	FKM diaphragm								
	G ½	12	1.8	0...16	0.7	048707 	049229 	042886 	059240 
	G ¾	20	6.5	0...16	1.4	053910 	053674 	049745 	067973 
	G 1	25	10.0	0...16	1.8	066270 	066981 	058627 	067974 
	G 1¼	32	16.0	0...12	2.6	120631 	017457 	087203 	137478 
	G 1½	40	16.0	0...12	3.0	228118 	089619 	087663 	–
	G 2	50,0	38.0	0...12	6.7	–	120952  ^{3.)}	088551  ^{2.)}	–
	EPDM diaphragm								
	G ½	12	1.8	0...16	0.7	045931 	049050 	044816 	049055 
	G ¾	20	6.5	0...16	1.4	065033 	058427 	045290 	069138 
	G 1	25	10.0	0...16	1.8	054245 	057155 	045291 	064887 
	G 1¼	32	16.0	0...12	2.6	087204 	072962 	085259 	076763 
	G 1½	40	16.0	0...12	3.0	073290 	079629 	087732 	–
	G 2	50	38.0	0...12	6.7	–	120104  ^{3.)}	077494  ^{2.)}	121308  ^{2.)}

1.) The coil for UC (universal current) has internal high-performance electronics. Please check that adequate performance is available (see "5. Performance specifications" on page 6).

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

3.) DC only

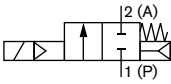
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Stainless steel body

Note:

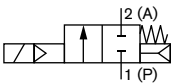
All valves with cable plug.

Circuit function	Port connection	Orifice	K _v value water [m³/h]	Pressure range [bar]	Weight [kg]	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 	NBR diaphragm								
	G ½	12	1.8	0...16	0.7	043659	053595	043654	052358
	G ¾	20	6.5	0...16	1.3	068338	018754	065121	–
	G 1	25	10.0	0...16	1.7	068510	061974	065414	067696
	FKM diaphragm								
	G ½	12	1.8	0...16	0.7	048708	049987	042888	058407
	G ¾	20	6.5	0...16	1.3	065362	066381	064701	066594
	G 1	25	10.0	0...16	1.7	018121	065542	066125	069477
	EPDM diaphragm								
	G ½	12	1.8	0...16	0.7	045765	048606	043553	049053
	G ¾	20	6.5	0...16	1.3	066460	059910	065025	025870
	G 1	25	10.0	0...16	1.7	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]	Weight [kg]	Article no. per voltage/frequency [V/Hz]		
						024/UC	230/50	230/UC
A, Solenoid valve 2/2 way Servo-assisted Normally closed	NBR diaphragm							
	G ½	12	1.8	0...5	0.7	280855 ☒	266512 ☒	281001 ☒
	G ¾	20	6.5		1.4	280877 ☒	266513 ☒	280878 ☒
	G 1	25	10.0		1.8	280879 ☒	266515 ☒	280880 ☒

Other versions on request

	Approval UL, UR, CSA		Voltage Further voltages on request
	Process connection Flange connection according to DIN EN 1092 - 1 (DN25 ... DN50)		

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Type 0290

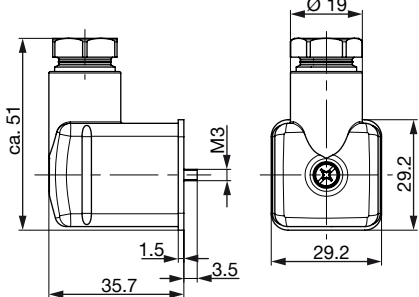
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6.4. Ordering chart accessories

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 

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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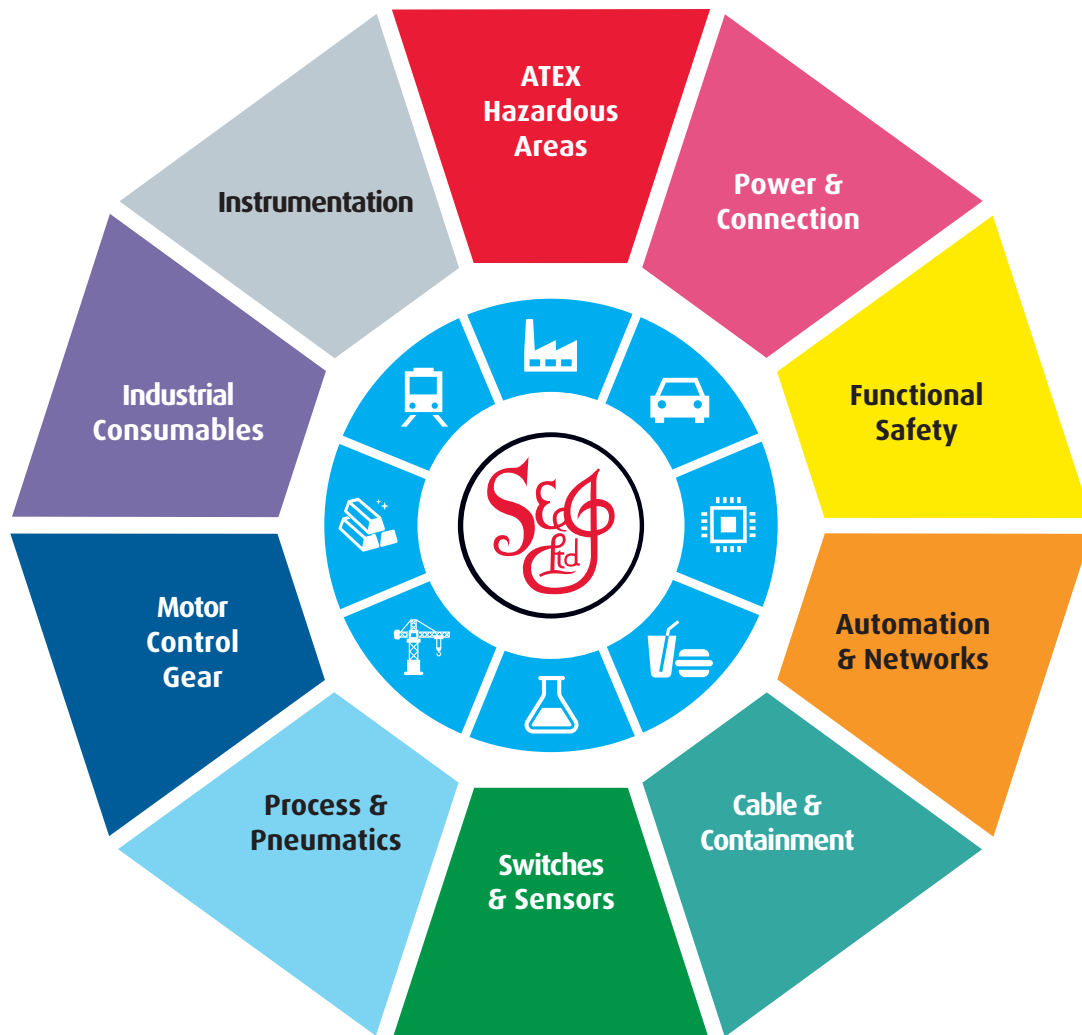
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