

Type 0290



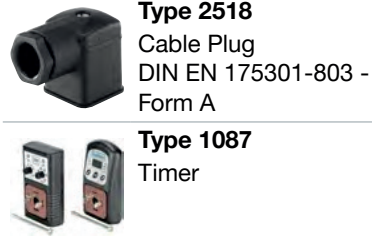
Servo-assisted 2/2-way diaphragm valve

- Servo-assisted diaphragm valve up to DN50
- Fix-coupled diaphragm opens without differential pressure
- Vibration-proof, block screwed coil system
- Energy-saving power reduction for all DC variants



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 diaphragm valve of the S.EV series. The valve opens without differential pressure. The opening process is facilitated by the fix coupling of the diaphragm to the magnetic core. The integrated 'soft-kick' function ensures gentle opening. Various diaphragm materials are available depending on the actual application. Stainless steel body variants complete the offering. The solenoid coils are moulded with a chemically resistant epoxy. A 'kick and drop' electronics assembly is moulded into the coil of all DC variants to reduce electrical power consumption. In combination with a plug to DIN EN 175301-803 Form A, the valves satisfy degree of protection IP65 – and NEMA 4X when combined with a stainless steel body.

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1. General technical data

Product characteristics	
Dimensions	Detailed information can be found in chapter "4. Dimensions" on page 4.
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
Switching function	Detailed information can be found in chapter "2. Circuit functions" on page 3.
Thermal insulation class coil	H
Performance data	
Response times¹⁾	
DN12...DN25	Opening: 100...250 ms Closing: 700...2000 ms
DN32...DN65	Opening: 100...250 ms Closing: 700...2000 ms
DN12...DN25 with approval according to DIN EN 161	Opening: 120...150 ms 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)
Medium data	
Operating 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 temperature²⁾	
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
Process/Port connection & communication	
Electrical connection	Cable plug according to DIN EN 175 301 - 803 Form A
Approvals and certificates	
Protection class	IP65 with cable plug
with approval according to DIN EN 161 (optional)	
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.) Measured with water at the valve outlet at 6 bar and + 20 °C. Öffnen: Druckaufbau 0...90 %, Schließen: Druckabbau 100...10 %

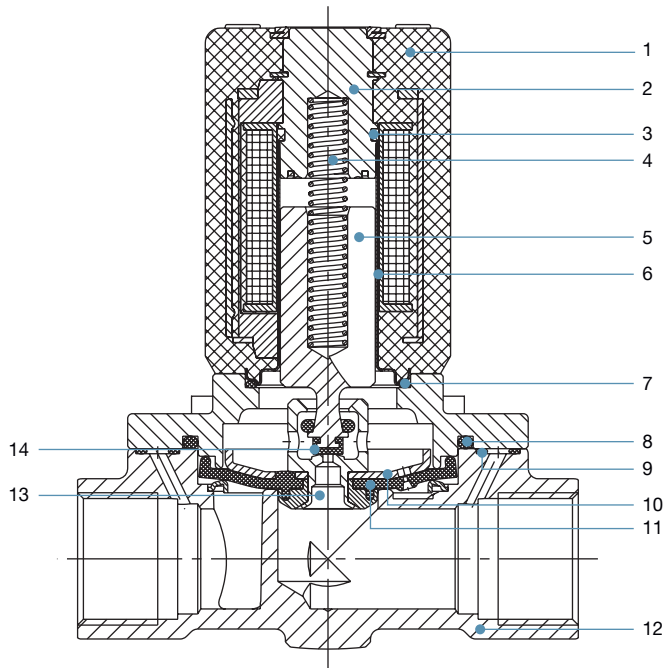
2.) Max. medium temperature for variants with high-performance electronics (encryption .../UC) is 90 °C.

2. Circuit functions

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

3. Materials

3.1. Material specifications



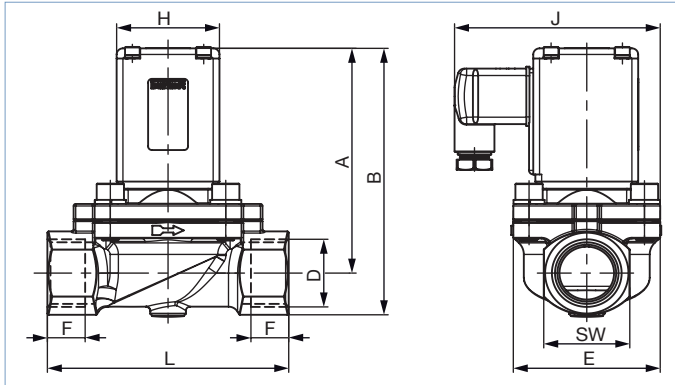
No.	Element	Material
1	Coil	Epoxide
2	Stopper	1.4105, 1.4113 or 1.4523 (optional)
3	Shading ring (AC variant only)	Brass variant: Copper Stainless steel variant: Silver
4	Spring	1.4310
5	Magnetic core	1.4105 or 1.4113
6	Core guide tube	1.4303
7	O-ring	NBR, FKM, EPDM
8	O-ring	NBR, FKM, EPDM
9	O-ring	NBR, 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

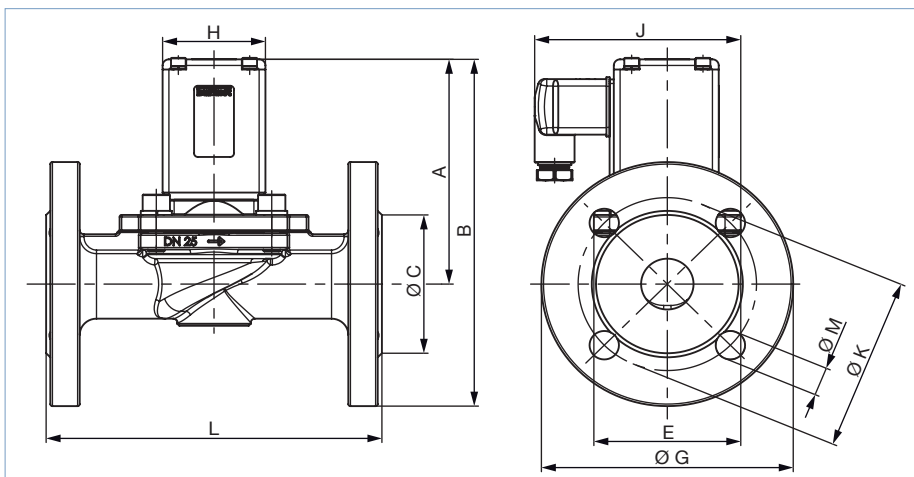


DN	A	B	G		NPT		E	L	SW	J	H
			D1	F1	D2	F2					
12	80	94	G ½	14	NPT ½	13,7	40	74,5	27	81	40
20	106	122	G ¾	16	NPT ¾	14	60	100	32	93	49
25	110,5	131	G 1	18	NPT 1	16,8	70	115	41	98	49
32	120	145	G 1 ¼	20	NPT 1 ¼	17,3	85	126	50	106	49
40	124	154	G 1 ½	22	NPT 1 ½	17,3	85	126	60	106	49
50	176	211	G 2	24	NPT 2	17,6	115	164	70	133	72
65	176	218,5	G 2 ½	27	NPT 2 ½	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



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	Electrical power consumption				Weight [kg]
			Inrush		Operation		
			AC [VA]	UC [W]	AC [VA/W]	UC [W]	
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 [mm]	K _v value water P→A [m ³ /h]	Port connection A/B and P	Electrical power consumption				Weight [kg]
			Inrush		Operation		
			AC [VA]	UC [W]	AC [VA/W]	UC [W]	
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

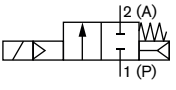
6. Ordering information

6.1. 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]	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 5).

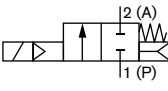
2.) The valve is supplied with a cable plug with integrated rectifier.

3.) DC only

Stainless steel body

Note:

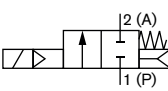
All valves with cable plug.

Circuit function	Port connection	Orifice	K _v value water [m ³ /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 [m ³ /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


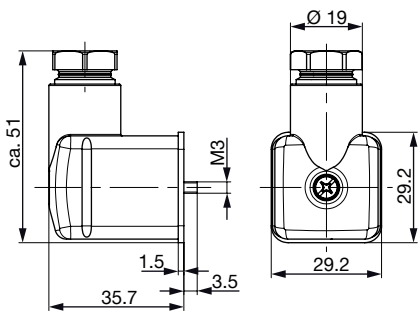
 Approval UL, UR, CSA	 Voltage Further voltages on request
 Process connection Flange connection according to DIN EN 1092 - 1 (DN25 ... DN50)	

6.2. 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.
	-	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
	-	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