





Direct-acting 2/2 or 3/2-way pivoted armature valve

- Direct-acting, media-separated valve up to DN 8
- Maintenance-free pivoted armature technology
- Vibration-proof, block screwed coil system
- Service-friendly, robust manual override
- Explosion-proof variants



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

Can be combined with

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

Type description

The 0121 valve is a direct-acting, media separated pivoted armature valve. It is available as a 2/2 and 3/2-way variant. As a 3/2-way variant, it can be used as a distributor or mixing valve. Various diaphragm materials and circuit functions are available depending on the actual application. The range of bodies includes stainless steel (316L), PTFE and PVC versions. The solenoid coils are moulded with a chemically resistant epoxy. Since the coil system is separated from the medium by a diaphragm, the valve is especially suitable for critical media such as aggressive acids and lyes. The 0121 is equipped with manual override for start-up and testing. To reduce energy demands, all the coils can be delivered with electronic power reduction or as an impulse variant. The switching status can be indicated via position feedback as a binary or NAMUR signal. In combination with a plug to DIN EN 175301-803 Form A, the valves satisfy degree of protection IP65/67 – and NEMA 4X when combined with a stainless steel or plastic valve body.

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1. General Technical Data

Product properties	
Dimensions	Detailed information can be found in chapter "4. Dimensions" on page 6.
Materials	
Seal	FKM FFKM EPDM
Body	PTFE PVC (resistant acc. to DIN 8062, 8061) PP (polypropylene) PVDF Stainless steel 1.4401
Weight	
Standard version	With VA: 0.9 kg With PVDF, PP and PVC: 0.38 kg With PTFE: 0.5 kg
Explosion proofed version	With VA: 1.15 kg With PVDF, PP and PVC: 0.62 kg With PTFE: 0.75 kg
Orifice	DN 2.0...DN 8.0 FFKM only possible up to DN 6.0
Thermal insulation class of solenoid coil	H
Performance data	
Duty cycle	
With VA	100 %
With PVDF, PP and PTFE	40 % duty cycle (60 % intermittent operation) in 10 min at 8 W-version 100 % duty cycle for 5 W-version or high-capacity electronic
With PVC	10 % duty cycle (10 min) 100 % duty cycle for version with high-capacity electronic
Switching frequency	
Standard version	Max. 100/min with AC Max. 10/min for UC (high-capacity electronic)
Explosion proofed version	Medium temperature up to +70 °C: max. 20/min Medium temperature up to +90 °C: max. 5/min
Response times¹⁾ standard version	
Frequency AC	Opening: 20 ms Closing: 11 ms
Frequency DC	Opening: 11 ms Closing: 8 ms
Response times¹⁾ explosion proofed version	
Orifice 2...8	Opening: 30 ms Closing: 40 ms
Circuit functions	A, B, C, D, E, F, T (see "2. Circuit functions" on page 5)
Electrical data	
Voltage tolerance	± 10 %
Power consumption standard	
Frequency AC	Inrush: 30 VA Hold: 15 VA Hold: 8 W
Frequency DC	Cold: 11 W Warm: 8 W
Power consumption explosion proof version	
Frequency AC/DC	Inrush: 40 W Hold: 3 W

Voltages

Standard version	24 V 50 Hz, 110 V 50 Hz, 230 V 50 Hz, 120 V 60 Hz, 240 V 60 Hz, 12 V DC, 24 V DC, (Further voltages on request)
Explosion proofed version	24 V, 230 V (further voltages on request)
Safety fuse (explosion proofed version)	Appropriate inrush current (see "8.3. Ordering chart" on page 12)

Medium data

Viscosity	Max. 37 mm ² /s
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Operating medium

With FKM	Oxydizing acids and substances, hot oils with additives, salt solutions, waste gases
With FFKM	Aggressive fluids, hot air, hot oils, aromatics, ether, esther, ketones
With EPDM	Alkalis, acids up to medium concentration, alkaline washing- and bleaching lyes
All Materials	For more detailed information please consult the resistance chart, see "3.1. Chemical Resistance Chart – Bürkert resistApp" on page 5

Medium temperature standard version

With PVDF or PP	EPDM: -30 °C...+70 °C
	FKM: -10 °C...+70 °C
	FFKM: -10 °C...+70 °C
With PTFE or VA	EPDM: -30 °C...+90 °C
	FKM: -10 °C...+90 °C
	FFKM: -10 °C...+90 °C
With PVC	EPDM: -30 °C...+50 °C
	FKM: -10 °C...+50 °C
	FFKM: -10 °C...+50 °C

Medium temperature explosion proofed version

With PVDF or PP	EPDM: -20 °C...+70 °C
	FKM: -10 °C...+70 °C
	FFKM: -10 °C...+70 °C
With PTFE or VA	EPDM: -20 °C...+90 °C
	FKM: -10 °C...+90 °C
	FFKM: -10 °C...+90 °C
With PVC	EPDM: -20 °C...+50 °C
	FKM: -10 °C...+50 °C
	FFKM: -10 °C...+50 °C

Approvals and certificates**Standard version**

Protection class	IP65 with cable plug
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Explosion proofed version

Protection class	IP65
Type of protection	II 2 G Ex mb IIC T4 Gb II 2 D EX mb IIIC T130° Db
Certificate	EPS 16 ATEX 1 111 X IECEX EPS 16.0049X

Product connections**Electrical connection**

Standard version	Tag connector acc. to DIN EN 175301 -803 Form A for cable plug type 2518/2509 (on request also with injected cable or terminal box)
Explosion proofed version	Impressed cable (HO5RN-F3G, 3 x 0.75 mm ²) Terminal box without safety fuse (Information about ACP016 see operating manual)

Environment and installation

Installation	As required, preferably with actuator upright
Ambient temperature (max.)	+50 °C

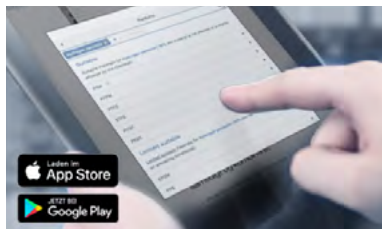
1.) Response times: Measurement at the valve output 6 bar and +20 °C, opening: pressure rise 0 to 90 %, closing: pressure drops 100 to 10 %

2. Circuit functions

Circuit functions	Description
	Type: A, solenoid valve 2/2 way Direct-acting Normally closed
	Type: B, solenoid valve 2/2 way Direct-acting Normally opened
	Type: C, solenoid valve 3/2 way Direct-acting Normally closed
	Type: D, solenoid valve 3/2 way Direct-acting Normally opened
	Type: E, mixing valve (solenoid valve) 3/2 way
	Type: F, distribution valve (solenoid valve) 3/2 way Direct-acting

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp



Bürkert resistApp – Chemical Resistance Chart

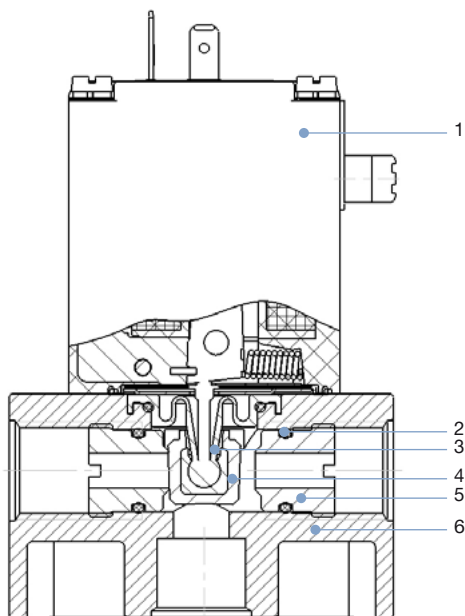
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

3.2. Material specifications

Note:

This sectional drawing shows the standard version with PVC housing and FKM seal.



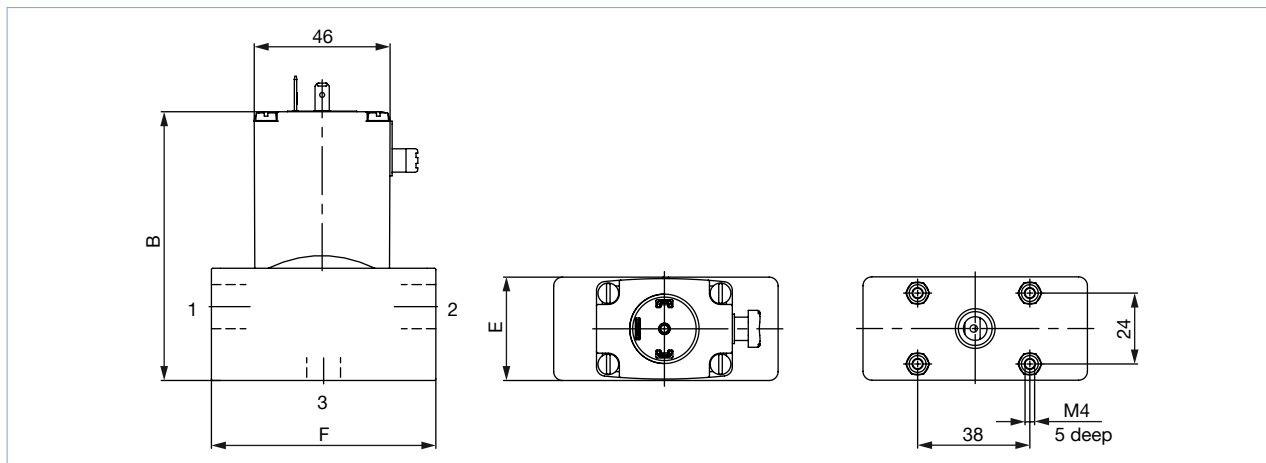
No.	Element	Material
1	Coil	Epoxy
2	O-ring	FKM, FFKM, EPDM
3	Toggle pin	PTFE
4	Seal	FKM, FFKM, EPDM
5	Seat	PTFE PVC (resistant acc. to DIN 8062, 8061) PP (polypropylene) PVDF Stainless steel 1.4401
6	Valve body	PTFE PVC (resistant acc. to DIN 8062, 8061) PP (polypropylene) PVDF Stainless steel 1.4401

4. Dimensions

4.1. Standard version

Note:

Dimensions in mm



Body material	D	B	E	F
Stainless steel	G ¼	89	32	76
PVC	G ⅜	91	35	65
PP	G ⅜	91	35	65
PVDF	G ⅜	91	35	70
PTFE	G ⅜	91	35	76

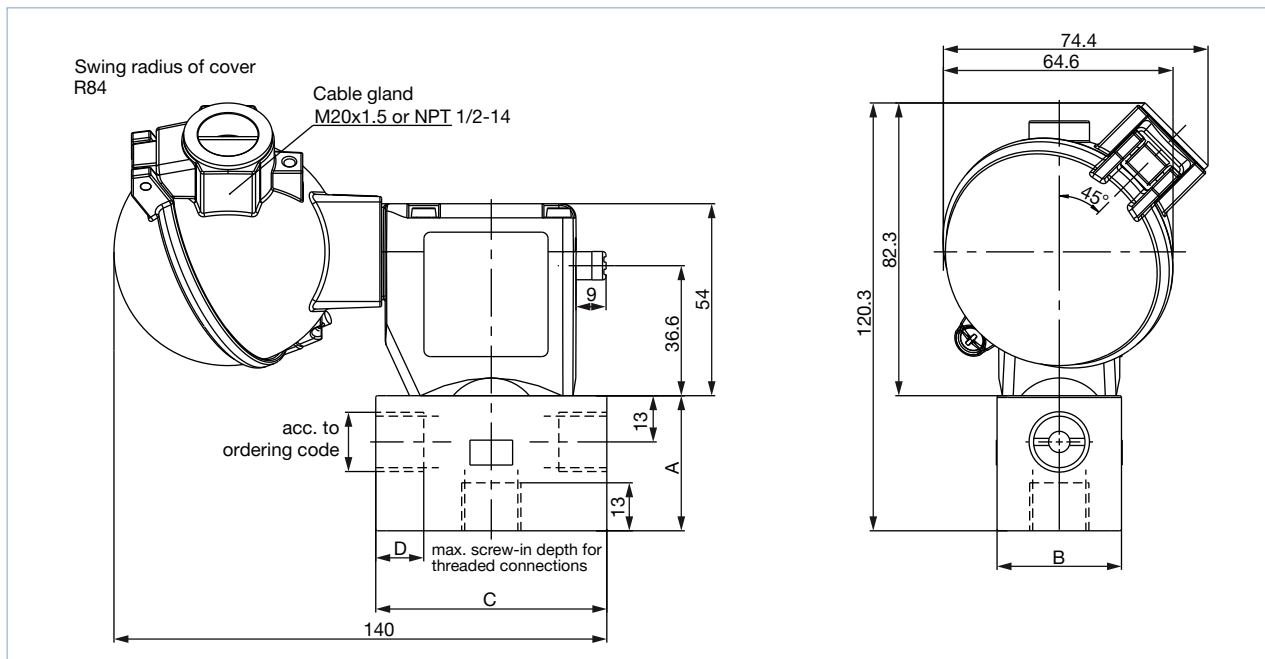
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4.2. Explosion proofed version

Terminal box version

Note:

- Dimensions in mm
- Attaching device: M4 x 5 holes on the bottom of the housing on the hole pattern 38 x 24 mm

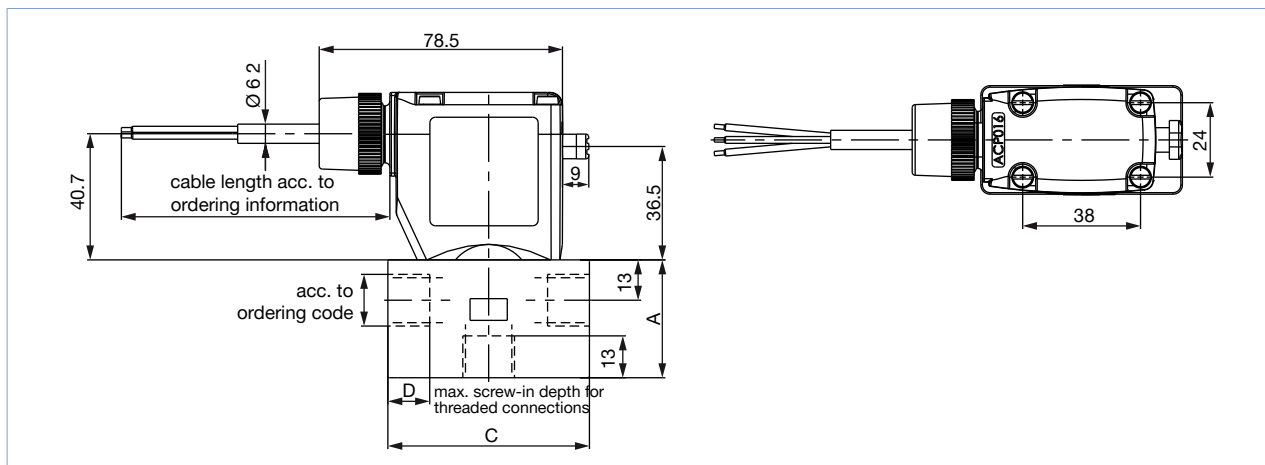


Body material	A	B	C	D
Stainless steel	36	32	76	19.5
PVC	38	35	65	17
PP	38	35	65	17
PVDF	38	35	70	19.5
PTFE	38	35	76	22.5

Cable version

Note:

- Dimensions in mm
- Attaching device: M4 x 5 holes on the bottom of the housing on the hole pattern 38 x 24 mm



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Body material	A	C	D
Stainless steel	36	76	19.5
PVC	38	65	17
PP	38	65	17
PVDF	38	70	19.5
PTFE	38	76	22.5

5. Device/Process connections

5.1. PIN assignment standard version

Note:

The pin assignment (marked No. 1, 2 and 3 in the drawing) depends on the circuit function. In the table, compare the respective pin assignment with the corresponding circuit function.

Circuit function	Connection 1	Connection 2	Connection 3	2 way	3 way
A	A	P	–		
B	P	B	–		
C	P	R	A		
D	R	P	B		
E	P1	P2	A		
F	A	B	P		

5.2. PIN assignment explosion proof version

Note:

The pin assignment (marked No. 1, 2 and 3 in the drawing) depends on the circuit function. In the table, compare the respective pin assignment with the corresponding circuit function.

Circuit function	Connec-tion 1	Connec-tion 2	Connec-tion 3	2 way	3 way
A	A	P	–		
B	P	B	–		
C	P	R	A		
D	R	P	B		
E	P1	P2	A		
F	A	B	P		

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6. Performance specifications

6.1. Pressure range and flow rate

Standard version

Circuit function	DN	K _v value water [m ³ /h]	Pressure range ^{1.)} [bar]	
			Frequency AC ^{2.)} (50 or 60 Hz)	Frequency DC ^{2.)}
A / F	2	0.1	0...6	0...3
	4	0.3 ^{3.)}	0...4	0...2
	6	0.6 ^{4.)}	0...2	0...1
	8	1.0	0...1	0...0.8
C / D	2	0.1	0...3	0...1.5
	4	0.3 ^{3.)}	0...2	0...1
	6	0.6 ^{4.)}	0...1	0...0.5
	8	1.0	0...0.3	0...0.3
B	2	0.1	0...6	0...3
	4	0.3 ^{3.)}	0...4	0...2
	6	0.6 ^{4.)}	0...2	0...1
	8	1.0	0...1	0...0.5
E	2	0.1	0...3	0...1.5
	4	0.3 ^{3.)}	0...2	0...1
	6	0.6 ^{4.)}	0...1	0...0.5
	8	1.0	0...0.2	0...0.2

1.) Pressure data: Measured as overpressure to the atmospheric pressure (deviating pressure range for 5 W version)

2.) Heat output 8 W

3.) Nominal size 4 mm and seal material FKM resp. FFKM K_v value reduces to 0.24 m³/h

4.) Nominal size 6 mm and seal material FKM resp. FFKM K_v value reduces to 0.48 m³/h

Explosion proofed version

Circuit function	DN	K _v value water ^{1.)} [m ³ /h]	Pressure range ^{2.)}
			[bar]
A / F	2	0.1	0...6
	4	0.3 ^{3.)}	0...4
	6	0.6 ^{4.)}	0...2
	8	1.0	0...1
C / D	2	0.1	0...3
	4	0.3 ^{3.)}	0...2
	6	0.6 ^{4.)}	0...1
	8	1.0	0...0.3
B	2	0.1	0...6
	4	0.3 ^{3.)}	0...4
	6	0.6 ^{4.)}	0...2
	8	1.0	0...1
E	2	0.1	0...3
	4	0.3 ^{3.)}	0...2
	6	0.6 ^{4.)}	0...1
	8	1.0	0...0.2

1.) Measured at +20 °C, 1 bar pressure at valve inlet and free outlet

2.) Pressure data: Measured as overpressure to the atmospheric pressure

3.) Nominal size 4 mm and seal material FKM resp. FFKM K_v value reduces to 0.24 m³/h

4.) Nominal size 6 mm and seal material FKM resp. FFKM K_v value reduces to 0.48 m³/h

7. Product accessories

7.1. Accessory

Standard version

Option	Variable code	Specifications
Oxygen versions	NL02	Suitable for application with oxygen (non-metallic materials in contact with medium are BAM-proofed)
Higher purity requirements e.g. oil-, grease- and silicon free	NL05	Parts in contact with the medium are specially cleaned and the valves appropriate packed
Electrical feedback	LF03	See Type 1060 ▶. Function as opener, closer or toggle switch depending on the connection (no IP65 achievable)
High-capacity electronic	CZ05	Inrush power 60 W, holding current 3 W; with plastic version 100 % duty cycle feasible
Vacuum version	NA02	Suitable for vacuum up to -0.98 bar
Improved purity and tightness requirements	NA03	Parts in contact with the medium are specially cleaned and the leak test to 10...4 mbar x l / sec
Coil with reduced performance (5 W)	–	Devised have smaller pressure rangen; for plastic version 100 % duty cycle is achievable
Cable plug	JHxx/JGxx/JFxx	Cable plug is part of the delivery. Cable plug versions (acc. to DIN EN 175301 - 803 Form A), see separate datasheet Type 2518 ▶ and Type 2509 ▶
Approvals	PD02	UR (UL-recognized)/CSA approval
	PE95	UL (UL-listed) approval
	PR05	cFMus approved coil Class I, Division 1, Groups A, B, C and D - T4 Class II, Division 1, Groups E, F and G - T4 Class III, Division 1 - T4 Class I, Zone 1, AEx mb IIC T4 Gb, Zone 21 AEx mb IIC T130 C Db Ex mb IIC T4 Gb; Ex mb IIC T130 C Db
	PU15	UL listed for Hazardous Locations for USA and Canada, Class I, Zone 1, AEx eb mb IIC T4; Zone 21, AEx mb tb IIC T130 °C / Class I, Div 2, Group A,B,C,D; Class II+III, Div 2, Group F,G
PX41	EPS 16 ATEX 1111 X / IECEx EPS 16.0049X, 2G T4 IIC / 2D T130 °C IIC, Tamb -40 °C bis +60 °C, single and block mounting	
Possible conformity (depending on construction)	–	EAC; Drinking water; FDA


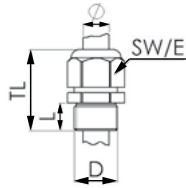

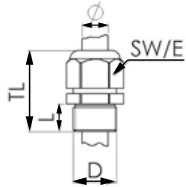
Explosion proofed version

Option	Variable code	Specifications
Oxygen versions	NL02	Suitable for applications with oxygen (non-metallic materials in contact with medium are BAM-proofed)
Higher purity requirements e.g. oil-, grease- and silicon free	NL05	Parts in contact with the medium are specially cleaned and the valves appropriate packed
Vacuum version	NA02	Suitable for vacuum up to -0.98 bar
Improved purity and tightness requirements	NA03	Parts in contact with the medium are specially cleaned and the leak test to 10...4 mbar x l / sec

7.2. Cable glands for ATEX/IECEx terminal box

Note:

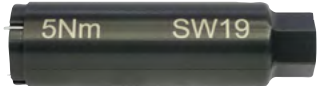
- A cable gland in polyamide version is included in the delivery. A nickel-plated brass version can be ordered at a surcharge, see “8.4. Ordering chart accessories” on page 13.
- This special tool is not supplied with the valve (see “8.4. Ordering chart accessories” on page 13).

Description	Ex approvals		Dimensions										
	Certification	Identification											
Ex cable gland, Brass, nickel-plated, 6...13 mm 	PTB 04 ATEX 1112 X, IECEx PTB 13.0027X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68	 <table border="1"> <tr><td>TL</td><td>29...37 mm</td></tr> <tr><td>L</td><td>6 mm</td></tr> <tr><td>D</td><td>20 mm</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>27 mm</td></tr> </table>	TL	29...37 mm	L	6 mm	D	20 mm	SW	24 mm	E	27 mm
TL	29...37 mm												
L	6 mm												
D	20 mm												
SW	24 mm												
E	27 mm												
Ex cable gland, Polyamide, 7...13 mm 	PTB 13 ATEX 1015 X, IECEx PTB 13.0034X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68	 <table border="1"> <tr><td>TL</td><td>36...45 mm</td></tr> <tr><td>L</td><td>10 mm</td></tr> <tr><td>D</td><td>20 mm</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>28 mm</td></tr> </table>	TL	36...45 mm	L	10 mm	D	20 mm	SW	24 mm	E	28 mm
TL	36...45 mm												
L	10 mm												
D	20 mm												
SW	24 mm												
E	28 mm												

7.3. Special tool to turn the junction box


Note:

This special tool is not supplied with the valve (see “8.4. Ordering chart accessories” on page 13).

Description	Components of the set
Set SC02-AC10 	<ul style="list-style-type: none"> • Special wrench • Service manual

8. Ordering information

8.1. 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.

[Order online now](#)

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8.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

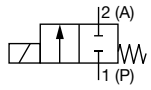
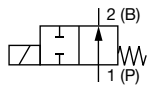
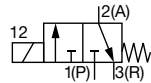
You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

Try out our product filter

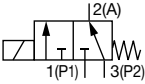

8.3. Ordering chart

Note:

Articles with reduced delivery time

Circuit function	DN [mm]	Power connection	Seal material	Body or seat material	Article no. per voltage/frequency [V/Hz]			
					024/DC	024/50	230/50	120/60
With plastic or stainless steel body, manual override and cable plug (UC with silicon cable³⁾)								
A¹⁾, solenoid valve 2/2 way Direct-acting Normally closed 	4.0	G 3/8	FKM	PVC	049654	048940	047859	-
	4.0	G 3/8	EPDM	PVC	050795	050085	049267	-
	6.0	G 3/8	FKM	PVC	048749	049348	047810	049228
	6.0	G 3/8	EPDM	PVC	049337	049678	049291	-
	8.0	G 3/8	FKM	PVC	049697	052800	052302	-
	8.0	G 3/8	EPDM	PVC	048698	050967	050701	450543
	4.0	G 1/4	FKM	VA	055244	056934	052441	-
	4.0	G 1/4	EPDM	VA	136290	-	136292	-
	6.0	G 1/4	FKM	VA	040482	057086	054595	-
	6.0	G 1/4	EPDM	VA	049113	-	-	-
	4.0	G 3/8	EPDM	PP	049017	-	-	-
	6.0	G 3/8	EPDM	PP	052161	-	-	-
	4.0	G 3/8	FFKM ²⁾	PVDF	133109	-	079653	-
	4.0	G 3/8	FFKM ²⁾	PTFE	122632	-	077191	457453
4.0	G 3/8	FFKM	PTFE	151733	-	136205	-	
4.0	G 3/8	FFKM	PTFE	132098	-	-	-	
B¹⁾, solenoid valve 2/2 way Direct-acting Normally closed 	4.0	G 3/8	FKM	PVC	-	-	050158	-
	6.0	G 3/8	EPDM	PVC	135416	-	-	-
	4.0	G 3/8	FFKM	PTFE	132096	-	-	-
	6.0	G 3/8	FFKM	PTFE	132097	-	-	-
C, solenoid valve 3/2 way Direct-acting Normally closed 	4.0	G 3/8	FKM	PVC	051701	-	-	-
	6.0	G 3/8	EPDM	PVC	-	-	051577	-
	4.0	G 3/8	FFKM	PTFE	-	-	130625	-
	4.0	G 3/8	FKM	PTFE	044771	-	-	-
	6.0	G 3/8	FFKM ²⁾	PTFE	131364	-	-	-
	4.0	G 1/4	EPDM	VA	-	-	135858	-

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Circuit function	DN [mm]	Power connection	Seal material	Body or seat material	Article no. per voltage/frequency [V/Hz]			
					024/DC	024/50	230/50	120/60
E, mixing valve (solenoid valve) 3/2 way 	4.0	G 1/4	FKM	VA	-	-	042457	-
	6.0	G 3/8	EPDM	PVC	048673	-	-	-
	4.0	G 3/8	FFKM ^{2.)}	PVDF	-	-	120402	-
	4.0	G 3/8	FFKM	PTFE	151715	-	130934	-
	4.0	G 3/8	FFKM ^{2.)}	PTFE	135028	-	-	-
F, distribution valve (solenoid valve) 3/2 way Direct-acting 	6.0	G 3/8	FKM	PVC	049533	052181	047916	-
	6.0	G 3/8	EPDM	PVC	040062	048760	050491	-
	4.0	G 3/8	FFKM ^{2.)}	PTFE	-	-	124239	-
	6.0	G 3/8	FFKM	PTFE	141134	-	-	-
	6.0	G 3/8	FKM	PTFE	051256	-	-	-


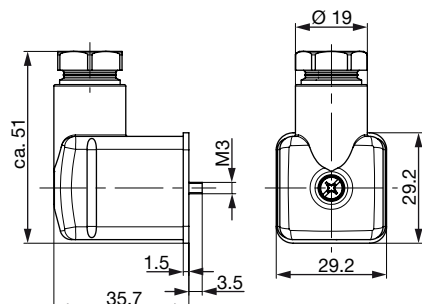
- 1.) The listed article no. and circuit functions have a housing with straight pass.
- 2.) Seal material seat seal is FFKM; seal material seat O-ring FKM
- 3.) The listed article no. are equipped with a high-performance coil (60 W-inrush, 3 W-operation) and injected cable.
- 4.) The cable plug is not part of the delivery.

8.4. Ordering chart accessories

Cable plug Type 2518, Form A according to DIN EN 175301 - 803

Note:

Further 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

Cable glands for ATEX/IECEx terminal box

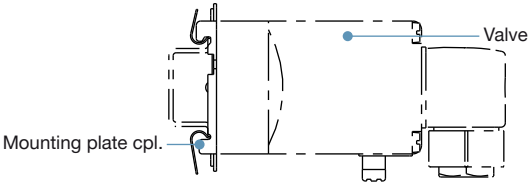
Note:

- A cable gland in polyamide version is included in the delivery. A nickel-plated brass version can be ordered at surcharge.
- For more information on Ex cable glands, see [“7.2. Cable glands for ATEX/IECEx terminal box”](#) on page 11.

Description	Article no.
Ex cable gland, brass, nickel-plated, 6...13 mm ^{1.)}	773278
Ex cable gland, polyamide, 7...13 mm ^{1.)}	773277
Set SC02-AC10: Special wrench ^{2.)} incl. service manual	293488


- 1.) Cable diameter
- 2.) Not included in the scope of delivery of the valve

Mounting plate cpl. for DIN rail mounting

Description	Article no.
	013253 ¹⁾

1.) Use only with 2/2 way globe valves

Locking ring

Description	Article no.
	013372 ¹⁾

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