Diaphragm valve, 2/2-way, servo-assisted

- Servo-assisted diaphragm valve up to DN50
- Plastic valve for aggressive and contaminated media
- Media separated, metal-free version
- Service-friendly manual override
- Switching reliability with feedback function (available as an option)

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

Can be combined with

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

Type 1087
Timer,
form A according to
DIN EN 175301-803

Type description

The 0142 valve is a servo-assisted diaphragm valve. A minimum differential pressure of 0.5 bar is required to open and close the valve. Various diaphragm materials and circuit functions are available depending on the actual application. The circuit function fo the 3/2 way pilot valve can be easily converted NC to NO by rotating it on the main seat. The pilot valve position feedback can take place with a switching or NAMUR signal. The solenoid coils are moulded with a chemically resistant epoxy. The 0142 is equipped with manual override for start-up and testing. To reduce electrical power consumption during operation, coils with integrated “Kick and Drop” (KD) electronics featuring double coil technology are available.

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Visit product website

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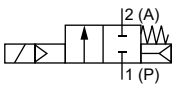
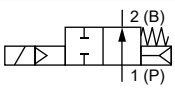
1. General technical data

Product properties	
Dimensions	Further information can be found in chapter "5. Dimensions" on page 6.
Material	
Seal	FKM, EPDM
Body	PVC
Coil	Epoxy
Valve inner parts	PVDF Further information can be found in chapter "4. Materials" on page 5.
Orifice	DN 15...DN 50
Circuit function	A and B Further information can be found in chapter "2. Circuit functions" on page 3.
Thermal insulation class of solenoid coil	Epoxy coil class H
Performance data	
Duty cycle	100 % continuous operation
Switching time [1.)]	Opening: 100 ms...800 ms Closing: 1000 ms...4000 ms
Electrical data	
Operating voltage	12 V DC, 24 V DC, 24 V 50/60 Hz, 48 V 50/60 Hz, 110 V 50/60 Hz, 120 V 60 Hz, 230 V 50/60 Hz (further voltages on request)
Power consumption	Further information can be found in chapter "6.1. Power consumption" on page 6.
Voltage tolerance	± 10 %
Medium data	
Operating medium	
With EPDM	Alkalis, alkaline washing and bleaching lyes
With FKM	Oxydizing acids and substances, salt solutions
Medium temperature	PVC: 0 °C...+ 50 °C
Process/Port connection & communication	
Electrical connection	Plug contacts according to DIN EN 175 301 - 803 form A for cable plug **Type 2518** ▶. Further information can be found in chapter "Cable plug Type 2518, form A according to DIN EN 175301 - 803" on page 9.
Port connection	True union connection, threaded socket
Approvals and conformities	
Degree of protection	IP65 with cable plug
Explosion protection	Further information can be found in chapter "3.4. Explosion protection" on page 4.
North America (USA/Canada)	Further information can be found in chapter "3.5. North America (USA/Canada)" on page 4.
Environment and installation	
Installation	As required, preferably with actuator upright
Ambient temperature	PVC: 0...+ 40 °C

1.) Measurement at + 20 °C, 6 bar at the valve inlet and free outlet, opening: pressure build-up 0...90 %, closing: pressure reduction 100...10 %

2. Circuit functions

Symbol	Description
	**Circuit function A (CF A)** 2/2-way solenoid valve Servo-controlled Normally closed
	**Circuit function B (CF B)** 2/2-way solenoid valve Servo-controlled Normally open

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3. Approvals and conformities

3.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available versions can be supplied with the below mentioned approvals or conformities.

3.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

3.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

3.4. Explosion protection

<table>
<tr><th>Approval</th><th>Description</th></tr>
<tr><td></td><td>Optional: Explosion protection according to category 2 (zone 1/21)

Ex marking of the components according to the following table:

<table>
<tr><th colspan="2">Coil Type ACP016</th></tr>
<tr><th>Coils with cable outlet</th><th>Coils with terminal box</th></tr>
<tr><td>ATEX:
EPS 16 ATEX 1 111 X
II 2G Ex mb IIC T4 Gb
II 2D Ex mb IIIC T130 °C Db

IECEx:
IECEx EPS 16.0049X
Ex mb IIC T4 Gb
Ex mb IIIC T130 °C Db</td><td>ATEX:
EPS 16 ATEX 1 111 X
II 2G Ex eb mb IIC T4 Gb
II 2D Ex mb tb IIIC T130 °C Db

IECEx:
IECEx EPS 16.0049X
Ex eb mb IIC T4 Gb
Ex mb tb IIIC T130 °C Db</td></tr>
</table></td></tr>
</table>

3.5. North America (USA/Canada)

<table>
<tr><th>Approval</th><th>Description</th></tr>
<tr><td>c UL us
LISTED
SOLENOID FOR USE IN HAZARDOUS LOCATIONS
E504714</td><td>Optional (valid for coils): UL Hazardous Locations – Explosion Protection
UL Listed for Hazardous Locations for USA and Canada
Class I, Zone 1
Class I, Division 2, Group A, B, C and D
Class II + III, Division 2, Group F and G</td></tr>
<tr><td></td><td>Optional (valid for pilot control valve): UL Recognized for the USA
The valves are UL Recognized for the USA according to:
• UL 429 (electrically operated valves)</td></tr>
<tr><td></td><td>Optional (valid for valves): CSA for Canada
The valves are CSA approved for Canada according to:
• CSA 139 (electrically operated valves)</td></tr>
<tr><td>FM
C US
APPROVED</td><td>Optional (valid for coils): FM (Factory Mutual) – Explosion Protection
FM for Hazardous Locations for USA and Canada
Class I, Zone 1
Class I, Division 1, Groups A, B, C and D
Class II + III, Division 1, Groups E, F and G</td></tr>
</table>

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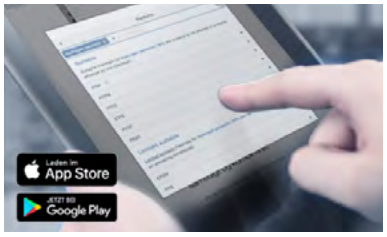
4. Materials

4.1. Bürkert resistApp

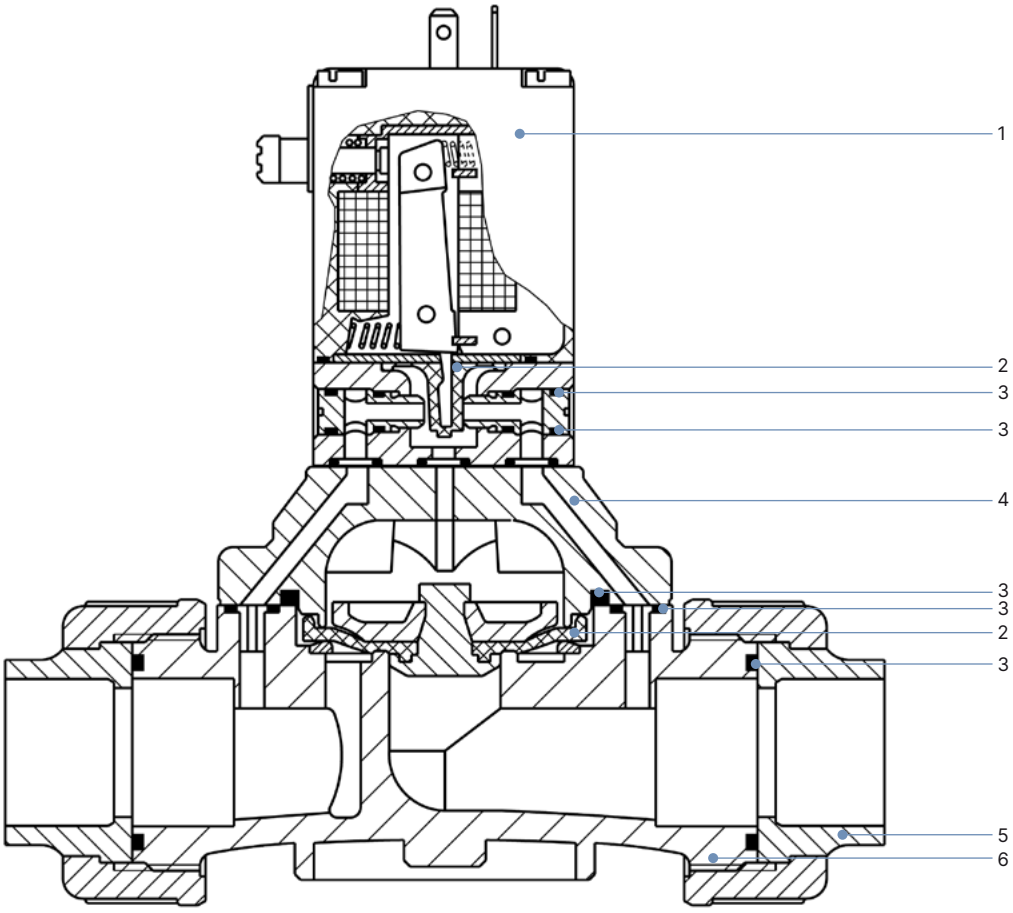


Bürkert resistApp – Chemical resistance chart

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

4.2. Material specifications



No.	Element	Material
1	Coil body	Epoxy
2	Diaphragm	FKM, EPDM
3	O-rings	FKM, EPDM
4	Cover	PVC
5	Socket fitting (true union)	PVC
6	Body	PVC

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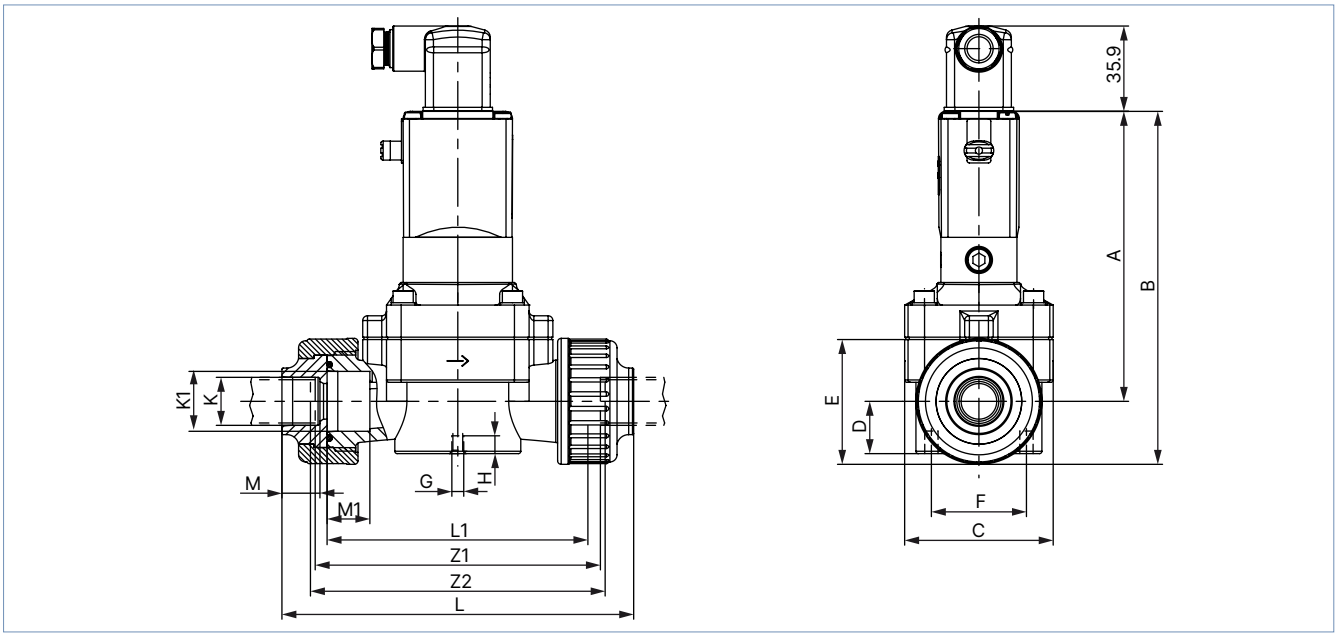
5. Dimensions

Note:
Dimensions in mm



All versions										PVC body						
DN	Pipe Ø	A	B	C	D	E	F	G	H	L	L1	K	K1	M	M1	Z1
15	20	122	148.5	62.5	22	53	40	M5	8	148	110	20.2	25.2	16	18	116
20	25	122	148.5	62.5	22	53	40	M5	8	154	110	25.2	25.2	19	18	116
25	32	136.5	174.5	85	31	76	44.5	M8	15	190	141	32.2	40.2	22	22	147
32	40	136.5	174.5	85	31	76	44.5	M8	15	198	141	40.2	40.2	26	22	147
40	50	160	212	115	42.5	104.5	44.5	M8	15	254	192	50.2	63.2	31	33	198
50	63	160	212	115	42.5	104.5	44.5	M8	15	268	192	63.2	63.2	38	33	198

6. Performance specifications

6.1. Power consumption

Electrical power consumption			
Inrush		Hold	
AC	DC	AC	DC
[VA]	[W]	[VA/W]	[W]
20	5	11/5	5

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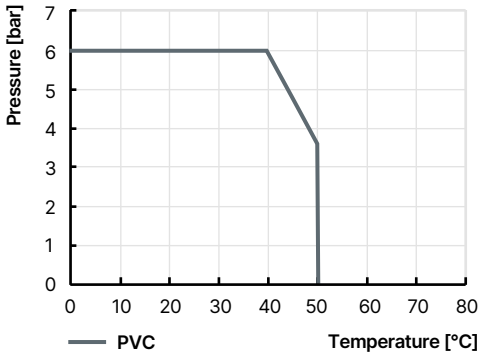
6.2. Pressure temperature diagram for PVC



7. Ordering information

7.1. Bürkert eShop

Bürkert eShop – Easy ordering and quick 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

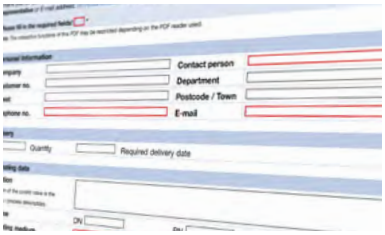
7.2. Bürkert product filter

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

7.3. Bürkert Product Enquiry Form



Bürkert Product Enquiry Form – Your enquiry quickly and compactly

Would you like to make a specific product enquiry based on your technical requirements? Use our Product Enquiry Form for this purpose. There you will find all the relevant information for your Bürkert contact. This will enable us to provide you with the best possible advice.

Fill out the form now

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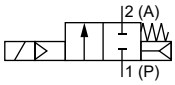
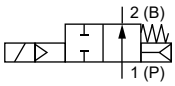
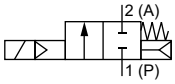
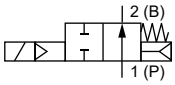
7.4. Ordering chart

Note:
PVC body with cable plug and manual override

Circuit function	Port connection True union [mm]	Orifice [mm]	K_V value water [m³/h]	Pressure range [bar]	Body material	Article no. 024/DC [V/Hz]	Article no. 230/50 [V/Hz]
Seal material FKM							
CF A 2/2-way solenoid valve Servo-controlled Normally closed 	20	15	5.0	0.5...6	PVC	041938	041934
	25	20	6.0	0.5...6	PVC	042008	042005
	32	25	14.0	0.5...6	PVC	042079	042113
	40	32	16.0	0.5...6	PVC	042169	042133
	50	40	30.0	0.5...6	PVC	042198	042245
	63	50	36.0	0.5...6	PVC	042264	042262
CF B 2/2-way solenoid valve Servo-controlled Normally open 	20	15	5.0	0.5...6	PVC	087287	089032
	25	20	6.0	0.5...6	PVC	137631	088680
	32	25	14.0	0.5...6	PVC	139785	089899
	40	32	16.0	0.5...6	PVC	o. r.	o. r.
	50	40	30.0	0.5...6	PVC	o. r.	136694
	63	50	36.0	0.5...6	PVC	o. r.	o. r.
Seal material EPDM							
CF A 2/2-way solenoid valve Servo-controlled Normally closed 	20	15	5.0	0.5...6	PVC	041980	041911
	25	20	6.0	0.5...6	PVC	042045	041986
	32	25	14.0	0.5...6	PVC	042047	042126
	40	32	16.0	0.5...6	PVC	042183	042128
	50	40	30.0	0.5...6	PVC	042195	042247
	63	50	36.0	0.5...6	PVC	042266	042261
CF B 2/2-way solenoid valve Servo-controlled Normally open 	20	15	5.0	0.5...6	PVC	155264	079532
	25	20	6.0	0.5...6	PVC	131321	087546
	32	25	14.0	0.5...6	PVC	121858	017772
	40	32	16.0	0.5...6	PVC	133179	076296
	50	40	30.0	0.5...6	PVC	o. r.	132330
	63	50	36.0	0.5...6	PVC	o. r.	o. r.

o. r. = on request

Further versions on request

Control function/Circuit function B, normally open	**Electrical connection** Feedback switch
Process connection With threaded port	**Approval** Further information can be found in chapter "3. Approvals and conformities" on page 4.

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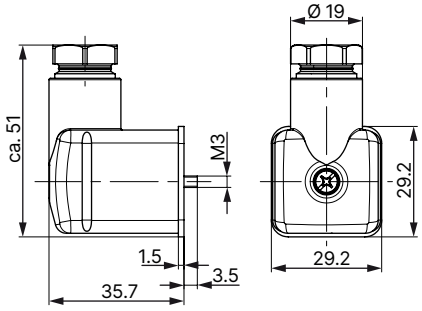
7.5. Ordering chart accessories

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

Note:

- Dimensions in mm
- For 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
		Without circuitry (AC/DC) with silicone seal for higher ambient temperature, e.g. steam version (NA07)	0...250 V AC/DC	361687

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