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Ставрополь (8652)20-65-13
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ЭЛЕКТРОМАГНИТНЫЕ КЛАПАНЫ

DATA SHEET

Type 6012

bürkert
FLUID CONTROL SYSTEMS

Plunger valve 3/2 way direct-acting

- Direct-acting, compact small-format valve with diameter of up to DN 1.6
- Screwed coil system
- Banjo threaded connection for direct mounting on pneumatic valves
- Simple and quick push-in, flange, or manifold installation
- Service-friendly manual override

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

Can be combined with

Type 2507 ▸
Cable plug - industry standard plug Form B

Type 2516 ▸
Cable plug DIN EN 175301-803 - form C

Type description

Valve 6012 is a direct-acting plunger valve. The stopper and plunger guide tube are welded together to enhance pressure resistance and leak-tightness. Various seal material combinations are available depending on the application. A Bürkert-specific flange design (SFB) enables space-saving arrangement of valves on a manifold. Push-in fittings can be selected for flexible hose connection. A banjo connection with banjo bolt is the ideal solution for easy direct mounting on a pneumatic drive. Optional manual actuation enables quick commissioning and optimal maintenance. In combination with a cable plug in accordance with industry standard Form B or DIN EN 17301-803 Form C, the valves satisfy protection class IP65.

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1. General Technical Data

Product properties	
Dimensions	Detailed information can be found in chapter "4. Dimensions" on page 6.
Material	
Body	Brass, polyamide (PA), stainless steel 1.4305
Seal	FKM, NBR
Weight	
Standard version	125 g (G ⅛)
Banjo version	135 g
Thermal insulation class of solenoid	Polyamide: class B Epoxy: class H
Manual override	Optional, as a standard feature (for Type 6012, banjo version)
Performance data	
Duty cycle/single valve for block assembly on multiple manifold	100 % continuous rating Intermittent operation 60 % (30 min) With 2 W coil 100 % (on request)
Response times[1.)]	
Standard version	DN 1.2 mm: Opening 7…10 ms, Closing 9…12 ms DN 1.6 mm: Opening 7…12 ms, Closing 7…12 ms
Banjo version	DN 1.2 mm, 4 W AC: Opening 7…10 ms, Closing 9…12 ms DN 1.2 mm, 4 W DC: Opening 7…12 ms, Closing 7…12 ms
Circuit function	C and D (see "2. Circuit functions" on page 4)
Electrical data	
Operating voltage	24 V DC, 24 V / 50 Hz, 110 / 230 V / 50 Hz
Voltage tolerance	±10 %
Medium data	
Viscosity (max.)	21 mm²/s
Medium	Neutral gases and liquids (e.g. compressed air, water, hydraulic oil, technical Vacuum)
Medium temperature	
Standard version	-10 °C…+100 °C
Banjo version	-10 °C…+60 °C
Approvals and certificates	
Degree of protection	IP65 with cable plug
Process/Port connection & communication	
Port connection	
Standard version	M5, G ⅛, Flange
Banjo version	G ⅛, G ¼ and tube fitting Ø 6 mm
Electrical connection	• Acc. to DIN EN 175301-803 Form C for cable plugType 2516 (see "6.4. Ordering chart accessories" on page 13) • Acc. to industry standard connector Form B for cable plug Type 2507 (see "6.4. Ordering chart accessories" on page 13) • Flying leads on request
Environment and installation	
Installation instructions	As required, preferably with actuator upright
Ambient temperature	
Standard version	Max. +55 °C
Banjo version	-10 °C…+40 °C

1.) Response times [ms]: Measures at valve outlet at 6 bar and +20 °C acc. to ISO 12238, opening: pressure build up 0 to 90 %, closing: pressure relief 100 to 10 %

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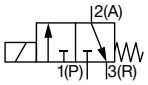
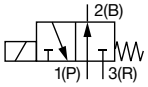
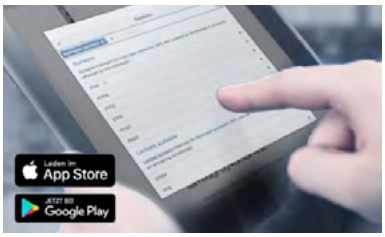
2. Circuit functions

Circuit functions	Description
	**Type: C, solenoid valve** 3/2 way Direct-acting Normally closed
	**Type: D, solenoid valve** 3/2 way Direct-acting Normally opened

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp



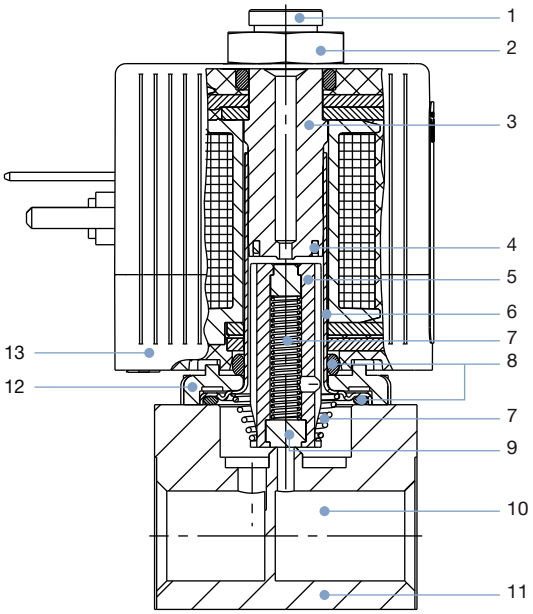
Bürkert resistApp – Chemical Resistance Chart

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

Standard version



No.	Element	Material
1	Pressure inlet P	With circuit function D
2	Locknut	DIN 176 - 9SMnPb28K (surface Zn5glcA)
3	Stopper	Stainless steel 1.4105
4	Shading ring	Copper (silver optional)
5	Core	Stainless steel 1.4105
6	Guide tube	Stainless steel 1.4303
7	Spring	Stainless steel 1.4310
8	O-Ring	FKM/EPDM
9	Armature seal	FKM/EPDM
10	Pressure inlet P	With circuit function C
11	Body	Brass, stainless steel 1.4305 PA (polyamide)
12	Sub-base	Zn3 gl cC surface (brass version) Nickel-plated surface (St. st. version)
13	Coil	DIN EN 175301 - 803 Form C: PA Industry standard connector Form B: Epoxy

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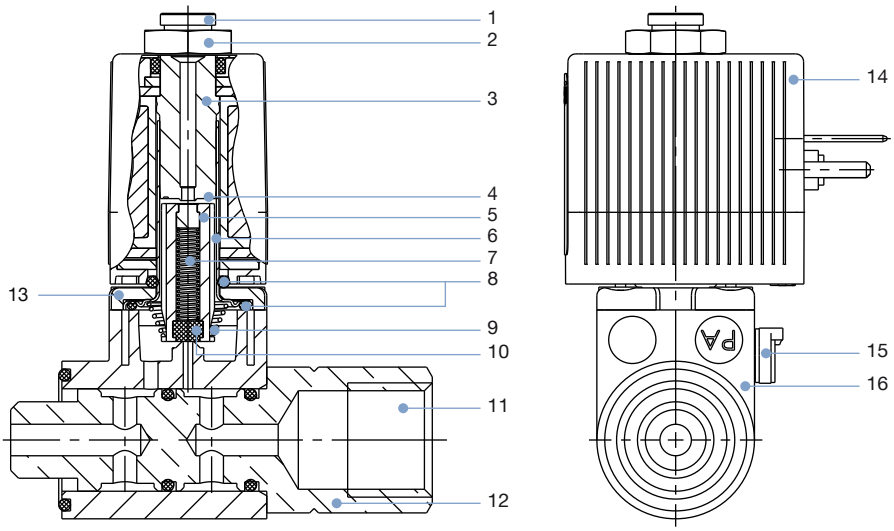
Banjo version



No.	Element	Material
1	Pressure inlet P	With circuit function D
2	Locknut	DIN 176 - 9SMnPb28K (surface Zn5glcA)
3	Stopper	Stainless steel 1.4105
4	Shading ring	Copper (silver optional)
5	Core	Stainless steel 1.4105
6	Guide tube	Stainless steel 1.4303
7	Spring	Stainless steel 1.4310
8	O-Ring	FKM
9	Spring	Stainless steel 1.4310
10	Armature seal	FKM
11	Pressure inlet P	With circuit function C
12	Banjo bold	Nickel-plated brass
13	Sub-base	Zn3 gl cC surface (brass version) Nickel-plated surface (St. st. version)
14	Coil	DIN EN 175301 - 803 Form C: PA Industry standard connector Form B: Epoxy
15	Hand lever	Durethan
16	Body	PA (polyamide)

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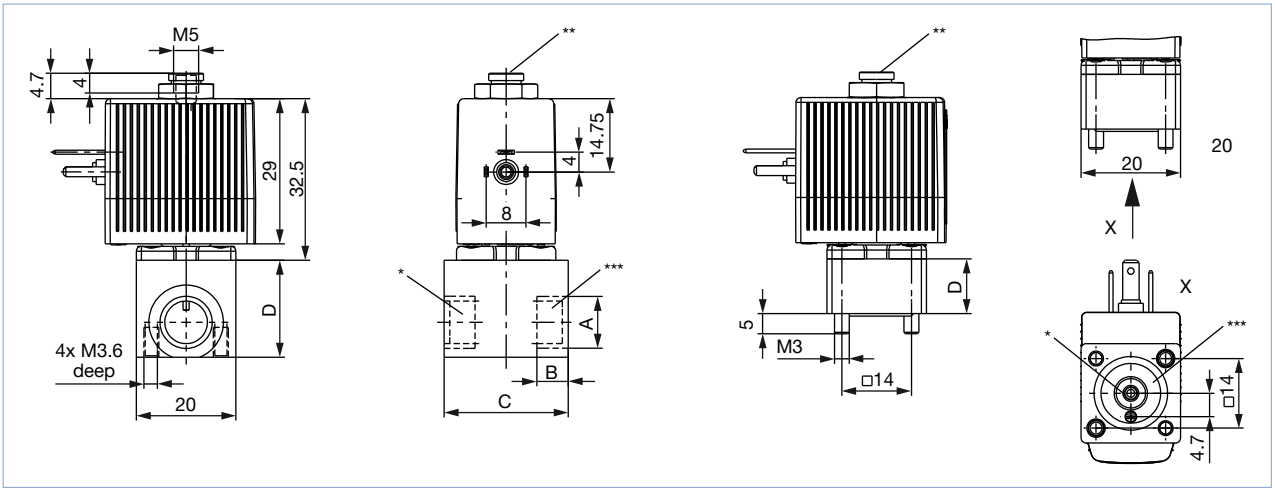
4. Dimensions

4.1. Standard version

Version acc. to DIN EN 175301-803 Form C (cable plug Type 2516)

Note:
Dimensions in mm



Port connection	A	B	C	D
Thread	M5	5	20	14
Thread	G ⅛	8	25	19.5
Sub-base	–	–	20	11

PIN Assignments

For the positions marked with *, ** or *** in the drawing, the connections are marked with the letters shown in the table above, depending on the circuit function. Unused connections in circuit functions A or B will be closed off with a blanking plug or cap nut.

Circuit function	Connection Type		
	*	**	***
A	P	to lock	A
B	to lock	B	P
C	P	R	A
D	R	P	B
T	P	R	A

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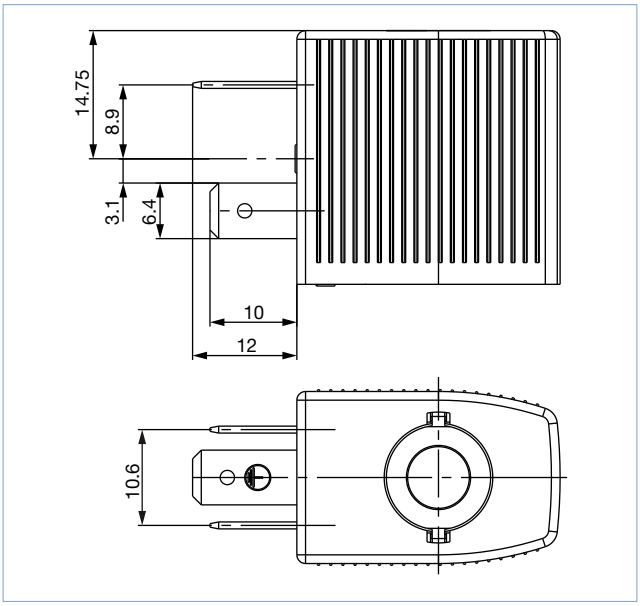
Version acc. to industry standard connector Form B for cable plug Type 2507

Note:
Dimensions in mm



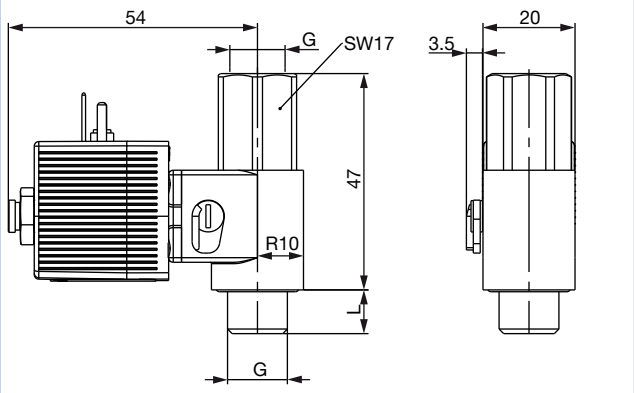
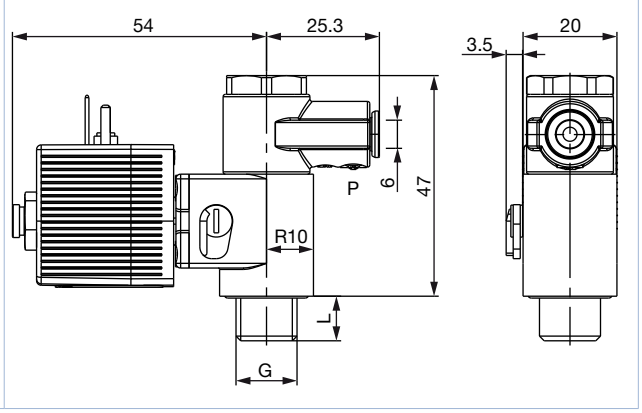
Port connection	A	B	C	D
Thread	M5	5	20	14
Thread	G ⅛	8	25	19.5
Sub-base	–	–	20	11

4.2. Banjo version

Version acc. to DIN EN 175301-803 Form C for cable plug Type 2516

Note:

- Dimensions in mm
- Push-in connection for compressed air: Pressure inlet P can be rotated through 360°.

Threaded port for compressed air	Push-in connection for compressed air
	

G	L
G ⅛	6.5
G ¼	9.5

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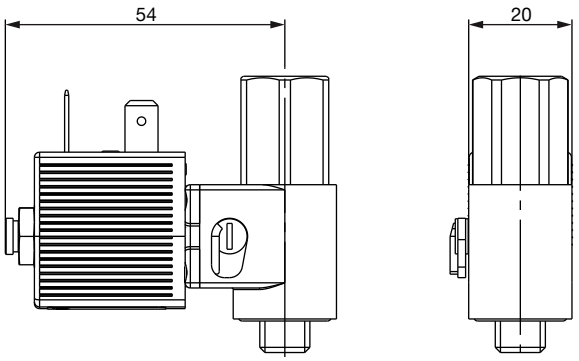
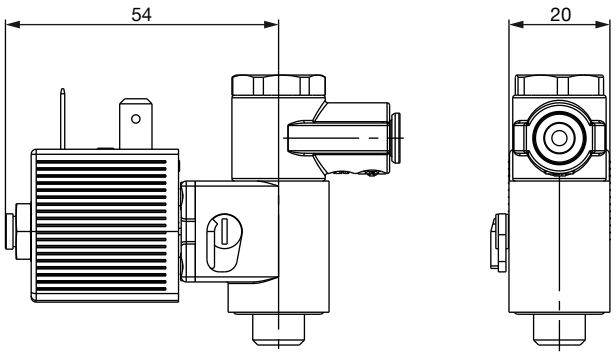
Version acc. to industry standard connector Form B for cable plug Type 2507

Note:
Dimensions in mm

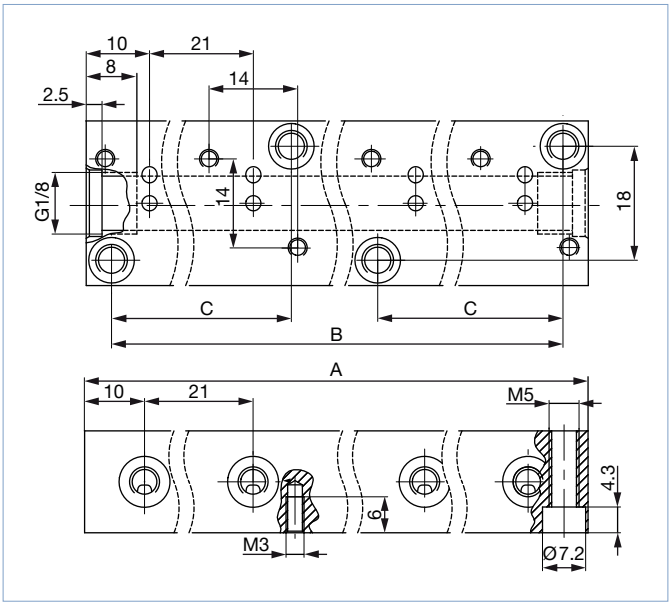
Threaded port for compressed air	Push-in connection for compressed air
	

G	L
G ⅛	6.5
G ¼	9.5

4.3. Multiple manifold

Note:

- Dimensions in mm
- Made of aluminium, anodized
- Can only be combined with versions Circuit function C (normally closed)



No. of valves	A [mm]	B [mm]	C [mm]	Article no.
1	20	12	–	005312
2	41	33	–	005355
3	62	54	–	005313
4	83	75	–	005314
5	104	96	–	005315
6	125	117	–	005316
7	146	138	–	005893
8	167	159	54	005166
9	188	180	54	005241
10	209	201	75	005819
11	230	222	75	005242
12	251	243	96	005222

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5. Performance specifications

5.1. Power consumption

Standard version

Orifice	K_V value water	Pressure range		Coil power	Power consumption		Response times[3.]	
		Circuit function C	Circuit function D		Inrush	Hold	Opening	Closing
[mm]	[m³/h][1.]	[bar][2.]	[bar][2.]				[ms]	[ms]
1.2	0.045	0…10	0…10	4 W AC or 4 W DC	9 VA	6 VA (4 W)	7…10	9…12
1.6	0.06	0…6	0…6		4 W	4 W	7…12	7…12

1.) K_V value: Flow rate value for water, measurement at +20 °C, 1 bar[2.] pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

3.) Response times: Measures at 6 bar[2.] and +20 °C at valve outlet acc. to ISO 12238. Opening: pressure build up 0 to 90 %, closing: pressure relief 100 to 10 %

Banjo version

Nennweite	Q_{Nn}-Wert Luft	Druckbereich	Spulenleistung	Elektr. Leistung		Schaltzeiten[3.]	
				Anzug	Betrieb	Öffnen	Schließen
[mm]	[l/min][1.]	[bar][2.]				[ms]	[ms]
1.2	48	0…10	4 W AC oder 4 W DC	9 VA	6 VA (4 W)	7…10	9…12
		0…6		4 W	4 W	7…12	7…12

1.) Q_{Nn} value: Flow rate value for air, measured at +20 °C, 6 bar[2.] pressure at valve inlet and 1 bar pressure difference

2.) Pressure data: Overpressure with respect to atmospheric pressure

3.) Response times: Measures at 6 bar[2.] and +20 °C at valve outlet acc. to ISO 12238. Opening: pressure build up 0 to 90 %, closing: pressure relief 100 to 10 %

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.

Order online now

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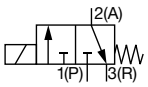
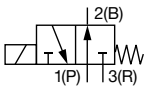
6.3. Ordering chart

Standard version

Note:

- All valves with FKM seal and without cable plug
- Further versions on request

Circuit function	Orifice [mm]	Port connection	K_v value water [m^3/h]	Pressure range [bar][1.)]	Voltage/ frequency [V/Hz]	Article no. Brass body without manual override	Article no. Brass body with manual override	Article no. St. st. body without manual override	Article no. PA body with manual override
Solenoid valve in threaded port or sub-base version with polyamide electrical coil acc. to DIN EN 175301-803 Form C for cable plug Type 2516									
C, solenoid valve 3/2 way Direct-acting Normally closed 	1.2	M5	0.045	0…10	24/DC	134143	–	–	–
					24/50	134144	–	–	–
					110/50	134145	–	–	–
					230/50	134146	–	–	–
	1.6	M5	0.06	0…6	24/DC	134147	–	–	–
					24/50	134148	–	–	–
					110/50	134149	–	–	–
					230/50	134150	–	–	–
	1.2	G ⅛	0.045	0…10	24/DC	134151	134159	134167	–
					24/50	134152	134160	134168	–
					110/50	134153	134161	134169	–
					230/50	134154	134162	134170	–
	1.6	G ⅛	0.06	0…6	24/DC	134155	134163	134171	–
					24/50	134156	134164	134172	–
					110/50	134157	134165	134173	–
					230/50	134158	134166	134174	–
	1.2	Sub-base	0.045	0…10	24/DC	134175	–	134183	134191
					24/50	134176	–	134184	134192
					110/50	134177	–	134185	134193
					230/50	134178	–	134186	134194
	1.6	Sub-base	0.06	0…6	24/DC	134179	–	134187	134195
					24/50	134180	–	134188	134196
					110/50	134181	–	134189	134197
					230/50	134182	–	134190	134198
D, solenoid valve 3/2 way Direct-acting Normally opened 	1.2	M5	0.045	0…10	24/DC	134199	–	–	–
					24/50	134200	–	–	–
					110/50	134201	–	–	–
					230/50	134202	–	–	–
	1.6	M5	0.06	0…6	24/DC	134204	–	–	–
					24/50	134205	–	–	–
					110/50	134206	–	–	–
					230/50	134207	–	–	–
	1.2	G ⅛	0.045	0…10	24/DC	134208	–	134216	–
					24/50	134209	–	134217	–
					110/50	134210	–	134218	–
					230/50	134211	–	134219	–
	1.6	G ⅛	0.06	0…6	24/DC	134212	–	134220	–
					24/50	134213	–	134221	–
					110/50	134214	–	134222	–
					230/50	134215	–	134223	–

1.) Pressure data: Overpressure with respect to atmospheric pressure

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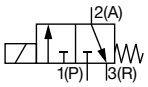
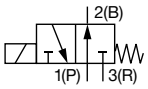
Circuit function	Orifice [mm]	Port connection	K_V value water [m³/h]	Pressure range [bar][1.)]	Voltage/ frequency [V/Hz]	Article no. Brass body without manual override	Article no. Brass body with manual override	Article no. St. st. body without manual override	Article no. PA body with manual override
Solenoid Valve with threaded port or sub-base version with polyamide electrical coil acc. to industry standard connector Form B for cable plug Type 2507									
C, solenoid valve 3/2 way Direct-acting Normally closed 	1.2	M5	0.045	0…10	24/DC	163569	–	–	–
					24/50	163570	–	–	–
					110/50	163571	–	–	–
					230/50	163572	–	–	–
	1.6	M5	0.06	0…6	24/DC	163573	–	–	–
					24/50	163574	–	–	–
					110/50	163575	–	–	–
					230/50	163576	–	–	–
	1.2	G ⅛	0.045	0…10	24/DC	161904	163584	163592	–
					24/50	163577	163585	163593	–
					110/50	163578	163586	163594	–
					230/50	163579	163587	163595	–
	1.6	G ⅛	0.06	0…6	24/DC	163580	163588	163596	–
					24/50	163581	163589	163597	–
					110/50	163582	163590	163598	–
					230/50	163583	163591	163599	–
	1.2	Sub-base	0.045	0…10	24/DC	163600	–	163608	161063
					24/50	163601	–	163609	163616
					110/50	163602	–	163610	163617
					230/50	163603	–	163611	163618
	1.6	Sub-base	0.06	0…6	24/DC	163604	–	163612	163619
					24/50	163605	–	163613	163620
					110/50	163606	–	163614	163621
					230/50	217634	–	163615	163622
D, solenoid valve 3/2 way Direct-acting Normally opened 	1.2	M5	0.045	0…10	24/DC	163623	–	–	–
					24/50	163624	–	–	–
					110/50	163625	–	–	–
					230/50	163626	–	–	–
	1.6	M5	0.06	0…6	24/DC	163627	–	–	–
					24/50	163628	–	–	–
					110/50	163629	–	–	–
					230/50	163630	–	–	–
	1.2	G ⅛	0.045	0…10	24/DC	163631	–	163639	–
					24/50	163632	–	163640	–
					110/50	163633	–	163641	–
					230/50	163634	–	163642	–
	1.6	G ⅛	0.06	0…6	24/DC	163635	–	163643	–
					24/50	163636	–	163644	–
					110/50	163637	–	163645	–
					230/50	163638	–	163646	–

1.) Pressure data: Overpressure with respect to atmospheric pressure

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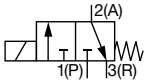
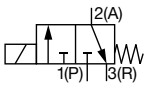
Banjo version

Note:

- All valves with PA body, NBR seal and manualoverride and without cable plug
- Further versions on request

Circuit function	Orifice	Pressure inlet P (valve body)	Service port A (banjo bolt)	Q_{Nn} value air	Pressure range	Voltage/ frequency	Article no.
	[mm]			[l/min]	[bar][1.)]	[V/Hz]	
Banjo version complete for direct mounting on pneumatic actuator with polyamide coil acc. to DIN EN 175301 - 803 Form C for cable plug Type 2516							
C, solenoid valve 3/2 way Direct-acting Normally closed 	1.2	G ⅛	G ⅛	48	0…10	24/DC	429112
						24/50	429113
						110/50	429115
						230/50	429117
		G ¼	G ⅛	48	0…10	24/DC	429126
						24/50	429127
						110/50	429128
						230/50	429129
		G ¼	G ¼	48	0…10	24/DC	427919
						24/50	427920
						110/50	427921
						230/50	427922
		Tube fitting Ø 6 mm	G ⅛	48	0…10	24/DC	425299
						24/50	425300
						110/50	428570
						230/50	425304
		Tube fitting Ø 6 mm	G ¼	48	0…10	24/DC	425285
						24/50	425286
						110/50	428569
						230/50	425290
Banjo version complete for direct mounting on pneumatic actuator with epoxy coil acc. to industry standard connector Form B for cable plug Type 2507							
C, solenoid valve 3/2 way Direct-acting Normally closed 	1.2	G ⅛	G ⅛	48	0…10	24/DC	552299
						24/50	552300
						110/50	552301
						230/50	552302
		G ¼	G ⅛	48	0…10	24/DC	552295
						24/50	552296
						110/50	552297
						230/50	552298
		G ¼	G ¼	48	0…10	24/DC	552291
						24/50	552292
						110/50	552293
						230/50	552294
		Tube fitting Ø 6 mm	G ⅛	48	0…10	24/DC	552287
						24/50	552288
						110/50	552289
						230/50	552290
		Tube fitting Ø 6 mm	G ¼	48	0…10	24/DC	552283
						24/50	552284
						110/50	552285
						230/50	552286

1.) Pressure data: Overpressure with respect to atmospheric pressure

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6.4. Ordering chart accessories

Multiple manifold

Note:
Detailed order information can be found in chapter "4.3. Multiple manifold" on page 8.

Accessories for manifolds

Accessory	Features	Article no.
Blanking plug	with seal ring, G ⅛	005041
Cover plate	for unused valves	005100

Cable plug Type 2516 acc. to DIN EN 175301-803 Form C

Note:

- Delivery of cable plug includes a flat seal and a fixing screw.
- Further versions of cable plug with circuitry acc. to DIN EN 175 301-803 Form C as well as detailed technical data, see datasheet **Type 2516 ▶.**

Cable plug	Version	Voltage	Current	Article no.
	Without circuitry	0…250 V AC/DC	Max. 6 A	303141
	With LED	12…24 V AC/DC	Max. 3 A	303145
	With LED and varistor	12…24 V AC/DC	Max. 3 A	303148
	With rectifier, LED and varistor	12…24 V AC/DC	Max. 1 A	303142

Cable plug Type 2507 acc. to industry standard connector Form B

Note:

- Delivery of cable plug includes a flat seal and a fixing screw.
- Further versions of cable plug with circuitry acc. to industry standard connector Form B as well as detailed technical data, see datasheet **Type 2507 ▶.**

Cable plug	Version	Voltage	Article no.
	Without circuitry (standard)	2…250 V AC/DC	423845
	With LED	24 V AC/DC	423849
	With LED and free-wheeling diode	12…24 V AC/DC	423851
	With rectifier, LED and varistor	12…24 V AC/DC	423853

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