

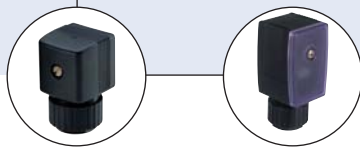
Direct-acting 2/2-way plunger valve

- Direct-acting and compact valve up to diameter of DN 6.0
- Vibration-proof, bolted coil system
- Increased leak-tightness with welded plunger guiding tube
- Explosion proof versions
- Energy-saving pulse versions

DTS 1000011032 EN Version: R Status: RL (released | freigegeben | valide) printed: 11.06.2015



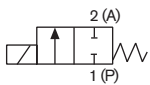
Type 6013 can be combined with...


 Type 2508
Cable plug

 Type 2511
ASI Cable plug

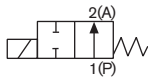
Valve 6013 is a direct-acting plunger valve. The stopper and plunger guiding tube are welded together to enhance pressure resistance and leak-tightness. Various seal material combinations are available depending on the application. A Bürkert-specific flange design (SFB) enables space-saving arrangement of valves on a manifold. The coils are moulded with polyamide or with chemically resistant epoxy. Pulse coils and 'Kick and Drop' electronics are available for overexcitation (plug 2511) for the reduction of electrical power consumption during operation. Optional manual actuation enables quick commissioning and easy maintenance. In combination with a plug in accordance with DIN EN 17301-803 Form A, the valves satisfy protection class IP65. Stainless steel valves satisfy NEMA 4X.

Circuit Function A



2/2-way valve,
normally closed by
spring force

Circuit Function B



2/2-way valve,
normally open by
spring force

Technical data	
Body material	
Type 6013	Brass, stainless steel 1.4305
Type 6013 A	Brass, stainless steel 1.4305
Seal material	FKM, PTFE/Graphite (EPDM on request)
Analysis version	Silicon, oil and fat free version
Type 6013 A	Tightness 10^{-4} mbar l/s
Limit value for residual carbon	
Type 6013 A	<math><0.2</math> mg/dm ²
Medium	
Type 6013	<ul style="list-style-type: none"> ▪ Technical vacuum ▪ Neutral gases and liquids (e.g. compressed air, water, hydraulic oil) ▪ Neutral medium, which does not attack the body and seal materials (see chemical resistance chart)
Type 6013 A	
Medium temperature	
FKM	-10 to +100 °C (PA coil) till 120°C (Epoxy coil)
PTFE/Graphite	-40 to +180 °C (see chemical resistance chart)
FKM, Circuit function B	-10 to 100°C (AC) -10 to 120°C (DC)
Ambient temperature	Max. +55 °C
Viscosity	Max. 21 mm ² /s
Port connection	
Type 6013	G1/8, G1/4, G3/8, sub-base (SFB)
Type 6013 A	G1/8, G1/4
Operating voltage	
Type 6013	24 V DC, 24 V/50 Hz, 230 V / 50 Hz
Type 6013 A	24 V DC, 230 V / 50 Hz (other voltages on request)
Voltage tolerance	± 10%
Duty cycle/single valve	
With block assembly on manifold	100% continuous rating Intermittent operation 60% (30 min) or with 5 W coil on request
Electrical connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (see accessories) ATEX/IECEx version with 3 m moulded cable
Installation	As required, preferably with actuator upright
Assembly	No oils, fats or silicone to be used during installation
Protection class	IP65 with Cable Plug
Coil insulation class	Polyamide class B Epoxy class H

Technical data, continued

Circuit function A

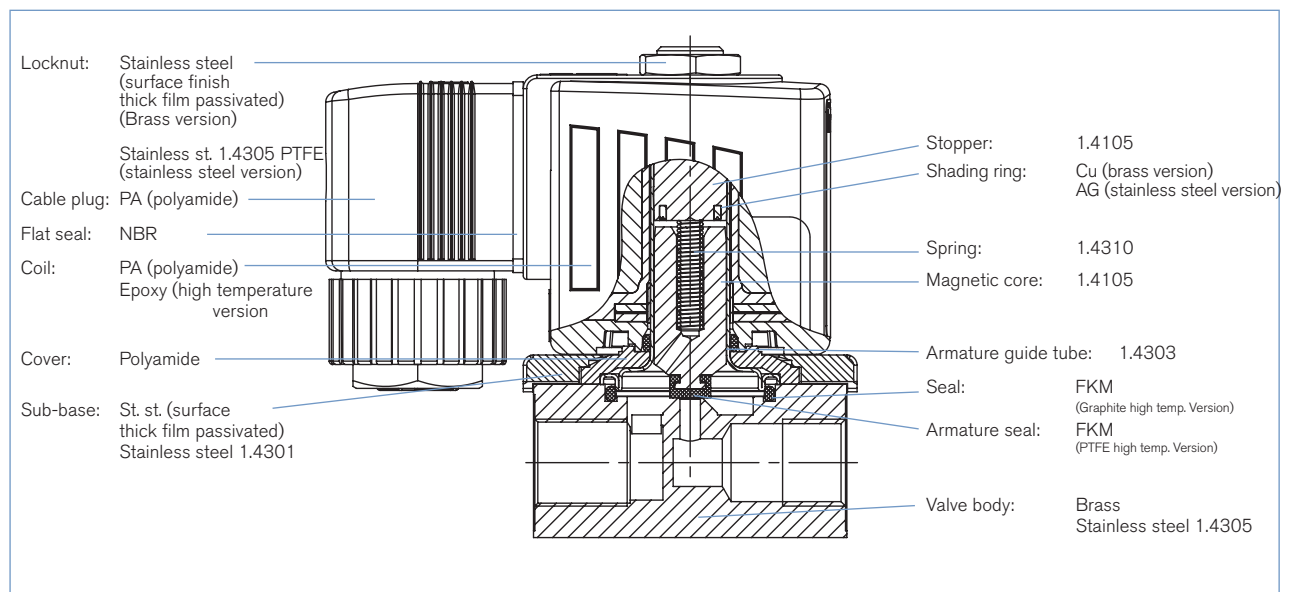
Orifice [mm]	Port connection	Kv-value water [m ³ /h]	Weight [g]	Power consumption ¹⁾ [W]	Electr. power		Coil size	Response times	
					Inrush (AC)	Hold (AC)		opening [ms]	closed [ms]
2.0	G1/8	0.12	325	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.0	G1/4	0.12	465	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.0	sub-base	0.12	290	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.5	G1/8	0.16	325	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.5	G1/4	0.16	465	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
3.0	G1/8	0.23	325	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
3.0	G1/4	0.23	465	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
3.0	G3/8	0.23	550	10W AC or 10WDC (11)	30 VA	22 VA	6 (40mm)	20	30
4.0	G1/4	0.30	465	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
4.0	G3/8	0.30	550	10W AC or 10WDC (11)	30 VA	22 VA	6 (40mm)	20	30
6.0	G1/4	0.55	465	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
6.0	G3/8	0.55	550	10W AC or 10WDC (11)	30 VA	22 VA	6 (40mm)	20	30

Circuit function B

Orifice [mm]	Port connection	Kv-value water [m ³ /h]	Weight [g]	Power consumption ¹⁾ [W]	Electr. power		Coil size	Response times	
					Inrush (AC)	Hold (AC)		opening [ms]	closed [ms]
2.00	G 1/8	0.12	325	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30
2.00	G 1/4	0.12	465	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30
2.00	sub-base	0.12	290	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30
3.00	G 1/8	0.23	325	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30
3.00	G 1/4	0.23	465	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30
3.00	sub-base	0.23	290	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30
4.00	G 1/4	0.3	465	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30
6.00	G 1/4	0.55	465	7 W(AC) or 8 W DC (9)	24VA	17VA	5 (32mm)	20	30

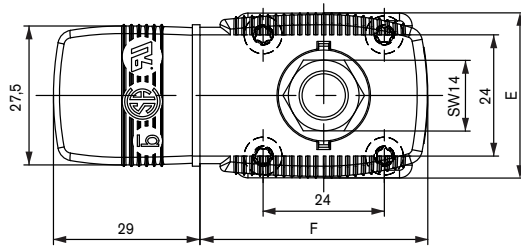
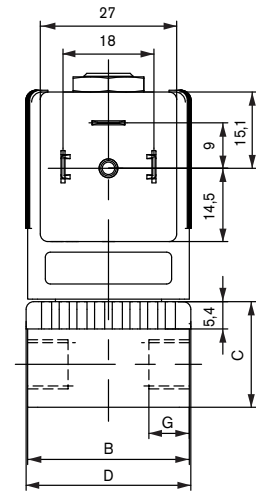
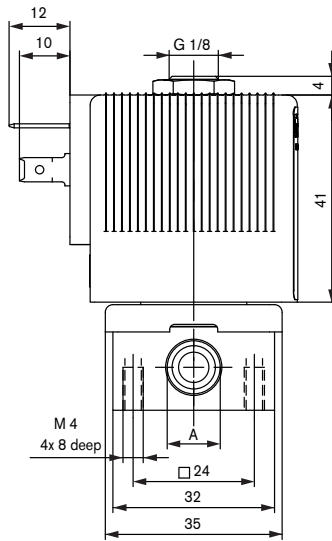
¹⁾ Values in brackets at coil temperature 20°C

Materials

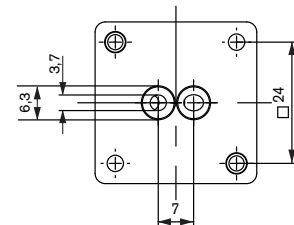


Dimensions [mm]

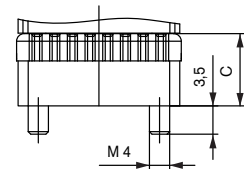
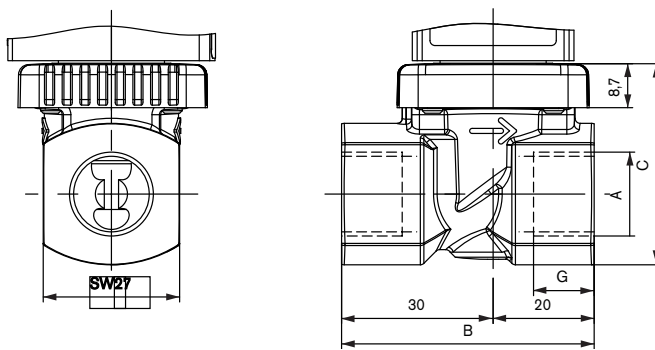
View without cable plug



Sub-base version (SFB)
underside view



G3/8 connection



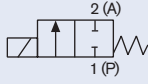
Port connection	Body dimensions [mm]				
	A	B	C	D	G
G1/8	G1/8	32	20.8	32.6	8
G1/4	G1/4	46	26.8	49	12
G3/8	G3/8	50	39.8	49	12
Sub-base (SFB)	-	32	14.3	32.6	-

Coil width E [mm]	Coil depth F [mm]
32 (8W)	45 (8W)
40 (10W)	51 (10W)
32 (8W)	45 (8W)

Ordering chart for valves (other versions on request)

6013 Normally closed valve with FKM seal, brass or stainless steel body (class B)

Delivered without cable plug (see accessories)

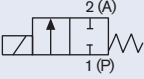
Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Coil power [W]	Pressure range [bar] ²⁾	Voltage/Frequency [V/Hz]	Item no. brass body FKM Seal	Item no. Stainless steel body, FKM seal	
A 2/2-way valve NC 	2.0	G 1/8	0.12	8	0 - 12	024/DC	134 237	134 233	
					0 - 25	024/50	132 865	134 234	
					0 - 25	230/50	134 239	134 236	
		G 1/4	0.12	8	0 - 12	024/DC	137 537	137 533	
					0 - 25	024/50	137 538	137 534	
					0 - 25	230/50	137 540	137 536	
			sub-base (SFB)	0.12	8	0 - 12	024/DC	134 244	-
						0 - 25	024/50	134 245	-
						0 - 25	230/50	134 247	-
	2.5	G 1/8	0.16	8	0 - 10	024/DC	134 240	-	
					0 - 16	024/50	134 241	-	
					0 - 16	230/50	134 243	-	
	3.0	G 1/8	0.23	8	0 - 6	024/DC	126 091	126 078	
					0 - 10	024/50	126 092	126 079	
					0 - 10	230/50	126 094	126 081	
		G 1/4	0.23	8	0 - 6	024/DC	125 301	125 317	
					0 - 10	024/50	125 302	126 082	
					0 - 10	230/50	125 304	126 084	
		G 3/8	0.23	10	0 - 8	024/DC	134 248	-	
					0 - 14	024/50	134 249	-	
					0 - 14	230/50	134 251	-	
	4.0	G 1/4	0.30	8	0 - 1.5	024/DC	125 306	125 318	
					0 - 4	024/50	125 307	125 319	
					0 - 4	230/50	125 309	125 320	
		G 3/8	0.30	10	0 - 2.5	024/DC	134 252	-	
					0 - 6	024/50	134 253	-	
					0 - 6	230/50	134 255	-	
	6.0	G 1/4	0.55	8	0 - 0.5	024/DC	125 311	126 086	
					0 - 1.5	024/50	125 312	126 087	
					0 - 1.5	230/50	125 314	126 089	
G 3/8		0.55	10	0 - 0.75	024/DC	134 256	-		
				0 - 2.5	024/50	134 257	-		
				0 - 2.5	230/50	134 259	-		

¹⁾ Measured at +20 °C, 1 bar²⁾ pressure at valve inlet and free outlet..

²⁾ Measured as overpressure to the atmospheric pressure

Ordering chart for valves (continued)

6013 Normally closed valve for high temperature applications (-40°C to +180°C) PTFE seat seal, brass body (class H)
Delivered without cable plug (see accessories)

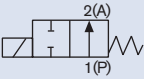
Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Coil power [W]	Pressure range [bar] ²⁾	Voltage/Frequency [V/Hz]	Item no.			
A 2/2-way valve NC 	2.0	G 1/4	0.12	8	0 - 12	024/DC	136 015			
					0 - 25	024/50	136 016			
					0 - 25	230/50	136 018			
	3.0	G 1/4	0.23	10	0 - 6	024/DC	136 019			
					0 - 10	024/50	136 020			
					0 - 10	230/50	136 022			
					G 3/8	0.23	10	0 - 8	024/DC	136 023
								0 - 14	024/50	136 024
0 - 14	230/50	136 026								

¹⁾ Measured at +20 °C, 1 bar²⁾ pressure at valve inlet and free outlet.

²⁾ Measured as overpressure to the atmospheric pressure.

6013 Normally open valve with FKM seal, brass body (class H)

Delivered without cable plug (see accessories)

Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Coil power [W]	Voltage/Frequency [V/Hz]	Item no.
B 2/2-way valve NO 	2.0	G1/8	0.12	0 - 16	8	24/DC	213 543
					7	230/50	213 550
	3.0	G1/8	0.23	0 - 8	8	24/DC	213 545
					7	230/50	213 551
		G1/4	0.23	0 - 8	8	24/DC	213 546
					7	230/50	213 552
	4.0	G1/4	0.3	0 - 4	8	024/DC	213 548
					7	230/50	213 553
	6.0	G1/4	0.55	0 - 2	8	024/DC	213 549
					7	230/50	213 554

¹⁾ Measured at +20 °C, 1 bar²⁾ pressure at valve inlet and free outlet..

²⁾ Measured as overpressure to the atmospheric pressure

Ordering chart - Standard temperature version for DC power supply, impulse version

6013 Impulse valves, seal materil FKM (class H)

Circuit function	Port connection	Orifice [mm]	Kv-value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Power consumption DC (hot/cold coil) [W]	Item no. per voltage [V]	
						012/DC	024/DC
A 2/2-way valve 	Brass body						
	Sub-base (SFB)	2.0	0.12	0-16	7	209 266	209 272
		2.5	0.16	0-10	7	209 267	209 273
		3.0	0.23	0-6	7	209 268	209 274
	G 1/8	2.0	0.12	0-16	7	209 269	209 275
		2.5	0.16	0-10	7	209 270	209 276
3.0		0.23	0-6	7	209 271	209 277	

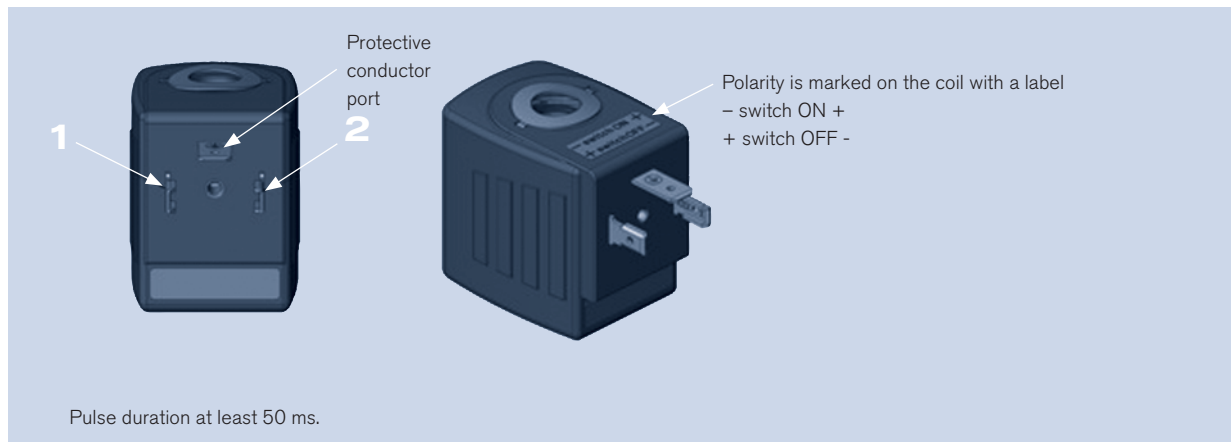
¹⁾ Measured at +20 °C, 1 bar²⁾ pressure at valve inlet and free outlet..

²⁾ Measured as overpressure to the atmospheric pressure

Please note that the cable plug must be ordered separately, see accessories on page 8 and separate datasheet, Type 2508.

Control for impulse version with polarity reversal control

Polarity is marked on the coil with a label	Features	Terminal connections
- switch ON +	valve open	(+) on terminal 2 and (-) on terminal 1 (see below)
+ switch OFF -	valve closed	(+) on terminal 1 and (-) on terminal 2 (see below)



Note: Please use only the cable plug without electrical circuitry for the impulse version

Technical data - analytical version

Analysis version	Media flowing through are not contaminated
Limit for residual carbon	<0.2 mg/dm ²
Permissible leakage rate for medium	10 ⁻⁴ mbar l/sec <ul style="list-style-type: none"> Neutral medium, which does not attack the body and seal materials Technical vacuum
Electr. connection	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN43650) for cable plug Type 2508 (see accessories)
Mounting instructions	No oils, fats or silicone used during the assembly

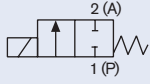
Solenoid valves for higher Requirements
This version is particularly suitable for switching from extremely pure gaseous medium. All media-affected parts are submitted to additional purification processes, so that the media is not contaminated under any circumstances.

The tightness test takes place at the Helium leak detector from a min. of 10⁻⁴ mbar l/sec.

Ordering chart (other versions on request)

6013 Analysis normally closed valve with seal material FKM and brass body (class B)

Delivered without cable plug (see accessories)

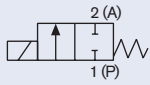
Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Coil power [W]	Voltage/Frequency [V/Hz]	Item no.
A 2/2-way valve NC 	2.0	G 1/8	0.12	0-12	8	24/DC	137 826
				0-25		230/50	137 827
	2.5	G1/8	0.16	0-10	8	24/DC	137 828
				0-16		230/50	137 829
	3.0	G 1/4	0.23	0-6	8	24/DC	137 830
				0-10		230/50	137 831
	4.0	G 1/4	0.30	0-1.5	8	24/DC	137 832
				0-4		230/50	137 833

¹⁾ Measured at +20 °C, 1 bar²⁾ pressure at valve inlet and free outlet..

²⁾ Measured as overpressure to the atmospheric pressure

6013 Analysis normally closed valve with seal material FKM and stainless steel body (class B)

Delivered without cable plug (see accessories)

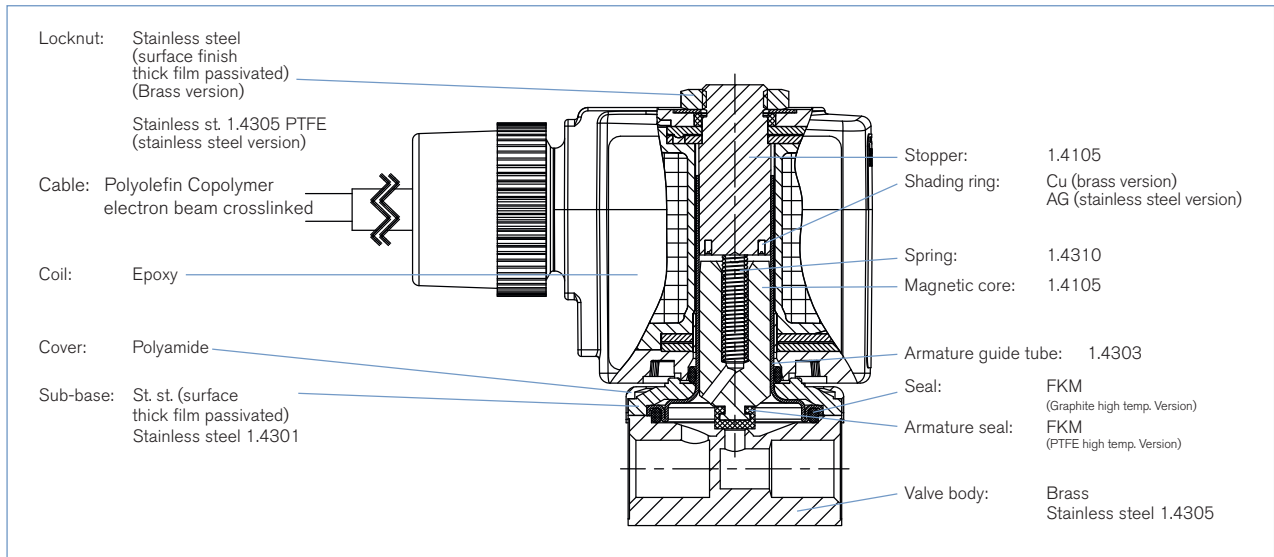
Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Coil power [W]	Voltage/Frequency [V/Hz]	Item no.
A 2/2-way valve NC 	2.0	G 1/8	0.12	0-12	8	24/DC	137 818
				0-25		230/50	137 819
	2.0	G1/4	0.12	0-12	8	24/DC	137 820
				0-25		230/50	137 821
	3.0	G 1/4	0.23	0-6	8	24/DC	137 822
				0-10		230/50	137 823
	4.0	G 1/4	0.30	0-1.5	8	24/DC	137 824
				0-4		230/50	137 825

¹⁾ Measured at +20 °C, 1 bar²⁾ pressure at valve inlet and free outlet..

²⁾ Measured as overpressure to the atmospheric pressure

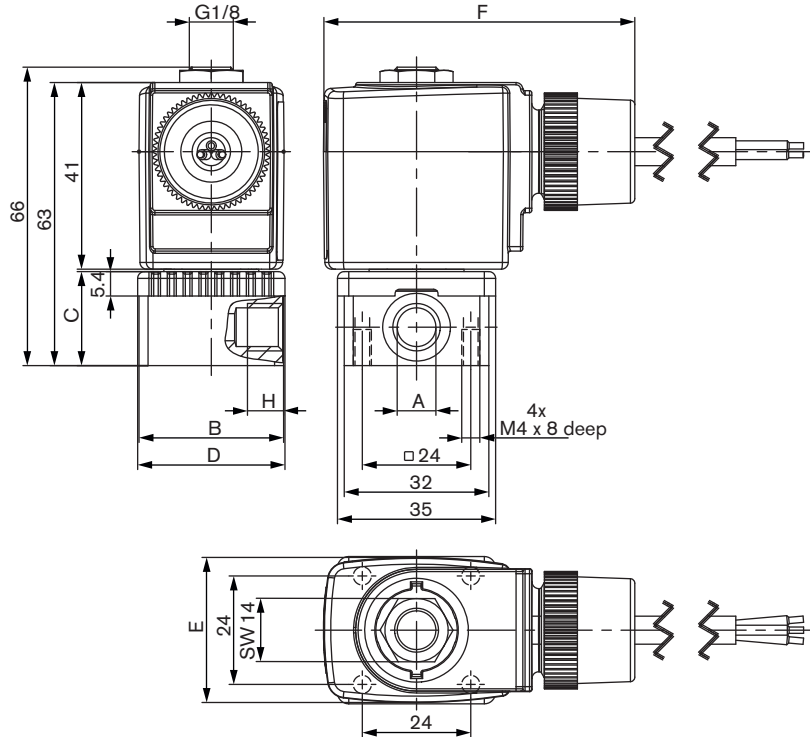
Please note that the cable plug must be ordered separately, see accessories and separate datasheet, Type 2508.

Materials for ATEX/IECEX version

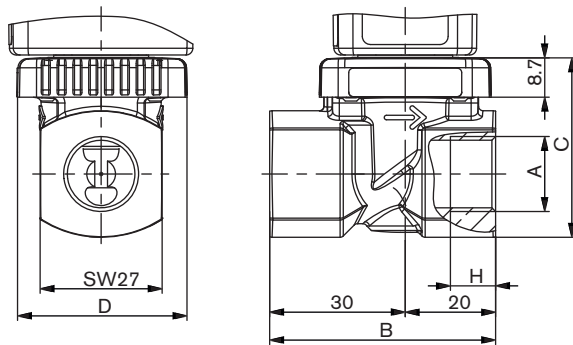


Dimensions for ATEX/IECEx version [mm]

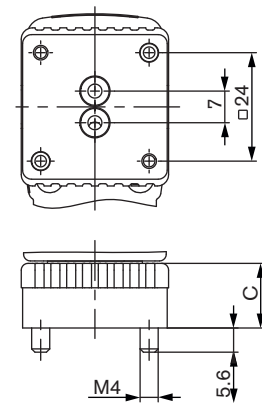
Threaded version, G1/8



Threaded version, G3/8



Sub-base version (SFB)
underside view



Port connection	Body dimensions [mm]				
	A	B	C	D	H
G1/8	G1/8	32	20.8	32.6	8
G1/4	G1/4	46	26.8	49	12
G3/8	G3/8	50	39.8	38	12
Sub-base version (SFB)	-	32	13.3	32.6	-

Coil size	E [mm]	F [mm]
5	32	69
6	40	75

Ordering chart for valves - ATEX/IECEX versions (other versions on request)

6013 Normally closed valve, Ex m T4 approved with seal material FKM and molded cable (3m), single mounting only

Circuit function	Orifice [mm]	Port connection	Kv-value water [m ³ /h]	Coil effective power [W]	Pressure range [bar]	Voltage/Frequency [V/Hz]	Item no.	
							Brass body	Stainless steel body
	2.0	sub-base (SFB)	0.11	7	0-6	24/UC	278 607	278 614
		G 1/8	0.12	9	0-10	230/UC	278 608	x
						24/UC	278 592	278 584
		G 1/4	0.12	9	0-10	230/UC	x	278 585
						24/UC	278 605	278 601
		230/UC	278 606	278 603				
	2.5		G 1/8	0.16	9	0-8	24/UC	278 593
		230/UC					x	x
	3.0	G 1/8	0.23	9	0-5	24/UC	x	278 586
						230/UC	x	x
		G 1/4	0.23	9	0-5	24/UC	278 594	278 587
						230/UC	278 596	278 589
	4.0	G 1/4	0.30	9	0-1.2	24/UC	278 597	278 590
						230/UC	x	278 591
	6.0	G 1/4	0.55	9	0-0.4	24/UC	278 598	278 604
230/UC						278 599	x	

x on request

The maximum fluid temperature must not in any case exceed the permissible temperature class (T4 135 °C, 100 °C T5, T6 85 °C), of minus 5 K.

Explosion-proof approvals

ATEX: PTB 14 ATEX 2023 X

II 2G Ex mb IIC T4 Gb

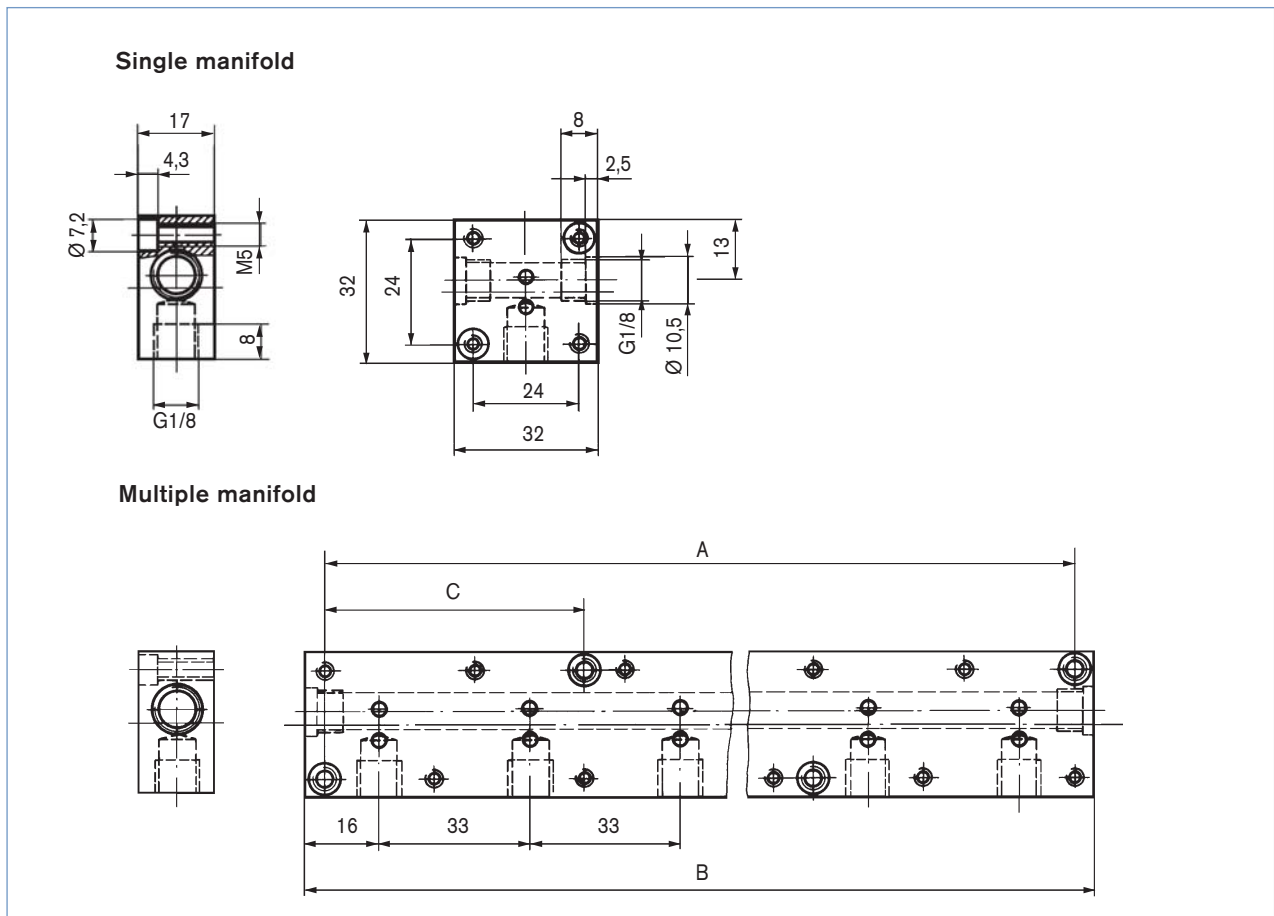
II 2D Ex mb IIIC T135 °C Db

IECEX: IECEX PTB 14.0049 X

Ex mb IIC T4 Gb

Ex mb IIIC T135 °C Db

Manifold mounting



Ordering chart for Manifolds

Accessory part	Quantity of valve places				Item no.
Single manifold	in aluminium				005 020
Multiple manifold	in aluminium	Hole spacing A [mm]	Total length B [mm]	Hole spacing C [mm]	
	2	57	65	–	005 023
	3	90	98	–	005 286
	4	123	131	–	005 287
	5	156	164	57	005 035
	6	189	197	57	005 038
	8	255	263	90	005 386
	10	321	329	90	005 764
Connector nipple	with O-Ring, to connect from manifold				005 040
Covering plate	with screws and O-ring for locking unoccupied valve positions				005 630

With manifold mounting, please comply with the permissible duty cycle (5W models with 100% continuous rating or 8W model with 60% duty cycle). The pressure port for the manifold is designated with P (R), and the outlet port with A (B). Only connect together ports with the same designation.

2/2-way valves of Type 6013 can be operated together on a manifold with 3/2-way valves of Type 6014, circuit function C (not D or T!) if the operating pressures agree according to the rating plates. The manifolds can also be expanded if the valve functions are taken into consideration. Connector nipples with O-rings are used to connect the P (R) ports.

Attention!

Unused, open valve ports must be closed off with covering plates (see accessories). Manifold should be fixed on to a rail.

Ordering chart for accessories

Cable plug Type 2508 acc. to DIN EN 175301-803 Form A (previously DIN 43650)

Included in delivery is a cable plug with flat seal and fixing screw. Other versions, see Datasheet: Type 2508.

Circuit	Voltage	Item no.
without circuitry	0 -250 V	008 376
with LED	12 -24 V	008 360
with LED and varistor	12 -24 V	008 367
with LED and varistor	200 -240 V	008 369
with inverter ¹⁾	24V DC	on request
further versions	see datasheet Type 2508	



¹⁾ The inverter plug contains an electronic, which especially enables the electric 3 wire control
 Input for 3 wire technology, common "-" polarity, two split "+" polarity.
 Output suitable for impulse version for Type 6013/6014

i Further versions on request



Approval

UL / UR / CSA
 FM / CSA-EX Div 1/2
 European gas approval Class A, Group 2



Port connection

Threaded port NPT, Rc



Voltage

Further voltages



Materials

Seal material EPDM



Pressure

Variants with increased coil power for higher medium pressure

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In case of special application conditions,
 please consult for advice..

Subject to alterations
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