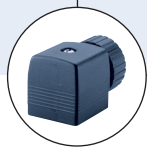


## 2/2-way direct acting Solenoid Valve, normally closed



Type 6013 can be combined with...



**Type 2508**

Cable plug



**Type 1078**

Timer unit



**Type 2511**

ASI cable plug

- High quality seal material
- High cycling rate
- Special versions up to +180°C
- Threaded port and sub-base connections
- Compact design

This direct-acting 2/2-way miniature solenoid valve is available in two versions.

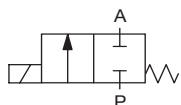
### Standard version:

Type 6013 is a small direct acting solenoid valve for general purpose used for shut-off, dosing, filling, ventilating and for technical vacuum. It is of modular design and may be mounted individually or as a block on a multiple manifold.

### Analysis and vacuum technology:

Type 6013 A is a high-quality small solenoid valve for analysis and vacuum technology. It is manufactured under clean-room conditions. This includes thorough cleaning of all parts in contact with media from organic and inorganic substances. The limit for residual hydrocarbons is below 0.2 mg/dm<sup>2</sup>. 100 % of the valves are subjected to a special leakage test with regard to tight seating and tightness to the exterior. The permissible leakage rate is 10<sup>-4</sup> mbar l/s. The valve is used for shut-off, dosing, filling, ventilating and particularly for analysis technology.

### Circuit function A



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

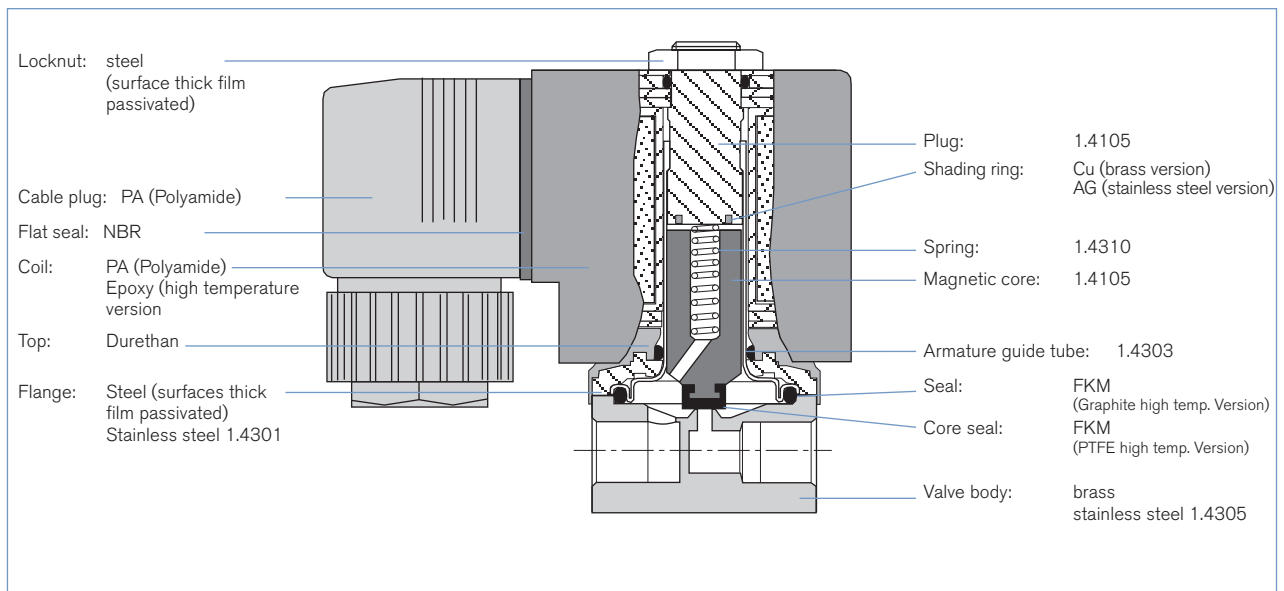
Technical data	
<b>Body materials</b> Type 6013 Type 6013 A	Brass, Stainless steel 1.4305 Brass, Stainless steel 1.4305
<b>Seal material</b>	FKM, PTFE/Graphite (EPDM on request)
<b>Analysis version (Type 6013 A)</b>	silicon, oil and fat free version Tightness <10 <sup>-4</sup> mbar l/s
<b>Limit value for residual carbon (Type 6013 A)</b>	<0,2 mg/dm <sup>2</sup>
<b>Media</b> Type 6013  Type 6013 A	<ul style="list-style-type: none"> <li>▪ technical vacuum</li> <li>▪ neutral gases and liquids (e.g. compressed air, water, hydraulic oil)</li> <li>▪ neutral media, which do not attack the body and seal materials (see chemical resistance chart)</li> </ul>
<b>Media temperature</b> FKM PTFE/Graphite	-10 to +100 °C (PA coil) till 120°C (Epoxy coil) to +180 °C (see chemical resistance chart)
<b>Ambient temperature</b>	max. +55 °C
<b>Viscosity</b>	max. 21 mm <sup>2</sup> /s
<b>Port connection</b> Type 6013 Type 6013 A	G1/8, G1/4, G3/8, sub-base G1/8, G1/4
<b>Operating voltage</b> Type 6013 Type 6013 A	24 V DC, 24 V/50 Hz, 230 V / 50 Hz 24 V DC, 230 V / 50 Hz (other voltages on request)
<b>Voltage tolerance</b>	± 10%
<b>Duty cycle/Single valve</b> with block assembly on manifold	100% Continuous rating Intermittent operation 60% (30 min)
<b>Electrical connection</b>	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (see Accessories)
<b>Installation</b>	As required, preferably with actuator upright
<b>Assembly</b>	no oils, fats or silicone to be used during assembly
<b>Protection class</b>	IP65 with cable plug
<b>Insulation class</b>	Polyamide coil B Epoxy coil H

## Technical data, continued

Orifice [mm]	Port connection	Kv value water [m³/h]	Pressure range		Power consumption <sup>1)</sup> [W]	Elec. power		Coil size	Response times	
			AC [bar]	DC [bar]		Inrush (AC)	Hold (AC)		opening [ms]	closing [ms]
2.0	G1/8	0.12	0-25	0-12	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.0	G1/4	0.12	0-25	0-12	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.0	sub-base	0.12	0-25	0-12	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.5	G1/8	0.16	0-16	0-10	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
2.5	G1/4	0.16	0-16	0-10	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
3.0	G1/8	0.23	0-10	0-6	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
3.0	G1/4	0.23	0-10	0-6	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
3.0	G3/8	0.23	0-14	0-8	10W AC or 10WDC (11)	30 VA	22 VA	6 (40mm)	20	30
4.0	G1/4	0.30	0-4	0-1.5	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
4.0	G3/8	0.30	0-6	0-2.5	10W AC or 10WDC (11)	30 VA	22 VA	6 (40mm)	20	30
6.0	G1/4	0.55	0-1.5	0-0.5	8W AC or 8W DC (9)	24 VA	17 VA	5 (32mm)	20	30
6.0	G3/8	0.55	0-2.5	0-0.75	10W AC or 10WDC (11)	30 VA	22 VA	6 (40mm)	20	30

<sup>1)</sup> Values in brackets at coil temperature 20°C

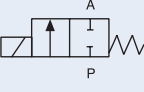
## Material



## Ordering chart for valves (Further versions on request)

### 6013 Universal valve with FKM seal, brass and stainless steel body (Polyamide coil)

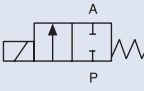
Delivered without cable plug (see accessories)

Circuit function	Orifice [mm]	Port connection	Kv value water [m <sup>3</sup> /h]	Coil power [W]	Pressure range [bar]	Voltage/Frequency [V/Hz]	Weight [g]	Item no. brass body, FKM seal	Item no. stainless steel body, FKM seal
<b>A</b> 2/2-way Valve NC 	2.0	G 1/8	0.12	8	0 - 12	024/DC	325	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	325	137 537	137 533
					0 - 25	024/50		137 538	137 534
					0 - 25	230/50		137 540	137 536
		sub-base	0.12	8	0 - 12	024/DC	280	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	325	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	325	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	430	125 301	125 317
					0 - 10	024/50		125 302	126 082
					0 - 10	230/50		125 304	126 084
	4.0	G 1/4	0.30	8	0 - 1.5	024/DC	430	125 306	125 318
					0 - 4	024/50		125 307	125 319
					0 - 4	230/50		125 309	125 320
	6.0	G 1/4	0.55	8	0 - 0.5	024/DC	430	125 311	125 086
					0 - 1.5	024/50		125 312	125 087
					0 - 1.5	230/50		125 314	125 189

## Ordering chart for valves

### 6013 Universal valve with FKM seal, G 3/8, brass body (Polyamide coil)

Delivered without cable plug (see accessories)

Circuit function	Orifice [mm]	Port connection	Kv value water [m <sup>3</sup> /h]	Coil power [W]	Pressure range [bar]	Voltage/Frequency [V/Hz]	Weight [g]	Item no. brass body, FKM seal	Item no. stainless steel body, FKM seal
<b>A</b> 2/2-way Valve NC 	3.0	G 3/8	0.23	10	0 - 8	024/DC	500	134 248	135 430
					0 - 14	024/50		134 249	135 431
					0 - 14	230/50		134 251	135 433
	4.0	G 3/8	0.30	10	0 - 2.5	024/DC	500	134 252	135 434
					0 - 6	024/50		134 253	135 435
					0 - 6	230/50		134 255	135 437
	6.0	G 3/8	0.55	10	0 - 0.75	024/DC	500	134 256	135 438
					0 - 2.5	024/50		134 257	135 439
					0 - 2.5	230/50		134 259	135 441

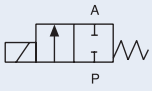
## Ordering chart for valves

### 6013 Valves for high temperature applications (to $\pm 180^{\circ}\text{C}$ ), PTFE seat seal, Brass body

Delivered without cable plug (see accessories)

Brass body with Stainless steel seat

(Epoxy coil)

Circuit function	Orifice [mm]	Port connection	Kv value water [m <sup>3</sup> /h]	Coil power [W]	Pressure range [bar]	Voltage/ Frequency [V/Hz]	Item no.			
<b>A</b> 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

6013 Analytical valve see page 5

## Technical Data - Analytical version

<b>Analytical version</b>	Media flowing through are not contaminated
<b>Limit value for residual carbon</b>	< 0,2 mg/dm <sup>2</sup>
<b>Permissible leakage rate media</b>	10 <sup>-4</sup> mbar l/sec <ul style="list-style-type: none"> <li>▪ neutral media, which do not attack the body and seal materials</li> <li>▪ technical vacuum</li> </ul>
<b>Elec. connection</b>	tag connector acc. to DIN EN 175301-803 A (previously DIN43650) for cable plug Type 2508 (see accessories)
<b>Assembly note</b>	no oils, fats or silicone used during the assembly

### Solenoid valves for higher Requirements

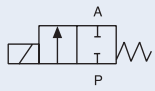
This version is suitable particularly for highly pure gaseous and liquid media. All media-affected parts are submitted to additional purification processes, so that the media is not contaminated under any circumstances. The assembly takes place under clean-room conditions.

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

## Ordering chart for valves (further versions on request)

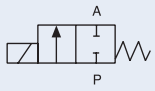
### 6013A Analytical valve with brass body and FKM seal, (Polyamide coil)

Delivered without cable plug (see accessories)

Circuit function	Orifice [mm]	Port connection	Kv value water [m <sup>3</sup> /h]	Pressure range [bar]	Coil power [W]	Weight [g]	Voltage/Frequency [V/Hz]	Item no.
	2.0	G 1/8	0.12	0-12	8	325	24/DC	137 826
				0-25			230/50	137 827
	2.5	G1/8	0.16	0-10	8	325	24/DC	137 828
				0-16			230/50	137 829
	3.0	G 1/4	0.23	0-6	8	430	24/DC	137 830
				0-10			230/50	137 831
	4.0	G 1/4	0.30	0-2	8	430	24/DC	137 132
				0-4			230/50	137 833

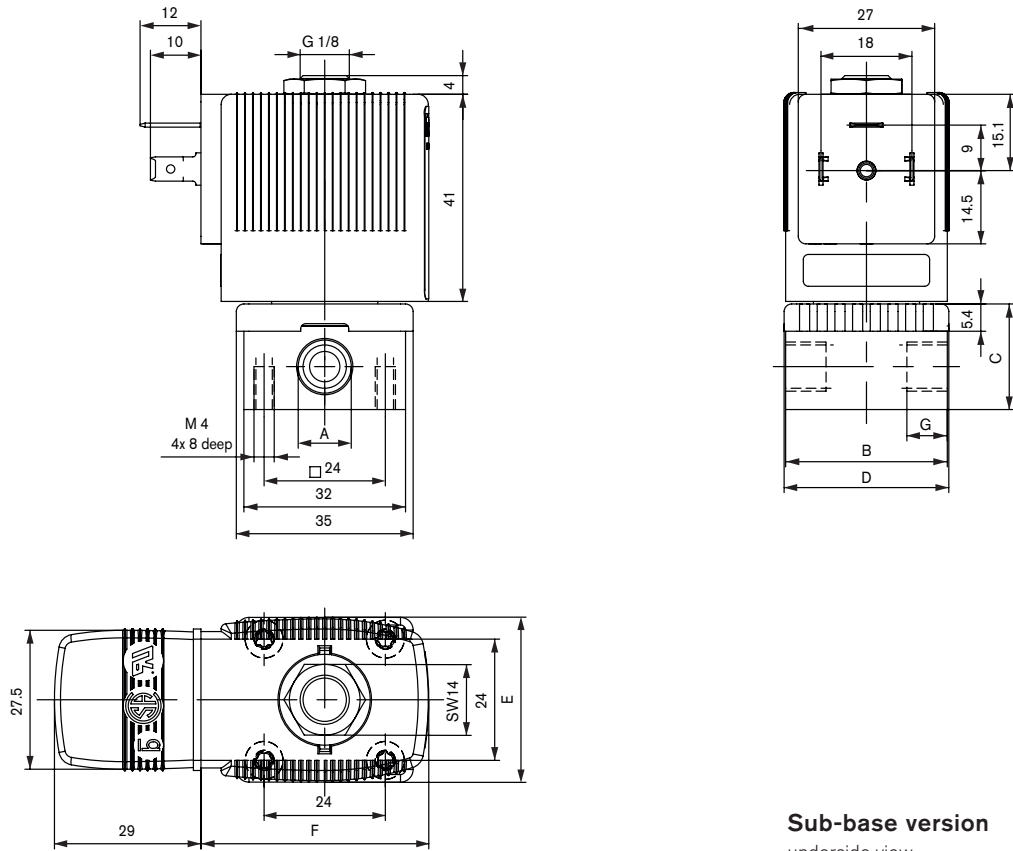
### 6013A Analytical valve with stainless steel body and FKM seal, (Polyamide coil)

Delivered without cable plug (see accessories)

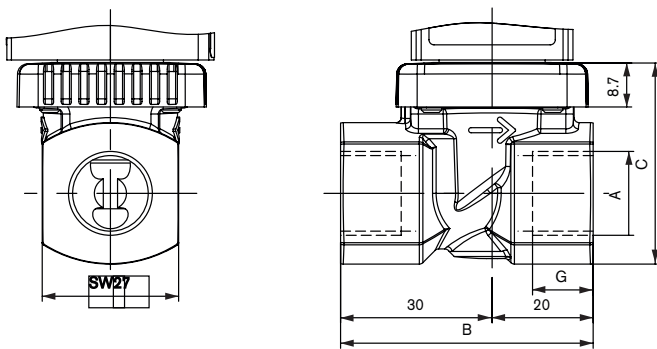
Circuit function	Orifice [mm]	Port connection	Kv value water [m <sup>3</sup> /h]	Pressure range [bar]	Coil power [W]	Weight [g]	Voltage/Frequency [V/Hz]	Item no.
	2.0	G 1/8	0.12	0-12	8	325	24/DC	137 818
				0-25			230/50	137 819
	2.0	G1/4	0.12	0-12	8	430	24/DC	137 820
				0-25			230/50	137 821
	3.0	G 1/4	0.23	0-6	8	430	24/DC	137 822
				0-10			230/50	137 823
	4.0	G 1/4	0.30	0-2	8	500	24/DC	137 824
				0-4			230/50	137 825

Dimensions [mm]

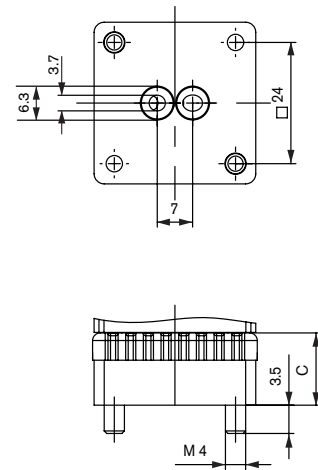
View without cable plug



G3/8 connection

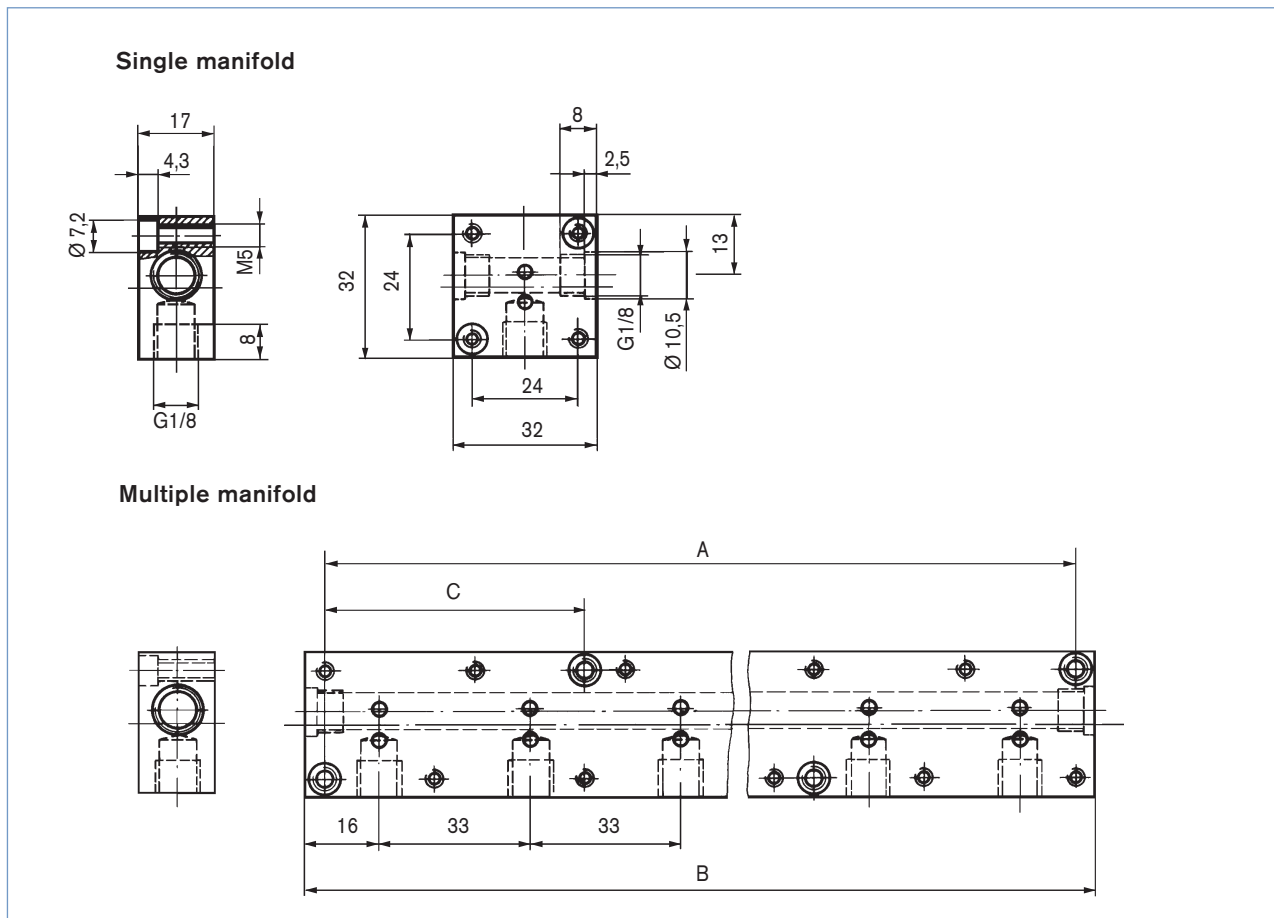


Sub-base version  
underside view



Port connection	Body dimensions [mm]					Coil width	Coil depth
	A	B	C	D	G	E [mm]	F [mm]
G1/8	G1/8	32	20.8	32.6	8	32 (8W)	45 (8W)
G1/4	G1/4	46	26.8	49	12	32 (8W)	45 (8W)
G3/8	G3/8	50	39.8	49	12	40 (10W)	51 (10W)
sub-base	-	32	14.3	32.6	-	32 (8W)	45 (8W)

## Block assembly



## Ordering chart for assembly

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	57	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 (5 W models with 100% continuous rating or 8 W 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.

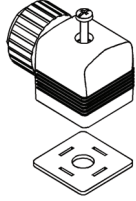
2/2-way valves of Type 6013 can be operated together on a manifold with 3/2-way valves of Type 6014, circuit function C (not D or T!) if the operating pressures agree according to the rating plates. The manifolds can also be expanded if the valve functions are taken into consideration. Connector nipples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

**Caution!**

Unused, open valve ports must be closed off with covering plates (see Accessories).

## Ordering chart for accessories

The flat seal and the fixing screw are included in the delivery.  
Other versions with cable plug acc. to DIN EN 175301-803  
(previously DIN43650), see Datasheet: Type 2508.



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

Circuitry	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
further versions	see Datasheet: Type 2508	

### **i** Further versions on request



#### Approvals

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



#### Port Connection

Threaded port NPT, Rc



#### Voltage

Further voltages



#### Materials

Sealing material EPDM



#### Pressure

Variants with increased coil power for higher media pressure

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please consult for advice.

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