

16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Analytical Applications

Type 6606

2/2- and 3/2-Way; Orifice 0.024" in.



Advantages/Benefits

- ▶ Zero dead volume design on request
- ▶ Compact size
- ▶ Hermetic isolation of fluid from the actuator
- ▶ High back-pressure rating
- ▶ Body materials: PEEK, PVDF, ETFE
- ▶ Flow diagnostics available upon request
- ▶ Recognized

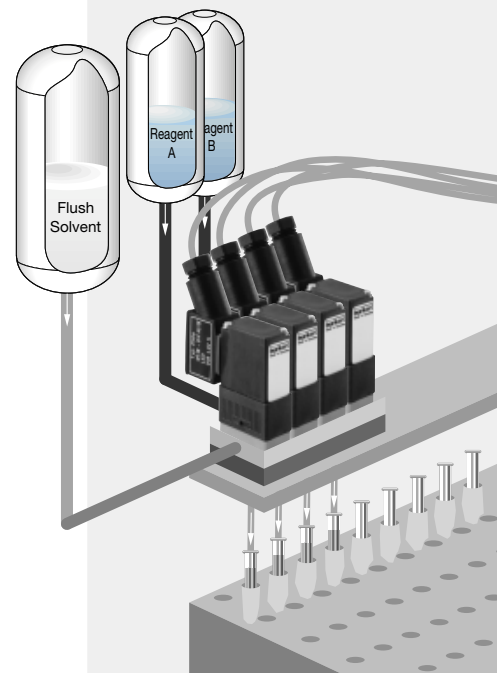
The Type 6606 analytical solenoid valves combine all state-of-the-art features in a compact design. With high reliability, virtually no heat transfer between fluid and coil, minimized dead volume and Burkert's expertise in supplying customized solutions, these valves are a perfect fit even for the most demanding applications.

Applications

- Medical technology
- Biotechnology
- Analytical instruments
- Disinfectants and solvents
- Strong acids and bases, oxidizing solutions

Process Specification

Nominal voltage	12, 24 V/DC 110 - 120 V/UC 230 - 240 V/UC
Voltage tolerance	± 10%
Power consumption	3.4 W at 12, 24 V/DC 4 W at 110 - 120, 230 - 240 V/DC
Duty cycle	100% continuously rated
Cycling rate	Approx. 300 c.p.m.
Protection class	• NEMA 4 (IP 65) with leads or cable plug 2506 • IP 67 with round plug • IP 40 with rectangular plug (see dimensions)
Electrical connection	Vacuum to 28 PSI (see specifications)
Pressure range max.	
Materials	
Body	PEEK for sub-base body PVDF for G 1/8, NPT 1/8 and tube connection body ETFE for UNF body
Seal	FFKM (SIMRIZ Perfluorelastomer)
Fluids	Aromatics, ethers, esters, ketones, solvents (PEEK body only)
Temperatures	
Fluid	32°F up to 122°F
Ambient	Max. 131°F
Max. viscosity	Approx. 21 cSt
Response time	Approx. 20 ms
Internal volume	
G1/8, NPT1/8	85 µl
Sub-base	68 µl
UNF 1/4-28	30 µl (2/2), 55 µl (3/2)
On request	< 5 µl



bürkert
Fluid Control Systems

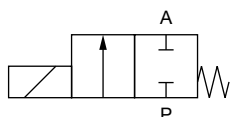
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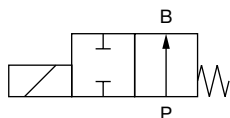
Technical Data

Circuit Function

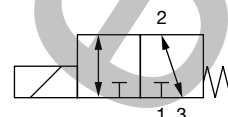
A 2/2-way valve, direct acting normally closed



B 2/2-way valve, direct acting normally open



T 3/2-way valve, direct acting, universal function, any flow direction (mixing or distributing versions)



Port connection	Orifice [inch]	C _v -Value (water) [gpm]		QnN-Value (air) [l/min]		Pressure range [PSI]	Back pressure [PSI] 2/2-way	Response time [ms]	Weight [lb.]
		2/2-way	3/2-way	2/2-way	3/2-way				
G1/8, NPT1/8	0.063	0.071	0.055	65	42	Vac. - 28	28	25	0.143
Flange	0.063	0.046	0.038	65	42	Vac. - 28	28	25	0.123
UNF1/4-28	0.059	0.046	0.029	65	42	Vac. - 28	14.5	25	0.139
Tube	0.063	0.046	0.029	65	42	Vac. - 28	14.5	25	0.132

Flow rate: C_v-value water [gpm]

Measured at 68°F, 15 PSI pressure to atmosphere

Pressure ranges [PSI]

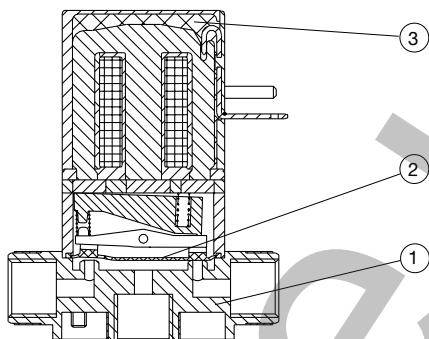
Measured as overpressure to the atmospheric pressure

Response times [ms]

Measured at valve outlet at 28 PSI and 68°F

Opening Pressure rise from 0 to 90%
Closing Pressure drop from 100 to 10%

Materials



- 1 Valve body:
- 2 Diaphragm:
- 3 Coil body:

PEEK, PVDF or ETFE
FFKM (SIMRIZ)
PA (Polyamide)

Ordering-Information Accessories

Accessory	Description	Item-No.
Rectangular plug 0.2 in.	118 in. cable jacketed [3m]	133 486 F
	12 in. leads [300mm]	644 068 N
	78 in. leads [2m]	148 578 R
	single contacts for manifold mounting	644 067 D
3-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61376
6-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61377
3-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61381
6-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61382
Blanking plate PEEK	To cover unused stations	US61385

Additional Accessories on request:

- Multivalve manifolds
- Flow diagnostics
- Fittings and tubes

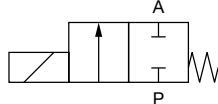
16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Analytical Applications

Type 6606

Specifications - Ordering Chart (Other Versions on Request)

Circuit Function A

2/2-way valve, direct acting
normally closed



PVDF Valve Body

Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
G 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	leads, 500mm	0.137	–	137 749 H	–
G 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	rect. plug	0.137	–	139 146 X	–
G 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	cab. plug 2506	0.137	–	137 746 W	137 748 G
NPT 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	leads, 500mm	0.143	137 753 V	137 754 W	–
NPT 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	rect. plug	0.143	–	458 094 X	–
NPT 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	cab. plug 2506	0.143	–	137 750 E	–
Tube	0.063	0.046	42	Vac. - 28	14.5	FFKM	leads, 500mm	0.126	137 763 X	137 764 Y	–
Tube	0.063	0.046	42	Vac. - 28	14.5	FFKM	rect. plug	0.126	–	139 147 Y	–
Tube	0.063	0.046	42	Vac. - 28	14.5	FFKM	cab. plug 2506	0.126	137 762 W	137 760 G	–

ETFE Valve Body

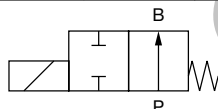
Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
UNF 1/4-28	0.059	0.046	42	Vac. - 28	28	FFKM	leads, 500mm	0.139	137 758 A	137 759 B	–
UNF 1/4-28	0.059	0.046	42	Vac. - 28	28	FFKM	cab. plug 2506	0.139	–	142 863 Z	–
UNF 1/4-28	0.059	0.046	42	Vac. - 28	28	FFKM	rect. plug	0.139	–	137 755 X	–

PEEK Valve Body

Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
Sub-base	0.063	0.046	42	Vac. - 28	28	FFKM	leads, 500mm	0.117	137 744 U	137 745 V	–
Sub-base	0.063	0.046	42	Vac. - 28	28	FFKM	rect. plug	0.117	–	139 145 W	–
Sub-base	0.063	0.046	42	Vac. - 28	28	FFKM	cab. plug 2506	0.117	137 743 T	137 741 Z	–

Circuit Function B

2/2-way valve, direct acting
normally open



PVDF Valve Body

Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
G 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	cab. plug 2506	0.137	–	137 747 X	–
NPT 1/8	0.063	0.071	65	Vac. - 28	28	FFKM	cab. plug 2506	0.143	–	137 751 T	–
Tube	0.063	0.046	42	Vac. - 28	15	FFKM	cab. plug 2506	0.126	–	137 761 V	–
Tube	0.063	0.046	42	Vac. - 28	15	FFKM	leads, 500mm	0.126	–	149 080 F	–

ETFE Valve Body

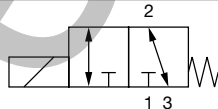
Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
UNF 1/4-28	0.059	0.046	42	Vac. - 28	28	FFKM	cab. plug 2506	0.139	–	137 756 Y	–

PEEK Valve Body

Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
Sub-base	0.063	0.046	42	Vac. - 28	28	FFKM	cab. plug 2506	0.117	–	137 742 S	–

Circuit Function T

3/2-way valve, direct acting,
universal function, any flow direction



PVDF Valve Body

Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
G 1/8	0.063	0.055	51	Vac. - 28	28	FFKM	leads, 500mm	0.137	–	137 771 X	–
G 1/8	0.063	0.055	51	Vac. - 28	28	FFKM	rect. plug	0.137	–	139 149 A	–
G 1/8	0.063	0.055	51	Vac. - 28	28	FFKM	cab. plug 2506	0.137	–	137 769 D	137 770 A
NPT 1/8	0.063	0.055	51	Vac. - 28	28	FFKM	leads, 500mm	0.143	137 774 S	137 775 T	–
NPT 1/8	0.063	0.055	51	Vac. - 28	28	FFKM	cab. plug 2506	0.143	–	137 772 Y	–
Tube	0.063	0.029	27	Vac. - 28	14.5	FFKM	leads, 500mm	0.126	137 782 K	137 783 L	–
Tube	0.063	0.029	27	Vac. - 28	14.5	FFKM	rect. plug	0.126	–	139 150 F	–
Tube	0.063	0.029	27	Vac. - 28	14.5	FFKM	cab. plug 2506	0.126	137 781 J	137 780 V	–

ETFE Valve Body

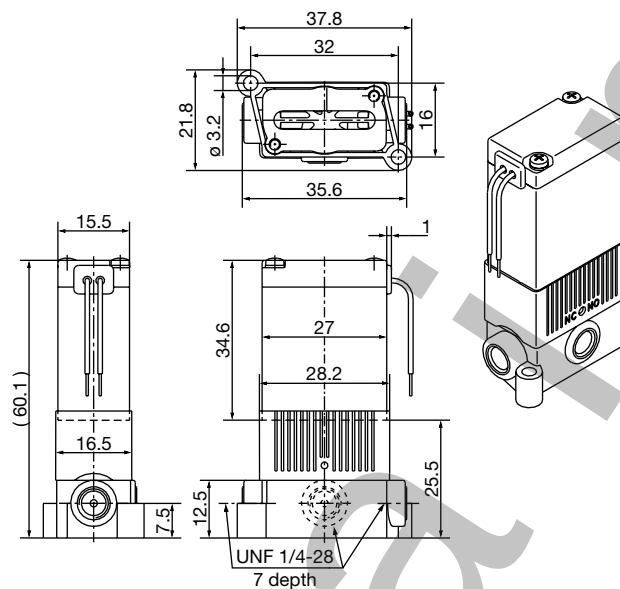
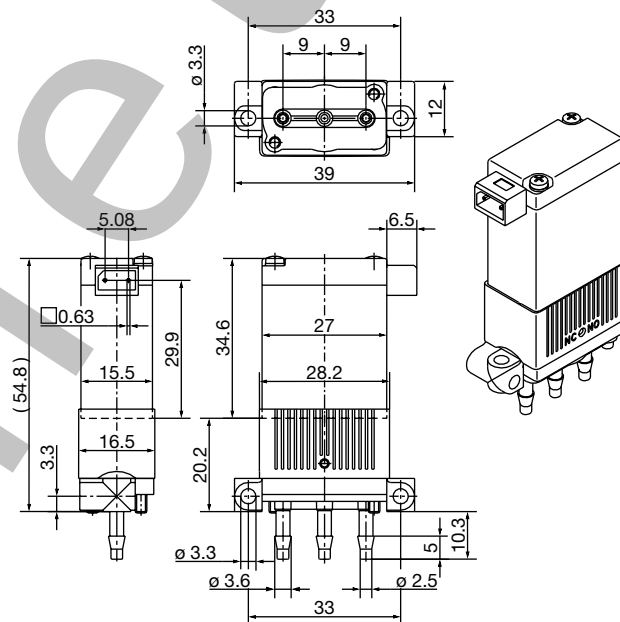
Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
UNF 1/4-28	0.059	0.059	27	Vac. - 28	28	FFKM	leads, 500mm	0.139	137 778 E	137 779 F	–
UNF 1/4-28	0.059	0.046	42	Vac. - 28	28	FFKM	cab. plug 2506	0.139	–	137 776 U	–
UNF 1/4-28	0.059	0.046	42	Vac. - 28	28	FFKM	rect. plug	0.139	–	142 864 S	–

PEEK Valve Body

Port connection	Orifice [inch]	C _v -Value (water) [m³/h]	Q _{Nn} -Value (air) [l/min]	Pressure range [PSI]	Back pressure [PSI]	Seal material	Electrical connection	Weight [lb.]	Voltage 12/DC ¹⁾	Item-No. / Frequency 24/DC ¹⁾ [V/Hz]	230/DC/AC ²⁾
Sub-base	0.063	0.038	34	Vac. - 28	28	FFKM	leads, 500mm	0.117	137 767 T	137 768 C	–
Sub-base	0.063	0.038	34	Vac. - 28	28	FFKM	rect. plug	0.117	–	139 148 H	–
Sub-base	0.063	0.038	34	Vac. - 28	28	FFKM	cab. plug 2506	0.117	137 766 S	137 765 Z	–

¹⁾ Side tag connector, ²⁾ Top tag connector, universal coil (AC/DC) with integrated rectifier

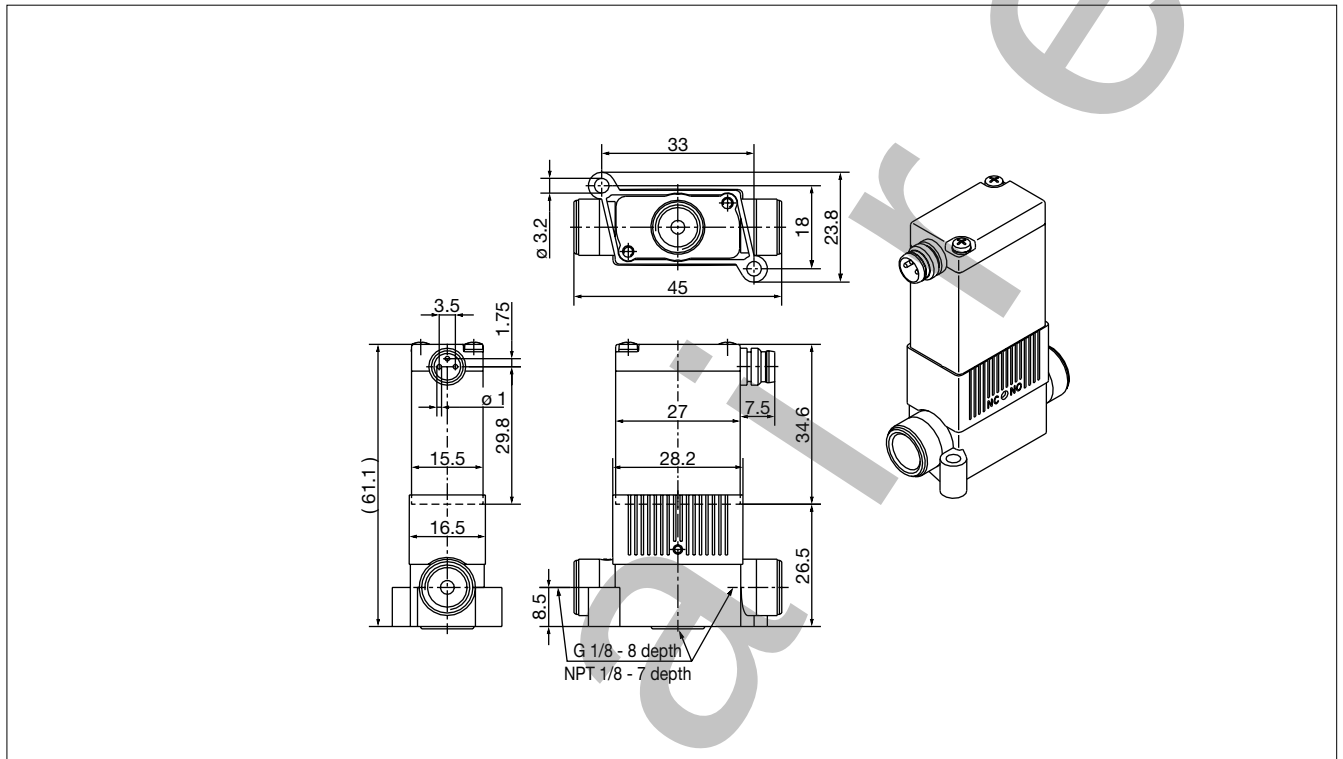
16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Analytical Applications

Type 6606**UNF 1/4-28 Body with Flying Leads - Dimensions [mm]****Tube Connection Body with Side Plug - Dimensions [mm]**

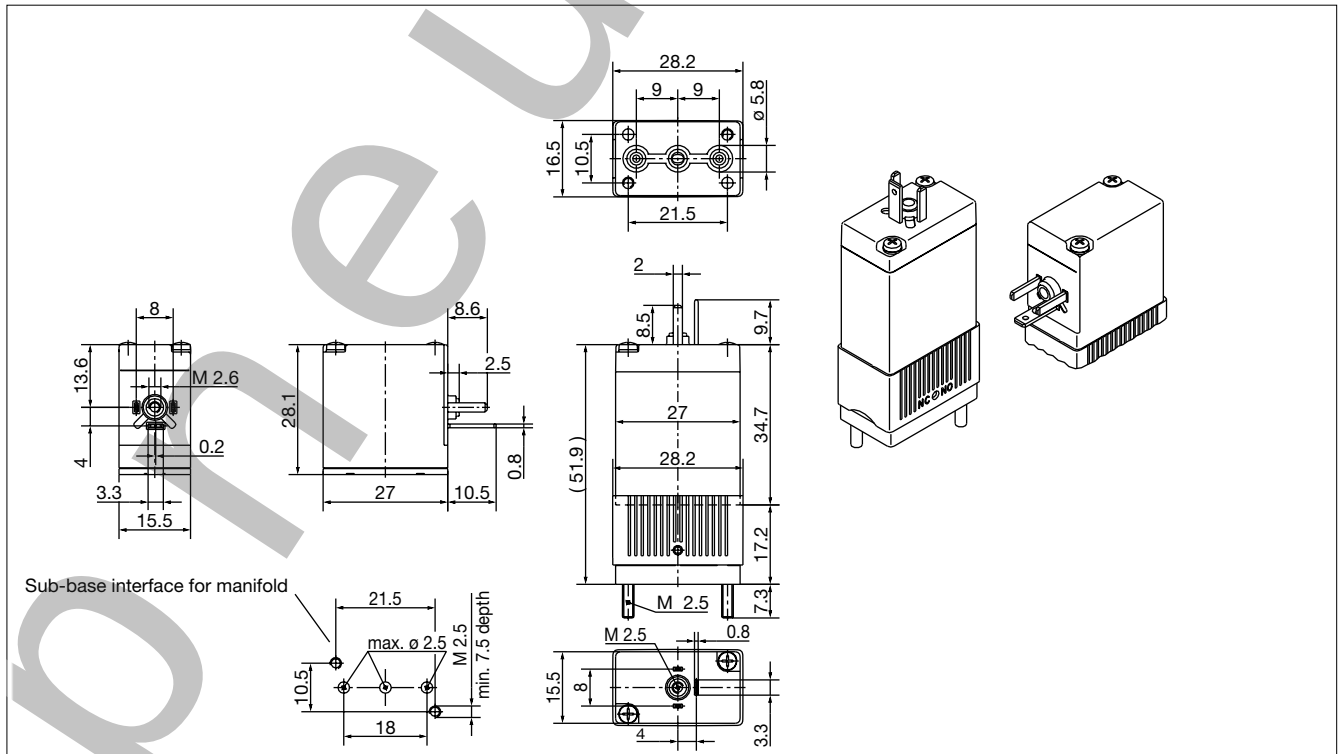
16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Analytical Applications

Type 6606

G 1/8 (NPT 1/8) Body with Round Plug - Dimensions [mm]



Sub-base Connection Body with Top or Side Plug - Dimensions [mm]



16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Analytical Applications

Type 6606

Type 2505 - Rectangular Cable Plug

Technical Data

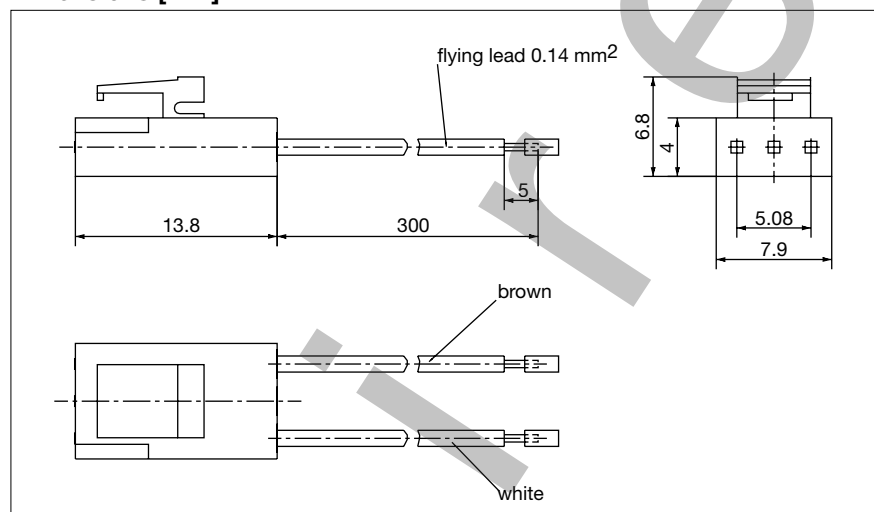
Protection class	IP 40
Operating voltage	24 V
Power consumption	3 W
Operating temperature	0-122 °F

Ordering¹⁾

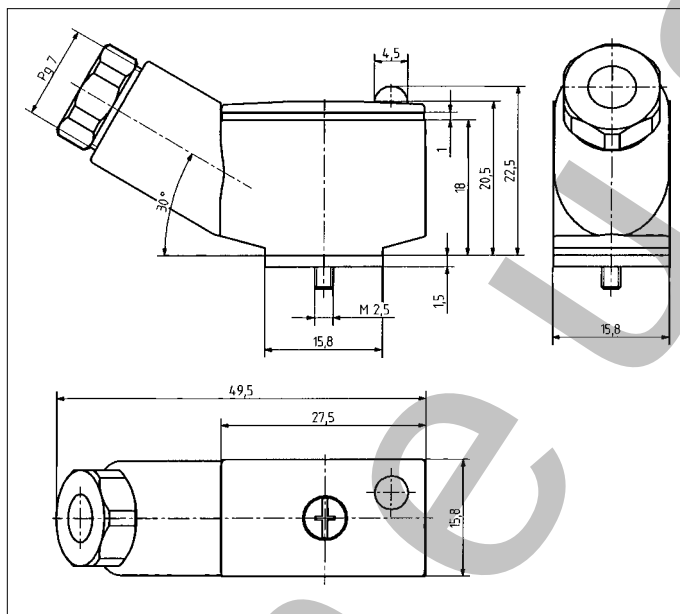
	Item-No.
Lead length 12 in. [300mm]	644 068 N
Cable length 118 in. [3m]	133 486 F
Lead length 78 in. [3000mm]	148 578 R

¹⁾ Please order separately
(no standard delivery)

Dimensions [mm]



Type 2506 - Cable Plug DIN 43650, Form C



Technical Data

Body material	PA (polyamide)
Contact material	Brass, electro-silverplated
Isolation between cable plug and coil	Gasket 0.059 in.
Continuous limit temp.	257°F
Cable diameter	0.197–0.232 in.
Electr. connection	Terminal screws Max. 0.75 mm²
Poles	2-pole + protective ground
Nominal voltage	0–250 V

Ordering

	Item-No.
Cable plug Type 2506	008 353 P ²⁾

²⁾ Standard delivery with the valve

Miniature Rocker Solenoid Valve

With Isolating Diaphragm, 5/8-inch

Type 127

2/2- or 3/2-Way, G 1/8, NPT 1/8, UNF 1/4-28



Advantages/Benefits

- ▶ Thermal decoupling between coil and fluid
- ▶ High back-pressure tightness
- ▶ Simplified manifold wiring available
- ▶ LED-display
- ▶ Body material: PVDF, ETFE
- ▶ Hermetic isolation of fluid from the actuator
- ▶ G 1/8, NPT 1/8, UNF 1/4-28, push-on tube connections, manifold mounting
- ▶ Normally closed or open, or 3-way universal functions
- ▶ 16 mm design

Design/Function

An isolating diaphragm between the actuator and body, operated via a rocker, separates the actuator from the fluid.

The design provides a valve with minimal internal volume, low dead volume which can be easily purged.

Special dead volume free designs are available on request.

Heat transfer between the actuator and the fluid is minimised, as the coil is not directly in contact with the diaphragm. The coil is available with 24 V/UC rectifier electronics, protective circuit and LED.

The valves can be manifold mounted and a simplified common wiring system is available.

Applications

- Strong acids and bases, oxydizing solutions
- Disinfectants and solvents
- Analytical instruments
- Bio technology
- Medical technology

bürkert
Fluid Control Systems

Miniature Rocker Solenoid Valve

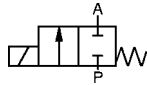
With Isolating Diaphragm, 5/8-inch

Type 127

Technical Data

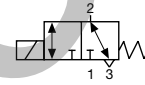
Circuit Function

A 2/2-way valve, direct-acting
normally closed



Circuit Function

T 3/2-way valve, direct-acting,
universal functions



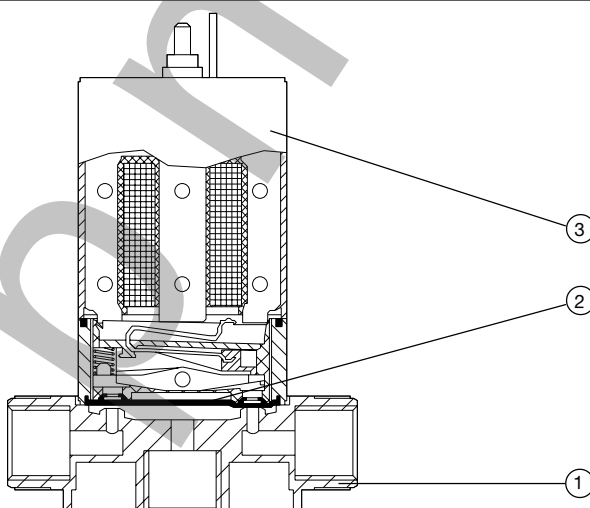
Operating Data (Valve)

Pressure range max.	0 - 28 PSI (see specifications)	
Port connection	G 1/8, NPT 1/8, sub-base, tube connection for silicone or FPM (Viton) -tube, internal diameter 1/6 up to 5/64", UNF 1/4-28	
Orifice	1/16"	
Body material	Polyvinylidenefluoride (PVDF) Tefzel (ETFE)	
Seal material	FFKM (Simriz), FPM (Viton) - on request	
Fluids	FFKM (Simriz): aromatics, ethers, esters, ketones.	
Fluid temperature	32°F to 122°F	FFKM (Simriz)
	0°C to +50°C	FPM (Viton)
Ambient temperature	Max. 131°F	
Response Times	approx. 30 ms	
Internal volume	G 1/8, NPT:	85 µl
	Flange:	68 µl
	UNF 1/4-28, tube connection:	
	2/2-way	30 µl
	3/2-way	55 µl
	Special version on request < 5 µl	

Operating Data (Actuator)

Operating voltages	24 V/UC (universal current) with rectifier and LED.
Voltage tolerance	±10 %
Power consumption	3.4 W
Duty cycle	100 % continuously rated, with manifold assembly and ambient/ fluid temperatures above 104°F, 40 % inter- mittent operation in 10 min.
Cycling rate	Approx 300 c.p.m.
Protection class	NEMA 4 (IP 65) with cable plug Type 1054 or single leads, IP20 with cable plug 1057
Electrical connection	• cable plug Type 1054 (supplied as standard) • cable plug Type 1057 • 2 FEP-leads 0.2 mm², length 19 inches
Installation	As required, but preferably with solenoid system upright

Materials



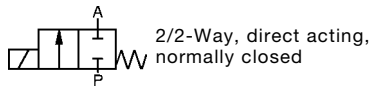
- 1 Valve body: PVDF, ETFE
- 2 Isolating diaphragm: FFKM (Simriz),
FPM (Viton) - on request
- 3 Coil body: PA (Polyamide)

Miniature Rocker Solenoid Valve

With Isolating Diaphragm, 5/8-inch

Type 127

Ordering Chart (Other Versions on Request)

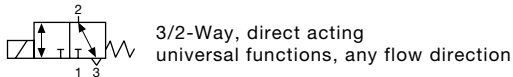


PVDF/ETFE valve body

Port connection	Orifice DN [inch]	Cv-	SCFM (air) ²⁾	Pressure Range ¹⁾ [PSI]	Back-pressure [PSI]	Valve body material	Seal Material	Electrical Connection	Weight [oz]	ITEM - No.
										Voltage / Frequency [V/Hz]
										24/UC ¹⁾
UNF 1/4-28	1/16	0.046	1.48	0 - 28	14.0	ETFE	FFKM	cable plug 1054	2.11	455 329 B
UNF 1/4-28	1/16	0.046	1.48	0 - 28	14.0	ETFE	FFKM	2 leads 19 inches	2.11	455 330 G
Sub-base	1/16	0.046	1.48	0 - 28	28.0	PVDF	FFKM	cable plug 1054	1.86	455 137 K
Sub-base	1/16	0.046	1.48	0 - 28	28.0	PVDF	FFKM	2 leads 19 inches	1.86	455 138 U
Tube	1/16	0.046	1.48	0 - 28	14.0	PVDF	FFKM	cable plug 1054	2.01	455 145 T
Tube	1/16	0.046	1.48	0 - 28	14.0	PVDF	FFKM	2 leads 19 inches	2.01	455 146 U
G 1/8	1/16	0.071	2.30	0 - 28	28.0	PVDF	FFKM	cable plug 1054	2.18	124 454 M
G 1/8	1/16	0.071	2.30	0 - 28	28.0	PVDF	FFKM	2 leads 19 inches	2.18	136 359 H
NPT 1/8	1/16	0.071	2.30	0 - 28	28.0	PVDF	FFKM	cable plug 1054	2.18	455 157 X
NPT 1/8	1/16	0.071	2.30	0 - 28	28.0	PVDF	FFKM	2 leads 19 inches	2.18	455 158 G

¹⁾ for universal current 24 VDC and 24 VAC

²⁾ measured at 68°F with 85 psi upstream pressure and 14.0 psi pressure drop across valve



PVDF/ETFE valve body

Port connection	Orifice DN [inch]	Cv-	Q _{Nn} (air) ²⁾	Pressure Range ¹⁾ [PSI]	Back-pressure [PSI]	Valve body material	Seal Material	Electrical Connection	Weight [oz]	ITEM - No.
										Voltage / Frequency [V/Hz]
										24/UC ¹⁾
UNF 1/4-28	1/16	0.029	0.95	0 - 28	14.0	ETFE	FFKM	cable plug 1054	2.11	455 131 M
UNF 1/4-28	1/16	0.029	0.95	0 - 28	14.0	ETFE	FFKM	2 leads 19 inches	2.11	455 132 N
Sub-base	1/16	0.038	1.20	0 - 28	28.0	PVDF	FFKM	cable plug 1054	1.86	455 167 Z
Sub-base	1/16	0.038	1.20	0 - 28	28.0	PVDF	FFKM	2 leads 19 inches	1.86	455 168 A
Tube	1/16	0.029	0.95	0 - 28	14.0	PVDF	FFKM	cable plug 1054	2.01	455 151 Z
Tube	1/16	0.029	0.95	0 - 28	14.0	PVDF	FFKM	2 leads 19 inches	2.01	455 152 S
G 1/8	1/16	0.055	1.80	0 - 28	28.0	PVDF	FFKM	cable plug 1054	2.18	136 360 E
G 1/8	1/16	0.055	1.80	0 - 28	28.0	PVDF	FFKM	2 leads 19 inches	2.18	136 361 T
NPT 1/8	1/16	0.055	1.80	0 - 28	28.0	PVDF	FFKM	cable plug 1054	2.18	455 163 V
NPT 1/8	1/16	0.055	1.80	0 - 28	28.0	PVDF	FFKM	2 leads 19 inches	2.18	455 164 W

¹⁾ for universal current 24 VDC and 24 VAC

²⁾ measured at 68°F with 85 PSI upstream pressure and 14.0 PSI pressure drop across valve

Options

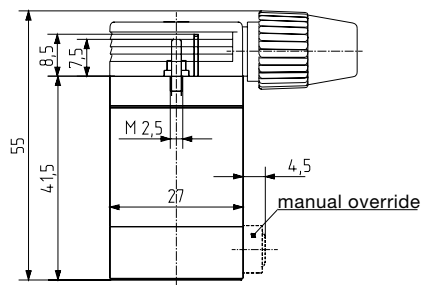
- Function normally open
- Dead volume free design
- Other voltages

Miniature Rocker Solenoid Valve With Isolating Diaphragm, 5/8-inch

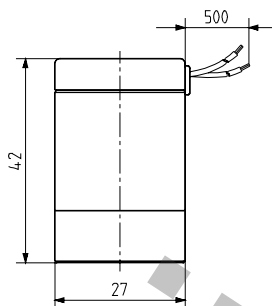
Type 127

Dimensions [mm]

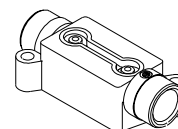
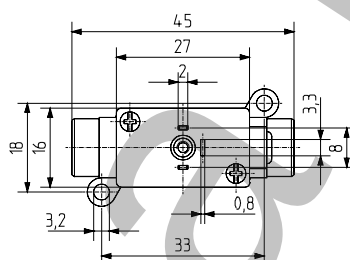
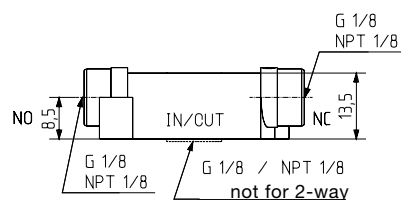
Coil with cable plug Type 1054



Coil with flying leads

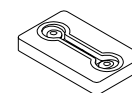
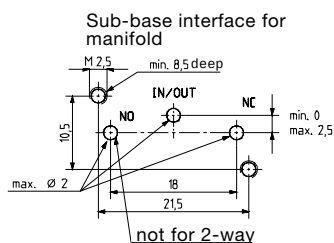
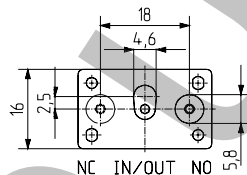
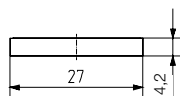


Body with threaded connection



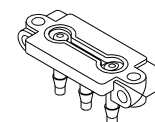
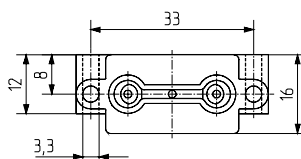
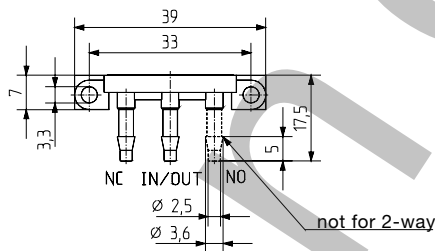
Body G 1/8
NPT 1/8

Sub-base body



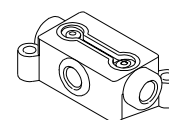
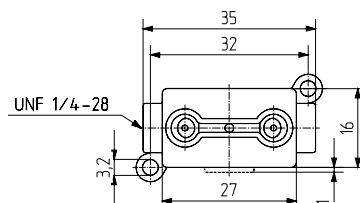
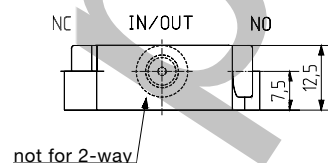
Sub-base body

Body with tube connection



Body with push-on
tube connection

UNF Body 1/4 - 28 UNF



Body
UNF 1/4 - 28

2-10 Valve-Stations, Universal Functions



Advantages/Benefits

- ▶ UNF 1/4 - 28
- ▶ Universal functions
2/2-way, back pressure tight
3/2-mixer or distributor valve
2-10 valve-stations
- ▶ Body: PCTFE
- ▶ No dead volume
- ▶ Internal volume < 10 µl
- ▶ Hermetic isolation of fluid from the actuator
- ▶ Seal material: Simriz™ perfluorelastomer
- ▶ Monitoring via LED-display
- ▶ Compact, expandable, space-saving design
- ▶ Common wiring for manifold assembly

Design/Function

This new innovative Burkert design is a further development of the rocker principle.

A perfluorelastomer separating diaphragm hermetically isolates the fluid medium from the actuator.

Through the unique design (patent CNRS) of the valve body, internal volumes are reduced to values lower than 5 (2/2) and 10 µl (3/2).

The valve has no dead volume and risks of cross-contamination are avoided.

The metallic manifold with its UNF connection ensures high tightness, even after several disassembling of the valves.

Cleaning or replacing the actuator for example, after a crystallization is easy and only requires the removal of 2 screws. The valves may be mounted side by side or on MDMV manifolds. Special valve manifold blocks or combinations are available on request.

Applications

Handling of aggressive or ultra-pure fluids without contamination in:

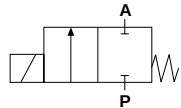
- Analysis equipment
- DNA - sequencer
- Peptide synthesis
- Diagnostic equipment

bürkert
Fluid Control Systems

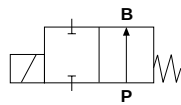
2/2 / 3/2-Way and 4/2-Way Miniature Solenoid Valve With Isolating Diaphragm, Zero Dead Volume

Type 127

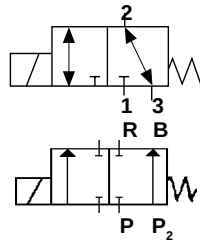
Functions



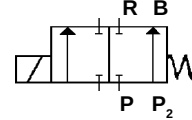
Circuit Function A
2/2-way valve,
normally closed



Circuit Function B
2/2-way valve,
normally open



Circuit Function T,
for general use,
mixer or distributor valve



Circuit Function R, inverse
2 valves 1 NO, 1 NC
4 orifices

Technical Data - Valve

Installation: as required

Seal Materials: Perfluorelastomer Simriz TM

Temperature: fluid 0 to 122°F
ambient 131°F

Orifice: 1mm

Flow: kv-value 0,01 m³/h
QNn-value 23 l/min

Pressure Range: gauge pressure 28 PSI
vacuum 28 PSI

Response Time: approx. 30 ms

Body Connections:

UNF 1/4-28: ø 1mm for 1/16" tube
(ø 1.6mm on request)

The UNF-Fitting is screwed into an anodised aluminium body, using a ferrule for flat surface seal. No metallic part is in contact with the fluid. Several assemblies/disassemblies do not affect the tightness or the valve.

On request

- FPM (Viton) seals
- manual override
- valve manifold blocks

Technical Data - Actuator

Operating Voltages: 12 DC-24 DC;
24 GR: 24 V, 50/60 Hz and DC

Power Consumption: approx. 3W
(hold)

Voltage Tolerance: ± 10%

Duty Cycle: 100% continuous operation
intermittent operation 40% (with
manifold assembly and simultaneous
ambient- and fluid temperatures > 104°F)

Cycling Rate: approx. 300 c.p.m.

Electrical Connection: cable plug Type 1054/1057

Classification:	
12-24DC - 24GR	NEMA 4 with cable plug Type 1054 IP20 with cable plug Type 1057 SA IP00 without cable plug
12DC - 24DC	NEMA 4 with FEP-coated flying leads

LED Display

Standard on GR voltages (not available on DC voltages)

Valve Manifold Blocks with Common Wiring: 1057 SA Plug

Most of the valves may be placed side by side with a step of 18 mm with a common wiring of neutral and earth
Ask for our datasheet 1057/1054

Version	Body Material	Seal	Pressure range*	Backpressure	Pressure range*	Internal volume		Electrical
			2/2 Way	2/2 Way	3 way	2/2	3/2	Connection 1057 SA
UNF 1/4-28	PCTE	Simriz TM	0-28 PSI	21 PSI	0-28 PSI	5µl	10µl	●

* on request: vacuum

Maintenance and spare parts

The actuator may be removed and replaced easily by unscrewing the 2 fixation screws

Reference of spare actuator

127-T-00-C-00000-Voltage-E-000

or for leads

127-T-00-C-00000-Voltage-S-000

Fittings:

The UNF 1/4 - 28 fittings suitable with our valves have a ferrule for flat surface sealing.

Dimensions [mm]



Function	Valve	Inlet	Outlet	Remark
2/2 NC	A	IN1	OUT1	Coil and cable plug turned 180° IN 1 closed when de-energized IN2 --> OUT1 open when de-energized 2 channels are separated, 1 valve is NC 1 valve is NO (IN2 --> OUT2)
2/2 NO	B	IN1	OUT1	
Distributing	3/2 T	OUT1	IN1/IN2	
Mixing	3/2 T	IN1/IN2	OUT1	
Inverse	4/2 R	IN1	OUT1	
		IN2	OUT2	

2/2 / 3/2-Way and 4/2-Way Miniature Solenoid Valve With Isolating Diaphragm, Zero Dead Volume

Type 127

Ordering: Type 127 basic valve, dead volume free

Version: single valve

Function	Body	Voltage	Electrical connection	Order-Nr.
2/2 NC 2/2 NC	PCTFE, UNF 1/4-28	24GR 24DC	For cable plug Leads 500 mm	414 655 Z 414 656 S
3/2 Universal 3/2 Universal		24GR 24DC	For cable plug Leads 500 mm	414 661 X 414 662 Y

Version: MDMV manifold block

Function	Voltage	Connection	Number of valves	Order-Nr.
UNF 1/4-28	24 GR	For cable plug	2	414 663 Z
			3	414 665 T
			4	414 667 V
			5	414 669 F
			6	414 671 Z
			7	414 673 T
			8	414 675 V
			2	414 664 S
			3	414 666 U
			4	414 668 E
			5	414 670 C
			6	414 672 S
			7	414 674 U
			8	414 676 W

Accessories

Cable plug NEMA 4 Type 1054
Cable plug IP20 Type 1057 for common wiring

006 699 H
629 253 M

AMP-connector shroud for Type 1057
AMP-connector shroud for Type 1057

916 893 G
629 186 T

On request

Other voltages
Viton diaphragm
1.6 mm orifice

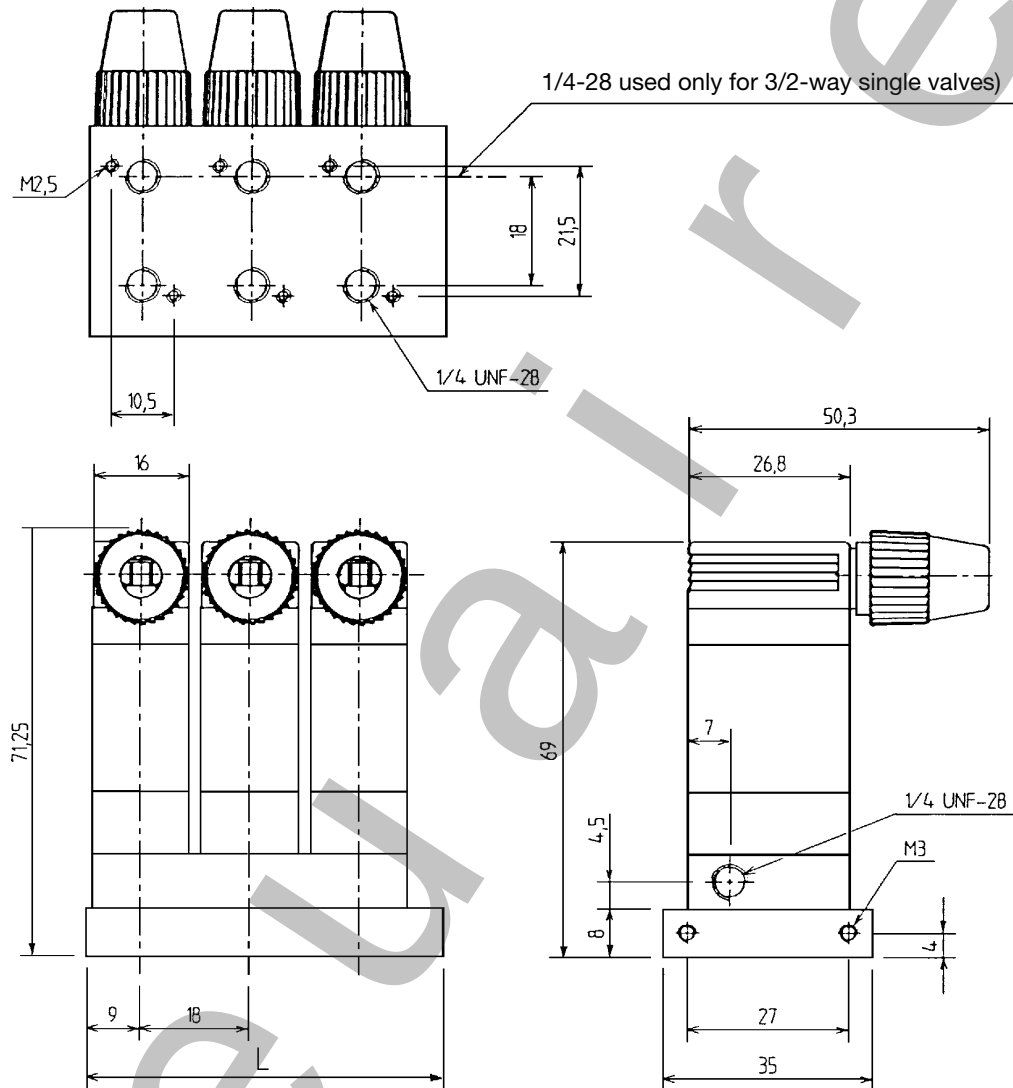
Valve blocks on request

- All individual valves may be mounted side by side with a 18mm step for common wiring system on the metallic manifold
- MDMV manifold block with 9 and 10 stations.
- Combination blocks: Single valves and MDMV manifold blocks may be combined and mounted side by side with a common wiring system on the metallic manifold. Please give us your specifications.
- Special manifold blocks: Using this modular system, we may consider your request for specific valve manifold systems. Please provide us with your specifications regarding circuit diagram, fluid, pressures, voltages, electrical and fluid connections.

2/2 / 3/2-Way and 4/2-Way Miniature Solenoid Valve With Isolating Diaphragm, Zero Dead Volume

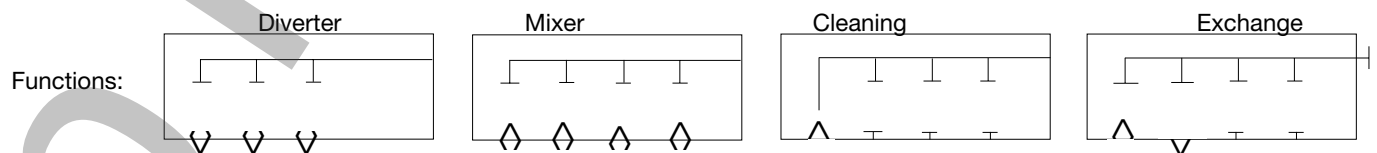
Type 127

Dimensions [mm]



L, mm	41	59	77	95	113	131	149	167	185
n-station	2	3	4	5	6	7	8	9	10

Technical Data



Body: PCTFE

Connection: UNF 1/4-28

DN: 1 mm (1.6 on request)

Technical data actuator: see single valves.

2/2 / 3/2-Way and 4/2-Way Miniature Solenoid Valve With Isolating Diaphragm, Zero Dead Volume

Type 127

Function of the MDMV manifold blocks:

Universal functions:

This patented (Patent CNRS) multi-distributor multi way valve system (MDMV) can provide all functions used in analytical processes:

- mixing, diverting, exchange, cleaning function.

- 2 to 10 valves cells are connected with a common channel of 1mm diameter, reducing the internal volumes.

Dead volume free:

Each valve cell is dead-volume free, the cell being completely closed by the diaphragm when the valve is de-energized. The only remaining dead volume is the distance between the central channel and valve cell (2 µl)

Cleaning:

For manifold blocks with n valves, we use a (n+1) valve for the cleaning function:

This valve, at the end of the manifold enables each valve cell and the central channel to be cleaned. Thus, the complete manifold is cleaned without dead volumes, and risks of cross-contamination in the process are eliminated.

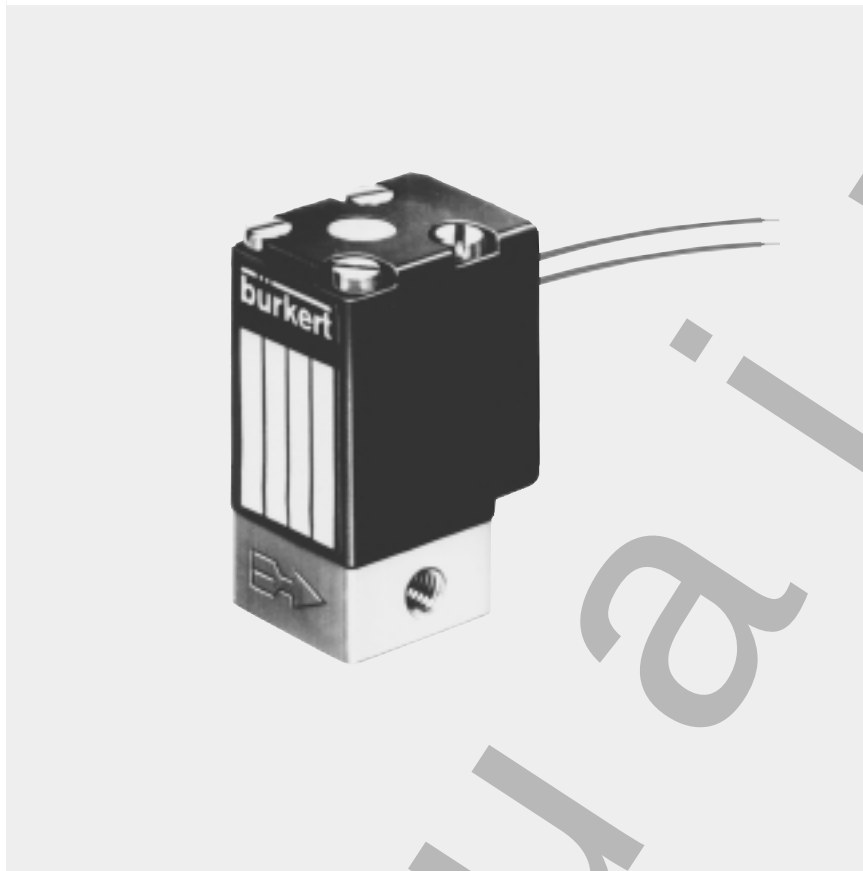
New fitting concept:

The fittings used are UNF 1/4-28 with a ferrule for flat-end contact. The ferrule makes a seal between the tube and PCTFE body, the threads are in the metallic base part. Therefore, there is no contact between the anodized aluminium manifold and the fluid and no risk of damage.

The metallic manifold allows several assembling/disassembling operations and provides a rigid assembly of the actuator to the valve body. Stainless steel manifolds may be provided to aggressive environments on request.

Easy replacement:

For cleaning, or replacement of the actuator, each actuator may be removed without disassembling the tube and fittings by only loosening 2 screws on the top of the actuator. For instance, where dirt particles have contaminated the diaphragm, it may be easily cleaned and reinstalled.

2/2-Way, Direct-acting, NPT 1/8"**Advantages/Benefits**

- ▶ **Compact design**
- ▶ **Specific testing and cleaning available**
- ▶ **Short response time**
- ▶ **Electrical connection: DIN-plug or leads**
- ▶ **Body materials: brass, stainless steel**

Design/Function

Type 200 is a direct-acting plunger-type solenoid valve normally closed by spring action (circuit function A).

When energized, the solenoid armature is drawn against a spring to open the valve.

The solenoid epoxy encapsulation efficiently dissipates the heat generated by the coil.

Specific testing and cleaning is available according to application requirements.

Applications

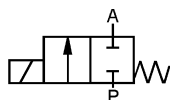
- Laboratory instruments
- Small-scale instrument
- Gas control instruments
- Shut-off, dosing, filling, ventilating
- Welding technology
- Neutral gases and liquids
- Slightly aggressive liquids
- Pneumatic control
- Vacuum

bürkert
Easy Fluid Control Solutions

Technical Data

Circuit Function

A 2/2-way valve,
normally closed



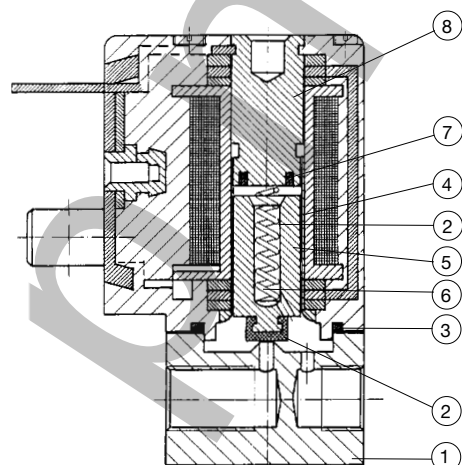
Operating Data (Valve)

Pressure range max.	0-305 PSI (see specifications)
Port connection	Threaded port NPT 1/8" Sub Base on request.
Orifice	3/64" to 3/32" >3/32" on request.
Fluid	Neutral gases and liquids, e.g. compressed air, town gas, natural gas, water, hydraulic oil, petrol. Stainless steel version: Slightly aggressive media. Suitable for techn. vacuum.
Medium temperature max.	-14°F to 212°F
Max. ambient temperature	130°F
Max. viscosity	cSt
Response times	
opening	5-18 ms
closing	ca. 8 ms
Installation	as required, but preferably with solenoid system upright

Operating Data (Actuator)

Operating voltages	AC 24, 120, 240 V/60 Hz, DC 12, 24 VDC		
Voltage tolerance	±10 %		
Power consumption	AC inrush	AC hold	DC
	9 VA	6 VA/4 W	4 W ¹⁾
	¹⁾ Power consumption DC 2 W on request		
Duty cycle	100% continuously rated		
Duty cycle for multiple manifolds	60% for manifold mounting (30 min) or use 2W-version (on request)		
Cycling rate	up to 1 000 c.p.m.		
Protection class with cable plug	NEMA 4 (IP 65)		
Electr. connection	Delivery standard: Cable plug DIN 43 650 B, 0-250 V. Flying leads 12 in. length		

Materials



1 Valve body:	Brass, 301 Stainless Steel
2 Plunger-seal:	FPM (Viton), EPDM
3 O-rings:	FPM (Viton), EPDM
4 Armature guide tube:	305 Stainless Steel
5 Plunger:	430 Stainless Steel
6 Spring:	301 Stainless Steel
7 Shading ring:	Copper (brass version)
8 Stopper:	430 Stainless Steel

Specifications - Ordering Chart (Other Versions on Request)



Brass valve body, cable plug DIN 43 650 form B

Port Connection	Orifice	C _v	Pressure Range				Seal Material	Weight	ITEM No. Voltage/Frequency [V/Hz]			
			(AC)		(DC)				12/DC	24/DC	120/60	240/60
			[PSI]	[bar]	[PSI]	[bar]						
	[inch]											
NPT 1/8"	3/64"	0.053	0 - 305	0 - 21	0 - 174	0 - 12	FPM	4.2	457 522 P	453 709 P	—	—
NPT 1/8"	3/64"	0.053	0 - 305	0 - 21	0 - 174	0 - 12	EPDM	4.2	457 536 M	453 538 X	—	—
NPT 1/8"	1/16"	0.070	0 - 174	0 - 12	0 - 87	0 - 6	FPM	4.2	457 525 J	450 153 A	457 532 R	452 298 A
NPT 1/8"	1/16"	0.070	0 - 174	0 - 12	0 - 87	0 - 6	EPDM	4.2	457 540 D	457 542 T	454 552 S	457 552 A
NPT 1/8"	5/64"	0.129	0 - 116	0 - 8	0 - 65	0 - 4.5	FPM	4.2	457 527 L	450 462 G	452 312 X	457 535 L
NPT 1/8"	5/64"	0.129	0 - 116	0 - 8	0 - 65	0 - 4.5	EPDM	4.2	457 544 V	457 546 X	457 533 W	457 544 X
NPT 1/8"	3/32"	0.152	0 - 87	0 - 6	0 - 44	0 - 3	FPM	4.2	056 256 D	050 223 A	—	—
NPT 1/8"	3/32"	0.152	0 - 87	0 - 6	0 - 44	0 - 3	FPM	4.2	136 392 K	046 074 Y	—	—

Brass valve body, coil with two flying leads, 300 mm length

Port Connection	Orifice [inch]	C _v	Pressure Range				Seal Material	Weight [oz]	ITEM No. Voltage/Frequency [V/Hz]			
			(AC)		(DC)				12/DC	24/DC	120/60	240/60
			[PSI]	[bar]	[PSI]	[bar]						
NPT 1/8"	3/64"	0.053	0 - 305	0 - 21	0 - 174	0 - 12	FPM	4.2	457 523 Q	457 524 R	—	—
NPT 1/8"	3/64"	0.053	0 - 305	0 - 21	0 - 174	0 - 12	EPDM	4.2	457 537 N	457 539 Y	—	—
NPT 1/8"	1/16"	0.070	0 - 174	0 - 12	0 - 87	0 - 6	FPM	4.2	455 020 V	457 526 K	454 729 B	—
NPT 1/8"	1/16"	0.070	0 - 174	0 - 12	0 - 87	0 - 6	EPDM	4.2	457 528 V	452 306 A	—	—
NPT 1/8"	5/64"	0.129	0 - 116	0 - 8	0 - 65	0 - 4.5	FPM	4.2	457 528 V	452 306 A	—	—
NPT 1/8"	5/64"	0.129	0 - 116	0 - 8	0 - 65	0 - 4.5	EPDM	4.2	457 545 W	457 547 Y	—	—
NPT 1/8"	3/32"	0.152	0 - 87	0 - 6	0 - 44	0 - 3	FPM	4.2	455 532 P	457 531 Q	—	—
NPT 1/8"	3/32"	0.152	0 - 87	0 - 6	0 - 44	0 - 3	FPM	4.2	457 549 A	457 551 U	—	—

Stainless steel valve body, cable plug DIN 43 650 form B

Port Connection	Orifice [inch]	C _v	Pressure Range				Seal Material	Weight [oz]	ITEM No. Voltage/Frequency [V/Hz]			
			(AC)		(DC)				12/DC	24/DC	120/60	240/60
			[PSI]	[bar]	[PSI]	[bar]						
NPT 1/8"	3/64"	0.053	0 - 305	0 - 21	0 - 174	0 - 12	FPM	4.2	455 512 K	450 151 G	450 152 H	—
NPT 1/8"	1/16"	0.070	0 - 174	0 - 12	0 - 87	0 - 6	FPM	4.2	457 557 S	453 623 Y	450 156 D	455 282 V
NPT 1/8"	5/64"	0.129	0 - 116	0 - 8	0 - 65	0 - 4.5	FPM	4.2	457 559 C	457 560 H	457 567 U	456 022 L
NPT 1/8"	3/32"	0.152	0 - 87	0 - 6	0 - 44	0 - 3	FPM	4.2	457 562 X	452 326 V	452 328 F	—

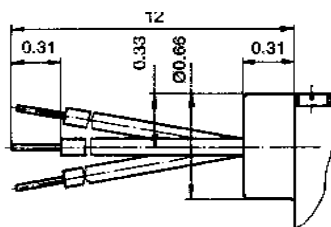
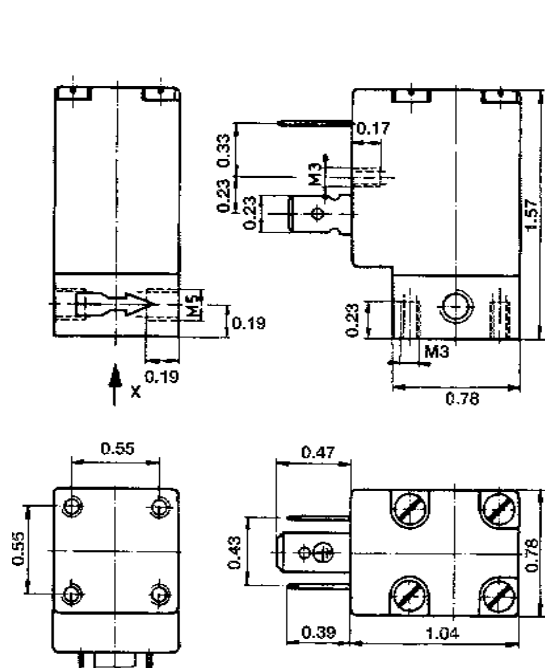
Stainless steel valve body, coil with two flying leads, 300 mm length

Port Connection	Orifice [inch]	C _v	Pressure Range				Seal Material	Weight [oz]	ITEM No. Voltage/Frequency [V/Hz]			
			(AC)		(DC)				12/DC	24/DC	120/60	240/60
			[PSI]	[bar]	[PSI]	[bar]						
NPT 1/8"	3/64"	0.053	0 - 305	0 - 21	0 - 174	0 - 12	FPM	4.2	457 555 Y	457 556 Z	—	—
NPT 1/8"	1/16"	0.070	0 - 174	0 - 12	0 - 87	0 - 6	FPM	4.2	457 558 B	452 289 H	—	—
NPT 1/8"	5/64"	0.129	0 - 116	0 - 8	0 - 65	0 - 4.5	FPM	4.2	455 053 S	457 561 W	—	—
NPT 1/8"	3/32"	0.152	0 - 87	0 - 6	0 - 44	0 - 3	FPM	4.2	457 563 Y	457 565 S	—	—

Options

- 2W versions
- 12V versions
- Specific testing and cleaning
- Sub-base versions for manifold

Dimensions Solenoid Valve [inch]



Please note for NPT 1/8" port connection:

Body length 1", overall height 1.89",
M5 connection is retained at R port

Technical Data Cable Plug

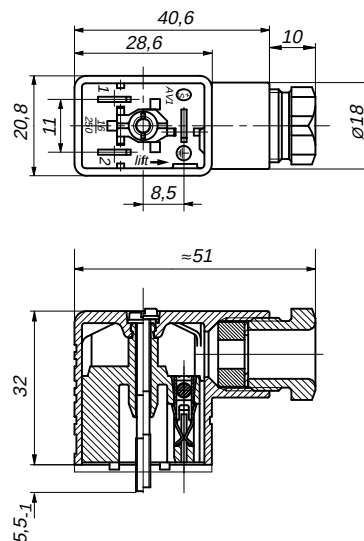
Body material	PA (polyamide)
Contact material	brass, tinned
Cable outlet	vertically to the plug bottom
Isolation between cable plug and coil	
Temperature range	Gasket (NBR) -22°F to +194°F
Cable diameter	11/64" to 9/32"
Electr. connection	Terminal screws max. 1/16" ²
Poles	2 pole + ground
Nominal voltage	0-250 V (Standard)
Isolation group	3
Rating	NEMA 4 (IP 65)
Max. continuous current	16 A without wiring
Contact resistance	≤ 4 mΩ

Options	LED display Rectifier Varistor
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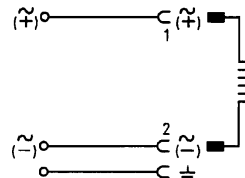
Cable plug Type 2507

Dimensions Cable Plug [mm]



Wiring Diagrams/Connection Specifications

Standard



0-250 V AC/DC

Item-No.: 423 845 R

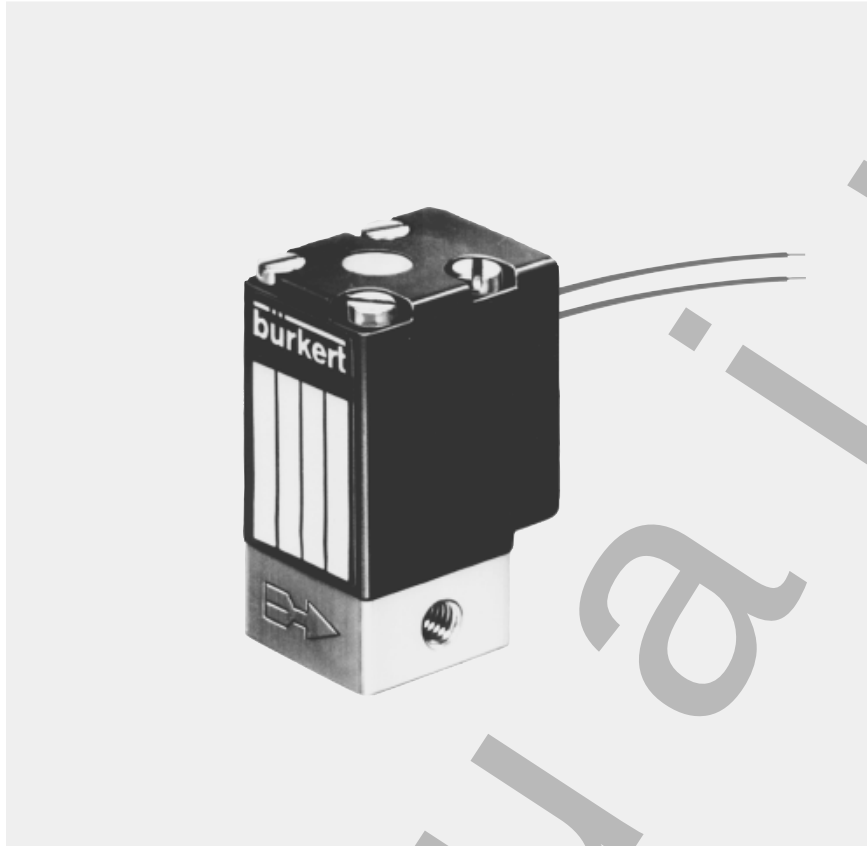
Miniature Solenoid Valve with Isolating Diaphragm For Analytical Applications

Type 200 Isolating Diaphragm

2/2-Way, Direct-acting, NPT 1/8"

Advantages/Benefits

- ▶ **FPM (Viton) or EPDM**
Separating diaphragm isolates solenoid system from operating fluid
- ▶ **Compact design**
- ▶ **Specific testing and cleaning available**
- ▶ **Short response time**
- ▶ **Electrical connection:**
DIN-plug or leads
- ▶ **Body material:**
Stainless steel



Design/Function

Type 200 is a direct-acting plunger-type solenoid valve normally closed by spring action (circuit function A).

A diaphragm isolates the fluid from the solenoid system.

When energized, the solenoid armature is drawn against a spring to open the valve.

The solenoid epoxy encapsulation efficiently dissipates the heat generated by the coil.

Specific testing and cleaning and low power versions are available according to application requirements.

Applications

- Laboratory instruments
- Small-scale instrument
- Gas control instruments
- Shut-off, dosing, filling, ventilating
- Welding technology
- Difficult and slightly aggressive media

bürkert
Fluid Control Systems

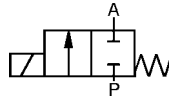
Miniature Solenoid Valve with Isolating Diaphragm For Analytical Applications

Type 200 Isolating Diaphragm

Technical Data

Circuit Function

A 2/2-way valve,
normally closed



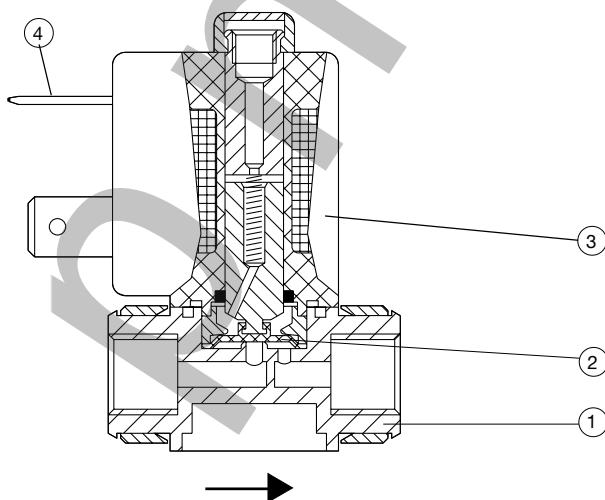
Operating Data (Valve)

Pressure range max.	0-29 PSI (see specifications)
Port connection	Threaded port NPT 1/8" (M5, sub base on request)
Orifice	3/64" - 3/32" >3/32" on request.
Fluid	Difficult and slightly aggressive media. Suitable for techn. vacuum.
Medium temperature max.	14°F to +158°F
Max. ambient temperature	+130°F
Max. viscosity	21 cSt
Response times	
opening	5-18 ms
closing	ca. 8 ms
Installation	as required, preferably with solenoid system upright

Operating Data (Actuator)

Operating voltages	AC 24, 120, 240 V/60 Hz, DC 12, 24 VDC		
Voltage tolerance	±10 %		
Power consumption	AC inrush	AC hold	DC
	9 VA	6 VA/4 W	4 W ¹⁾
	¹⁾ Power consumption DC 2 W on request		
Duty cycle	100% continuously rated		
Duty cycle for multiple manifolds	60% for manifold mounting (30 min) or use 2W-version (on request)		
Cycling rate	up to 1 000 c.p.m.		
Protection class with cable plug	NEMA 4 (IP 65)		
Electr. connection	Delivery standard: Cable plug DIN 43 650 B, 0-250 V. Flying leads 12 in. length		

Materials



- | | | |
|---|----------------------|---------------------|
| 1 | Valve body: | 301 Stainless steel |
| 2 | Isolating diaphragm: | FPM (Viton), EPDM |
| 3 | Coil body: | Epoxy |
| 4 | Cable plug: | PA (Polyamide) |

Miniature Solenoid Valve with Isolating Diaphragm For Analytical Applications

Type 200 Isolating Diaphragm

Specifications - Ordering Chart (Other Versions on Request)



Stainless steel valve body, cable plug DIN 43 650 form B

Port Connection	Orifice [inch]	C _v	Pressure Range (AC) and (DC)		Seal Material	Weight [oz]	ITEM No. Voltage/Frequency [V/Hz]			
			[PSI]	[bar]			12/DC	24/DC	120/60	240/60
NPT 1/8"	3/64	0.053	0 - 29.0	0 - 2.0	EPDM	4.2	457 607 D	457 609 P	—	—
NPT 1/8"	3/64	0.053	0 - 29.0	0 - 2.0	FPM	4.2	457 627 Y	457 629 A	—	—
NPT 1/8"	1/16	0.070	0 - 22.0	0 - 1.5	EPDM	4.2	457 611 Y	457 613 S	457 623 U	457 624 V
NPT 1/8"	1/16	0.070	0 - 22.0	0 - 1.5	FPM	4.2	457 631 U	457 633 W	457 643 G	457 644 H
NPT 1/8"	5/64	0.130	0 - 14.5	0 - 1.0	EPDM	4.2	457 615 U	457 617 W	457 625 W	457 626 X
NPT 1/8"	5/64	0.130	0 - 14.5	0 - 1.0	FPM	4.2	457 635 Y	457 637 S	457 645 A	457 646 B
NPT 1/8"	3/32	0.150	0 - 14.5	0 - 1.0	EPDM	4.2	457 619 G	457 621 S	—	—
NPT 1/8"	3/32	0.150	0 - 14.5	0 - 1.0	FPM	4.2	457 639 C	457 641 E	—	—

¹⁾ Pressure range against arrow direction = 0-0.3 PSI

Stainless steel valve body, coil with two flying leads, 300 mm length

Port Connection	Orifice [inch]	C _v	Pressure Range (AC) and (DC)		Seal Material	Weight [oz]	ITEM No. Voltage/Frequency [V/Hz]			
			[PSI]	[bar]			12/DC	24/DC	120/60	240/60
NPT 1/8"	3/64	0.053	0 - 29.0	0 - 2.0	EPDM	4.2	457 608 N	457 610 B	—	—
NPT 1/8"	3/64	0.053	0 - 29.0	0 - 2.0	FPM	4.2	457 628 H	457 630 F	—	—
NPT 1/8"	1/16	0.070	0 - 22.0	0 - 1.5	EPDM	4.2	457 612 Z	457 614 T	—	—
NPT 1/8"	1/16	0.070	0 - 22.0	0 - 1.5	FPM	4.2	457 632 V	457 634 X	—	—
NPT 1/8"	5/64	0.130	0 - 14.5	0 - 1.0	EPDM	4.2	457 616 V	457 618 F	—	—
NPT 1/8"	5/64	0.130	0 - 14.5	0 - 1.0	FPM	4.2	457 636 Z	457 638 B	—	—
NPT 1/8"	3/32	0.150	0 - 14.5	0 - 1.0	EPDM	4.2	457 620 D	457 622 T	—	—
NPT 1/8"	3/32	0.150	0 - 14.5	0 - 1.0	FPM	4.2	457 640 R	457 642 F	—	—

¹⁾ Pressure range against arrow direction = 0-4.35 PSI

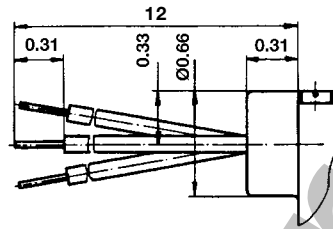
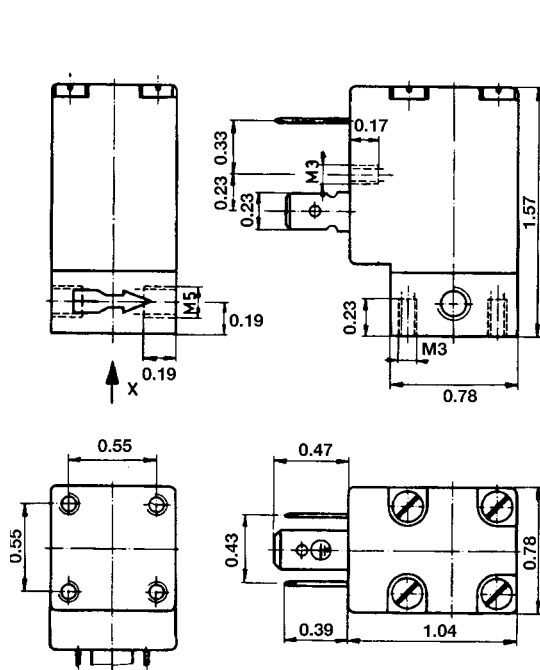
Options

- PTFE/EPDM diaphragm
- Sub-base versions for manifold mounting
- Specific clean and testing
- AC coils
- 3/64" orifice (up to 29 PSI)

Miniature Solenoid Valve with Isolating Diaphragm For Analytical Applications

Type 200 Isolating Diaphragm

Dimensions Solenoid Valve [inch]



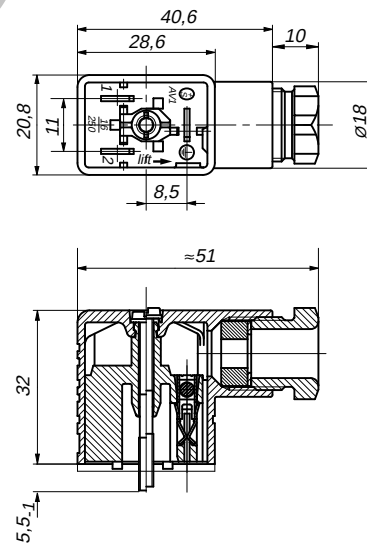
Please note for NPT 1/8" port connection:

Body length 1", overall height 1.89",
M5 connection is retained at R port

Technical Data Cable Plug

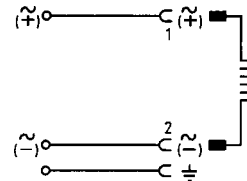
Body material	PA (polyamide)
Contact material	brass, tinned
Cable outlet	vertically to the plug bottom
Isolation between cable plug and coil	
Temperature range	Gasket (NBR) -22°F to +194°F
Cable diameter	11/64" to 9/32"
Electr. connection	terminal screws max. 1/61"²
Poles	2 pole + ground
Nominal voltage	0-250 V (Standard)
Isolation group	3
Rating	NEMA 4 (IP 65)
Max. continuous current	16 A without wiring
Contact resistance	≤ 4 mΩ
Options	LED display Rectifier Varistor

Dimensions Cable Plug [mm]



Wiring Diagrams/Connection Specifications

Standard



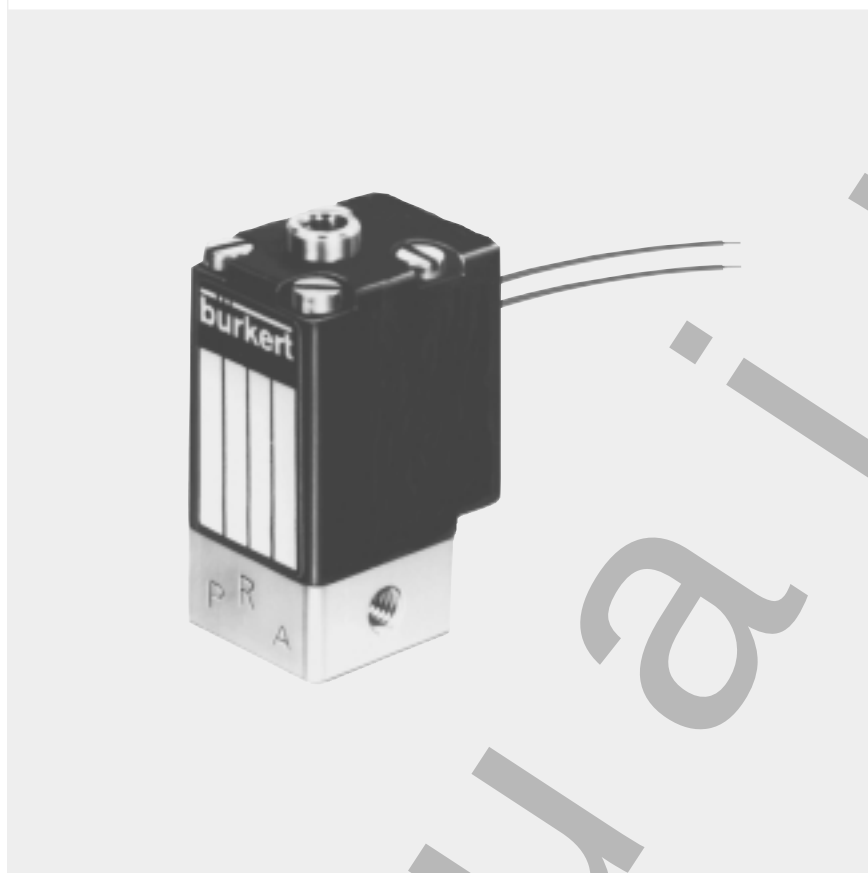
0-250 V AC/DC

Item-No.: 423 845 R



Cable plug Type 2507

3/2-Way, Direct Acting, NPT 1/8"



Advantages/Benefits

- ▶ Compact design
- ▶ Specific testing and cleaning available
- ▶ Short response times
- ▶ Electrical connection: DIN-plug or leads
- ▶ Manual override
- ▶ When de-energized, outlet port exhausted or pressurized, mixer valve
- ▶ Body materials: brass (stainless steel on request)
- ▶ CE Approvals

Design/Function

Type 300 is a direct-acting plunger-type solenoid valve available in a variety of different circuit functions, to suit many applications.

When energized, the solenoid armature is drawn against a spring. The solenoid epoxy encapsulation efficiently dissipates the heat generated by the coil.

The valve is available in brass (stainless steel on request). Electrical connections are DIN-plug or leads. Specific testing and cleaning and low power versions are available on request.

Applications

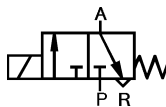
- Neutral gases and liquids
- Pneumatic control equipment
- Vacuum
- Shut-off, dosing, filling and ventilating
- Gas control, welding technology
- Small-scale instruments, laboratory and measuring technology

bürkert
Easy Fluid Control Solutions

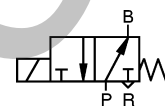
Technical Data

Circuit Function

C 3/2-way valve, when de-energized, outlet A exhausted (normally closed)



D 3/2-way valve, when de-energized, outlet B pressurized (normally open)



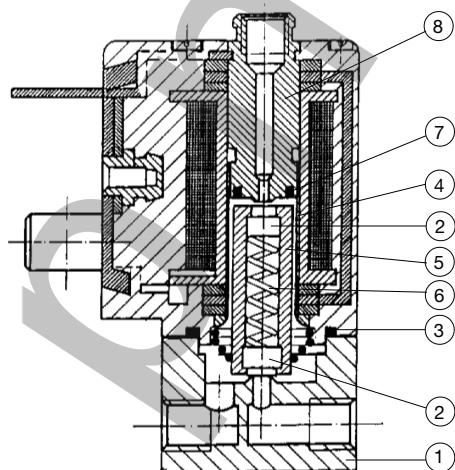
Operating Data (Valve)

Pressure range max.	0-145 PSI (see specifications)
Port connection	NPT 1/8", Subbase on request.
Orifice	3/64" - 1/16" mm >1/16" on request.
Fluid	Neutral gases and liquids, e.g. compressed air, town gas, natural gas, water, hydraulic oil, petrol. Stainless steel version: Slightly aggressive media. Suitable for techn. vacuum.
Medium temperature	14°F to +212°F
Max. ambient temperature	+130°F
Max. viscosity	21 cSt
Response times	
opening	12 ms
closing	8 ms
Installation	as required, preferably with solenoid system upright

Operating Data (Actuator)

Operating voltages	AC 24, 120, 240 V/60 Hz, DC 24 VDC		
Voltage tolerance	±10 %		
Power consumption	AC inrush	AC hold	DC
	9 VA	6 VA/4 W	4 W ¹⁾
	¹⁾ Power consumption DC 2 W on request		
Duty cycle	100% continuously rated		
Duty cycle for multiple manifolds	60% for manifold mounting (30 min) or use 2W-version (on request)		
Cycling rate	up to 1 000 c.p.m.		
Protection class with cable plug	NEMA 4 (IP 65)		
Electr. connection	Delivery standard: Cable plug DIN 43 650 B, 0-250 V. Flying leads		

Materials



1 Valve body:	Brass (Stainless steel on request)
2 Plunger-seal:	FPM (Viton)
3 O-rings:	FPM (Viton)
4 Armature guide tube:	305 Stainless Steel
5 Plunger:	430 Stainless Steel
6 Spring:	301 Stainless Steel
7 Shading ring:	Cu (brass version)
8 Stopper:	430 Stainless Steel

Specifications - Ordering Chart (Other Versions on Request)



Valve Body Brass, Manual Override Standard, Cable Plug DIN 43 650 Form B

Port connection	Orifice [inch]	C _v	Pressure Range (AC) and (DC)		Seal material	Weight [oz]	ITEM - No. Voltage / Frequency [V/Hz]		
			[PSI]	[bar]			24/DC	120/60	240/60
NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	457 658 P	450 990 E	457 660 M
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	457 661 A	451 035 L	457 663 C

Valve Body Brass, without Manual Override, Cable Plug DIN 43 650 Form B

NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	450 227 C	450 229 N	457 672 D
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	453 706 C	450 236 D	451 041 S

Valve Body Brass, Manual Override Standard, Coil with Two Flying Leads

NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	457 664 D	----	----
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	457 667 G	----	----

Valve Body Brass, without Manual Override, Coil with Two Flying Leads

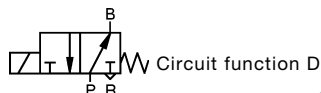
NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	457 675 G	----	----
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	457 678 K	----	----

Valve Body Brass, Manual Override Standard, Coil with Three Flying Leads

NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	----	457 665 E	457 666 F
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	----	457 668 R	457 669 J

Valve Body Brass, without Manual Override, Coil with Three Flying Leads

NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	----	457 676 H	457 677 A
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	----	457 679 L	457 680 A



Valve Body Brass, without Manual Override, Cable Plug DIN 43 650 Form B

Port connection	Orifice [inch]	C _v	Pressure Range (AC) and (DC)		Seal material	Weight [oz]	ITEM - No. Voltage / Frequency [V/Hz]		
			[PSI]	[bar]			24/DC	120/60	240/60
NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	457 708 N	451 081 K	457 648 M
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	4570649 N	450 238 P	457 651 G

Valve Body Brass, without Manual Override, Coil with Two Flying Leads

NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	457 652 H	----	----
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	457 655 C	----	----

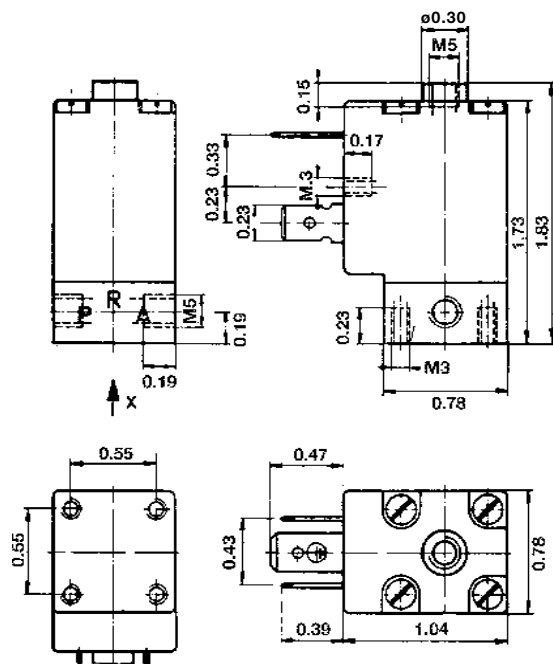
Valve Body Brass, without Manual Override, Coil with Three Flying Leads

NPT 1/8"	3/64	0.053	0 - 145	0 - 10	FPM	4.2	----	457 653 A	457 654 B
NPT 1/8"	1/16	0.070	0 - 87	0 - 6	FPM	4.2	----	457 656 D	457 657 E

Options

- 2W-version
- Stainless steel body
- Specific testing and cleaning
- Manual override

Dimensions Solenoid Valve [inch]



Please note for NPT 1/8" port connection:

Body length 1", overall height 1.89",
M5 connection is retained at R port

Technical Data Cable Plug

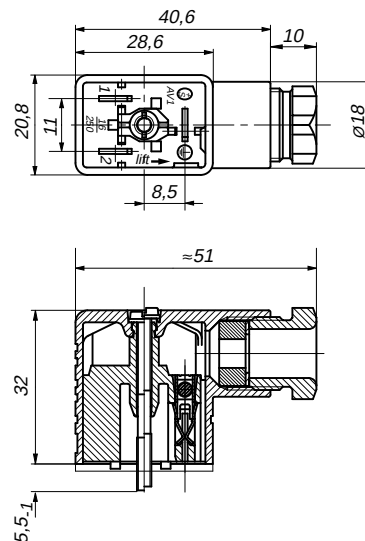
Body material	PA (polyamide)
Contact material	brass, tinned
Cable outlet	vertically to the plug bottom
Isolation between cable plug and coil	Gasket (NBR)
Temperature range	-22°F to +194°F
Cable diameter	11/64" to 9/32"
Electr. connection	terminal screws max. 1/16"²
Poles	2 pole + protective ground
Nominal voltage	0-250 V (Standard)
Isolation group	3
Rating	NEMA 4 (IP 65)
Max. continuous current	16 A without wiring
Contact resistance	≤ 4 mΩ

Options	LED display
	Rectifier
	Varistor



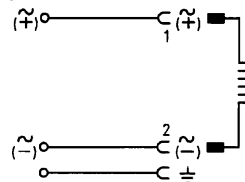
Cable plug Type 2507

Dimensions Cable Plug [mm]



Wiring Diagrams/Connection Specifications

Standard



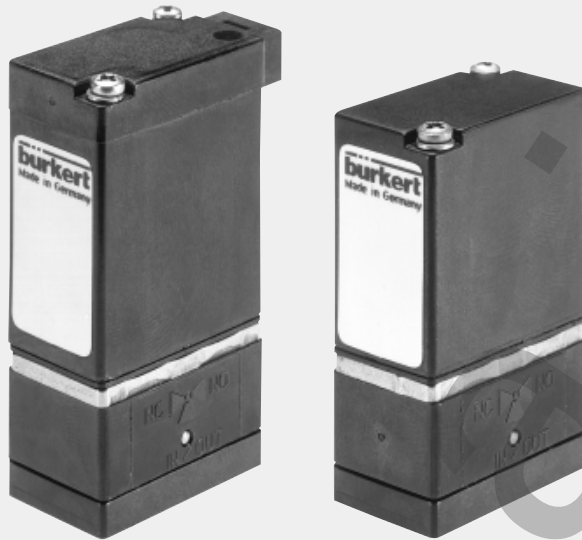
0-250 V AC/DC

Item-No.: 423 845 R

16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Special Applications

Type 6126
(2/2- 3/2-way)

10–32 UNF, Sub-Base



Advantages/Benefits

- ▶ **Hermetic isolation of fluid from the actuator**
- ▶ **Insensitive to contamination**
- ▶ **High pressure and back-pressure rating of 145 PSI**
- ▶ **Low internal volume**
- ▶ **Body materials:**
PPS, Brass, Stainless steel
- ▶ **Seal materials:**
FPM (Viton) or EPDM
- ▶ **Normally closed, normally opened and 3-way universal functions**
- ▶ **Flow diagnostics available upon request**
- ▶ **Recognized**

Design/Function

A unique rocker designed actuating mechanism operates an isolating diaphragm that separates the actuator and the coil from the fluid. The actuator is hermetically isolated from the coil by a stainless steel plate and the coil can be rotated or replaced without disturbing the process.

No friction, no risk of sticking and a strong, rugged diaphragm provide high reliability and long service life. The valve has a minimal internal volume that is easily purged. No cross-contamination occurs and the control of critical fluids with high accuracy is possible.

Heat transfer is virtually eliminated as the coil is not directly in contact with the diaphragm.

The valves are ideal for manifold mounting and are available with a simplified common wiring system. Custom manifolds are available to satisfy specific application requirements.

Applications

- Ink Jet
- Technical applications
- Analytical instruments
- Difficult and slightly aggressive media

bürkert
Fluid Control Systems

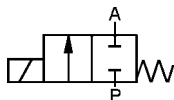
16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Special Applications

Type 6126
(2/2- 3/2-way)

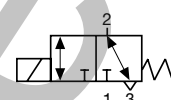
Technical Data

Circuit Function

A- 2/2-way valve,
normally closed



T- 3/2-way valve, direct acting,
universal function, any flow direction



Valve Specification

Pressure range max.	Vacuum - 145 PSI (see specifications)
Body material	PPS for sub-base body; brass, or 316L SS for 10-32 UNF valve body
Seal material	FPM (Viton) or EPDM
Isolating plate body/coil	Stainless Steel
Fluids	Ink, difficult and slightly aggressive media
Fluid temperature	32°F – 122°F
Ambient temperature	Max. 130°F
Max. viscosity	Approx. 21 centistokes
Response time	Approx. 25 ms

Solenoid Specification

Nominal voltages	12, 24 V/DC 110, 230 V/DC and AC
Voltage tolerance	±10 %
Power consumption	3.4 W at 12 and 24 VDC 4 W at 110-120 VDC 4 W at 230-240 VDC
Cycling rate	Approx. 200/min.
Duty cycle	100% continuously rated
Protection class	NEMA 4 (IP 65) with leads or cable plug Type 2506, IP 20 without cable plug

Installation / Accessories

Installation	As required, but preferably with solenoid system upright.	Cable plug	Type 2506, DIN 43650, form C (standard delivery with valve)
Fixation	M2.5 from the top		Type 2505, rectangular plug (as accessory, order separately).
Electrical connection	• Side or top spade connector to DIN 43 650 • Rectangular connector • Flying lead wires		

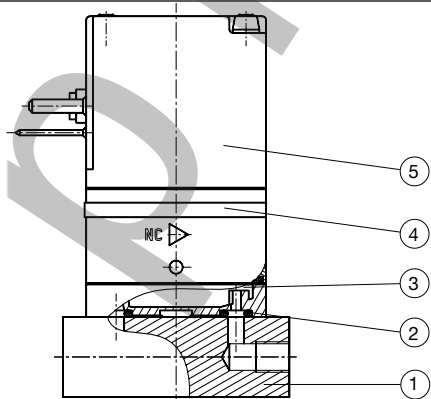
Manifolds

Manifolds according to specific application demands are available.

Ordering-Information Accessories

Accessory	Description	Item-No.
3-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61376
6-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61377
3-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61381
6-Station manifold, PEEK	2-Way Function, Single Common Port, Drawing Available Upon Request	US61382
Blanking plate PEEK	To cover unused stations	US61385

Materials

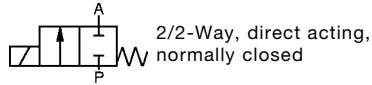


1 Sub-base:	Brass or 316L Stainless steel
2 O-Rings:	FPM (Viton) or EPDM
3 Diaphragm:	FPM (Viton) or EPDM
4 Isolating plate:	Stainless steel
5 Body:	PPS

16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Special Applications

Type 6126
(2/2- 3/2-way)

Specifications - Ordering Chart (Other Versions on Request)



PPS valve body

Port connection	Orifice [in]	C _v	SCFM (air)	Pressure Range [PSI]	Back-pressure [PSI]	Seal Material	Electrical Connection	Weight [oz]	Item-No. Voltage / Frequency [V/Hz]			
									12/DC ¹⁾	24/DC ¹⁾	110/DC/AC ²⁾	230/DC/AC ²⁾
Sub-base	1/32	0.012	0.39	Vac-145	145	FPM	cab. plug 2506	2.12	139 151 U	139 088 Z	139 152 V	139 153 W
Sub-base	1/32	0.012	0.39	Vac-145	145	FPM	rect. plug 2505	2.12	---	139 236 Z	---	---
Sub-base	1/32	0.012	0.39	Vac-145	145	EPDM	cab. plug 2506	2.12	139 154 X	139 155 Y	---	---

¹⁾ Side tag connector, ²⁾ Top tag connector, universal coil (AC/DC) with integrated rectifier.

Brass / PPS valve body

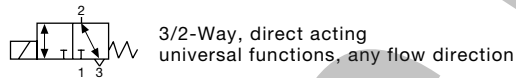
Port connection	Orifice [in]	C _v	SCFM (air)	Pressure Range [PSI]	Back-pressure [PSI]	Seal Material	Electrical Connection	Weight [oz]	Item-No. Voltage / Frequency [V/Hz]			
									12/DC ¹⁾	24/DC ¹⁾	110/DC/AC ²⁾	230/DC/AC ²⁾
10-32 UNF	1/32	0.012	0.39	Vac-145	145	FPM	cab. plug 2506	2	---	431 745 U	431 571 N	431 572 P

¹⁾ Side tag connector, ²⁾ Top tag connector, universal coil (AC/DC) with integrated rectifier.

316L Stainless steel / PPS valve body

Port connection	Orifice [in]	C _v	SCFM (air)	Pressure Range [PSI]	Back-pressure [PSI]	Seal Material	Electrical Connection	Weight [oz]	Item-No. Voltage / Frequency [V/Hz]			
									12/DC ¹⁾	24/DC ¹⁾	110/DC/AC ²⁾	230/DC/AC ²⁾
10-32 UNF	1/32	0.012	0.39	Vac-145	145	FPM	cab. plug 2506	2	---	431 746 V	431 578 V	431 579 W

¹⁾ Side tag connector, ²⁾ Top tag connector, universal coil (AC/DC) with integrated rectifier.



PPS valve body

Port connection	Orifice [in]	C _v	SCFM (air)	Pressure Range [PSI]	Back-pressure [PSI]	Seal Material	Electrical Connection	Weight [oz]	Item-No. Voltage / Frequency [V/Hz]			
									12/DC ¹⁾	24/DC ¹⁾	110/DC/AC ²⁾	230/DC/AC ²⁾
Sub-base	1/32	0.012	0.39	Vac-87	87	FPM	cab. plug 2506	2.12	139 158 B	459 103 E	458 120 H	458 121 W
Sub-base	1/32	0.012	0.39	Vac-87	87	FPM	rect. plug 2505	2.12	---	459 104 F	---	---
Sub-base	1/32	0.012	0.39	Vac-87	87	EPDM	cab. plug 2506	2.12	139 162 X	139 163 Y	139 164 Z	139 165 S

¹⁾ Side tag connector, ²⁾ Top tag connector, universal coil (AC/DC) with integrated rectifier.

Brass / PPS valve body

Port connection	Orifice [in]	C _v	SCFM (air)	Pressure Range [PSI]	Back-pressure [PSI]	Seal Material	Electrical Connection	Weight [oz]	Item-No. Voltage / Frequency [V/Hz]			
									12/DC ¹⁾	24/DC ¹⁾	110/DC/AC ²⁾	230/DC/AC ²⁾
10-32 UNF	1/32	0.012	0.39	Vac-87	87	FPM	cab. plug 2506	2	---	431 747 W	431 585 D	431 586 E

¹⁾ Side tag connector, ²⁾ Top tag connector, universal coil (AC/DC) with integrated rectifier.

316L Stainless steel / PPS valve body

Port connection	Orifice [in]	C _v	SCFM (air)	Pressure Range [PSI]	Back-pressure [PSI]	Seal Material	Electrical Connection	Weight [oz]	Item-No. Voltage / Frequency [V/Hz]			
									12/DC ¹⁾	24/DC ¹⁾	110/DC/AC ²⁾	230/DC/AC ²⁾
10-32 UNF	1/32	0.012	0.39	Vac-87	87	FPM	cab. plug 2506	2	---	431 748 F	431 592 C	431 706 W

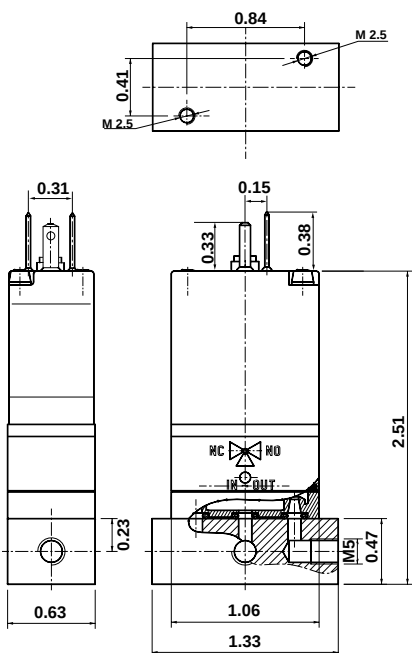
¹⁾ Side tag connector, ²⁾ Top tag connector, universal coil (AC/DC) with integrated rectifier.

16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Special Applications

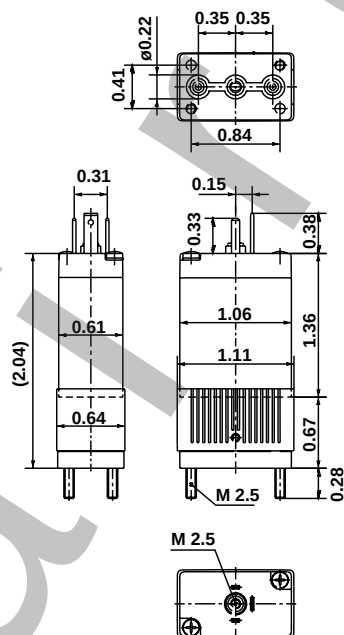
Type 6126
(2/2- 3/2-way)

Coil with Top Plug Type 2506 - Dimensions [inch]

Thread Connection 10-32 UNF

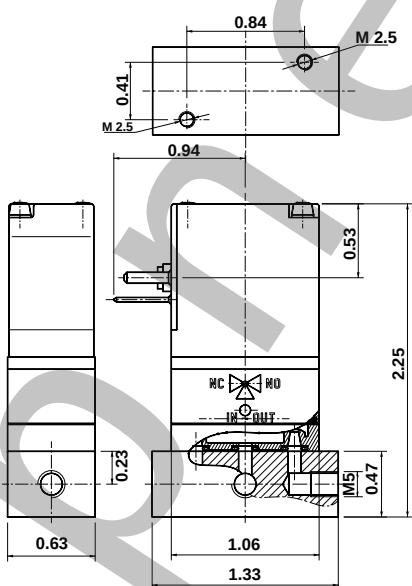


Sub-Base Connection

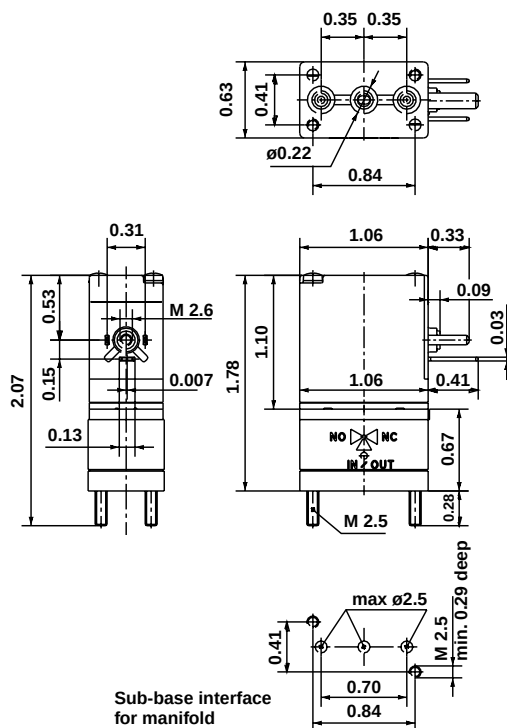


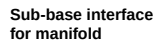
Coil with Side Plug Type 2506 - Dimensions [inch]

Thread Connection 10-32 UNF



Sub-Base Connection





16mm Miniature Rocker Solenoid Valve with Isolating Diaphragm for Special Applications

Type 6126
(2/2- 3/2-way)

Type 2505 - Rectangular Cable Plug

Technical Data

Protection class	IP 20
Operating voltage	24 V
Power consumption	3 W
Operating temperature	0°F-122°F

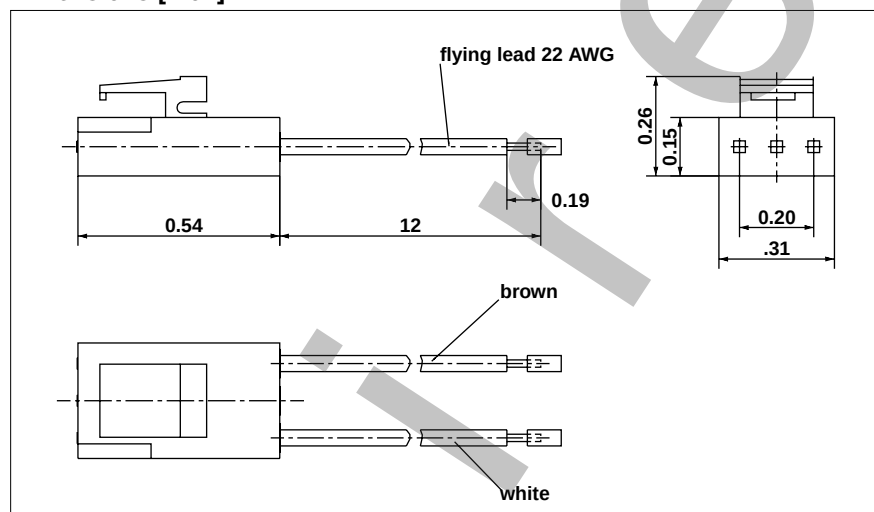
Ordering¹⁾

Item-No.

lead length 12 in.	644 068 N
cable length 10 ft.	133 486 F
lead length 78 in.	148 578 R

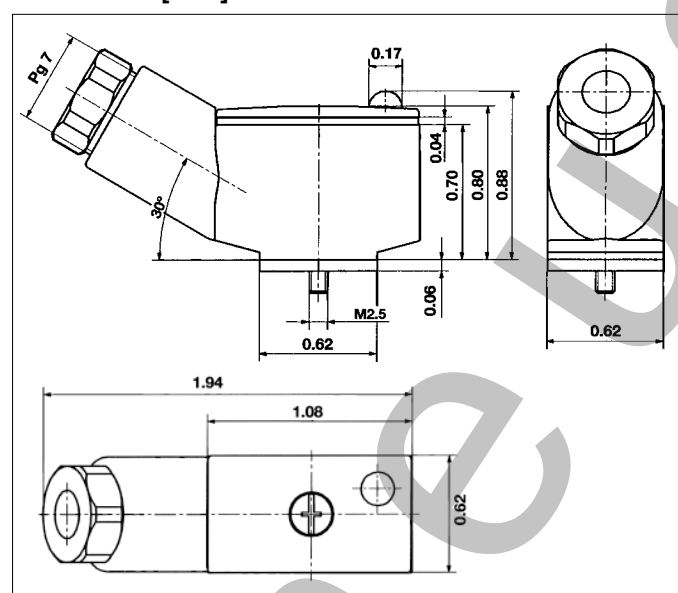
¹⁾ Please order separately
(no standard delivery)

Dimensions [inch]



Type 2506 - Cable Plug DIN 43650, Form C

Dimensions [inch]



Technical Data

Body material	PA (polyamide)
Contact material	Brass, electro-silverplated

Isolation between cable plug and coil	Gasket 0.06"
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Continuous limit temp.	259°F
Cable diameter	0.19" to 0.23"
Electr. connection	Terminal screws Max. 0.03 in ²
Poles	2-pole + ground
Nominal voltage	0-250 V

Ordering

Item-No.

Cable plug 2506	008 353 P ²⁾
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²⁾ Standard delivery with the valve

In case of special requirements
please consult for advice.

We reserve the right to make technical
changes without notice.

US_6126_08/02