Direct-Acting, NPT 1/4, NPT 3/8, NPT 1/2

Advantages/Benefits

- **Normally closed**
- **Body materials: Brass, Stainless Steel**
- **Metal seal between coil and body**
- **Push-over coil**
- **Temperature range up to 356°F**
- **Approvals**

Design/Function

Type 255 is a 2/2-way normally-closed plunger-type solenoid valve.

In this position, the armature spring, assisted by the pressure of the medium presses the valve seal against the seat. When energized, the armature and seal are drawn into the coil - the valve opens.

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

Applications

- Neutral gases and liquids
- High temperatures, such as hot water, steam, hot air, thermal oils
- Heating
- Sterilizing
- Impregnating

Burkert Contromatic USA
2602 McGaw Avenue
Irvine, CA 92614
Tel. 949.223.3100
Fax 949.223.3198
www.burkert-usa.com

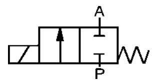
Burkert Contromatic Inc.
760 Pacific Road, Unit 3
Oakville, Ontario, Canada L6L 6M5
Tel. 905.847.5566
Fax 905.847.9006
www.burkert.ca

bürkert
Fluid Control Systems

Technical Data

Circuit Function

A 2/2-way valve,
normally closed



Body Materials

Brass body, seat 1.4305
Stainless steel body, seat 1.4410
Valve internals 1.4105, 1.4571

Specifications

Orifice	C_V-Value	QNn-Value	Pressure Range 2)						Weight
	Water	Air 1)	AC			DC			
Size	Liquids	Gases	Liquids	Gases for Seal Material		Liquids and Gases			
				NBR, EPDM FPM, Steel	PTFE	T_{amb} 130°F 194°F 4)	130°F	130°F	
						FluidTemperature			
						to 194°F	to 284°F	to 356°F	
[inches]	[gpm]	[SCFM]	[PSI]	[PSI]	[PSI]	[PSI]	[PSI]	[PSI]	[kg]
5/64	.14	4.6	0 – 495	0 – 850	0 – 565	0 – 285	0 – 200	0 – 140	0,6
1/8	.29	9.5	0 – 230	0 – 700	0 – 355	0 – 140	0 – 85	0 – 55	0,6
5/32	.58	19	0 – 140	0 – 425	0 – 170	0 – 55	0 – 28	0 – 4	0,6
3/16	.76	25	0 – 85	0 – 230	0 – 100	0 – 28	0 – 7	–	0,6
1/4	.93	30	0 – 55	0 – 140	0 – 70	0 – 14	–	–	0,6

1) Measured with 85 PSI upstream pressure and a pressure drop of 14 PSI across the valve at 68°F, 2) also suitable for vacuum, 3) PTFE seal material only, 4) pressure range of 356°F (255-20S) and 482°F (255-25S) for max. ambient and fluid temperature (see max. ambient temperature in ordering chart).

All pressures quoted are gauge pressures with respect to the prevailing atmospheric pressure.

Operating Data (Valve)

Seal Materials/Fluids Handled/Temp.- Range

NBR Neutral fluids, e.g. compressed air, town gas, water, hydraulic oil, oils and fats without additives
14°F to 198°F

EPDM Oil- and fat-free fluids, e.g. hot water, alkaline washing and bleaching lyes
-40°F to 266°F

FPM Hot air, oxygen, per-solutions, hot oils, oils with additives 14°F to 266°F 1)

PTFE Water, steam, alcohol, oils, petrol, hydraulic substances, organic solvents
-40°F to 356°F

Steel dto. -40°F to 356°F

1) Temperatures up to 482°F on request.

Max. ambient temp.		130°F
Max. viscosity		approx. 21 mm²/s
Response times	opening	AC 10-20 ms, DC 20-80 ms
	closing	AC 20-30 ms, DC 20-30 ms

Times measured at an operating pressure of 85 PSI with water. Measured values varry with changes in pressure and viscosity of the fluid.

Operating Data (Actuator)

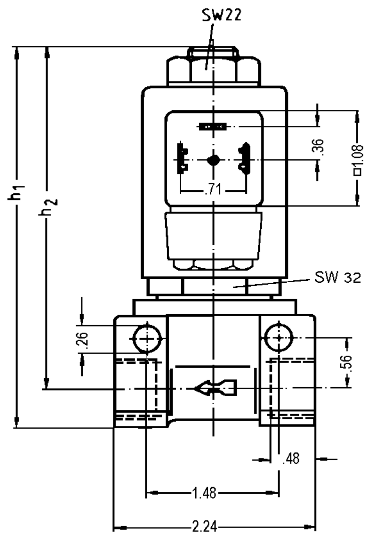
Operating voltage	24, 120, 240, 60 Hz, 24 V/=
Voltage tolerance	±10 %
Power consumption	AC 35 to 40 VA (inrush) DC ca. 12 W (hold)
Duty cycle	100 % continuously rated
Cycling rate	approx. 600 c.p.m.
Rating	with cable plug and cable IP 65

Installation / Accessories

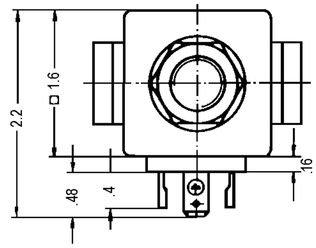
Installation: as required, but preferably with solenoid system upright

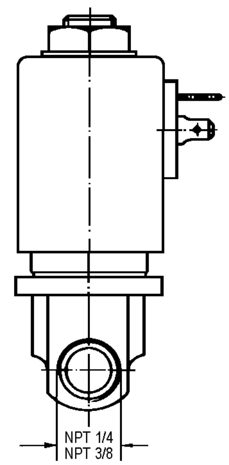
Electrical connection:
- cable plug (order separately)
- conduit standard with UL listing

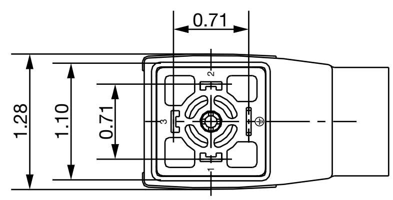
Dimensions in inches



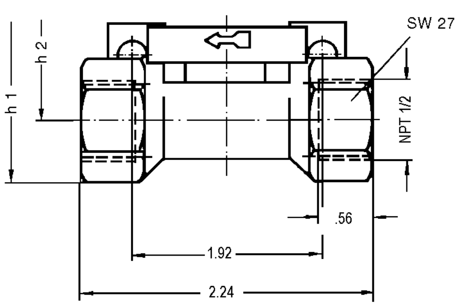
Brass NPT 1/4 and 3/8

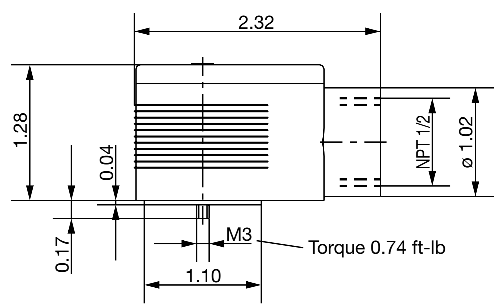






Ⓤℓ U.L. Listed with conduit-plug Type 2509 (0–250 V AC/DC)





without circuitry

Stainless steel NPT 1/4 and 1/2
Brass NPT 1/2

Body	Connection NPT	h1	h2
Brass	1/4	4.20	3.76
Brass	3/8	4.20	3.76
Stainless	1/4	4.20	3.72
Brass, stainless	1/2	4.34	3.72

Ordering Chart (Other Versions on Request)

Circuit Function	Orifice [inch]	Flow Rate Water C_V-Value [gpm]	Flow Rate Air [1] QNn [SCFM]	Port Connection [NPT]	Pressure Range [2] ⚠ [PSI] For Liquids	Body Material	Seal Material	Approvals	Voltage/ Frequency [V/Hz]	Order-No.
A	5/64	0.14	4.6	1/4	0 – 285	Brass	PTFE	–	24/DC	121 953 M
					0 – 495	Brass	FPM	UR	120/60	458 997 V
					0 – 285	Stainless	PTFE	UL	24/DC	456 160 F
					0 – 495	Stainless	PTFE	UR	120/60	454 774 G
					0 – 495	Stainless	PTFE	UL	120/60	US03759
	1/8	0.29	9.5	1/4	0 – 230	Brass	PTFE	UL	24/60	US06601
					0 – 140	Brass	PTFE	UR	24/DC	452 431 P
					0 – 140	Brass	PTFE	UL	24/DC	457 930 U
					0 – 230	Brass	PTFE	UL	120/60	457 955 Z
					0 – 230	Brass	PTFE	UL	240/60	US06003
					0 – 230	Stainless	PTFE	UL	24/60	US06005
					0 – 140	Stainless	PTFE	UR	24/DC	452 435 K
					0 – 140	Stainless	PTFE	UL	24/DC	US06004
					0 – 230	Stainless	PTFE	UL	120/60	452 886 Q
					0 – 230	Stainless	PTFE	UL	240/60	US06006
				3/8	0 – 230	Brass	PTFE	UL	24/60	US06010
					0 – 140	Brass	PTFE	–	24/DC	456 228 F
					0 – 140	Brass	PTFE	UL	24/DC	US04300
					0 – 230	Brass	PTFE	UR	120/60	454 096 M
					0 – 230	Brass	PTFE	UL	120/60	US03383
					0 – 230	Brass	PTFE	UL	240/60	US01951
				1/2	0 – 230	Brass	PTFE	UL	120/60	454 867 W
	5/32	0.58	19.0	1/4	0 – 140	Brass	EPDM	–	240/60	450 440 N
					0 – 140	Brass	PTFE	UR	24/60	450 503 A
					0 – 140	Brass	PTFE	UL	24/60	US02369
					0 – 55	Brass	PTFE	UR	24/DC	452 439 X
					0 – 55	Brass	PTFE	UL	24/DC	US06007
					0 – 140	Brass	PTFE	UR	120/60	452 440 C
					0 – 140	Brass	PTFE	UL	120/60	US01211
					0 – 140	Brass	PTFE	UL	240/60	US02598
					0 – 140	Stainless	PTFE	UL	24/60	US06008
					0 – 55	Stainless	PTFE	–	24/DC	130 765 E
					0 – 55	Stainless	PTFE	UL	24/DC	457 972 S
					0 – 140	Stainless	PTFE	UR	120/60	US01456
					0 – 140	Stainless	PTFE	UL	120/60	452 894 Q
					0 – 140	Stainless	PTFE	UL	240/60	US06009
				3/8	0 – 140	Brass	PTFE	UL	24/60	US06012
					0 – 55	Brass	PTFE	–	24/DC	453 668 M
					0 – 55	Brass	PTFE	UL	24/DC	US06011
					0 – 140	Brass	PTFE	UR	120/60	454 121 J

[1] Measured with 85 PSI upstream pressure and a pressure drop of 14 PSI across the valve at 68°F, [2] also suitable for vacuum

⚠ Limited pressure range for liquid fluids (see chart on page 2)

Ordering Chart (Other Versions on Request)

Circuit Function	Orifice [inch]	Flow Rate Water C_V-Value [gpm]	Air [1)] QNn [SCFM]	Port Connection [NPT]	Pressure Range [2)] ⚠ [PSI] For Liquids	Body Material	Seal Material	Approvals	Voltage/ Frequency [V/Hz]	Order-No.
A	5/32	0.58	19.0	3/8	0 – 140	Brass	PTFE	UL	120/60	452 890 Y
					0 – 140	Brass	PTFE	UR	240/60	456 014 L
					0 – 140	Brass	PTFE	UL	240/60	US06014
					0 – 140	Brass	PTFE	UL	240/60	456 684 Z
					0 – 140	Stainless	PTFE	UR	120/60	453 527 Q
					0 – 140	Stainless	PTFE	UL	120/60	454 365 E
					0 – 140	Stainless	PTFE	UL	240/60	US06550
	3/16	0.76	25.0	1/4	0 – 85	Brass	PTFE	UR	120/60	452 448 G
				1/2	0 – 85	Stainless	PTFE	–	120/60	454 514 L
					0 – 85	Stainless	PTFE	UL	24/DC	456 215 S
	1/4	0.93	30.0	1/4	0 – 55	Brass	PTFE	UR	24/60	452 455 X
					0 – 55	Brass	PTFE	UL	24/60	452 905 T
					0 – 14	Brass	PTFE	UR	24/DC	452 454 W
					0 – 14	Brass	PTFE	UL	24/DC	US00979
					0 – 55	Brass	PTFE	UR	120/60	452 456 Y
					0 – 55	Brass	PTFE	UL	120/60	452 906 U
					0 – 55	Brass	PTFE	UR	240/60	452 457 Z
					0 – 55	Brass	PTFE	UL	240/60	455 100 B
					0 – 55	Stainless	PTFE	–	24/60	US01047
					0 – 55	Stainless	PTFE	UL	24/60	US04267
					0 – 14	Stainless	PTFE	UR	24/DC	452 458 A
					0 – 14	Stainless	PTFE	UL	24/DC	US01693
					0 – 55	Stainless	PTFE	UL	120/60	452 909 F
					0 – 55	Stainless	PTFE	UL	240/60	455 101 Y
					0 – 55	Brass	PTFE	UL	24/60	US01571
					0 – 55	Brass	PTFE	UL	120/60	454 181 P
					0 – 55	Brass	PTFE	–	240/60	457 336 U
					0 – 55	Brass	PTFE	UL	240/60	US06016
					0 – 55	Brass	PTFE	UL	120/60	454 813 Q
					0 – 55	Stainless	PTFE	UR	24/60	456 737 V
					0 – 55	Stainless	PTFE	UL	24/60	US05850
					0 – 14	Stainless	PTFE	–	24/DC	455 519 S
					0 – 55	Stainless	PTFE	UR	120/60	453 526 P
					0 – 55	Stainless	PTFE	UL	120/60	454 147 U
					0 – 55	Stainless	PTFE	UL	240/60	US00804

[1)] Measured with 85 PSI upstream pressure and a pressure drop of 14 PSI across the valve at 68°F, [2)] also suitable for vacuum

⚠ Limited pressure range for liquid fluids (see chart on page 2)