

Design:

2-way solenoid valve, internally piloted, normally closed
(Circuit function A).

Seal Materials and Fluids handled:

See Table 2.

Fluid and Ambient Temperature:

See Table 2.

Pressure Range:

Maximum inlet pressure see label on valve.

A pressure differential between inlet port and outlet port is not required.

Installation:

Before installing valve ensure that piping etc. is free of foreign matter (metal shavings, pipe sealing materials, welding scale etc.). Teflon tape is recommended for sealing ports. Arrow on valve body gives flow direction. Installation as required but preferable with coil uppermost. Installation in this position tends to prevent foreign matter remaining in core tube (increased life). A strainer upstream of valve, protects against effects of foreign matter. Do not put any loads on coil unit. Pipework should be supported such that valve body is not under strain. Do not allow a pipe end or sealing material to block the pilot bore within the valve outlet. Inlet and outlet of valve must be fullbore and pipework unrestricted.

Marking (example):
Body Material

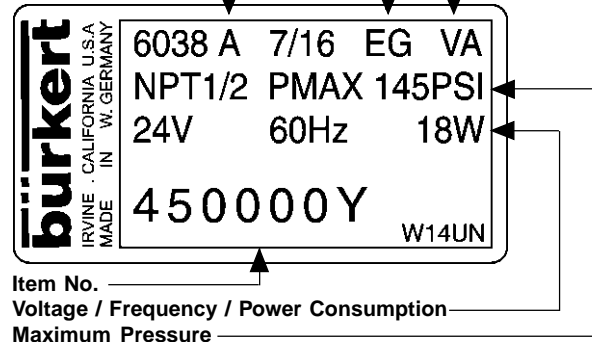
RG = Gunmetal
VA = Stainless Steel

Seal Material

See table 1

Circuit function

A = Normally Closed


Approvals

The valve is either approved as

General Purpose valve for Hazardous Locations
Class I, Division 1, Group A, B, C, D
Class II, Division 1, Group E, F, G
Class III, Division 1 and 2
Operating Temperature T 4

or

General Purpose valve for Hazardous Locations
Class I, Division 1, Group A, B, C, D
Class II, Division 1, Group E, F, G
Class III, Division 1 and 2
Operating Temperature T 6

or

Intrinsically Safe Apparatus for Hazardous Locations
Class I, Division 1, Group A, B, C, D
Class II, Division 1, Group E, F, G
Class III, Division 1
Operating Temperature T 6

or

FM approved as
Nonincendive for Hazardous Locations
Class I, Division 2, Group A, B, C, D
Class II, Division 2, Group F, G
Class III, Division 1 and 2
Operating Temperature T 4

UL listed for General Purpose
CSA approved for General Purpose

See label on the valve.

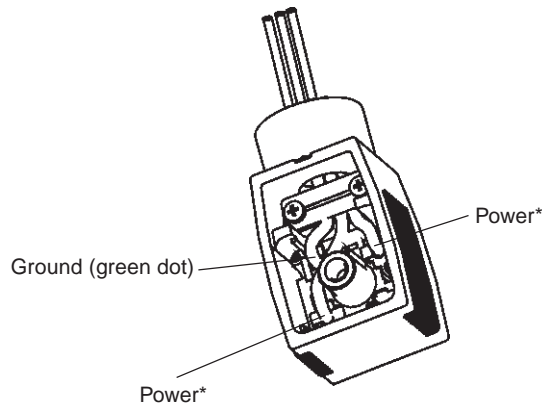
Table 1: Seal Material

Code	Seat Seal	Pilot Seal	O-Ring
AA	EPDM	EPDM	EPDM
BF	NBR	FPM	FPM
EF	PTFE	FPM	FPM
EH	PTFE	PTFE	FPM
EG	PTFE	PTFE	Graphite
FF	FPM	FPM	FPM

Table 2: Temperatures

Fluid	Temperatures [°F]	Seal materials					
		Ethylene Propylene (AA)	Teflon® FPM (EF)	Teflon® FPM (EH)	Teflon® Graphite (EG)	Buna "N" (BF)	Viton® (FF)
Air	Fluid Ambient	+ 32 to + 275 + 14 to + 130	+ 32 to + 356 + 14 to + 130	+ 32 to + 356 + 14 to + 130	+ 32 to + 356 + 14 to + 130	+ 32 to + 275 + 14 to + 130	+ 32 to + 275 + 14 to + 130
Water	Fluid Ambient	+ 50 to + 212 + 32 to + 130	+ 50 to + 212 + 32 to + 130	+ 50 to + 212 + 32 to + 130	+ 50 to + 212 + 32 to + 130	+ 50 to + 212 + 32 to + 130	+ 50 to + 212 + 32 to + 130
Neutral gas	Fluid Ambient	+ 32 to + 275 + 14 to + 130	+ 32 to + 356 + 32 to + 130	+ 32 to + 356 + 32 to + 130	+ 32 to + 356 + 32 to + 130	+ 32 to + 275 + 14 to + 130	+ 32 to + 275 + 14 to + 130
light oil	Fluid Ambient	+ 50 to + 194 + 14 to + 130	+ 50 to + 194 + 14 to + 130	+ 50 to + 194 + 14 to + 130	+ 50 to + 194 + 14 to + 130	+ 50 to + 194 + 14 to + 130	+ 50 to + 194 + 14 to + 130
LP-gas	Fluid Ambient	+ 32 to + 140 + 14 to + 130	+ 32 to + 140 + 14 to + 130	+ 32 to + 140 + 14 to + 130	+ 32 to + 140 + 14 to + 130	+ 32 to + 140 + 14 to + 130	+ 32 to + 140 + 14 to + 130
Steam	Fluid Ambient	+ 212 to + 275 + 14 to + 130	+ 212 to + 356 + 14 to + 130	+ 212 to + 356 + 14 to + 130	+ 212 to + 356 + 14 to + 130	+ 212 to + 275 + 14 to + 130	+ 212 to + 275 + 14 to + 130

Teflon® and Viton® are registered trade names of Du Pont

Wiring Diagram**Electrical Connection Type 2509**

* Orientation is not important

Electrical Connection:

Ensure supply voltage/frequency corresponds with that on label.

Voltage tolerance is $\pm 10\%$.

Available Electrical Connections see "Marking".

Wiring diagram see above.

For this product to be considered UL-listed and CSA approved for General Purpose and FM approved for Hazardous Locations Division 2, it must be in conjunction with either the type 2509 or the type H cable plug connector (Electrically Operated Valves Parts, YSY12). The connector and gasket must be assembled to the valve with the screw provided after the connection of the wire leads. This valve and connector assembly is delivered together and is to be used as one unit.

For valves to be used in Intrinsically Safe Applications the positive pole is identified by a "+" on the pin or wire No. 1 has to be connected to the "+".

See Control Drawing for the Rules of Interconnection.

Warning:

All valves to be used in Intrinsically Safe Applications must be clearly marked as Intrinsically Safe Apparatus.

Trouble-Shooting:

Check port connections, minimum operating pressure differential if required and supply voltage. Ensure pilot hole in piston is clear and pilot bore in the valve outlet is not abstracted. If core does not pull in, check for short circuit, coil burn-out or foreign matter impeding core movement. A jammed or missing core causes the coil to overheat in the case of AC supply.

Warning:

These products are designed to operate in a wide variety of applications, it is the user's responsibility to select a model that is appropriate for the application. This product is designed to be installed only by suitably qualified and trained personnel. Specifications should not be exceeded under any circumstances.

The maximum torque for the terminal screw on type 2509 is 0,5 Nm (4,4 lbf-in.).

Changes made to this product will render any applicable warranty null and avoid.

Specifications subject to change without notice.

Any questions? Please call Bürkert Contromatic Technical Service at (0949) 223 31 00.

bürkert

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