

**CLARK SOLUTIONS****Model 1325, 3-Way Solenoid Valve***3/8", 1/2", 3/4" Pipe Size, Pilot Operated***DESCRIPTION**

Model 1325 three-way solenoid valves are available in brass or 304 stainless steel bodies. A choice of seal and seat material including Acrylo-Nitrile and Viton® are available. The 1325 valves were designed as pilot valves for larger pneumatic actuators, but can be used in general applications provided the pressure characteristics of the process conform to these indicated in Table 3.

The valves have a metal core diaphragm and pilot operated action. The pilot orifice has internal discharge so it may be used with fluids that cannot be discharged into the atmosphere. They have a greater flow capacity and faster response time than slide valves of the same size.

Options include weather proof housing, energized coil indicator light and manual override.



File LR87427 2M - LR108921-1



File MH16855 Vol. 2 Sec. 2

**SPECIFICATIONS****GENERAL**

Operation: 3-way, two position, (N.C., N.O., divergent, convergent, universal)

Valve Body : Brass or AISI 304 stainless steel

Valve Life: > 1,000,000 cycles, field rebuild kits available

Valve Seals & Seats: Acrylo-Nitrile, or Viton®

Connections: 3/8", 1/2", 3/4" BSP or NPT

Operating Voltage- 12 VDC; 24 VDC/VAC; 120 VAC, 60Hz

Standard Solenoid Housing: Encapsulated, includes DIN 43650 connector (PG-9)

Connector Wire Connection: Screw terminal

Optional IP65/NEMA4 Weather Proof : Encapsulated coil, 1/2" NPT potted conduit connection with flying leads

Coil Rating: Class F coil to 80°C: 60 Hz, 13 W; DC, 19 W

Options: Weatherproof housing, energized coil indicator light

Weight: 0.5 kg

Table 1

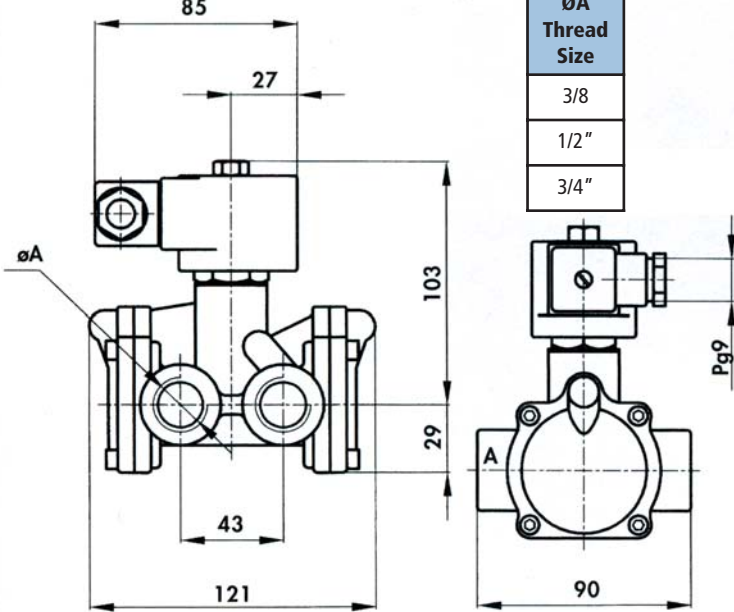
Wetted Materials						
Body	Plunger	Plunger Tower	Springs	Diaphragm	Inner-Diaph. Material	Piston
Brass	AISI 430F	304L or 305 SS	Copper	See Table 2	-	AISI 304
AISI 304	AISI 430F	304L or 305 SS	Silver & 302 SS	See Table 2	AISI 304	AISI 304

Table 2

Seat Material	Acrylo Nitrile	Viton®
Maximum Temperature	+80°C	+150°C
Uses	Water, air, light oils, kerosene. Low and medium vacuum.	Benzene, naphtha, aromatics, etc.. Hot gases. High vacuum.

Connection	Orifice Diameter (mm)	Cv (GPM)	Kv (m <sup>3</sup> /h)	Differential Pressure (bar)		Weight (kg)
				Minimum	Maximum	
<b>Three-Way, Two Position, Forged Brass Body- Normally Closed Construction</b>						
3/8"	16	3.16	2.7	0.5	10	2.3
1/2"		3.98	3.4			
3/4"		5.50	4.7			
<b>Three-Way, Two Position, Forged Brass Body- Normally Open Construction</b>						
3/8"	16	3.16	2.7	0.5	10	2.3
1/2"		3.98	3.4			
3/4"		5.50	4.7			
<b>Three-Way, Two Position, AISI 304Stainless Steel Body- Normally Closed Construction</b>						
3/8"	16	3.16	2.7	0.5	10	2.3
1/2"		3.98	3.4			
3/4"		5.50	4.7			
<b>Three-Way, Two Position, AISI 304Stainless Steel Body- Normally Open Construction</b>						
3/8"	16	3.16	2.7	0.5	10	2.3
1/2"		3.98	3.4			
3/4"		5.50	4.7			

## DIMENSIONS (MM)



Piloted valves use the fluid pressure to assist in opening and closing the valve, allowing the valve to operate against higher pressures than a direct acting valve.

When the pilot valve is closed, the pressure builds up via a small passage from the upstream side of the valve piston/seat. The valve seat is also acted on by a spring.

When the pilot valve opens, a passage that bypasses the valve piston/seat and connects downstream of the piston/seat is opened, relieving pressure from the top of the valve piston/seat. The inlet fluid pressure lifts up the piston to open the valve.

Table 3

	ENERGIZED	DE-ENERGIZED	SYMBOLS
NORMALLY CLOSED			
NORMALLY OPEN			

Flow Calculation, Liquids:

$$Q = C_v \sqrt{\frac{DP}{G}}$$

Q= Flow Rate, GPM (U.S.A.)

Cv= Valve Flow Coefficient

DP= Valve Pressure Drop, PSID

G= Specific Gravity of Liquid (= 1.0 for Water)

## ORDERING INFORMATION

SELECT ITEM FROM EACH COLUMN IN CHART BELOW FROM LEFT TO RIGHT

EXAMPLE: 1325BA4CT24DC



Option YC Weather Proof Housing with 1/2" NPT Threaded Conduit Connector



Standard Coil and DIN43650 Connector

Model	Body Material	Seat & Seal Material	Connection	Configuration	Connection Threads	Voltage	Options
1325	B= Brass S= 304 SS	A= Acrylo-Nitrile V= Viton	6= 3/4" 3= 3/8" 4=1/2"	C= Normally Closed A= Normally Open	T= NPT - = BSP	12DC= 12 VDC 120AC= 120 VAC, 60 HZ 24DC= 24 VDC 24AC= 24 VAC, 60 HZ	Prefix YC= Weather Proof Housing (1/2" NPT Thread) Suffix M= Manual Operation Coil Indicator Light= Consult Factory

## INSTALLATION RECOMMENDATIONS

Place a strainer with a porosity  $\leq 100\mu$  upstream of valve (see Clark Solutions Model 1359 Y Strainer).