

CLARK SOLUTIONS**Model 1335, 2-Way, NC & NO Solenoid Valve***3/8 to 3/4" Pipe Size, Piloted, Combined & Direct Acting Solenoid***DESCRIPTION**

Model 1335 two-way normally closed and normally open solenoid valves are available in forged brass or 316 stainless steel bodies. A variety of seal and seat materials including Acrylo-Nitrile, Neoprene®, Ethylpropylene, and Viton® satisfy many general industry applications.

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

**SPECIFICATIONS****GENERAL**

Operation: Normally closed or normally open

Valve Body Materials: Forged brass, investment cast
AISI 316 stainless steel

Diaphragm: Metal core with choice of seat material

Valve Seats: Acrylo-Nitrile, Neoprene®,

Ethylpropylene, Viton®

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

Connections: BSP or NPT

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

Standard Solenoid Housing: Encapsulated coil,
DIN 43650 connection (PG-9)

Optional Weather Proof Solenoid Housing: NEMA 4, IP65

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

Options: Manual operation, energized coil indicator light

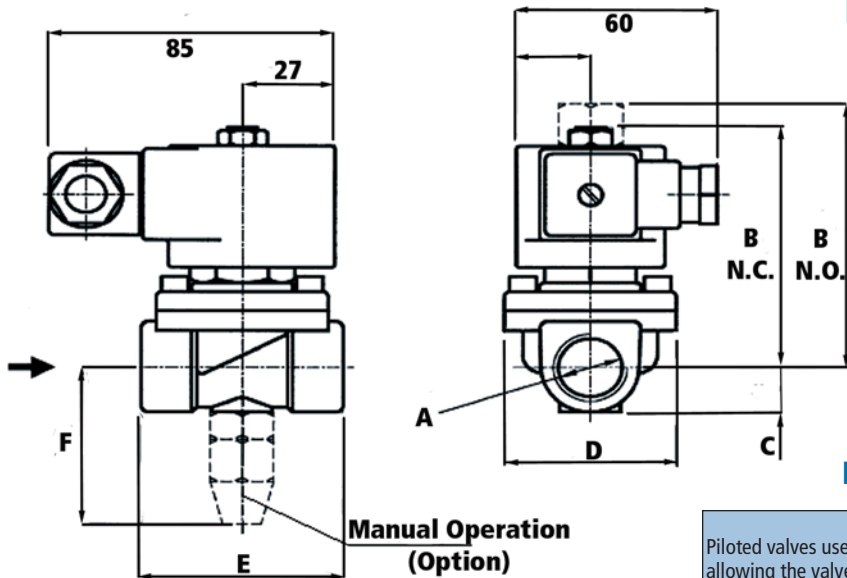
Table 1

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 316	AISI 430F	304L or 305 SS	Silver & 302 SS	See Table 2	AISI 316	AISI 316

Table 2

Seat Material	Acrylo Nitrile	Neoprene®	Ethyl-propylene	Viton®
Maximum Temperature	+80°C	+80°C	+150°C	+150°C
Uses	Water, air, light oils, kerosene. Low and medium vacuum.	Oxygen, alcohol, argon, other non-corrosive light gases and liquids. Freon 12.	Water steam, hot water, acetone.	Benzene, naphtha, aromatics, etc.. Hot gases. High vacuum.

Connection (NPT or BSP)	Orifice Dia. (mm)	Cv Coef. (GPM)	Kv Coef. (m ³ /h)	Weight (kg)
Brass Body, Pilot Operated, Normally Closed: Minimum Differential, 0.1 Bar; Maximum Differential Pressure, 10.0 Bar				
3/8"	14	2.75	2.35	0.76
1/2"	14	3.10	2.65	0.76
3/4"	18	5.03	4.30	0.98
Brass Body, Combined Acting, Normally Closed: Minimum Differential, 0 Bar; Maximum Differential Pressure, 7.0 Bar				
3/8"	14	2.75	2.35	0.76
1/2"	14	3.10	2.65	0.76
3/4"	18	5.03	4.30	0.98
Brass Body, Pilot Operated, Normally Open: Minimum Differential, 0.1 Bar; Maximum Differential Pressure, 10.0 Bar				
3/8"	14	2.75	2.35	0.76
1/2"	14	3.10	2.65	0.76
3/4"	18	5.03	4.30	0.98



DIMENSIONS (MM)

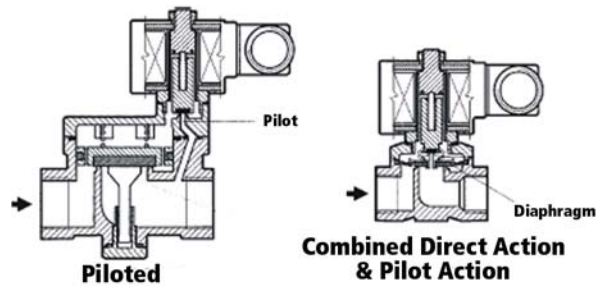
A NPT or BSP	B N.C.	B N.O.	C	D	E	F
3/4"	80	88	15	51	60	53
1"						
1, 1/2"	82	90	17	58	72	55

FUNCTION

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.



Flow Calculation, Liquids:

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

Q= Flow Rate, GPM (U.S.A.)
 C_v= Valve Flow Coefficient
 DP= Valve Pressure Drop, PSID
 G= Specific Gravity of Liquid (= 1.0 for Water)

ORDERING INFORMATION

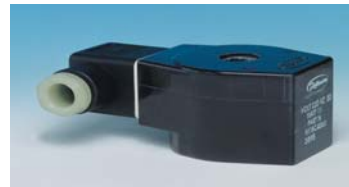
SELECT ITEM FROM EACH COLUMN IN CHART BELOW FROM LEFT TO RIGHT

EXAMPLE: 1335BN3AT12DC

Model Number Information							
Model	Body Material	Seat & Seal Material	Pipe Connection	Configuration	Connection Threads	Voltage	Options
1335	B= Brass I= 316 SS	A= Acrylo-Nitrile V= Viton N= Neoprene E= Ethylpropylene	3= 3/8" 4= 1/2" 6= 3/4"	- = Pilot operated Normally Closed A = Combined Acting, Normally Closed INA = Pilot operated 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
Bold Order Combinations Typically Ship From Stock							
					Magnetically latched solenoids available on select models. Please call us for details.		

INSTALLATION RECOMMENDATIONS

Place a strainer with a porosity $\leq 100\mu$ upstream of valve (see Clark Solutions Model 1359 Y Strainer). Install valve in any position, preferably on a horizontal pipeline with coil up.



Standard Coil and
DIN43650 Connector



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