SOLENOID VALVE

P462 & P463 SERIES
INSTALLATION INSTRUCTIONS

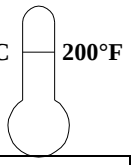
The P462 and P463 valve bodies are made of Celcon® plastic. Their internal parts and flow characteristics are the same. The only difference between them is the P462 has ¼" NPT female pipe connection and the P463 has a 3/8" NPT female pipe connection. In addition, the letter 'J' means the valve comes with a cover and bracket and the letter 'F' indicates that the valve is equipped with a restrictive flow disk. The dash number following the 'F' is the gpm with a decimal point moved one place to the left (see table above).

¼" NPT	3/8" NPT	COMMENTS
P462	P463	Standard plastic valve assembly
P462J	P463J	Standard valve assembly with cover & bracket
P462F-5	P463F-5	Standard valve with **0.5 gpm** flow disk
P462F-10	P463F-10	Standard valve with **1.0 gpm** flow disk
P462F-15	P463F-15	Standard valve with **1.5 gpm** flow disk

1. INSTALLATION:

The valves may be installed in any position except with the coil under the body (i.e. not upside down). Make sure fluid flow is in the same direction as the arrow on the side of the valve body. Apply pipe dope to male threads, hand tighten, and then turn 1 ½ times with a wrench. **CAUTION: Overtightening the threads may damage the body. Support any piping that may put strain on the body. Note: Wiring must comply with Local and National Electrical Codes. WARNING: Do not use Teflon® tape to seal internal plastic threads as the extra thickness of the tape may cause the plastic to crack. Use a nonwelding liquid sealant instead.**

2. FLUIDS:



Valves are intended for water, air, light oil, and other noncorrosive fluids. They should ***not*** be used for gasoline and other hazardous or explosive fluids. Maximum fluid temperature is 200° F (93.3°C). Ambient temperature shall not exceed 120°F (48.8°C).

WARNING: NOT FOR USE WITH HAZARDOUS OR CORROSIVE OR EXPLOSIVE FLUIDS.

3. OPERATION:

The magnetic field of the solenoid coil is too weak to lift the piston off the outlet port by itself so it is necessary to utilize the existing water pressure across the valve to force the actual up and down movement of the piston. This is accomplished with a piston that is designed with a plot hole in the center which is directly over the valve's outlet port and two or more pinhole sized weep holes that are outside the pilot hole area of the piston. When the plunger seats against the piston's pilot hole, water is forced up through the weep holes causing a larger pressure area to develop above the piston which then pushes it firmly against the valve body's smaller area outlet port which is under less pressure thus tightly sealing it.

To open the valve the process is reversed. Electricity energizes the solenoid coil thus forming a magnetic field sufficient to draw the plunger off the pilot hole of the piston. The water above the piston now flows out the pilot hole and through the valve body outlet port directly underneath. This sudden release of pressure above the piston allows the water inlet pressure under the piston to push it up and out of the way thus allowing water to flow through the valve. This is why these valves need a minimum of 3 psi pressure differential across them in order to open or close.

When electricity to the solenoid coil is shut off the kickoff spring flicks the plunger toward the pilot hole in the piston. Once the pilot hole is blocked by the plunger water pressure is again transmitted through the weep holes thus repeating the process of closing the valve tightly.

4, SPECIFICATIONS:

MOPD:	125 PSI	Safe working pressure:	150 PSI
Flow factor (C_V):	1.0	Max Temp: 180 °F fluid,	120 °F ambient
Volt-Amp rating:	Inrush: -16.0 VA	Holding:	-11.5 VA

5. TROUBLE SHOOTING:

CAUTION: Turn off water supply and electricity before servicing.

A. Failure to open:
1) No power or low voltage.
2) Coil burnout or an open circuit to coil.
3) Dirt prevents the plunger/diaphragm from opening.
4) Pressure differential exceeds 125 PSI Max.
5) Low differential pressure (3 PSI Min.).

B. Failure to close:
1) Coil still energized.
2) Valve installed backward.
3) Dirt on valve seat or in bleed hole.
4) Low differential pressure (3 PSI Min.).

C. Water Hammer:
Quick acting valves may cause water hammer when operated. If this occurs, it may be minimized by the use of a standpipe or other commercially available shock absorber installed near the valve inlet.

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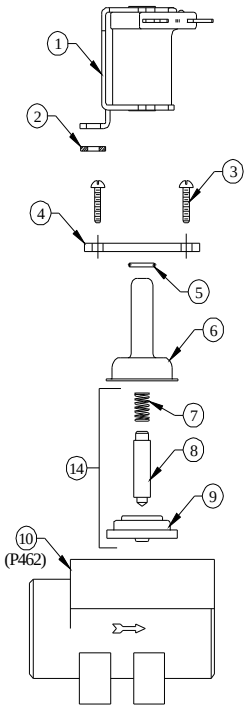
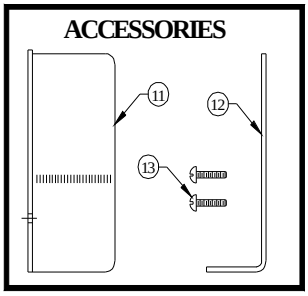
CAUTION: WHEN SERVICING THE VALVE, BE SURE THAT REPLACEMENT PARTS HAVE BEEN INSTALLED ACCORDING TO THE DRAWING ON THE NEXT PAGE.

RETURNS: NO MERCHANDISE MAY BE RETURNED FOR CREDIT WITHOUT DEMA'S WRITTEN PERMISSION. RETURN MERCHANDISE AUTHORIZATION NUMBER REQUIRED IN ADVANCE OF RETURN.

WARRANTY: DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse, or misapplication. Rubber and synthetic rubber parts such as "o"- rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of DEMA products. If products are altered or repaired without prior approval of DEMA, this warranty will be void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. DEMA assumes no liability for damages. Return merchandise authorization number, to return units for repair or replacement, must be granted in advance of return.





(STANDARD ON P462J & P463J)

NO.	PART NO.	DESCRIPTION
1	41-9-5A-	Solenoid Coil (Specify Voltage)
2	41-41	Nylon Washer
3	44-116-1	Screw #8-18 x ½ Lg. (2 Req'd)
4	41-39-3	Flange
5	41-34	Spacer Ring
6	41-7-25	Enclosing Tube (Stainless)
7	41-1-8	Kick-Off Spring
8	41-10-11	Plunger
9	41-15-10	Diaphragm
10	35-36	Valve Body (P462)
ACCESSORIES (STANDARD ON P462J & P463J)		
11	41-38	Solenoid Cover
12	41-39	Mounting Bracket
13	41-40	Screw #6-32 X 5/16 Lg. (2 Req'd)
14	61-78	Valve Repair Kit