

OPERATION

All Series "EASYM," "EASYMD," "EASM" and "EASMD" solenoid valves are direct acting, 2-way, and normally closed valves. When their solenoid coils are de-energized the valves are closed, and open when the coils are energized. Valves with 20 watt coils can be energized continuously. CAUTION! Valves with 58 watt coils can only be energized a maximum of 15 minutes or less with an equal cooling period.

FAIL-DRY® DESIGN

All series "EASYM," "EASYMD," "EASM" and "EASMD" valves utilize the PLAST-O-MATIC patented FAIL-DRY® design which features a vented chamber separating two (2) sealed sections of the valve body. This concept is extremely important for solenoid valves used in the chemical processing industry as it protects the metal operating components from corrosion that could cause valve failure and offers a warning of valve leakage before a failure occurs.

INSTALLATION

Please check the nameplate located on the top of the coil housing for correct part number, pressure ratings, and voltage. Also check the flow label located on the side of the valve body to insure proper flow direction. *

PLAST-O-MATIC solenoid valves operated by 58 watt coils **MUST ALWAYS BE MOUNTED VERTICALLY** with the coil above the valve body. Solenoid valves operated by 20 watt coils can be mounted horizontally or vertically; however, vertical mounting (coil up) is preferred since it results in longer cycle life.

Valves should **NEVER** be mounted with the coils on the bottom. When installing these valves in a piping system they should only be connected to plastic pipe or plastic fittings. All male threads should be wrapped with Teflon® tape or other acceptable pipe sealant. To prevent stringing of the Teflon® tape into the inner workings of the valves, be sure to keep the tape at least one full thread from the end of the pipe.

Whenever teflon tape or other pipe sealants are used there is a tendency to over-torque because of the reduced friction. Therefore, connections should only be made hand-tight followed by a one quarter turn more. Greater forces tend to stretch or distort the plastic bodies which could lead to future ruptures. Strap wrenches may be used for assembly. Metal pipe wrenches should **NEVER** be used as they can deeply scratch the plastic surfaces causing additional stresses.

Wiring should comply with all applicable electrical codes, local or otherwise. Care should be taken to insure that the solenoid coil leads cannot be pulled from the coil. If flexible conduit is not used to connect to the solenoid housing, the supply conduit must be properly aligned and supported to prevent stressing the solenoid assembly.

*If flow label is missing, the inlet can be distinguished from the outlet port. The outlet is always deeper than the inlet.

VALVE PRESSURE RATINGS

These PLAST-O-MATIC solenoid valves are direct acting and do not require minimum operating pressure differentials, but the maximum inlet and back pressure ratings must not be exceeded. If the maximum inlet pressures are exceeded the valves will not open and the coil can burn out.

Back pressure can result in two (2) ways. First, from a separate pressure source in the downstream piping. And second, from the flow of liquid through the downstream piping. If the back pressure rating is exceeded in the first situation the valve will open and a reverse flow will take place if there is a lesser inlet pressure. In the second situation the valve will not close and flow will continue. When back pressures are caused by the liquid flow it naturally follows that any restriction in the downstream piping will cause even higher back pressures.

		MATERIALS TEMPERATURE vs PRESSURE													
MAT'L	MAX TEMP	MAXIMUM INLET PRESSURES AND TEMPERATURES													
		75°F (24°C)		110°F (43°C)		140°F (60°C)		180°F (82°C)		220°F (105°C)		240°F (118°C)		284°F (140°C)	
		PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS
PVC	140°F (60°C)	140	9.6	100	6.8	40	2.7	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
CPVC	180°F (82°C)	140	9.6	100	6.8	80	5.4	40	2.7	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
GPP**	220°F (105°C)	140	9.6	120	8.2	100	6.8	80	5.4	40	2.7	N.R.	N.R.	N.R.	N.R.
PVDF	284°F (140°C)	140	9.6	130	8.8	120	8.2	100	6.8	80	4.1	30	2.0	10	0.7

N.R. = Not Recommended

**GPP = Glass filled Polypropylene

MAINTENANCE

The major causes of solenoid valve failure are usually either chemical incompatibility, damage from water hammer or foreign matter in the valve. Commonly encountered foreign matter includes pipe sealants, mineral and salt deposits, and other solids. **

Before disassembling a valve for examination or cleaning make sure all electrical power and fluid line pressure are turned off. It should be noted that even after a pump is shut down to eliminate fluid line pressure there may still be pressure trapped in the piping system. One example of this would be head pressure located in a vertical run of pipe. If this situation is possible, extreme caution should be exercised when removing the top housing from the valve body. It would be advisable to place a clear plastic shield over the valve during disassembly to avoid injuring a worker. **CAUTION:** Avoid breathing dangerous vapors and avoid skin contact with chemicals.

Whenever disassembling a valve it is wise to carefully inspect all of the parts to insure proper operation when it is reassembled. It is also a good idea to have a spare seal kit on hand.

When removing foreign matter or deposits on the valve seat or other internal parts, care should be taken not to scratch or nick the parts being cleaned.

After reassembly, operation should be checked by energizing the solenoid coil. If the valve is operating properly, a sharp metallic click will usually be heard when the valve's coil is energized.

FAIL-DRY® is a registered trademark of PLAST-O-MATIC VALVES, INC.

** Water hammer may be minimized by adhering to a safe piping velocity of 5 feet per second.

REPLACEMENT PART NUMBERS

Type	Part Number	Note
R120 Coil Assy	5429W-ASM-120/60	uses 120V/60Hz with C-40 connector
CSA Coil Assy, 120/60	5429W-ASM-120/60-CSA	uses 120V/60Hz with DIN connector same assy as CSA
Coil Assy, 240V/60Hz	5429W-ASM-240/60	Europe, Far East
CSA Coil Assy, 240/60	5429W-ASM-240/60	Consult factory
Coil Assy, 230V/50Hz	5429W-ASM-230/50	
Coil Assy, 24V/60Hz	6198W-ASM-024/60	
Coil Assy, 12 VDC	5429W-ASM-012DC	
Coil Assy, 24 VDC	5429W-ASM-024DC	
DIN Connector	5443	120 volt LED
DIN Connector w/LED	5444	Full wave rectifier
C-40 Connector	6353	Full wave rectifier
C-40 Connector w/LED	6354	& 120 volt LED
Cap nut	4456	
Gasket	4664EP	
O-Ring #018	0018EP	
O-Ring #017	0017EP	

(Each coil assembly above includes the molded coil, cap nut, two O-rings, gasket and connector.)

PLAST-O-MATIC

VALVES, INC.

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Type W20 Solenoid Coil

INSTALLATION & MAINTENANCE INSTRUCTIONS

IMPORTANT - BEFORE INSTALLING

Type W20 (20 watt) watertight (NEMA 4X) solenoid coils are designed to be used with Plast-O-Matic solenoid valves. These coils can replace general purpose (type G20) coils. In order to replace explosion proof coils (type E20), the core tube on the valve must also be replaced at the factory.

COIL RATINGS AND SPECIFICATIONS

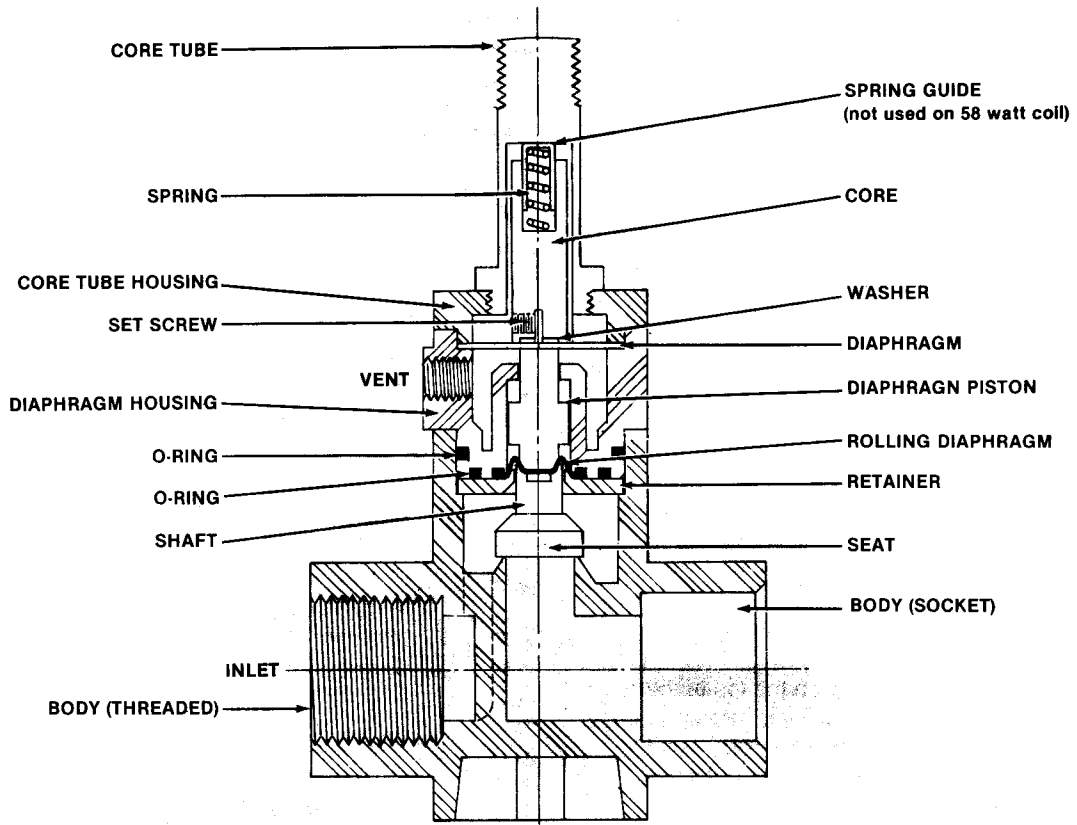
Insulation Class	F
Watts	20 AC, 36DC
Inrush VA	107 AC only*
Holding VA	46 AC, 23 DC*
Current (amps)	VA rating divided by the supply voltage*
Max. Amb. Temp. 95°F (35°C) at continuous duty cycle	* R120 coils are 46 VA inrush and holding (0.38 amps)
Coil Surface Temp. 122°F (50°C) at 50% duty cycle	
Enclosure 245°F (118°C)	
Exposed Materials NEMA 4X	
Connector Type Polyester, Nylon, EPDM, Nitrile, Stainless Steel	
	DIN 43650/ISO 4400 Form A
	½" conduit thread

Coils will operate up to 15% over or under the nominal voltage. However, at voltages over nominal the ambient temperature rating is reduced due to excess heating, and at voltages below nominal the valve pressure ratings are reduced by 2% per each 1% voltage drop.

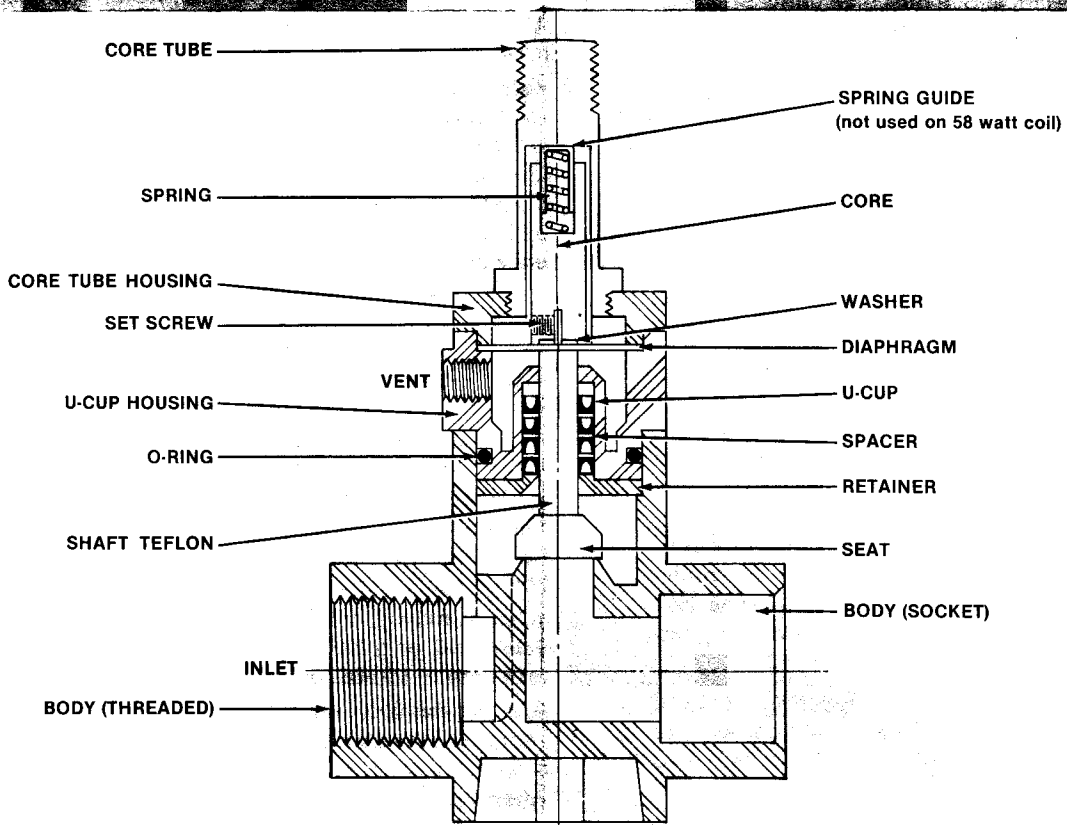
Refer to the valve rating plate or instruction sheet for valve ratings and specifications. Consult our Technical Support when further information is needed.

INSTALLATION INFORMATION
ON REVERSE SIDE

“EASYM,” “EASYMD,” “EASM,” & “EASMD”
SPARE PART LIST



Series EASYMD & EASMD



Series EASYM & EASM

PLAST-O-MATIC
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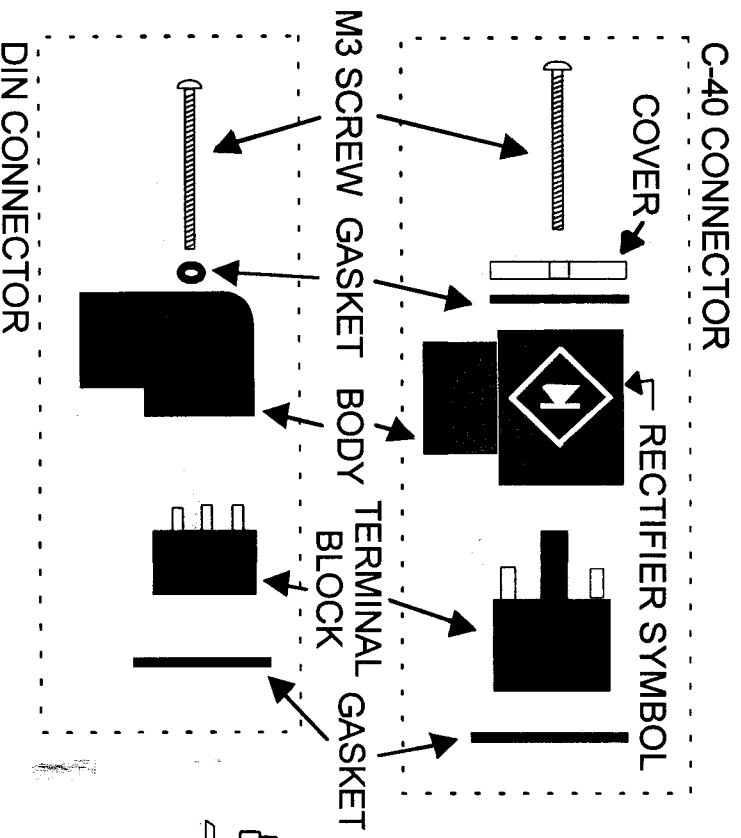
1384 Pompton Ave., Cedar Grove, NJ 07009-1095
Tel: (973) 256-3000 • Fax: (973) 256-4745

INSTALLATION INSTRUCTIONS

WARNING - C-40 connectors supplied with R120 coils can not be used with other coil types. Plast-O-Matic supplies each valve and replacement coil with the proper connector. You must use the connector supplied with the coil, or damage may result.

CAUTION - Electrical wiring shall be performed by competent persons in accordance with all national and local codes. Three wire (single phase grounded) connection is required. A threaded connection to the connector, and all gaskets, are required to be installed to maintain the NEMA 4X rating.

1. Assemble as shown below on the valve core tube. The coil can be rotated to any convenient position.
2. Tighten the cap nut firmly BY HAND ONLY.



- WIRING** — Check voltage marking on coil before proceeding. The following is written for three wire power cord, adjust as needed for other wiring types. A small screwdriver is required. Wiring can be done before or after installing the coil or valve.
1. Remove the M3 screw from the connector
 2. Insert a small bladed screwdriver into the slot on the face of the connector. Disassemble the connector to expose screw terminals
 3. Rotate the terminal block 90° if needed, so that when assembled to the coil and valve, the cord will lay in a convenient position.
 4. Push the cord through the cord grip and connector body.
 5. Strip the cord jacket 1 1/4".
 6. Cut back 1/2" on wires not reaching the far end of the terminal block.
 7. Strip insulation about 1/4" on each wire.
 8. Connect the ground wire to the ground terminal, and single phase power to terminals 1 and 2.
 9. Pull the cord to reassemble the connector.
 10. Assemble the connector as shown below to the coil.

