

SOLENOID VALVES



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1/8"-2" NPT TYPE M & M-1 Series

2-WAY - CAST BRONZE BODIES - PACKLESS
 VELVETROL® INTERNAL PISTON PILOT OPERATED
 GENERAL PURPOSE SOLENOID VALVES
 NORMALLY CLOSED WHEN DE-ENERGIZED



- ★ FOR: GENERAL SERVICE-AIR-WATER-LIGHT OIL-STEAM (M-3V* LEAKPROOF)
- ★ PRESSURES: 5 PSI MINIMUM TO 250 PSI (125 PSI FOR STEAM) MAXIMUM • FULL PORT
- ★ TEMPERATURE: -40°F TO 356°F. CLASS N COILS
- ★ MOUNTING: INSTALL IN HORIZONTAL LINE WITH COIL UPRIGHT AND ON TOP

SIZES 1/8" - 2" NPT FULL PORT	
★ SERVICE RATINGS	Complete Pricing, Service & Electrical Ratings are shown on the List Price Schedule. Valves will be furnished for 5-125 PSI and 120 VAC Unless Otherwise Specified.
--- NORMALLY CLOSED ONLY ---	
M-3B, M-3EP, M-3V 	GENERAL PURPOSE - AIR - WATER 5-125, 10-250 PSI; 220°F. Max. Fluid, Class N 120, 240, 480, 120/240 VAC (50/60 Hz), 26 Watts Max.
M4-3B M4-3EP M4-3V	GENERAL PURPOSE - AIR - WATER - INERT GASES SELECTED LIQUIDS (Consult Factory) 5-125, 10-250 PSI; 250°F. Max. Fluid, Class N 24,120, 240, 480, 120/240 VAC (50/60 Hz), 26 Watts Max. 12, 24, 48, 115, 230 VDC, 24 Watts Max.
M-1-3T, M-1-3EP 	STEAM - HOT FLUIDS 5-125 PSI; 356°F (-3EP is 5-50 PSI; 300°F) Max. Fluid, Class N 120, 240, 480 VAC (50/60 Hz), 26 Watts Max.
M4-1-3T, M4-1-3EP	STEAM - HOT FLUIDS 5-125 PSI (-3EP is 5-50 PSI) SELECTED LIQUIDS (Consult Factory) 5-125, 10-250 PSI; 356°F (-3EP is 300°F) Max. Fluid, Class N 24,120, 240, 480, 120/240 VAC (50/60 Hz), 26 Watts Max. 12, 24, 48, 115, 230 VDC, 24 Watts Max.

★ **CONSTRUCTION:**

CLASS N COILS are **NEMA 4X**, Fungus proof, Molded of Filled Polyester with 18" Leads and 1/2" Conduit Connector
 BODIES are rated to 400 psi and Cast in Bronze.
 PLUNGER TUBES are Stainless Steel silver soldered to the Brass BONNET.
 PISTON ASSEMBLIES are Brass with Filled Teflon® PISTON RINGS, Stainless Steel EXPANDERS, and Buna, EP, and Fluorocarbon SEAT DISCS.
 PILOT VALVES & SPRINGS are Stainless Steel.

★ **SPECIALS:**

Teflon® Leak Proof Seat Screws, Teflon® Discs (Standard on all Steam Valves), Teflon® Coated Pistons & other Special Assemblies Available. Non-Standard Coils Available with Voltage, Wattage, and Lead Wire Length to your specifications.

See Price Schedule for "Terms and Conditions of Sale"
 See the List Price Schedule for UL and CSA Listings.

* Also -3B, and -3EP

PERFORMANCE, ORDERING AND INSTALLATION GUIDE

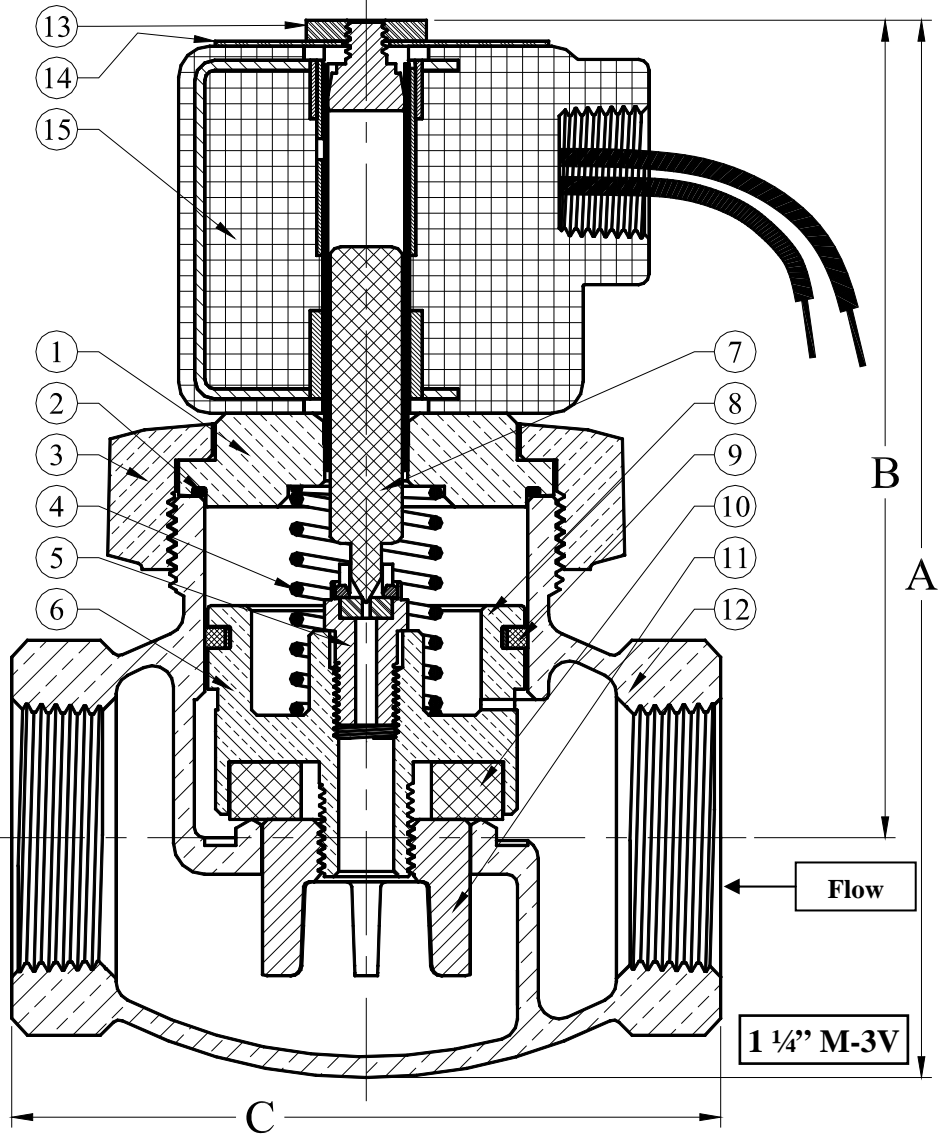
ORDERING DATA--SPECIFY PIPE SIZE, TYPE, FLUID, OPERATING PRESSURE, TEMPERATURE RANGE, ELECTRICAL SPECIFICATIONS, BACKPRESSURE, (IF ANY).

FLOW CHARACTERISTICS--SEE FLOW CURVES IN BULLETIN 5-FL, OR Cv FACTORS LISTED BELOW AND IN BULLETIN CP-1.

OPERATION--PISTON PILOT OPERATED. MINIMUM PRESSURE DROP OF 5 PSI (ΔP) IS REQUIRED ACROSS VALVE FOR OPERATION.

MOUNTING--MOUNT IN HORIZONTAL LINE WITH COIL VERTICAL AND ON TOP. INSTALL 40 MESH STRAINER (NOT LARGER) AHEAD OF VALVE. CHECK FOR PROPER COIL VOLTAGE. MAKE SURE THAT THE FLOW ARROW ON VALVE BODY IS POINTING IN THE DIRECTION OF FLOW.

SERVICING--SOLENOID VALVES SHOULD BE FREQUENTLY CHECKED FOR OPERATION, CLEANLINESS, & INTERNAL WEAR - REPAIR KITS ARE FACTORY AVAILABLE --GIVE SIZE, TYPE, SERIAL NUMBER OR OPERATING DATA VOLTAGE, PRESSURE, ETC.)



* Also -3B, and -3EP

Physical Dimensions					
Size	Cv	Weight	A	B	C
1/8"	1.3	3 lbs	5.13	4.25	2.75
1/4"	2.1	3 lbs	5.13	4.25	2.75
3/8"	2.3	3 lbs	5.13	4.25	2.75
1/2"	3.9	3 lbs	5.13	4.25	2.75
3/4"	5.1	4 lbs	5.50	4.50	3.25
1"	11.6	5 lbs	5.75	4.56	3.81
1 1/4"	12.1	7 lbs	6.50	5.06	4.25
1 1/2"	26	9 lbs	7.06	5.38	4.88
2"	48	14 lbs	8.00	5.88	5.88

Size	1	2	2	3	4	5	5	6	6	7	7	8	9	10	10	11	12	13	14	15
	Bonnet Assembly	M-3V [*] Bonnet O-Ring	M-1-3T Bonnet O-Ring	Bonnet Ring	Piston Spring	M-3V [*] Seat Screw	M-1-3T Seat Screw	M-3V [*] Piston Assembly	M-1-3T Piston Assembly	M-3V [*] Pilot Valve	M-1-3T Pilot Valve	Piston Only	Piston Ring Expander	M-3V [*] Seat Disc	M-1-3T Seat Disc	Guide Nut	Body	Coil Nut	Name Plate	Coil
1/8"	403-1	2-121	2-121V	N/A	37-14	415-31V	415-31T	407-3V	407-T-3T	486NP	486	402	57	36-12	36-12T	406	400-8	6-15	44-1	Consult Factory
1/4"	403-1	2-121	2-121V	N/A	37-14	415-31V	415-31T	407-3V	407-T-3T	486NP	486	402	57	36-12	36-12T	406	400-4	6-15	44-1	
3/8"	403-1	2-121	2-121V	N/A	37-14	415-31V	415-31T	407-3V	407-T-3T	486NP	486	402	57	36-12	36-12T	406	400-1	6-15	44-1	
1/2"	403-1	2-121	2-121V	N/A	37-14	415-31V	415-31T	407-3V	407-T-3T	486NP	486	402	57	36-12	36-12T	406	400-2	6-15	44-1	OR List Price Schedule
3/4"	413-1	2-125	2-125V	N/A	37-3	415-3V	415-3T	417-3V	417-T-3T	486NP	486	412	159	36-34	36-34T	416	410	6-15	44-1	
1"	423-1	N/A	N/A	428	37-3	415-31V	415-31T	427-3V	427-T-3T	486NP	486	422	58	36-1	36-1T	429	420	6-15	44-1	
1 1/4"	433-1	N/A	N/A	438	37-2	415-31V	415-31T	437-3V	437-T-3T	486NP	486	432	434	36-114	36-114T	439	430	6-15	44-1	
1 1/2"	443-1	N/A	N/A	448	37-2	415-31V	415-31T	447-3V	447-T-3T	486NP	486	442	93	36-112	36-112T	449	440	6-15	44-1	
2"	453-1	2-40	2-40V	458	37-2	415-31V	415-31T	457-3V	457-T-3T	486NP	486	452	176	36-2	36-2T	459	450	6-15	44-1	