

SOLENOID VALVES

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1/8" - 3" NPT
**TYPES Q, M, J, A,
 F, G, GX, K, & KX**

2-WAY BRASS, BRONZE, OR STAINLESS STEEL BODIES WITH TEFLON™ SEATS AND SEALS, PACKLESS VELVETROL® INTERNAL PISTON PILOT OPERATED, OR DIRECT LIFT SOLENOID VALVES FOR CRYOGENIC SERVICE.



NORMALLY CLOSED OR NORMALLY OPEN - FULL OR FRACTIONAL PORT

- ★ FOR: INERT CRYOGENIC GASES (N₂, CO₂, ARGON, etc.)
- ★ PRESSURES: 0 TO 1200 PSI MAXIMUM
- ★ TEMPERATURE: -420°F. MIN. FLUID TEMP. CLASS N COILS
- ★ MOUNTING: INSTALL IN HORIZONTAL LINE WITH COIL UPRIGHT AND ON TOP

SIZES 1/8" - 3" NPT FULL PORT

★ **SERVICE RATINGS** Complete Pricing, Service & Electrical Ratings shown in the List Price Schedule. Valves will be furnished for 120VAC, 60hz Unless Otherwise Specified.

NORMALLY CLOSED--	--NORMALLY OPEN
TYPE Q-9-3T 5-150, 10-400 PSI (Normally Open to 300 PSI) 12, 24, 120, 240, 480 VAC 50-60 Hz 6, 12, 24, 48, 115, 230 VDC	TYPE QR-9-3T
TYPE J-9-3T 0-250 PSI 6, 12, 24, 48, 115, 230 VDC 120, 240, 480 VAC 60 Hz.	n/a
TYPE K-9-3T TYPE K-9 5-150 PSI, 10-400 PSI, 20-1000 PSI (Normally Open to 300 PSI) 12, 24, 120, 240, 480 VAC 50-60 Hz 6, 12, 24, 48, 115, 230 VDC	TYPE KR-9-3T TYPE KR-9
TYPE KX-9-3T TYPE KX-9 5-150 PSI, 10-300 PSI (Normally Open to 150 PSI) 12, 24, 120, 240, 480 VAC 50-60 Hz 6, 12, 24, 48, 115, 230 VDC	TYPE KRX-9-3T TYPE KRX-9
TYPE A-9-3T TYPE A-9 5-150 PSI, 10-400 PSI, 20-1200 PSI (Normally Open to 300 PSI) 12, 24, 120, 240, 480 VAC 50-60 Hz 6, 12, 24, 48, 115, 230 VDC	TYPE AR-9-3T TYPE AR-9
TYPE F-9-3T TYPE F-9 0-600 PSI (Normally Open to 300 PSI) 12, 24, 120, 240, 480 VAC 50-60 Hz 6, 12, 24, 48, 115, 230 VDC	TYPE FR-9-3T TYPE FR-9
TYPE G-9-3T TYPE G-9 0-600 PSI (Normally Open to 300 PSI) 12, 24, 120, 240, 480 VAC 50-60 Hz 6, 12, 24, 48, 115, 230 VDC	TYPE GR-9-3T TYPE GR-9
TYPE GX-9-3T TYPE GX-9 0-300 PSI (Normally Open to 300 PSI) 12, 24, 120, 240, 480 VAC 50-60 Hz 6, 12, 24, 48, 115, 230 VDC	TYPE GRX-9-3T TYPE GRX-9
ADD -2, -24, -25 Designates Coil Enclosure as NEMA 7 (-2), NEMA 4 (-24), or NEMA 5 (-25) on all Types listed above.	ADD -2, -24, -25
TYPE M-9-3T 5-125, 10-250 PSI 24, 120, 240, 480 VAC (50/60 Hz), 26 Watts Max. 6, 12, 24, 48, 115, 230 VDC, 24 Watts Max.	n/a

★ **CONSTRUCTION:**

All valves are provided with CLASS N COILS that are Waterproof, Fungusproof, Molded of Filled Polyester with 18" Leads and have a 1/2" NPT Conduit Connector.

All (except Type M) are available with NEMA 1, 4, 5 or 7 COIL ENCLOSURES. Type M-3T-T-9 & M4-3T-T-9 COIL ASSEMBLIES are completely encapsulated and are NEMA 4X rated.

BODIES (except Types F & G) are Globe Style with Union Bonnets (1" & above), rated to pressures shown above. All (except Types K, F & G) are Cast in Bronze. Types K & KX are Investment Cast in CF8M Stainless Steel. Types F, G & GX BODIES are 90° bodies of Brass, 303 SS and 316 SS respectively.

PISTON SPRINGS are Stainless Steel.

BONNET ASSEMBLIES for Brass valves are 304 SS TUBES, Brass BONNETS, and Brass TUBE PLUGS silver soldered together.

BONNET ASSEMBLIES for Stainless Steel valves are 304 (or 316 for "X") SS TUBES, 303 (or 316 for "X") BONNETS, and 303 (or 316 for "X") TUBE PLUGS welded together.

PISTON ASSEMBLIES for Bronze valves are Brass with Filled PTFE PISTON RINGS and SS EXPANDERS.

PISTON ASSEMBLIES for Stainless Steel valves are 304 (or 316 for "X") with Filled PTFE PISTON RINGS and SS EXPANDERS.

SEAT DISCS and PILOT DISC are PTFE.

PILOT ASSEMBLIES are 416 SS ARMATURE with a 316 SS PILOT POINT and 316 SS PINS (Types J-3T-T-9 & Q-3T-T-9) and Solid 416 SS (Type M-3T-T-9). Stainless Steel "X" valves use a 316 JACKETED PILOT ASSEMBLY.

★ **SPECIALS:**

All Metal Pilot SeatScrews are available. Non-Standard Coils are Available with Voltage, Wattage, and Lead Wire Length to your specifications. Consult Factory

OPERATION—All Type M, Q & J Valves are PISTON PILOT OPERATED. Minimum pressure drop of 5 psi (ΔP) is required across valve for operation of Types M & Q. Type J is PISTON PILOT OPERATED, but requires no minimum pressure differential (ΔP). Types F & G are DIRECT ACTING, with fractional port sizes.

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.)

GENERAL INFORMATION--These valves are designed specifically to handle the unique requirements that ultra low temperatures demand. Built especially for Cryogenic service, these valves contain all PTFE seats and seals. The internal components are specially designed to function through any boil off, or phase change in the fluid. They also require special handling to ensure that they are both clean and dry before they leave the factory.

For additional information, such as individual part lists or dimensions may be found on Bulletins 200-Q, 120-M, 900-J, 400-A, 800-K, 4000-FG, and 5000-GX