



General Purpose Type Q & QR Series

**2-Way • Cast Bronze Bodies • Packless
Velvetrol® Internal Piston Pilot Operated
General Purpose Solenoid Valves
Normally Closed or Normally Open**

For General Purpose Applications: Air & Inert Gases | Water & Aqueous Liquids | Oils (Q-3V, Q-3B & Q-3T UL Listed for Air & Water Applications)
Pressures: 5psi minimum to 400psi maximum | Full Port
Temperature: -40°F to 300°F | Class F & H Coils
Mounting: Install in horizontal line with coil upright and on top (unless ordered with -76 vertical mounting option)
Pipe Sizes: 1/8" – 3" NPT • Full Port
Normally Closed or Normally Open

Service Ratings	Complete pricing, service & electrical ratings are shown on the List Price Schedule. Valves will be furnished for 5-150 PSI and 120 VAC unless otherwise specified.	
Normally Closed		Normally Open
Q-3B, Q-3V, Q-3T 	Air & Inert Gases, Water & Aqueous Liquids, Oils (400SSU or 30SAE) UL Listed for Air & Water 5-150psi OR 10-400psi 220°F Max. Fluid Temp, Class H Coils 24, 120, 240, 480 VAC (60 Hz), 26 Watts Max.	
Q4-3B, Q4-3V, Q4-3T	Air & Inert Gases, Water & Aqueous Liquids, Oils (400SSU or 30SAE) 5-150psi OR 10-400psi (Normally Open 5-150psi OR 10-300psi) 300°F Max. Fluid Temp, Class F & H Coils 12, 24, 120, 240, 480 VAC, 26 Watts Max. 12, 24, 48, 115, 230 VDC, 26 Watts Max.	QR-3B, QR-3V, QR-3T
Add: -2	Explosion Proof Coil Housing – meets Class 1 Div 2, Class 1 Group D, Class 2 Group E, F, G NEMA 7 Explosion Proof. Also meets NEMA 4 Watertight/Corrosive Resistant & NEMA 5 Dusttight. Previously identified as "-24" and "-25".	Add: -2
Add: -81, -84	-81 Factory Slow Close Option (Reduces Water Hammer) -84 Factory Quick Close Option	Add: -81, -84
Add: -76	Spring Loaded Pilot for vertical mounting. Limitations apply. Consult factory.	Add: -76

Construction:

- **Class F & H Coils** are watertight/corrosive resistant, 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 NBR Buna **seat discs**.
- **Seat Screw** seats are NBR Buna (-3B), FKM Viton® (-3V), or Teflon™ (-3T).
- **Pilot Valves** are 430 FR Stainless Steel. **Piston springs** are Stainless Steel.

Specials:

- Slow Close (-81) or Quick Close (-84) factory settings available at no charge.
- Spring-loaded pilot (-76) for vertical mounting available. Limitations apply. Consult factory.
- Teflon™ coated pistons & other special assemblies available.
- Non-standard coils available with voltage, wattage, and lead wire length to your specifications.

Performance, Ordering, and Installation Guide

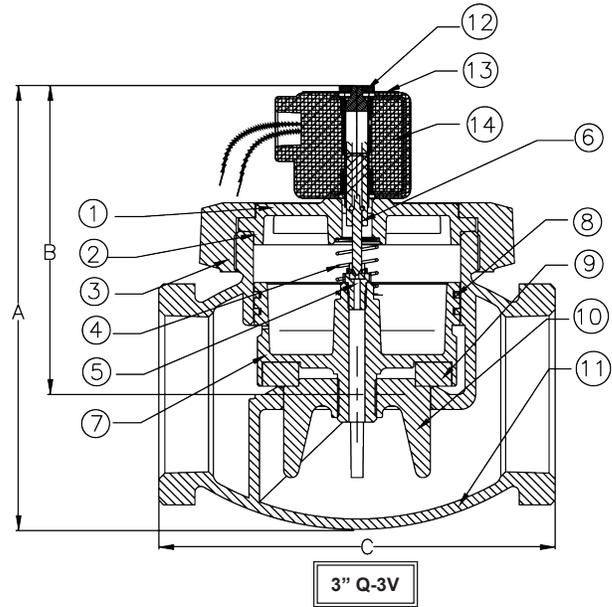
Ordering Data: Specify the pipe size, type, fluid, operating pressure, temperature range, electrical specifications, and backpressure (if any).

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 5psi or 10psi (ΔP), depending on pressure rating, is required across valve for operation.

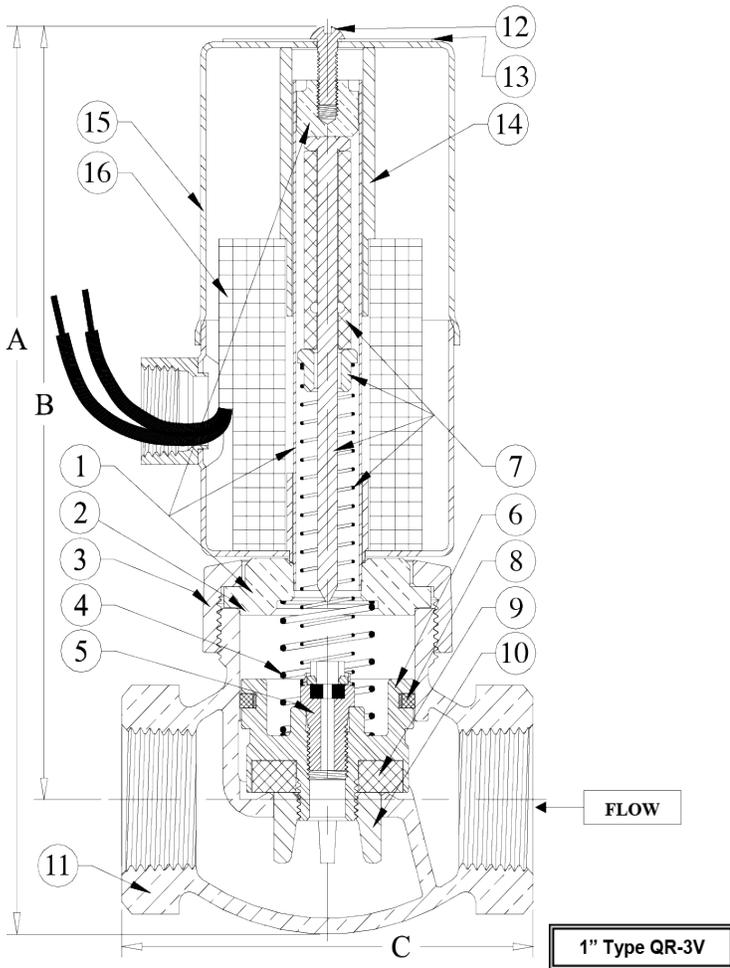
Mounting: Mount in horizontal line with coil vertical ($\pm 7^\circ$) and on top (unless ordered with -76 spring loaded pilot for vertical mounting). Install 40 mesh strainer (not larger) ahead of the valve. Check for proper coil voltage. Make sure that the flow arrow on the valve body is pointing in the direction of flow.

Servicing: Solenoid valves should be frequently checked for operation, cleanliness, and internal wear. Repair Kits are factory available – be sure to specify size, type, serial number or operating data, voltage, pressure, etc.)



Normally Closed Parts Details

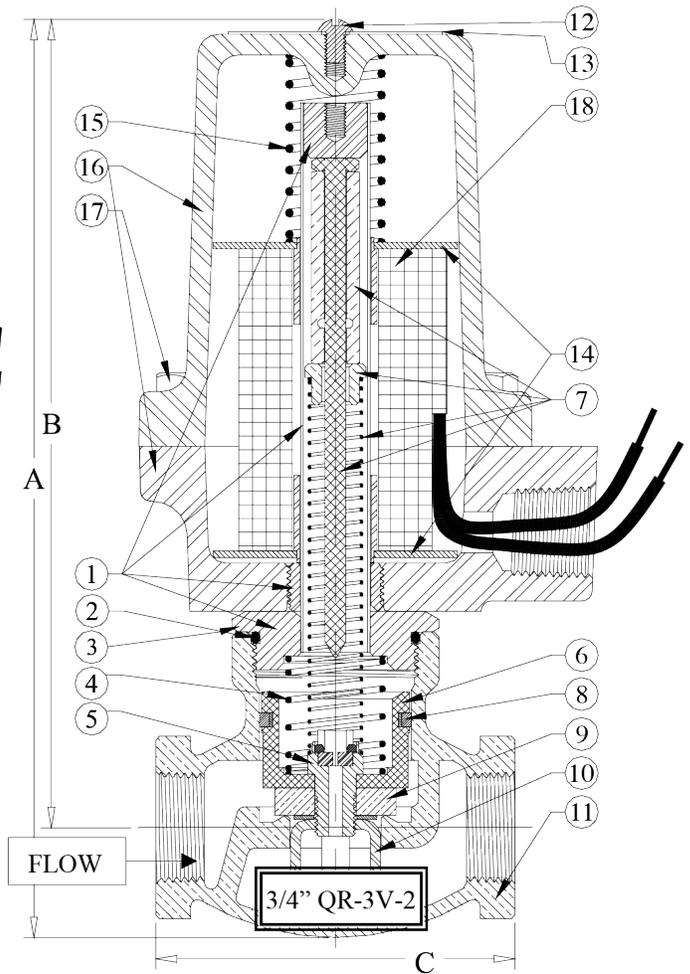
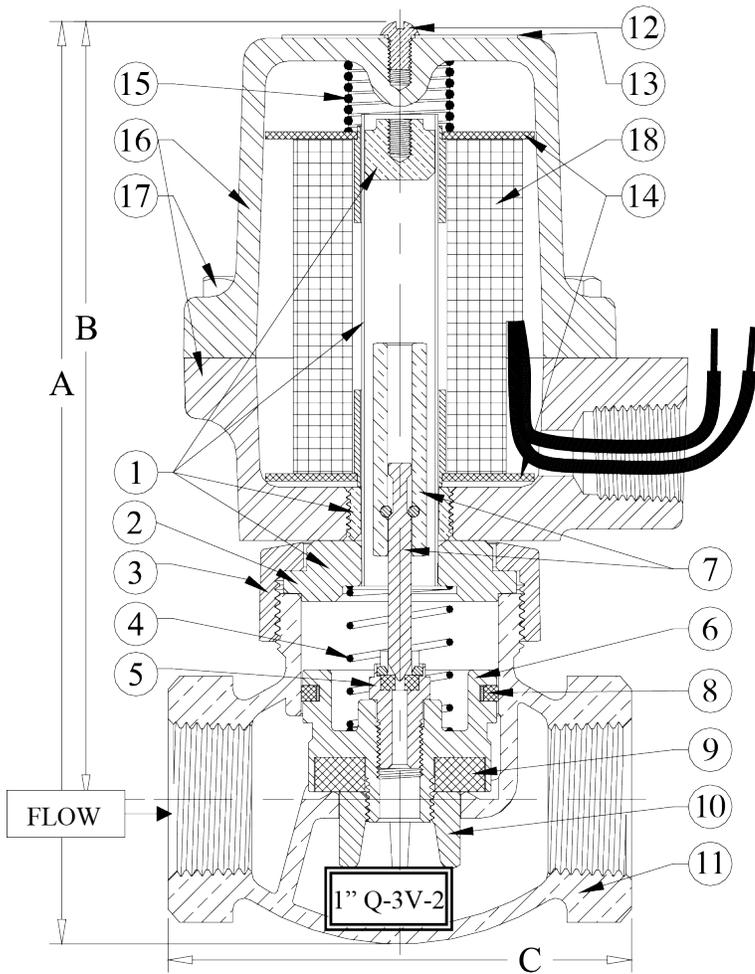
1	Bonnet Assembly
2	Bonnet Seal (N/A on 1" - 1-1/2")
3	Bonnet Ring (N/A on 1/8" - 3/4")
4	Piston Spring
5	Seat Screw
6	Pilot Valve
7	Piston
8	Piston Ring & Expander
9	Seat Disc
10	Guide Nut
11	Body
12	Coil Nut
13	Nameplate
14	Coil



Normally Open Parts Details	
1	N.O. Bonnet Assembly
2	Bonnet Seal (N/A on 1" - 1-1/2")
3	Bonnet Ring (N/A on 1/8" - 3/4")
4	Piston Spring
5	Seat Screw
6	Piston
7	Pilot Assembly
8	Piston Ring & Expander
9	Seat Disc
10	Guide Nut
11	Body
12	Coil Screw
13	Nameplate
14	N.O. Nip
15	Coil Can Assembly
16	Coil

Valve Size	Cv Factor	Standard Valve Dimensions							
		Normally Closed				Normally Open			
		A	B	C	Weight (lbs.)	A	B	C	Weight (lbs.)
1/8"	1.3	5.10	4.17	2.95	3	7.31	6.5	2.75	4
1/4"	2.1	5.10	4.17	2.95	3	7.31	6.5	2.75	4
3/8"	2.3	5.10	4.17	2.95	3	7.31	6.5	2.75	4
1/2"	3.8	5.10	4.17	2.95	3	7.31	6.5	2.75	4
3/4"	5.1	5.40	4.37	3.30	4	7.69	6.7	3.25	4
1"	11.6	5.75	4.51	3.85	5	8.0	6.83	3.81	5
1-1/4"	12.1	6.55	4.90	4.30	6	8.7	7.3	4.25	7
1-1/2"	26	6.98	5.31	4.85	8	9.27	7.64	4.88	9
2"	48	7.63	5.69	5.82	13	9.88	7.94	5.88	14
2-1/2"	75	8.47	6.09	6.97	18	10.63	8.3	7.00	18
3"	100	9.20	6.39	8.24	27	11.6	8.8	8.25	27

*Also for -3B, -3EP, and -3T Valves



Normally Closed -2 XP Parts Details

1	N.C. XP Bonnet Assembly
2	Bonnet Seal (N/A on 1" - 1-1/2")
3	Bonnet Ring (N/A on 1/8" - 3/4")
4	Piston Spring
5	Seat Screw
6	Piston
7	N.C. XP Pilot Assembly
8	Piston Ring & Expander
9	Seat Disc
10	Guide Nut
11	Body
12	Coil Screw
13	Nameplate
14	XP Coil End Plates
15	Coil Spring
16	N.C. XP Enclosure
17	XP Bolts
18	Coil

Normally Open -2 XP Parts Details

1	N.O. XP Bonnet Assembly
2	Bonnet Seal (N/A on 1" - 1-1/2")
3	Bonnet Ring (N/A on 1/8" - 3/4")
4	Piston Spring
5	Seat Screw
6	Piston
7	N.O. XP Pilot Assembly
8	Piston Ring & Expander
9	Seat Disc
10	Guide Nut
11	Body
12	Coil Screw
13	Nameplate
14	XP Coil End Plates
15	Coil Spring
16	N.C. XP Enclosure
17	XP Bolts
18	Coil

Physical Dimensions of Normally Closed -2 XP Valves

Size	A	B	C	Weight
1/8	7	6.19	2.75	7 lbs.
1/4	7	6.19	2.75	7 lbs.
3/8	7	6.19	2.75	7 lbs.
1/2	7	6.19	2.75	7 lbs.
3/4	7.38	6.38	3.25	8 lbs.
1	7.63	6.44	3.81	9 lbs.
1-1/4	8.38	6.88	4.25	10 lbs.
1-1/2	8.88	7.25	4.88	12 lbs.
2	9.81	7.69	5.88	17 lbs.
2-1/2	10.13	8.25	7	22 lbs.
3	11.19	8.38	8.25	31 lbs.

The Explosion proof NEMA 7 housing is constructed of two (2) machined, enamel painted sand-cast gray iron parts bolted together, threaded onto the bonnet assembly and rigidly cemented in place. Once assembled, the housing will not rotate. Also meets Watertight NEMA 4 and Dusttight NEMA 5 ratings.

***Also for -3B, -3EP, -3T Valves**

Physical Dimensions of Normally Open -2 XP Valves

Size	A	B	C	Weight
1/8	8.13	7.31	2.75	8 lbs.
1/4	8.13	7.31	2.75	8 lbs.
3/8	8.13	7.31	2.75	8 lbs.
1/2	8.13	7.31	2.75	8 lbs.
3/4	8.50	7.50	3.25	9 lbs.
1	8.75	7.56	3.81	10 lbs.
1-1/4	9.50	8.00	4.25	11 lbs.
1-1/2	10.00	8.38	4.88	13 lbs.
2	10.94	8.81	5.88	18 lbs.
2-1/2	11.25	9.38	7	22 lbs.
3	12.31	9.50	8.25	31 lbs.