Model 215 Wafer Sphere

Installation Manual

Bulletin MN03006 Issue/Rev. 0.2 (4/15)

The **Smith Meter® Model 215 Valve** is a wafer-sphere pneumatically actuated valve that must be installed between two pipe flanges. The 215 Valve is typically used in conjunction with a Smith Meter® AccuLoad® or microLoad™ preset.

When installing the 215 Valve in place of another style valve with greater flange to flange dimensions, a spool piece can be installed to compensate for the dimensional differences. The 215 Valve may be installed either vertically or horizontally, provided the valve is installed with the product flowing in the direction of the flow arrow on the valve.

Pre-installation Check

When the equipment is received, it should be checked for any shipping damage. If any damage has occurred during shipment or if any parts are missing, contact TechnipFMC immediately.

Storage

If the unit is not installed immediately, it should be stored in a secure place away from adverse weather conditions and abuse.

Note: Review the contents of this manual carefully before beginning installation.

Installation

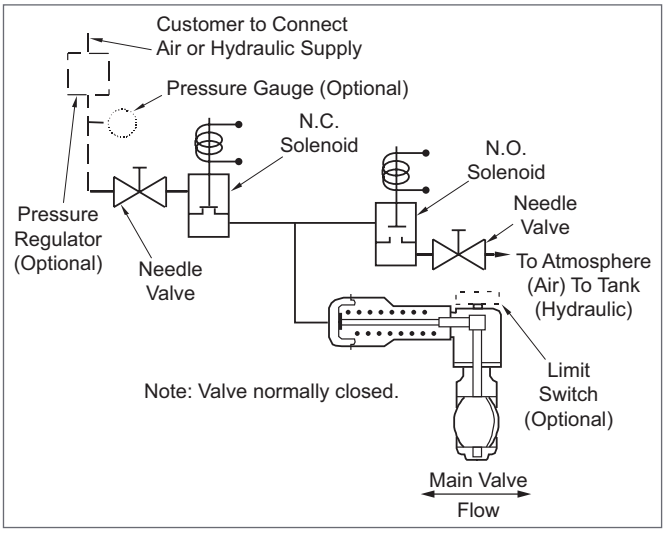
1. The valve should be installed with 1/16" thick non-asbestos (or equivalent) gasket material between flanges.
   Note: Do not use thick rubber or other gasket material that has "spongy" consistency.

> **Caution:** The 215 Valve should be centered between flanges to prevent damage to the disc or shaft that will be caused by the disc striking the pipe wall.

2. For optimum performance, compress the gaskets uniformly.
3. Tighten the flange bolts in a crisscross sequence. Recommended torque values are listed in the following table.

Torque Values		
ASME	**Bolt Dia. (In.)**	**Torque Ft. (Lbs.)**
3" Class 150	5/8	135
4" Class 150	5/8	135
6" Class 150	5/8	225

4. Connect the air supply (40-60 psi) to the inlet needle valve. (The outlet needle valve is equipped with a muffler).
   Note: The air supply should be clean and dry to prevent condensation. Alternately, a nitrogen cylinder can be used to actuate the valve.
5. Connect the unit as shown below:



Model 215 Valve Schematic

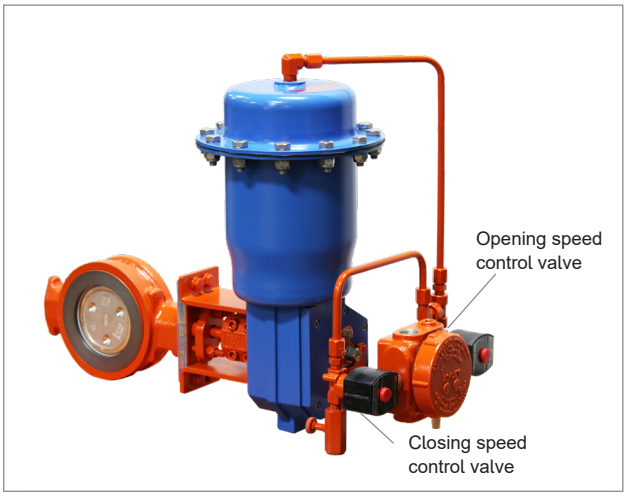
Note: If there is weepage past the shaft seal upon installation, it means that the valve may have been subjected to wide temperature variations during shipment. Leaktight performance will be restored by adjusting the packing as described in the Service Manual (MN03007).

Operation

1. Ensure that the proper flow rate is set in the controller (AccuLoad or microLoad) to protect the meter from overspeeding. The valve will then be controlling flow.
2. Close the needle valve on the air supply or upstream side of the control loop (opening-speed control valve). Open the needle valve on the air bleed or downstream side of the control loop 1/2 to 1 turn (closing-speed control valve). (See Speed Control Adjustment diagram below.)
3. Preset a small quantity on the preset device and authorize flow.
4. Slowly open the upstream needle valve (opening speed control valve) to the position that allows the 215 Valve to open slowly and smoothly. Once in high flow, the 215 Valve should enter a lock condition to maintain a stable high flow with no excessive cycling of the soleniods. If excessive cycling occurs, readjust the opening-speed control needle valve.
5. Observe the multi-stage closure on shutdown for smooth, yet positive, stages. If the 215 Valve closes too quickly, close the closing-speed needle valve slightly. Inversely, if the 215 Valve closes too slowly, open the closing-speed needle valve slightly. Apply the same procedure for adjusting the opening-speed needle valve.
6. Conduct an "emergency" stop test from the high flow condition. If the throughput volume is excessive after the "emergency" stop initiation, the closing-speed needle valve may need to be opened wider.

> **Caution:** Do not open the closing speed control needle valve to the point that line shock is generated in the system.

7. If all of the foregoing steps have been completed satisfactory, the 215 Valve is ready for service.



Speed Control Adjustments

Related Publications

The following literature can be obtained from TechnipFMC Measurement Solutions Literature Fulfillment at measurement.fulfillment@technipfmc.com or online at http://info.smithmeter.com/literature/online_index.html.

Specifications	SS03010
Service Manual	MN03007
3" Parts List	P1065
4" Parts List	P1066
6" Parts List	P1067
8" Parts List	P1068

Technical Support

Contact Information:
Field Service Response Center
24/7 Technical Support/Schedule a Technician: 1-844-798-3819
System Installation Supervision, Start-Up, Training, and Commissioning Services Available

Revisions included in MN03006 Issue/Rev. 0.2 (4/15):
Torque values table revised from ANSI to ASME. Total Revision. Branding to TechnipFMC - April 2020.
The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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