

Furon® RDVM & SMDVM 1" Self-Manifolding Distribution Valve

Pneumatic or Manual Actuated 2-Way Valve



Features/Benefits

- High flow factor, C_v 15 (NC port)
- 100% PFA HP and Virgin PTFE wetted flow path
- Patented rolling diaphragm technology
- No exposed metallics
- Visual position indicator standard on manual and pneumatic versions
- Quick-release, non-metallic 8-position mounting base
- Non-gender, close coupled space saver fittings
- 2-Way Valve available in 3-port and 4-port configurations
- Assembled, tested and double-bagged in a class 100 cleanroom

Description

Furon® high-purity, PFA injection molded RDVM and SMDVM Rolling Diaphragm Valves offer you a revolutionary new concept in high flow fluid handling systems. RDVM and SMDVM Valves, combined with the Furon® Universal fitting system allow system integrators the unique ability to quickly configure and assemble custom valve manifolds utilizing standard off-the-shelf valves and fittings.

The RDVM 2-way valve can be utilized as a stand-alone valve featuring a small footprint and high flow rate, or can be used in conjunction with the SMDVM.

The SMDVM 2-way valve offers an additional 3rd or 4th port that supports self-manifolding of multiple valves.

Application

Furon® RDVM and SMDVM Valves are ideal for use in high purity and aggressive chemical semiconductor applications including chemical delivery, chemical processing, and fluid handling applications. Outstanding performance characteristics and construction of the RDVM / SMDVM Valves make them highly recommended for bulk chemical delivery and valve box applications.



Furon RDVM Valve



Furon SMDVM Valve

Furon® Universal Fittings

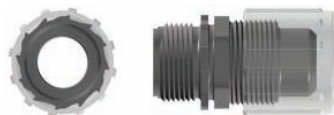
UTG Fittings



UTG16F8N-1
PN 1110679-1



UTG16F12N-1
PN 1110680-1



UTG16F16N-1
PN 1110681-1



UTG16FF8N-1
PN 1110673-1



UTG16FF12N-1
PN 1110674-1

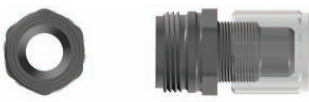


UTG16FF16N-1
PN 1110675-1

MTG Fittings



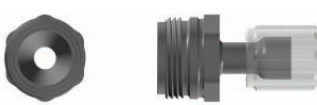
MTG16F8N-1
PN 1110682-1



MTG16F12N-1
PN 1110683-1



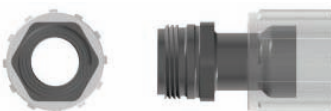
MTG16F16N-1
PN 1110684-1



MTG16FF8N-1
PN 1110676-1

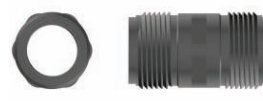


MTG16FF12N-1
PN 1110677-1



MTG16FF16N-1
PN 1110678-1

Coupler/Plugs



UTG16SU
PN 1109225-003



UTG16MTG16SU
PN 1109753



MTG16SU
PN 1107019



MTG Plug
PN 1109616

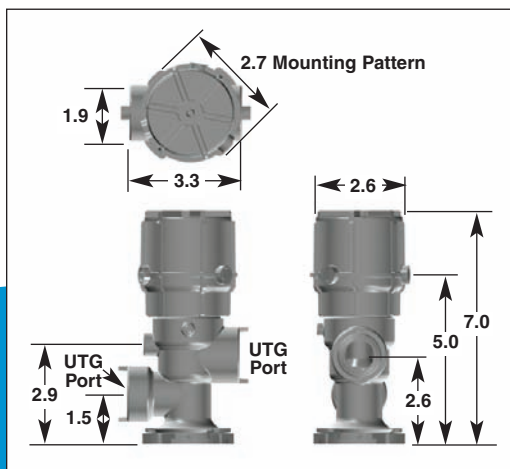
UTG Fittings Features:

- 1.25" Hex
- Ratchet on End Connection Fittings (Flare)
- No O-Ring
- Short Tongue & Groove Interface

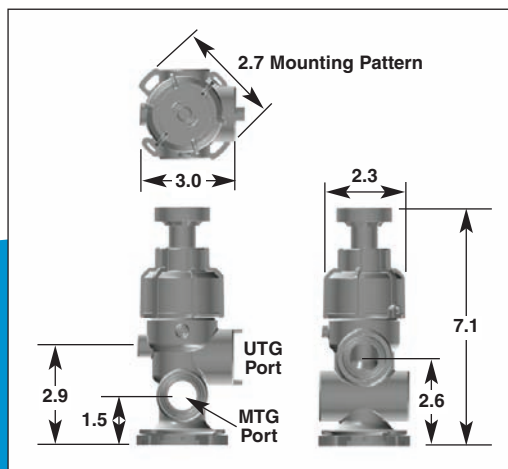
MTG Fittings Features:

- 1.50" Hex
- No Ratchet on End Connection Fittings (Flare)
- ChemRaz™ O-Ring
- Long Tongue & Groove Interface

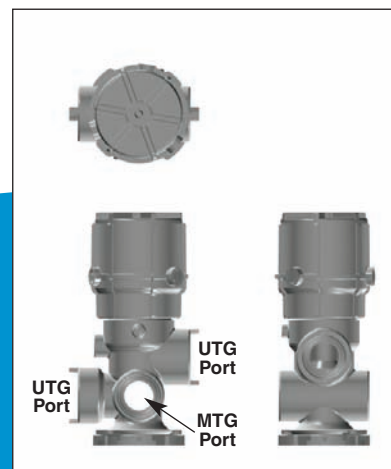
RDVM/SMDVM Port Locations (UTG Vs. MTG Fittings)



RDVM2-16NC



SMDVM3-16MT



SMDVM4-16NC

Assembly Procedure



Step 1:

Start with a Manual SMDVM PN 1109180-002 (No Purge port)

Thread UTG16SU Coupler, PN 1109225-003 into SMDVM NO (UTG) port until snug, approximately 4.5 - 5 turns, this will allow "clocking" of valves.



Step 2:

2nd Valve: RDVM PN 1109177-002 (No Purge port)

Turn RDVM approximately 5 turns until the tongue and groove interface makes contact...then continue turning until valves are aligned. There should be 1/2 turn to clock valves (Clockwise)

1. Port to port dim. 0.93"-0.95"



Step 3:

This configuration uses PN:1110681-1 a 1" Fine Thread Flare by 1" UTG. Thread the Universal Fitting clockwise until the ratchet engages to the valve body.

Notes:

1. 18 clicks past ratchet engagement to seal the fitting.



Step 4:

Use MTG Plug PN: 1109616 in the MTG port you would like capped off. Thread the fitting into the valve body until the tongue and groove engages... then turn another 1/2 to full turn.



Step 5:

Thread MTG16SU Coupler, PN 1107019 into SMDVM Common port until snug, approximately 1 - 1.5 turns, this will allow proper "clocking" of valves.

The MTG fittings uses a similar tongue and groove design to the Universal fitting (UTG) but they are not interchangeable. The SMDVM common port uses a Chemraz™ O-ring as a secondary containment.



Step 6:

Our Manifold configuration is made up of two identical valve sticks consisting of a manual and pneumatic valve. Thread the MTG16SU Coupler into the mating SMDVM Common port. Turn the second valve stick approximately 2.5 turns until the tongue and groove interface makes contact...then continue turning until valves are aligned. There should be 1/2 turn to clock valves (Clockwise)

1. Port to port dim. 0.42"-0.44"

Assembly Tips:

- The UTG / MTG "hex" should always be centered between the valves
- There should not be any "play" between the valves – if there is it is too loose!
- Ports on valve bodies should not "flare" – this is a sign the valves have been over-tightened
- If threads are stripped – Replace the fitting first. If that does not solve the problem then the valve body will need to be replaced. DO NOT use PTFE tape.
- The fitting/port threads are NOT designed to provide a "seal" between components. If the tongue & groove interface is damaged or not properly assembled (wrong style) it will not create a positive seal.
- Please take care to install the proper style fittings into the correct ports (UTG-UTG) and (MTG-MTG)
- Please consult S-G technical support if you encounter any problems.

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Ordering Information

Part No.	Product Description
1109177	RDVM2-16NC, 1" Normally Closed Pneumatic Valve
1109178	RDVM2-16MT, 1" Manual Multi-Turn Valve
1112972	RDVM2-16NO, 1" Normally Open Pneumatic Valve
1109179	SMDVM3-16NC, 3-Port, 1" Normally Closed Pneumatic Valve
1109180	SMDVM3-16MT, 3-Port, 1" Manual Multi-Turn Valve
1112973	SMDVM3-16NO, 3-Port, 1" Normally Open Pneumatic Valve
1109181	SMDVM4-16NC, 4-Port, 1" Normally Closed Pneumatic Valve
1109182	SMDVM4-16MT, 4-Port, 1" Manual Multi-Turn Valve
1112974	SMDVM4-16NO, 4-Port, 1" Normally Open Pneumatic Valve

1112548	SPARE KIT RDVM/SMDVM, 1" Normally Closed Pneumatic Valve
1112975	SPARE KIT RDVM/SMDVM, 1" Normally Open Pneumatic Valve
1112550	SPARE KIT RDVM/SMDVM, 1" Manual Multi-Turn Valve

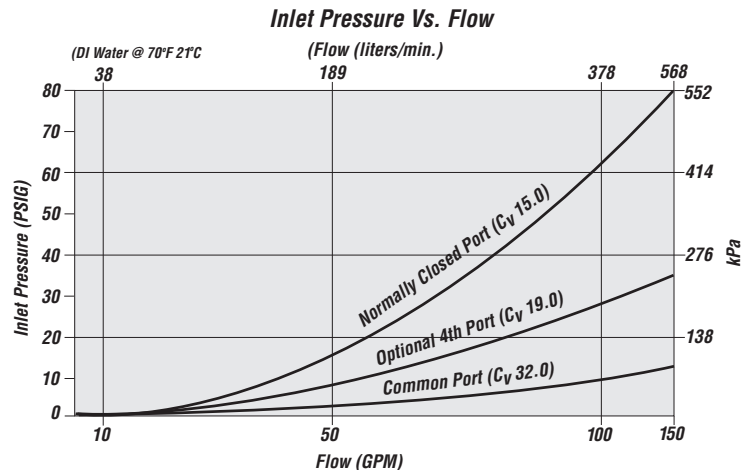
(-001) = with Purge Port
 (-002) = without Purge Port
 (-003) = with Purge Hole/No adapter (for welding custom options)

For additional end connections/options please consult factory

Part No.	Product Description
1110679-1	UTG16F8N-1, 1" Universal Fitting x 1/2" FMF, PDVF Nut
1110680-1	UTG16F12N-1, 1" Universal Fitting x 3/4" FMF, PDVF Nut
1110681-1	UTG16F16N-1, 1" Universal Fitting x 1" FMF, PDVF Nut
1110673-1	UTG16FF8N-1, 1" Universal Fitting x 1/2" Female FMF, PDVF Nut
1110674-1	UTG16FF12N-1, 1" Universal Fitting x 3/4" Female FMF, PDVF Nut
1110675-1	UTG16FF16N-1, 1" Universal Fitting x 1" Female FMF, PDVF Nut
1109527-1	UTG6F6N-1, 3/8" Universal Fitting x 3/8" FMF, PDVF Nut (Purge Port)
1109753	UTG16MTG16SU, 1" Universal x Manifold Coupler
1109225-003	UTG16SU, 1" Universal Coupler
1112241	UTG PLUG, 1" Universal Plug
1110682-1	MTG16F8N-1, 1" Universal Fitting x 1/2" FMF, PDVF Nut
1110683-1	MTG16F12N-1, 1" Universal Fitting x 3/4" FMF, PDVF Nut
1110684-1	MTG16F16N-1, 1" Universal Fitting x 1" FMF, PDVF Nut
1110676-1	MTG16FF8N-1, 1" Universal Fitting x 1/2" Female FMF, PDVF Nut
1110677-1	MTG16FF12N-1, 1" Universal Fitting x 3/4" Female FMF, PDVF Nut
1110678-1	MTG16FF16N-1, 1" Universal Fitting x 1" Female FMF, PDVF Nut
1107019	MTG16SU, 1" Manifold Coupler
1109616	MTG PLUG, 1" Manifold Plug

Specifications & Performance

- 100 PSIG maximum forward pressure @ 72°F (22°C)
- 100 PSIG maximum back pressure @ 72°F (22°C)
- Media operating temperature 40°F to 203°F (5°C to 95°C)
- Maximum ambient temperature 150°F (65°C)
- Pilot air actuation pressure 60—90 PSIG
- Normally Closed port (C_v) 15.0
- Common port (C_v) 32.0
- Optional 4th port (C_v) 19.0



Saint-Gobain Performance Plastics-USA

Polymer Products
 7301 Orangewood Avenue
 Garden Grove, CA 92841-1411
 Tel: (714) 630-5818
 Fax: (714) 688-2614
 USA Toll Free: (800) 833-5661

Saint-Gobain Performance Plastics-France

Polymer Products
 41 Boulevard des Bouvets
 Nanterre F-92000, France
 Tel: 33/(0) 1 55 68 59 59
 Fax: 33/(0) 1 55 68 59 68



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