

| PART NUMBER | | | | | | | |
|-------------|-------|----|-----|---|---|---|------------|
| Example : | M12 U | MT | 2V1 | I | / | K | A/B : B1/2 |
| | 1 | 2 | 3 | 4 | | 5 | 6 |
| | | | | | | | 7 |

| 1 - Valve Series | |
|------------------|---|
| M12-U | UHP - Ra 0.15 µm Ep. (6 µinch Ra) |
| M12-V | HP/UHP - Ra 0.25 µm Ep. (10 µinch Ra) |
| M12-S | HP Version - Ra 0.4 µm non EP (15 µinch Ra) |

| 3 - Valve Configuration | |
|-------------------------|---|
| 2V1 | 2 ports in line |
| 2VPEG | 2 Ports in line, upstream purge port - left side |
| 2VPSG | 2 Ports in line, downstream purge port - left side |
| 2V1P2 | 2 Ports in line, 2 purge ports upstream/downstream/left side |
| 3VT | 2 ports in line, full passage, downstream branch ("Te" Valve) |
| 3VTPS | 2 ports in line, full passage, downstream branch (purge port) |

| 5 - Seat Material | |
|-------------------|----------------|
| K | PCTFE (Kel-F®) |
| V | PI (VespeI®) |
| P | PVDF |

| 7 - Options | |
|-------------|---------------------------------------|
| FT | Panel Mounting |
| — | Back Mounting |
| CI | Electric Limit Switch (PP2 actuators) |

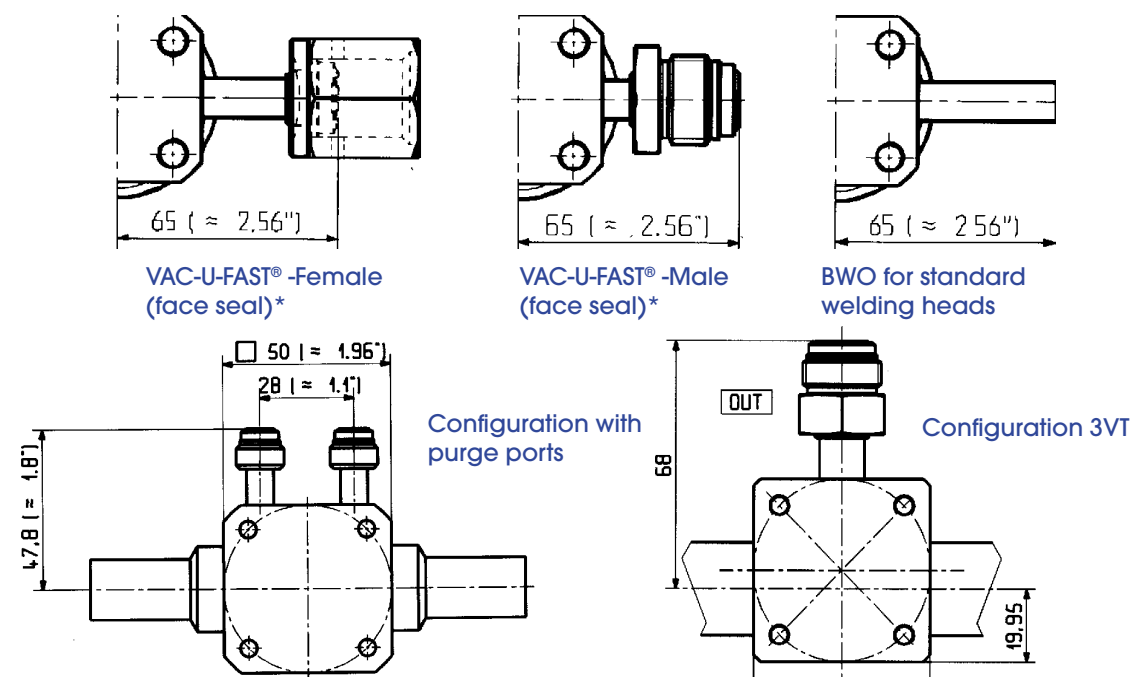
| 2 - Valve Actuation | |
|---------------------|---|
| MT | Multi-Turn Handwheel |
| PP2 | Pneumatically actuated (Normally close version) |

Standard colour for handles: white (other colours on request)
for pneumatic actuators: blue

| 4 - Body Material | |
|-------------------|-------------------------|
| I | AISI 316 L |
| H | Hastelloy® (on request) |

| 6a - End Connections for 2VPEG/2VPSG/2V1P2/2V1 | |
|---|--|
| V 1/2-F | VAC-U-FAST® 1/2" - Female (Face Seal*) |
| V 1/2-M | VAC-U-FAST® 1/2" - Male (Face Seal*) |
| B 1/2 | BWO 1/2" - (Butt Orbital Weld) |
| B 3/4 | BWO 3/4" (Butt Orbital Weld) |
| Purge port available as BWO 1/4" or VAC-U-FAST® 1/4" male | |

| 6b - End Connections for 3VT/3VTPS | |
|---|--|
| B 1/2 | BWO 1/2" - (Butt Orbital Weld) |
| B 3/4 | BWO 3/4" (Butt Orbital Weld) |
| B1 | BWO 1" (Butt Orbital Weld) |
| V1/2-F | VAC-U-FAST® 1/2" - Female (Face Seal*) |
| V1/2-M | VAC-U-FAST® 1/2" - Male (Face Seal*) |
| V3/4-M | VAC-U-FAST® 3/4" - Male (Face Seal*) |
| V3/4-F | VAC-U-FAST® 3/4" - Female (Face Seal*) |
| branch available as VAC-U-FAST® 1/4" or VAC-U-FAST® 1/2" | |
| Purge port available as BWO 1/4" or VAC-U-FAST® 1/4" male | |



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SELFA

Valves & Fittings

A total component solution, from source to process

M12

SPRINGLESS DIAPHRAGM VALVES FOR HP AND UHP APPLICATIONS (STANDARD AND GAS SPECIFIC)



* All VAC-U-FAST® Face Seals are VCR® compatible. VCR® is a registered trade mark of CAJON CO., HASTELLOY® is a registered trade mark of CABOT Corp., Kel-F® is a registered trade mark of 3M company, VespeI® is a registered trade mark of DUPONT, ELGILOY® is a registered trade mark of ELGILOY Company.

FEATURE a unique proven design

M12

TECHNICAL DATA

M12

Tied diaphragm design for positive seat opening and retraction

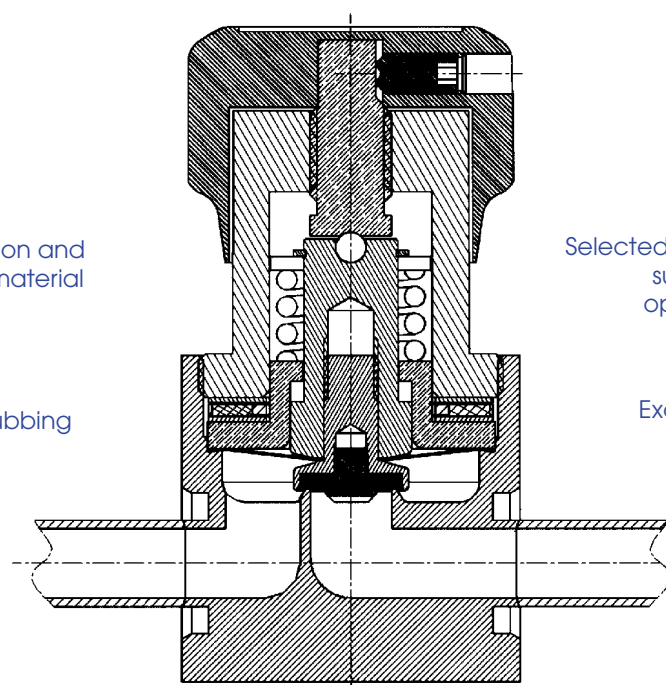
Low particle emission

Fully swept flow path

Reduced gas absorption and desorption from seat material

Clean operation, no rubbing

Fully contained Seat



Small internal volume

Easy purgeability

Selected Stainless Steels for low sulfur content as well as optimized impurity levels

Excellent flow coefficient

Metal to Metal sealing to atmosphere

Manufactured to the **THREE STAR PROCESS**®

CONSTRUCTION MATERIALS

| | | Valve Grade & Materials | | |
|------------------|---------------------|--|----------------------|---------------------|
| | Parts | S | V | U |
| Wetted parts | Body | Stainless Steel 316L | | |
| | Body Surface Finish | <0,4µm (15Ra) non EP | < 0,25 µm (10 Ra) EP | < 0,15 µm (6 Ra) EP |
| | Diaphragms | Elgiloy® | | |
| | Seat material | PCTFE (Kel-F®) / PVDF or Vespel (on request) | | |
| Non-wetted parts | Backup diaphragm | Elgiloy® | | |
| | All others | Stainless Steel or alloys | | |

Manual Actuation

| Upper Spindle | Stainless Steel |
|---------------|---------------------------|
| Handle | Aluminum |
| All others | Stainless Steel or Alloys |

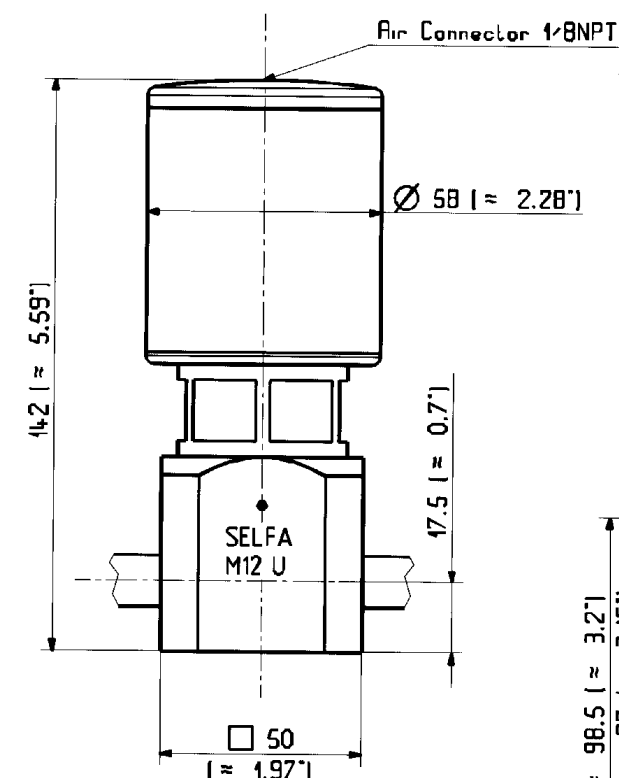
Pneumatic Actuation

| Parts | PP2 |
|---------------|-------------------|
| O-ring | NBR |
| Actuator Body | Aluminum Anodized |

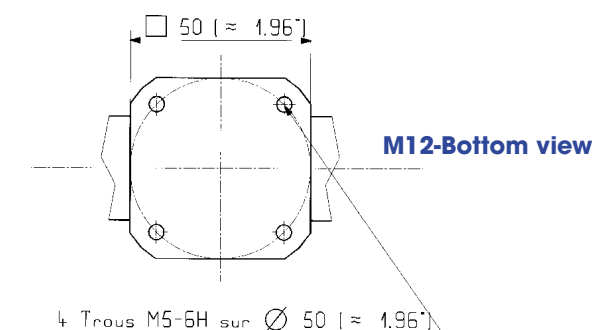
TECHNICAL DATA

| | | |
|---|---|------------------|
| Fluid Media | High and Ultra High Purity, corrosive and non-corrosive gases | |
| Max operating pressure | M12 MT manual | 15 bar (215 PSI) |
| | M12 PP2 Pneumatic | 15 bar (215 PSI) |
| Min. operating pressure | Vacuum (for manual only) | |
| Actuator opening pressure | 5 to 7 bar (75 to 105 PSI) | |
| Temperature range | -20°C to + 80°C (-4°F to 176°F) | |
| Flow Coefficient | Cv = 1,75 | |
| Certified max. Helium inboard leak rate (at max. pressure) | < 10 ⁻⁹ mbar.l/sec | |
| Certified max. Helium outboard leak rate (at max. pressure) | < 10 ⁻⁹ mbar.l/sec | |
| Nominal Seat Diameter | 12 mm (0.47") | |
| Weight | M12 MT | 1,4 kg |
| | M12 PP2 | 3,1 kg |

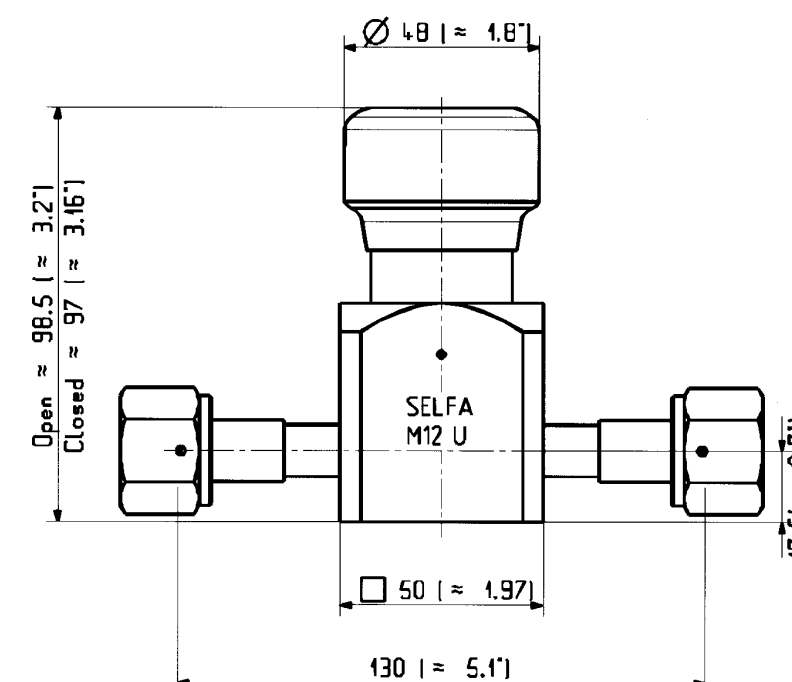
DIMENSIONS



M12-PP2



M12-Bottom view



M12-MT