



Steriflow Food and Beverage CPM Valve Series

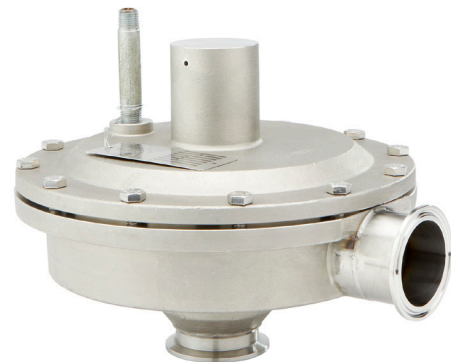
2" 3A Sanitary Air Loaded Pressure and Back Pressure Regulators

The FB5CPM (inlet) and FB6CPM (outlet) are air loaded sanitary constant pressure modulating valves, designed to allow the user to change setpoints remotely via a cabinet or panel mounted air regulator, or through a distributed control system or PLC, using an I-P transducer.

The CPM valve is an ideal choice for automating and maintaining constant pressure set points on the inlet side of the valve for control operations, whether they are process set points or points to fully open the valve for rinse, CIP or SIP. The valve is preferred in HTST/UHT Pasteurization, after Heat Exchangers, Separator equipment, bottling lines, etc.

FEATURES

- FB5CPM (inlet) valve automatically opens with increased flow.
- FB6CPM (outlet) valve automatically closes with increased flow.
- Compact lightweight design significantly reduces the installation space and weight if mounting the valve on a process skid.
- Permits full automation of Process, Rinse, CIP and SIP setpoints.
- Allows for constant pressure modulation when needed
- Optimized Jorlon diaphragm material, surface area and support system for unsurpassed performance and life.
- Accessory I/P or self-relieving Air regulator available for automated, and/or remote set point control
- 3A Certification 53-06



APPLICATIONS

A wide variety of applications exist for the FB5CPM in the food and beverage, healthcare, pharmaceutical and other industries including but not limited to:

- HTST, UHT Process control
- Pump pressure control
- Process overpressure control
- CIP system pressure control
- Pressure bypass control

OPTIONS

An accessory I/P wired to a stand alone controller, PLC or DCS and an air supply will allow fully automated operation based on menu commands. Users may also opt to control the set point remotely via pneumatic tubing from a remote (panel or cabinet mounted) self-relieving instrument air regulator. Note: If using regulator we recommend the JRLF-025 with Teflon Seat, or JRLF-025 (EPDM seat). specified with a .2 Cv (.173 Kv) and self relieving option.



SPECIFICATIONS

Sizes: 2" (DN50)

Wetted Material: ASME SA479 316L (UNS 31603) is standard. EN 10272:2000 GR 1.4435, AL-6XN®, Hastelloy®C-22 and others are optional.

End Connections: ASME Tri-Clamp, others consult factory

Cv:

| Valve Size | Available Cv (Kv) | Cv (Kv) for Relief Valve Sizing |
|------------|-------------------|---------------------------------|
| 2" DN50 | 19.0 (16,3) | 56.5 (48,6) |

Seat Material: Integral Hard Seat: 316L (Class IV Shutoff); Optional Seat Material: Teflon (not 3A) (Class VI Shutoff)

Actuator Housing: Air-loaded, as cast CF3M 316LSS

O-Ring Material:

- FDA and approved Teflon-Encapsulated Viton
- Optional: EPDM & Viton

Cv: Consult Factory if alternate Cvs/Kvs are required.

Diaphragm Material: Jorlon (FDA, 3A approved)

Min Pressure Drop:

- FB5CPM (inlet) min pressure drop: 3 psi (0,2 bar)
- FB6CPM (outlet) max pressure drop: 100 psi (6,9 bar)

Maximum Operating Pressure @ Maximum

Temperature: 200 psi @ 300°F (13,8 bar @ 149°C)

Max Set Point Range:

- FB5CPM (inlet) set point range: 5-60 psi (0,3 - 4,1 bar)
- FB6CPM (outlet) set point range: 20-100 PSI (1,4 - 6,9 bar)

| Valve Size | PSIG @ 100°F (38°C) | PSIG @ 300°F (149°C) |
|------------|---------------------|----------------------|
| 2" (DN80) | 200 (13,8 bar) | 200 (13,8 bar) |

Note: Max temp for 3A/EPDM is 120°F (49°C)

Maximum Air Supply Pressure: 110 psi (7,6 bar)

Weight:

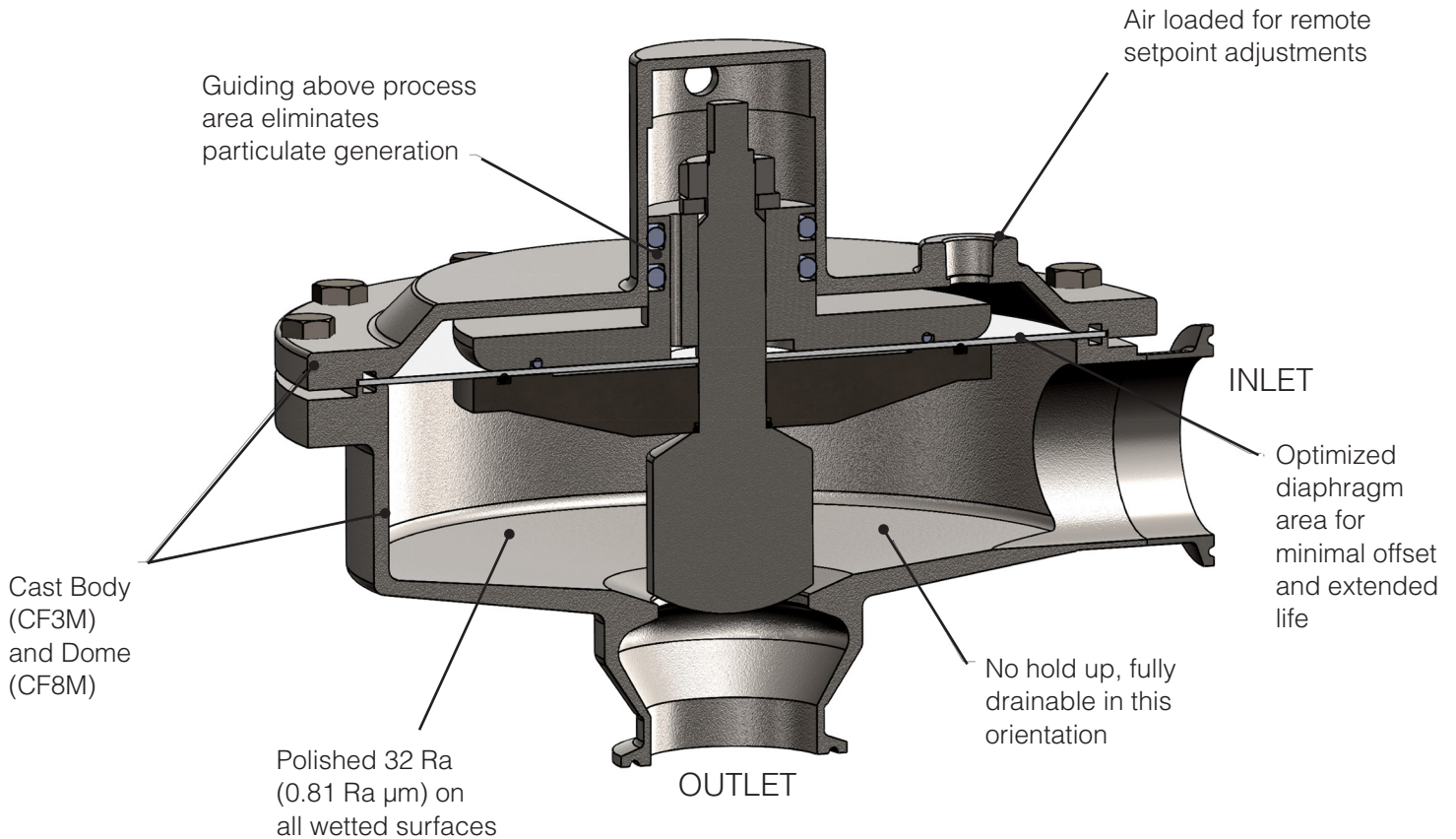
- 2" – 23 lbs (10,43 kgs) – Stainless Steel



Optional: I/P with 4-20mA Transducer or Recommended J-Series LowFlow Regulator



FB5CPM INLET VALVE SERIES CUT-A-WAY



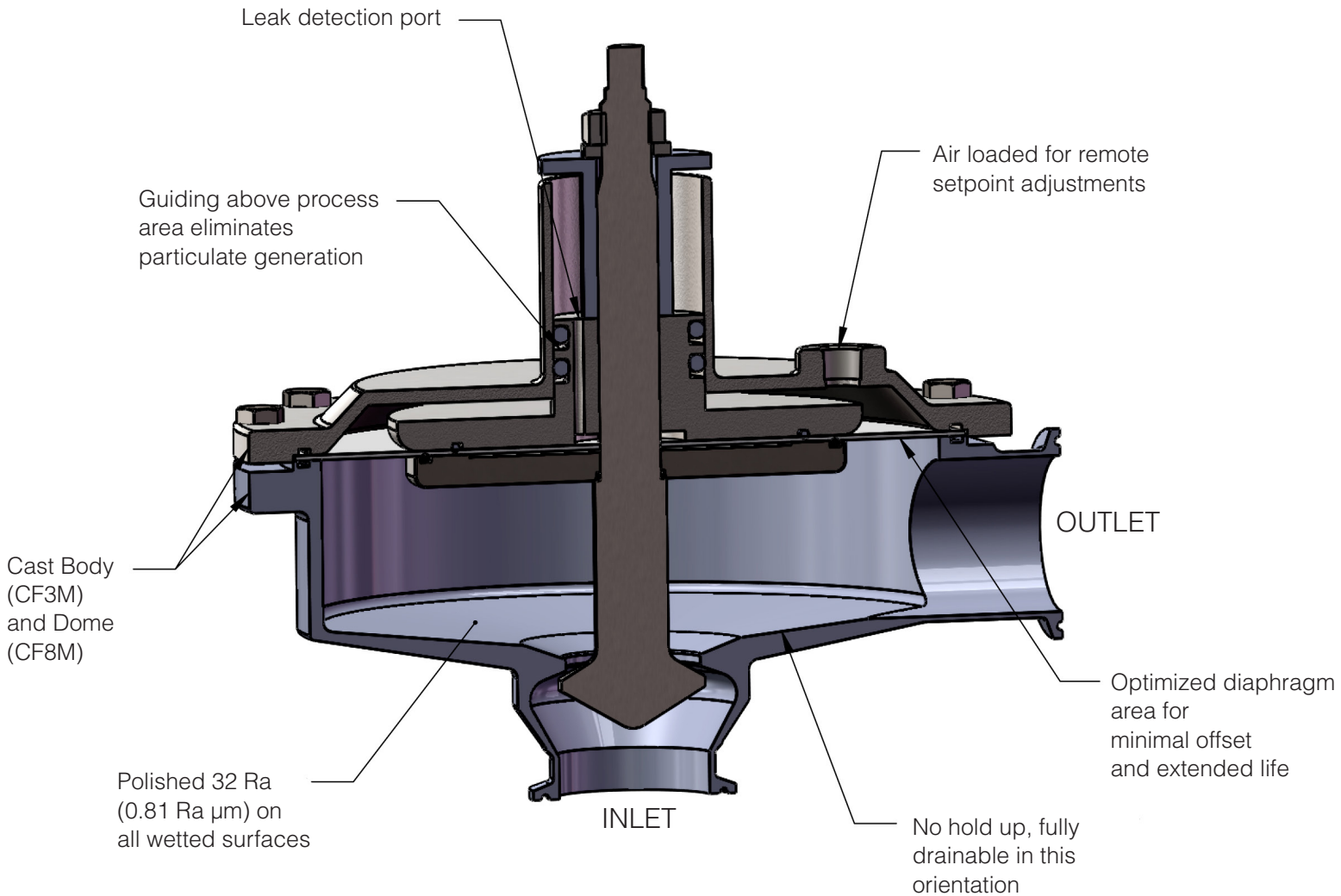
CLEAN-IN-PLACE / STEAM-IN-PLACE

To open valve for cleaning, remove the air load. The valve will open automatically once the cleaning media begins to flow. This will allow the valve to drain completely during the cleaning cycle.

WEBSITE RESOURCES

For STEP files, Installation and Maintenance Manuals, etc. please visit our website at www.steriflowfoodandbev.com.

FB6CPM OUTLET VALVE SERIES CUT-A-WAY



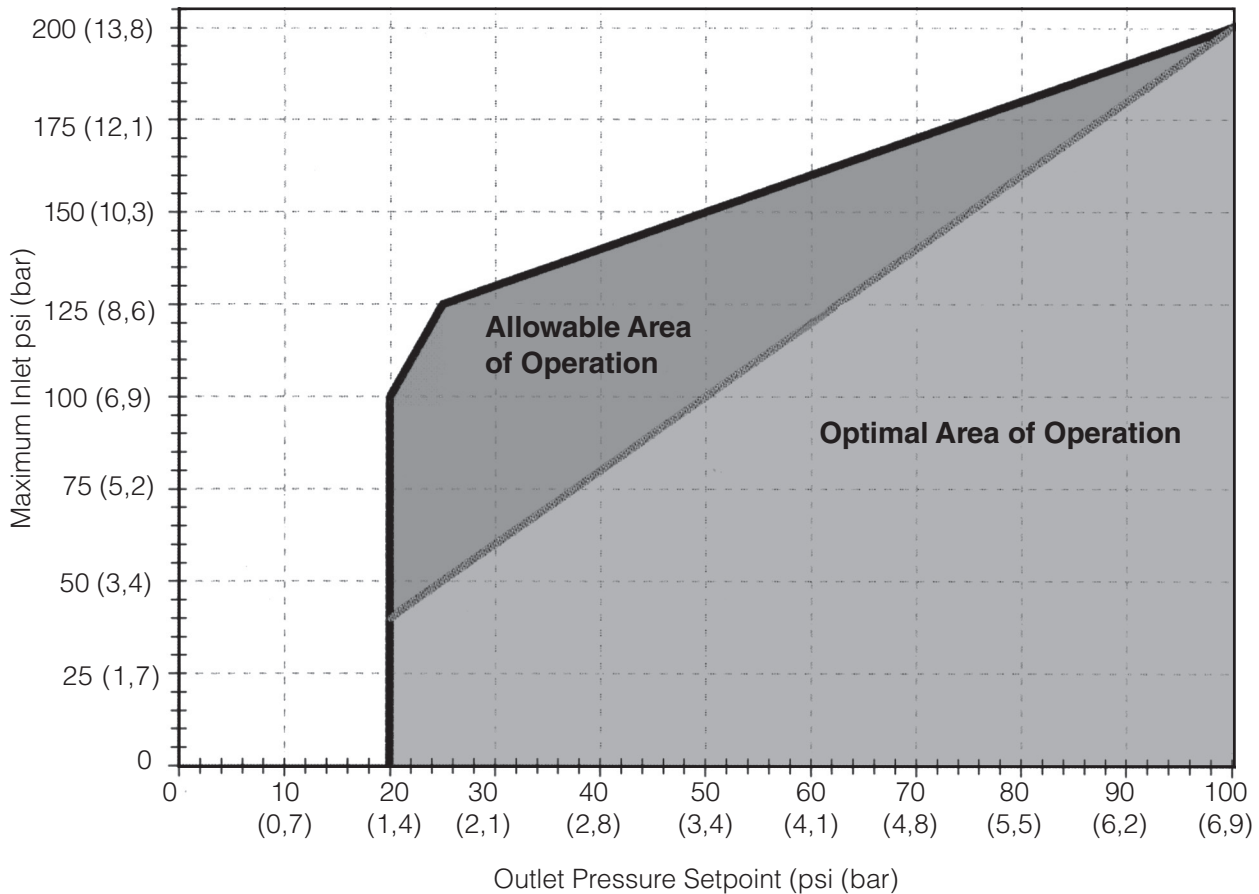
CLEAN-IN-PLACE / STEAM-IN-PLACE

To open valve for cleaning, remove the air load. The valve will open automatically once the cleaning media begins to flow. This will allow the valve to drain completely during the cleaning cycle.

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FB6CPM INLET VALVE MAXIMUM INLET PRESSURE VS. SETPOINT



Determining Allowable & Optimal Setpoint

Reading the graph: To determine allowable setpoint select your inlet pressure from the Y-axis on the above graph. Outlet pressure setpoint should be equal to or greater than the value on the X-axis where the inlet pressure and heavy diagonal line intersect. In other words, the differential pressure (between inlet pressure and outlet pressure setpoint) must be less than or equal to 100 psi. In addition the minimum outlet pressure setpoint is 20 psig.

For optimal results (minimum offset, more stability) the ratio of inlet pressure to the outlet pressure setpoint (differential pressure) should be 2:1 or less, and never greater than 100 psig. For example, if the inlet pressure is 150 psi, the allowable outlet pressure setpoint would be 50 psi or above. However, the optimal outlet pressure setpoint (greater stability and less droop) is 75 psig or greater.

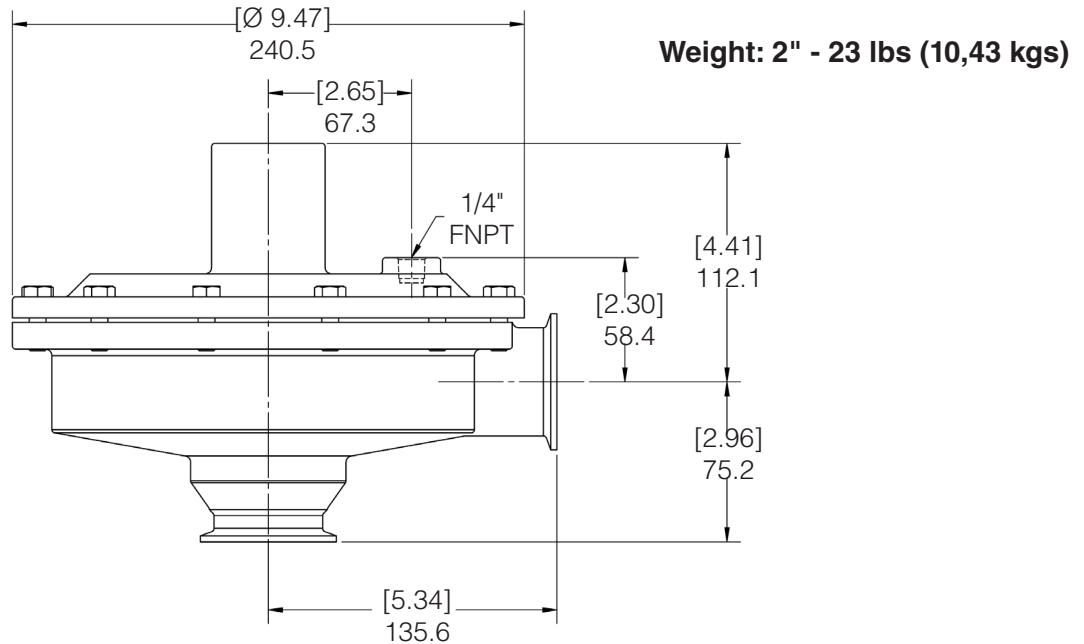
Installation Notes

- As with all regulators and control valves, optimal flow performance can only be achieved with a non-turbulent flow profile. The FB6CPM should be installed with 3 feet of straight pipe on either side of the valve.
- A pressure gauge, or transmitter reading downstream of the FB6CPM should be used to make the final setpoint adjustment.

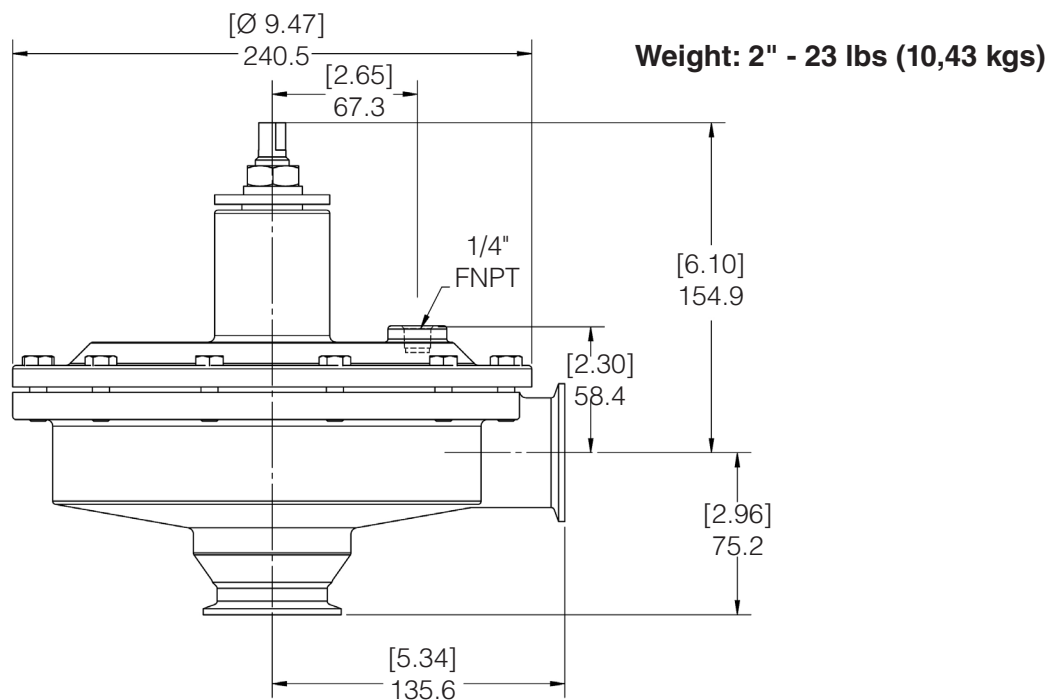
Installation Notes:

- As with all regulators and control valves, optimal flow performance can only be achieved with a non-turbulent flow profile. The CPM valve should be installed with 3 feet (0,9m) of straight pipe on either side of the valve.
- A pressure gauge, or transmitter reading upstream of the CPM valve should be used to make the final setpoint adjustment.

DIMENSIONS FB5CPM



DIMENSIONS FB6CPM



ORDER SCHEMATIC

| Model | Size | Material | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------|------|----------|---|---|---|---|---|---|---|---|---|----|----|----|
| FB-5CPM | 200 | 6L | | | | | | | | | | | | |

| Model | |
|--------|----------|
| FB5CPM | Standard |

| Size* | |
|-------|-----------|
| 200 | 2" (DN50) |

***Additional Sizes Coming Soon. Contact Factory for more information.**

| Material | |
|----------|----------------------|
| 6L | 316L Stainless Steel |

| 1 & 2 | | Body | | | |
|-------|--|--------|-----------|---------|--|
| | | Finish | | Cv (Kv) | |
| A | 32 Ra (0.81 Ra µm) Interior/Cast Exterior (std) | N | 19 (16,4) | | |
| ZZ | Non-Standard | | | | |

| 3 & 4 | | Trim | | | |
|-------|--------------------|--------|---------------------|----------------|--|
| | | Finish | | Cv (Kv) & Seat | |
| A | 32 Ra (0.81 Ra µm) | S | 19 (16,4) Hard Seat | | |

| 5 & 6 | | O-Ring/Diaphragm | |
|-------|--|------------------|--|
| EJ | EPDM/Jorlon Diaphragm | | |
| TY | Teflon Encapsulated Viton/Jorlon Diaphragm | | |
| ZZ | Non-Standard | | |

| 7 & 8 | | I/P Or Loader Range | | | |
|-------|-------------------|---------------------|----------------------------|----------------|--|
| | | Type of Loader | | Max Load (PSI) | |
| 00 | None | A | J-Series 25 psi (1,7 bar) | | |
| A | 4-20mA Transducer | C | J-Series 50 psi (3,4 bar) | | |
| B | J Series Loader | E | J-Series 100 psi (6,9 bar) | | |
| | | P | I/P 60 psi (4,1 bar) | | |
| | | H | I/P 120 psi (8,3 bar) | | |
| ZZ | Non-Standard | | | | |

| 9 & 10 | | Diaphragm | |
|--------|--------|-----------|--|
| JL | Jorlon | | |

| 11 & 12 | | Actuator | |
|---------|--------------|----------|--|
| AA | Standard | | |
| ZZ | Non-Standard | | |

DOCUMENTATION

A Certificate of Compliance is available at no charge when requested at time of order.

The "Unicert" is a chargeable document. If needed, a "Unicert" must be requested at time of order.

FB6CPM (OUTLET) SANITARY VALVE

ORDER SCHEMATIC

| Model | Size | Material | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------|------|----------|---|---|---|---|---|---|---|---|---|----|----|----|
| FB-6CPM | 200 | 6L | | | | | | | | | | | | |

| Model | |
|--------|----------|
| FB6CPM | Standard |

| Size* | |
|-------|-----------|
| 200 | 2" (DN50) |

***Additional Sizes Coming Soon. Contact Factory for more information.**

| Material | |
|----------|----------------------|
| 6L | 316L Stainless Steel |

| 1 & 2 | | Body | |
|--------|--|---------|-----------|
| Finish | | Cv (Kv) | |
| A | 32 Ra (0.81 Ra µm) Interior/Cast Exterior (std) | N | 19 (16,4) |
| ZZ | Non-Standard | | |

| 3 & 4 | | Trim | |
|--------|--------------------|----------------|---------------------|
| Finish | | Cv (Kv) & Seat | |
| A | 32 Ra (0.81 Ra µm) | S | 19 (16,4) Hard Seat |

| 5 & 6 | | O-Ring/Diaphragm | |
|-------|--|------------------|--|
| EJ | EPDM/Jorlon Diaphragm | | |
| TY | Teflon Encapsulated Viton/Jorlon Diaphragm | | |
| ZZ | Non-Standard | | |

| 7 & 8 | | I/P Or Loader Range | |
|----------------|-------------------|---------------------|----------------------------|
| Type of Loader | | Max Load (PSI) | |
| 00 | None | A | J-Series 25 psi (1,7 bar) |
| A | 4-20mA Transducer | C | J-Series 50 psi (3,4 bar) |
| B | J Series Loader | E | J-Series 100 psi (6,9 bar) |
| | | P | I/P 60 psi (4,1 bar) |
| | | H | I/P 120 psi (8,3 bar) |
| ZZ | Non-Standard | | |

| 9 & 10 | | Diaphragm | |
|--------|--------|-----------|--|
| JL | Jorlon | | |

| 11 & 12 | | Actuator | |
|---------|--------------|----------|--|
| AA | Standard | | |
| ZZ | Non-Standard | | |

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