Stainless Steel Flow Control Equipment for the Food, Beverage, Dairy, Cosmetics, Pharmaceutical, Biotechnology, and Electronics Processing Industries

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New Generation
Non-Stop Production (7 days a week, 24 hours a day)

The new design of DEFINOX VDCI MC PMO-C mixproof valve meets the 3-A recommendations (85-02) in accordance with dairy sanitary requirements.

The PMO-C mixproof valve technology allows two different liquids to cross over in complete safety even during seat lifting operations.

Production no longer needs to completely stop during cleaning operations.

Simple and high-tech design

• No need for an additional seal, due to an intermediate plug made from PEEK Thermoplastic (FDA approved).

• 3 identical O-rings which avoid risk of confusion between the spare parts during maintenance operations.

• The innovative design of the intermediate plug prevents turbulences into the leakage chamber and facilitates its correct positioning onto the lower plug.

Patented solution

• The intermediate plug ensures double protection, even during the seat lifting operations:
  - No risk of mixing between two different liquids.
  - Natural vacuum in the leakage chamber. The patented design of the plug assembly prevents any CIP solution transfer into the opposite leakage chamber.

3-A design

Our valve technology complies with 3-A standard 85-02 which allows pasteurized milk in one chamber while CIP solution is flowing into the other chamber, without any risk of cross mixing. Another feature is to provide a leakage section identical to the one of the process pipeline.
The counterbalance offers good resistance against water hammer.

Flush seal easy to clean

Upper and lower plugs fitted with EPDM or FKM seals

Intermediate plug made from high resistant plastic (PEEK)

Compact actuator machined from solid stainless steel block, standard on all versions and options

Leak indicator showing faults in the sealing point between the plugs

Lantern fitted with switch for detection of the upper plug lifting

Seal support plate Flush seals

Cleanable counterbalance cover

Body machined from solid stainless steel block guaranteeing excellent resistance against mechanical and thermal distortions

The body is the same design on all versions of the VDCI MC mixproof valve

ACS control top with 3 solenoid valves and a linear sensor (detection of lower plug lifting)

Robust clamp collar enabling a quick disconnect of the plugs, which facilitates the maintenance

Upper plug machined from solid stainless steel block

Leakage section identical to the process pipeline meeting PMO requirements

Lower plug machined from solid stainless steel block

Flawless actuator machined from solid stainless steel block, standard on all versions and options

Fitted with quick-fitting pneumatic connections for easy maintenance

Lantern fitted with switch for detection of the upper plug lifting

Seal support plate Flush seals

Cleanable counterbalance cover
Transfer of the fluid between the upper line and the lower line.

Washing of the lower line and of the leakage chamber while operating the lower plug.

Cleaning of the upper line.

Cleaning of the lower line.

Washing of the upper line and of the leakage chamber while operating the upper plug.

Washing of the lower line and of the leakage chamber while operating the lower plug.

*Washing of the lower balancer.
Working Conditions

Working temperature: +23°F to 248°F (5°C to 120°C)

Sterilization temperature: 266°F (130°C)

Max. working pressure: 130 psi (9 bar) except during cleaning operations: 101 psi (7 bar)

Compressed air supply pressure: from 72 to 101 psi (from 5 to 7 bar) with ACS control top. Up to 116 psi (8 bar) in direct supply

Surface Finish

Interior: 32Ra (0.8 µm)

Exterior: 47Ra (1.2 µm)
INNOVATIVE TECHNOLOGY

PEEK INTERMEDIATE PLUG

• An intermediate plug “2” is inserted between the lower plug “3” and the upper plug “1” to prevent any risk of contamination between non-compatible products during the seat lifting (such as milk and cleaning solutions).

• This intermediate plug is made from a specific type of natural plastic called PEEK and approved by the FDA. This plastic is more resistant to high temperatures and high pressure.

SLIDING O-RINGS

• 3 identical sliding O-ring seals “4” assembled on each plug ensure a perfect sealing during the opening and the closing of the valve. These O-rings offer a double security against the risk of mixing and facilitate the maintenance.

ORIGINAL & INTELLIGENT DESIGN

The legs of the intermediate plug are positioned on the outside diameter to facilitate its centering onto the lower plug. This design prevents turbulences in the leakage chamber.
COMMAND AND CONTROL SYSTEMS

The ACS control top offers numerous options to facilitate the control and command of the VDCI MC PMO-C:

- AS-i or multi-voltage interface
- Detection of movements for each plug
- Use of a linear sensor
- Accurate adjustment of the sensor
- Quick disassembly of the control top for easy maintenance

DETECTION

Linear sensor

- Accuracy to 0.2 mm
- Lifting detection of the lower plug
- Calibration on valve

Proximity switch on lantern

- Lifting detection of the upper plug

Valve manufactured by DEFINOX
Top Line is a leading supplier of sanitary stainless steel process equipment. Serving the food, beverage, dairy, pharmaceutical, biotechnological and personal care industries. For over 50 years we've provided our customers with exceptional customer service and quality products. We are committed to meeting the fastest delivery, new product development and application engineering to meet all our customer’s needs with our extensive inventory and expert sales team.

Top Line specializes in stainless steel materials – type 304 and 316L. Our modern, well equipped manufacturing facilities are staffed by skilled and dedicated craftsmen. Consistently meeting important tolerances and finish specifications is of primary concern to us. Before any products leave our plant they are subjected to rigid quality assurance checks.

Top Line should always be considered your first choice for both standard and custom fabricated stainless steel products.

Limited Warranty

Top Line Process Equipment Company products are warranted to be free of defects in material or workmanship for a period of one year from date of shipment. Warranty covers those Top Line products used in an approved installation and maintained in strict accordance with recognized standard industry practice. If, after properly authorized return, Top Line determines that products are defective, Top Line may at its option, repair or replace such defective products.

Top Line shall not be liable for consequential, indirect or incidental damages. The above warranty is in lieu of all other warranties, expressed or implied.