The Optimum Solution for Dairies

Unique PMO Curd CP Mixproof Valve

Compliance
Meets 3A/PMO requirements for seat lift compliance.

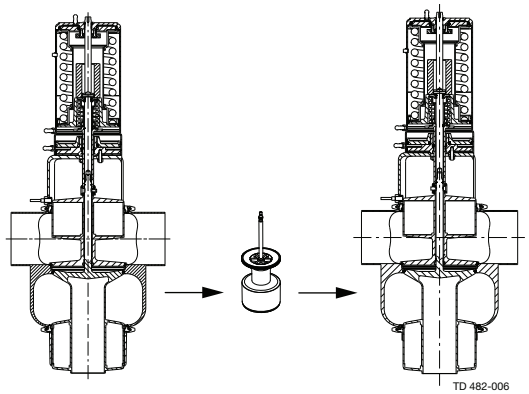
Concept
This Unique **PMO** Curd CP Mixproof valve is based on the well proven and exceptionally flexible design of the Unique Mixproof valves from Alfa Laval.

Working Principle
Unique **PMO** Curd CP is remote-controlled by means of compressed air. The valve is a normally closed (NC) valve.
The valve has two independent plug seals, forming a leakage chamber between them which is at atmospheric pressure or less during every working condition. In the rare case of fluid passing a valve seat, the fluid will enter the leakage chamber and be discharged through the leakage outlet. When the valve is open, the leakage chamber is closed. It meets demands from 3A/PMO (Pasteurized Milk Ordinance paragraph 15p(B)) standards saying that all movements have to be detectable. Furthermore, the actuator is fail safe by spring to close. Compliance with 3A requirements for seat lift allows a pasteurized milk product to be in one chamber while CIP solution is in the other chamber thus eliminating CIP downtime. The valves are designed for gentle handling of the product in applications where the product contains large particulates up to 1¾" (45 mm).

Build-up
This **PMO** Curd CP edition of the Unique Mixproof valve is a high-end valve with regards to process security as well as from a sanitary point of view. The valve plugs are always balanced in both upper and lower valve body, securing no sensitivity to pressure spikes.
The lower and upper seats are position-detectable by the ThinkTop® and a yoke-mounted, external sensor. The Unique **PMO** Curd CP Mixproof valve is provided with an O.D. balancer cleaning element which allows cleaning of the outside soiled area of the lower seat balancer during a lower seat push operation. This provides around-the-clock production by eliminating CIP downtime.

The Unique **PMO** Curd CP Mixproof valve is available in 4" and 6" tube O.D. sizes.

Unique **PMO** Curd CP Plug



Unique **PMO** Curd | O.D. Balancer Cleaning | Unique **PMO** Curd CP

Dimensions [Inches]

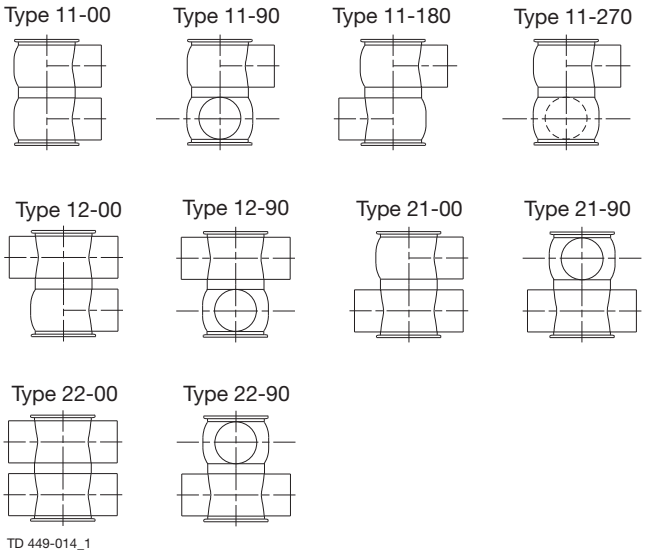
Size	4"	6"
A	40.866	39.449
A*	46.968	46.535
B	13.779	17.323
**C	4.866	6.798
OD	4	6
ID	3.843	5.782
t	0.079	0.109
E	6.535	8.298
F1	2.953	2.953
F2	0.197	0.197
øD	7.323	7.323
L	21.024	14.921
M/Tri-clamp	0.827	1.518
Weight (lb)	143	190

NOTE!

**The measure C can always be calculated by the formula

$C = ½ID\text{-}_{upper} + ½ID\text{-}_{lower} + 1"$.

Valve body combinations



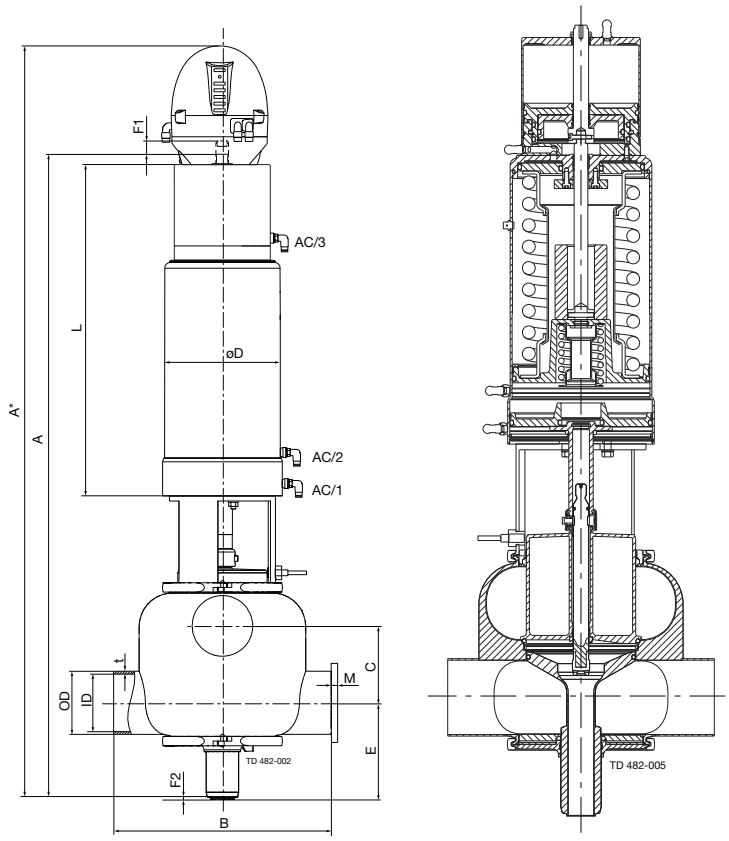
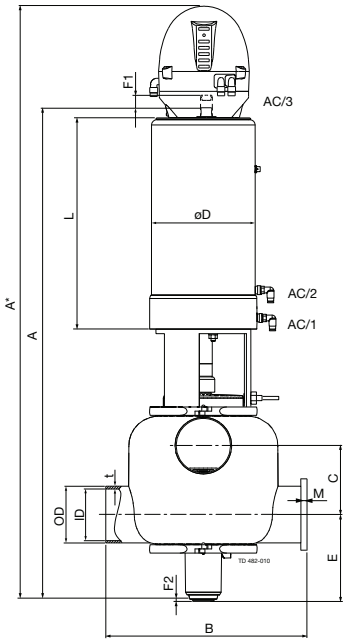


Fig. 1 Details of the Unique PMO Curd CP Mixproof valve 4”



Details of the Unique PMO Curd CP Mixproof valve 6”

Pressure drop/capacity diagrams

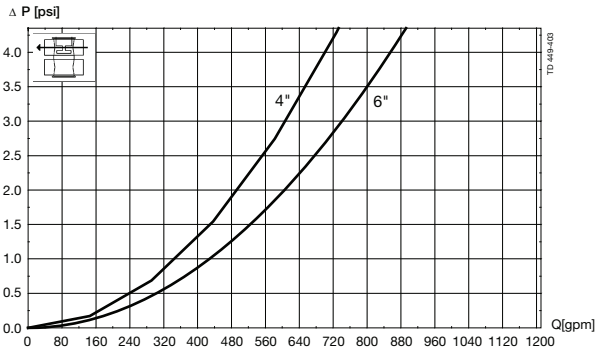


Fig. 2. Pressure drop/capacity diagram, upper bodies.

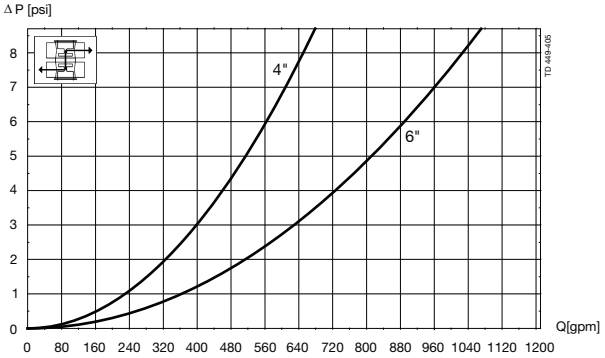


Fig. 3. Pressure drop/capacity diagram, between bodies.

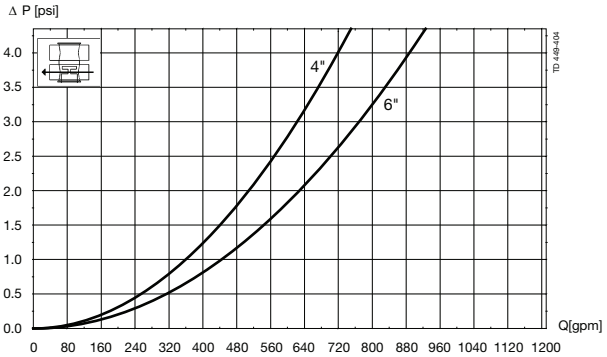


Fig. 4. Pressure drop/capacity diagram, lower body.

Example to determine pressure drop at a given flow rate:

Upper body size:	2". Capacity = 80 gpm.
Lower body size:	2". Capacity = 80 gpm.
Between bodies:	2". Capacity = 60 gpm.

Result:

From fig. 2, Δp = 0.72 psi through upper body.

From fig. 3, Δp = 1.1 psi between bodies.

From fig. 4, Δp = 0.52 psi through lower body

Note!

For the diagrams the following applies:
Medium: Water (68°F).
Measurement: In accordance with VDI 2173.

Technical Data

Max. product pressure: . . . . . .145 psi (for higher pressure, please ask Alfa Laval)
Min. product pressure: . . . . . .Full vacuum.
Temperature range: . . . . . .23°F to +257°F (Depending on elastomer type)
(For higher temperatures, please contact Alfa Laval)
Air pressure: . . . . . .Max. 116 psi.

Size		OD 4"	OD 6"
Cv-value Upper Seat-lift	[gpm/psi]	5.3	12.1
Cv-value Lower Seat-lift	[gpm/psi]	6.7	10.2
Air consumption Upper Seat-lift	* [cubic inches]	38	38
Air consumption Lower Seat-lift	* [cubic inches]	13	13
Air consumption Main Movement	* [cubic inches]	216	216

$Q = Cv \cdot \sqrt{\Delta\ p}$

Q = water flow [gpm]

Cv = value from the above table.

Δ p = water pressure [psi]

Materials

Product wetted steel parts: . . . . . .Acid-resistant steel AISI 316L
Other steel parts: . . . . . .Stainless steel AISI 304
Product wetted parts: . . . . . .NBR (std.) EPDM, HNBR or FPM
Other seals: . . . . . .CIP seals: EPDM.
Actuator seals: NBR.
Surface finish: . . . . . .External bright/internal polished Ra<32µ"

Ordering

For ordering, contact Alfa Laval.

Control & Indication for both upper and lower seat lift as well as main movement, is given via the ThinkTop® control unit.
Please refer to ESE00521 ENUS, ESE00299 ENUS and ESE00298 ENUS for further information.

ESE02123ENUS 1505