

AIV - Aseptic Interface Valve



Challenge

Until now, to ensure the safe separation of aseptically processed milk and milk products from CIP cleaning solutions, alarmed steam blocks, located between the product and the cleaning solution, were required to satisfy PMO item 15p(B.1.c). Existing aseptic solutions have the following limitations:

- Only one sterilizer input per aseptic tank
- Only one transfer line output per aseptic tank
- Conventional designs are fixed at time of purchase
- Networking the sterilizers, tanks and filling lines requires separate aseptic valve matrixes
- Compliance with PMO item 15p(B.1.c) requires:
 - a) Intermediate CIP of lines with steam barriers in effect
 - b) Serpentine CIP of that part of the filling system supplied through an aseptic valve matrix (transfer and filling lines), requiring the shut down of filling and packaging operations. This greatly impacts operations due to scheduling and subsequent down time.



Solution

The Aseptic Interface Valve (AIV) was designed specifically for aseptic processing applications to provide an effective, safe and compact means of separating commercially sterile processes involving cleaning solutions, allergens, different product bases, flavor variants and modes of operation from each other.

The AIV features 100 percent cleanability between process lines while satisfying the requirements of PMO item 15p(B.1.c), for the safe separation of aseptically processed milk and milk products from CIP cleaning solutions. The AIV eliminates the requirement to shut down and perform serpentine wash routines through aseptic valve matrixes. This results in a simplification of the process design and a capital cost savings by eliminating piping and valving required for serpentine CIP flow routing.

AIV - Aseptic Interface Valve



Benefits

- Integrated aseptic matrix within the aseptic tank valve set
- Multiple inputs and outputs per tank
- Retrofit as required, expand or change process interfaces as plant operations evolve
- Major equipment components are independent of one another
- Serpentine CIPs are eliminated avoiding major interruptions
- Full option functionality from the start provides for:
 - Improved plant utilization
 - Reduced liability due to gross equipment or system failure
 - Expanded business opportunities through freedom of processing and packaging combinations

Applications

Stand-alone AIV

- Line interface between process systems
- Expansion of an existing aseptic tank valve set

Skid-mounted AIV Systems (Units)

- Pre-assembled frame mounted systems such as:
 - a) Aseptic buffer tank systems
 - b) Stand alone aseptic matrixes

Standard Specifications

Materials

- Product wetted: 1.4404 (AISI 316 L),
Optional: 1.4435 (AISI 316 L), AL6XN,
Hastelloy
- Other: 1.4301 (AISI 304), 1.4307 (AISI 304 L)

Operating Parameters

- Control air pressure: max. 116 psi
- Operating product pressure:
 - Upper main max. 72 psi
 - Lower main max. 72 psi
 - Sterile chamber max. 43 psi

Seals

- EPDM
- Other sealing material on request

Connections

- Welding ends for pipes to DIN 11850 series 2,
OD-Tube or DIN EN ISO 1127
- Optional: All common threaded and
flange connections

Finish

- Product wetted: RA \leq 0.8 μ m
- Other: RA \leq 1.6 μ m
- Optional: product wetted surfaces electropolish,
higher quality surfaces on request

Option

- AVU Model 2007 Aseptic Valve Monitoring Unit for automatic leakage detection:
 - A hose filled with a sterile medium (glycerine) connects the unit to the bellows
 - The glycerine monitors the level and the electrical conductivity of the medium
 - This assures that even the slightest leaks are detected on a near-time basis
 - Information is relayed to the control system and an on-site LED indicates its critical state

Südmo North America reserves the right to make changes in the technical specifications at any time.

Südmo North America, Inc.

1330 Anvil Drive, Rockford, IL 61115

T 815.639.0322 • F 815.639.1135

E info@sudmona.com • I www.sudmona.com