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W75 Series PMO Compliant

DOUBLE SEAT MIX PROOF VALVES



ISO 9001
CERTIFIED

> Waukesha Cherry-Burrell®

Food and beverage processing has never been more challenging. Margins are being squeezed, food safety is paramount and consumer demands for new products make formulation changes a regular occurrence.

To meet these challenges head on, you need a partner with a deep understanding of process engineering and a broad portfolio of equipment. Look to SPX and its industry leading brands to provide unparalleled technical support, equipment versatility and food processing expertise. Explore the endless solutions that SPX has to offer. You're sure to find answers that will improve plant performance, increase profitability and enhance the value of your brand.

Based in Charlotte, North Carolina, SPX Corporation (NYSE: SPW) is a global Fortune 500 multi-industry manufacturing leader with over \$5 billion in annual revenue, operations in more than 35 countries and over 15,000 employees. The company's highly-specialized, engineered products and technologies are concentrated in Flow Technology and energy infrastructure. Many of SPX's innovative solutions are playing a role in helping to meet rising global demand for electricity and processed foods and beverages, particularly in emerging markets. The company's products include food processing systems for the food and beverage industry, power transformers for utility companies, and cooling systems for power plants. For more information, please visit www.spx.com.

W75 Series Double-Seat Mix Proof Valves for PMO Compliant Continuous Processing

FEATURES AND BENEFITS:

W75CP2

CONTINUOUS PRODUCTION AND CLEANING

- Newest generation continuous process (CP) PMO valve maximizes plant uptime and capacity.
- Allows greatest flexibility in cleaning and dairy production schedule.
- Demonstrated ability to clean all product-contact surfaces without full actuation of the valve. Integrated flow channels designed into the lower balancer clean product-contact portion of the balancer during lower seat clean movement so no cumbersome adapters or external piping are required.

SECURE AND RELIABLE

- Unique vent separator technology creates two independent vent paths (inner and outer) for leakage and CIP during upper and lower seat cleaning.
- Zero pressure or less is maintained in the vent cavity during seat cleaning meaning there is no risk of cross contamination between CIP process fluids.
- Mechanical barrier of vent separator is not dependent upon complicated internal flow dynamics and delicate stem profiles that could jeopardize PMO compliance if damaged.
- Robust stem design to withstand operations and mishandlings of active plant environments and maintenance.
- Vent separator design allows instant visual leak detection if separator seal is damaged and valve not in PMO compliance.
- Integrated fail safe control system electronically monitors position of both valve stems at all times to ensure safe and proper operation.

COMPACT

- Meets latest 3-A Sanitary Standard 85-02 to allow reduced diameter vent drain and smaller valve overall.
- Up to 36% reduced weight for easier maintenance.
- Up to 50% smaller actuator reduces air consumption by up to 70%, providing utility cost savings.
- Same port-to-port center line dimensions as original W75CP & W75RS to easily add on to existing manifolds

COMPLETELY AND EASILY SERVICEABLE

- Fully maintainable actuator with caged spring.
- Metal-to-metal seat clean adjustment stop to ensure factory setting and easy assembly.
- Compressed air not required for disassembly, maintenance, or assembly procedures after removal from product zone.
- With quick-disconnect pin connectors, control top can remain on valve during disassembly & maintenance. No added steps for removal or operator exposure to electrical controls.
- Minimal proprietary elastomers in product zone and actuator lowers cost of ownership.

ROBUST

- WCB's signature machined-from-bar bodies and components offer a robust and reliable valve solution.
- Heavy duty valve construction can withstand mishandlings of an active plant environment & lead to long service life.
- Balanced design for resistance to hydraulic shock.

Typical product applications

Dairy

Cream
Milk
Milk concentrate
Raw milk
Skimmed milk
Whey
Whey concentrate
Raw receiving
Raw storage and handling
Supply and discharge on HTST/pasteurization
Filler supply lines
Batching system ingredient feeding
Batching/blending distribution
CIP supply and return distribution



PRODUCT SPECIFICATIONS

Application

W75CP2 for safe separation of dairy product from CIP plus single seat-lift separation compliance. Fully independent operation and cleaning of either the upper or lower housing is achieved due to:

1. 3-A sanitary standard 85-02 approval
2. PMO Section 15p(B) compliance for single seat lift separation while product is in the opposite housing
3. PMO Section 12p compliance for ability to clean all product contact surfaces

Materials

Product Wetted: Stainless Steel, ASTM 316L (UNS-S31603); (DIN-1.4404)

Non-Product: Stainless Steel, ASTM 304 (UNS-S30400); (DIN-1.4301)

Elastomers: FKM (Fluoroelastomer)

Finish: <32 Ra (<0.8 μm) Other finishes available upon request

Actuator:

Independent Seat Lifting (SL)

Air Requirements

Min. Supply Pressure: 75 psi (5.2 bar)

Maximum: 100 psi (6.9 bar)

Air Volume 1.5" and 2" Valves:

.03 ft³ (.0008 m³) Open Valve

.006 ft³ (.0002 m³) Lower Seat Lift

.004 ft³ (.0001 m³) Upper Seat Lift

Air Volume 2.5" (64mm) – 4" (102mm) Valves:

.07 ft³ (.002 m³) Open Valve

.08 ft³ (.002 m³) Lower Seat Lift

.005 ft³ (.0001 m³) Upper Seat Lift

Maximum Holding Pressure: All sizes = 150 psig (10.3 bar)

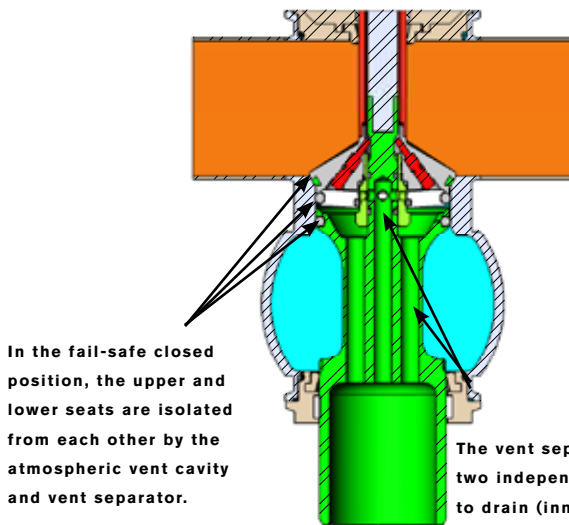
Maximum Operating Pressure: All sizes = 150 psig (10.3 bar)



THEORY OF OPERATION:

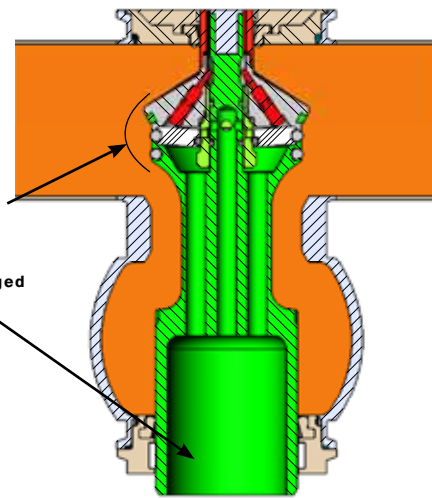


Valve Closed

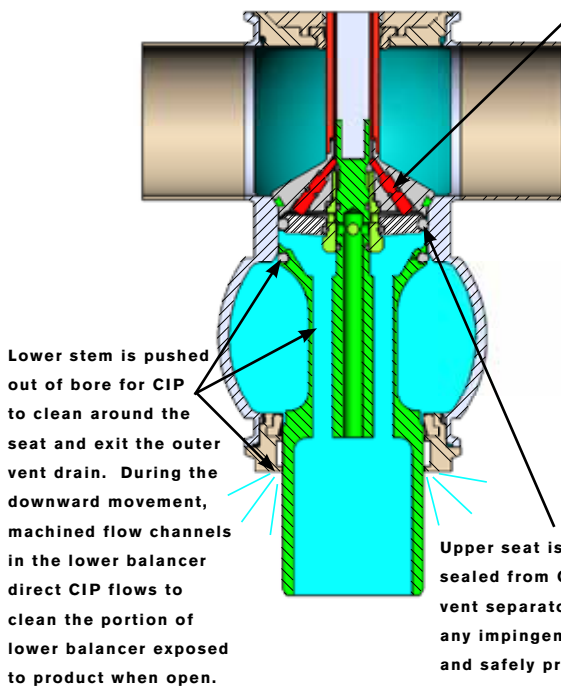


Valve Open

When the valve is open, the vent drain is sealed off to prevent spillage and allow visual leak indication if the vent separator seal is damaged and not within PMO compliance.



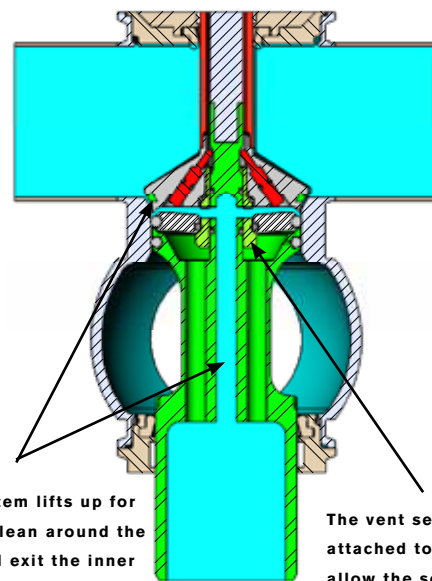
Lower Seat Clean



As lower stem moves down, stop pins are pushed down on vent separator to provide a positive stop position and ensure zero or less pressure is maintained in vent cavity during seat cleaning meaning there is no risk of cross contamination between CIP fluid and dairy products.

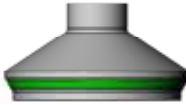


Upper seat is completely sealed from CIP via the vent separator to prevent any impingement on seal and safely process dairy product in the upper line simultaneously.

Upper Seat Clean



OPTIONS AND ACCESSORIES


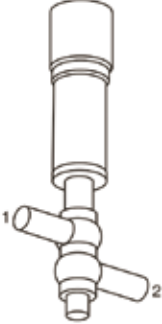
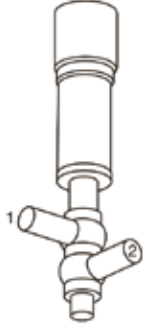
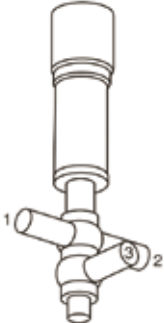
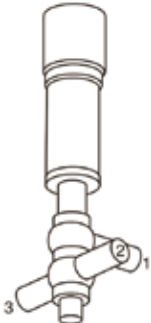
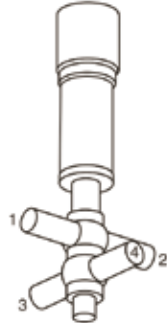
SEAT OPTIONS

SEAT TYPE		MATERIAL / MAXIMUM TEMPERATURE	
	Tri-Ring - Upper (TR)	FKM (Fluoroelastomer)	Oper. 350°F (176°C) Steril. - Consult Factory
	Vent Separator		
	Radial - Lower		

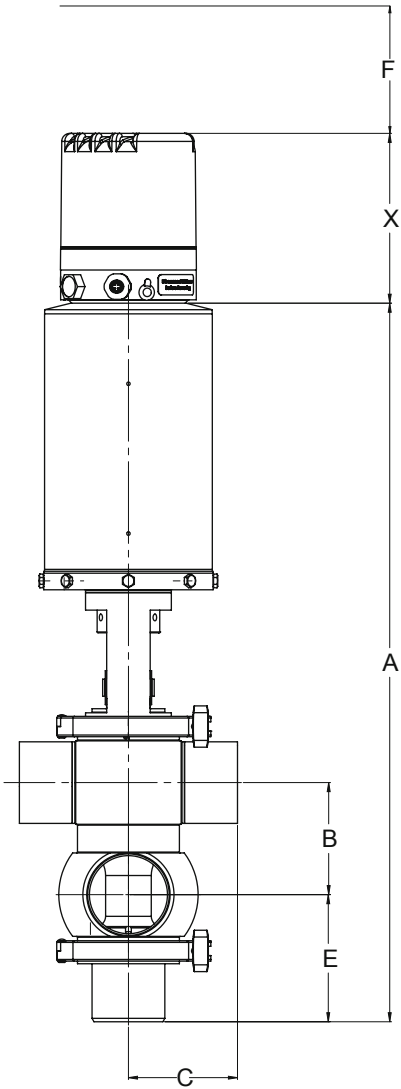
NOTE: For higher temperature applications than those listed, please consult the factory.

BODY CONFIGURATIONS

ONE PIECE BODIES

B1 	B2 	B3 
A1 	C1 	E1 

PRODUCT DIMENSIONS



VALVE SIZE INCH (MM)	A	B	C	E	F
1.5/2.0 (38)/(51)	24.2 (616)	3.1 (679)	4.0 (102)	3.7 (93)	8.8 (223)
2.5 (64)	25.6 (651)	3.6 (92)	4.0 (102)	4.2 (108)	10.2 (258)
3.0 (76)	26.8 (681)	4.1 (105)	4.0 (102)	4.7 (119)	11.4 (289)
4.0 (102)	28.6 (727)	5.1 (130)	6.0 (153)	5.0 (127)	13.2 (334)

F Dimension - Minimum clearance required for valve removal
X Dimension - Control top adder, 6.3" (159mm) for WCB control top; 9.5" for 8681 control top

FEATURES AND BENEFITS:

W75CP TANK OUTLET AND TANK OUTLET CURD

These valves are used for safe separation of dairy product from CIP including large particulate (curd) product plus single seat-lift separation compliance. Fully independent operation and cleaning of either the tank inlet/outlet pipeline while product in tank vessel, or cleaning of tank while running product in pipeline due to:

1. PMO Section 15p(B) compliance for single seat lift separation while product is in the opposite housing
 2. PMO Section 12p compliance for ability to clean all product contact surfaces
- Same single seat-lift separation compliance as W75CP
 - Proven blocker technology to impinge CIP spray inside vent cavity
 - Available in 3" (76mm), 4" (102mm) and 6" (152mm) OD tube sizes
 - Extended stroke length on tank outlet curd valve to allow particulates of up to 2.0" (51mm) based on size of valve
 - Vessel side radial seal for minimal spillage of product when valve transitioning to open or close
 - Accommodates standard weld-in flanges for direct vessel connection to simplify piping and reduce floor footprint
 - Balanced stem design for resistance against hydraulic shock in pipeline
 - Metal-to-metal seat lift adjustment stop to ensure factory setting
 - Optional External Flush Adapter to clean vent cavity and drain port when full CIP not readily available

PRODUCT SPECIFICATIONS

Materials

Product Wetted: Stainless Steel, ASTM 316L (UNS-S31603); (DIN-1.4404)

Non-Product: Stainless Steel, ASTM 304 (UNS-S30400); (DIN-1.4301)

Elastomers: FKM (Fluoroelastomer)

Finish: <32 Ra (<0.8 µm) Other finishes available upon request

Actuator:

Independent Seat Lifting (SL)

Air Requirements

Min. Supply Pressure: 75 psi (5.2 bar)

Maximum: 100 psi (6.9 bar)

Air Volume 1.5" and 2" Valves:

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.006 ft³ (.0002 m³) Lower Seat Lift

.004 ft³ (.0001 m³) Upper Seat Lift

Air Volume 2.5" (64mm) – 4" (102mm) Valves:

.07 ft³ (.002 m³) Open Valve

.08 ft³ (.002 m³) Lower Seat Lift

.005 ft³ (.0001 m³) Upper Seat Lift

Maximum Holding Pressure: All sizes = 150 psig (10.3 bar) in pipeline

Maximum Operating Pressure: All sizes = 150 psig (10.3 bar) in pipeline

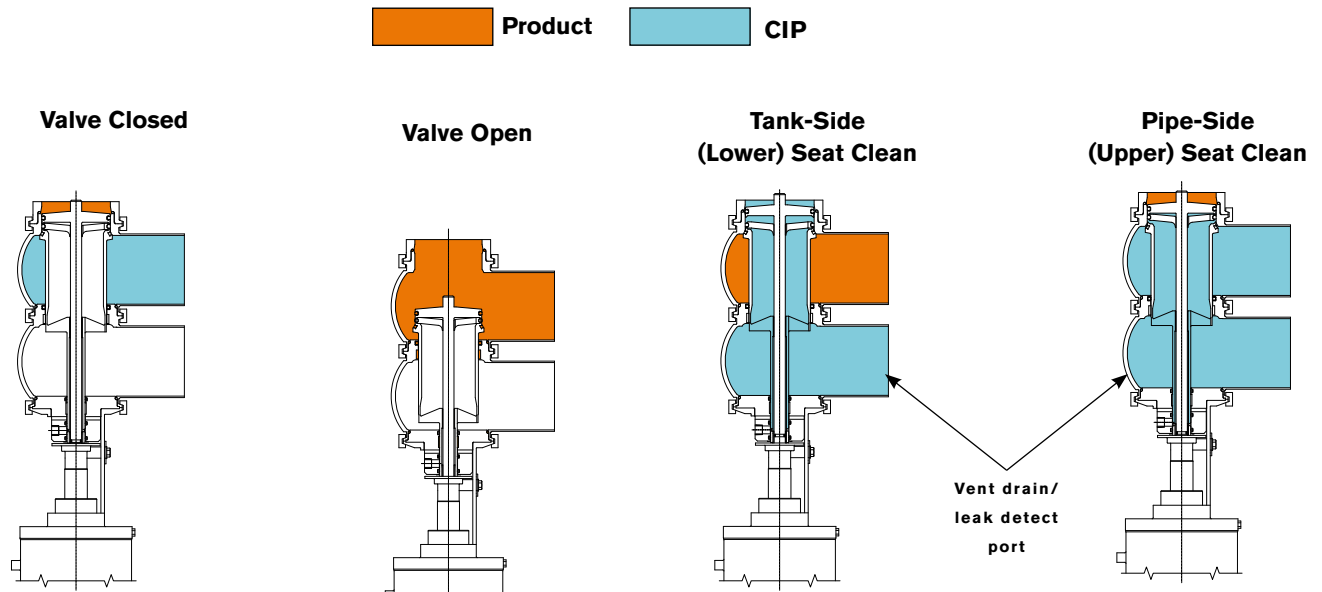


THEORY OF OPERATION:

- For safe separation of dairy products including, large particulate (curd) product from CIP plus single seat-lift separation compliance
- Fully independent operation and cleaning of tank inlet/outlet pipeline while product is contained in tank vessel, OR cleaning of tank while running product in pipeline
- Compliance with PMO Section 15p(B) for single seat lift separation while product is in the opposite housing and PMO Section 12p compliance for ability to clean all product contact surfaces

Mix proof valves provide safe separation of dissimilar products within the same valve body.

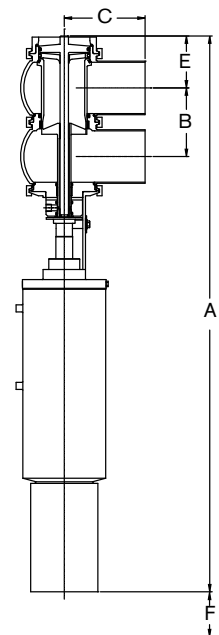
For Example: Product vs. CIP



PRODUCT DIMENSIONS

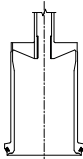
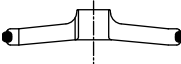
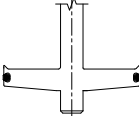
VALVE SIZE INCH (MM)	A TANK OUTLET	A CURD	B	C	E	F*
3.0 (76)	31.6 (803)	39.4 (1001)	4.1 (105)	6.0 (152)	3.3 (84)	9.5 (241)
4.0 (102)	33.5 (851)	41.3 (1049)	5.1 (129)	6.0 (152)	3.8 (96)	11.4 (290)
6.0 (152)	37.9 (963)	45.7 (1161)	7.1 (181)	8.0 (203)	5.2 (132)	15.8 (401)

* F dimension - Minimum clearance required for valve removal.



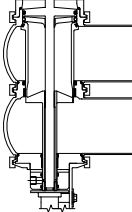
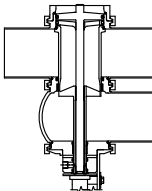
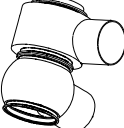
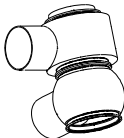
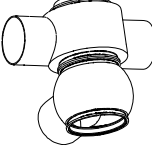
OPTIONS AND ACCESSORIES

SEAT OPTIONS

SEAT TYPE		MATERIAL/MAXIMUM TEMPERATURE	
	Tri-Ring - Upper (TR)	FKM (Fluoroelastomer)	Oper. 350°F (176°C) Steril. - Consult Factory
	Blocker		
	Radial -Lower		

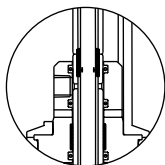
NOTE: For higher temperature applications than those listed, please consult the factory.

BODY CONFIGURATIONS

 T1	 T2		
 TOP R	 TOP L	 COP	

NOTE: This valve meets all of the requirements to be PMO compliant when mounted in the inverted (upside down) orientation because only in this position is the valve free draining by itself.

ADAPTER OPTIONS



External Liquid
Flush

OPTIONS AND ACCESSORIES

CONTROL TOPS FOR W75CP2 AND W75CP TANK OUTLET AND TANK OUTLET CURD

WCB CONTROL TOPS

Features

- Transparent Control Top keeps all electrical components visible.
- Designed with the user in mind, making assembly and troubleshooting worry free and easy
- WCB uses the industry's most widely recognized electrical components, so access to off-the-shelf replacement parts is easy, ensuring quick delivery and less down time
- NEMA 4x (IP66)
- Removal without disassembly
- Stainless Steel Control Top Option



Connector Options

- S/O Cord Grip for hard wire (STD)
- Quick Disconnect Pin Connectors

Interface Options

- AS-i Field® Bus Card
- DeviceNet® Field Bus Network Card

Position Indication

- (3) Proximity Switches to Comply with PMO requirements.
- (2) in control top,
- (1) mounted on yoke

Solenoid Valves

- 24V DC or 110V AC
- Up to (3) available in control top

BURKERT 8681 CONTROL TOPS

Features

- Contact free position sensor including (3) programmable feedback signals
- Positions easily taught via intuitive push buttons or Autotune feature to ensure quick & easy set-up
- Ultra-bright 360° visual LED position indication with adjustable red, yellow, & green color assignments provide clarity from all points of view and avoid confusion
- Manual override and air throttle adjustable solenoids to assist start-up, maintenance, and troubleshooting
- Up to IP69K washdown rating available (IP65/67 as standard) for high washdown environments
- Built-in microcontroller tracks cycles and alerts operator when preventive maintenance is required
- Simple and robust stainless steel adapter & chemically resistant polycarbonate head
- Patented magnetic controller can actuate valve for maintenance & disassembly from body without removing cover
- Software interface via USB or Bluetooth to adjust sensor tolerances, teach positions and set maintenance cycles
- Similar price as WCB control tops



Connector Options

- S/O Cord Grip for hard wire (STD)
- Quick Disconnect Pin Connectors

Interface Options

- AS-i Field® Bus Card
- DeviceNet® Field Bus Network Card

Position Indication

- (3) programmable position sensors in control top and
- (1) prox switch mounted in yoke to Comply with PMO requirements

Solenoid Valves

- 24V DC or 110V AC
- Manual override and air throttle adjustment
- Up to (3) available in control top

Made in Wisconsin for the unique needs of U.S. dairies

- Nationwide network of recognized solution providers and System Integrators for Dairy Processes
- Dependable spare parts - made and stocked in Wisconsin
- Nationwide Service network



For pressure loss curves and Cv values, please contact factory.

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MIX PROOF VALVES



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SPX reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing. Please contact your local sales representative for product availability in your region. For more information visit www.spx.com.

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