

DT4 Series

TANK OUTLET DOUBLE SEAT MIX PROOF VALVES



SPX FLOW is a leading innovator of process solutions with decades of experience in valve design covering premium brands, such as APV® and Waukesha Cherry-Burrell®. From the supply of engineered components to complete process engineering and design, we specialise in helping our customers improve their plant's performance and profitability.

SPX FLOW has developed the D4 series hygienic double seat mix proof valve to fulfil the demands of today's process industry. Installing D4 Series valves is an investment in efficiency, production flexibility and uptime. When designing this valve, great emphasis was placed on a rapid return on investment, safety and maintenance.

SPX FLOW, Inc. (NYSE: FLOW) is a leading manufacturer of innovative flow technologies, many of which help define the industry standard in the market segments they serve. From its headquarters in Charlotte, North Carolina, it operates a sales and support network, centres of manufacturing excellence and advanced engineering facilities, throughout the world. Its cutting-edge flow components and process equipment portfolio includes a wide range of pumps, valves, heat exchangers, mixers, homogenisers, separators, filters, UHT and drying technology that meet many application needs. Its expert engineering capability also makes it a premium supplier of tailor-made solutions and complete turn-key packages to meet the most exacting installation demands.

Incorporating many leading brands, SPX FLOW has a long history of serving the food and beverage and industrial market sectors. Its designs and engineered solutions help customers drive efficiency and productivity, increase quality and reliability, and meet the latest regulatory demands. In-depth understanding of applications and processes, state-of-the-art Innovation Centres, and advanced pilot/testing technology further assist in optimising processes and reducing time scales to reliably meet production targets.

To learn more about SPX FLOW capabilities, its latest technological innovations and complete service offerings, please visit www.spxflow.com.

DT4 Tank Outlet Mix Proof Valves

The next generation of mix proof valve technology is the result of continued development of both APV® and Waukesha Cherry-Burrell® process technologies. Used for the reliable separation between the tank and servicing pipeline, the DT4 tank outlet is an extension to the D4 Series mix proof family which helps fulfil today's customer demands for production flexibility, increased productivity, rapid return on investment (ROI) and improved product quality in the food & drink, dairy, personal care and brewing process industries.

FEATURES AND BENEFITS

High value, Low life cycle costs:

- "All-In" standard features such as seat lift actuator and cross-port housing provide exceptional value
- Reduced inventory costs with same seal kit used on multiple size ranges: DN40-DN65 (1.5"-3.0") and DN80-DN100 (4.0")
- Low air consumption and air supply requirements
- Leak drain with clamp connection for CIP fluid collection
- Long housing ports ease manifold building
- Integrated shaft seal flush reduces need for external piping

Reliable performance:

- Design based on the proven D4SL model
- Tank side holding pressure greater than 5 bar (73 psi)
- Long stroke for gentle product handling (ex: particulates) and low flow resistance
- Balanced design helps to prevent hydraulic blocking and enables flexible flow direction without slamming
- Heavy-duty bolted flange connection between tank/housing/insert provides secure, controlled assembly/disassembly of valve insert
- No compressed air needed for removal and servicing
- Range of control units and bus communication for automated operation

Cleanability:

- Designed to the latest global hygienic standards
- Cavity spray cleaning as standard
- Radial seal design provides minimal switching leakage
- Extensive cleaning of product contact seals

TECHNICAL DATA

TECHNICAL DATA	
SIZES	DN 40 - 100 OD Tube 1.5" - 4"
HOUSING TYPES	T42
PRODUCT-WETTED PARTS	1.4404/AISI 316L Other stainless steel parts 1.4301/AISI 304
SEAL MATERIALS	EPDM, HNBR, FPM All seals comply with the FDA requirements
SURFACES	Inside: electropolished Ra 0.8 µm (32 µ-in) Outside: Glass-blasted, satin finish
PRODUCT PRESSURE	Max. Pipeline: 10 bar (145 psi) Tank Holding: > 5 bar (73 psi)
MAX. TEMPERATURE	EPDM & HNBR: 135°C/275°F (for short time 140°C/284°F) FPM 135°C/275°F (not to be used for steam)
STERILISATION TEMPERATURE	EPDM & HNBR: (for short time) 140°C/284°F
REQUIRED AIR PRESSURE	5 bar (73 psi), valve normally closed

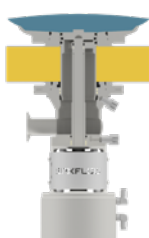
THEORY OF OPERATION:

Double seat mix proof valves are used to safely process two different fluids efficiently (typically product and CIP) through the valve simultaneously. The DT4 mix proof design has two independently operating seats that separate the tank and pipeline when the valve is in the fail-safe closed position. The atmospheric vent cavity between the seats creates a path to exit through the leakage chamber should the seals fail, as well as a drain for CIP solution during seat cleaning. External CIP spray flush connections are included to provide enhanced cleaning of the leakage vent cavity as well as the lower shaft, while the valve is closed or open during production.

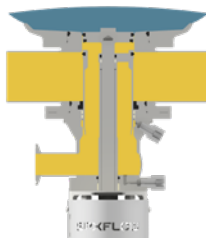
Product

CIP

Valve Closed



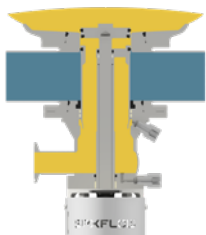
Lower Seat Clean



Valve Open



Upper Seat Clean



HOUSINGS



T42

CONTROL UNITS CU4 & CU4plus Series

FEATURES AND BENEFITS

- Automated control and position monitoring for reliable processing
- Reduces compressed air needs and electrical connections
- Helps reduce external solenoid valve cabinets
- Accelerates valve response time
- Reliable and long service life - robust clamp connection, water tight seals and reinforced stainless steel air coupling threads to avoid air leakages
- Ease of operation - contains manual override solenoids and adjustment screw to throttle air flow to actuator to ensure optimal opening and closing
- Clarity - clear and bright indication of valve position - 5 diodes in LED panel and convenient location
- Standardisation - same control top used on various SPX FLOW valve lines, offers common look and control interface
- IP67 (NEMA 6) wash-down rating

CONNECTOR OPTIONS

- S/O Cord Grip for hard wire (std)
- M12 pin connectors (optional)

INTERFACE OPTIONS

- 24V DC Direct Connect
- AS-i Field Bus Card

POSITION INDICATION OPTIONS

- CU4: 2 internal feedback sensors for valve open/valve closed position detection
- CU4plus: Automatic teaching with press of a single button and detection of all positions (open, close, upper/lower seat lifts)

SOLENOID VALVES

- 24V DC
- Select 1 (non-seat lift) or 3 Solenoids (seat lift)

Typical product applications



Food and Drinks

Soups & Sauces
Flavorings & Ingredients
Dressings, Vinegars
Soft/Fruit & Vegetable Drinks
Brewery, Wort, Wine
Pet Food
Fats & Oils, Animal Oils
Liquid Sugar
Cereals



Personal Care and Pharmaceutical

Fluid Medicines
Extracts
Face Creams & Lotions
Perfumes
Soaps
High Purity Water
Nutritional Supplements
Hair Styling Gels & Liquids
Dyes & Alcohols



Chemical

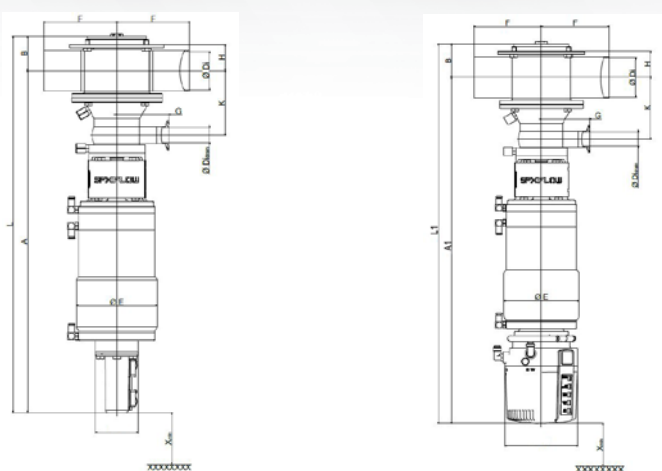
Solvents, Paints
Adhesives
Coatings
Oils & Lubricants
Detergents
Emulsions
Fuels

DT4 Series Tank Outlet Double Seat Mix Proof Valves

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PRODUCT DIMENSIONS

DT4 SL



DIMENSIONS MM	A	A1	B	ØDi	ØDi drain	ØE	F	G	H	K	L	L1	X*
DN													
40	551,2	602,6	45	38	26	138,2	125	89,5	31	97	596,2	647,6	100
50	569,2	620,6	51	50	26	138,2	125	89,5	37	103	620,2	671,6	100
65	587,2	638,6	59	66	26	138,2	125	89,5	45	111	646,2	697,6	100
80	654,6	706	67,5	81	26	192,2	142,5	146,5	51,5	122,5	722,1	773,5	100
100	664,1	715,5	77	100	26	192,2	142,5	146,5	61	132	741,1	792,5	100
INCH													
1.5	549,6	601	46,6	34,8	26	138,2	125	89,5	32,6	95,4	596,2	647,6	100
2.0	568	619,4	52,2	47,6	26	138,2	125	89,5	38,2	101,8	620,2	671,6	100
2.5	584,35	635,75	56,15	60,3	26	138,2	125	89,5	42,15	108,15	640,5	691,9	100
3.0	590,65	642,05	62,45	72,9	26	138,2	125	89,5	48,45	114,45	653,1	704,5	100
4.0	662,9	714,3	78,2	97,6	26	192,2	142,5	146,5	62,2	130,8	741,1	792,5	100

*Minimum installation and valve insert removal dimensions

Global locations

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SPXFLOW

Based in Charlotte, North Carolina, SPX FLOW, Inc. (NYSE: FLOW) is a multi-industry manufacturing leader. For more information, please visit www.spxflow.com

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Design features, materials of construction, dimensional data and certifications 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.spxflow.com.

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