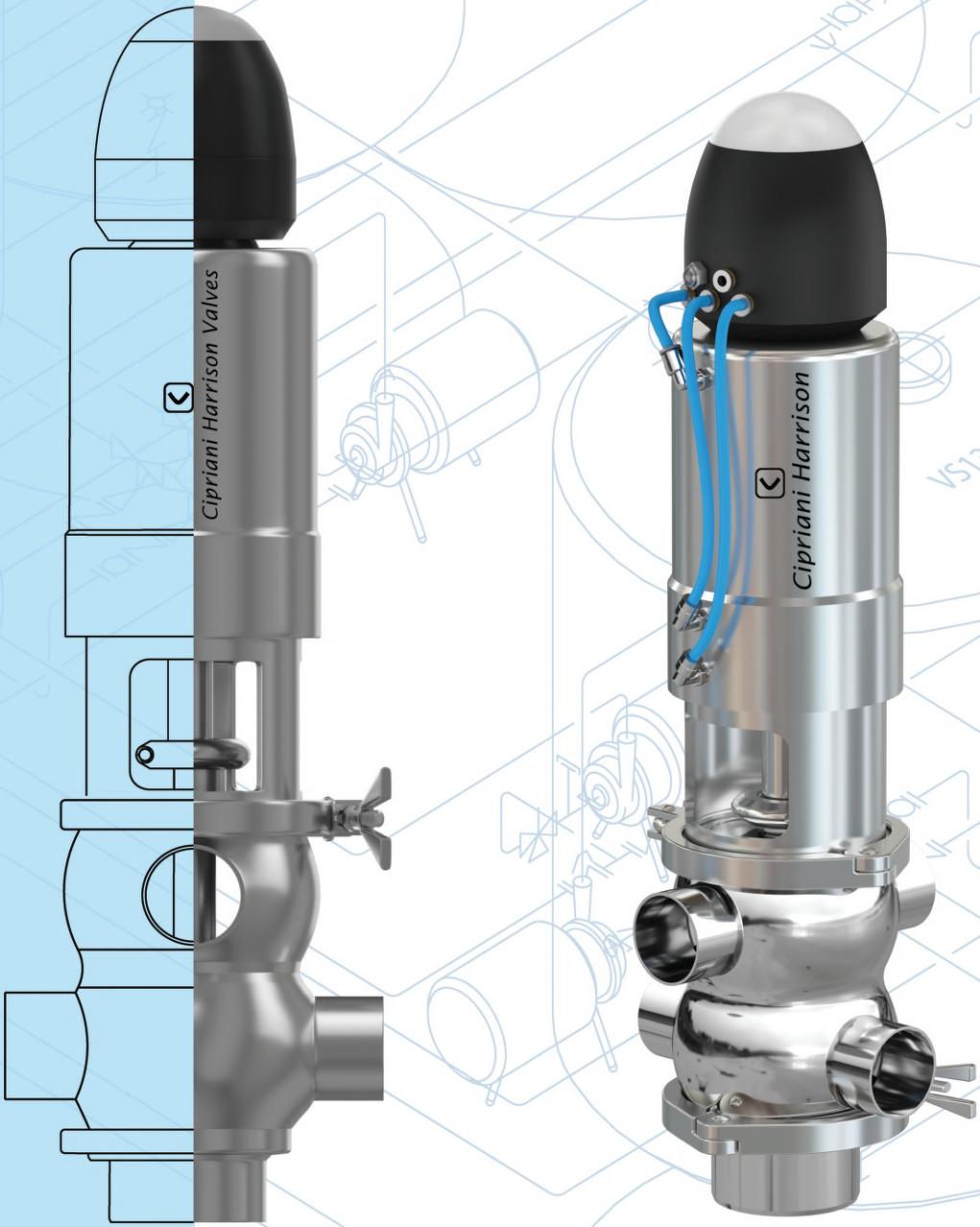
Cipriani Harrison Valves
Hygienic Stainless Steel Valves

Double Seat Mix Proof Valve

An Array Of Hygienic Stainless Steel
Valves & Flow Components.

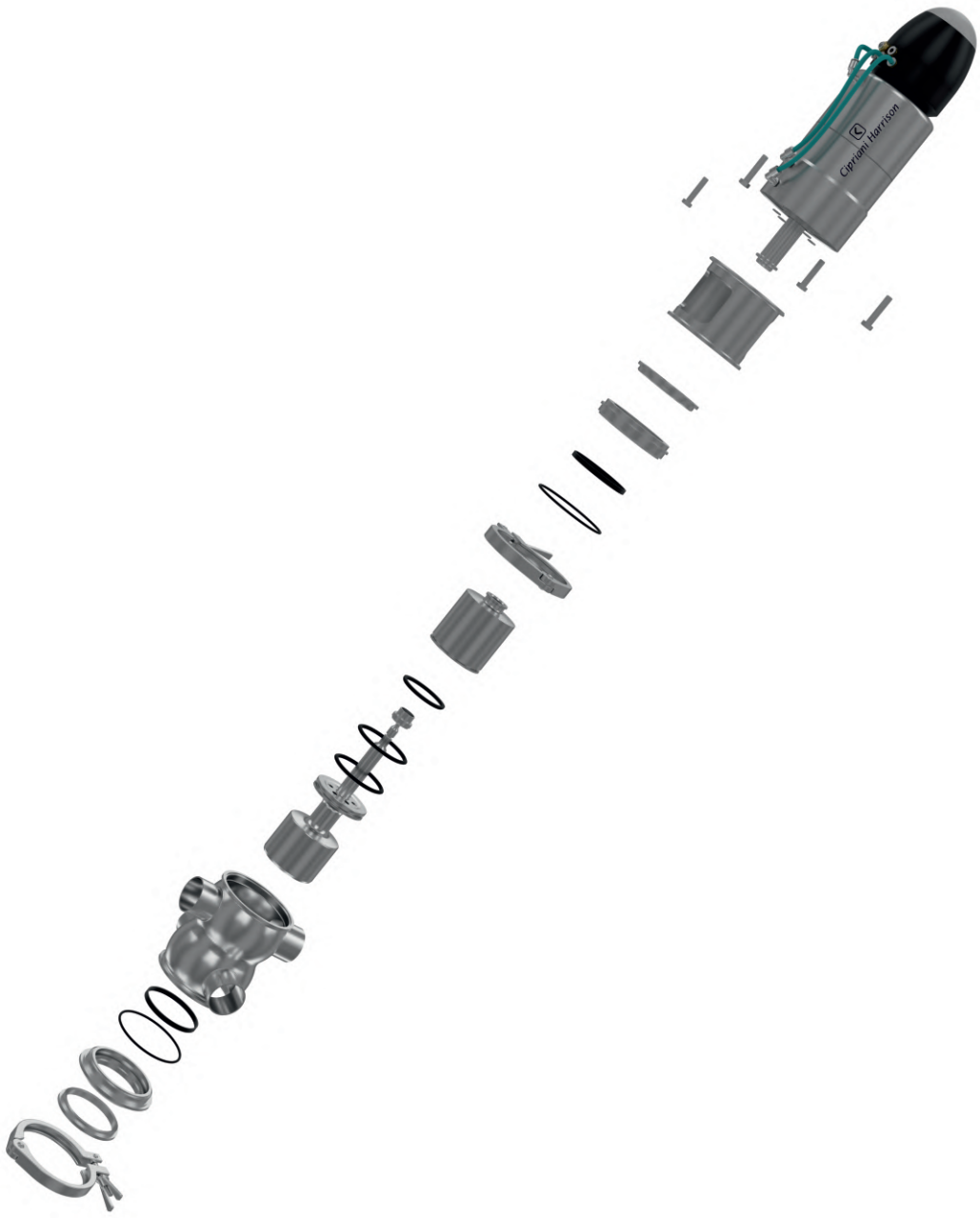


Cipriani Harrison Valves

MIX - PROOF VALVE

Mix Proof valves are used where simultaneous processes are routed with no risk of cross contamination. Modern Production process demands simultaneous operation of product and cleaning cycle in order to maximize the productivity of the plant which optimizes the economics of operation of a complex system.

Cipriani Harrison's Double Seat Mix Proof valve technology guarantees that all the products & cleaning liquids in a modern complex routing system remains separated even in the event of seal failure. Cipriani Harrison has various different types of Mix Proof valves for different process requirement, all serving the purpose to stop cross continuation and maximizing the reliability & safety.



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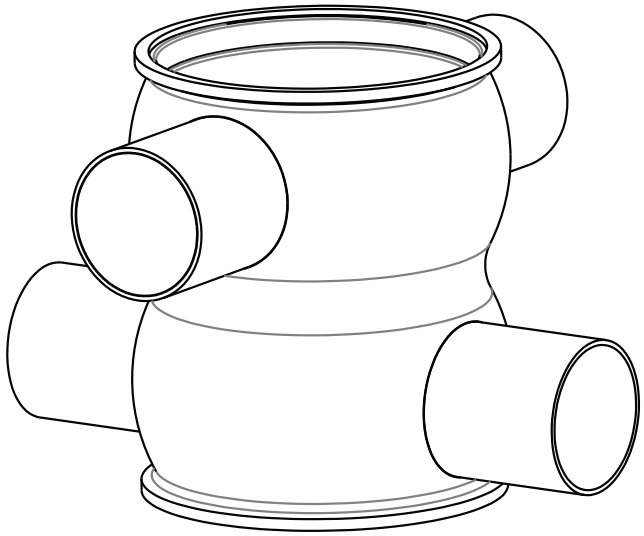
SINGLE PIECE CONSTRUCTION

Cipriani Harrison Double Seat Valve are manufactured from a single piece solidbar. This minimize the number of joints complimenting to a superior level of hygiene.

Cipriani Harrison's Standard Double Seat Valve is compact in size, thanks to its one piece body construction An Engineered and optimized design result in light weight construction, without compromising the functionality or strength of the valve.



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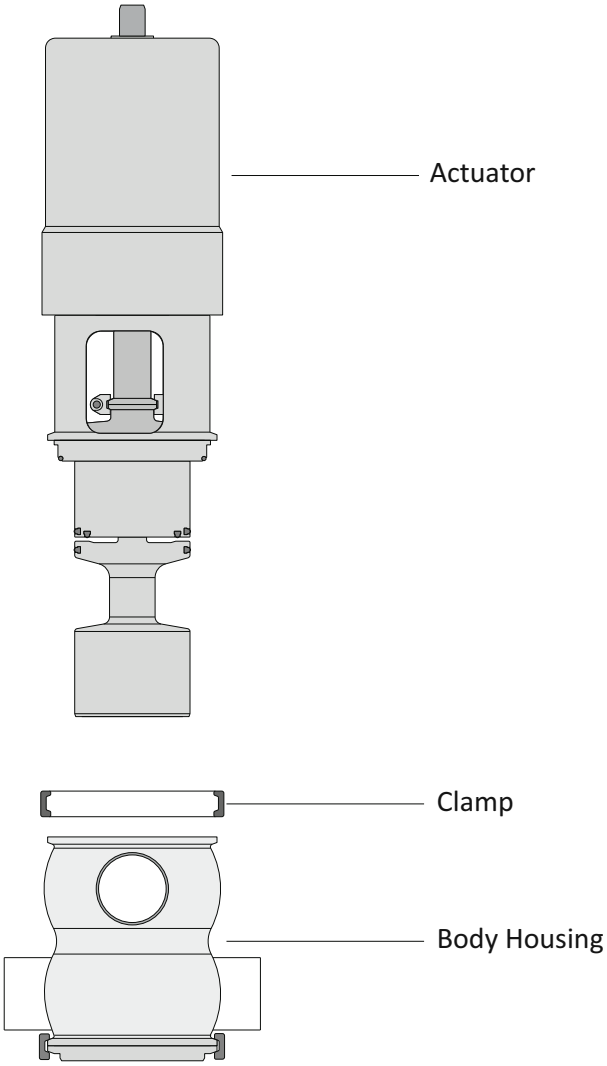
DESIGN

The Self draining machined and polished Bodies are machined from higher grades of acid resistance stainless steel. The spherical shape design of the valve body offers minimum resistance to the flow.

Cipriani Harrison's Double seat valves are easy to maintain. The valve body and yoke are connected by hygienic sanitary clamp enabling easy and quick assembly & disassembly of the valve.

Cipriani Harrison's Mix Proof Valve are made on modular design platform that can be tailored to fit a specific process requirement, as & when needed.



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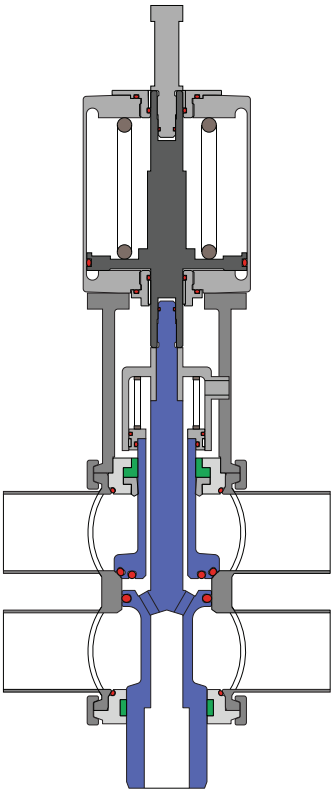
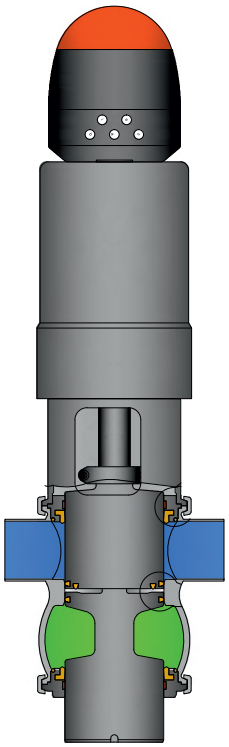
DS - B MIX-PROOF VALVE

Cipriani Harrison's DS-B mix proof valve form the base of the mix proof valve i.e. it provides the needed reliability & safety of cross contamination. It is also provided with leak detection without the seat lifting arrangement. An external seat cleaning feature can be selected to clean the seat externally.



DS - SC MIX PROOF VALVE

Cipriani Harrison's DS-SC mix proof valve is a perfect choice for complex process system without intermixing of two non-compatible media. It is equipped with a built in leak detection port. In addition, it has a balanced plug design ensuring the capability to absorb pressure hammer / shocks. A seat cleaning arrangement is ensured by providing an actuator capable of individual seat lifting arrangement.



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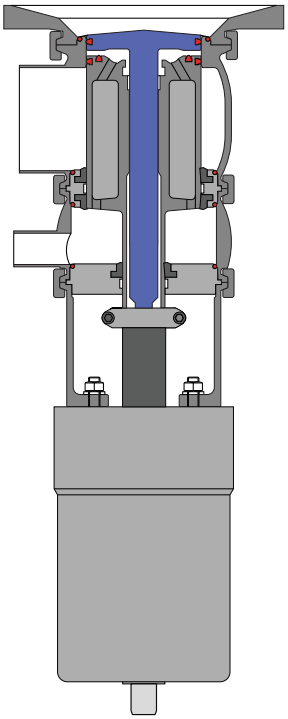
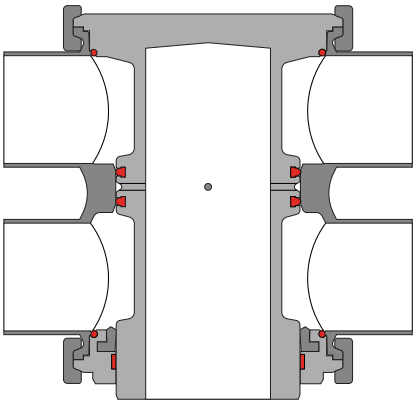
DS - TB MIX-PROOF VALVE

Cipriani Harrison DSTB Mix Proof valve is designed for tank bottom discharge application. The DSTB comes with a built in feature for leak detection with a balanced plug designing ensuring the ability to sustain pressure hammer. The DSTB seat can be cleaned during the tank cleaning by lifting the seat during the operation. It can also have an external cleaning arrangement



DS - BP MIX-PROOF VALVE

Cipriani Harrison has a unique arrangement DSBP For future ready process arrangements. At times There are cases where you need a scalable option, Where additional valves can be installed at a later stage. DSBP is a unique concept of Cipriani Harrison, which can be installed in a process system as a transition piece, and at a later stage can be fitted with a valve.



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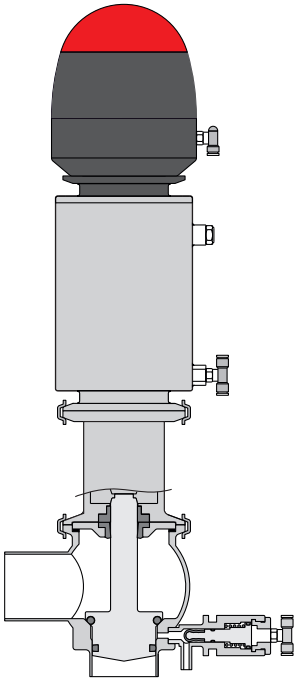
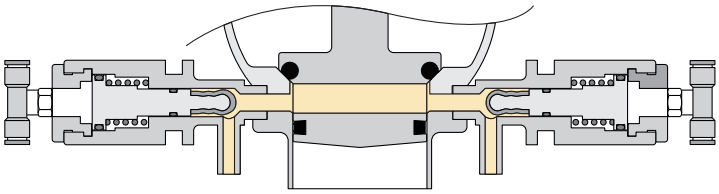
SS-DS MIX PROOF VALVE

Cipriani Harrison Single Seat Double Seal Mix proof valves are used in automated piping system where product mixing from pressure hammer or seat failure is concern. SSDS is designed for safe media separation in hygienic process application.





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Double Seat Mix Proof Valve 900 Series

Application

Double Seat Mix Proof Valves are used in the automated piping systems which demand parallel operation of product and cleaning cycles in order to optimize the economy of operation of complex plants. As the name suggest “Mix-Proof” means no mixing of uncongenial fluids, but at the same time allow simultaneous processing of two different fluids through a single valve with absolute safety. It has wide application in the food, dairy, brewery, cosmetic and other hygienic process industries.

Working Principle

The 900 Series mix proof valve allows simultaneous operation of two fluids with the help of Double Seat Design, creating a chamber which isolates the fluid passing through the two bodies. In case of seal failure of any individual seat, the fluid bleeds down the leak detection port, directing the fluid to the bottom of the valve, without letting the flow to getting mixed. Further, in case of pressure surge, due to the localized increase in the line pressure, the seat would be lifted, and allow the liquid to drain out through the lower port, without disturbing the upper seat, thus preventing intermixing of the two fluids. The valve is equipped with the chamber cleaning feature, where the chamber between the two seats can be cleaned independently, by operating the correspond seat.

Standard Design

The self drainable spherical body is machined from forged acid resistance Stainless Steel. The Spherical Shape offers minimum resistance to the line flow, in turn offering minimal pressure drop. The one piece compact construction of the valve bodies permits space saving while valve installation. The open yoke design ensures easy cleaning of the valve plug. All seats and seals are made from FDA approved materials. Balanced valve stems make the valves water hammer safe.

Available Sizes

1½”, 2”, 2½”, 3”, 4”
DN40,DN50,DN65,DN80.DN100

Options

Tank Bottom Version.
Electrical control unit with proximity switches and 3 solenoid valves for remote operation.
End connections: Sanitary Clamp, Butt-Weld, or others on request.

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Technical Specification

General Data

Product wetted parts.....1.4404, 316L (DIN EN 10088)
Other parts.....1.4301, 304 (DIN EN 10088)

Seals.....EPDM/PTFE Compound
Standard..... HNBR/PTFE Compound
Options.....Viton /PTFE Compound

Max. line pressure.....6 bar
Max. operating temperature.....135 C EPDM, HNBR
*Viton
Short-term load.....140 C EPDM, HNBR
*Viton
*Nosteam

Tightening torque stop sleeve.....10 Nm

Tightening torque for safety nuts at lower
and upper valve plug.....40 Nm

Air connection.....6 x 1mm, 1/4" OD
Max. pneumatic air pressure.....8 bar
Min. pneumatic air pressure.....5 bar

Connections .....SanitaryClamp (ISO 2852 / BS 4825-3)
Butt Weld (ISO 2037 / BS 4825-1)
Other connections on request

Compressed air quality

Quality class.....acc. to DIN Iso 8573-1

Content of solid particles.....quality class 3,
max. size of solid particles per m
10000 of 0.5 µm < d < 1.0 µm
500 of 1.0 µm < c < 5.0 µm

Content of water.....quality class3, max. dew point temperature 20 Deg C
for installation at lower temperatures or at higher
altitudes, consider additional measures to reduce
the pressure dew point accordingly.

Content of Oil.....quality class 1, max. 0.01 mg/m

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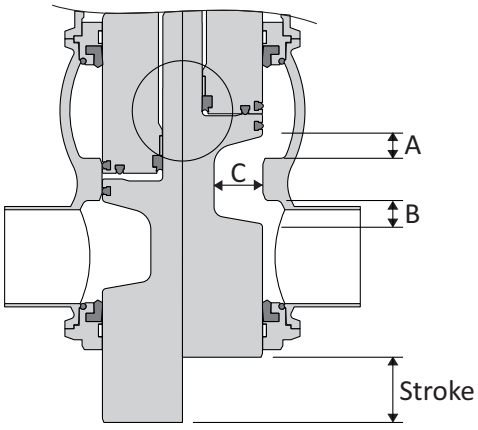
Air consumption / Switching times

900 Series Valve		Air consumption at 5 bar			Switching times in seconds at 5 bar	
		Actuator	Seat lift actuator			
DN	Inch	NL/stroke valve open	NL/stroke upper seat lift	NL/stroke lower seat lift	Open	Closed
40	1.5”	1.65	0.54	2.7	2.4	3
50	2”	1.76	0.54	2.7	2.4	3
65	2.5”	2.24	0.54	3	3	3.6
	3”	2.36	0.54	3	3	3.6
80	4”	4	0.54	3.8	3	4
100		4	0.54	3.8	3	4

Valve stroke / Opening cross section



Dimensions DIN (mm)

Dimensions	A	B	C	Stroke
40	6	5	23	29
50	12	13	23	34
65	19	20	23	45
80	24	25	36	50
100	40	36	36	50

Dimensions ISO (mm)

Dimensions	A	B	C	Stroke
1.5”	6	5	23	29
2”	12	13	23	34
2.5”	19	20	23	39
3”	22	23	23	45
4”	40	36	36	50

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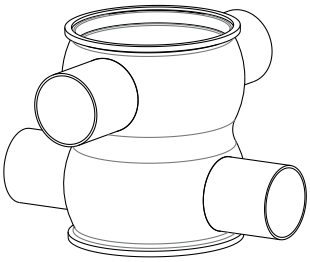
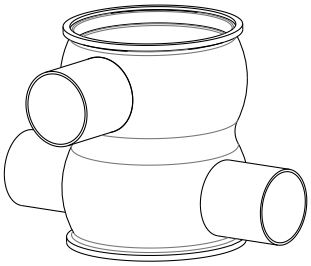
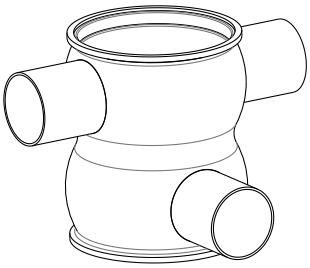
Body Configuration



TT-36



LT-96



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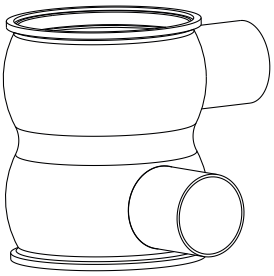

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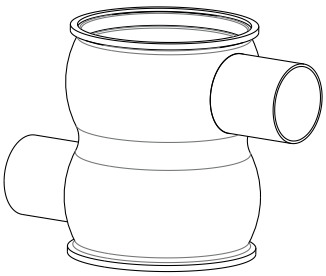
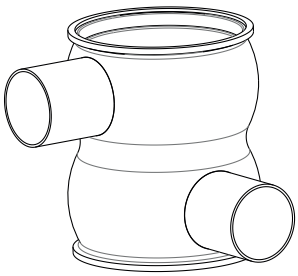


LL-39



LL-96

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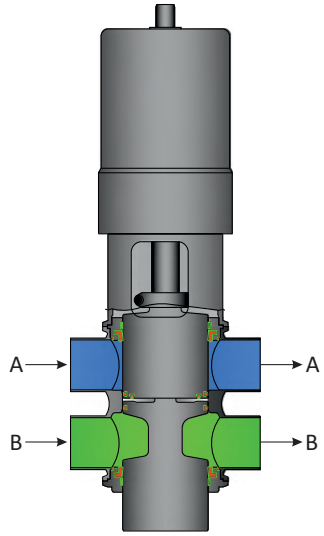
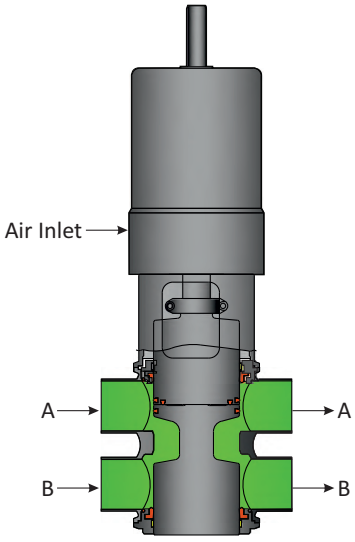
Working Principle



Valve in "closed" position

The lower and upper valve shaft are in closed position and safely separate the different liquids A and B. The leakage chamber L, which is situated between the two valve plugs, provides for a free and depressurized discharge to the bottom. The valve plugs are balanced and protected against pressure hammer.



Valve in "open" position

The upper valve plug is pressed against the seal of the lower valve shaft by control of the actuator.

First, the leakage chamber L is closed against the product chamber. Then the two valve plugs move downwards into the open position. The connection between the two pipelines A and B is established.

The lower valve plug lifts pushing the upper one and closes the access to the drainage vent, and continue to full open position.

During this phase redial seal design ensure leakage free operation.

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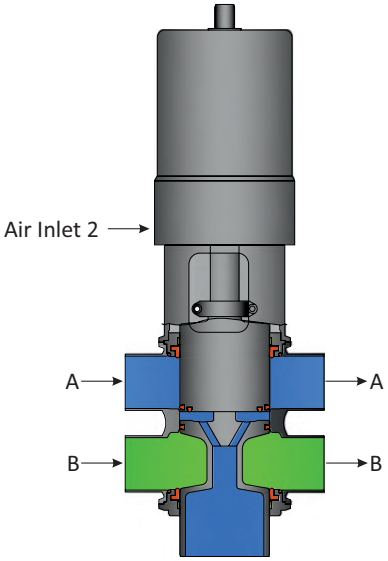
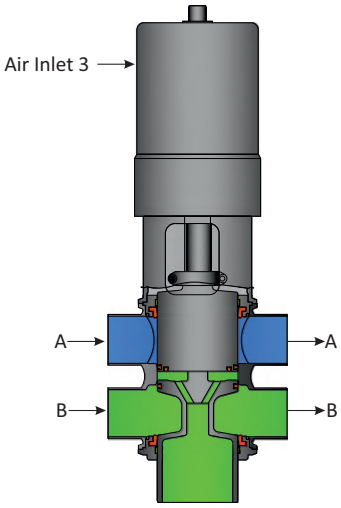


900 series valve : Cleaning of upper seat

The upper valve shaft is lifted via connection (Inlet air - 2)
Through the lifting of the upper valve shaft, the cleaning fluid flushes over the upper seat seal and the upper valve seat into the leakage chamber and cleans this area. The cleaning fluid is drained off to the bottom in a depressurized state.
The lifting stroke is limited by a stop in the actuator.



900 series valve : Cleaning of lower seat

The lower valve shaft is lower via connection. (Inlet air - 3)
Through the lower of the lower valve plug, the cleaning fluid flushes over the lower seat seal into the leakage chamber and cleans this area. The cleaning fluid is drained off to the bottom in a depressurized state.
The lowering stroke is limited by a stop in the actuator.
Check for possible leakages during commissioning. Replace defective seals.

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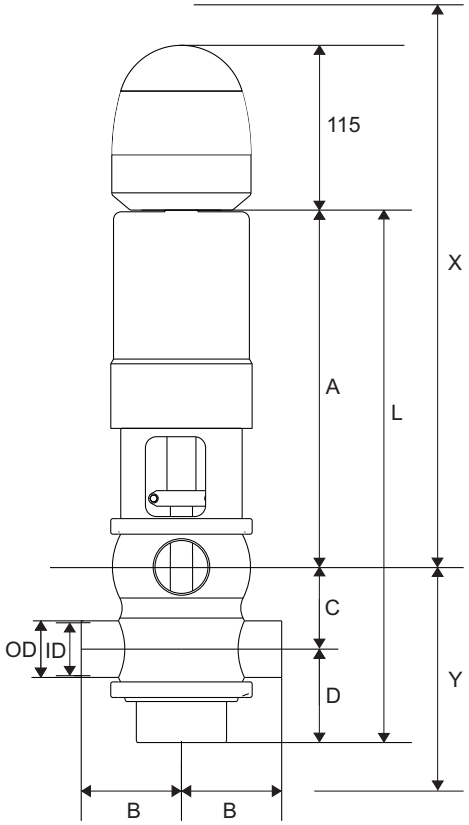
Dimensions



Dimensions DIN (mm)

Dimensions	A	B	C	D	L	OD	ID	X	Y
40	316	85	64	78	458	41	38	501	162
50	322	90	76	84	482	53	50	525	180
65	330	100	92	90	512	70	66	555	202
80	388	100	107	116	611	85	81	654	243
100	398	125	126	130	654	104	100	697	276

Dimensions ISO (mm)

Dimensions	A	B	C	D	L	OD	ID	X	Y
1.5”	315	85	60.8	78	453.8	38.1	34.9	496.8	158.8
2”	321	90	73.8	84	478.8	50.8	47.6	521.8	177.8
2.5”	328	100	86.3	90	504.3	63.5	60.3	547.3	196.3
3”	386	100	98.9	116	600.9	76.2	72.6	643.9	218.9
4”	398	125	123.6	130	651.6	101.6	97.4	694.6	273.6

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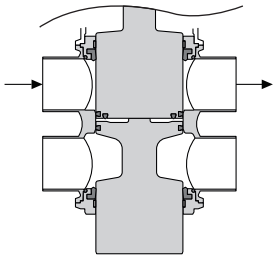
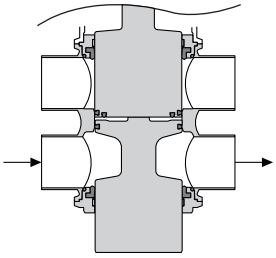
Holding Pressure Charts



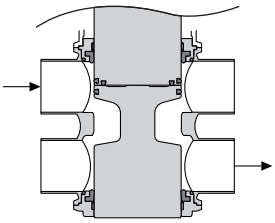
Dimensions	Kv value
DN 40	44
DN 50	75
DN 65	150
DN 80	170
DN 100	246

Dimensions	Kv value
1.5"	38
2"	71
2.5"	122
3"	160
4"	237



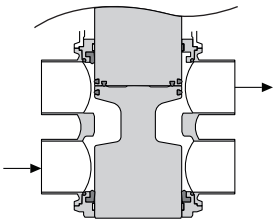
Dimensions	Kv value
DN 40	48
DN 50	91
DN 65	184
DN 80	210
DN 100	370

Dimensions	Kv value
1.5"	42
2"	83
2.5"	147
3"	183
4"	367



Dimensions	Kv value
DN 40	24
DN 50	46
DN 65	74
DN 80	126
DN 100	156

Dimensions	Kv value
1.5"	23
2"	46
2.5"	67
3"	82
4"	156



Dimensions	Kv value
DN 40	24
DN 50	48
DN 65	74
DN 80	131
DN 100	170

Dimensions	Kv value
1.5"	24
2"	46
2.5"	67
3"	83
4"	167

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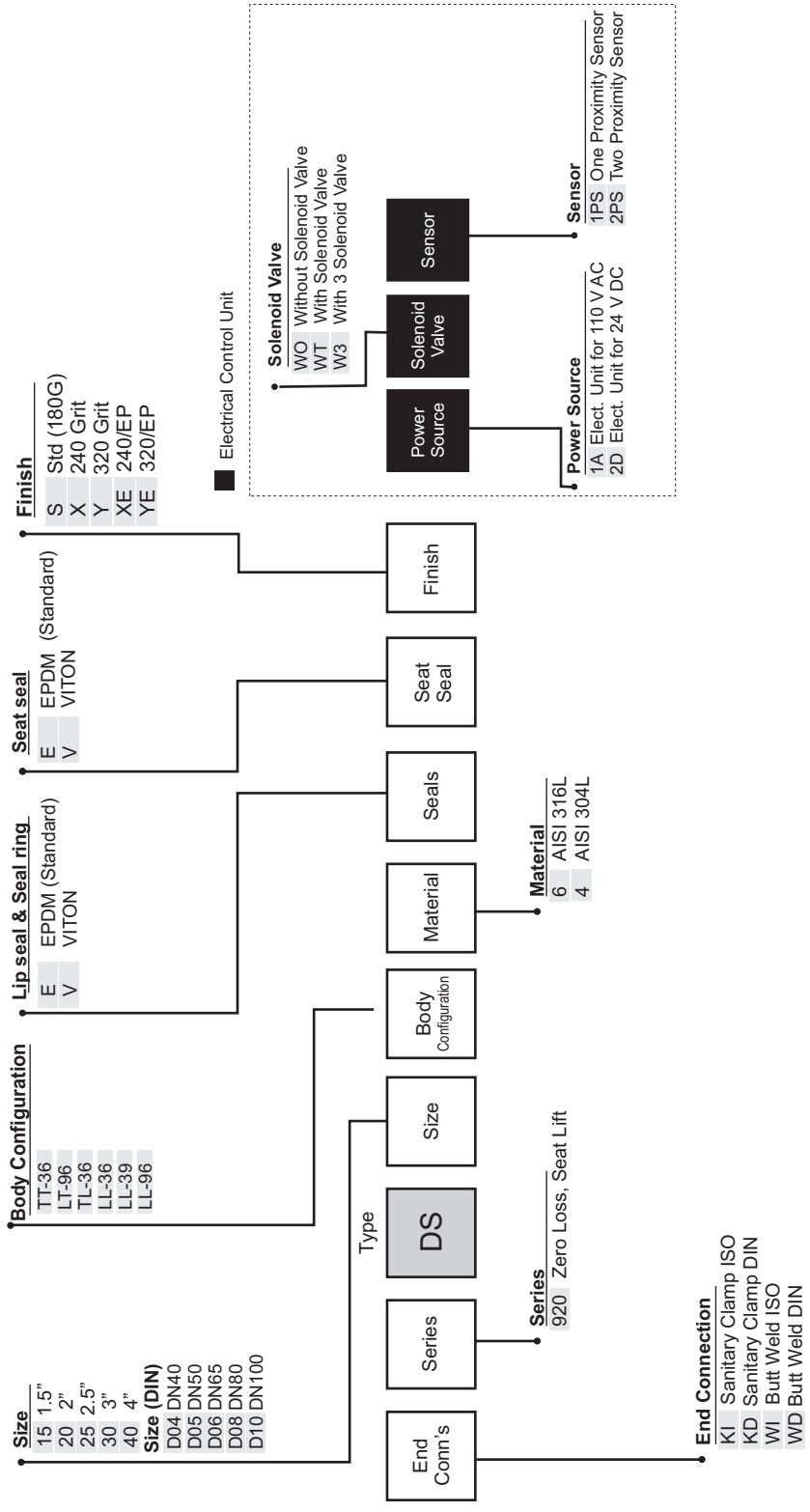
900 Series Double Seat Mix Proof Valve
Ordering System



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