



For Smooth Operation of Your HTST System

Unique 7000 Flo-Diversion Valves

Application

Alfa Laval's ruggedly designed Reverse-Acting and standard upright Unique 7000 Flo-Diversion Valves are perfect for use with HTST (high temperature short time) systems within the dairy, beverage and food industries. It is ideal for applications where product integrity is imperative.

Working principle

The standard Unique 7000 Flo-Diversion Valve closes with the flow. The Reverse-Acting Unique 7000 Flo-Diversion valve closes against the flow.

The Unique 7000 Reverse-Acting Flo-Diversion valve's design prevents hydraulic shock that can otherwise damage the valve stem, seat and other parts of the process system. All product wetted metal parts of both valves are constructed of 316L stainless steel. All elastomer and seat materials are FDA and 3A compliant material. Alfa Laval's Flo-Diversion Valves have been designed to meet all requirements of PMO and 3A.

Standard Design

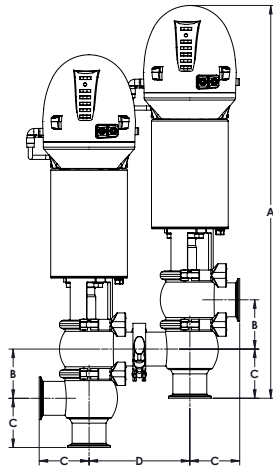
The valve's designs are in compliance with all current sanitary / regulatory standards. Based on Alfa Laval's 7000 series valves, these valves come equipped with all the same design advantages as the 7000 series single seat valves. The valves are available in 1-1/2" – 4" tube OD sizes. The standard valve used the same guided stem design as the 7000 seat valve to insure proper alignment. The reverse acting valves stem is guided at both the top and bottom of the valve. The standard actuator offering on both style valves is fully maintainable.

The indication control top supplied with the valve is the ThinkTop® Digital 24 VDC. The ThinkTop provides a sensor band width of 1.4 mm (0.057") accurate to 0.004". In contrast, a micro-switch roller can travel more than 1.6 mm (0.063") without an indication signal change. You have the option of mounting the air control solenoids in the ThinkTops or at you control panel. All valves are supplied with quick air exhausts to insure speed of actuation. The ThinkTops have an IP67 (Nema 4x) protection rating.



Performance and Dimensions

Unique 7000 Individual Flo-Diversion Valves



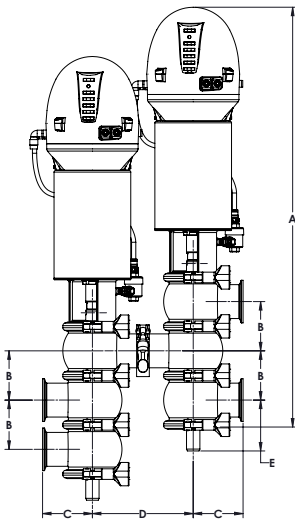
Pressure/Capacity Limits

Valve size	Max. Product pressure (PSI)	Required air supply (PSI)	Maximum Flow Rates
1½"	125	87	50 GPM
2"	125	87	85 GPM
2½"	100	87	160 GPM
3"	100	87	200 GPM

Dimensions

Valve Size	1½"	2"	2½"	3"
A	20.28	22.8	24.32	26.13
B	2.39	2.91	3.4	3.89
C	2.45	2.94	3.73	3.93
D	4.96	5.94	7.52	7.92
Stroke	.067	0.87	0.87	1.06

Unique 7000 Reverse Acting Flo-Diversion Valve



Pressure/Capacity Limits

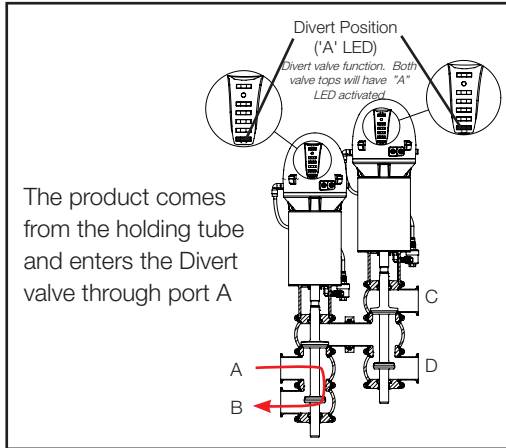
Valve Size	2"	2½"	3"	4"
A	22.8	24.32	26.13	31.1
B	2.91	3.4	3.89	4.87
C	2.94	3.73	3.93	4.72
D	5.94	7.52	7.92	10.76
E Stem Up	51.1	56.9	63.5	76.7
E Stem Down	76.1	81.9	93.5	106.7
Stroke	0.87	0.87	1.06	1.06

Dimensions

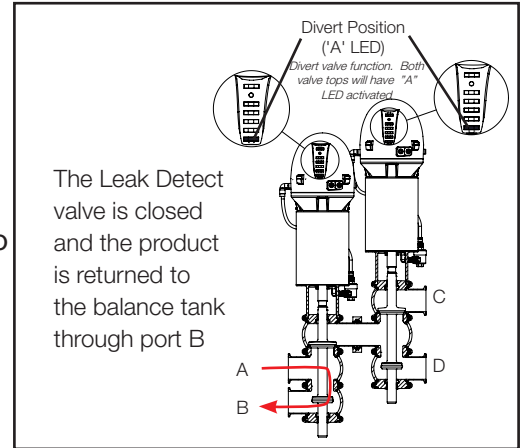
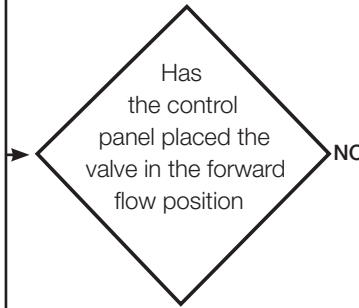
Valve size	Max. Product pressure (PSI)	Required air supply (PSI)	Maximum Flow Rates
2"	125	87	85 GPM
2½"	100	87	160 GPM
3"	100	87	250 GPM
4"	45	87	485 GPM

Unique 7000 Reverse-Acting Flo-Diversion Valve

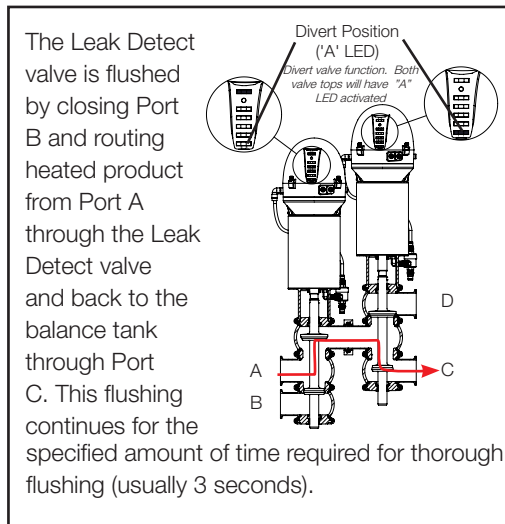
Principles of Operation



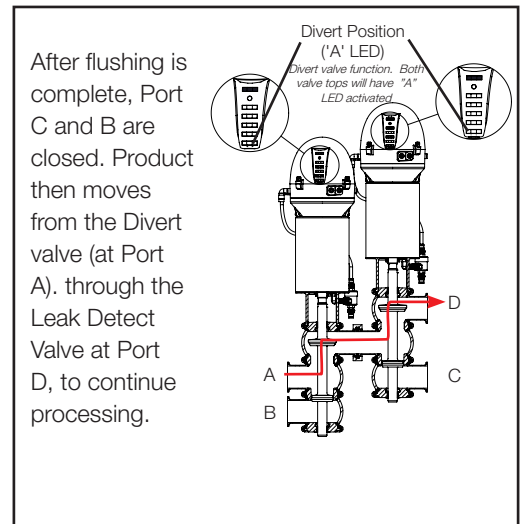
Plan view shown



Plan view shown



Plan view shown

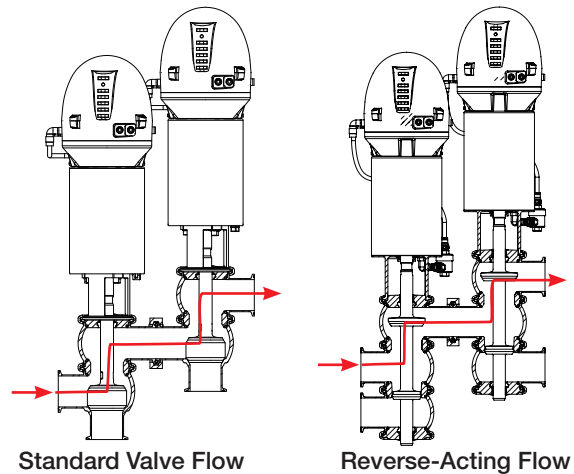


Plan view shown

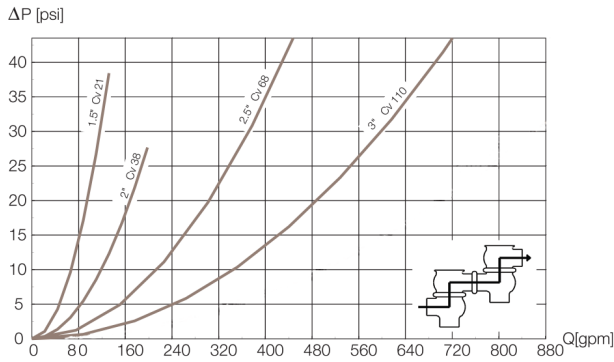
Valve Stem Operation

In most Divert valves, the seat closes with flow, which causes the flow to “self seat” the valve, which may create hydraulic shock. Hydraulic shock can damage the valve stem, valve seat, and other parts of your processing system, such as the connected piping heat exchangers, and pumps.

The Reverse-Acting Flo-Diversion valve is designed to close against product flow. When the valve is opened, pressure from product flow aids in pushing the valve stem to the Open position. The result is a stem that glides open and shut smoothly, eliminating the damaging effects of hydraulic shock. Alternately, when the valve is closed, the seat closes against the flow and allows product to be directed to its opposite open port, eliminating hydraulic shock.



Pressure drop/capacity diagrams

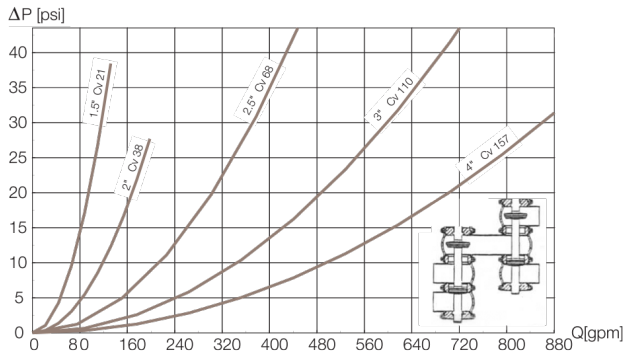


Note!

For the diagram the following applies:

Medium: Water (68°F).

Measurement: In accordance with VDI 2173.



Materials

Product wetted steel parts:.....AISI 316L (internal Ra < 32 μ inch)

Other steel parts:.....AISI 304

Plug elastomer seal:EPDM

Optional TR2 plug seal (PTFE):Standard Valve Only

Other product wetted seals:EPDM (standard)

Options:

Elastomer plug and other wetted sealsFPM (fluoroelastomer), HNBR

ThinkTop with Solenoid

Tangential bodies - Reverse Acting Valve for Horizontal Mounting

Ordering:

Size

Elastomer

ThinkTop with or without solenoid

Standard or Reverse Acting*

If Reverse Acting Valve – note vertical or horizontal mount*.

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com