

## For Smooth Operation of Your HTST System

### 762 Flo-Diversion Valves

#### Application

Alfa Laval's ruggedly designed Reverse-Acting and standard upright 762 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 762 Flo-Diversion Valve closes with the flow. The Reverse-Acting 762 Flo-Diversion valve closes against the flow.

The 762 Reverse-Acting Flo-Diversion valve's patented 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. The "TR" (PTFE) of bonded stem plugs are FDA and 3A compliant material. Alfa Laval's Flo-Diversion Valves have been designed to meet all requirements of PMO and 3A. The microswitch control housing meets NEMA 4 Specifications. The tangential bodies of the horizontally mounted Reverse-Acting valve are completely drainable, preventing bacterial growth within the valve and allowing for CIP.

#### Standard Design

The 762-227 Flo-Diversion Valve extends from our popular 761 Series and incorporates the same user friendly benefits. It is designed in compliance with current sanitary/regulatory standards. All wetted parts are type 316LSS, polished ID/OD. It comes standard with quick connect Tri-Clamp® ports for ease of assembly. The 762 is available in 1½"-3" tube O.D. sizes. Low maintenance, permanently assembled actuators provide years of worry free service. The valve stem threads into the actuator stem, providing improved stem alignment so that no coupler is required. You have the choice of molded elastomer seat materials, or the popular, low cost "TR" or "TR2" replaceable seal/seat assembly.

Like our 761 valves, a NEMA 4 microswitch control housing, mounted on the valve actuator, allows for installation of solenoids on the valve itself, not in the remote control panel. This eliminates the need for the quick air exhaust, required in previous Flo-Diversion valve designs. Or, you have the option of locating the solenoids on the control panel.



762 Flo Diversion Valve

Our 762-227 MRAL Reverse-Acting valve features a two piece stem held securely together with a stainless steel nut outside the product stream. This patented revolutionary stem design allows valves to close against product flow eliminating hydraulic shock. The 772-227 is available in 2"-4" tube OD sizes.

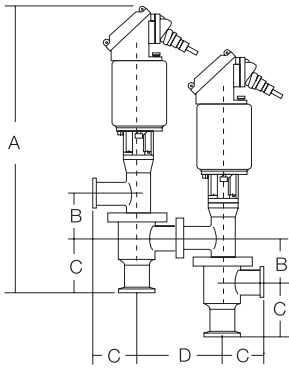
These valves are installed in your process line horizontally rather than vertically. Complete valve drainage is assured as tangential bodies are used. The "divert" valve is positioned higher than the "leak detect" valve in the complete assembly. Use of right-hand and left-hand tangential bodies provides maximum installation versatility as the valve actuator can be mounted on either end of the valve to accommodate various process line configurations.

#### Materials

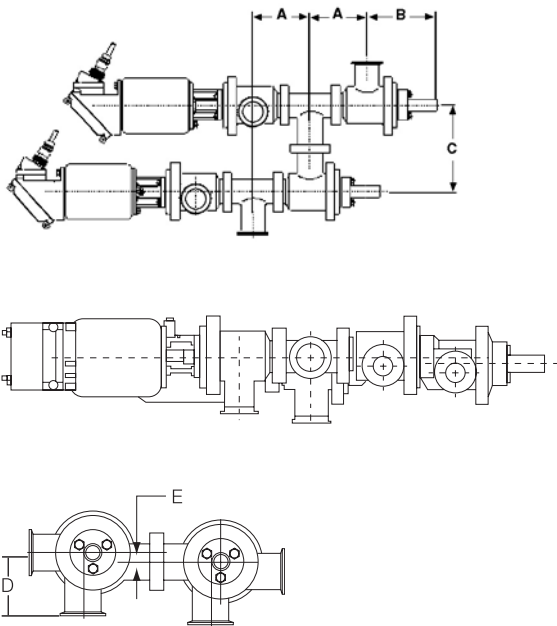
Product wetted metal	316L stainless steel
Other steel parts	304 stainless steel
Finish:	32 Ra
Product wetted seals	Buna bonded or "TR"/"TR2" PTFE replaceable
Elastomers	BUNA, EPDM, SFY (Fluorelastomer), "TR"/"TR2" PTFE replaceable

**Performance and Dimensions**

762 Individual Flo Diversion Valves



762 Reverse Acting Flo-Diversion Valve



**Performance**

Valve Model/Size	Maximum Operating Pressure (PSI)	Maximum Capacity (GPM)	Air Supply Pressure Required
762-227-1½"	100	60	80
762-227-2"	100	95	80
762-227-2½"	100	175	80
762-227-3"	50	215	80
762-227-3H	100	215	80

**Dimensions**

Valve Size	1½	2	2½	3
A	22¼	22¾	23¾	24¾
B	4⅝	4⅞	4½	5
C	2¼	3½	3½	3¾
D	5 <sup>9</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>	7 <sup>9</sup> / <sub>16</sub>
Stroke	1 <sup>5</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>16</sub>

**Performance**

Valve Model/Size	Maximum Operating Pressure (PSI)	Maximum Capacity (GPM)	Air Supply Pressure Required (PSI)
762-227MRAL-2"	100	200	80
762-227MRAL-2½"	80	350	80
762-227MRAL-3"	70	500	80
762-227MRAL-4"	40	950	90

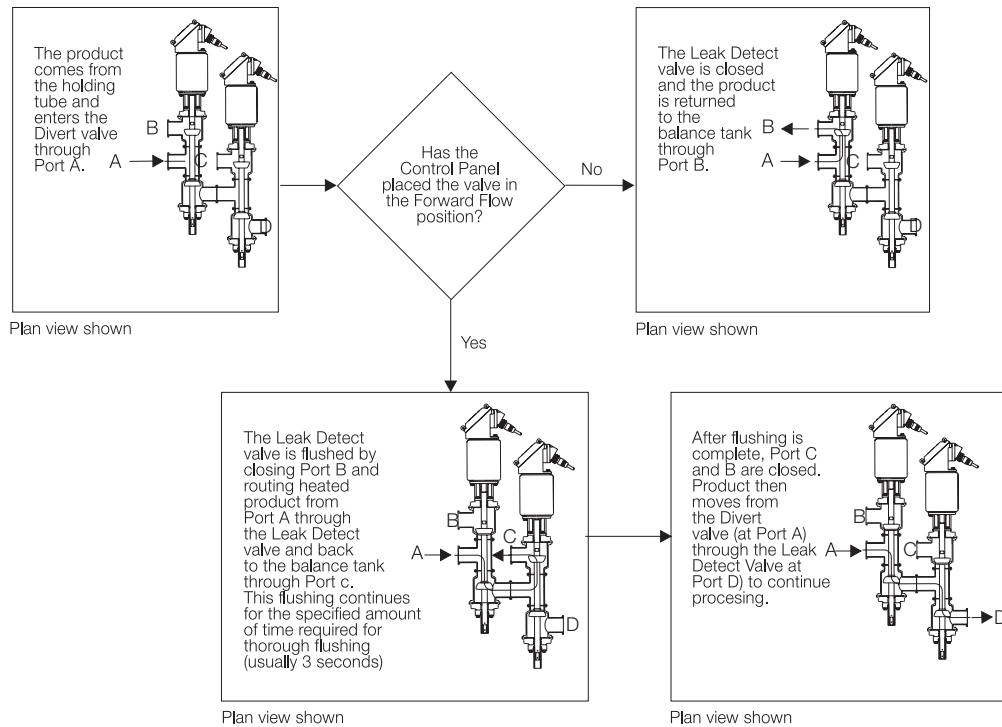
Product pressure can be increased with reduction of capacity. If higher holding pressures are required contact Alfa Laval.

**Dimensions**

Valve Size	2-inch		2½-inch		3-inch		4-inch	
	mm	inch	mm	inch	mm	inch	mm	inch
A	42 <sup>3</sup> / <sub>32</sub>	119.9	5 ¼	133.4	5 ¾	146.1	7 <sup>5</sup> / <sub>64</sub>	177.9
B	55 <sup>1</sup> / <sub>64</sub>	147.2	6 <sup>1</sup> / <sub>32</sub>	153.2	6 <sup>9</sup> / <sub>32</sub>	159.5	9 <sup>19</sup> / <sub>64</sub>	229.1
C	7 <sup>1</sup> / <sub>16</sub>	179.4	7 <sup>1</sup> / <sub>16</sub>	179.4	7 <sup>9</sup> / <sub>16</sub>	192.1	8 <sup>9</sup> / <sub>64</sub>	203.3
D	3 ½	88.9	3 ½	88.9	3 ¾	222.3	4 <sup>1</sup> / <sub>64</sub>	101.7
E	3 <sup>3</sup> / <sub>64</sub>	13.1	5 <sup>3</sup> / <sub>64</sub>	21.0	5 <sup>3</sup> / <sub>64</sub>	21.0	3 <sup>1</sup> / <sub>64</sub>	12.3

762 Reverse-Acting Flo-Diversion Valve

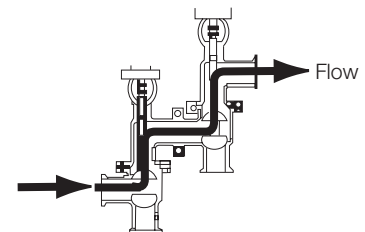
Principles of Operation



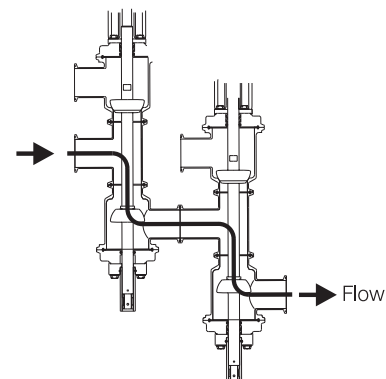
Valve Stem Operation

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.



Standard Valve Flow



Reverse-Acting Flow

**Control Panels****Models #48-2762-1 and #48-2762-2**

Models #48-2762-1 uses an Allen Bradley Model SLC 500 controller. No solenoids are supplied in the panel. The solenoids normally are mounted in the valve control top module. Model #48-2762-2 also uses an Allen Bradley Model SLC 500 Controller. Two solenoids (one per valve), 115 VAC, are provided inside the panel.

115 VAC supply voltage is required to the panels. The valve top solenoids and switches are opened at 24 VAC (for safety reasons) from the panel.

Stainless Steel Enclosure, NEMA 12, 18"H x 14"W x 8"D. Both have provisions for regulatory seals.

**Models #48-2120-E-115 and #48-2120-E-220**

Panels 48-2120-E-115 and 48-2120-E-220 are intended to be used with the 262 Series Valve.

Electro-Mechanical Relay control panel Model #48-2120-E-115 is available for use with 762 Series Valve only if 110 VAC solenoids are used. The panel supplies two 115 VAC solenoids (one per valve) and the required 10 minute CIP time delay. (24 volt or 220 VAC solenoids are not available in this case)

Valve switches are operated at 115 or 220 VAC. Use caution when operating and servicing at these voltages.

Stainless Steel Enclosure, NEMA 12, 16"H x 14"W x 8"D. Models have provisions for regulatory seals.

**762-227M-SIZE-316L-1-"Y"**

(761 style upright valve only)

**762-227MRA(X)-SIZE-316L-1-"Y"**

(Reverse-Acting valve only)

MRA(X) (L) left hand outlet (R) right hand outlet

To determine left or right hand outlet, view valve from top of actuator

"Y" indicates the type of solenoid supplied with valve.

"1"	110 VAC solenoid #33-169
"2"	24 VAC solenoid #33-170*
"3"	24 VDC solenoid #33-171
"4"	No solenoid (supplied in panel)

\*24 VAC is the standard voltage required by any FDV using a #48-2762-1 or #48-2762-2 panel.

**Flo Diversion Valve with Panel****762-121M-SIZE-316L-1-"Y"**

(standard upright model)

**762-121MRA(X)-SIZE-316L-1-"Y"**

(Reverse-Acting model)

Control Panel 48-2762-X supplied as standard

**Options  
Equipment**

- Alternative connections (Tri-Clamp® is standard)
- HP high pressure actuator on 3" size
- R641 high temperature stem bushing
- 861W-227M aseptic version - steam traced stems standard upright model only

**Material Grades**

- Molded elastomer EPDM, SFY, "TR"/"TR2"PTFE replacable
- O-rings and seals, EPDM or SFY (flouorelastomer)

**Ordering**

Please state the following when ordering:

- Standard or reverse acting
- Size
- With or without panel
- Solenoid at valve or panel
- Elastomer - TR or TR2 seats