

Dependable Service for Tank and Kettle Applications

762 Tank and Kettle Valves

Application

This air-operated tank outlet valve features the positive action of either a short-stroke or long-stroke actuator. The 762 valve is ideal for high volume, sanitary liquid processing applications. Its heavy-duty construction and precision-molded bonnet gaskets ensure positive alignment under severe operating conditions. The 762 valve has a sanitary and flexible design allowing it to be used in a wide range of applications.

Working principle

The valve is remote-controlled by means of compressed air. It has few and simple moveable parts which results in a very reliable valve.

Standard Design

The 762 series valves are designed to deliver years of reliable performance. Rugged and long-lasting plastic stem bushings eliminate metal-to-metal galling. The stems are threaded to the actuator shaft, eliminating the coupling between the stem and the actuator, thereby ensuring proper alignment. The valve stem design requires only a single o-ring seal. And bushings at each end of the actuator cylinder support stem also ensure perfect alignment. The 762 series features a heavy-duty bonnet and body ferrule design that will stand up to years of (use and) hydraulic shock. Standard 32Ra finish on the ID.

Other valves in the same basic design:

- Tank and Kettle valves, type 262

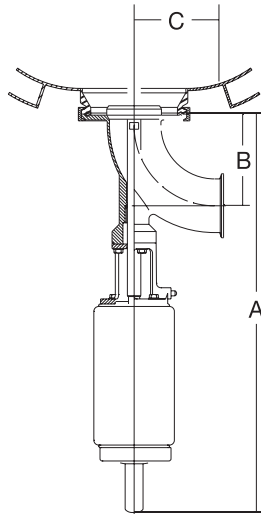
Actuator function

- Pneumatic closing, spring opening (NO).
- Pneumatic opening, spring closing (NC).
- Pneumatic opening and closing (A/A),
- Actuator for intermediate position of the valve plug as option

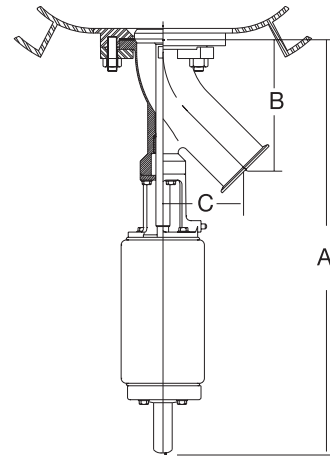


762 Kettle valve.

Dimensions



Clamp Mount
(762-31 Shown)



Flange Mount
(762-33 shown)

Elbow Kettle Valves (Clamp Mount)

| Valve Size (Tube OD) | 762-21 & 762-31 90° Elbow | | | | | | 762-35 45° Elbow | | | | | |
|-------------------------|---------------------------|-------|------|-------|------|-------|------------------|-------|------|-------|------|-------|
| | A* | | B | | C | | A* | | B | | C | |
| | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 2-inch | 21.00 | 22.5 | 3.69 | 94.0 | 3.50 | 89.0 | 21.00 | 533.0 | 5.60 | 129.0 | 3.13 | 79.0 |
| 2½-inch | 21.69 | 551.0 | 4.44 | 113.0 | 4.25 | 108.0 | 21.69 | 551.0 | 5.94 | 151.0 | 3.88 | 98.0 |
| 3-inch | 22.19 | 564.0 | 5.19 | 132.0 | 5.00 | 127.0 | 22.19 | 564.0 | 7.00 | 178.0 | 4.50 | 114.0 |
| 4-inch | 23.75 | 603.0 | 6.00 | 175.0 | 6.50 | 175.0 | 23.75 | 603.0 | 9.38 | 238.0 | 6.00 | 152.0 |

* For Control Housing, add ¾" (19 mm) to dimension A. 1" (25.4 mm) clearance required for removal.

Elbow Kettle Valves (Flange Mount)

| Valve Size (Tube OD) | 762-29 90° Elbow | | | | | | 762-29m 45° Elbow | | | | | |
|-------------------------|------------------|-------|------|-------|------|-------|-------------------|-------|------|-------|------|-------|
| | A* | | B | | C | | A* | | B | | C | |
| | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 2-inch | 21.00 | 533.0 | 3.69 | 94.0 | 3.50 | 89.0 | 21.00 | 533.0 | 5.06 | 129.0 | 3.13 | 79.0 |
| 2½-inch | 21.69 | 551.0 | 4.44 | 113.0 | 4.25 | 108.0 | 21.69 | 551.0 | 5.94 | 151.0 | 3.88 | 98.0 |
| 3-inch | 22.19 | 568.0 | 5.19 | 132.0 | 5.00 | 127.0 | 22.38 | 568.0 | 7.00 | 178.0 | 4.50 | 114.0 |
| 4-inch | 23.75 | 603.0 | 6.00 | 175.0 | 6.50 | 175.0 | 23.75 | 603.0 | 9.38 | 238.0 | 6.50 | 165.0 |

* For Control Housing, add ¾" (19 mm) to dimension A. 1" (25.4 mm) clearance required for removal.

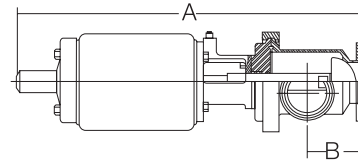
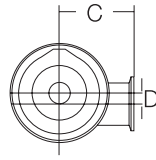
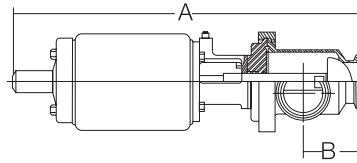
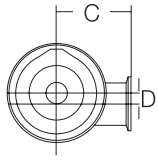
Elbow Kettle Valves are normally-closed, air-to-open — spring-to-close.

Note!

Extreme caution should be used when welding ferrules or flanges to kettles to prevent distortion.

Dimensions

Tee Type and Cross Body Tangential Outlet Valves



Valves with Tri-Clamp Inlet
 762-47, Right Hand Outlet 90° (shown)
 762-48, Left Hand Outlet 90°
 762-51, Cross Body

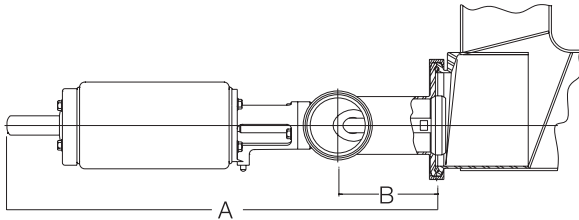
Valves with Flanged Inlet
 762-49, Right Hand Outlet 90° (shown)
 762-50, Left Hand Outlet 90°
 762-52, Cross Body

Note!

To determine whether a valve is right or left hand outlet, view valve from actuator end.

| Valve Size (Tube OD) | A | | | | B | | C | | D | |
|----------------------|--------------|--------|-------------|--------|------|--------|------|--------|------|--------|
| | Short Stroke | | Long Stroke | | inch | mm | inch | mm | inch | mm |
| | inch | mm | inch | mm | | | | | | |
| 2-inch | 16.31 | 414.00 | 20.25 | 514.00 | 2.63 | 67.00 | 3.50 | 89.00 | 0.50 | 13.00 |
| 2½-inch | 17.00 | 432.00 | 21.00 | 533.00 | 3.06 | 78.00 | 3.50 | 89.00 | 0.75 | 19.00 |
| 3-inch | 17.56 | 446.00 | 21.56 | 548.00 | 3.38 | 89.00 | 3.75 | 95.00 | 0.75 | 19.00 |
| 4-inch | NA | NA | 34.56 | 878.00 | 6.25 | 159.00 | 6.25 | 159.00 | 0.50 | 113.00 |

*Control Housing: add ¾" (19mm) to dimension A.
 1" (25.4mm) clearance required for removal.



90° Elbow, Offset Front
 Outlet Valves
 No. 762-57, Right Hand (shown)
 No. 762-58, Left Hand
 (Outlet is horizontal)

| Valve Size (Tube OD) | C | | D | |
|----------------------|-------|--------|------|--------|
| | inch | mm | inch | mm |
| 2-inch | 21.00 | 533.00 | 3.69 | 94.00 |
| 2½-inch | 21.69 | 551.00 | 4.44 | 113.00 |
| 3-inch | 22.38 | 568.00 | 5.19 | 132.00 |
| 4-inch | 23.75 | 603.00 | 6.88 | 175.00 |

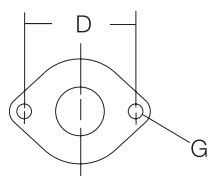
*Control Housing: add ¾" (19mm) to dimension A.
 1" (25.4mm) clearance required for removal

Note!

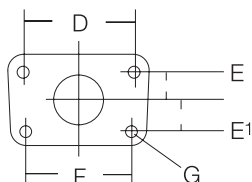
To determine whether a valve is right or left hand outlet, view valve from actuator end.
 Extreme caution should be used when welding ferrules or flanges to tanks to prevent distortion.

Dimensions

Flange Bolt Hole



2 hole flange for
2" (51mm) valves



4 hole flange for 2½" (63.5mm),
3" (76mm) and 4" (102mm) valves

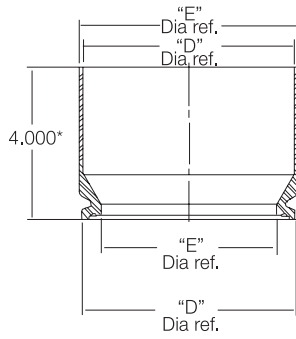
| Valve Size (Tube OD) | D | | E | | E1 | | F | | G | |
|-------------------------|------|--------|------|-------|------|-------|------|--------|------|-------|
| | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 2-inch | 4.25 | 108.00 | NA | NA | NA | NA | NA | NA | 0.50 | 14.00 |
| 2½-inch | 5.25 | 133.50 | 1.31 | 33.50 | 1.50 | 38.00 | 5.00 | 127.00 | 0.56 | 14.00 |
| 3-inch | 6.63 | 168.00 | 1.74 | 44.50 | 1.75 | 44.50 | 5.63 | 143.00 | 0.69 | 14.00 |
| 4-inch | 8.63 | 219.00 | 2.94 | 75.00 | 2.94 | 75.00 | 7.50 | 190.50 | 0.81 | 17.50 |

Ferrule Part Numbers

| Valve Model | Ferrule | Valve Only-Less Ferrule |
|-------------|--------------------|------------------------------------|
| 762-21-Size | 32-82-3 32-82-4 | 762-20-2" & 2.5" 762-20-3" & 4" |
| 762-31-Size | 32-84-3 32-84-4 | 762-20-2" & 2.5" 762-20-3" & 4" |
| 762-29-Size | 32-121 32-180 | 762-28-2" & 2.5" & 3" 762-28-4" |
| 762-57-Size | 32-154 32-595 | 762-55-2" & 2.5" 762-55-3" & 4" |
| 762-58-Size | 32-154 32-595 | 762-56-2" & 2.5" 762-56-3" & 4" |
| 762-35-Size | 32-84-3 32-84-4 | 762-24-2" & 2.5" 762-24-3" & 4" |
| 762-33-Size | 32-121 32-180 | 762-32-2" & 2.5" & 3" 762-32-4" |

Dimensions

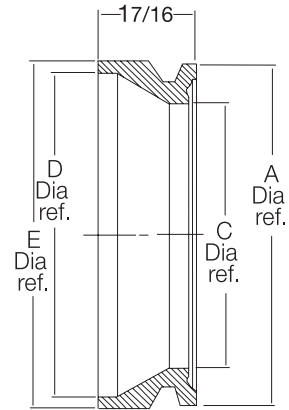
Tank Pods for Kettle Valves



*4" length is standard. Other lengths available per customer requirement.

32-82-3

32-82-4

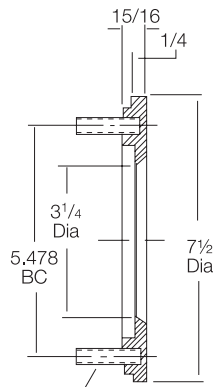


32-84-3

32-84-4

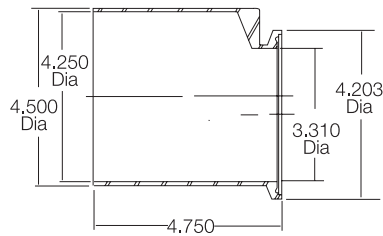
Sizes 32-82 and 32-84

| Valve Size | A | C | D | E |
|------------|------|------|------|------|
| | inch | inch | inch | inch |
| 3-inch | 4.20 | 3.31 | 4.25 | 4.50 |
| 4-inch | 5.87 | 4.84 | 5.78 | 6.00 |

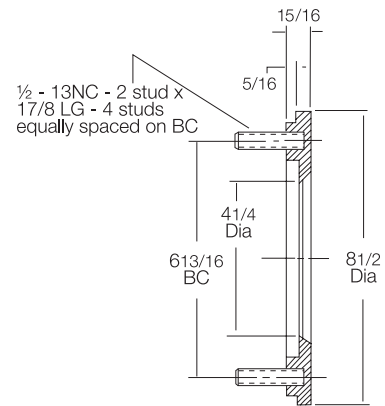


1/2 - 13NC - 2 stud 1 7/8 LG - 4 studs equally spaced on BC

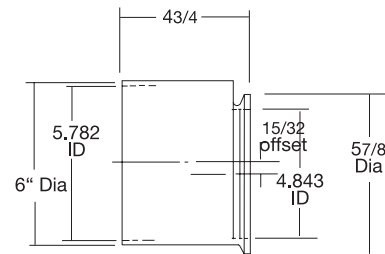
32-121



32-154



32-180



32-595

Actuators

Type 20 (Normally-Closed)

Shut-off valve holding pressures (Standard)**

| Short Stroke Actuator (Standard*) | | | | Long Stroke Actuator (Standard*) | | |
|-----------------------------------|-----------|--------|---------------|----------------------------------|--------|---------------|
| Size | Elastomer | "TR" | Stroke Length | Elastomer | "TR" | Stroke Length |
| 2-inch | 90 psi | 90 psi | 1" | 90 psi | 90 psi | 2" |
| 2½-inch | 55 psi | 55 psi | 1" | 60 psi | 55 psi | 2" |
| 3-inch | 40 psi | 40 psi | 1" | 32 psi | 25 psi | 2" |
| 4-inch | 65 psi | 65 psi | 2" | 45 psi | 40 psi | 4" |

* 4½" diameter actuator is standard on the 1"-3" valves. A 6" diameter actuator is supplied with the 4" valve. The 6" diameter actuator is available, as a heavy duty option, for the 2½"-3" valve.

** On a standard actuator it takes 30 psi to offset the spring force when fully extended and 60 psi to fully compress the spring.

Type 20 (Normally-Closed)

Optional "HP" high pressure actuator. (6" diameter actuator)

| Short Stroke Actuator (Standard*) | | | | Long Stroke Actuator (Standard*) | | |
|-----------------------------------|-----------|---------|---------------|----------------------------------|---------|---------------|
| Size | Elastomer | "TR" | Stroke Length | Elastomer | "TR" | Stroke Length |
| 2½-inch | 110 psi | 100 psi | 1" | 120 psi | 110 psi | 2" |
| 3-inch | 80 psi | 70 psi | 1" | 80 psi | 70 psi | 2" |

Actuator Air Supply Specifications

See chart below for minimum air pressure requirements. Maximum air pressure is 100 psi (normal). Air volume required is identified by the length of the stroke.

| Valve Size | Stroke (inch) | Volume (cu. in.) |
|--------------------------|---------------|------------------|
| 1½ - 3-inch short stroke | 1 | 14.80 |
| 1½ - 3-inch long stroke | 2 | 29.50 |
| 4-inch short stroke HP | 2 | 50.00 |
| 4-inch long stroke HP | 4 | 95.00 |

Lubricated air is not required. Filtered air and a pressure regulator valve are required.

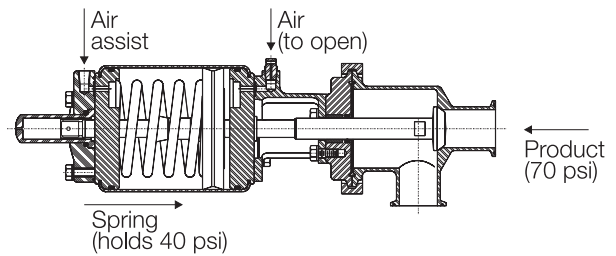
Additional Holding Pressure

Additional air supply must be relieved when product pressure is not present. Failure to do so will result in pressure damage to the seat. When using additional air loading it should exceed the minimum required by no more that 3 to 5 psig.

Example: A customer has an application for a 3" valve that is required to hold 70 psi product pressure with an elastomer (Buna). The valve without an air assist will hold 40 psi. An additional holding force to overcome 30 psi (70 psi-40 psi) is needed. Since the ratio is 5:10 (air-to-product pressure ratio) a 15 psi air assist is needed.

Note!

Since it takes 60 psi to fully stroke the valve without air assist, it will take 75 psi to open the example. (60 psi + 15 psi)



| Valve Size | Air to Product Pressure Ratio | Max. Recommended Air Assist | Max. Product Holding Pressure |
|------------|-------------------------------|-----------------------------|-------------------------------|
| 1-inch | 01:10 | 10 | 200 |
| 1½-inch | 01:10 | 5 | 200 |
| 2-inch | 02:10 | 10 | 150 |
| 2½-inch | 03:10 | 20 | 100 |
| 3-inch | 05:10 | 35 | 100 |
| 4-inch HP | 04:10 | 25 | 100 |

Technical data

Max. product pressure:depends on valve specifications and size (contact Alfa Laval)
 Temperature range200° F to 284° F (EPDM)
 Air pressure60-80 psi

Materials

Product wetted steel parts:Stainless steel AISI 316L.
 Finish:32 Ra Standard
 Other steel partsStainless steel AISI 304.
 Plug stem:Buna bonded or "TR" PTFE replaceable
 Product wetted seals:Buna
 Process connectionsTri-Clamp®

Options

Equipment

- Product connections: weld, bevel seat
- Control and indication (Control Top or ThinkTop®)
- High pressure actuator for 2½" and 3" size
- Three Position Actuator (80)
- 20 Ra or 15 Ra ID surface finish
- Long stroke actuator (Standard on kettle valve)

Material Grades

- Plug stem materials of EPDM, SFY, or PTFE
- O-rings and seals of EPDM or SFY (Flouroelastomer)

Ordering

Please state the following when ordering:

- Size.
- Connections
- Valve body combination.
- Actuator function, NC, NO or A/A
- Options.