

Flotite.com sales@flotite.com



# **FSCV Series** Swing Check Emergency Shut-off for Gas, Liquid, or Vapor







Dual Fusible Link

**Flo-Tite's** FSCV series ANSI flanged swing-check valves with fusible links are designed to provide a simple yet effective method of closing in an emergency or hazardous situation.

The valves are designed with an external spring load and held in the open position with the fire-sensitive fusible link. The valve will automatically close when the link melts due to fire or high temperatures. The external lever rotates the hinge pin which drives the disc into the closed position, stopping the flow of the liquid, gas or vapor.

#### **FEATURES**

- Local and/or remote actuation
- Fire-Safe fusible link
- Economical solution for required safety
- Can be used in horizontal and vertical service
- All valves are factory tested to API 598Back pressure ensures a tight seal
- between the disc and seat
- Once closed, the valve can ONLY be reset manually as a safety feature

#### **TYPICAL APPLICATIONS**

- Refineries
- Petrochemical
- Off-shore oil rigs
- Chemical process equipment
- Water and Waste applications
- Superheated steam lines on ships



### **SIZES & END CONNECTIONS**

**150# ANSI Flanged:** 2" to 16" **300# ANSI Flanged:** 2" to 16"

#### **PRESSURE RATING**

150# ANSI Flanged: 275 PSIG 300# ANSI Flanged: 740 PSIG

**TEMPERATURE RANGE** 

-20°F to 475°F

#### **MATERIALS**

Body: Carbon steel or Stainless Steel Disc: Carbon steel or Stainless Steel Hanger Arm: Carbon steel or Stainless Steel Seat: API 598 Trim 8 or 12 Cover Seal: Graphite

#### **FLOW CAPACITIES**

| Size   | C <sub>v (gpm)</sub> |
|--------|----------------------|
| 2″     | 120                  |
| 2 1/2″ | 190                  |
| 3″     | 285                  |
| 4″     | 520                  |
| 5″     | 745                  |
| 6″     | 1,245                |
| 8″     | 2,285                |
| 10″    | 3,570                |
| 12″    | 5,340                |
| 14″    | 6,500                |
| 16″    | 8,620                |

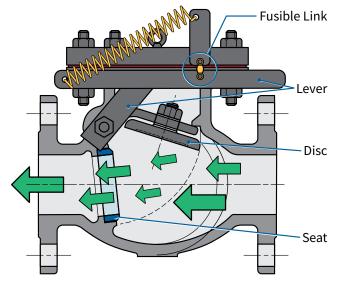




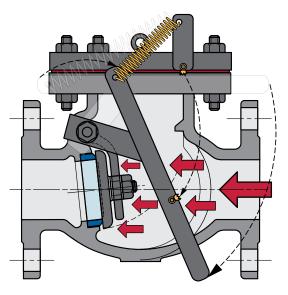




#### **OPERATION**

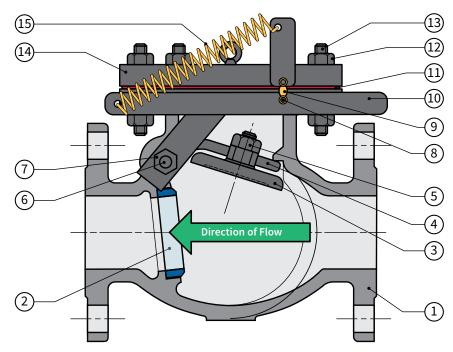


**Normal Operation** Disc is held up and away from the seat by the lever and fusible link



# **Emergency Shut-off** Fusible link melts and the spring pulls the lever which moves the disc into

lever which moves the disc into the closed position against the seat



#### **MATERIALS OF CONSTRUCTION**

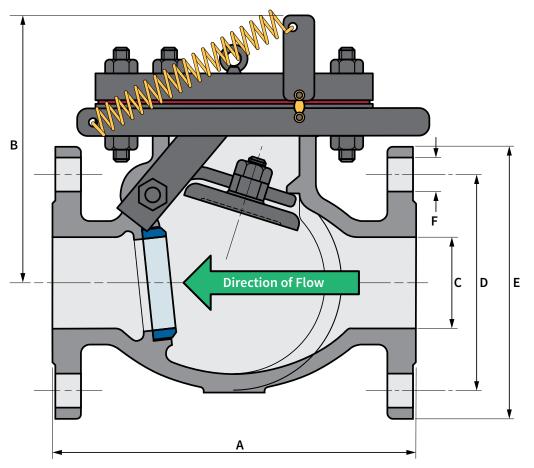
| Item | Part           |                   |  |  |
|------|----------------|-------------------|--|--|
| 1    | Valve Body     | ASTM A216 Gr WCB  |  |  |
| 2    | Seat Ring      | ASTM A182 Gr F6   |  |  |
| 3    | Disc           | ASTM A182 Gr F6   |  |  |
| 4    | Disc Arm       | ASTM A216 Gr WCB  |  |  |
| 5    | Disc Nut       | ASTM A194 Gr 2H   |  |  |
| 6    | Hinge Pin      | ASTM A479 Gr 410  |  |  |
| 7    | Lever Nut      | ASTM A194 Gr 2H   |  |  |
| 8    | Link Pin       | SS 18-8           |  |  |
| 9    | Fusible Link   | Lead              |  |  |
| 10   | Lever          | Cold Rolled Steel |  |  |
| 11   | Cover Gasket   | Graphite          |  |  |
| 12   | Cover Stud Nut | ASTM A194 Gr 2H   |  |  |
| 13   | Cover Stud     | ASTM A193 Gr B7   |  |  |
| 14   | Cover          | ASTM A216 Gr WCB  |  |  |
| 15   | Spring         | Steel             |  |  |







# DIMENSIONS ANSI Class 150 (in inches)



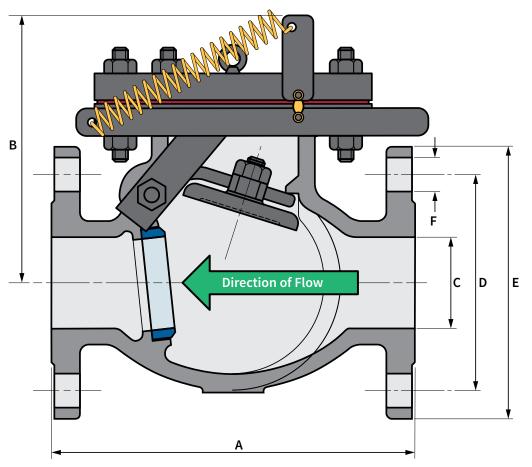
| Size   | <b>A</b><br>(Face to Face) | <b>B</b><br>(Height from<br>Pipe Center) | <b>C</b><br>(Port I.D.) | <b>D</b><br>(Bolt Circle Ø) | <b>E</b><br>(Flange O.D.) | <b>F</b><br>(Bolt Hole Ø) | Number<br>of Bolt Holes |
|--------|----------------------------|--|-------------------------|-----------------------------|---------------------------|---------------------------|-------------------------|
| 2″     | 8.00                       | 6.00                                     | 2.00                    | 4.75                        | 6.00                      | 0.750                     | 4                       |
| 2 1/2" | 8.50                       | 6.00                                     | 2.50                    | 5.50                        | 7.00                      | 0.750                     | 4                       |
| 3″     | 9.50                       | 6.25                                     | 3.00                    | 6.00                        | 7.50                      | 0.750                     | 4                       |
| 4″     | 11.50                      | 7.62                                     | 4.00                    | 7.50                        | 9.00                      | 0.750                     | 8                       |
| 5″     | 13.00                      | 7.62                                     | 5.00                    | 8.50                        | 10.00                     | 0.875                     | 8                       |
| 6″     | 14.00                      | 9.50                                     | 6.00                    | 9.50                        | 11.00                     | 0.875                     | 8                       |
| 8″     | 19.50                      | 11.50                                    | 8.00                    | 11.75                       | 13.50                     | 0.875                     | 8                       |
| 10″    | 24.50                      | 13.50                                    | 10.00                   | 14.25                       | 16.00                     | 1.000                     | 12                      |
| 12″    | 27.50                      | 15.00                                    | 12.50                   | 17.00                       | 19.00                     | 1.000                     | 12                      |
| 14″    | 31.00                      | 15.75                                    | 13.25                   | 18.75                       | 21.00                     | 1.125                     | 12                      |
| 16″    | 34.00                      | 17.25                                    | 15.25                   | 21.25                       | 23.50                     | 1.125                     | 16                      |







## DIMENSIONS ANSI Class 300 (in inches)



| Size   | <b>A</b><br>(Face to Face) | <b>B</b><br>(Height from<br>Pipe Center) | <b>C</b><br>(Port I.D.) | <b>D</b><br>(Bolt Circle Ø) | <b>E</b><br>(Flange O.D.) | <b>F</b><br>(Bolt Hole Ø) | Number<br>of Bolt Holes |
|--------|----------------------------|--|-------------------------|-----------------------------|---------------------------|---------------------------|-------------------------|
| 2″     | 10.50                      | 6.00                                     | 2.00                    | 5.00                        | 6.50                      | 0.750                     | 8                       |
| 2 1/2″ | 11.50                      | 6.50                                     | 2.50                    | 5.87                        | 7.50                      | 0.875                     | 8                       |
| 3″     | 12.50                      | 7.00                                     | 3.00                    | 6.62                        | 8.25                      | 0.875                     | 8                       |
| 4″     | 14.00                      | 7.32                                     | 4.00                    | 7.87                        | 10.00                     | 0.875                     | 8                       |
| 5″     | 15.70                      | 9.17                                     | 5.00                    | 9.25                        | 11.00                     | 0.875                     | 8                       |
| 6″     | 17.50                      | 10.32                                    | 6.00                    | 10.62                       | 12.50                     | 0.875                     | 12                      |
| 8″     | 21.00                      | 12.25                                    | 8.00                    | 13.00                       | 15.00                     | 1.00                      | 12                      |
| 10″    | 24.50                      | 14.00                                    | 10.00                   | 15.25                       | 17.50                     | 1.12                      | 16                      |
| 12″    | 28.00                      | 15.47                                    | 12.50                   | 17.75                       | 20.50                     | 1.25                      | 16                      |









#### **MODELS AVAILABLE**

### FBPSL

Basic

Spring Assisted Closure with Fusible Link Only



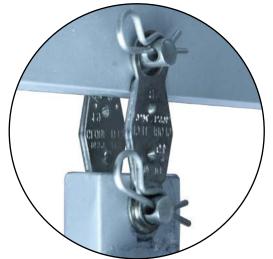
## FCPSL

**Pneumatic Release** Basic PLUS Pneumatic Cylinder for Trigger **FMPSL Electric Release** Basic PLUS Electro-Magnetic Trigger





#### **REPLACEMENT LINKS**



#### **Trigger Temperatures Available:**

135°F 165°F *(standard)* 212°F 280°F 360°F

Call 1-910-738-8904 for Pricing and Availability of Replacement Links





| FSCV 🚳   | Swing Check Emergency Shut-off for Gas, Liquid & Vap  |
|--|---|
| ORDERING INFORMA   | TION FSCV - 0200 - BPSL - 150 - C - 08 - 165<br>Size Trigger<br>Type Flange<br>Class Body<br>Material Trim<br>Material Trim<br>Material |
|  | = 8"<br>= 10"<br>= 12"<br>= 14"<br>= 16"<br>for Larger Sizes  |
| <b>MPSL</b> = Spring Assist Closu  | re w/ Fusible Link Trigger PLUS Electro-magnetic Remote Trigger<br>):   |
| <b>150#</b> = ANSI Class 150#<br><b>300#</b> = ANSI Class 300#   |   |
|  |   |
| <b>C</b> = Carbon Steel (ASTM A21<br><b>S</b> = Stainless Steel  |   |
| Trim (Seat Ring) Material: ——  |   |
| <b>08</b> = API Trim 8<br><b>12</b> = API Trim 12  |   |
| Trigger Temperature of Fusible   | Links:  |
| <b>135F</b> = 135°F<br><b>165F</b> = 165°F <i>(standard)</i><br><b>212F</b> = 212°F<br><b>280F</b> = 280°F |   |

**280F** = 280 F **360F** = 360°F

# Ask Your Rep about Flo-Tite's Thermal Shut Off Valves.





www.flotite.com



# **FTSV Series**



All valves are Fire Safe Tested & certified to API 607 No air supply or electricity needed for the FTSV

## **CRITICAL COMPONENTS**

# 1) Fire-Safe Valve

Tri-Pro HPF Series

High Performance Series



The Tri-Pro and HP Series are one example of Fire Safe Valves Flo-Tite offers. Choose a Fire Safe ball or butterfly valve. All valves are equipped with special seats and seals to attain the API 607 4, 5 or 7th edition Fire-Safe rating. All valves are available in carbon or stainless steel.

#### **Ball Valves**

NPT: 1/4" to 4" Socket Weld: 1/4" to 4" 150# ANSI RF Flange: 1/2" to 8" 300# ANSI RF Flange: 1/2" to 10"

600# ANSI RF Flange:

#### **Butterfly Valves**

**150#,300#, 600#,900# ANSI Flange for Lug & Wafer models:** 2" to 24" visit **flotite.com** web page for details

# Flo-Tite's Thermal Shut Off Valves

The **FTSV** series Thermal Shut-off valves combine a fire-safe ball or butterfly valve with a pneumatic actuator and the **FM approved** *FireChek***®** valve to form a dedicated stand-alone thermal shut-off valve that will close (or open) at a given temperature (165° F standard). This alternative to fusible link valves can be tested and reset without the need to replace any hardware.

The valve is held open by charging the actuator through a Schrader (check) valve. There is a clearly labeled gauge to indicate the proper pressure range to maintain. **FTSV**'s have passed both Mil-std-810G humidity vibration testing procedures through an independent third party. Each **FTSV** assembly is also individually tested by a qualified technician in our ISO certified facility after assembly.

The FTSV has passed the 13,000 mile vibration test and the 5 year humidity test.

# 2) Spring Return Actuator Air-Con Actuator



# **Air-Con C Series**

These actuators are sized by our engineers specifically for thermal shutoff functionality. Actuators accept 70-125 psi and springs have a generous safety factor included to ensure closure even if the break torque is increased due to the valve not being actuated for a long period of time. These actuators were selected because they are rugged and economical and they have the ISO 5211 and NAMUR mounting patterns. The FTSV thermal shutoff module directly mounts to the NAMUR pad. *visit airconactuators.com for details* 





# Inline 3-way Thermal Shut-off

The revolutionary FireChek valve is what provides the functionality of the FTSV module. It uses a patented shape memory spring that makes it expand at the designed trigger (165 °F) temperature. Air can flow through the valve in one direction to enter the actuator during normal temperatures. After the valve is triggered by excessive heat, it

self-actuates and vents the actuator allowing the springs to close the ball or butterfly valve.

Only FM approved using AirCon Actuators.

Notes: FTSV Package Includes: FTSV Module, 165F FM approved Firechek thermal valve, Visual Liquid Filled Guage, O-rings and Bolts for Namur mounting. Fully Assembled and Tested. Instruction manual for installation and operation. Weight: 1.00 lbs. each

List Price: \$2,955

Mounted Price: \$3,150



# **Large Selection of Quarter Turn Valve Actuators**



AirCon's products are used in almost every energy related industry, including oil and gas production, oil and gas transmission, and petroleum refining. Other markets include chemical, petrochemical, pulp and paper, food and beverage, and water systems.



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