



West European Semiconductor Technology Ltd

FireChek® FC4

Heat Activated Pneumatic Shut-Off Valve



...Safe, Simple, Smart.

When **FireChek®** senses excessive heat from a nearby fire, it immediately vents the pneumatic actuator and closes the actuator air supply line.

FireChek® triggers quickly, securing pneumatically operated process line valves.

Because **FireChek®** responds to heat, not flame, it offers dramatically improved protection compared with conventional plastic tubing burn-through. It shuts off the air supply line to prevent plant air from feeding oxygen to a fire.



Product Features

- Rapidly responds to temperature rise, NOT flames
- Vents actuator air pressure
- Closes actuator air supply line
- Needs no power source, self activates
- Compatible with ALL pneumatic actuators
- No contact with process fluids
- Easy to test and reset
- Reliable, intrinsic triggering
- Easily retrofit, installs in minutes

Performance Specifications

Actuation time:

25 seconds or less at a temperature rise rate of 30°F/min (16.6°C/min)

Actuation Temperature:

135, 150, or 165°F (57, 66, 74°C)

Maximum Working Control Pressure:

125 psig (8.62 bar)

Fill and Discharge Capacity:

1 liter of air in under 1 second at 125 psig (8.62 bar)
Cv = 0.49

Overall Dimensions:

Length = 2.59" (6.6 cm)
Diameter = 1" (2.54 cm)
Weight = 0.482 lbs. (218 grams)

See Reverse Side for Additional Details and Ordering Information

Shape Memory Alloy Actuator

The shape memory element senses the ambient temperature and, through a phase induction change, rapidly produces the force and motion to operate **FireChek**[®]. The element is 100% reliable because the shape memory effect is intrinsic to the alloy. Shape memory alloys have performed successfully for years in military, industrial, and consumer product applications.

Operation

If **FireChek**[®] senses temperatures above the shape memory alloy's actuation temperature, the shape memory element simultaneously vents pneumatic actuator air pressure and closes upstream supply pressure. **FireChek's**[®] manual reset allows routine performance testing for safety maintenance programs. A hot-air gun will quickly actuate **FireChek**[®]. After cooling briefly, the **FireChek**[®] can easily be reset without the use of tools, for continued protection.

Installation

FireChek installs easily between the pneumatic supply and spring return actuator via two female threaded connections.

Materials

MEMRY[®] Shape Memory Alloy Actuator and Sensor

DELRIN[®] Thermal Insulators

BUNA-N O-rings

300 Series S.S. Body Cover, Reset, Shuttle Cap, Pin, and Bias Spring

Connections

1/4-18 NPT American Standard Tapered Pipe

1/4-19 ISO International Standard Tapered Pipe

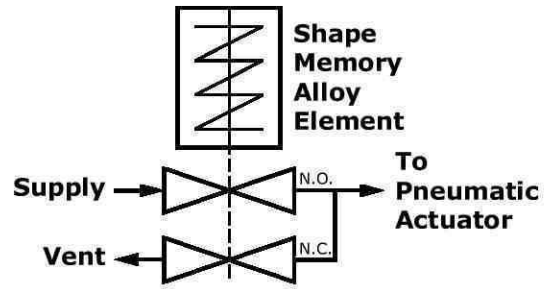
Actuation Temperatures

135°F (57.2°C)

150°F (65.9°C)

165°F (73.9°C) (standard)

Schematic



Ordering Information

Model Number: FC4 - -

Connection

NPT = 1/4-18 NPT (standard)

ISO = 1/4-19 ISO (optional)

Actuation Temperature

135 = 135°F (57.2°C)

150 = 150°F (65.9°C)

165 = 165°F (73.9°C) (standard)



FireChek[®] ...Safe, Simple, Smart.

MEMRY[®] is a registered trademark of the MEMRY Corporation. **DELRIN**[®] is a registered trademark of the DuPont Corporation.

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