



# GET THE POWER OF THE PIN

## MODEL D Pressure Relief Valve

The **Model D** is an inline valve that holds a bubble-tight, closed position until pressure reaches an exact set point.

At set point, the valve instantly opens to relieve pressure from a protected system.

FROM THE  
CREATORS  
OF THE  
*Original*  
BUCKLING  
PIN  
VALVE



- Wide variety of pressures ratings and settings
- Orifices usually full bore or greater
- Utilizes proven design principle – Euler's Law
- Environmentally safer option
- +/- 5% accuracy of set pressure
- Unaffected by changing ambient temperatures or pulsating pressures
- Stainless-steel seat and piston – standard
- Reseats rapidly without opening the valve or line to atmosphere
- Pin flag shows the pin code, valve serial number and pin set point in PSI
- No loose metal or plastic shards to enter the flow stream upon opening
- One moving part
- The pin cannot fatigue
- Minimal down time to change the pin
- Provides a reliable signal with the proximity sensor to monitor the stem movement and gives a remote indication that the valve has opened (*Option*)
- Spare pins can be stored at the valve (*Option*)
- Balanced piston design to negate the effects of back pressure (*Option*)

SINCE 1958

**Adaptive Industrial Solutions**

877-818-5009 | sales@adaptiveind.com | www.adaptiveind.com

# MODEL D

## ADVANTAGES

- Visual indication of opening
- Bleed only what is in the isolated valve.
- Unaffected by pulsating pressures.
- Unaffected by changing ambient temperatures at the pin.
- Opens in milliseconds.
- Operates to within 95% of set point.
- Pin cannot fatigue and buckle early.
- Precise pin, obeying Euler's Law, acts as a pressure sensor and actuator.
- Balanced design so valve senses only upstream pressure.

## SPECIFICATIONS

### PRESSURE SET POINT RANGE

5 PSI - 2,000 PSI.

### VALVE SEALS

Available for high & low temperatures, Viton standard.

### STANDARD MATERIALS

Body mild steel, stainless-steel trim is standard, other materials optional.

### ACCURACY

+ / -5%.

## OPTIONS

### PROXIMITY SENSOR

For remote open indication.

### PIN CONTAINER

Pin storage at the valve.

### FLUSH PORT

Washing inlet seat.

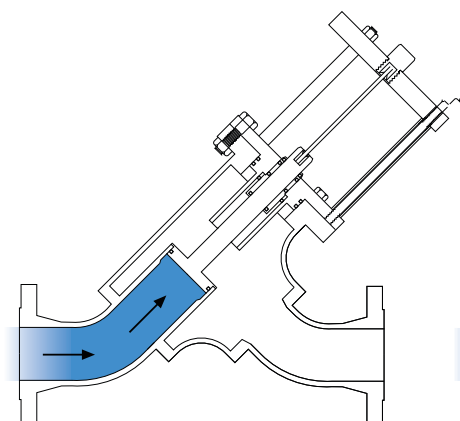
### STAINLESS-STEEL SAFETY CAGE

Protects your pin from accidental damage.

## OPERATION

In the closed position, an elastomer seal contacts a machined, stainless-steel piston seat for a bubble-tight shut off. When the pin buckles, the piston moves off seat to allow full flow pressure relief.

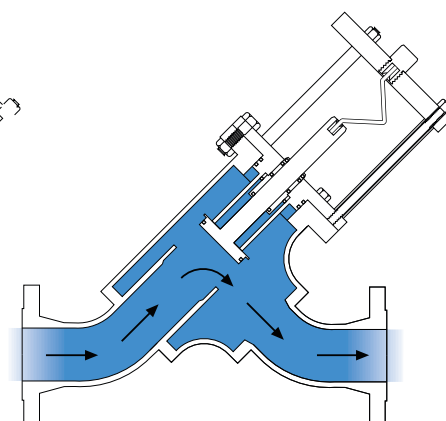
### Closed



(Straight Pin)

Pressure below set point.

### Open



(Buckled Pin)

Pressure at set point.



*Special design  
for toxic fluids*

## EULER'S LAW

Axial Force on the Pin  
Causing the Pin to Buckle  
(Piston/Plunger Area  
x  
System Pressure)

Pin Diameter<sup>4</sup> x  
Pin Material Modulus  
of Elasticity  
~  
Pin Length<sup>2</sup>

## APPLICATIONS

Provides safety for a wide variety of pressure relief applications, including chemical process plants, pipelines, separators, refineries, midstream and paper mills. The ideal substitute for rupture disks.



• Oklahoma City, OK 73128

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Rupture Pin Technology © 2017

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