



**Rupture Pin** A BRAND of \_\_\_\_\_  
**Taylor Valve Technology**

# 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*)

WWW.RUPTUREPIN.COM SINCE 1958

# 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

15 PSI - 3,000 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 DEVICE

For remote open indication.

### PIN CONTAINER

Pin storage at the valve.

### FLUSH PORT

Washing inlet seat.

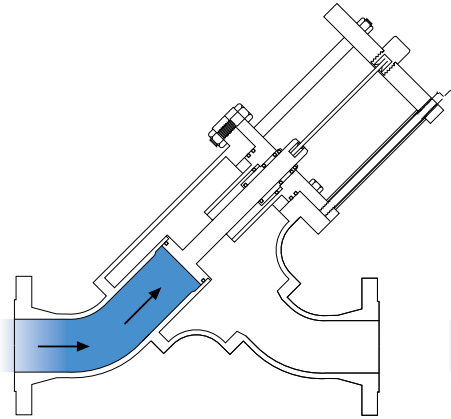
### STAINLESS STEEL PIN GUARD

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.

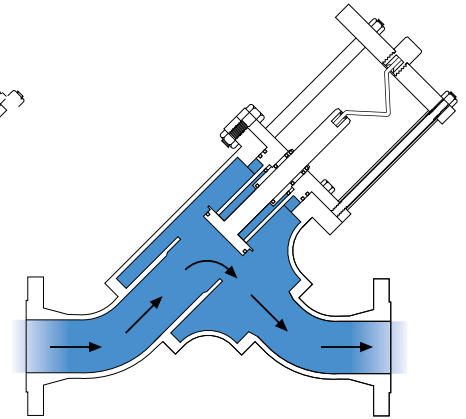
### Closed



#### (Straight Pin)

Pressure below set point.

### Open



#### (Buckled Pin)

Pressure at set point.



*Special design for toxic fluids*

## EULER'S LAW

$$\frac{\text{Axial Force on the Pin Causing the Pin to Buckle (Piston/Plunger Area x System Pressure)}}{\text{Pin Diameter}^4 \times \text{Pin Material Modulus of Elasticity}} \sim \frac{1}{\text{Pin Length}^2}$$

## APPLICATIONS

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