



Rupture Pin®

A BRAND OF  Taylor Valve Technology®

MODEL D

Pressure Relief Valve

• TRUSTED •

SINCE 1958

• WORLDWIDE •

FROM THE
CREATORS
OF THE
Original
BUCKLING
PIN
VALVE

Precise.

Quality.

Reliable.



SINCE 1958 

MODEL D ADVANTAGES

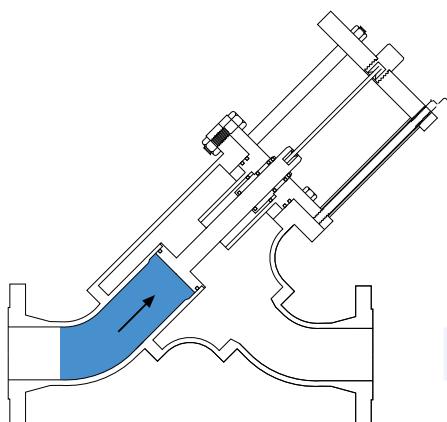
- Visual indication of opening
- Bleed only what is in the isolated valve.
- Unaffected by pulsating pressures.
- Unaffected by changing ambient temperatures at the pin.
- Opens in milliseconds.
- Operates to within 95% of set point.
- Pin cannot fatigue and buckle early.
- Precise pin, obeying Euler's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



OPERATION

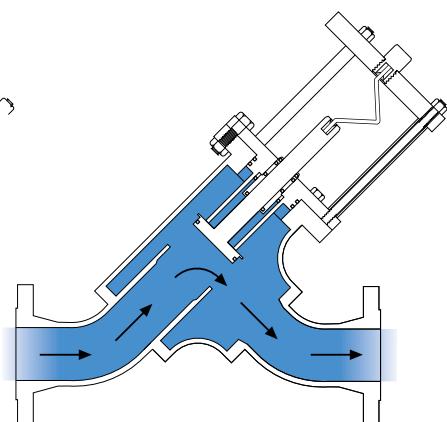
In the closed position, an elastomer seal contacts a machined, stainless-steel piston seat for a bubble-tight shut off. When the pin buckles, the piston moves off seat to allow full flow pressure relief.

Closed



(Straight Pin)
Pressure Below Set Point

Open



(Buckled Pin)
Pressure At Set Point

EULER'S LAW

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

OPTIONS

PROXIMITY SENSOR

For remote open indication.

PIN CONTAINER

Pin storage at the valve.

STAINLESS-STEEL SAFETY CAGE

Protects your pin from accidental damage.

FLUSH PORT

Washing inlet seat.

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.

- Wide variety of pressures ratings and settings
- Orifices usually full bore or greater
- Utilizes proven design principle – Euler's Law
- Environmentally safer option
- $\pm 5\%$ above 40 PSI, $\pm 2\%$ at 40 PSI and below
- 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*)

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.

SPECIFICATIONS

PRESSURE SET POINT RANGE

5 PSI - 2,000 PSI.

VALVE SEALS

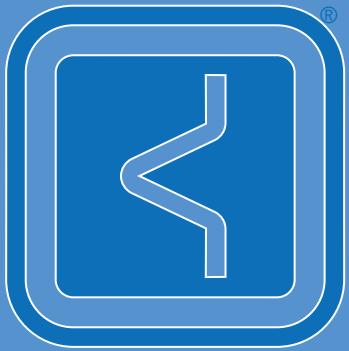
Available for high & low temperatures, Viton standard.

STANDARD MATERIALS

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

ACCURACY

$\pm 5\%$ above 40 PSI, $\pm 2\%$ at 40 PSI and below.



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Reliable.

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