



Rupture Pin Technology

Advanced Custom and Standard Valves for Pressure Relief

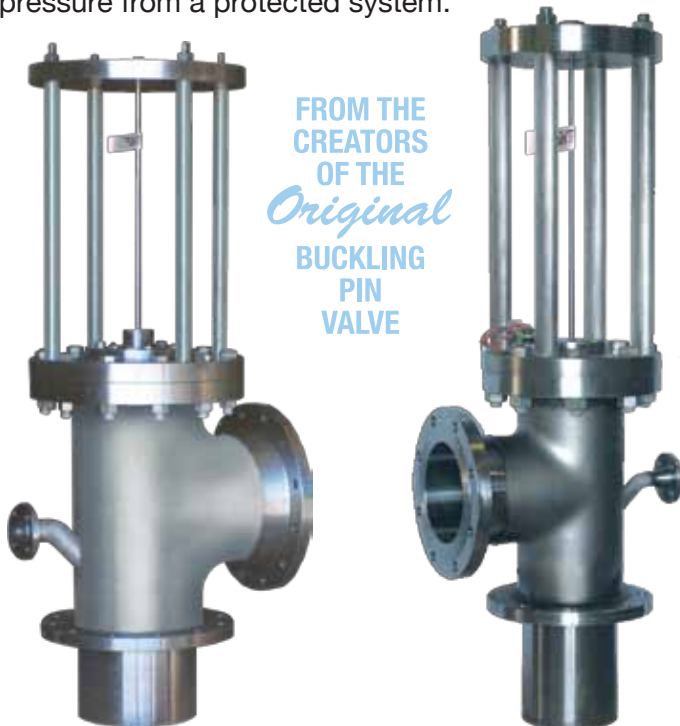
GET THE POWER OF THE PIN

MODEL CM

Relief Valve On a Steam Jacketed Flow System

The **Model CM** is an angle 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 pressure 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*)

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MODEL CM

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.
- Precise pin, obeying Euler's Law, acts as a pressure sensor and actuator.
- Balanced design so valve senses only upstream pressure.
- Flow moves past a flat piston.
- No voids for material to pack into.
- Angle port is provided to inject water to clear the seat of solids prior to reseating the piston.

SPECIFICATIONS

PRESSURE SET POINT RANGE

15 PSI - 6,000 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% of set point.

OPTIONS

PROXIMITY DEVICE

For remote open indication.

PIN CONTAINER

Pin storage at the valve.

FIRE RELEASE OF PIN RESTRAINT

Valve opens when fire softens the special low melting point alloy plug threads.

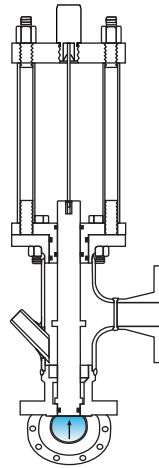
STAINLESS STEEL PIN GUARD

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.

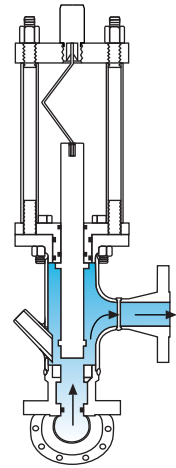
Closed



(Straight Pin)

Pressure below set point.

Open



(Buckled Pin)

Pressure at set point.



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

For use on steam jacketed flow systems. The ideal substitution for rupture discs.