



VALVES OPEN TO RELIEVE PRESSURE



VALVES CLOSE TO ISOLATE PRESSURE

*We*  
**CAN QUICKLY  
SOLVE YOUR  
EXCESS PRESSURE,  
VACUUM OR PRESSURE  
RELIEF OR PRESSURE  
ISOLATION PROBLEMS.**

GET THE  
**POWER  
OF THE PIN**

for the best overall value on the market  
& keep people, systems, products  
and the environment safe.

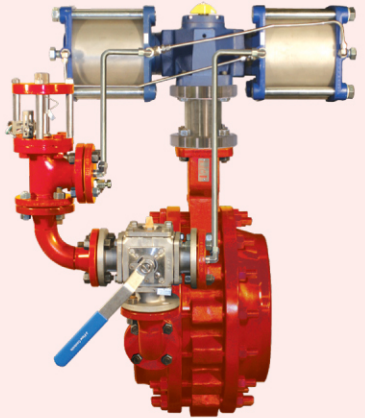
Model I-CU



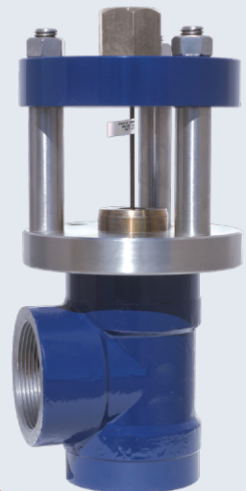
Model I



Model FB ESV



Model C





For over 25 years, many of the world's top companies have experienced the performance advantages of our advanced relief valve and shutoff valve technology.

These companies have come to trust our technology because they understand what uniquely sets us apart and gives us the edge over other relief valves and rupture discs on the market.

So, what sets us apart from the rest? It's something we call "The Power of the Pin".

The rupture pin is the heart of each advanced pressure relief valve and is vital to the function, accuracy and consistency of the valve.

By modifying the pin, we are able to control the valve's performance – from small changes to more dramatic changes. It is for this reason that each pin is carefully crafted using a precise manufacturing process.

This process ensures that each valve will perform its function accurately, consistently and within an extremely tight tolerance – something other products on the market simply can't achieve.

We invite you to find out more about our exciting technology by reading this information, visiting our website at [www.rupturepin.com](http://www.rupturepin.com) and calling our reps.

# Rupture Pin Technology

Advanced Custom and Standard Valves for Pressure Relief.

## EMERGENCY RELIEF VALVES

[WWW.RUPTUREPIN.COM](http://WWW.RUPTUREPIN.COM)



### MODEL A RELIEF VALVE

Valves that sense line pressure, vent direct to atmosphere.

#### APPLICATIONS:

Pump Bypass, Pump Relief, Well Hookups and Closed Loop Systems. Balanced Design.



### MODEL B RELIEF VALVE

Valves that sense line pressure, vent direct to atmosphere.

- 2" to 24" 150# RF flange inlet
- Relief to atmosphere
- Settings from 1 PSI to 100 PSI

#### APPLICATIONS:

Emergency tank vent.



### MODEL C-AA RELIEF VALVE

Using instrument air directed to the actuator by the pilot.

- Angle type flange end relief valve.
- Standard design for valves 1/2" to 48" piston diameter.
- Settings 2 PSI to 3,500 PSI depending on piston diameter.
- Inlet and outlet flanges are identical.

#### APPLICATIONS:

Pressure relief valve to replace conventional relief valves or rupture disks..



### MODEL C-AB RELIEF VALVE

Using instrument air directed to the actuator by the pilot.

- Downstream pressure does not affect set point.
- Virtually no limit on size or special features.
- Excellent accuracy.
- Simplicity of only one moving part.

#### APPLICATIONS:

Pressure relief valve to replace pressure relief valves that are downstream balanced.



### MODEL C-M RELIEF VALVE

Relief valve on a steam jacketed flow system.

- Flow moves past a flat piston face.
- No voids for materials to pack into.
- The flush port is provided to clean the seat prior to reseating the piston.

#### APPLICATIONS:

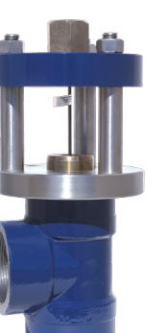
For use on steam jacketed flow systems.



### MODEL C-N RELIEF VALVE

Dual balanced outlet with two settings 8300 PSI and 9400 PSI for oxygen, hydrogen and nitrogen (Built for NASA)

- Dual balanced outlet with 2 settings 8300 PSI and 9400 PSI for Oxygen, Hydrogen and Nitrogen.



### MODEL C-T RELIEF VALVE

Available in 1", 1 1/2" and 2" female inlet and Outlet with relief settings from 15 to 2,000 PSI +/- 5%.

- Steel body, stainless steel trim and bonnet.
- Viton "O" rings are standard.

#### APPLICATIONS:

The main application is to use in place of rupture disks where you need greater accuracy, reliability and replacement without opening the line.



### MODEL D-AA RELIEF VALVE

Inline type flange end relief valve.

- Excellent accuracy.
- Simplicity - one moving part.
- Reliability.

#### APPLICATIONS:

Pressure relief valve to replace conventional relief valves or rupture disks..



### MODEL D-CA RELIEF VALVE

For pressure relief of toxic fluids.

- Once pressure is relieved, the valve can be reset in minutes without suiting up workers or worrying about environmental concerns.

#### APPLICATIONS:

Excellent for high pressure toxic fluids. Any stem leakage is contained and vented to a neutralizing solution, a flare or other safe disposal method.



### MODEL D-G RELIEF VALVE

Differential pressure relief valve.

- Easy to put in service without requiring a bypass valve.
- Simplicity (one moving part).
- Visual or remote indication of opening.

#### APPLICATIONS:

The main application is to use in place of rupture disks where you need greater accuracy, reliability and replacement without opening the line.



### MODEL I MUD VALVE

Relief valve for mud and slurry pumps from 500 PSI to 10,000 PSI.

#### APPLICATIONS:

Use instead of shear and spring valves where you need greater accuracy and reliability. Mud and slurry pump relief to 6,000 PSI.



### MODEL O-A RELIEF VALVE

Differential pressure relief valve.

- Easy to put in service without requiring a bypass valve.
- Simplicity (one moving part).
- Visual or remote indication of opening.

#### APPLICATIONS:

The main application is to use in place of rupture disks where you need greater accuracy, reliability and replacement without opening the line to meet downstream.

## EMERGENCY SHUTDOWN VALVES

# Buckling Pin Technology

Advanced Custom and Standard Pressure Isolation Valves .

[WWW.BUCKLINGPIN.COM](http://WWW.BUCKLINGPIN.COM)

### MODEL A ESV

2" Angle Type ESV. 40 - 500 PSI, 2" NPT, Flanges Optional.

- Utilizes a proven design principle.
- Reaches closed position in milliseconds to provide a bubble tight seal.
- Stainless steel seat and piston.
- +/-5% accuracy of set pressure.

#### APPLICATIONS:

• Protect plastic lines from excess well pressure.  
• Keep well pressure from exceeding D.O.T. transmission limits



### MODEL FB ESV

1" - 96" Butterfly Valve Type ESV. (Rupture Pin Pilot to Actuator)

- Utilizes a proven design principle.
- Reaches closed position in milliseconds to provide a bubble tight seal.
- Stainless steel seat and piston.
- +/-5% accuracy of set pressure.

#### APPLICATIONS:

• Protect plastic lines from excess well pressure.  
• Keep well pressure from exceeding D.O.T. transmission limits



### MODEL B ESV

2" - 12" ESV Offset Inline. 100 - 2,500 PSI, Flange Fittings.

- You get safety without venting pollution.
- No product loss by venting.
- No flare system required.
- No yearly valve testing.
- The pin obeys Euler's Law precisely and cannot fatigue.

#### APPLICATIONS:

• Protect plastic lines from excess well pressure.  
• Keep well pressure from exceeding D.O.T. transmission limits



### MODEL EB

1" - 12" Inline, Ball Valve Type ESV. 50 - 3,600 PSI.

This is a self-contained ESV that uses a buckling pin valve opening to power the actuator with system pressure closing the ball valve. Any quarter turn valve can be converted to a relief or ESV valve.



### MODEL J-A ESV

2" - 12" Inline Check Valve Type ESV. 50 - 4,000 PSI. High pressure set point.

### MODEL J-B ESV

2" - 12" Inline Check Valve Type ESV. 50 - 4,000 PSI. Low pressure set point.

- You get safety without venting pollution.
- No product loss by venting.
- No flare system required.
- No yearly valve testing.
- The pin obeys Euler's Law precisely and cannot fatigue.
- There is no set pressure variation with ambient temperature change on the pin.
- The precise pin is the sensor and the actuator.
  - The standard accuracy is +/- 5%.

#### APPLICATIONS:

• Protect plastic lines from excess well pressure.  
• Keep well pressure from exceeding D.O.T. transmission limits  
• Protect meter run from excess pressure.



#### GENERAL SPECIFIC OPTIONS:

- Automatic opening in case of fire.
- Indicator that shows a pressure limit has been exceeded.
- Steam jacketed relief valves.
- Proximity switch for a remote indication the valves has opened.
- Pin container at the valve for ready access to spare pins.
- Flush port to wash seat area prior to reset
- Stainless steel pin guard to protect pin from accidental damage.



**Our VALVES**  
have solved the toughest

PROBLEMS AROUND THE WORLD FOR

**25 years**

with a **96.4% SATISFACTION** rate



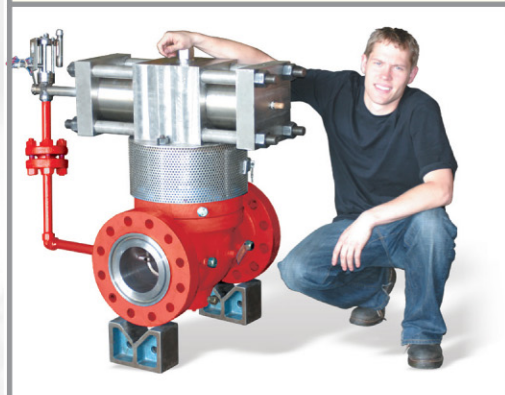
## Advantages Over the Competition

- 1 We have over 22,000 valves operating worldwide with a satisfaction rate of 96.4% in over 25 years!
- 2 Pins buckle at set pressure
- 3 No worker safety concerns
- 4 No product loss
- 5 No environmental pollution
- 6 No fragmentation
- 7 Extremely accurate
- 8 Low maintenance costs
- 9 Low pin replacement costs
- 10 Full bore relief in milliseconds
- 11 Pin can be replaced by one person in only one minute
- 12 Minimal downtime
- 13 Works close to set point
- 14 Does not require vacuum support
- 15 Can sense upstream, downstream or differential pressure
- 16 Pins are rugged and can be stored at the valve
- 17 No costly handling
- 18 It is easy to tell when a pin is buckled visually or remotely when using a proximity sensor
- 19 You don't break the line to change the pin
- 20 Buckling stress is lower than yield stress
- 21 Few inspections
- 22 Replacement pins can be produced quickly
- 23 Replacement pins can be shipped immediately
- 24 We make custom valves to your specifications
- 25 We take on "mission impossible" projects
- 26 Settings can be changed in minutes without breaking the line by changing the pin (with POCO option)
- 27 Reliability can be checked in the field under pressure
- 28 It is safe for your system providing emergency relief

### Clarification of Terms

**Rupture Pin** valves open to relieve pressure.

**Buckling Pin** valves close to isolate pressure.



### Client List

3M  
Air Products  
Alabama Gas Corp.  
Alabama Pine Pulp  
Allied Signal  
Amalgamated Sugar  
American Azide  
American Cyanimid  
Amoco  
Aramco  
Arco  
Arizona Chemical  
BASF  
Bauer, Inc.  
Belize Natural Energy  
Bohai Oil  
Boom Drilling  
British Petroleum American  
British Petroleum United Kingdom  
Brunswick Cellulose  
Cactus Drilling  
Calidra de Occidente  
Carbon Fuels  
Chalmette Refining LLC  
CIBUS Inc.  
Conoco  
Columbia Natural Gas  
Cytec Engineered Materials  
Day & Zimmerman  
Dow Chemical  
DuPont  
Durez Corporation  
Eastman Chemical  
El Paso Natural Gas  
Encore  
Energy Transfer  
Englobal Engineering  
Exxon  
Fermilab  
Fluor Daniel  
Foster Wheeler  
General Dynamics  
Georgia Pacific  
Goodyear  
Hanover LTD  
Hazen Research  
Kerr-McGee Oil & Gas  
Koch Engineering  
Koch Pipeline  
Lockwood Greene  
LTV Energy  
M-Wave Marketing  
Mahr Corp  
Marathon Oil  
Midway Tool  
Miller  
Mobil  
Monsanto  
Mustang Hydraulics  
MW Kellogg  
NASA  
National Oilwell Varco  
Nomac Drilling  
Northern Natural Gas  
O'Brien & Gere  
Parsons  
Petrobras  
Pfizer  
PPG  
Procter & Gamble  
Ram Instruments  
Rmax  
Raytheon United Engineers  
Santos  
Sappi Fine Paper  
Seaway Crude  
Shell  
Sinergia Soluciones  
Solvay Solexis  
Southern Natural Gas  
Stepan  
Stone Container  
Sunoco Pipeline  
Terasen Pipeline  
Tinker AFB  
Twin Rivers Technologies  
Unit Drilling  
Vetco Gray  
Weyerhaeuser  
Wissington Sugar Factory

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Our unique, patented pin technology has been used for over 25 years in more than 22,000 valves around the world with an impressive satisfaction rate of 96.4%! It's also extremely safe for the environment.

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