Rupture Disk Backup Relief Valve

specially designed for use with

Existing Carbon Rupture Disk

on

Low Pressure Centrifugal Chillers

R-11 R-113 R-123

The RuptureSeal™

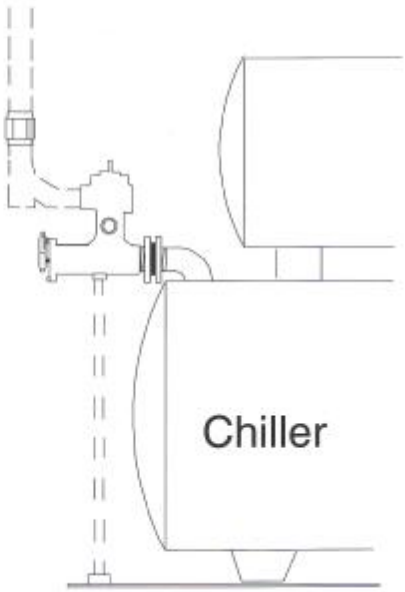
"Lifetime Warranty"

Patented

Manufactured in accordance with ASHRAE Guideline 3-1990 Sec. 4.6
Flow Certified per ASME Standards

Special Features

- **UNIT COMES FULLY ASSEMBLED READY TO INSTALL**
- Costs less than competitive backup relief valves
- Connects to and **UTILIZES EXISTING CARBON RUPTURE DISK**
- Chiller **DOES NOT HAVE TO BE SHUT DOWN TO INSTALL**
- Chiller charge **DOES NOT** have to be "pulled" to install
- **VALVE STAINLESS STEEL CONSTRUCTION**
- Weighs only twenty (20) pounds (RS-2)
- Easy installation
- Optional **RuptureAlarm™** available
- Valve seating safety checks, **WHICH MAY BE REQUIRED FOR INSURANCE,** easily done while chiller is running.
- Patented Carbon Fragment Collection Trap allows the **RuptureSeal™** to be used with chiller's existing carbon rupture disk.



RuptureSeal™ Specifications

The **RuptureSeal™** backup relief valve comes in two sizes: The RS-2, two inch **(2") model with a flow capacity of 940 SCFM;** the RS-3, three inch **(3") model with a flow capacity of 1972 SCFM.** Units are shipped pre-assembled; ready to install. General specifications include:

- **Flow capacity: RS-2 = 940 SCFM**
  RS-3 = 1972 SCFM
- **Set pressure - 15 psig**
- **Reseals "bubble tight" within 3 psi of set pressure**
- **Refrigerant compatibility - R-11 R-113 & R-123**
- **Weight - 20 pounds (RS-2)**
- **Dimensions (approximate) - Length 13 inches, height 13 inches, width 6 inches (RS-2)**
- **Inlet - 2-inch male NPT pipe threads**
- **Outlet - 2-inch female NPT pipe threads**
- **O-Ring seat - seals bubble tight**
- **VALVE STAINLESS STEEL CONSTRUCTION**
- **Tell-tale pressure gauge 30"Hg -0- 30 psig**
- **Double check pressure equalizing valve (included)**
- **Every valve 100% tested for pressure setting and leakage**
- **O-Rings serviceable without disturbing pressure relief calibration**
- **Integral support fitting (as part of valve)**
- **Carbon fragment collection trap with specially formulated tack compound**
- **Pivot spring action corrects mis-alignment and compensates for spring side thrust**
- **Calibration is factory sealed to prevent inadvertent tampering or dis-assembly**
- **High capacity full nozzle design**
- **Direct spring acting**
- **INSTANTANEOUS "POP OPEN" ACTION**
- **BACK PRESSURE COMPENSATED**

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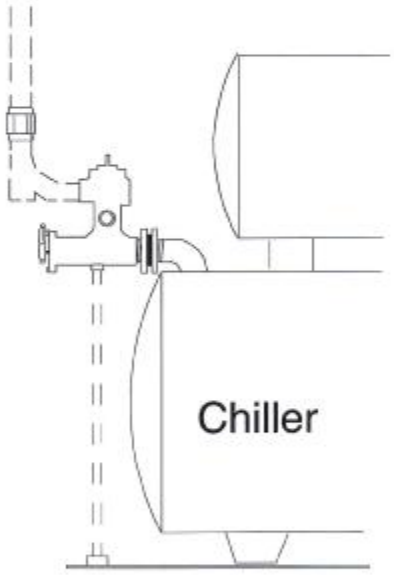
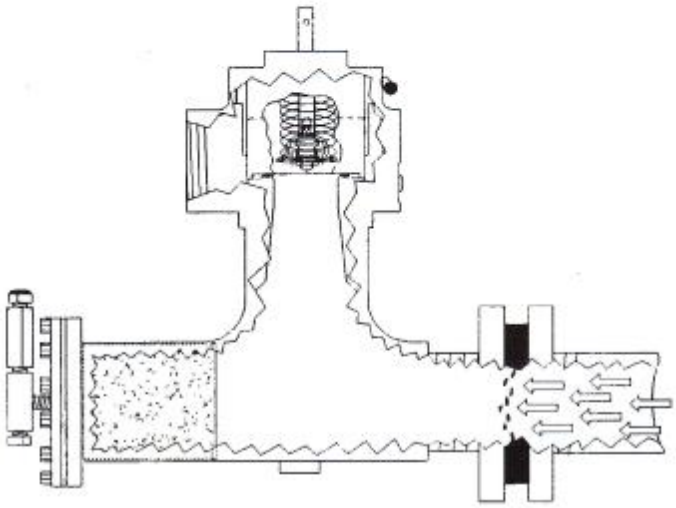


The **RuptureSeal™** rupture disk backup relief valve, with its exclusive "Patented" carbon fragment collection trap, is designed specifically for installation in series with existing carbon type fragmenting rupture disks used on low pressure (15 psi or below) centrifugal chillers.

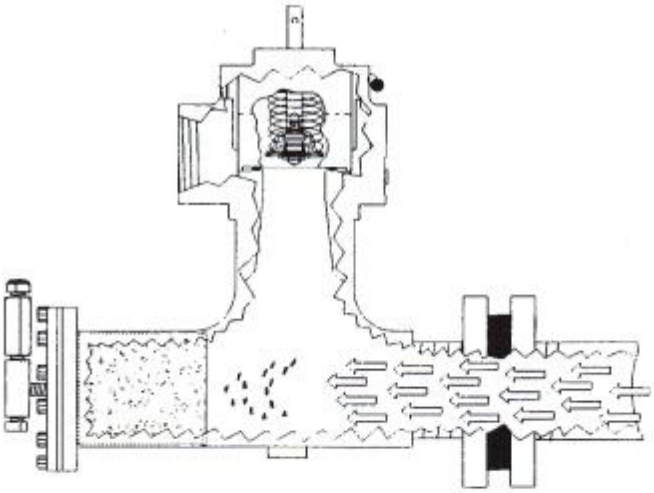
The primary function of the **RuptureSeal™** backup relief valve is to minimize refrigerant loss to the atmosphere in the event of a burst rupture disk. The **RuptureSeal™** backup relief valve accomplishes this vital function by automatically closing off the vent path, thus re-sealing the chiller once pressure returns to normal. In the event of a burst rupture disk, the **RuptureSeal™** also serves as the interim primary relief.

RuptureSeal™ / *with its* Carbon Fragments Collection Trap *and other* "Patented" *features*

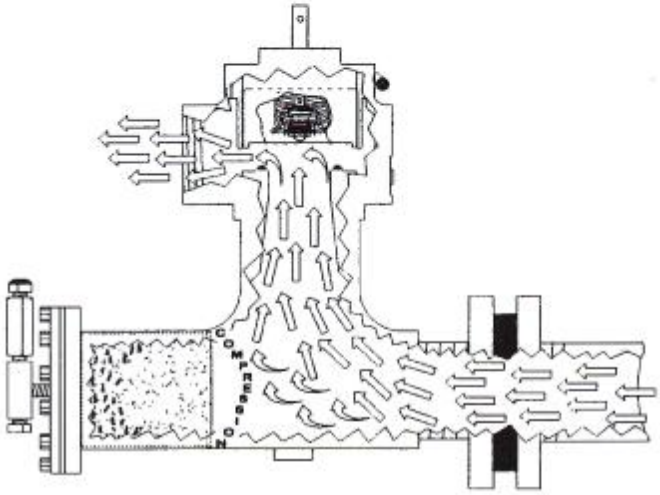


How does it work?

The Chiller's disk ruptures at 15 psi. Carbon Fragments are propelled through the "Patented" *choke* section of the Collection Chamber. (NOTE: valve disc is closed.)



Weight of the fragmented rupture disk and momentum, project the carbon particles ahead of gas flow, in a manner similar to pellets from a shot gun. (NOTE: valve disc is still closed.)

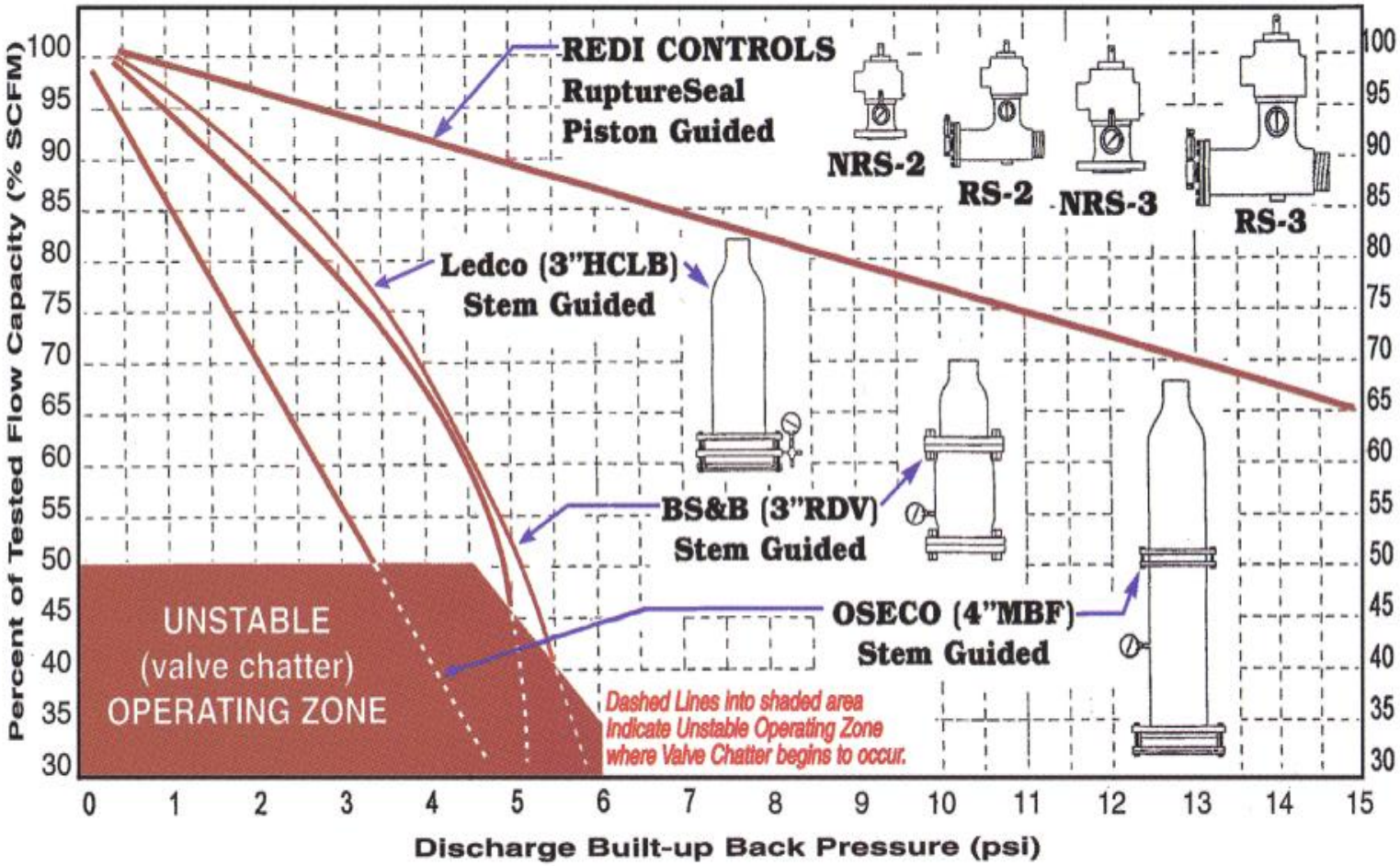


Carbon fragments are propelled into the trap and collected, compression of existing air occurs, and the flow of refrigerant vapors is diverted into the valve nozzle, opening the valve disc, and relieving the vapors to the vent line.

NOTE: Test results of the RuptureSeal™ from an independent laboratory verify that at least 99.99% of the carbon fragments from the ruptured disk are captured in the "Patented" Carbon Fragment Collection Trap. Remaining "dust like" particles, no larger than 30 microns, are expelled from the valve and will not effect re-seating.

Effect of Back Pressure Buildup on Flow Capacity

The RuptureSeal™ "Piston Guided" valve - vs - Conventional "Stem guided" valves based on actual performance tests conducted at an ASME approved Testing Laboratory according to ASME/ANSI PTC 25.3-1988 for Discharge Built-up Back Pressure.



Relief Valve Performance Chart

Piston Guided Valves -vs- Stem Guided (see note)

NOTE: At the point where "Stem Guided" valves begin to approach the UNSTABLE OPERATING ZONE, Redi Controls' "Piston Guided" valves are still flowing at approximately 90% of their rated flow capacity.