CYRUS SHANK COMPANY

800D, 801D, 803, 812, 813, 804, 814, 805, 815
SAFETY RELIEF VALVES

Shank offers larger outlet sizes in our 812, 813, 814, & 815 relief valves which meet the specification of the ASHRAE Addendum 15c-2000 piping tables for new installations.

Part #	Inlet x Outlet Size	Available Manifolds
800D, 801D, 803	1/2" FNPT x 3/4" FNPT	843, 843F, 846M, 848M
812 Medium Capacity	1/2" FNPT x 1" FNPT	843, 843F, 846M, 848M
813	1/2" FNPT x 1" FNPT	843, 843F, 846M, 848M
804	3/4" FNPT x 1" FNPT	844, 844F, 847M, 849M
814	3/4" FNPT x 1 1/4" FNPT	844, 844F, 847M, 849M
805	1" FNPT x 1 1/4" FNPT	845, 845F, 850M-1, 875M, 876M
815	1" FNPT x 1 1/2" FNPT	845, 845F, 850M-1, 875M, 876M

*Still provided with cast hex on outlet

Characteristics
- Angle style
- Casting body is ductile iron grade 60-40-18
- Upper & lower seats are 304 stainless steel with embedded Teflon ring to prevent corrosion
- Springs are stainless steel

Features
- Available from 75 to 400 psi
- Common set pressures in stock
- Special settings no extra charge or wait
- Comes with installation tag and cable tie
- Undergoes 3 separate tests to verify quality and set pressure, and is sealed for security

All relief valves are also available in a dual assembly, with (DU), or without (DS) unions. These would come with our standard 843, 844, or 845 hand wheel style manifolds; or 843F, 844F, or 845F seal cap style manifolds upon request. If using our "M" series manifolds they would not be ordered as an assembly. You would just order 2 relief valves for every one manifold.

If you are replacing an 803 or 804 relief valve which had designated letters of TA, TB, TC, etc. you will now be getting one with a larger SCFM due to a design change made in year 2000 and no designated letters. This is to distinguish the old from the new style. It would only be referred to as, for example an 803 250#.

Shank relief valves are manufactured in accordance with the ASME Quality Control Procedures and stamped with the "UV" and "NB" symbols. They are also certified by The National Board of Boiler & Pressure Vessel Inspectors and in Canada.

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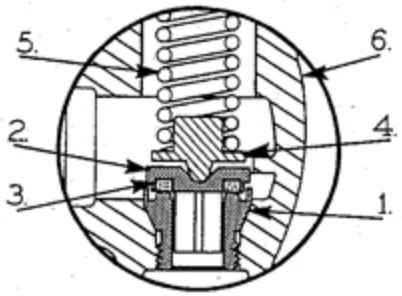
Our safety relief valve design features the most reliable method of safely relieving pressure. The virgin Teflon seal mated with the stainless steel multiple crown ring, provide an outstanding sealing action. The combination assures a non-stick and accurate pop-off pressure release. The design incorporates a special extra lift, pop-open feature for high relieving capacity

1. Our highly polished stainless steel lower seat has triple crown sealing rings that are located at slightly different heights to provide compound sealing ability with the mating Teflon ring. This assures for a positive and leakproof seal at any set pressure.
2. A four-wing guided, stainless steel upper seat provides an excellent guidance for the high lift and reseating action.
3. A high quality virgin Teflon ring is locked positively into place in the upper seat by crimping the upper seat inward from both inside and outside to seal the ring. The ring is then machined smooth for an accurate seating surface.



4. The stainless steel uniform load spring guide has a spherical tip together with a spherical pit in the upper seat which provides for a concentric and axial spring force that will load the upper seat uniformly for a tight seal.
5. The high quality, stainless steel wire, springs have extra coils and a low pitch to provide a very uniform and concentric spring rate performance.
6. Our valve body is designed with heavy thickness sections to withstand the stresses of the pressure chamber area. It is cast from ductile iron which meets the ASME - SA 395 grade 60-40-18 requirement.

NOTE: 805 & 815 still come with cast hex on outlet

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DESIGN INFORMATION
FOR 800D, 801D, 803, 812, 813, 804, 814, 805 & 815

REQUIRED VALVE CAPACITY FOR PRESSURE VESSELS

The ANSI/ASHRAE 15-1994 Safety Code gives the following formula for determining the necessary relief valve capacity for a given pressure vessel. The minimum required discharge capacity of the safety relief valve shall be:

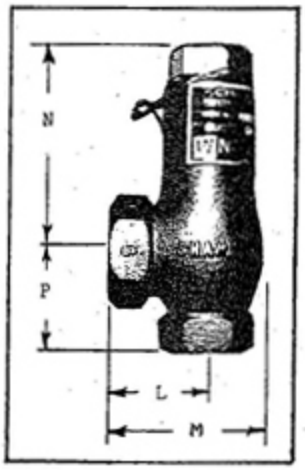
$$C = 13.1(f)(D)(L)$$

Where C = Minimum required discharge capacity of the relief valve in SCFM of AIR
13.1 = Constant to convert AIR, LB/MIN to SCFM
f = Factor dependent upon kind of refrigerant
Ammonia (Refrigerant 717) f = 0.5
Refrigerant 12, 22 & 500 f = 1.6
D = Outside diameter of vessel in ft.
L = Length of vessel in ft.

SIZES AND WEIGHTS

The sizes listed below are nominal for cast surfaces. The weight is approximate for the median pressure setting spring unit used.

SIZE AND WEIGHT SPECIFICATIONS							
	800D 801D 803	812	813	804	814	805	815
-Inlet Port (NPT, female)	1/2"	1/2"	1/2"	3/4"	3/4"	1"	1"
-Outlet Port (NPT, female)	3/4"	1"	1"	1"	1 1/4"	1 1/4"	1 1/2"
L - Inlet Pipe C/L to Outlet Face	1.7	1.7	1.7	2.0	2.0	2.4	2.4
M - Back of Body to Outlet Face	2.8	2.8	2.8	3.3	3.3	3.8	3.8
N - Outlet Pipe C/L to Top of Cap	3.4	3.4	3.4	4.0	4.0	4.9	4.9
P - Outlet Pipe C/L to Inlet Face	1.8	1.8	1.8	2.0	2.0	2.4	2.4
-Weight approximate (lb)	3.2	3.2	3.2	5.3	5.3	7.9	7.9



#805 & #815 still provided with cast hex on outlet.

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