



## User Instruction Refrigeration Pressure Relief Valve

<b>System Pressure</b>	25"Hg Vacuum to 700 PSIG Maximum Working Pressure
<b>Compatibility</b>	Compatible with all HFC, HCFC, & CFC Refrigerants
<b>Valve Set Pressure</b>	Marked on each valve
<b>Discharge Capacity</b>	Marked on each valve
<b>Temperature rating:</b>	T min = -40° C (-40°F) to +149°C (+ 300°F)
<b>Shelf Life</b>	2 years prior to system installation

The user is responsible for proper installation, sizing for system and venting of Relief Valves. Refer to ANSI/ASHRAE Safety Code for Mechanical Refrigeration for guidance.

Mueller Pressure Relief Valves are not fitted with external seals. Potential adjustments are prevented by staking the internal components into a permanent position. Additionally, internal staking is the primary tamper-evident feature of Mueller Pressure Relief Valves (see page 4). The staking method is approved by the National Board of Boiler and Pressure Vessel Inspectors (NB), Canadian Standards Association (CSA), Notified Body (2797) in the European Union

Per ASHRAE, relief valve set pressures should be 25% above maximum system pressure (i.e., maximum system pressure should not exceed 75% of relief valve setting).

**Replacement Requirements** Although valves will reseal if unobstructed, it is recommended valves be replaced after any discharge event or refrigerant changes, and following equipment rebuild.  
**Note:** As a preventive maintenance measure, it is common industry practice to replace pressure relief valves at least once every five years.

- Precautions**
- a. Do not stand on valve.
  - b. Do not obstruct the inlet or outlet end of valve
  - c. Care must be taken to eliminate foreign material from entering the valve.
  - d. A trained technician must install valve.
  - e. Avoid over torque of the valve into the system and/or the discharge end.  
(torques listed below)
  - f. Do not attempt to reset or calibrate valve.
  - g. Valves may be installed either vertically or horizontally, but must be above the system's liquid level in order to function properly

### Thread Torque Recommendations

FLARE THREADS			NPTF THREADS		
Size	Min. (ft-lbs)	Max. (ft-lbs)	Size	Min. (in-lbs)	Max. (in-lbs)
1/4"	8	10	1/8"	180	190
3/8"	15	25	1/4"	240	300
1/2"	25	35	3/8"	360	420
5/8"	40	55	1/2"	420	480
3/4"	50	60	3/4"	540	600



## Field Testing Considerations

**Field-testing pressure relief valves often raises questions concerning performance to ASME requirements. There are two primary questions regarding pressure relief valve testing: Internal seat leakage and overall leak-to-atmosphere performance.**

### **Internal Seat Tightness/ Leakage Test**

Due to the innate physical properties of both refrigerant media and relief valve application, refrigerant may accumulate in the valve outlet following installation. Mueller recommends the valve outlet be manually cleared/evacuated prior to field testing, as accumulated refrigerant can produce inaccurate results.

### **External Leak-to-atmosphere/Discharge Test**

Non-refrigerant gases such as Oxygen, Nitrogen, and Helium are often utilized as media during field-testing. Such media is not recommended, as Mueller Pressure Relief Valves are designed for installation in a refrigerant and oil environment only. Refrigeration systems provide the necessary lubricants for proper valve function, and testing performed without the proper media/environment may produce inaccurate results.



**OPENING TOLERANCES**  
(as defined by ASME SECTION VIII, DIVISION 1)

VALVE PRESSURE (psig)	VALVE PRESSURE (bar)	Allowable Tolerance	
		-3% (MIN P.S.I.G.)	+3% (MAX P.S.I.G.)
116	7.99	112.5	119.5
150	10.34	145.5	154.5
175	12.07	169.8	180.3
200	13.79	194.0	206.0
225	15.51	218.3	231.8
250	17.24	242.5	257.5
275	18.96	266.8	283.3
300	20.68	291.0	309.0
325	22.41	315.3	334.8
350	24.13	339.5	360.5
375	25.86	363.8	386.3
400	27.58	388.0	412.0
425	29.30	412.3	437.8
450	31.03	436.5	463.5
475	32.75	460.8	489.3
500	34.47	485.0	515.0
525	36.20	509.3	540.8
550	37.92	533.5	566.5
575	39.64	557.8	592.3
600	41.37	582.0	618.0
625	43.09	606.3	643.8
650	44.82	630.5	669.5
675	46.54	654.8	695.3
700	48.26	679.0	721.0

*+/- 3% tolerance also fulfills EN ISO 4126-1 requirements*

## Internal Staking

Internal staking is the primary tamper-evident and tamper-proof feature of Mueller Pressure Relief Valves. To ensure the continuous integrity of each valve's factory setting, Mueller Refrigeration employs physical deformation of the valve's internal threads. This thread deformation preserves the valve setting by staking the internal components into place. Additionally, the staking location provides a visual, tamper-evident indicator of the original factory configuration.

