

Dry All

Full Range of HVAC&R Line Products



Pressure Relief Valve

Introduction

Dry All Pressure Relief Valve the lower stem of the valve opens when the upstream pressure is greater than the spring's closing force, allowing flow through the valve. According to the rise in upstream pressure, the flow through the valve rises correspondingly. Dry All Pressure Relief Valve are made to be used in refrigeration systems to stop over-pressure brought on by system failure or high outside heat. They can only be utilized with refrigerant gas or vapour. PRV's are designed and manufactured to the intent of standard ASME VIII Division 1.

Working

Each and every Dry All Pressure Relief Valve is calibrated to show the pressure at which it starts to let gas or vapour pass through. The set pressure is the pressure at which a traditional PRV is intended to open. Via a piston seal assembly, a spring applies a sealing force to a valve seat. The piston will begin to lift when the pressure reaches the predetermined pressure, allowing a small amount of fluid to pass through the valve.

After this, a large rise in the pressure force acting on the piston causes it to outweigh the spring force. The valve "pops" fully open as a result of this imbalance of forces. The difference in pressure between the valve set point and fully open condition should not be more than 10%. By ventilating the refrigerant vapour from the valve reduces or lowers the system pressure. The valve then recloses when the spring force overcomes the piston force. When the system is functioning normally the inlet pressure is lower than the set pressure. The PRV should be opened only in abnormal conditions.

Technical Specifications

All Dry All Pressure Relief Valves are designed and manufactured to the intent of standard ASME VIII Division 1

Set pressure range = 14 to 31 bar (200 psi to 450 psi)

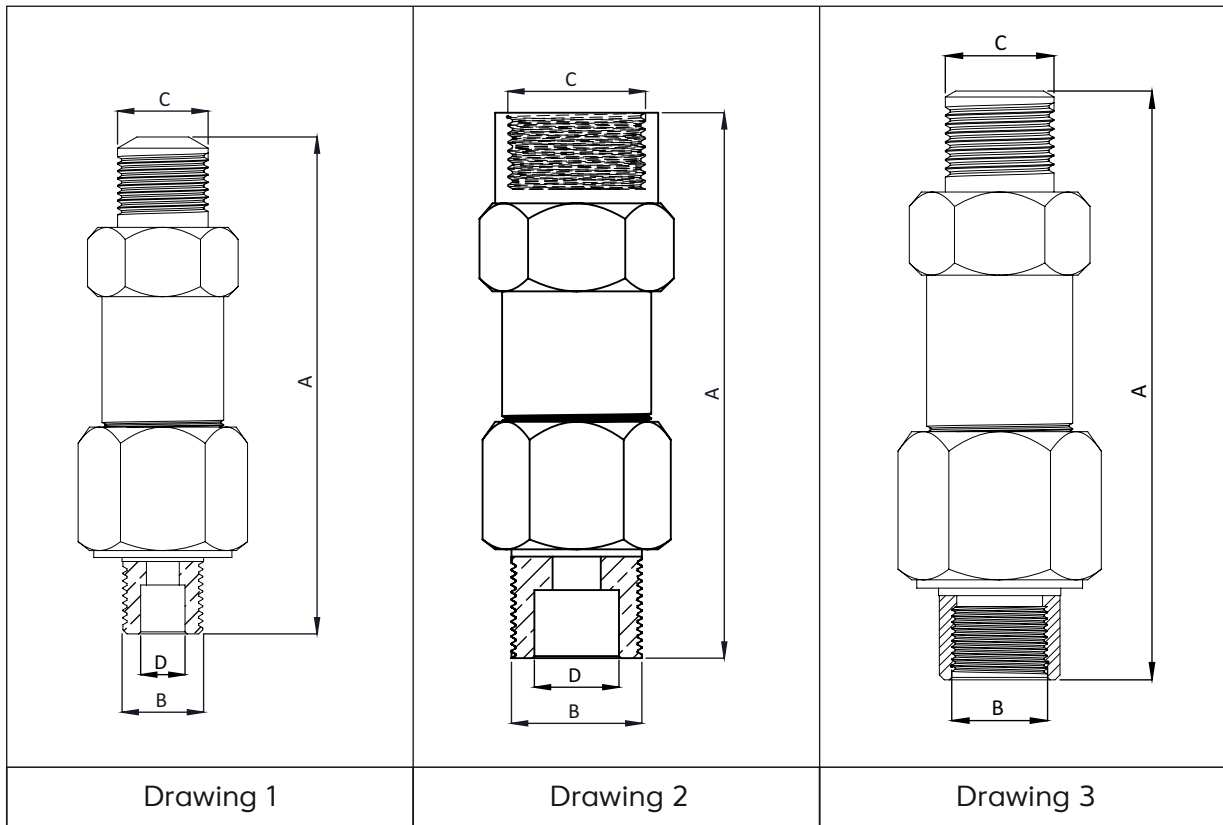
Allowable operating temperature = -20°C to + 150°C

Material of Construction

1. Brass Pressure Relief Valve

S/N	Parts	Material
1	Main Body	Brass (IS 6912)
2	Outlet Connection	Brass (IS 6912)
3	Valve Internals 1. Valve seat holder 2. Gland orifice 3. Piston	Brass (IS 6912)
4	Seat Seal	Silicon Rubber
5	Spring	Plated Alloy Steel

2. Dimensional Data



Available Models

Straight through Pressure Relief Valves - Brass								
Sr. No.	Dry All Model No.	Total length A (mm)	Inlet Connection B (inch)	Outlet Connection C (inch)	Inlet ID D (mm)	Flow Area (mm ²)	Weight (gms)	Refer Drawing No.
1	DA-PRV-38N-38F-M	88	3/8" NPT	3/8" FLARE	7	38.5	195	Drg.- 1
2	DA-PRV-38N-12F -M	123	3/8" NPT	1/2" FLARE	7	38.5	565	
3	DA-PRV-12N -38F-M	123	1/2" NPT	3/8" FLARE	9	63.6	565	
4	DA-PRV-12N -12N -F	123	1/2" NPT	1/2" NPT FEMALE	9	63.6	570	Drg.- 2
5	DA-PRV-12N -12F -M	123	1/2" NPT	1/2" FLARE	9	63.6	570	Drg.- 1
6	DA-PRV-12N -58F-M	123	1/2" NPT	5/8" FLARE	7	38.5	565	
7	DA-PRV-34N-34F-M	125	3/4" NPT	3/4" FLARE	9	63.6	585	
8	DA-PRV-34N-34N-F	125	3/4" NPT	3/4" NPT FEMALE	9	63.6	585	Drg.- 2
9	DA-PRV-1N -1N -F	139	1" NPT	1" NPT FEMALE	12.5	123	900	
10	DA-PRV-114N-F-114F-M	145	1-1/4" NPT FEMALE	1-1/4" FLARE	—	123	1300	Drg.- 3
11	DA-PRV-2B-2N-F	250	2" BSP	2" NPT FEMALE	46	1661	4800	Drg.- 2

Note:

Set pressure range = 14 to 31 bar (200 psi to 450 psi)

Customized pressure settings are available based on customer inputs.

Installation Guidelines

1. During Installation

Install the pressure relief valve using the following guidelines:

- i. During installation of PRV the operator/installer should wear personal protective equipment such as gloves, eye protection and hard shoes.
- ii. Reduce the systems upstream pressure where the valve will be installed.
- iii. Install the valve near the pressure source, install the valve at least 8-10 pipe diameters away from the diverter if the pressure source is at curve or an elbow.
- iv. Install valve in a vertical position with the stem facing upward.
- v. Make sure that the diameter of inlet and outlet ports are equal to the diameter of the pipe.
- vi. Avoid lubrication to prevent over tightening, over tightening can damage the valve.
- vii. Install the valve far away from pressure variation locations, such as turbulent areas.
- viii. To prevent unnecessary stress on the valve body, make sure the valve is adequately supported.

2. After Installation

- i. Once a pressure relief valve has been installed, it should be tested by gradually applying pressure to it until the predetermined pressure limit is reached. Verify the valve operates as it should
- ii. If testing reveals that a pressure relief valve opens at the incorrect set pressure, adjustment may be required
- iii. Ensure a schedule is in place for regularly testing the valve. Pressure relief valve require testing at least once a year. Valves that operate more frequently may require more frequent testing.

Manufactured by:



Full Range of HVAC&R Line Products

SAFE A&T Technology Private Limited

D-4, MIDC, Phase II, Dombivali (E),

Dist. Thane-421 201.

T : +91-(0)-251-2870680/81/82

M : +91-9619933838

Customer Care : +91 8181 994 994

E : info@dryall.net

W : www.dryall.net

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