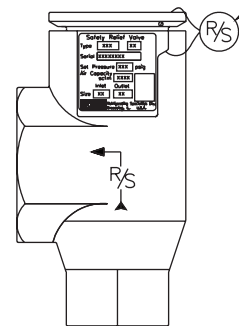


HIGH CAPACITY SAFETY RELIEF VALVES

Product Bulletin 71-00

Type: SR1, SR2, SR3, & SR4
Size 13mm & 20mm (1/2" & 3/4")



PURPOSE

Safety Relief Valves should be used to protect each refrigeration system pressure vessel that can be isolated by valves. In many localities state or municipal codes govern selection and installation of Relief Valves. Many are patterned after the ASME Boiler and Pressure Vessel Code and the ANSI/ASHRAE 15 Safety Code for Mechanical Refrigeration. Where no compulsory code exists, installation of Relief Valves according to this ANSI/ASHRAE Code is highly recommended.

DESCRIPTION

The Type SR Safety Relief Valves are designed and constructed to meet the requirements of Section VIII ASME Boiler and Pressure Vessel Code and ANSI/ASHRAE 15 Code requirements and bear the ASME

Code Symbol (UV). Employing proven principles of design, these Safety Relief Valves are highly reliable and dependable. Precision machined moving parts of stainless steel, and a PTFE disc prevent sticking due to corrosion or cold welding and assure valve opening at the set pressure long after installation. They are not suitable for corrosive ambient atmospheres such as chlorine, etc. Connection sizes are 1/2" FPT inlet with 3/4" or 1" FPT outlet. A 3/4" inlet with 1" FPT outlet is also available.

FEATURES

- ANSI/ASHRAE 15 compliant
- Excellent repeatability
- All Stainless Steel Internal Parts
- Unaffected by vibration
- PTFE seat
- Pressure settings 150 to 400 psi

FOR R22, R134A, R404A, R717 AND OTHER
COMMON REFRIGERANTS

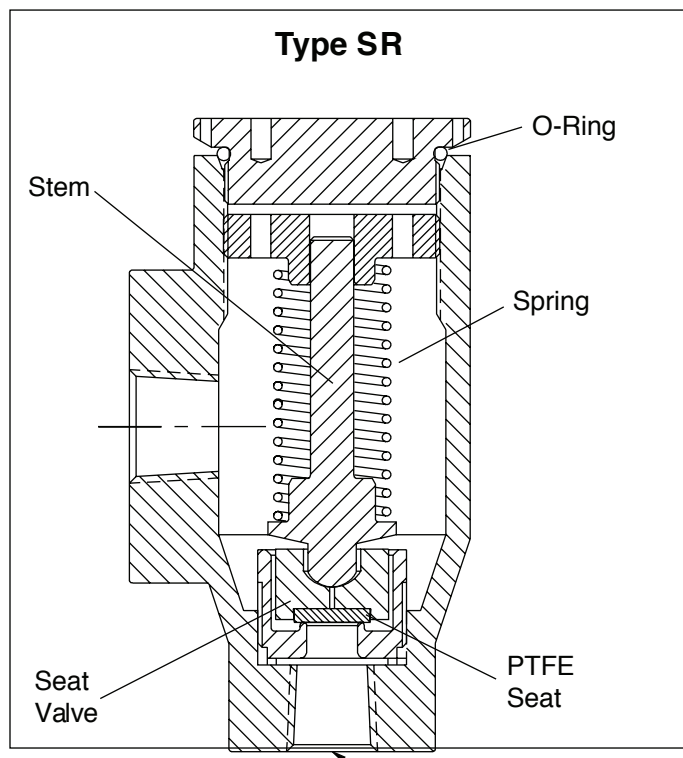


Fig. 1



ENGINEERING YOUR SUCCESS.

APPLICATION

The Type SR1 thru SR4 valves are for use with Ammonia and Halocarbon refrigerants in non-corrosive environments. Pressure settings and capacities apply only when the valve is discharging to atmospheric pressure.

PRESSURE SETTINGS

Codes require valve settings equal to or less than design working pressure of the vessel protected. The Type SR Safety Relief Valves are available in six standard settings, from 150 psig to 400 psig in 50 lb. increments. Special settings between 150 psig to 400 psig in 25 lb. increments are also available. To retain the validity of the code symbols, pressure settings and capacity, these valves must be set and sealed at the factory. When required, valves can be returned to the factory for verification of setting, or readjustment to the original setting. No major repairs or reconditioning will be done. Contact factory for details.

SELECTION DATA

The Type SR Safety Relief Valve is intended to prevent the pressure of the vessel from rising more than 10% above the Design Working Pressure (DWP) of the vessel or the pressure setting of the relief device, whichever is the lower pressure.

Whenever conditions permit, it is advisable to have the relief valve pressure setting (which must not exceed the design working pressure of the vessel) at least 25% higher than the normal operating pressure for the refrigerant used.

Pressure limiting devices, such as high pressure cutouts on positive displacement compressor systems, must stop the action of the pressure imposing element at no higher than 90% of the pressure setting for the pressure relief device.

For non-positive displacement compressors, the pressure limiting device, such as a high pressure cut-out, may be set at the DWP of the high side; providing, the low side is protected by a properly sized pressure relief device set to relieve pressure at low side DWP and there are no stop valves in the system that isolate the high side from the low side.

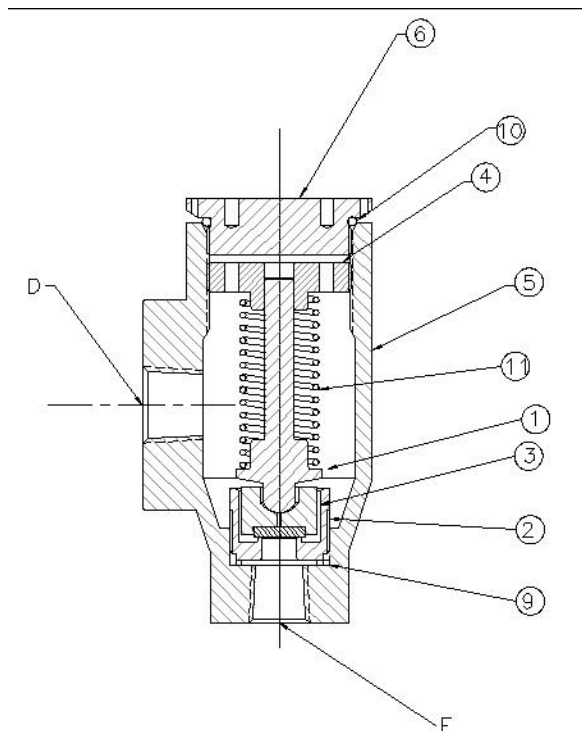
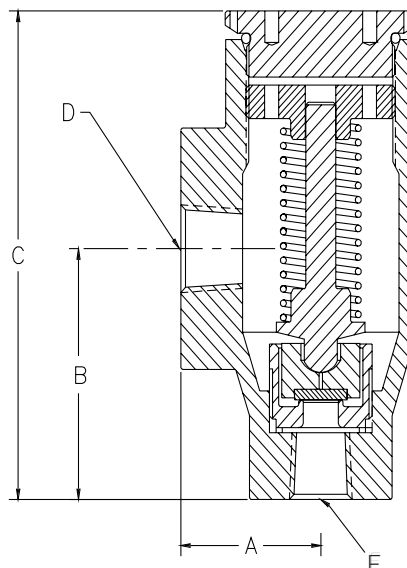
Discharge piping from relief devices must not exceed specified lengths indicated in ANSI/ASHRAE 15 with discharge to atmosphere.

Per ANSI/ASHRAE 15 the minimum required discharge capacity of a relief device for each pressure vessel where vessel is valved off from refrigerating systems is determined as follows: $C = FDL$. Where D = outside diameter of vessel, ft.; L = Length of vessel, ft.; C = Capacity, lb/min air and F = Factor determined as follows:

CAPACITIES					
Valve Type	Relief Valve Inlet	Relief Valve Outlet	Pressure Setting psig	Lbs. Per. Min Air	SC FM Air
			1501	01	30
			2001	31	70
SR1	1/2"	3/4"	2501	62	10
	FPTF	PT	3001	92	50
			3502	22	90
			4002	53	2
			1501	92	46
			2002	53	21
SR2	1/2"	1"	2503	03	97
	FPTF	PT	3003	64	72
			3504	25	47
			4004	86	22
			1502	93	77
			2003	84	93
SR3	3/4"	1-1/4"	2504	66	08
	FPTF	PT	3005	57	24
			3506	48	39
			4007	39	55
			1503	74	91
			2004	96	41
SR4	3/4"	1-1/2"	2506	07	91
	FPTF	PT	3007	29	45
			3508	3	1091
			4009	5	1241

DIMENSIONS IN INCHES					
VALVE	A	B	C	D	E
SR1	1.562	2.50	5.05	3/4" NPT	1/2" NPT
SR2	1.562	2.50	5.05	1" NPT	1/2" NPT
SR3	1.875	3.00	5.92	1-1/4" NPT	3/4" NPT
SR4	1.85	3.00	5.92	1-1/2" NPT	3/4" NPT

REFRIGERANT	F
R-717	0.5
R-22, R-134A, R-500	1.6
R-13, R-404A, R-500, R-507	2.5
All Others	1.0



STANDARD SET PRESSURES AND CONNECTION SIZES

PRESSURE SET (PSI)	PART NUMBER		
	SRH1	SRH2	SRH3
150	107055	107061	107067
200	107056	107062	107068
250	107057	107063	107069
300	107058	107064	107070
350	107059	107065	107071
400	107060	107066	107072
Inlet Connection F	1/2 NPT	1/2 NPT	3/4 NPT
Outlet Connection D	3/4 NPT	1 NPT	1NPT

PARTS AND MATERIAL LISTING

Item	Description	Material
1	Stem	416 Stainless Steel per ASTM A582
2	Seat Valve	416 Stainless Steel per ASTM A582
3	Disc/Holder	Virgin PTFE/ 416 Stainless Steel per ASTM A582
4	Plate Spring, Adjusting	416 Stainless Steel per ASTM A582
5	Valve Body	Ductile Iron Grade 60-40-18 per ASTM A395
6	Cap	Carbon Steel Grade 1215 per ASTM A108
7	Nameplate	Aluminum
8	Seal	
9	Gasket, Seat Base	Non-asbestos
10	O-ring, Cap	Neoprene
11	Spring	17-7 Steel Wire per ASTM A313

SET AND POPPING PRESSURE TOLERANCE

Set/Popping Pressure (PSI)	Set Pressure Tolerance
150	147 / 153
175	171.5 / 178.5
200	196 / 204
250	245 / 255
300	294 / 306
325	331.5 / 318.5
350	343 / 357
400	392 / 408

NOTE: Tolerance is $\pm 2\%$ **CERTIFIED CAPACITIES PER ASME SECTION VIII, DIV. 1, UG-131D.2.A(3)**

Set Pressure	Capacity (SCFM)		
	SRH1	SRH2	SRH3
150	464	464	464
175	535	535	535
200	606	606	606
250	747	747	747
300	889	889	889
325	960	960	960
350	1031	1031	1031
400	1173	1173	1173

Warranty

All Sporlan Division - Refrigeration Business Unit Products are warranted against defect in workmanship and materials for a period of one year from date of shipment from the factory, This warranty is in force only when products are properly installed, maintained and operated in use and service as specifically stated in Sporlan Division - Refrigeration Business Unit Catalogs or Bulletins for normal refrigeration applications, unless otherwise approved in writing by Sporlan Division - Refrigeration Business Unit. Defective products, or parts thereof returned to the factory with transportation charges prepaid and found to be defective by factory inspection will be replaced or repaired at Sporlan Division - Refrigeration Business Unit' option, free of charge, F.O.B. factory. Warranty does not cover products which have been altered or repaired in the field; damaged in transit, or have suffered accidents, misuse, or abuse. Products disabled by dirt, or other foreign substances will not be considered defective. THE EXPRESS WARRANTY SET FORTH ABOVE CONSTITUTES THE ONLY WARRANTY APPLICABLE TO REFRIGERATING SPECIALTIES PRODUCTS, AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL, INCLUDING ANY WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. No employee, agent, dealer or other person is authorized to give any warranties on behalf of Sporlan Division - Refrigeration Business Unit, nor to assume, for Sporlan Division - Refrigeration Business Unit, any other liability in connection with any of its products.

© 2020 Parker Hannifin Corporation

Parker Hannifin Corporation
Sporlan Division -
Refrigeration Business Unit
 2445 South 25th Avenue
 Broadview, IL 60155-3891
phone (708) 681-6300
fax (708) 681-6306
www.parker.com/refspec

71-00_52020

**ISO 9001 CERTIFIED**