

August 2016

Type H120 Relief Valve

Introduction

The Type H120 direct-operated relief valve registers directly on a spring-opposed poppet assembly which includes a Nitrile (NBR) disk. When the inlet pressure increases above the spring setting, the poppet and disk assembly is pushed away from the metal seat. Springs are available that provide various fixed relief pressures from 35 to 350 psig / 2.4 to 24.1 bar.

With this simple operation and wide spring setting selection, the Type H120 relief valve may be used where venting to atmosphere is acceptable, where the process gas is compatible with the Nitrile (NBR) disk, where its relief capacity is adequate and where some pressure relieving tolerance is acceptable. Common applications include use on pneumatic control lines of air drills, jackhammers and other similar equipment and on high-pressure installations such as the side outlet of a Type 1301F regulator.

Features

- **Space-Saving Construction** - Small relief valve size allows installation where space is limited.
- **Economical** - Low initial cost, easy installation, and high capacity per dollar invested reduces total cost of having relief valve capabilities in your system.
- **Durable** - Brass or stainless steel body construction and stainless steel spring reduce susceptibility to corrosion damage and the preset, pinned spring retainer prevents relief valve setpoint tampering.



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Figure 1. Type H120 Relief Valve

- **Optional Protective Cap** - A Type P206 raincap can be provided over the outlet to help protect the relief valve from trash and debris.

Installation

This relief valve may be installed in any position, but it must be oriented so that gas discharged from the valve does not create a fire, toxic or explosion hazard. The relief valve should be protected from material and conditions that could clog the outlet side of the valve and affect the venting of gas. A Type P206 raincap should be installed over the outlet to help protect the relief valve.

The relief valve and installation should be checked for compliance with all applicable codes.

Table 1. Relief Pressures and Capacities

FIXED RELIEF PRESSURE SETTING ⁽¹⁾		BUILD-UP OVER RELIEF PRESSURE SETTING		CAPACITY IN SCFH / Nm ³ /h OF 0.6 SPECIFIC GRAVITY NATURAL GAS ⁽²⁾		SPRING PART NUMBER	SPRING COLOR CODE	SPRING WIRE DIAMETER		SPRING FREE LENGTH	
psig	bar	psig	bar	SCFH	Nm ³ /h			In.	mm	In.	mm
35	2.4	25	1.7	6000	161	T1217837022	Yellow	0.047	1.19	0.91	23.1
60	4.1	25	1.7	8175	219						
120	8.3	25	1.7	12,825	344	T12687T0012	Orange	0.051	1.30	0.94	23.9
150	10.3	30	2.1	14,890	399	T12688T0012	Brown	0.056	1.42	1.17	29.7
175	12.1	35	2.4	17,400	466						
200	13.8	40	2.8	20,350	545	1F790837022	Black	0.062	1.58	1.13	28.7
225	15.5	45	3.1	21,750	583						
275	19.0	55	3.8	23,525	630						
350	24.1	70	4.8	34,560	926						

1. This is the initial leak point, the point at which the relief valve begins to discharge.

2. To convert to equivalent capacities of other gases, multiply the table value by 0.625 for propane, 0.775 for air or 0.789 for Nitrogen.

Type H120

Specifications

This section lists the specifications for the Type H120 relief valve. Factory specifications are stamped on the body of the relief valve.

Inlet Connection Size
1/4 NPT

Maximum Allowable Relief (Inlet) Pressure⁽¹⁾
420 psig / 29.0 bar

Fixed Relief Capacities⁽¹⁾
See Table 1

Flow Capacities
See Table 1

Wide-Open Sizing Coefficient
 $C_g: 80$

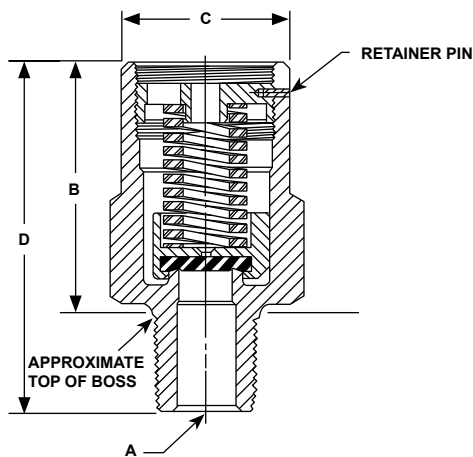
Temperature Capabilities⁽¹⁾
-20 to 160°F / -29 to 71°C

Approximate Weight
1/4 lbs / 0.1 kg

Available Option
Type P206 raincap

Construction Materials
Body, Poppet and Spring Retainer:
Brass and Stainless steel
Disk: Nitrile (NBR)
Spring: Stainless steel
Retainer Pin: Steel and Stainless steel

1. The pressure/temperature limits in this Bulletin or any applicable standard limitation should not be exceeded.



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Figure 2. Related H100 Series Construction Details and Outline Dimensions

Table 2. Dimensions for Related H100 Series

TYPE NUMBER	A, BODY SIZE	DIMENSIONS					
		B		C		D	
		In.	mm	In.	mm	In.	mm
H110	1/4 in. NPT	1.36	34.5	0.84	21.3	1.93	49.0
H120							
H123							
H124							
H135	1/2 in. NPT	2.55	64.8	1.11	28.2	2.55	64.8
H144							
H148							
H160	3/4 in. NPT	2.55	64.8	1.11	28.2	2.55	64.8
H173							
H174							
H185	3/4 in. NPT	2.90	73.7	1.68	42.7	3.69	93.7

Ordering Information

When ordering a Type H120 relief valve, specify the type number and the fixed relief pressure required.

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