

Types 66R and 66RR Low-Pressure Relief Valves

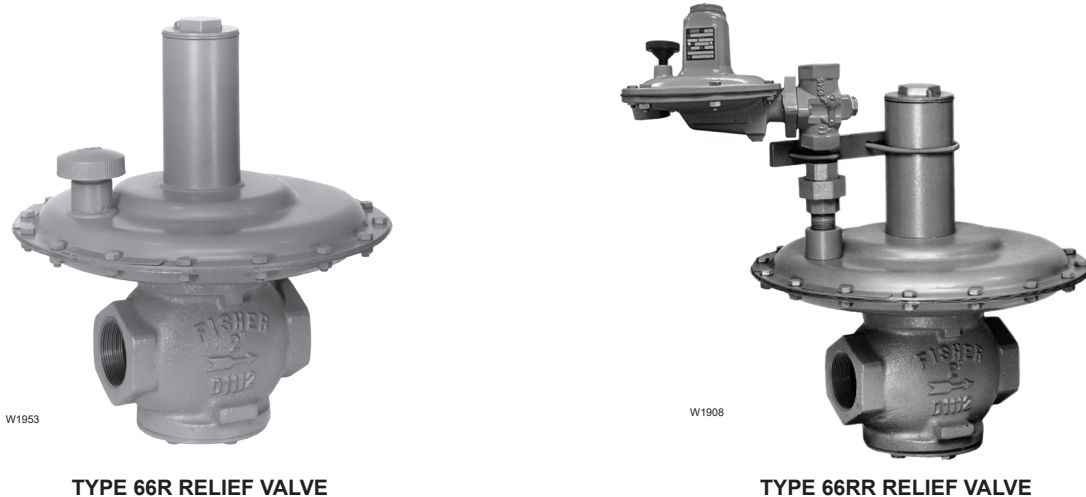


Figure 1. Typical Constructions

Introduction

Types 66R and 66RR low-pressure throttling relief valves⁽¹⁾ are used to help protect a system against overpressure, or to maintain an inlet or backpressure. The standard Type 66R direct-operated construction is used for 2 in. w.c. to 2 psig / 5 mbar to 0.14 bar set pressure ranges, while the standard Type 66RR pilot-operated construction with Type T208RR pilot is used for 4 in. w.c. to 4.5 psig / 10 mbar to 0.31 bar set pressure ranges. However, higher set pressure ranges are available with optional springs, diaphragm plates, and other internal parts.

Standard Type 66R relief valves have internal registration through a stem guide (Figure 2) that reduces the need for control line piping, while cast iron body Type 66R relief valves additionally are available with a sealing diaphragm and a tapped connection boss on the diaphragm case for external registration that requires a separate control line. All Type 66RR relief valves come standard with internal registration in the main valve body and tapped connection bosses on the pilot casings for external registration that requires a separate control line.

Features

- **Seat Protection without Sacrifice in Shutoff Capability**—Retainer (Figure 2) in standard valve plug assembly closes against seat ring before assembly can overtravel and thus overcompress O-ring.
- **Application Flexibility**—Steel bodies are available for increased resistance to piping stresses or whenever dictated by local codes. External registration is optional with all cast iron bodies for wherever a remote control line is required. These relief valves can be used for vacuum service in both standard and special versions, since vacuum service capacity is comparable with relief service capacity.
- **Severe Service Capability**—Fluorocarbon (FKM) soft parts and stainless steel metal trim parts are available for high-temperatures and/or special gases. Optional all-metal seats lessen O-ring seat erosion problems with coke gas or other corrosive applications and have knife-edged guides on their valve plug skirts to help prevent particle accumulation with dirty service.

1. Throttling relief valve defined in ANSI standard B95.1-1972. Not all codes or regulations permit these valves to be used as final overpressure protection devices.

Types 66R and 66RR

Specifications

This section lists the specifications for the Types 66R and 66RR Relief Valves. Factory specification such as type, maximum inlet pressure, maximum temperature, spring range, orifice size and seat material are stamped on the nameplate fastened on the relief valve at the factory.

Body Sizes and End Connection Styles

TYPES	NOMINAL BODY SIZE		END CONNECTION STYLES AND RATINGS ⁽¹⁾	
	NPS	DN	Standard Cast Iron Body	Optional Steel Body
66R, 66RR	2	50	NPT or CL125 FF flanged	NPT, CL150 RF, and CL300 RF flanged
	3 to 4	80 to 100	CL125 FF flanged	CL150 RF flanged

Maximum Relief (Inlet) Pressure⁽¹⁾

Type 66R: 8 psig / 0.55 bar, including build-up

Type 66RR: 10 psig / 0.69 bar, including build-up

Standard Relief Set Pressure Ranges

Type 66R: See Table 1

Type 66RR: See Table 2

Orifice Sizes

NPS 2 / DN 50 Body: 2 in. / 51 mm

NPS 3 / DN 80 Body: 3 in. / 76 mm

NPS 4 / DN 100 Body: 4 in. / 102 mm

Typical Performance Curves

See Figures 3 and 4

Relief Capacities

See Tables 4 and 5

Construction Materials

Complete Relief Valve (Type 66R) or Main Valve (Type 66RR)

Body and Body Piping: Cast iron (standard) or steel

Spring Case: Steel

Diaphragm Case, Diaphragm Plates, Bottom

Flange, Spring, and Bolting: Plated Steel

Diaphragm Spacer when Used: Zinc-plated steel

Diaphragms, and Valve Plug O-ring and Spring

Case Gasket when Used: Nitrile (NBR) (standard)

or Fluorocarbon (FKM) (high-temperature)

Bottom Flange and Stem Gaskets: Composition

Diaphragm Case and Closing Cap

Gaskets: Neoprene (CR)

Sealing Washer and Spring Case Drive Screw when

Used: Carbon steel

Type Y602-10 Vent Assembly when Used:

Zinc/Stainless steel/Monel®

Snap Ring when Used: Bronze

Closing Cap, Adjusting Screw, and

Spring Seats: Zinc

Flapper Valve when Used: Brass

Seat Ring: Bronze (standard) or Stainless steel
NACE Construction Available (Stainless steel/
Fluorocarbon (FKM)): Contact the factory for options

Type T208RR Pilot and Mounting Parts (Type 66RR Only)

Body: Gray Cast iron

Spring Case: Gray Cast iron

Lower Casing Assembly: Gray Cast iron

Lower Diaphragm Plate, Stainless Steel Trim Only:

Stainless steel

Diaphragm: Nitrile (NBR) (standard) or

Fluorocarbon (FKM) (high-temperature)

Lower Spring Seat: Zinc-plated steel

Back Disk Spring: Stainless steel

Pressure Setting Spring: Zinc-plated or

cadmium-plated steel

Orifice and Disk Holder: Stainless steel

Disk: Nitrile (NBR) (standard) or

Fluorocarbon (FKM) (high-temperature)

Valve Stem: Stainless steel

Pusher Post: Stainless steel

Lever Assembly: Stainless steel

Mounting Bar, Fittings, and Bolting: Steel

Temperature Capabilities

Standard Elastomers

-20 to 180°F / -29 to 82°C

High-Temperature Elastomers

0 to 350°F / -18 to 177°C

IEC Sizing Coefficient

See Table 3

Pressure Registration

Type 66R:

Internal (standard) or external

Type 66RR:

External on pilot and internal in main valve

Pressure Connections

Type 66R

Control Line (if used): 3/4 NPT standard

Spring Case Vent: 3/4 NPT standard with

removable Type Y602-10 vent assembly

Type 66RR

Pilot Body: 3/4 NPT standard

Pilot Lower Casing Assembly: 1/2 NPT standard

Pilot Spring Case: 1/2 NPT standard

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

- continued -

Specifications (continued)

Approximate Weights

NPS 2 / DN 50 Body

NPT: 50 lbs / 23 kg for Type 66R or

65 lbs / 29 kg for Type 66RR

Flanged Ends: 55 lbs / 25 kg for Type 66R or

70 lbs / 32 kg for Type 66RR

NPS 3 / DN 80 Body: 100 lbs / 45 kg for Type 66R or 115 lbs / 52 kg for Type 66RR

NPS 4 / DN 100 Body: 155 lbs / 70 kg for Type 66R or 170 lbs / 77 kg for Type 66RR

Options

Special springs and other internal parts for Type 66R set pressures from 1.5 to 5 psig / 0.10 to 0.34 bar and Type 66RR set pressures from 3.8 to 7 psig / 0.01 to 0.48 bar; control line connection for cast iron Type 66R; all-metal seats for NPS 2 / DN 50 cast iron Type 66R

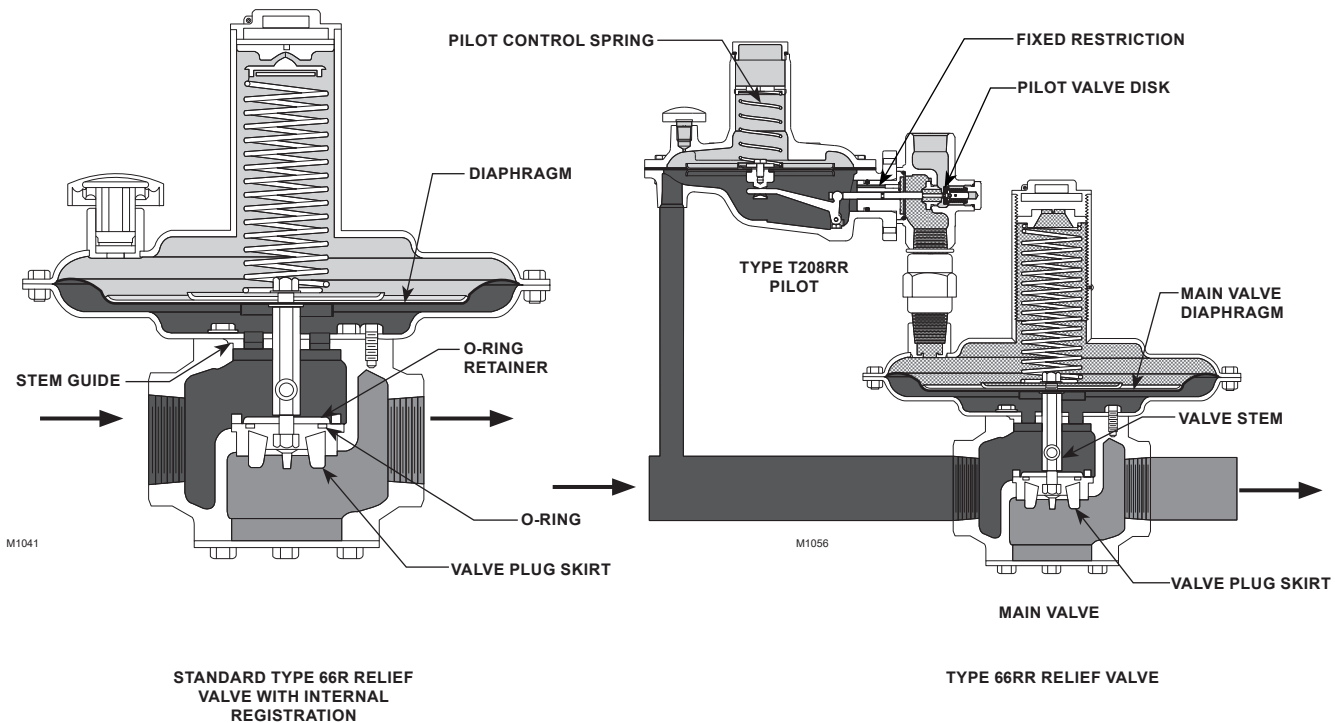


Figure 2. Operational Schematics

Types 66R and 66RR

Table 1. Spring Selection for Type 66R Relief Set Pressure Ranges

BODY SIZE		CONSTRUCTION	RELIEF SET PRESSURE RANGE		SPRING PART NUMBER	SPRING COLOR	SPRING WIRE DIAMETER		SPRING FREE LENGTH	
NPS	DN		psig	bar			In.	mm	In.	mm
2	50	Standard	2 to 8 in. w.c. 6 to 16 in. w.c. 11 in. w.c. to 1 psig 0.75 to 1.5 1 to 2	5 to 20 mbar 15 to 40 mbar 27 mbar to 0.07 bar 0.05 to 0.10 0.07 to 0.14	1D765427012 1D765527012 1D765627032 1D765727032 1D765827032	Pink Stripe Blue Stripe Green Stripe Red Stripe Unpainted	0.120 0.138 0.177 0.207 0.225	3.05 3.51 4.50 5.26 5.72	6.00 6.00 6.00 6.09 6.00	152 152 152 155 152
		Special	1.5 to 3 3 to 5	0.10 to 0.21 0.21 to 0.34	1D962627032 1N506427142	Unpainted Black Stripe	0.262 0.283	6.66 7.19	6.25 6.31	159 160
3	80	Standard	2 to 8 in. w.c. 6 to 16 in. w.c. 11 in. w.c. to 1 psig 0.75 to 1.5 1 to 2	5 to 20 mbar 15 to 40 mbar 27 mbar to 0.07 bar 0.05 to 0.10 0.07 to 0.14	1D770727012 1D770827032 1D765727032 1D765827032 1D770927032	Olive Green Stripe Red and Yellow Stripe Red Stripe Unpainted Blue and Yellow Stripe	0.135 0.162 0.207 0.225 0.283	3.43 4.12 5.26 5.72 7.19	6.00 6.00 6.09 6.00 6.06	152 152 155 152 154
		Special	1.5 to 3 in. w.c. 3 to 5	0.10 to 0.21 0.21 to 0.34	1E204427032 1N506527142	White and Red Stripe Brown and Purple Stripe	0.306 0.363	7.77 9.22	6.38 6.38	162 162
4	100	Standard	2 to 8 in. w.c. 6 to 16 in. w.c. 11 in. w.c. to 1 psig 0.75 to 1.5 1 to 2	5 to 20 mbar 15 to 40 mbar 27 mbar to 0.07 bar 0.05 to 0.10 0.07 to 0.14	1D771027012 1D771127032 1D527627032 1D771227032 1D771327032	Orange and Yellow Stripe Light Blue Stripe Gray and White Stripe Pink and Blue Stripe Silver Stripe	0.135 0.177 0.225 0.262 0.283	3.43 4.50 5.72 6.66 7.19	7.75 7.94 7.75 7.75 7.75	197 202 197 197 197
		Special	1.5 to 3	0.10 to 0.21	1E204527032	Pink Stripe	0.331	8.41	7.53	191

Table 2. Type T208RR Pilot Control Spring Selection

MAIN VALVE CONSTRUCTION	RELIEF SET PRESSURE RANGE		PILOT CONTROL SPRING					
			Part Number	Color Code	Wire Diameter		Free Length	
	psig	bar			In.	mm	In.	mm
Standard	4 to 9 in. w.c. ⁽¹⁾	10 to 22 mbar ⁽¹⁾	1B653827052	Red	0.085	2.16	3.625	92.1
	5 to 15 in. w.c. ⁽¹⁾	12 to 37 mbar ⁽¹⁾	1B653927022	Cadmium	0.105	2.67	3.750	95.3
	12 to 28 in. w.c. ⁽¹⁾	30 to 70 mbar ⁽¹⁾	1B537027052	Yellow	0.114	2.90	4.188	106
	0.9 to 2.5	0.06 to 0.17	1B537127022	Light green	0.156	3.96	4.060	103
	1.3 to 4.5	0.09 to 0.31	1B537227022	Light blue	0.187	4.75	3.938	100
Special	3.8 to 7	0.26 to 0.48	1B537327052	Black	0.218	5.54	3.980	101

1. Published ranges are with the spring case pointed up.

Principle of Operation

Type 66R Relief Valve

Inlet pressure registers under the diaphragm and is opposed by the spring (Figure 2). When the inlet pressure increases above the spring setting, the valve plug opens in a throttling manner and relieves the inlet pressure. As inlet pressure drops back to set pressure, the spring closes the valve plug.

Type 66RR Relief Valve

Inlet pressure registers on the bottom of the pilot diaphragm through the upstream control line and bleeds through a fixed restriction in the pilot (Figure 2) to provide loading pressure that helps the main valve spring keep the main valve plug tightly shutoff. When inlet pressure exceeds the setting of the pilot spring,

the pilot diaphragm moves upward, opening the pilot valve disk and relieving some of the pressure from the top of the main valve diaphragm. At the same time, the inlet pressure increase registers on the bottom of the main valve diaphragm.

The pressure differential acting on the main valve diaphragm moves this diaphragm upward, opening the main valve. Further increases in inlet pressure continue to open the pilot valve disk and the main valve plug. When inlet pressure returns to the pilot control spring setting, the pilot disk closes, allowing inlet pressure to load the top of the main valve diaphragm through the fixed restriction.

This equalizes the pressures acting on this diaphragm, and the main valve spring closes the main valve plug.

Types 66R and 66RR

Table 3. IEC Sizing Coefficients

BODY SIZE		X_T	F_D	F_L	K_m
NPS	DN				
2	50	0.78	0.35	0.89	0.79
3	80		0.34		
4	100		0.30		

Table 4. Selected Type 66R Relief Capacities in SCFH / Nm³/h of 0.6 Specific Gravity Natural Gas⁽¹⁾

BODY SIZE		SPRING PART NUMBER	RELIEF SET PRESSURE	BUILD-UP OVER RELIEF SET PRESSURE									
NPS	DN			In. w.c. / mbar			psig / bar						
				1 / 2	3 / 7	5 / 12	0.25 / 0.02	0.5 / 0.03	0.75 / 0.05	1 / 0.07	1.5 / 0.10	2 / 0.14	3 / 0.21
2	50	1D765427012	5 in. w.c. / 12 mbar	3300 / 88.4	8500 / 228 ⁽²⁾	9500 / 255	10,000 / 268	12,500 / 335	----	----	----	----	----
		1D765527012	10 in. w.c. / 25 mbar	----	7300 / 196	10,800 / 289	12,000 / 322 ⁽²⁾	14,000 / 375	15,300 / 410	----	----	----	----
		1D765627032	14 in. w.c. / 35 mbar	----	----	8200 / 220	11,500 / 308	15,000 / 402 ⁽²⁾	16,800 / 450	18,500 / 496	----	----	----
		1D765727032	1 psig / 0.07 bar	----	----	----	7750 / 208	16,700 / 448	18,500 / 496 ⁽²⁾	20,000 / 536	24,000 / 643	----	----
		1D765827032	1.5 psig / 0.10 bar	----	----	----	----	15,000 / 402	21,000 / 563	24,000 / 643 ⁽²⁾	26,000 / 697	29,000 / 777	----
		1D962627032	2 psig / 0.14 bar	----	----	----	----	----	17,000 / 456	23,000 / 616	29,000 / 777 ⁽²⁾	31,000 / 831	35,000 / 938
3	80	1D770727012	5 in. w.c. / 12 mbar	5500 / 147	18,500 / 496 ⁽²⁾	20,000 / 536	22,000 / 590	27,000 / 724	----	----	----	----	----
		1D770827032	10 in. w.c. / 25 mbar	----	11,800 / 316	21,500 / 576	26,000 / 697 ⁽²⁾	31,000 / 831	34,000 / 911	----	----	----	----
		1D765727032	14 in. w.c. / 35 mbar	----	----	11,500 / 308	17,500 / 469	33,000 / 884 ⁽²⁾	36,000 / 965	40,000 / 1072	----	----	----
		1D765827032	1 psig / 0.07 bar	----	----	----	15,000 / 402	29,000 / 777	41,000 / 1099 ⁽²⁾	46,000 / 1233	52,000 / 1394	----	----
		1D770927032	1.5 psig / 0.10 bar	----	----	----	----	18,000 / 482	30,000 / 804	44,000 / 1179	57,000 / 1528 ⁽²⁾	62,000 / 1662	----
		1E204427032	2 psig / 0.14 bar	----	----	----	----	----	27,000 / 724	39,000 / 1045	60,000 / 1608	67,000 / 1796 ⁽²⁾	76,000 / 2037
4	100	1D771027012	5 in. w.c. / 12 mbar	10,300 / 276	28,000 / 750 ⁽²⁾	32,000 / 858	34,000 / 911	41,000 / 1099	----	----	----	----	----
		1D771127032	10 in. w.c. / 25 mbar	----	22,000 / 590	36,000 / 965	39,000 / 1045 ⁽²⁾	46,000 / 1233	52,000 / 1394	----	----	----	----
		1D527627032	14 in. w.c. / 35 mbar	----	----	24,000 / 643	35,000 / 938	50,000 / 1340 ⁽²⁾	55,000 / 1474	61,000 / 1635	----	----	----
		1D771227032	1 psig / 0.07 bar	----	----	----	21,000 / 563	50,000 / 1340	65,000 / 1742 ⁽²⁾	70,000 / 1876	78,000 / 2090	----	----
		1D771327032	1.5 psig / 0.10 bar	----	----	----	----	36,000 / 965	60,000 / 1608	78,000 / 2090	86,000 / 2305 ⁽²⁾	95,000 / 2546	----
		1E204527032	2 psig / 0.14 bar	----	----	----	----	----	40,000 / 1072	60,000 / 1608	90,000 / 2412	102,000 / 2734 ⁽²⁾	115,000 / 3082

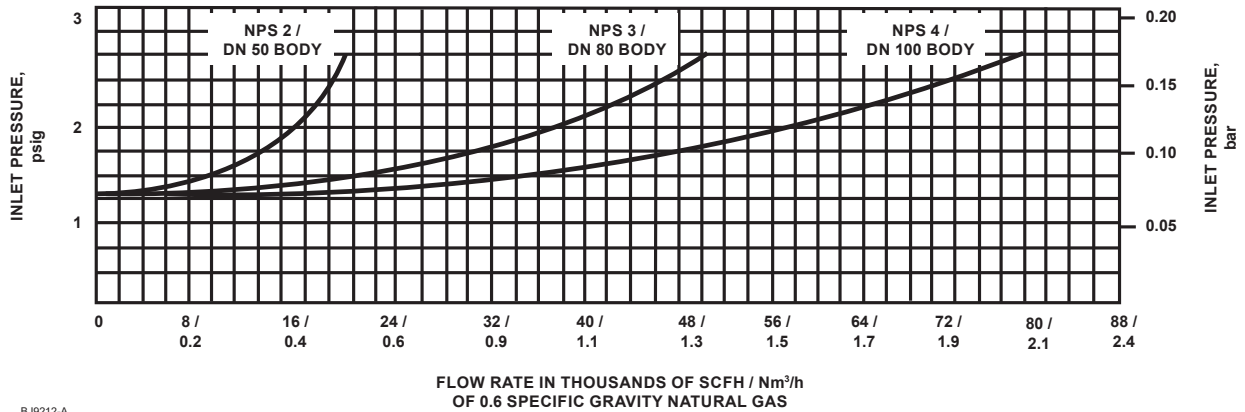
1. See "Capacity Information" section for conversion to equivalent capacities of other gases and/or normal cubic meters per hour.
 2. Valve wide-open

Types 66R and 66RR

Table 5. Selected Type 66RR Relief Capacities in SCFH / Nm³/h of 0.6 Specific Gravity Natural Gas⁽¹⁾

BODY SIZE		TYPE T208RR PILOT CONTROL SPRING	RELIEF SET PRESSURE	BUILD-UP OVER RELIEF SET PRESSURE									
				In. w.c. / mbar			psig / bar						
NPS	DN			1 / 2	3 / 7	5 / 12	0.25 / 0.02	0.5 / 0.03	0.75 / 0.05	1 / 0.07	1.5 / 0.10	2 / 0.14	3 / 0.21
2	50	Red	5 in. w.c. / 12 mbar	6200 / 166 ⁽²⁾	7300 / 196	8250 / 221	9000 / 241	11,600 / 311	----	----	----	----	----
		Cadmium	10 in. w.c. / 25 mbar	8750 / 235 ⁽²⁾	9550 / 256	10,200 / 273	10,800 / 289	13,000 / 348	15,100 / 405	----	----	----	----
		Yellow	14 in. w.c. / 35 mbar	10,300 / 276 ⁽²⁾	11,100 / 297	11,700 / 314	12,400 / 332	14,300 / 383	16,100 / 431	17,900 / 480	----	----	----
		Light green	1 psig / 0.07 bar	14,400 / 386 ⁽²⁾	15,200 / 407	15,700 / 421	16,100 / 431	17,700 / 474	19,200 / 515	20,600 / 552	23,200 / 622	----	----
		Light green	1.5 psig / 0.10 bar	----	18,000 / 482	18,500 / 496	19,000 / 509	20,500 / 549	22,000 / 590	23,500 / 630	26,000 / 697	28,000 / 750	----
		Light blue	2 psig / 0.14 bar	----	20,000 / 536	20,500 / 549	21,000 / 563	22,500 / 603	24,000 / 643	25,500 / 683	28,000 / 750	30,000 / 804	33,000 / 884
3	80	Red	5 in. w.c. / 12 mbar	15,700 / 421 ⁽²⁾	18,600 / 498	21,200 / 568	23,000 / 616	29,400 / 788	----	----	----	----	----
		Cadmium	10 in. w.c. / 25 mbar	22,700 / 608 ⁽²⁾	24,800 / 665	26,600 / 713	28,400 / 761	34,000 / 911	38,700 / 1037	----	----	----	----
		Yellow	14 in. w.c. / 35 mbar	16,100 / 431 ⁽²⁾	28,200 / 756	29,700 / 796	31,500 / 844	36,400 / 976	42,000 / 1126	45,500 / 1219	----	----	----
		Light green	1 psig / 0.07 bar	35,600 / 954 ⁽²⁾	37,200 / 997	38,200 / 1024	39,800 / 1067	44,000 / 1179	48,000 / 1286	51,500 / 1380	58,800 / 1576	----	----
		Light green	1.5 psig / 0.10 bar	----	45,000 / 1206	46,000 / 1233	47,200 / 1265	50,000 / 1340	54,000 / 1447	56,000 / 1501	59,900 / 1605	62,000 / 1662	----
		Light blue	2 psig / 0.14 bar	----	51,000 / 1367	52,000 / 1394	53,300 / 1428	56,000 / 1501	59,500 / 1595	62,000 / 1662	64,000 / 1715	66,000 / 1769	72,000 / 1930
4	100	Red	5 in. w.c. / 12 mbar	25,500 / 683 ⁽²⁾	30,000 / 804	33,600 / 900	36,900 / 989	45,400 / 1217	----	----	----	----	----
		Cadmium	10 in. w.c. / 25 mbar	35,100 / 941 ⁽²⁾	38,200 / 1024	41,300 / 1107	43,800 / 1174	52,600 / 1410	59,800 / 1603	----	----	----	----
		Yellow	14 in. w.c. / 35 mbar	41,300 / 1107 ⁽²⁾	43,800 / 1174	46,500 / 1246	49,000 / 1313	56,700 / 1520	66,500 / 1782	70,600 / 1892	----	----	----
		Light green	1 psig / 0.07 bar	57,400 / 1538 ⁽²⁾	59,300 / 1589	62,000 / 1662	63,200 / 1694	65,000 / 1742	67,700 / 1814	77,800 / 2085	90,000 / 2412	----	----
		Light green	1.5 psig / 0.10 bar	----	64,400 / 1726	66,900 / 1793	67,900 / 1820	69,500 / 1863	72,000 / 1930	86,000 / 2305	93,000 / 2492	96,000 / 2573	----
		Light blue	2 psig / 0.14 bar	----	69,500 / 1863	72,000 / 1930	73,000 / 1956	74,600 / 1999	77,000 / 2064	90,000 / 2412	95,000 / 2546	100,000 / 2680	110,000 / 2948

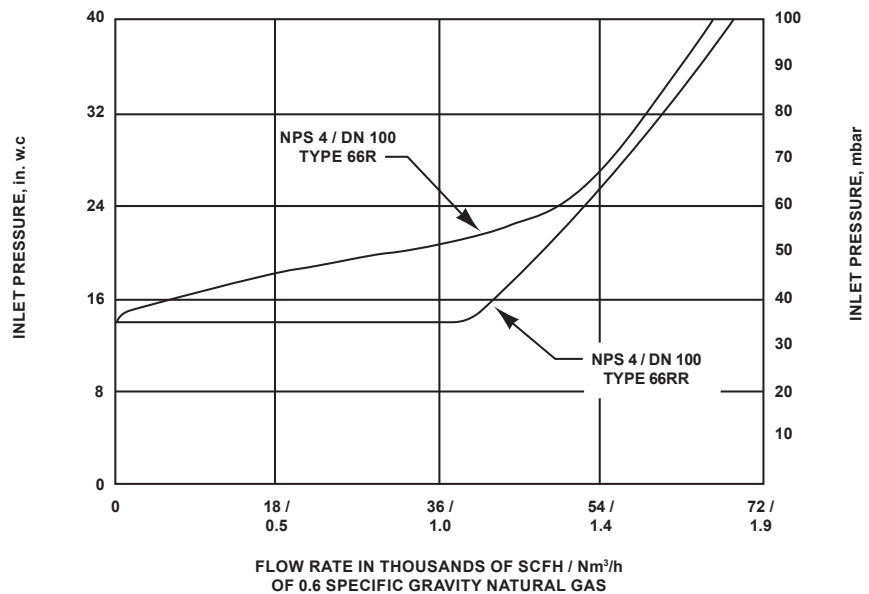
1. See "Capacity Information" section for conversion to equivalent capacities of other gases and/or normal cubic meters per hour. Shaded capacities are approximate.
 2. Valve wide-open



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NOTE:
SEE "CAPACITY INFORMATION" SECTION FOR CONVERSION TO EQUIVALENT CAPACITIES OF OTHER GASES AND/OR CUBIC METERS PER HOUR. EACH CURVE REPRESENTS A DIFFERENT BODY SIZE AS MARKED. ALL MEASUREMENTS MADE AT 1 psig / 0.07 bar RELIEF SET PRESSURE.

Figure 3. Typical Performance Curves for Standard Type 66R Relief Valve



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NOTE:
SEE "CAPACITY INFORMATION" SECTION FOR CONVERSION TO EQUIVALENT CAPACITIES OF OTHER GASES AND/OR CUBIC METERS PER HOUR. EACH CURVE REPRESENTS A DIFFERENT BODY SIZE AS MARKED. ALL MEASUREMENTS MADE AT 14 IN. W.C. / 35 mbar RELIEF SET PRESSURE; ADDITIONALLY, TYPE 66RR MAIN VALVE SPRING SET AT 2 IN. W.C. / 5 mbar

Figure 4. Typical Performance Curves for NPS 4 / DN 100 Types 66R and 66RR Relief Valves

Types 66R and 66RR

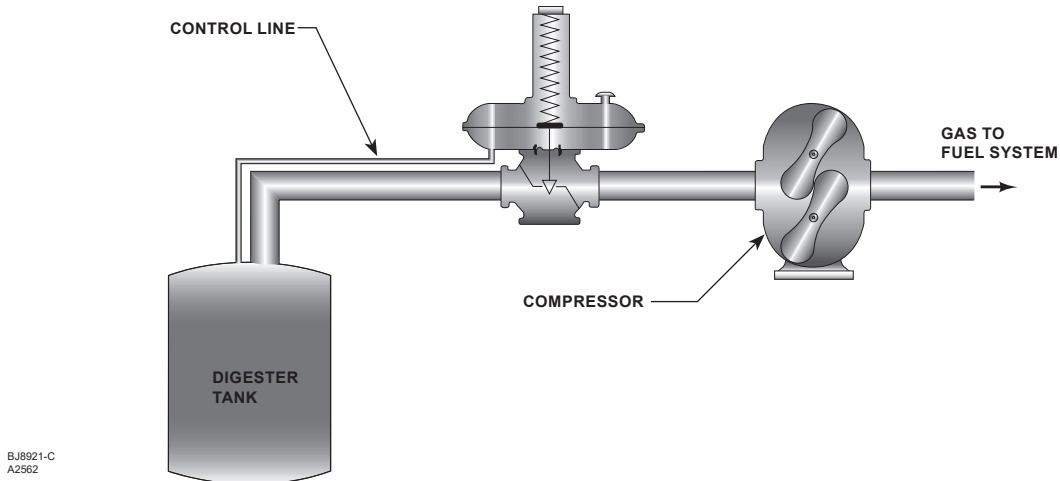


Figure 5. Type 66R Relief Valve Installation at Outlet of Sewage Treatment Plant Digester Tank

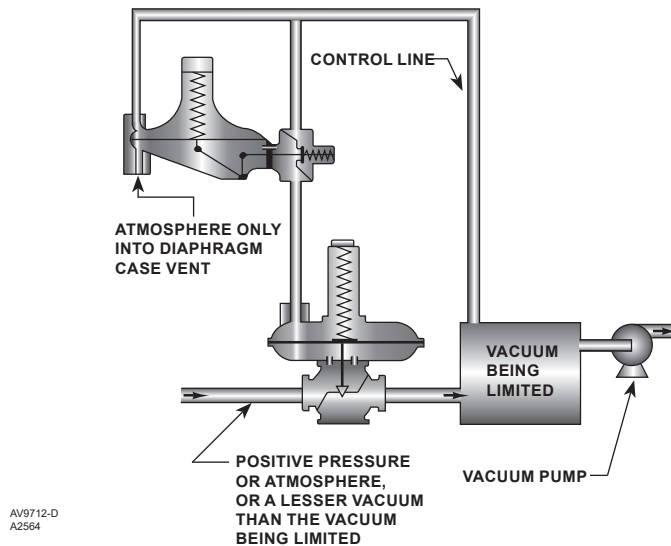


Figure 6. Type 66RR Relief Valve Installation in Vacuum Breaker System

Installation

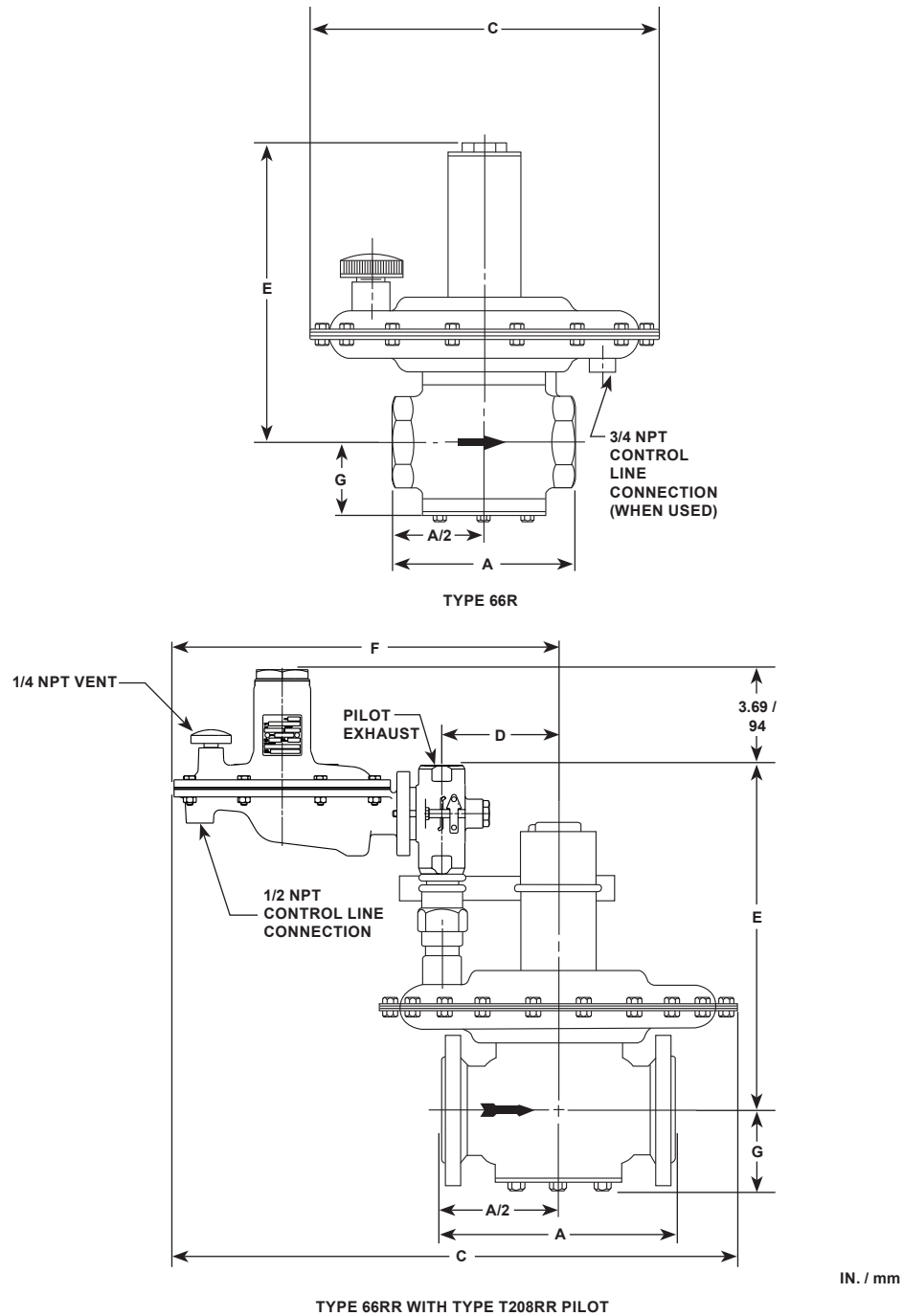
A Type 66R or 66RR relief valve should be installed horizontally with the diaphragm casings vertical above the body. Other orientations will change the relief set pressure and set pressure range due to the weight of the internal parts. Typical installations are shown in Figures 5 and 6.

Connection locations and dimensions are both shown in Figure 7.

Capacity Information

Table 4 gives Type 66R and Table 5 gives Type 66RR flow capacities at selected set pressures. Flows are in SCFH (60°F and 14.7 psia) of 0.6 specific gravity natural gas at 60°F. To determine the equivalent capacities for air, propane, butane, or nitrogen, multiply the Table 4 or 5 capacity by the following appropriate conversion factor: 0.775 for air, 0.628 for propane, 0.548 for butane, or 0.789 for nitrogen. For gases of other specific gravities, multiply the given capacity by 0.775 and divide by the square root of the appropriate specific gravity. Then, if capacity is desired in normal cubic meters per hour (Nm³/h) at 0°C and 1.01325 bar, multiply SCFH by 0.0268.

Types 66R and 66RR



AD8045-D
21A9672-A
B1410

Figure 7. Dimensions

Table 6. Dimensions

BODY SIZE	A								C				D (TYPE 66RR ONLY)	E				F (TYPE 66RR ONLY)		G					
	NPT Cast Iron Body		NPT Steel Body		CL125 FF Cast Iron or CL150 RF Steel Body		CL300 RF Steel Body		Type 66R		Type 66RR			Type 66R		Type 66RR		NPT Steel Body		All Others					
NPS	DN	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm		
2	50	7.25	184	9.25	235	10.00	254	10.50	267	13.88	353	22.12	562	4.50	114	11.75	298	12.69	322	15.19	386	3.31	84	3.25	83
3	80	---	---	---	---	11.75	298	---	---	16.00	406	24.19	614	5.50	140	13.00	330	14.12	359	16.19	411	---	---	4.62	117
4	100	---	---	---	---	13.88	353	---	---	18.00	457	25.94	659	6.25	159	15.88	403	15.25	387	16.94	430	---	---	5.38	137

Types 66R and 66RR

Ordering Information

When ordering, specify:

Application

1. Composition and specific gravity of gas (including chemical analysis if possible)
2. Range of temperatures, flowing inlet pressures (maximum, minimum, nominal), and pressure drops.
3. Desired relief set pressure or set pressure range.

4. Range of flow rates (minimum controlled, maximum, normal)
5. Piping size(s)

Construction

Refer to the page 2 "Specification section" and to each referenced table; specify the desired selection whenever there is a choice to be made. Always be sure to specify the relief valve type number.

Ordering Guide

Type (Select One)

- 66R, maximum inlet pressure: 8 psig / 0.55 bar
- 66RR, maximum inlet pressure: 10 psig / 0.69 bar

Body Size (Select One)

- NPS 2 / DN 50
- NPS 3 / DN 80
- NPS 4 / DN 100

Body Material and End Connection Style (Select One)

Cast Iron

- NPT (2 in. only)***
- CL125 FF***

Steel

- NPT (2 in. only)**
- CL150 RF**
- CL300 RF**
- PN 16/25/40**

Main Valve Diaphragm Case Material (Select One)

- Steel***
- 304 Stainless steel**

Main Valve Diaphragm, Valve Plug, and O-ring (Select One)

- Nitrile (NBR)***
- Fluorocarbon (FKM)***

Optional Polytetrafluoroethylene (PTFE) Diaphragm Protector (Select)

- Yes***

Seat Ring Material (Select One)

- Bronze***
- 316*

Pilot Body Material (Select One for Type 66RR Only)

- Gray Cast iron***
- CF8M/CF3M Stainless steel*

Pilot Diaphragm and Disk (Select One for Type 66RR Only)

- Nitrile (NBR)***
- Fluorocarbon (FKM)***

- continued -

Ordering Guide (continued)

Set Pressure Ranges (Select One)

Type 66R

- 2 to 8 in. w.c. / 5 to 20 mbar***
- 6 to 16 in. w.c. / 15 to 40 mbar***
- 11 in. w.c. to 1 psig / 27 to 69 mbar***
- 0.75 to 1.5 psig / 52 to 103 mbar***
- 1 to 2 psig / 69 to 138 mbar***
- 1.5 to 3 psig / 103 to 207 mbar***
- 3 to 5 psig / 207 to 345 mbar***

Type 66RR

- 4 to 9 in. w.c. / 10 to 22 mbar, Red***
- 5 to 15 in. w.c. / 12 to 37 mbar, Cadmium***
- 12 to 28 in. w.c. / 30 to 70 mbar, Yellow***
- 0.9 to 2.5 psig / 62 to 172 mbar, Light Green***
- 1.3 to 4.5 psig / 90 to 310 mbar, Light Blue***
- 3.8 to 7 psig / 262 to 483 mbar, Black***

Replacement Parts Kit (Optional)

- Yes, send one replacement parts kit to match this order.

Regulators Quick Order Guide	
***	Readily Available for Shipment
**	Allow Additional Time for Shipment
*	Special Order, Constructed from Non-Stocked Parts. Consult your local Sales Office for Availability.
Availability of the product being ordered is determined by the component with the longest shipping time for the requested construction.	

Specification Worksheet	
Application:	
Specific Use:	_____
Line Size	_____
Gas Type and Specific Gravity	_____
Gas Temperature	_____
Relief Valve Size:	
Brand of upstream regulator?	_____
Orifice size of the upstream regulator?	_____
Wide-open coefficient of the upstream regulator?	_____
Pressure:	
Maximum Inlet Pressure (P_{1max})	_____
minimum Inlet Pressure (P_{1min})	_____
Downstream Pressure Setting(s) (P_2)	_____
Maximum Flow (Q_{max})	_____
Performance Required:	
Accuracy Requirements?	_____
Need for Extremely Fast Response?	_____
Other requirements: _____	

Types 66R and 66RR

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