NGR02 Series

PRESSURE REDUCING REGULATORS

for Residential, Commercial or Industrial Applications

The NGR02 series spring loaded gas regulators with internal relief provide consistent and controlled pressure in a variety of residential, industrial and commercial applications. The internal relief feature is engineered to help minimize over pressurization downstream due to possible dirt/debris that may enter the regulator inhibiting proper lockup. The NGR02 regulators are designed to be used in many applications where non-corrosive dry gases are used such as Natural gas, LP or manufactured type gases.

FEATURES

- Internal Relief
- Outlet pressures up to 5 psig
- 500+ : 1 turndown
- Conforms to ANSI B109.4
- Field Interchangeable Orifice
- Field Interchangeable Springs
- Corrosion resistant exterior
- Compact Size

SPECIFICATIONS

Pipe Sizes:	1/2" to 1-1/4" NPT
Gas Types:	Natural Gas, LPG, other non-corrosive dry gases
Maximum Inlet Pressure:	10 to 125 psig per Orifice
Outlet Pressure Range:	6.5"w.c. to 5 psig
Maximum Emergency Inlet Pressure:	175 psig
Operating Temp:	-20F - +150F
Materials:	

Housing	Epoxy Coated Aluminum
Valve Body	Cast Iron
Diaphragm/Valve Seat	Buna N
Orifice	High Strength Brass

NMT is a division of Norgas Metering Technologies, Inc.

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NGR02 Series PRESSURE REDUCING REGULATORS

7" w.c. Set Point - 1" Pressure Drop

Inlet Pressure	ORIFICE				
	1/8"	3/16"	1/4"	3/8"	1/2"
0.5	117	101	169	203	242
1	136	148	210	260	571
2	221	210	296	377	1039
3	234	257	460	468	1429
5	292	351	649	1169	1558
10	338	545	1091	1748	1740
15	390	701	1481	2104	
20	491	818	1870	2403	
30	619	1286	2571		
40	717	2260	3251		
50	805	2494	3636		
60	997	2571	4052		
80	1403	3696			
100	1675	4595			
125	1850	4812			

Green S02A and 1" VB used to develop table

14" w.c. Set Point - 2" Pressure Drop

Inlet Pressure	ORIFICE				
	1/8"	3/16"	1/4"	3/8"	1/2"
0.5					
1	156	94	187	285	584
2	182	156	292	325	1143
3	265	195	374	792	1688
5	335	234	592	1562	2013
10	386	390	1083	1792	2338
15	530	545	1535	2208	
20	600	623	2049	2338	
30	753	1558	2766		
40	922	2338	3384		
50	1052	2435	3701		
60	1183	2571	3896		
80	1403	3790			
100	1753	4749			
125	1900	5214			

Silver S02B and 1" VB used to develop table

1 psig Set Point - 20% Pressure Drop

Inlet Pressure	ORIFICE				
	1/8"	3/16"	1/4"	3/8"	1/2"
0.5					
1					
2	195	195	273	468	623
3	218	234	312	623	1013
5	234	351	506	857	1714
10	358	545	779	1870	3117
15	468	740	1091	2727	
20	545	857	1636	3429	
30	701	1247	2727		
40	584	2260	3740		
50	701	2338	4519		
60	779	2649	5143		
80	1558	3671			
100	2104	4570			
125	2250	5210			

Silver S02B and 1" VB used to develop table

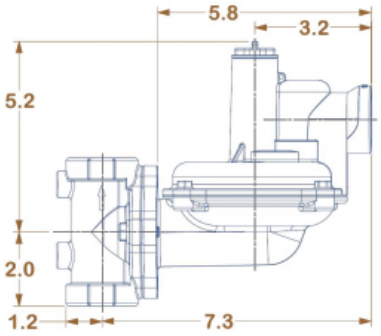
2 psig Set Point - 20% Pressure Drop

Inlet Pressure	ORIFICE				
	1/8"	3/16"	1/4"	3/8"	1/2"
0.5					
1					
2					
3	187	179	234	351	429
5	265	257	390	545	1091
10	358	390	623	1169	2104
15	468	545	935	1714	
20	545	701	1403	2416	
30	701	935	2026		
40	1013	2026	3117		
50	1052	2182	3662		
60	1130	2260	4442		
80	1661	3271			
100	2150	4110			
125	2381	5170			

Yellow S02D and 1" VB used to develop table

Flow capacities in SCFH of 0.60 specific gravity gas @ 60° F and 14.7 psia. Individual results may vary.

Model	NGR02
Pipe Size	1/2”, 3/4”, 1”, 1-1/4”
Vent (NPT)	1”
Wt. (lb)	3.75

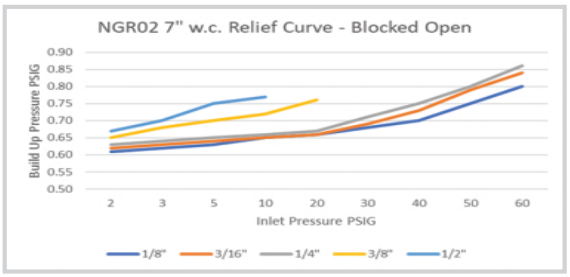


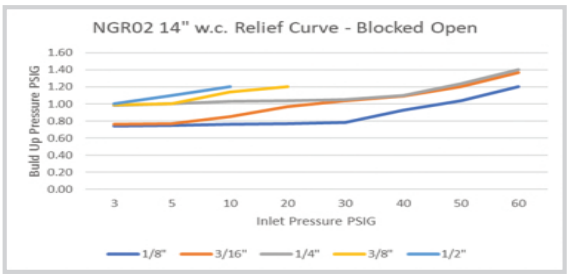
Gas Type	Specific Gravity	Correction Factor (CF)
Natural Gas	0.60	1.00
Propane	1.53	0.63
Air	1.00	0.77
Propane-Air-Mix	1.20	0.71
Nitrogen	0.97	0.79
Butane	2.01	0.55
Carbon Dioxide (Dry)	1.52	0.63
Carbon Monoxide (Dry)	0.97	0.79

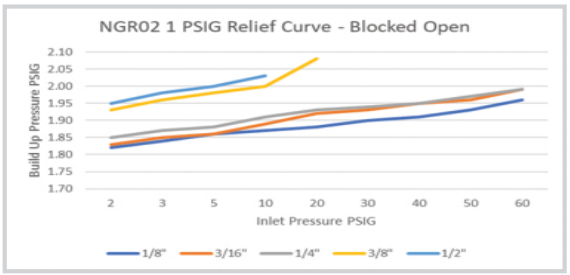
Orifice Max Pressure		
Size	Max Inlet Pressure	P/N
1/8”	125 psig	F02A
3/16”	125 psig	F02E
1/4”	60 psig	F02B
3/8”	20 psig	F02C
1/2”	10 psig	F02D

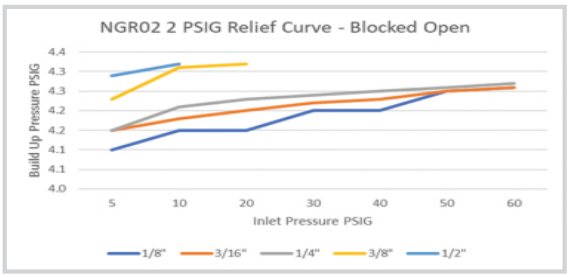
Spring Chart		
Color	Outlet Range	P/N
Green	6.5”wc - 16”wc	S02A
Silver	14”wc - 1psig	S02B
Yellow/Black	26”wc - 1.5psig	S02C
Yellow	1psig - 3psig	S02D
White (HP)	2psig - 5psig	S0204E

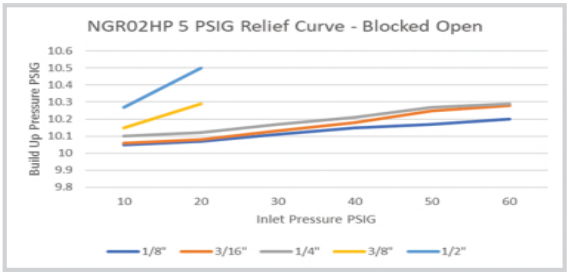
5 psig Set Point (HP) - 20% Pressure Drop					
Inlet Pressure	ORIFICE				
	1/8”	3/16"	1/4”	3/8”	1/2”
0.5					
1					
2					
3					
5					
10	273	468	701	1714	2805
15	351	655	1169	2494	
20	390	779	1792	3039	
30	468	1481	2571		
40	584	2338	3662		
50	662	2455	4364		
60	825	2494	5065		
80	1350	3752			
100	1467	4673			
125	1596	5794			
White (HP) S0204E and 1” VB used to develop table					











Flow capacities in SCFH of 0.60 specific gravity gas @ 60° F and 14.7 psia. Individual results may vary.

Blocked open relief curves developed using a 3/32” blockage across valve seat. Lever disconnect curves available upon request. Individual results may vary.

INSTALLATION INSTRUCTIONS

WARNING: A regulator may vent some gas to the atmosphere. Where ignition sources may be present, vented gas may accumulate and cause fire or explosion resulting in personal injury, death and/or property damage.

WARNING: Failure to follow these Instructions, National Fuel Gas Code(NFPA 54) guidelines, local/state codes when installing/maintaining gas regulators can result in an explosion and/or fire causing property damage and personal injury or death. ONLY A QUALIFIED PERSON MUST INSTALL OR SERVICE THE REGULATOR.

Installation

Installation shall be performed in accordance with local codes, or in the absence of local codes, in accordance with the National Fuel Gas Code, ANSI Z223.1/NFPA 54.

1. Confirm proper regulator has been chosen for the defined application.
2. Remove inlet and outlet protection plugs from the regulator. Verify no debris is within the inlet or outlet of the regulator. TURN OFF GAS SUPPLY TO MOUNTING LOCATION.
3. Apply proper pipe joint sealant to the male pipe threads only. If flange connections are used, ensure appropriate gasket is installed between mating flanges.
4. Gas MUST flow in direction of the 'arrow' on the underside of the regulator. 'IN' is indicated on the inlet side of the regulator.
5. Regulator may be installed in any position with concern of 'VENT' location as per 6 & 7 below.

CAUTION: USE PRECAUTION WHEN RUNNING VENT PIPING. ENSURE END OF VENT PIPING IS ADEQUATELY AWAY FROM ANY IGNITION SOURCES.

6. OUTDOOR INSTALL – When installing in an outdoor environment or where debris or excessive moisture may be in the air the 'VENT' should never face upward allowing debris or liquid to enter. The 'VENT' screen should never be removed unless a 'VENT' piping is needed to route the venting to another location.
7. INDOOR INSTALL – As per applicable local and state codes may dictate, a separate 'VENT' piping is required for each regulator to allow the regulator to function properly and relief gas in the case of internal relief. Do not combine vent lines. Vent pipe inner diameter should increase one nominal pipe size approximately every 15 feet of length. This is important for proper performance. Example: 3/8" to 1/2" to 3/4", etc.
8. Tighten inlet/outlet piping to proper torque. If flange connections are used ensure bolts are tightened evenly and do not stress the flange by uneven piping or improper flange-to-flange spacing as this may result in broken flanges or leakage and is not covered under manufacturer warranty.

Start-up Procedure

1. Verify Inlet pressure does not exceed regulator and/or orifice MAOP as shown in the specification tables. Mount pressure gauge downstream of the regulator to monitor regulator outlet pressure.
2. With the downstream pressure valve closed, slowly open the inlet valve. Allow the pressure to build slowly until proper downstream pressure is shown on the gauge.

Outlet Pressure Adjustment

1. Remove spring cap from regulator.
2. With proper tool rotate adjustment ferrule CLOCKWISE to INCREASE pressure and COUNTERCLOCKWISE to DECREASE pressure.
3. Replace spring cap.

COMMON SPARE PARTS	
PART	**P/N**
Orifice O-Ring	NGR02-ORFR
Valve Body Gasket	NGR02-VBG
Spring Cap	NGR02-SC
Spring Cap Gasket	NGR02-SCG
Spring Ferrule	NGR02-SF
Valve Body Bolts	NGR02-VBB
Valve Seat	NGR02-VS