



NGRB Series

PRESSURE REDUCING REGULATOR

for Commercial and Industrial Applications



The NGRB Series regulators are single stage, self-operated regulators for heavy duty work under high, medium, and low-pressure applications, for all types of non-corrosive gases. The NGRB Series regulator has a built-in partial relief valve (token relief), which allows occasional rises in the outlet pressure above the relief pressure to be released gradually into the atmosphere without triggering an overpressure shut-off valve or high limit switch due to occurrences such as sudden variations in flow or variations in temperature causing an increase in downstream pressure.

FEATURES

- Internal Token Relief
- High Capacity at Low Inlet Pressures
- Outlet Pressures Up to 21.4 psig
- Field Interchangeable Springs
- Corrosion Resistant Exterior
- Internal Balanced Valve Allowing Low Lock Up with High Inlet Pressures
- Designed for Easy Maintenance

SPECIFICATIONS

Pipe Sizes:	2" and 3" FL	
Gas Types:	Natural Gas, LPG, other non-corrosive dry gases	
Maximum Inlet Pressure:	145 psig	
Outlet Pressure Range:	7" w.c. to 21.4 psig	
Maximum Emergency Inlet Pressure:	145 psig	
Operating Temp:	-4F - +140F	
Materials:	Housing	Carbon Steel
	Valve Body	Ductile Iron
	Diaphragm/Valve Seat	Buna N
	Orifice	High Strength Brass

NGRB Series

PRESSURE REDUCING REGULATORS

NGRB2 CAPACITY TABLE

Set Point	7"wc	10"wc	14"wc	1psi	2psi	5psi	10psi	20psi
Pressure Drop	1"wc	2"wc	2"wc	5.6"wc	11.2"wc	1psi	2psi	4psi
Inlet Pressure								
2psi	10900	10019	10668	11596				
5psi	18089	17161	15538	21475	17161			
10psi	24119	25325	23423	32004	30612	30148		
15psi	27829	27829	24351	41280	39889	38961	31076	
20psi	35065	31076	28432	45918	51020	44527	40816	
30psi	41744	40353	39889	61688	64007	63080	60297	62152
40psi	49165	48701	46382	64935	77922	69573	69573	81169
50psi	55659	55195	59369	67254	78850	74212	83488	83488
60psi	63080	59833	61688	69573	83488	88126	90445	92764
70psi	62616	68182	62616	67254	87199	91837	92764	102041
75psi	66790	69573	65399	67254	88126	95083	99722	102041

NGRB3 CAPACITY TABLE

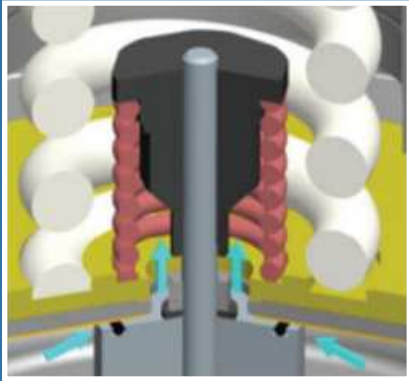
Set Point	7"wc	10"wc	14"wc	1psi	2psi	5psi	10psi	20psi
Pressure Drop	1"wc	2"wc	2"wc	5.6"wc	11.2"wc	1psi	2psi	4psi
Inlet Pressure								
2psi	17161	17625	16234	16698				
5psi	21800	20872	23655	32468	36178			
10psi	22727	23191	30148	46382	60297	46382		
15psi	29685	27829	39425	53340	71892	60297	55659	
20psi	38033	64935	41744	64935	78850	69573	64935	
30psi	65863	74212	63544	76531	88126	102041	74212	88126
40psi	74212	85807	82560	78850	92764	83488	81169	134508
50psi	88126	85807	85807	83488	92764	81169	83488	134508
60psi	88126	88126	83488	92764	92764	88126	120594	134508
70psi	78850	85807	88126	97403	92764	83488	120594	134508
75psi	88126	88126	88126	99722	97403	106679	120594	134508

NGRB SPRING CHART

Spring	Range	P/N	Spring	Range	P/N
GREY	7.0"wc – 20"wc	SBA	WHITE	3.6 psig – 8.6 psig	SBE
YELLOW	20"wc – 40"wc	SBB	RED	7.9 psig – 12.8 psig	SBF
BROWN	1.3 psig – 2.9 psig	SBC	SILVER	11.5 psig – 21.4 psig	SBG
BLUE	2.2 psig – 4.3 psig	SBD			

RELIEF VALVE BUILT IN

The NGRB regulator also has a built-in partial relief valve (token relief), which allows occasional rises in the outlet pressure above the relief pressure to be released gradually into the atmosphere without triggering the overpressure shut-off valve due to occurrences such as sudden variations in flow or variations in temperature causing an increase in downstream pressure.



Regulator P/N

Description

NGRB2	NGRB 2" FL
NGRB3	NGRB 3" FL

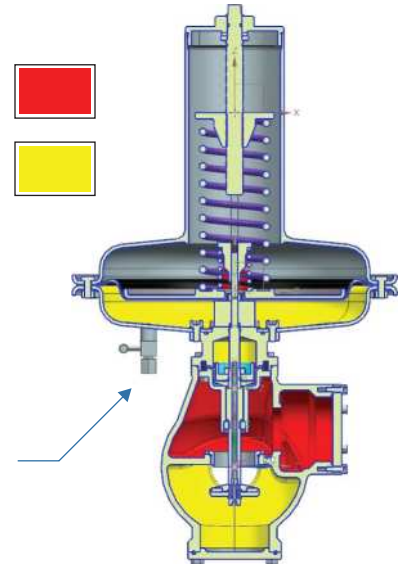
Inlet Pressure



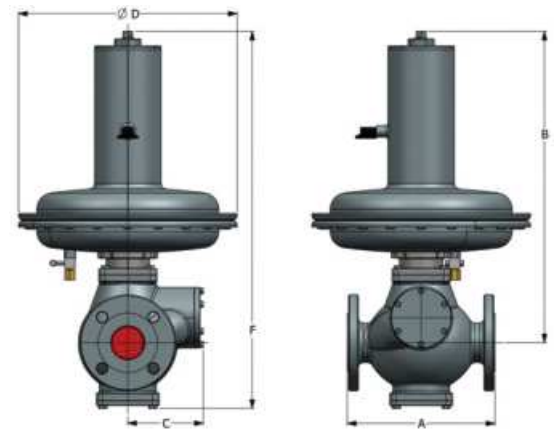
Outlet Pressure



Regulator
Sense Line



Model	Pipe Size	Dimensions (inches)					Wt. (lb)
		A	B	C	D	F	
NGRB2	2" FL	10.0	21.10	5.3	14.80	25.54	64
NGRB3	3" FL	11.77	21.85	7.0	14.80	16.68	99



The NGRB2 and NGRB3 pressure regulators have an internal balanced valve allowing low lock up even with high inlet pressure variations. Due to its ruggedness and simplicity, the maintenance is fast and easy. Due to its top entry design, it is not necessary to take the body out of installation to be repaired.

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.
 - a. For model NGRB the recommended installation position is vertical (spring tower in the vertical position).
 - b. For model NGRB install Sense Line for main regulator. Recommended location is at least 5x nominal pipe diameter downstream of the regulator away from elbows or any other piece of equipment that may cause gas turbulence. 3/8" or larger sense line is recommended. Use needle valve to adjust response time of regulator once commissioned.

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.