N5 OPD Regulator Manual

The **N5 OPD**(Overpressure Protection Device) 3/8"– 2" gas regulators comply with and are certified to **CSA 6.22:19/ANSI Z21.80:19** for up to 10 psig inlet applications for both horizontal and vertical installations with the ability for vent limiting. The N5 OPD regulators operate as a 2 stage regulator where the upstream regulator is the Monitor and should not be adjusted, the downstream regulator is the Operator that regulates the required outlet pressure. If the Operator were to fail the Monitor regulator takes over at a max pressure of 2psig and which keeps it in full compliance to the CSA 6.22 limit. The following options are available for the N5 OPD Gas Regulators:

IMPORTANT

THE N5 OPD IS A DUAL STAGE REGULATOR PER CSA 6.22/ANSI Z21.80 AND WHICH LIMITS THE DOWNSTREAM PRESSURE TO 2PSIG.

- Vent Limiter (VL) – ***Certified CSA 6.22:19/ANSI Z21.80:19*** *to 10psig.*
  1) INDOOR USE ONLY
  2) Limits venting of the gas and negates the need to install vent piping to the outdoors.
  3) Must be installed with the flat portion facing up and threaded portion facing down for proper operation.
- Vent Cap (VC)
  1) Used to protect vent from debris.
  2) Must be installed NMT logo facing up and threaded portion facing down. The small holes on the underneath side must remain clear of any debris, snow or water.
- Vent Elbow (VE) - ***Certified CSA 6.22:19/ANSI Z21.80:19***
  1) Used on both VL & VC options above for applications where the regulator is not in a horizontal flow position.
  2) See Mounting Positions 2 & 3.

To ensure the installation complies with **CSA 6.22:19/ANSI Z21.80:19** the Vent Limiter(VL) or Vent Cap(VC) should be installed unless venting is required for local codes or restrictions. If a vent line is required the following guidelines are important:
The proper size npt connection is needed for the regulator vent location.N5A-1/8"npt; N5B/C-3/8"npt; N5D-1/2"npt

1) Vent pipe inner diameter should increase one nominal pipe size for every 15 feet of length. This is important for proper performance. *Example: 3/8" to 1/2" to 3/4", etc.*

2) Vent piping should not be combined with other regulators.

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, or the Natural Gas and Propane Install Code, CAN/CSA-B149.1, as applicable.

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.
4. Gas MUST flow in direction of the 'arrow' on the underside of the regulator. 'INLET' is indicated on the inlet side of the regulator.
5. OUTDOOR INSTALL - The Vent Cap(VC) MUST be used to protect from any debris entering the vent. The vent cap must be installed horizontally and be clear from any obstruction, if installed vertically the vent elbow must be used to allow vent cap to orient horizontal.
6. INDOOR INSTALL – The vent limiter may be used to limit gas flow in the event of diaphragm rupture. **VENT LIMITER(VL) MUST ALWAYS BE HORIZONTAL TO FUNCTION PROPERLY, USE VENT ELBOW(VE) WHERE NEEDED TO ORIENT HORIZONTAL.** Install proper vent lines if vent limiter is not used. A separate vent line is required for each regulator. Do not combine vent lines.
7. Tighten inlet/outlet piping to proper torque.

Start-up Procedure

Verify Inlet pressure does not exceed regulator rated maximum psig. Mount pressure gauge downstream of the regulator to monitor regulator outlet pressure.

1. 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 -DOWNSTREAM(OPERATOR) REGULATOR ONLY.

NOTE: THE UPSTREAM(MONITOR) REGULATOR IS NOT ADJUSTABLE AND PRESET AT THE FACTORY

1. Remove spring cap from downstream regulator.
2. With a flat head screwdriver rotate adjustment ferrul CLOCKWISE to INCREASE pressure and COUNTERCLOCKWISE to DECREASE pressure.
3. Replace spring cap.

Changing the spring

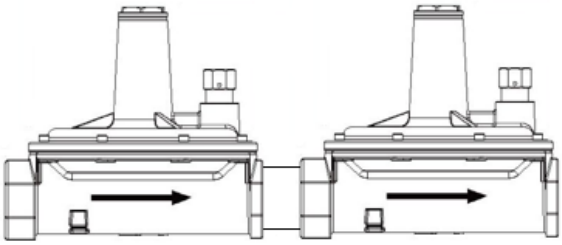
1. Confirm desired outlet pressure setting from the spring table.
2. Remove spring cap.
3. With a flat head screw driver turn counterclockwise the adjustment ferrul for removal.
4. Remove existing spring and replace with appropriate spring.
5. Replace adjustment ferrul.
6. Set outlet pressure using step above.

SPECIFICATIONS

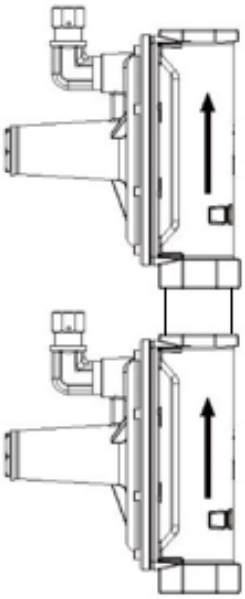
Maximum Inlet Pressure:	CSA Certified: 10 psig
Outlet Pressure Range:	CSA Certified: 7”-11”w.c.(Silver) 12”-14” w.c.(Yellow) (P)
Maximum Emergency Inlet Exposure Pressure:	85 psig (Inlet Side only)
Ambient Temperature Range:	-40F to 212F
Gas Type:	Natural Gas, LPG, air, other dry non corrosive gas
Mounting Positions:	CSA Certified Horizontal and Vertical
Options:	Vent Cap, Vent elbow

C US

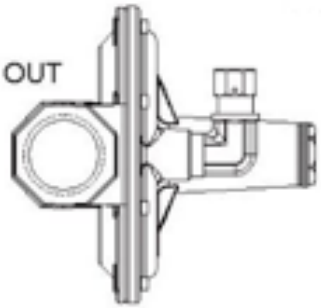
NOTE: **All positions shown with Vent Limiter(VL) option installed, Position 2&3 shown with Vent Limiter(VL) & Vent Elbow(VE)**



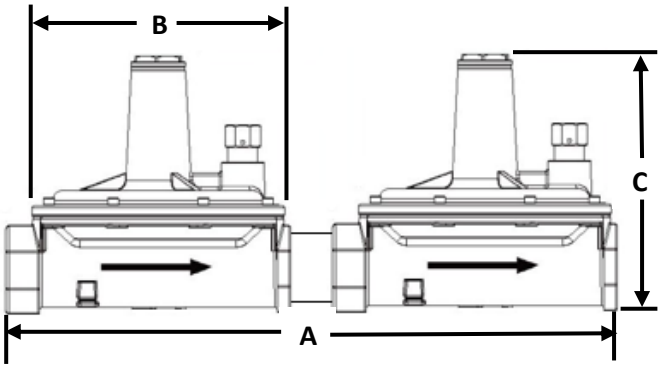
Position 1



Position 2



Position 3



Model	Pipe Size (NPT)	Vent (NPT)	Dimension (inches)			Weight (lb)
			A	B	C	
N5AOPD	3/8", 1/2"	1/8"	9.0"	4.0"	3.5"	1.8lb
N5ABOPD	1/2"	1/8", 3/8"	10.7"	4.0"/5.5"	5.5"	2.7lb
N5BOPD	1/2", 3/4", 1"	3/8"	12.50"	5.5"	5.5"	3.6lb
N5COPD	1-1/4", 1-1/2"	1/2"	15.70"	7.0"	7.5"	6.7lb
N5CDOPD	1-1/2"	1/2"	19.50"	7.0"/9.2"	9.4"	11.1lb
N5DOPD	1-1/2", 2"	1/2"	22.4"	9.2"	9.4"	15.5lb