

OPERATION AND MAINTENANCE - MODEL 211 - BACK PRESSURE REGULATOR - GMC # 46150

GENERAL - Also known as a priority valve, the model 211 is a fully balanced, economical regulator. It serves a wide variety of uses, however its main use is on small compressors. The regulator will improve moisture separator efficiency and filter life as much as 450%. This is done by maintaining pressure in the separator and filter at 1800 PSI or more when tank pressure is lower. It has two outlet ports permitting attachment of a filling yoke and gauge directly to the regulator. This eliminates costly fittings.

SPECIFICATIONS

- *Maximum rated pressure - 6000 PSI (40 MPa)
- *Set pressure - 1800 PSI (adjustable 300 to 5000)
- *Materials - Anodized aluminum body, brass, stainless steel, Viton seals
- *Flow capacity - 2 to 50 SCFM
- *Leakage - Zero external; 0.05 SCFM internal
- *Ports - 1/4" female pipe thread (NPT)
- *Size - 3 1/2" x 1 1/2" x 1"

INSTALLATION - Use a suitable pipe thread sealant such as teflon tape on the inlet and outlet ports. Plug the second outlet port if not used. Connect the inlet to the source gas such as a compressor.

OPERATION - In operation the back pressure regulator will maintain its set pressure upstream and allow just enough gas flow to hold this pressure. The set pressure can be adjusted by loosening the 7/8" hex nut and turning the adjusting screw with a 5/16" Allen wrench. Set pressure is pressure at the inlet port when gas is flowing through the regulator. The gauge connected to the outlet gauge port does not read set pressure. It reads pressure of the tank being filled down stream of the regulator.

MAINTENANCE & REPAIR - Routine maintenance is generally not required. Under extended or severe operation it is helpful to relubricate the poppet seal item 8. (see drawing). To disassemble, loosen nut 6 and remove adjusting screw 5 along with spring 7 and guide 4. Remove seat 10 using a screwdriver. Push out poppet 3 and seal 8. Avoid using sharp instruments to remove seal. A paper clip bent sharply and with rounded tip works well to fish out seal 8 from the body 1. Slip seal 8 on poppet 3 and position about 1/8" from poppet shoulder as shown on the drawing. Fully pack area between the shoulder and seal with grease. Also pack about a 1/8" area on other side of seal. Use only Dow 111 silicone grease or equivalent. Drop poppet and seal back into the body. Lightly grease the threads and seal 10 on seat 2 and screw tightly into body. Reinstall spring, spring guide and adjusting screw as shown. Reset regulator by applying pressure to the inlet and adjusting set screw 5 so flow starts at desired set pressure.

Accessive leakage can occur internally between the inlet and outlets resulting in a drop in set pressure. This is generally due to dirt or other particulates damaging the seat 2. Leakage can sometimes be reduced by lightly tapping ball 9 against seat 2 thus forming a new seal surface. This can be done by inserting a 1/4" rod through the adjusting screw hole and tapping with a hammer. If this does not work, the seat 2 must be replaced. A repair kit consisting of seat, poppet, and seals (part number 211-12) is available. IN ALL CASES THE UNITS CAN BE RETURNED TO THE FACTORY OR DEALER FOR REPAIR AT A NOMINAL CHARGE.

ASSEMBLY AND DISASSEMBLY - Assembly and disassembly can be done by following the following drawings and parts list. Also refer to the repair section for disassembly sequence.

PARTS LIST - 211 BACK PRESSURE REGULATOR

ITEM	QTY	PART NO.	DESCRIPTION
1	1	212	body
2	1	213	seat
3	1	214	poppet
4	1	509-1	spring guide
5	1	510-1	press. adj. screw
6	1	511	lock nut
7	1	324-7	spring
8	1	324-8	seal 2-007
9	1	324-9	ball
10	1	324-10	seal 2-011
11	1	324-11	label

NOTES

1. Fully pack area between items 3 and 8 with Dow 111 silicone grease.
2. Use light coat of Dow 111 grease on items 2 and 10.
3. Nominal set pressure is 1800 to 2000 PSI.

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