

OPERATION AND MAINTENANCE

MODEL 1372 REGULATOR

GENERAL

The model 1372 high accuracy regulator is similar in appearance and function to our standard 415 reducing regulator. However it controls outlet pressure more precisely. This is done by using a small pilot piston to control gas flow to a dome load area that operates a much larger sensing piston. See drawing. One difference from the 415 regulator is that outlet pressure can not be adjusted to zero. A bias spring, necessary for operation, maintains a 200 PSI outlet pressure even when the adjusting knob is fully backed off. The 1372 is a little longer than the 415 model. The 1372 regulator is available in outlet pressure ranges of 0 to 5000 PSI, and 0 to 6000 PSI. Seats are protected by a 30 micron internal filter. The regulator seat, poppet assembly, and filter are contained in an easily replaced valve cartridge. This low cost cartridge permits very easy and fast in-field servicing. The regulator is self venting. It can be provided unvented on special order. An optional mounting bracket (part number 657) permits panel mounting in any orientation or extension from the panel surface.

SPECIFICATIONS

- Maximum inlet pressure ----- 6000 PSI (40 MPa)
- Outlet pressure

Model 1372 -5000	0 to 5000 PSI
1372 -6000	0 to 6000 PSI
- Flow coefficient ----- Cv= .06 (.075" orifice size)
- Outlet pressure variation --- 9 PSI increase per 1000 PSI with inlet pressure drop in inlet pressure
- Outlet pressure variation ----- 10 PSI drop between 0 and with flow 20 SCFM
- Materials ----- body and cap - anodized aluminum
internals ----- brass, stainless steel
seals ----- Viton, KEL-F
- Size ----- 2.25" dia. x 6.2" high

ASSEMBLY PROCEDURE

1. Refer to drawing 1372 cross section and assemble in clean dry area.
2. Blow all parts clean.
3. Inspect sealing area of vent seat item 3 with 10X magnification and remove any particles.
4. Install O ring 13 on piston 4.
5. Completely pack area between piston housing 5 and piston 4 with Cristo lub MCG 121, or equivalent). Sufficient grease should be used so it takes pressure to extrude grease out as piston is inserted into housing. Wipe off excess.
6. Install O ring 14 with Cristolub 121 and install seat item 3.
7. Apply Slick 50 or equivalent EP grease to bearings 10 and 11, screw 8 and threads in housing 7.
8. Install spring guide 6, bearings 10 and 11, and spring 12 as shown.
9. Install preassembled piston housing 5 and O ring 15 as shown into cap 7. Lubricate O rings and threads with Cristolub 121. Install cylinder 26 into cap as shown.

10. Preassemble items 20, 21,22,23,24,25,27,28 as shown. lubricate items 20, 21,22, with cristolub 121. Then install this preassembly into cylinder 26 as shown.
11. Install preassembled poppet cartridge 2, and O ring item 16 into body 2. Install O ring 15 into body 2 as shown.
12. Holding cap downward, assemble cap and body. Torque to 20 to 30 ft lbs.
13. Install adjusting screw and knob with Slick 50 grease on threads.

INSTALLATION

Use a suitable pipe thread sealant such as Teflon tape on inlet and outlet threads. Avoid over torquing pipe thread. Normal torque applied with a 6 or 8 inch long wrench is ample. Use ample Teflon tape - 3 or 4 turns, not 1 or 2 turns. The inlet is on the left when facing the adjusting knob with the two gage ports upward. An optional panel mounting ring is available (part no. 657). The ring clamps to the cap portion of the regulator at any desired location and orientation. The ring has two threaded holes parallel to the regulator spaced 2.8" apart. The regulator is NOT shipped oxygen clean and should NOT be used for oxygen service as provided. Consult the factory for details on oxygen service. AS WITH ANY REGULATOR, A RELIEF VALVE SET SLIGHTLY ABOVE THE MAXIMUM DESIRED CONTROL PRESSURE SHOULD BE INSTALLED ON THE OUTLET SIDE.

MAINTENANCE & REPAIR

CAUTION As with any regulator or valve, particulates or moisture can plug or freeze the internal filter or valve seat. This can occur when upstream dryers are not changed or remain unused for long periods allowing corrosion materials to accumulate. In critical applications where it is important not to lose flow, a larger particulate filter should be used upstream. Also an orifice such as the Aqua model 796 should be used upstream. This reduces the tendency to freeze when moisture is present. Consult factory for details. The user should establish time intervals for changing the valve cartridge, filter and upstream dryers based on experience and service conditions. No representation is made herein as to time intervals as each use is unique. Back-up systems should be used in very critical applications since field maintenance is hard to insure. The poppet cartridge 832 is a factory assembled item and should be replaced if required and not disassembled unless absolutely necessary. Spare cartridges are available at a nominal cost and should be kept on hand if rapid repairs are required. IN ALL CASES THE UNIT CAN BE RETURNED TO THE FACTORY OR DEALER FOR REPAIR UNDER WARRANTY IF APPLICABLE OR AT A NOMINAL CHARGE. Maintenance or repairs should only be done by qualified personnel in a clean environment by following the drawings herein.

ASSEMBLY AND DISASSEMBLY -1372 REG.

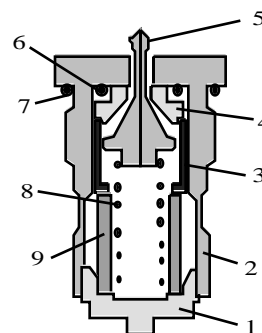
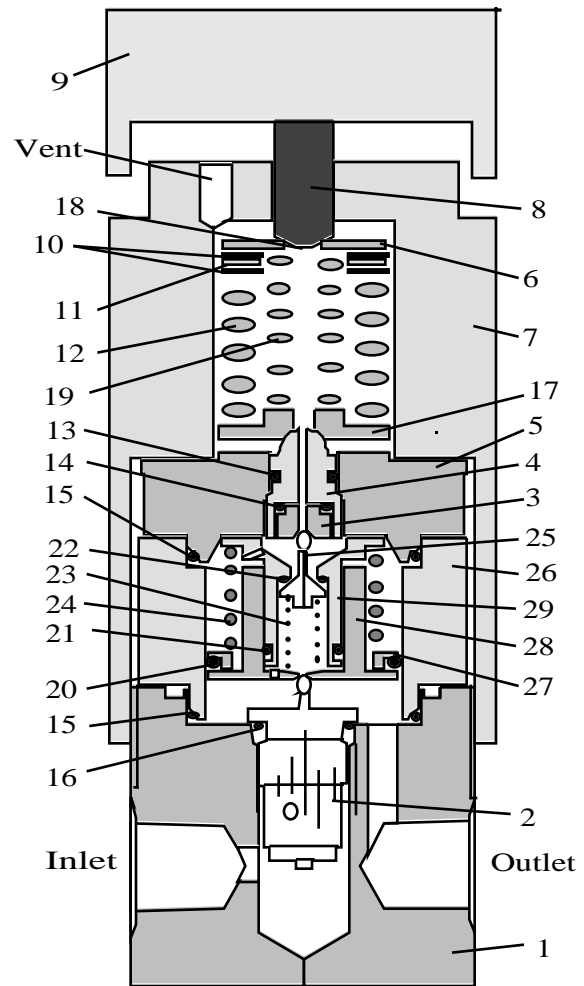
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Assembly and disassembly can be done by following the following drawings and parts list. Also refer to instructions of the opposite side of this sheet.

ITEM	QTY	PART NO.	DESCRIPTION
1	1	407	body
2	1	832	poppet cartridge assy
3	1	726	vent seat
	1	1062	non-venting seat(optional)
4	1	848	piston
5	1	833	piston housing
6	1	410	spring guide - see note 1
7	1	1367	cap
8	1	378	adjusting screw
9	1	379-30	knob-
10	2	379-37	bearing plate
11	1	379-38	thrust bearing
12	1	379-5	spring1x1 HD
13	1	2-010 -90V	seal
14	1	2-010 - 90V	seal
15	2	2-026 - 90V	seal
16	1	2-014 - 90V	seal ref.
17	1	849	spring guide, lower
18	1	379-18	8-32 x 1/2 allen hd stl (opt)
19	1	753-19	spring - used only for 6000 PSI outlet version
20	1	1372-20	seal 2-119 75V
21	1	1372-21	seal 2-011 75V
22	1	1372-22	seal 2-007 90V
23	1	832-8	spring
24	1	1372-24	spring
25	1	741	poppet
26	1	1374	cylinder
27	1	1375	retainer
28	1	1376	piston
29	1	1377	guide
30	1	1372-30	repair kit see note 2.
31	1	1372-31	label

NOTES

1. mount spring guide 410 with bevel side toward adjusting screw.
2. Part number 1372-30 repair kit includes items 2, 3,4,5,13,14-2ea, 15-2 ea, 16, 20,21, 22, 23, 25,
3. references
flow curves1034,838 - tech bul 1419
4. Model 1372-NA (non adjustable) - delete items 8&9 and replace with 3/8-24 x 1 1/4" lg hex head plated bolt and jam nut.
5. Non-vented is 1372-NV and uses 1062, item 3.



PARTS LIST - 832 POPPET CARTRIDGE

ITEM	QTY	PART NO.	DESCRIPTION
1	1	808	retainer nut
2	1	8016	poppet housing
3	1	809	sleeve
4	1	807	seat
5	1	741	poppet
6	1	2-014 - 90V	seal
7	1	2-009 - 90V	seal
8	1	832-8	spring
9	1	832-9	filter