

# OPERATION AND MAINTENANCE

## MODEL 1120 REGULATOR

### GENERAL

The model 1120 is a small, piston type, hand load regulator available in an outlet pressure range of 0 to 5000 PSI. Functionally it is similar to our model 415-5000 regulator but has only a single inlet and outlet port. It is available with a hex head adjusting bolt and lock nut for single set pressure use or with the same adjusting hand knob as used on the model 415 regulator. It can be panel mounted using either the upper 1.25" threaded section and lock nuts (part number 952) or the lower 1 inch jam nut. It uses an unbalanced poppet design for ruggedness and simplicity. There is a small variation of control pressure with changing inlet pressure as noted in the specifications. A 20 to 30 micron filter in the poppet cartridge prevents damage by contaminants.

### SPECIFICATIONS

Max inlet pressure	6000 PSI
Outlet pressure	0 to 5000 PSI
Body ports	1/4" MNPT - inlet at the bottom centerline 1/4" FNPT outlet on the side as shown
Flow coefficient (Cv)	.06 (equals .07" orifice)
Materials	anodized aluminum body, brass and stainless interiors viton & KEL-F seals
Outlet pressure variation with inlet pressure	70 PSI increase per 1000 PSI drop of inlet

### ASSEMBLY PROCEDURE

1. Refer to the cross section drawing 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 16 on piston 4.
5. Completely pack area between cap 5 and piston 4 with Cristo lub MCG 121 or 111 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 17 with Dow 111 grease and install seat item 3.
7. Install piston 4 assembly in cap 5.
8. Install cartridge 2 and O rings 18 & 19 in body 1. Lub with Dow 111 grease.
9. Install body 1 into cap 3. Insure seat 3 doesn't fall out of place. Use Dow 11 on threads between body and cap and torque to 3 to 15 ft lbs.
10. Apply Slick 50 or equivalent EP grease to bearings 9 and 10 if used, screw 12 and threads in cap 8.

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11. Install spring guide 11, bearings 9 and 10, spring 15, and spring guide 7 as shown.

12. Install cap assembly onto regulator using mating collar 6. Torque to 3 to 15 ft lbs.

11. Install adjusting screw and knob or bolt and lock nut items 12 and 13 using 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 at the bottom of the regulator as shown. The outlet is at the side. Optional panel mounting nuts are available (part no. 952). These may be used to mount the regulator through a 1.25" panel hole. Optionally the regulator can be mounted using the 1 inch jam nut and body flange shown near the bottom of the regulator. 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

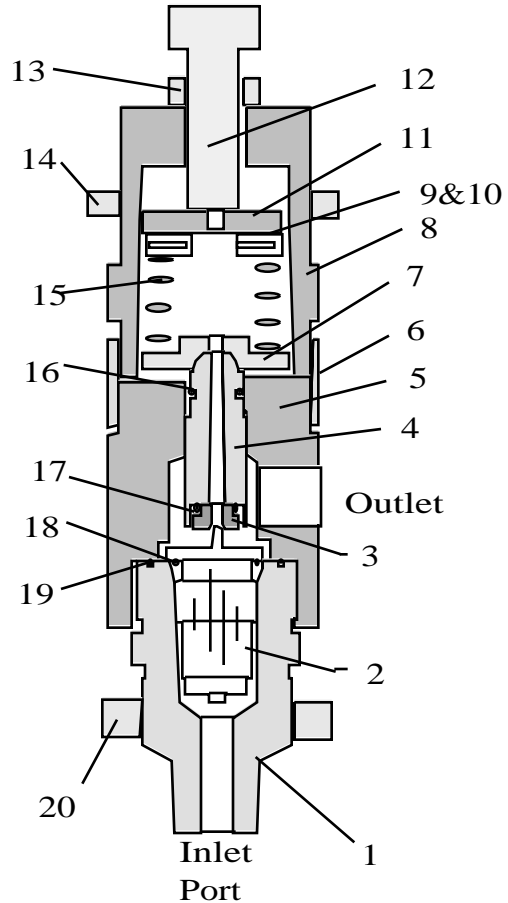
**CAUTION** As with any regulator or valve, particulates or moisture can plug or freeze the internal filter or valve seat. This can occur when upstream dryers are not changed or remain unused for long periods allowing corrosion materials to accumulate. In critical applications where it is important not to lose flow, a larger particulate filter should be used upstream. Also an orifice such as the Aqua model 796 should be used downstream. 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

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.

### PARTS LIST - 1120 REGULATOR

ITEM	QTY	PART NO.	DESCRIPTION
1	1	811	body
2	1	832	poppet cartridge
3	1	726	vent seat
	1	1062	non-venting seat (optional)
4	1	1125	piston
5	1	1124	cap, lower
6	1	1126	collar
7	1	849	spring guide
8	1	903	cap, upper
9	1	379-38	bearing (for model 1120-1)
	0		delete for model 1120
10	2	379-37	plate (for model 1120-1)
	0		delete for model 1120
11	1	410	spring guide (for 1120-1)
	2	410	spring guide (for 1120)
12	1	378-2	adj screw (for model 1120-1)
	1	1120-12	bolt (for model 1120)
13	1	379-30	knob (for model 1120-1)
	1	1120-13	lock nut (for model 1120)
14	1 or 2	952	mount nut (optional)
15	1	379-5	spring
16	1	2-010 -90V	seal
17	1	2-010 - 90V	seal
18	1	2-014- 90V	seal, ref.
19	1	2-018 - 90V	seal
20	1	1120-20	1" x 14 thd jam nut plt stl



### PARTS LIST - 832 POPPET CARTRIDGE

ITEM	QTY	PART NO.	DESCRIPTION
1	1	808	retainer nut
2	1	806	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

### NOTES

1. mount spring guide 410 with bevel side toward adjusting screw.
2. Part number 1162 repair kit includes; 1 ea. 832 cartridge, 2 ea. 2-010 O ring, 1 ea. 2-018 O ring, 1 ea. 726 vent seat, 1 ea. 1125 piston.
5. Model 1120-1 ( adjustable) uses hand knob instead of bolt and lock nut.
6. Non-vented part number is 1120-NV and uses p/n1062 as item 3.
7. Technical Bulletin is 1122

