OPERATION AND MAINTENANCE
MODEL 873H -1500 & -5000 REGULATORS

The model 873H is similar to the standard 873 series but employs a heating manifold at the base of the regulator. Flowing warm water or other fluid through the manifold reduces the possibility of freezing within the regulator caused by cold moist gas.

SPECIFICATIONS

- Maximum inlet pressure 6000 PSI (40 MPa)
- Outlet pressure
  - 873-1500 1500 PSI
  - 873-5000 5000 PSI
- Flow coefficient (C_V) 0.8 (equivalent to 0.23" orifice)
- Rise of outlet pressure with drop of inlet pressure
  - 873-1500 35 PSI/1000 PSI
  - 873-5000 110PSI/1000 PSI
- Materials - body and cap - aluminum
  - internals - brass,stainless,
  - seals, - KEL-F,Buna,Viton
- Fittings 1/4" FNPT inlet
  1/2" FNPT outlet
  1/4"FNPT heating manifold
- Size 3" dia x 6.7" lg

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 nut is available (part no. 952). This nut permits mounting the regulator using a 1.25" hole in a panel or plate. 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. The 1/2" port is the outlet. The 1/4" port adjacent to the 1/2" port is the outlet gauge port. The other two 1/4" ports are the inlet and inlet gauge ports. Either of these ports can be used as the inlet. Connect the inlet to the source gas such as a high pressure storage tank. The outlet is capable of being adjusted from 0 up. AN OUTLET GUAGE AND RELIEF VALVE SET NO HIGHER THAN MAXIMUM OUTLET PRESSURE SHOULD BE CONNECTED TO THE OUTLET. A 1/2" NPT SIZE RELIEF VALVE SHOULD BE USED FOR FULL PROTECTION. IF THE INLET PRESSURE CAN EXCEED 6000 PSI A RELIEF VALVE SHOULD ALSO BE INSTALLED AT THE INLET TO PREVENT EXCEEDING 6000 PSI.

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OPERATION

Outlet pressure is adjusted by knob 10 (refer to drawing) to the desired value as read on the outlet gauge. When reducing the pressure the regulator will self vent via the vent hole near the cap. This is normal. When reducing set pressure reduce pressure to below the new setting then increase pressure to the new setting. If in-field adjustment is to be avoided, the knob 10 can be replaced by a bolt and lock nut. A 3/8" by 24 thread per inch bolt with a minimum thread length if one inch is required.

MAINTANENCE & 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 up-stream dryers are not changed or remain unused for long periods allowing corossion 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 895 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 and parts lists herein.

If leakage occurs through the regulator or out the regulator vent, allow the inlet and outlet pressure to equalize by shutting off the inlet. If leakage continues after the inlet and outlet equalize the vent seat 5 or piston seal 14 are leaking. Replace these. If leakage stops when the inlet and outlet pressure equalize the poppet cartridge item 1 is leaking. Replace this.

ASSEMBLY & DISASSEMBLY - MODELS 873H-1500 & 5000 REGULATOR

ITEM	QTY	PART NO.	DESCRIPTION
1	1	895	poppet assy
2	1	893	body
3	1	879	cap
4	1	848	piston for -5000
	1	947	piston for -1500
5	1	946	vent seat (vented)
	1	1035	seat- not vented
6	1	849	spring guide
7	1	903	cap
8	1	410	spring guide
9	1	378-2	adjusting screw
10	1	379-30	knob
11	2	379-37	bearing plate
12	1	379-38	bearing
13	1	379-5	spring
14	1	876-15	seal (2-010 V90) -5000
	1	876-29	seal (2-015 V90) -1500
15	1	876-15	seal (2-010) Vit. 90
16	1	876-28	seal (2-135) vit. 90
17	1	876-116	seal (2-020) vit. 90
18	1	919	piston hsg -5000
	1	920	piston hsg -1500
19	1or2	952	mount nut - optional
20		979-xxxx	REPAIR KIT - includes items 1,4,5,14,15,16,17
21	1	1058	warm water manifold
22	1	873H-22	seal 2-134 70N O ring
23	2	873H-23	bolt, pltd steel, 1/4-20 x 1.25 lg hex hd.

NOTES

1. Technical bulletin - 874
   895 poppet cartridge assy - drw 896
2. Use Dow silicone grease 111 or equivalent on threads. Use Cristo-lub MCG 121 on seals. Use Slick 50 EP grease or equivalent on bearings 11 and 12 and on threads between items 7 and 9.
3. **ASSEMBLY**
   see 873-1500&5000 O&M sheet 875
4. model 873-xxxxNA denotes fixed adjustment and uses a bolt and locking nut instead of items 9 and 10.
5. model 873-xxxxNV denotes non vented regulator.
6. model 873H-xxxx denotes use of heating manifold at base of regulator