

OPERATION AND MAINTENANCE

MODEL 907-NF UNLOADER VALVE

The model 907-NF unloading valve uses a low control pressure to shut off a high pressure line such as on the discharge of a compressor. When control pressure is released the valve opens. A minimum of 70 PSI control pressure is required to operate the valve at 6000 PSI. Control pressures up to 5000 PSI can be used without affecting operation or damaging the valve. One application for the valve is to unload a compressor upon shutdown. Interstage pressure could be used as the control pressure. The -NF or non-filtered version does not filter the discharge gas before it passes the seating area. This may be preferred if the filter is becoming blocked too often; however, it may also cause the valve to leak sooner than when the filter is used.

SPECIFICATIONS

• Maximum rated press.		6000 PSI
• Maximum control press.		5000 PSI
• Minimum cont. press. -		70 PSI at 6000 PSI inlet
		50 PSI at 4000 25 PSI at 2000
• Flow capacity		Cv = 0.1 .06" orifice
• Inlet filtration		none
• Materials	seals	Delrin
	body	Viton
	internals	aluminum brass, stainless
• Ports	inlet	1/4" MNPT
	outlet	to ambient
	control	1/4" MNPT
• Size		1.5" dia. x 3.5" long

INSTALLATION

Connect the high pressure line to be unloaded to the valve end with the 1.37" hex. Connect the control pressure source to the opposite end. The outlet vents to atmosphere via the side holes in the body. 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 regulator is NOT shipped oxygen clean and should NOT be used for oxygen service as provided. Consult the factory for details on oxygen service.

INSTALLATION NOTE -

1. **Keep the outlet (side port) unrestricted with at least 1/4" inside diameter piping or tubing. This prevents over pressurizing and pounding of internal parts.**

2. **A .020" to .047" orifice on the control air supply is recommended. Use .020" if response time of 0.5 seconds is OK. This reduces pounding and damage to internal parts. Also keeping control below 200 PSI helps.**

OPERATION:

The valve provides a fully automatic drain and unloading sequence and operates unattended.

MAINTENANCE:

No routine maintenance is required. If the valve begins to leak the seat and pin may need to be replaced. These can be obtained with a repair kit, 907-NF-14. If the leaking reoccurs frequently, it may be advisable to use the filtered version. Using a filtered repair kit, 907-14, allows the valve to be converted to the filtered version. If time allows or a spare is available it is recommended the valve be returned to the factory for repairs.

AQUA ENVIRONMENT CO. INC.,

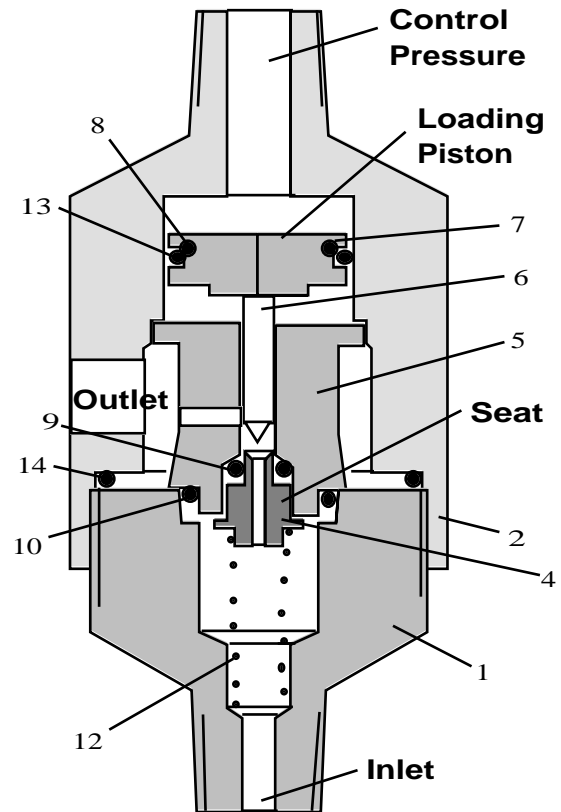
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ASSEMBLY & DISASSEMBLY- 907 UNLOADER

ITEM	QTY	PART NO.	DISC.
1	1	1108	body (was 885a)
2	1	1107	cap (was 909a)
3	1	deleted	
4	1	910	seat
5	1	911	housing
6	1	912	pin
7	1	913	piston
8	1	907-8	seal, 2-015-75V (note 6)
9	1	907-9	seal, 2-006-90V
10	1	907-10	seal, 2-014-90V
11	1	deleted	
12	1	907-12a	spring, extended
13	1	907-13	seal, 2-016-90V
14	1	883-14	seal, 2-211-75 buna (note 7)
15	1	907-14	REPAIR KIT - includes items 4,6,8,9,10,11,13,14

NOTES;

1. Technical bulletin - 881
2. Use Dow grease #4 on threads and seals.
(This light grease permits required easy movement of piston)
3. To assemble, install spring in body. install seal 9 then seat 4 in housing 5. Install seal 8 and 13 on piston 7. (see note 6) Install piston in cap 2. Install pin 6 in item 5. Install housing 5 in cap 2. Install seal 14 in cap 2. Install spring 12. Screw cap 2 with internal parts onto body 1. Hold upright to prevent spring from falling out. Torque to 5 to 10 ft lbs.
4. delete this note
5. delete this note
6. Cut O ring item 8 thru and install on deeper groove in item 7. Insure there is slight crack at cut end so O ring can not seal (It's purpose is to serve as an expander for seal item 13)
7. Item 14 provides a housing seal. (Earlier models with deeper bore in cap use two 2-118 O rings and ring part number 1172 as shown at right in place of item 14)

**Model 907**