

# OPERATION AND MAINTENANCE MODEL 1026 DOME LOAD REGULATOR

The model 1026 is an inexpensive, compact, highly accurate dome load regulator. It is non-venting. It uses the same reliable valve cartridge used in the 415 regulators. This regulator is about four times as accurate as the 415 spring loaded regulators but requires a separate source of control pressure to the dome. An optional spring bias can be provided as shown on the drawing. The standard bias is about 120 PSI open. The regulator with bias is sometimes used for cascade filling systems.

Its primary function is control of cascade systems used for such purposes as filling breathing air cylinders and vehicle CNG (compressed natural gas) tanks. The factory can be consulted for application details. A one-inch thread section is on the end, providing a way to mount the valve in a panel or on a mounting plate.

turns, not 1 or 2 turns. The inlet is the male thread at the bottom of the valve and the outlet is the female thread at the side of the valve. The dome load port is the male thread at the top, center. The one-inch thread at the bottom of the valve can be used to mount the valve through a one-inch hole in a panel or mounting plate provided by the user. Actuating or dome pressure as well as inlet fluid can be any non-corrosive gas or liquid at any pressure up to 6000 PSI. The regulator is NOT shipped oxygen clean and should NOT be used for oxygen service as provided. Consult factory for details. **AS WITH ANY REGULATOR, A RELIEF VALVE SET SLIGHTLY ABOVE THE MAXIMUM DESIRED CONTROL PRESSURE SHOULD BE INSTALLED ON THE OUTLET SIDE.**

## TECHNICAL SPECIFICATIONS

Maximum pressure, inlet	6000 PSI
differential	6000 PSI
outlet	6000 PSI
dome	6000 PSI
Ports, inlet	1/4" MNPT
outlet	1/4" FMPT
dome	1/4" MNPT
Flow coefficient (Cv)	0.05 (.07" orifice)
Materials, body	anodized aluminum
internals	brass & stainless
seals	Viton(TM) & KEL-F
Open bias - optional (from spring)	120 PSI
	0 to 150 available
Outlet pressure variation with inlet pressure	17 PSI increase per 1000 PSI drop in inlet pressure

## 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

## 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. 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 OR AT A NOMINAL CHARGE. Maintenance or repairs can be done by qualified personnel in a clean environment by following the drawings and parts lists herein.

## AQUA ENVIRONMENT INC.

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## MODEL 1026 DOME LOAD REGULATOR ASSEMBLY & DISASSEMBLY

### PARTS LIST

ITEM	QTY	PART NO.	DESCRIPTION
1	1	832	poppet cartridge assy
2	1	811	body
3	1	812	cap
4	1	815	stem
5	1	1027	dome cap (for 1026)
	1	1097	spring bias dome cap (for 1026-XXX)
6	1	1028	piston
7	1	1029-7	2-015 viton, 90 duro seal
8	1	1029-8	2-017 viton, 90 duro seal
9	1	1029-9	spring C0300 038 0690S
10	1	1029-10	1" x 14 thd jam nut stl plt
11	1	1029-11	2-014 viton, 90 duro seal
12	1	1029-12	2-018 viton, 90 duro seal
13	1	1131-1	spacer (for 120 PSI bias)
14	1	1029-14	optional spring 1/2" dia x 1" lg HD (for 120 PSI bias)

### NOTES

- Use Dow 111 grease on O rings and threads except seal 7, fully pack this O ring with Cristo-Lube MCG 121, 111 or equivalent.
- Spring bias options are as follow:  
spring - HD, with 1131-1 spacer - 120 PSI bias (standard)  
spring - MD, with 1131-1 spacer - 50 PSI bias
- Technical bulletin - 1031
- If using parts from other assemblies such as the 1091 toggle valve, the O ring between items 3 and 4 must be removed.

