



# 6000 PSI SEQUENCE VALVES MODELS 1018 & 1085

## GENERAL INFORMATION

The 1018 and 1085 sequence valves function in the same way. The 1085 uses a larger, balanced poppet valve cartridge and handles higher flow rates than the 1018. They are an open-shut valve having two control ports. The valves compare the two control pressures and open or shut when one exceeds the other.

A variety of control functions are possible. One application is control of cascade systems used for filling air or CNG (compressed natural gas) tanks. When used between the storage banks and tank being filled the valves can deliver gas from the lowest pressure bank until equalized, then the next higher pressure bank etc without operator assistance. Consulted the factory for application details.

A one inch thread section is provided for mounting to a panel or plate.

## TECHNICAL SPECIFICATIONS

- Maximum pressure, inlet ----- 6000 PSI (40 MPa)
  - differential ----- 6000 PSI
  - outlet ----- 6000 PSI
  - open or shut control ---- 6000 PSI
- Ports, inlet ----- 1/4" or 1/2" MNPT
- outlet ----- 1/4" FNPT
- Flow coefficient (Cv)
  - model 1018 ----- .05 (.07" orifice)
  - model 1085 ----- 0.8 (0.23" orifice)
- Materials, body ----- anodized aluminum
- internals ----- brass & stainless
- seals ----- Viton(TM) & KEL-F
- Open bias - constant (from spring) - 250 PSI
- 0 to 400 available
- Open bias - pressure 7%
- (This is % greater pressure required on shut control than open control to actuate valve)
- Size mod 1018 ----- 1.37" hex. x 7.0" long
- mod 1085 ----- 2.25" dia. x 8.7" long

### **Aqua Environment Inc.**

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**Sequence Valve  
Model 1018**



**High Flow  
Sequence Valve  
Model 1085**

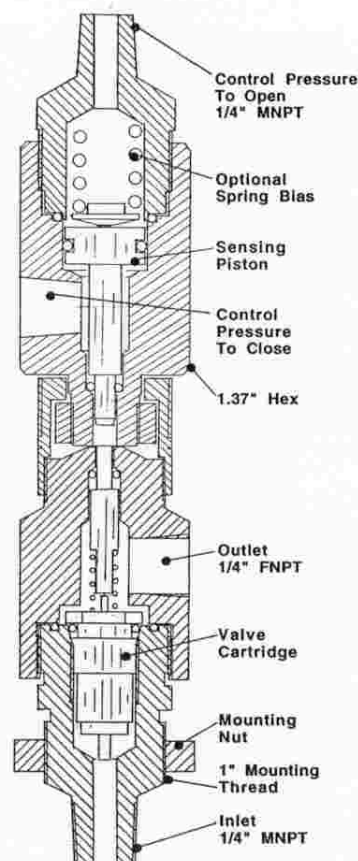
## TYPICAL APPLICATIONS

- Automatic control of flow from cascade banks of air, CNG or other gases to portable tanks.
- Automatic control of compressor operation when filling cascade banks such that the compressor can operate at pressures no higher than the bank being filled.
- \* Applications where it is economical or desirable not to have electric controls such as in CNG fill stations where electric controls could be a hazard.
- Numerous other applications where two reference pressures are compared and the valve is to be open when one reference pressure exceeds the other.

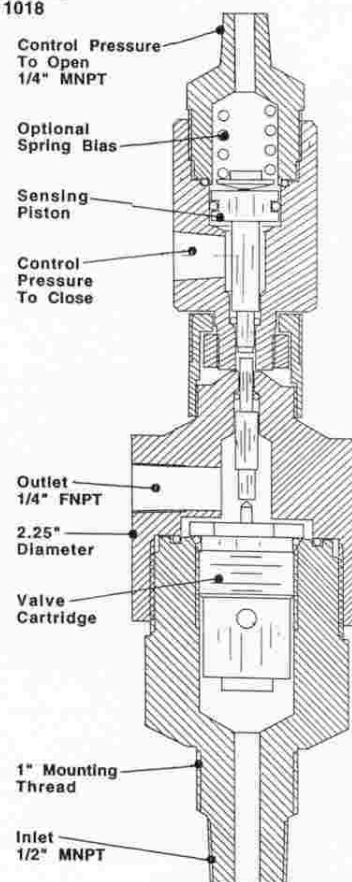
## FUNCTIONAL DESCRIPTION

Both the 1018 and 1085 valves function in the same way. The only difference is the larger 1085 valve has a balanced poppet cartridge permitting much higher flow rates. Actuating force to operate the valves is about the same and the same operators are used on both valves. The cartridge contains the valve seat, poppet, seals, and filtration system in a factory cleaned and assembled unit. Consequently in field servicing, should it be required, is reduced to the fast, simple task of replacing an inexpensive cartridge. These cartridges are also used on our 415 and 873 regulator series and has proved highly dependable over the years. Downward pressure on the pin at the top of the cartridge opens the valve. Release of pressure closes the valve. Flow enters at the bottom of the valve and exits out the side port shown.

An optional spring bias holds the valve open when the close and open control pressures are equal. 250 PSI bias is standard. 0 to 400 PSI is available. In cascade filling operations the valve senses pressure in the tank being filled and the cascade bank on line. When tank pressure approaches the cascade bank pressure the valve opens permitting filling from the next higher pressure banks. Check valves such as our 955 or 684 are used to prevent back flow. Application notes 1056 and 1063 describe this further.



Sectional View,  
Sequence Valve  
Model 1018



Sectional View, High Flow  
Sequence Valve  
Model 1085