



# 6000 PSI TOGGLE OR AIR VALVE MODEL 816

## GENERAL INFORMATION

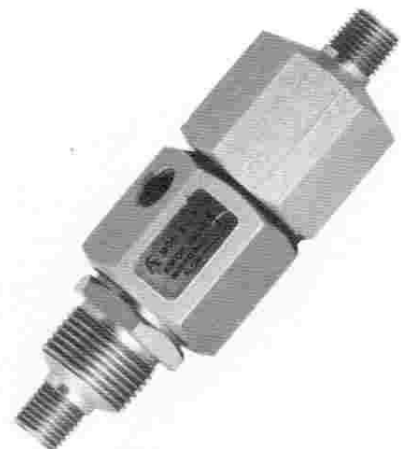
The Model 816 series valve is an open or shut valve for air, gas or liquid lines up to 6000 PSI. It is available as a toggle operated or air operated valve. In the toggle version, the valve is shut when the toggle lever is relaxed and the lever extends straight out. When the lever is tipped in any direction the valve opens. A variety of levers can be connected to the 1/4"-20 thread. For example, using an eye bolt as shown, the valve could be operated by a lanyard. Alternately, a flat bar could be attached to the toggle with a short bolt. In many cases the valve eliminates the need for snap action switches, solenoids, and other complicated devices to open or shut a high pressure line. One typical application is to open a cylinder charging line only when a protective door is shut. Here the door could push against the toggle to open the valve. A maximum of 30 inch pounds is required to actuate the valve at rated pressure. For example, a six inch lever would require five pounds to operate. A one inch thread section is provided on both ends permitting a variety of ways to mount the valve using a one inch jam nut. The 816-1 valve is similar to the 816 valve except the toggle is replaced by a cylinder. Any 125 PSI pressure source (air, gas, or liquid) will operate the valve. Adding an inexpensive, low pressure solenoid valve converts the 816 to a high pressure solenoid valve.

## TECHNICAL SPECIFICATIONS

- Maximum pressure, inlet ----- 6000 PSI
  - differential ----- 6000 PSI
  - outlet ----- 6000 PSI
- Ports, inlet ----- 1/4" MNPT
  - outlet ----- 1/4" FMPT
- Flow coefficient (Cv) ----- .05 (.07" orifice)
- Materials, body ----- anodized aluminum
  - internals ----- brass & stainless
  - seals ----- Viton(TM) & KEL-F
- Mod 816 lever actuating force ----- 30 inch lbs at 6000 PSI
- Mod 816-1 actuating pressure ----- 120 PSI with 6000 PSI at inlet and outlet  
65 PSI with 6000 PSI at inlet and 0 at outlet
- Maximum allowable actuating pressure ----- 5000 PSI
- Size, mod 816 ----- 1 3/8" hex x 4" long
  - mod 816-1 ----- 1 3/8" hex x 5" long



**Toggle Valve  
Model 816**



**Air Operated Valve  
Model 816-1**

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## TYPICAL APPLICATIONS

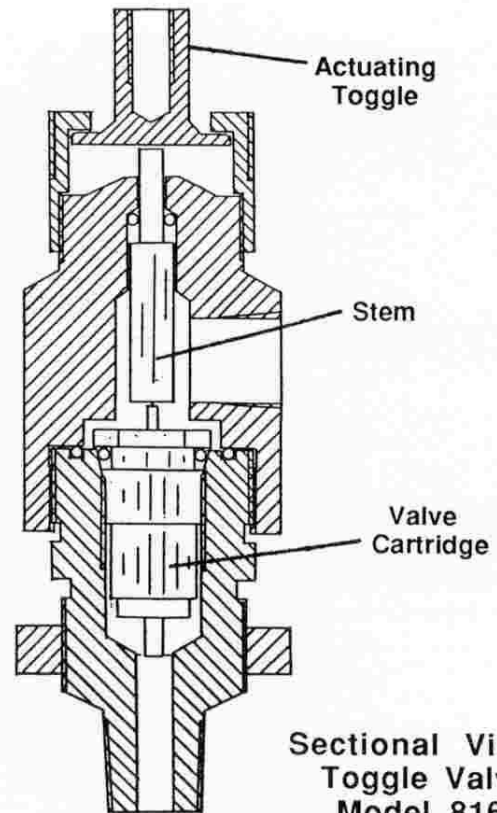
- Test panels where fast, accurate, hand control of pressure is desired
- Gas supply interlocks such as protective doors on charging stations
- Component testing
- Process industry control
- Charging stations where it is desirable to have the supply shut off if operator releases control

## FUNCTIONAL DESCRIPTION

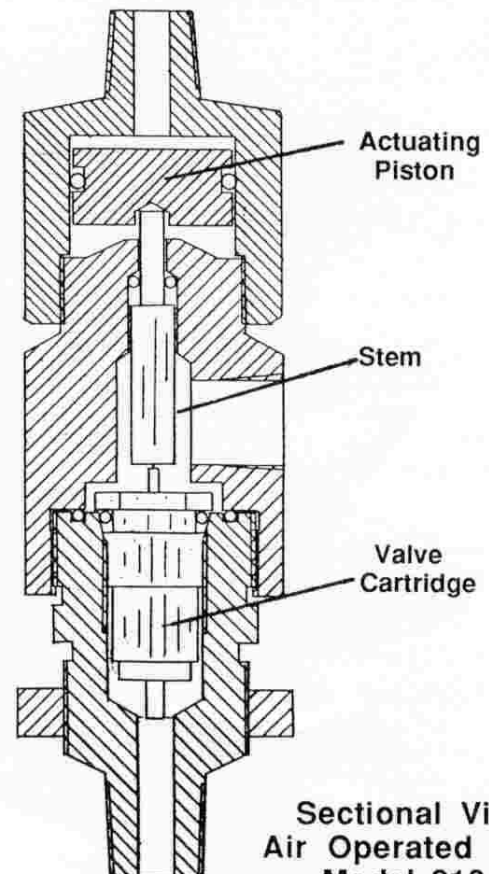
Both valves use the valve cartridge shown. The cartridge contains the valve seat, poppet, seals, and filtration system in a factory cleaned and assembled unit. Consequently in field servicing, should it be required, is reduced to the fast, simple task of replacing this inexpensive cartridge. This cartridge is also used on our 415 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.

The toggle version is open by mechanically tipping the toggle at the top of the valve. This tipping or lever action pushes down the stem and opens the valve. Release of the toggle shuts the valve.

In the air operated version air enters the top of the valve and acts on the piston shown to move the stem down and open the valve. Release of air pressure allows the valve to close. Other gases or liquids may also be used to actuate the valve permitting use in a wide variety of applications.



Sectional View  
Toggle Valve  
Model 816



Sectional View  
Air Operated Valve  
Model 816-1