



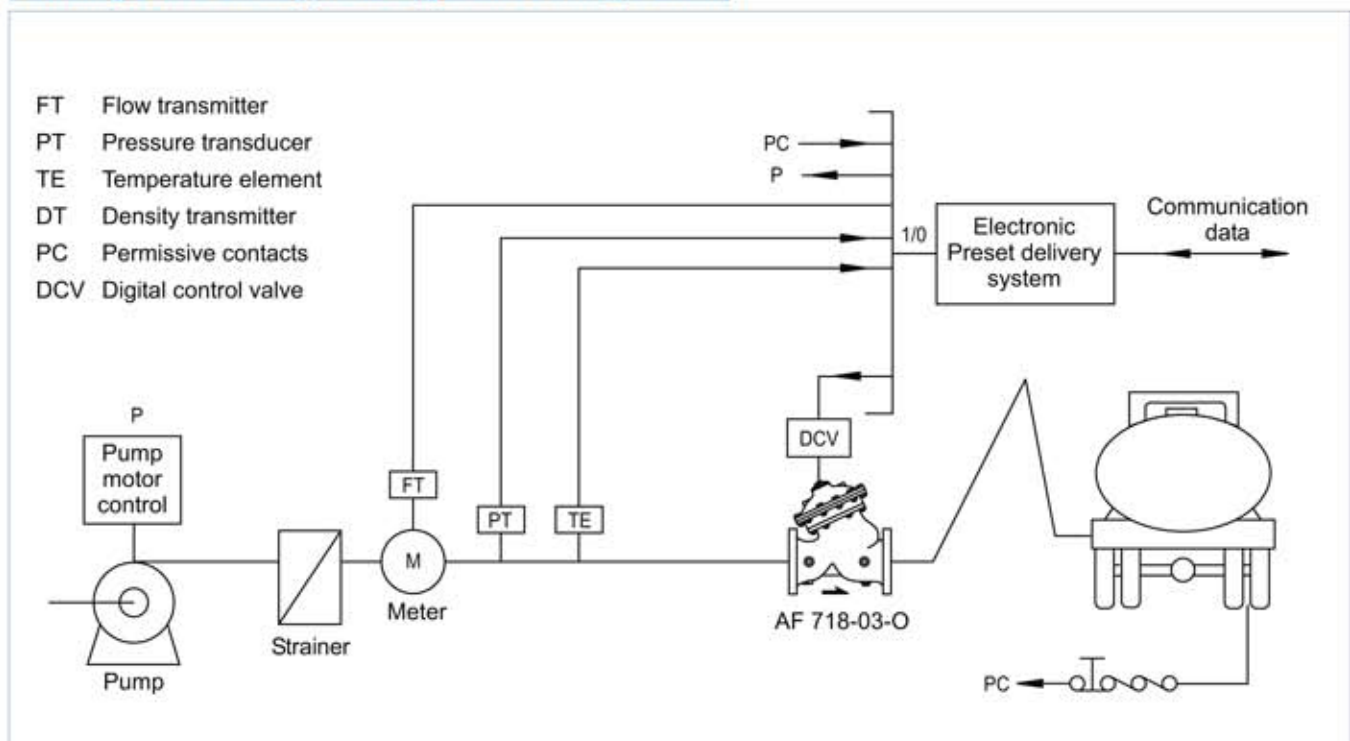
Multi Step (Digital) Controlled Valve

- Low pressure drop
- Separate opening and closing speed control
- Horizontal or vertical applications
- Controlled and retarded chambers
- Limit switch (optional)



The BERMAD 718 Valve basically consist of a 700 Series Valve with two (2) solenoid controls. This valve is typically used in conjunction with all electronic preset delivery system for preset loading control at load racks, bulk plants, or processing installations.

Loading Control Typical System Configuration





Operation

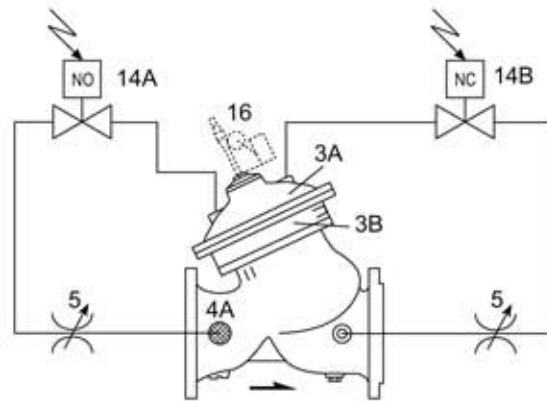
The BERMAD 718 Valve basically consists of a 700 Series valve with two (2) solenoid controls (see Fig 1). The normally open (N.O.) and normally closed (N.C.) solenoids, located in the upstream and downstream portions of the control loop, respectively, control the operation of the valve. With both solenoids energized, upstream pressure is blocked, allowing the product in the cover to vent to low downstream pressure, opening the main valve. Conversely, deenergizing both solenoids allows high upstream pressure to close the valve.

Energizing just the N.O. solenoid locks fluid in the valve cover, which locks the valve poppet in a fixed position, to maintain a constant flow rate as long as operating conditions do not change. When operating conditions (e.g. pressure) change, causing a change in flow rate for that fixed valve opening, the flow controller, signals the appropriate solenoid to open momentarily to readjust flow rate back to its set value. When the set flow rate changes (e.g. from low flow start to high flow limit, or during multi-step valve shutdown), the appropriate solenoid is signalled to open until flow rate adjusts to the new set value. See Figure 2 for a typical truck loading flow rate sequence.

Located between each solenoid and the main valve port is a valve response control device, typically a needle valve. This device is used to fine tune the opening/closing rate of the valve as an option. Two ball valves may be provided for a total control loop isolation for ease of service. Adjustment of these devices controls the flow to the cover chamber, permitting adjustments based on product viscosities and pressures.

Control Trimming

Fig. 1



Control List

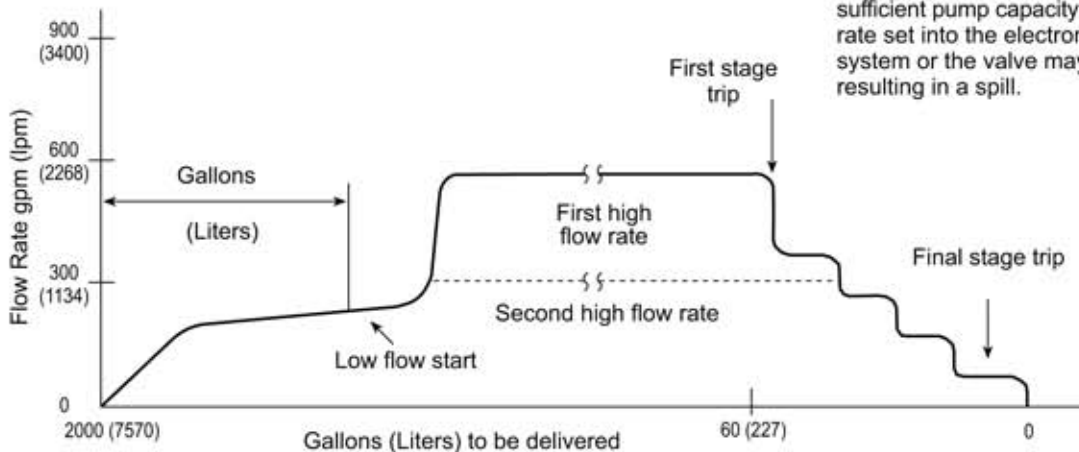
- 3A Upper Control Chamber
- 3B Retarded Chamber
- 4A Filter (Self Flushing)
- 5 Needle Cock Valve
- 14A NO Solenoid Control Valve
- 14B NC Solenoid Control Valve

Option

- 16 Limit Switch

Typical Load Cycle

Fig. 2



Note:

Field programmable caution: there must be sufficient pump capacity to achieve the flow rate set into the electronic preset delivery system or the valve may close slowly resulting in a spill.

