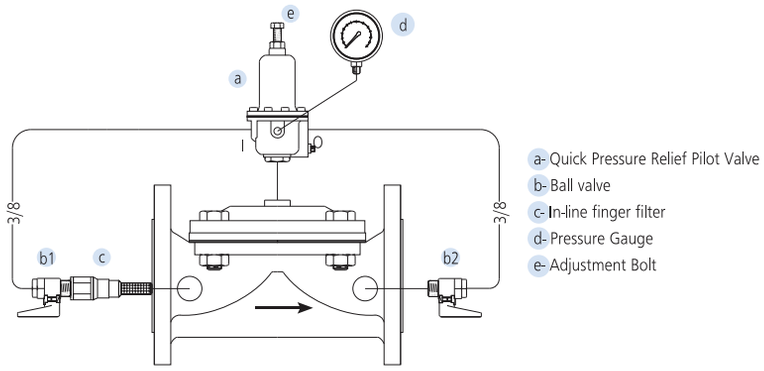
QUICK PRESSURE RELIEF CONTROL VALVE

Model: KVS 702 - G



DESCRIPTION

KVS 702-G serial quick relief control valve is the safety control valve designed to protect system by eleasing pressure to atmosphere quickly caused from sudden changes in water speed because pumps put into/out of service frequently in water network elevation lines. When network pressure goes beyond set point, valve opens by itself quickly and protects system by releasing over pressure. When line pressure decreases to normal level. it is closed slowly and automatically as wholly sealed without causing surge.

INSTALLATION

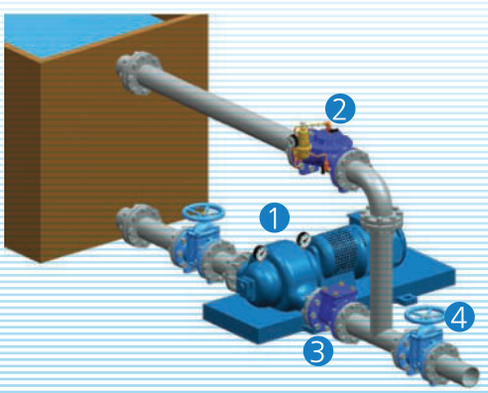
Quick Pressure control valve is mounted on network in TE configuration.
Since valve's function is to release pressure, valve diameter may not be selected as equal to or in closest smaller size than main pipe diameter. Valve diameter should be selected as smaller than main pipe diameter. Following empirical formula may be used in determining diameter of quick pressure relief control valve. Where :

$$D=\sqrt{\frac{250 \times Q}{\sqrt{Hm}}}$$

D = Diameter of quick pressure relief control valve in (mm)
Q = System Flow Rate in (m^3/h)
Hm = System Operating Pressure (meter ⟶ 1bar ≈ 10 meter)

Valve closing time is proportional with pipe length. As system pipe length increases, valve closing time should be increased.

TYPICAL APPLICATION



1. Pump
2. Quick Pressure Relief Control Valve
3. Check Valve
4. Isolation Valve (Gate Valve, Butterfly Valve etc.t)

ADJUSTMENT

Operate pump, open main valve on network and deliver water to the system.
Open ball valves indicated with "b1" and "b2".
Wait for a while until water reach valve control chamber. When water reach control chamber, pressure gauge will show a certain pressure value.
Adjust desired upstream pressure value by means of adjustment bolt indicated with "e" on pilot valve indicated with "a" by referring pressure gauge.
When you turn adjustment bolt clockwise, upstream pressure value will increase and when you turn adjustment bolt counter-clockwise it will decrease.
After adjusting desired downstream pressure value, tighten contra nut below set screw. Pressure gauge will show upstream pressure value.

PILOT VALVE PRESSURE ADJUSTMENT RANGE

Standard Pressure Range	5 - 160 m	7.5 - 240 psi
Medium Pressure Range	10 - 100m	15 - 150 psi
High Pressure Range	5 - 240 m	7.5 - 360 psi

FAILURE	CAUSES	CORRECTING/REPAIR
Valve not opening	• Ball valves in valve downstream may be closed. • Valve upstream pressure may be too low. • Adjustment pressure of pilot valve may be higher than line pressure. • Needle valve on pilot valve may be closed	• Check ball valves and open them if they are closed. • Check your system. Decrease adjustment pressure in • Accordance with adjusting instruction by means of adjustment bolt. • Open needle valve one or two tours according to system adjustment
Valve not closing	• Diaphragm may be punctured. • Foreign substances may exist in diaphragm seat. • Connections of pilot valve may be clogged because of foreign substances. • Finger filter may be clogged.	• Check diaphragm and replace with the new one if it is punctured. • Check diaphragm seat and remove foreign substances if any. • Check connections and clean them. • Clean if it is clogged.
Non-uniform Operation	• Movable parts of pilot valve may be clogged because of calcification. • Set point of needle valve on pilot valve may be wrong. • Pressure gauge may be failed.	• Replace with new one. • Close needle valve fully and open it by 1 - 2 tours. • Replace with new one.

ORDER INFORMATION

Please submit following information to our sales representative while ordering

Maximum Flow Rate (in l/s or m^3/h)
Maximum Network Pressure (in bar, atmosphere or meter)
Minimum Upstream Pressure (in bar, atmosphere or meter)