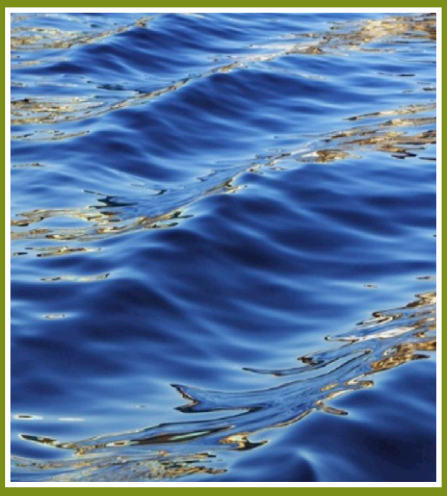
Irrigation CLA-VAL®

# CLA-VAL
## Automatic Control Valves

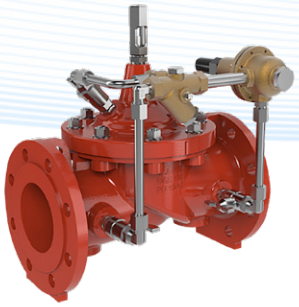




# Irrigation Solutions

# Pressure Reducing Valves

## Pressure Reducing Valve



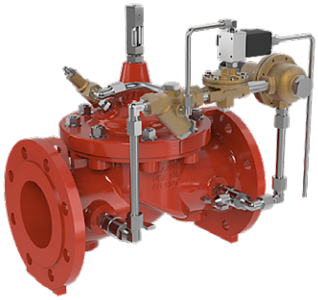
Cla-Val Models 90GE-01/NGE90-01 Pressure reducing valves automatically reduce a higher inlet pressure to a steady lower downstream pressure regardless of changing flow rate and/or varying inlet pressure. This valve is an accurate, pilot-operated regulator capable of holding downstream pressure to a pre-determined limit.

## Combination Pressure Reducing and Pressure Sustaining

Cla-Val Models 92GE-01/NGE92-01 Combination pressure reducing and pressure sustaining valves automatically performs two independent functions. It maintains a constant downstream pressure regardless of fluctuating demand and sustains the upstream pressure to a pre-determined minimum.

**Typical application** - Use this valve to automatically regulate pressure to hose reels, sprinkers etc. The sustain function regulates flow and back pressure on the pump at startup.

## Pressure Reducing Valve with Solenoid Shut Off



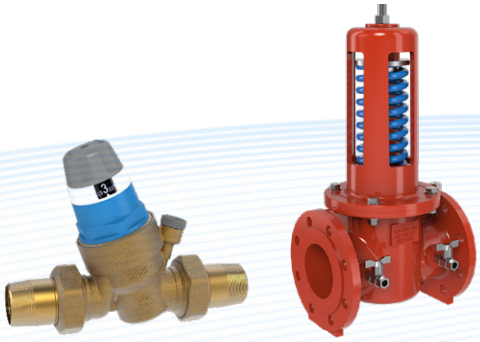
The Cla-Val 93E/D-01 is designed to automatically reduce a higher inlet pressure to a steady lower downstream pressure while opening and closing remotely. The solenoid can be activated by an electrical signal from a timer or programmer.

Latching or solid state solenoids available.

## Pressure Reducing Valve with Surge Control

The 94-01 is a pressure reducing valve however has a built in ‘surge control’ feature. In addition to maintaining a constant downstream pressure regardless of varying inlet pressure the 94-01 prevents high pressure ‘surges’ from entering the downstream system when sprinkler sets close by rapidly tracking pressure increases when quick, dead-end shut off occurs.

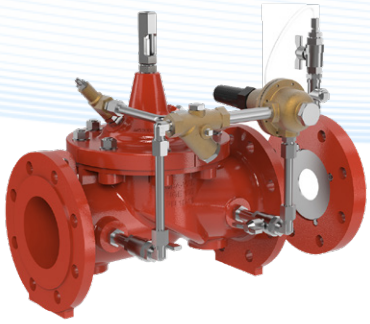
## Direct Acting Pressure Reducing Valves



The AQUA PRV – Direct Acting Pressure Reducing Valves, can be used in irrigation systems to protect installations from a high inlet (upstream) pressure. The pressure reducing valve will reduce and maintain a lower and constant outlet (downstream) pressure regardless of variations of inlet pressure. When downstream pressure exceeds the pressure setting, the valve will close drip-tight under zero demand conditions

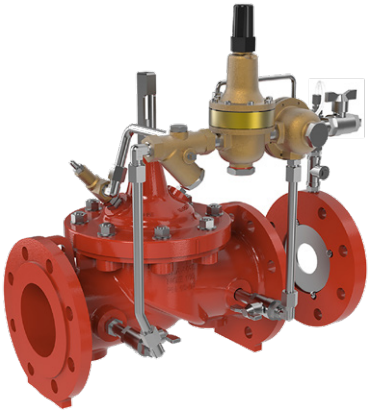
# Flow Control Valves

## Rate of Flow Control Valve



Cla-Val Models 40GE-01/NGE40-01 Flow limiting valves prevents excessive flow by limiting flow to a preselected maximum rate, regardless of changing line pressure. The pilot control responds to the differential pressure produced across an orifice plate installed downstream of the valve. Accurate control is assured as very small changes in the controlling differential pressure produce immediate corrective action of the main valve.

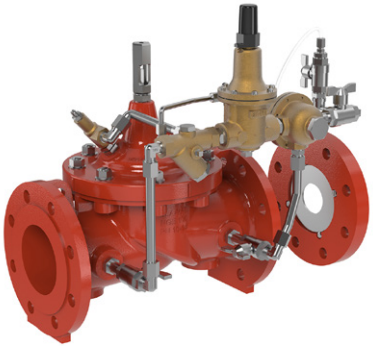
## Rate of Flow Control Valve with PRV feature



Cla-Val models 49GE-01/NGE49-01 Flow limiting and pressure reducing valve automatically limits flow to a preselected maximum value, regardless of changing line pressure. The pilot control responds to the differential pressure produced across an orifice plate installed downstream of the valve. It also reduces a higher inlet pressure to a steady lower downstream pressure as long as the flow rate is below the preset maximum.

**Typical application** - Where a system must be limited to a preset flow to prevent lowering the supply pressure and protects the downstream pipework from over pressure.

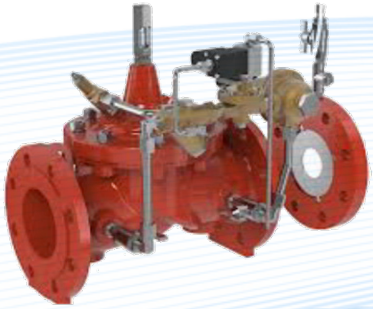
## Rate of Flow Control Valve with sustain



Cla-Val Models 45GE-01/NGE45-01 Flow limiting and pressure sustaining valves prevents excessive flow by limiting flow to a preselected maximum rate, regardless of changing line pressure. The pilot control responds to the differential pressure produced across an orifice plate installed downstream of the valve. It also sustains upstream pressure to a pre-determined minimum.

**Typical application** - Where water supply to a lower system (industrial user, housing area, irrigation, etc.) must be limited to a maximum flow rate and when a minimum upstream pressure in a high pressure main and/or an upstream distribution network must be sustained.

## Rate of Flow Control Valve with solenoid override

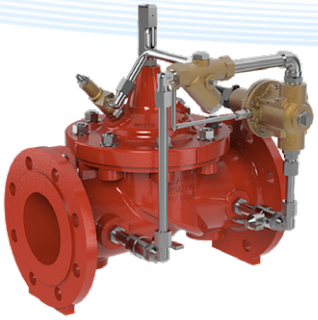


The Cla-Val 43E/D-01 is designed to deliver a constant flow while opening or closing remotely. The solenoid can be activated by an electrical signal from a timer or programmed Controller (see e-Timer).

This valve is also used to increase flow for multiple irrigation systems. Using a timer solenoid the valve can deliver a constant flow for fixed hours during the day (e-Timer) or a set volume (D11/D12 Controller).

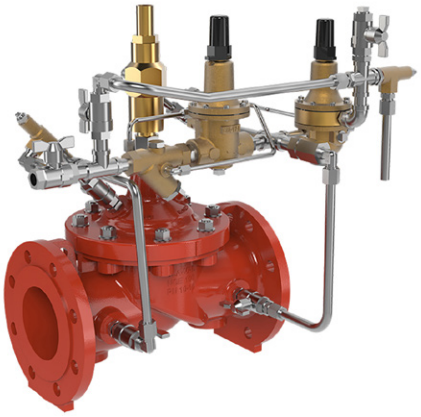
# Pressure Relief Valves

## Pressure Relief/Pressure Sustaining Valve



Cla-Val Models 50GE-01/NGE50-01 Pressure sustaining/Relief valves are hydraulically operated, pilot-controlled, modulating valves designed to maintain constant upstream pressure within close limits. The valves can be used for pressure relief, sustaining, back pressure, or unloading functions in a by-pass system. In operation, the valve is actuated by line pressure through a pilot control system, opening fast to maintain steady line pressure but closing gradually to prevent surges. Operation is completely automatic and pressure settings may be easily changed pipework from over pressure.

## Surge Anticipator Pressure Relief Valve



Cla-Val Models 52GE-03/NGE52-03 Surge anticipator and pressure relief valves are indispensable for protecting pumps, pumping equipment and all applicable pipelines from dangerous pressure surges caused by rapid changes of flow velocity within a pipeline. When using this valve, pumping systems are started and stopped gradually preventing harmful surges from occurring. The Cla-Val series 52-03 anticipates the surge by opening on the low pressure wave in order to be fully open on the returning high wave diverting the excess pressure to drain.

# Control & Air Valves

## 60-01 Pump Start Control Valve

Cla-Val models 60GE-11/NGE60-11 Booster Pump Control Valves are pilot-operated valves designed for installation on the discharge of booster pumps to eliminate pipeline surges caused by the starting and stopping of the pump. The pump starts against a closed valve. When the pump is started the valve begins to open slowly. When the pump is signalled to shut-off, the valve begins to close slowly, while the pump continues to run. When the valve is closed, a limit switch assembly, releases the pump starter and the pump stops. Should a power failure occur, a builtin lift-type check valve closes the moment flow stops, preventing reverse flow.

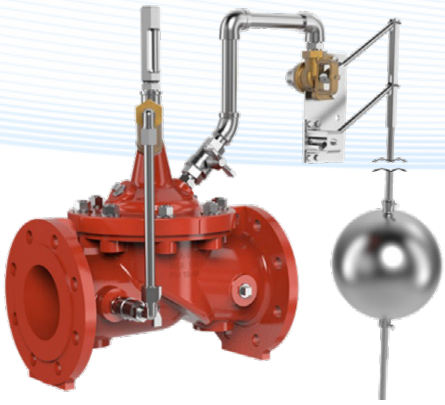
## Pressure Relief Pilot

Cla-Val Model 55B-60 Pressure relief valve is a spring loaded diaphragm type relief valve. The valve may be installed in any position and will open and close within very close pressure limits. The bottom plug may be removed and installed in the inlet to convert it to an angle pattern flow path.

- **Sizes: 1/2”, 3/4” and 1”**
- **Precise pressure control**
- **Drip Tight Closure**
- **Globe or Angle configurations**
- **Pressure rating PFA: 25 bar max.**
- **Upstream pressure adjustment range: 0.1 to 20 bar (depending on version)**
- **1/8” BSP/F Pressure gauge port**

# Float Valves

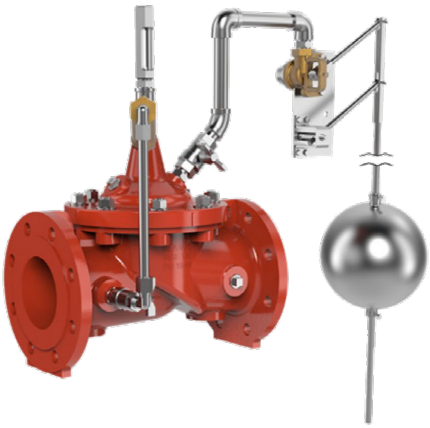
## Modulating Float Control Valve



The 429-01 Modulating Float Level Control Valves maintains a constant water level in a reservoir by compensating for variations in supply or demand. A slight change in liquid level moves the Float Control which makes the main valve to seek a new position.

The Cla-Val 429-01 is designed for high pressures (less than 16 bar) and where tank levels change rapidly. Break tanks for example. Series 429 is recommended for sizes up to 150mm, and series 427 for valves over 150mm.

## On/Off Float Control Valve



The 100 On/Off Float Level Control Valve is a non-modulating valve which accurately controls the liquid level in a tank. This valve opens fully when the liquid level reaches a pre-set low level and closes drip tight when the liquid level reaches a high level.

The Cla-Val 100-CF9 & 113-CF9 is equipped with a 2-way pilot control including a frost -free protection by maintaining a constant flow through the pilot circuit of the main valve.

The Cla-Val 100-CF9 & 113-CF9 is designed to open when the liquid level reaches a pre-set min. level and closes drip tight when the filling of the tank reaches the pre-set max. level.

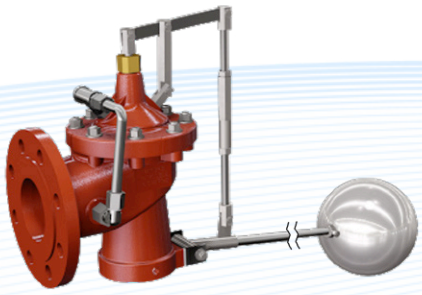
The Cla-Val 113-CF9 is equipped with a closing speed control to protect upstream network against surges.

## Solenoid On/Off Valve

The Cla-Val Models 136GE-01/NGE136-01 Solenoid Control Valves are on-off control valves that either opens or closes upon receiving an electrical signal to the solenoid pilot control. These valves consists of a Hytrol main valve and a three-way solenoid valve that alternately applies pressure to or relieves pressure from the diaphragm chamber of the main valve. It is furnished either normally open (de-energized solenoid to open) or normally closed (energized solenoid to open).

Irrigation uses for the remote control valve are specifically designed for automatic agricultural irrigation systems such as sprinkler head control and tank level control. Liquid level control can be provided by using a float switch or hydrostatic sensor which sends a signal to a D11/D12 Controller to open or close the valve as needed.

## In Tank - Equilibrium Float



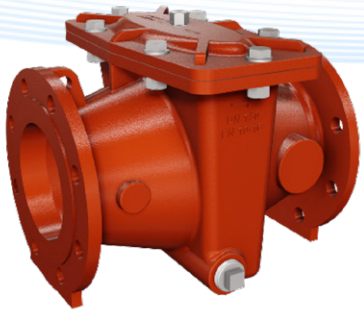
The AQUA-FLOAT balanced hydraulically operated modulating float valve is installed on the storage tank inlet supply pipe above the maximum water level. As the flow out of the reservoir fluctuates according to changes in demand, the float control proportionally opens or closes the valve keeping the liquid level nearly constant.

An optional surge control feature which can function even at maximum water level, is available on request.

# Miscellaneous Items

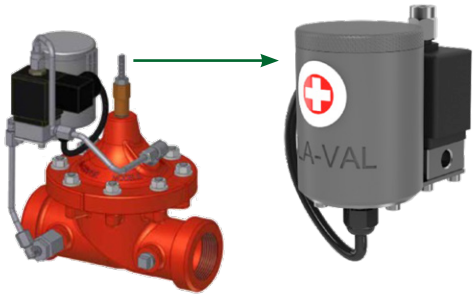
## H Strainer

The AQUA 90-501 strainer is used when effective filtration is required. Of compact design, maintenance is fast and easy and requires only top cover removal. The flat, stainless steel strainer mesh perpendicular to flow optimizes pressure drop. Moreover, the AQUA 90-501 model can be equipped with an autonomous programmable flushing valve (Cla-Val SERIES ECO) allowing fast flushing without removing top cover. The strainer may be installed in any position, however installation with the cover on top side is recommended.



## E-Timer

The Cla-Val ECO 32-27 is a flushing valve designed to Open/Close valves allowing smooth flushing of a pipeline or network. The user defines the Opening/Closing times. Programming is time based only. Water velocity through the valve is controlled by adjusting cover mechanical opening control. The electronic controller e-Timer-33 is programmed according to customer needs. When opening time is reached valve opens automatically allow smooth flushing of the pipe line.



## Check Valves & Air Valves

The Cla-Val Model Aqua-30-601 is a spring loaded axially guided check valve which combines a valve with very low head-loss coupled with a fast acting closing characteristic on flow reversal to mitigate water hammer.

Cla-Val Model AQUA B70-516 has been specifically developed for installation prior to the pump discharge check valves in borehole pump and vertical turbine pump applications to fulfill the following functions:

- **Controlled release of air in the vertical riser upon pump startup**
- **Dampen surge pressures upon pump startup**
- **Vacuum protection when the pump stops and the vertical column drains**

Operation of conventional air valves in this application allows air in the vertical riser to be released very rapidly upon pump startup, resulting in very high pressure transients when the water column slams the air valve shut and/or slams into the closed discharge check valve.

## Hydrostatic Sensors and Float Switches for tank level control

Please speak to Cla-Val sales team.

**Cla-Val UK Limited**

Dainton House
Goods Station Road
Tunbridge Wells
Kent TN1 2DR

t: 01892 514400
e: info@cla-val.co.uk | web: www.cla-val.co.uk