WATERWORKS SOLUTIONS

CLA-VAL™

WATERWORKS


CLA-VAL

▪ CLA-VAL UK is pleased to present our new Waterworks catalogue.

▪ Head office - Tunbridge Wells, Kent

Follow our latest news on

LinkedIn

OUR COMMITMENT TO OUR CUSTOMERS

▪ PROXIMITY :
A dedicated technical sales manager serving as **your single point of contact** to address all your needs and support you throughout your project.

▪ QUALITY / VALUE :
CLA-VAL offers more than 4,000 possible configurations based on a single proven diaphragm valve technology, fully compliant with applicable standards, certifications, and regulations. Our product-trained technical sales engineers are committed to providing the best technical solution at the most competitive value..

▪ SERVICE :
More than just a product, CLA-VAL delivers a complete solution. We provide the services necessary to ensure the success of your project: Engineering consultation, Commissioning support, Maintenance services, Training for operation and maintenance..

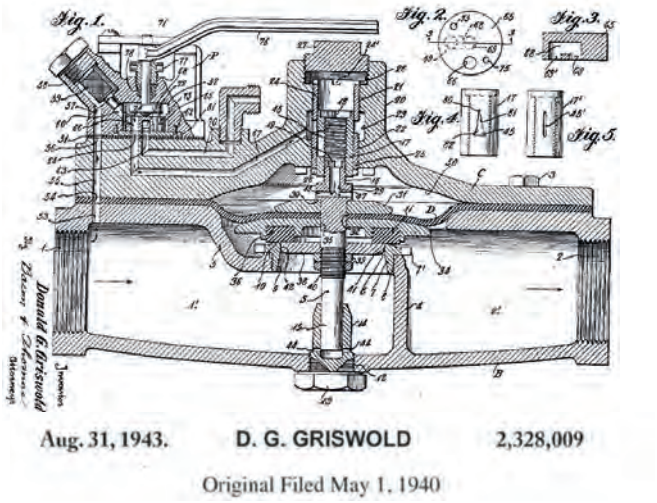
▪ INNOVATION & CONTINUOUS IMPROVEMENT :
Innovation and continuous improvement are at the core of CLA-VAL's development strategy. Our long-term commitment is to deliver increasingly efficient solutions tailored to your evolving needs.

GROUP PRESENTATION

Since 1936, the CLA-VAL Group has represented the "LEADER" in automatic diaphragm valves, used worldwide for potable and industrial water distribution, fire protection systems, fuel supply, and industrial applications. Our commitment to impeccable quality and continuous improvement is reflected in every application we manufacture and in all new products we introduce year after year in our respective markets.

The CLA-VAL Group, headquartered in Newport Beach, California, stands out as an integrated company, with its own foundries and various manufacturing and assembly facilities located in the United States, Canada, Switzerland, France, and England.

Inventor and Manufacturer of the Diaphragm Valve



Original patent registered on 1 May 1940

CLA-VAL in the 1940s

With over 90 years of experience in manufacturing automatic diaphragm valves and a strong industrial reputation, the CLA-VAL Group offers its customers not only a comprehensive range of solutions to their challenges, but also a wide array of technical and practical training programs for their teams in our training centers around the world.

CLA-VAL automatic valves are renowned for their quality and high service performance. The CLA-VAL Group enjoys a strong reputation for service, through a unique combination of engineering expertise, craftmanship, quality materials and sophisticated manufacturing processes. We are committed to the maintaining the highest standards of customer service backed up by the best warranty in the business.

CLA-VAL Foundries

The CLA-VAL Group foundries use sand casting and investment casting processes and are capable of producing components in more than 50 different alloys. They offer one of the broadest ranges of materials in the valve industry, enabling us to respond very quickly to our customers' specific requirements.

Among the more than 50 cast alloys, we offer:

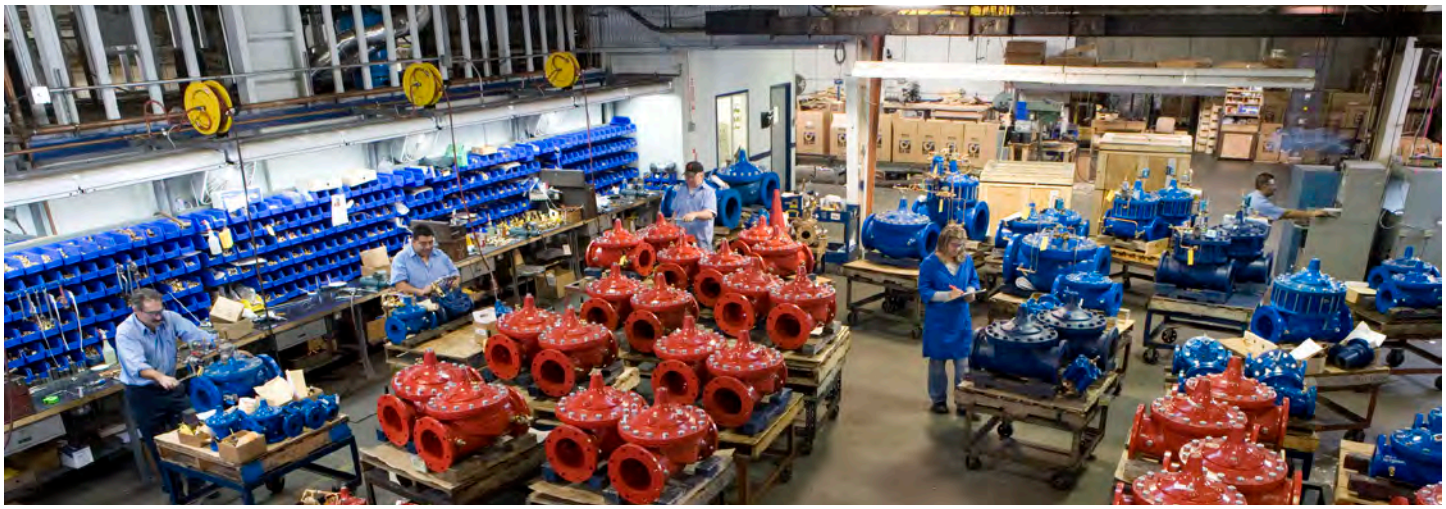
- Ductile iron, GGG 40 and ASTM A536
- Cast steel, ASTM A216 WCB
- Various stainless steels
- Monel and Inconel
- Nickel-aluminum bronze, ASTM B148
- Marine bronze, ASTM B61
- Super Austenitic stainless steel
- Super Duplex stainless steel
- Titanium

And many others...

MATERIALS TAILORED TO YOUR NEEDS!

Machining and Storage Facilities

The CLA-VAL Group also operates a state-of-the-art machining facility to ensure ever greater quality and precision.



The CLA-VAL Group is also committed to maintaining a large permanent stock of standard valves and components ready for shipment, in order to guarantee the best delivery times for its customers.

Production Range

From the smallest size, 3/8" ...

... up to a maximum DN of 1400 mm

Training

Our purpose built training facility provides trainees with an opportunity to gain experience in the commissioning, servicing and troubleshooting of valves in a live system. Our training programs cover a wide range of topics including:

- Principals of Pressure management
- Advanced pressure management
- Reservoir management Solutions
- Electronic control valve solutions

Training programs can be tailored to suit your individual needs, just call us to discuss your requirements. Our facilities at Tunbridge Wells training include a demonstration rig incorporating a fully functional pumping system allowing us to offer practical demonstrations of Pressure Reducing, Pressure Relief, Flow control, Modulating Pressure control and electronic Position control.

Field Services

Our team of highly skilled engineers are fully trained and equipped with the knowledge to maintain, service and commission the complete range of CLA-VAL products from basic hydraulic functions to sophisticated electronic interfaces. Our modern fleet of vehicles are comprehensively stocked with the aim of providing completion of works to minimise downtime and disruptions to supply - please refer to pages 45 and 46 for more details.

To arrange a service email info@cla-val.co.uk.

Our Fields of Activity

■ CLA-VAL UK supports the territories of UK and Ireland serving the following key markets for diaphragm control valves:

WATERWORKS
From the reservoir to the end user, CLA-VAL has developed more than 4,000 automatic control valve models. Backed by over 90 years of expertise, its solutions deliver precise pressure reduction, flow control, and network stability with unmatched hydraulic performance.

FIRE PROTECTION
Protecting lives and property, CLA-VAL is a specialist in fire protection networks at sea and on land. A foundry with more than 50 materials and strong industrial expertise are key factors in the quality reserved for the most demanding applications.

MARINE
Balancing a vessel, controlling fire protection systems, regulating fuels for onboard aircraft—CLA-VAL combines its expertise for a new global approach. More than just a product, CLA-VAL is a solution.

INDUSTRY
A city within the city, CLA-VAL offers complete and integrated solutions for small and large industries, from water supply to fire protection. The optimal and innovative solution is built step by step together with our customers.

INTELLIGENT VALVES
With forward-thinking innovation, CLA-VAL brings you into a new world. Receiving information, communicating with our valves—the e-Line range reads and interprets your network. Remotely, optimized control of your network becomes even simpler.

GROUND FUELING
From potable water to kerosene, CLA-VAL designs supply systems for military and civil bases. From the tarmac to the aircraft wing tank, the exceptional products of the Ground Fueling range bear the signature of our specialized engineers.

GROUP COMMITMENTS

CLA-VAL is committed to providing automatic control valves of the highest quality at fair prices and with delivery times that meet our customers' requirements.

CLA-VAL is committed to ethical business practices with its customers, suppliers, employees, and all parties associated with its contracts.

CLA-VAL is committed to using the best possible resources to deliver continuous improvements, advancements, and new concepts within its product offering.

CLA-VAL is committed to using environmentally friendly technology in all its activities.

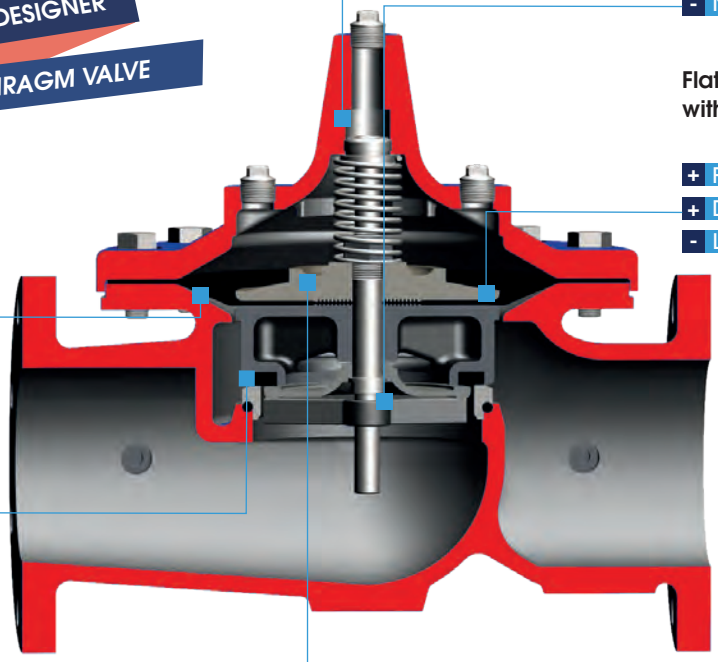
MAIN VALVE PRESENTATION

HYTROL 100-01 Main Valve: NGE Series

HYTROL NGE: Reduced port - Globe pattern
sizes: 50mm to 600mm

Key Benefits +
- Reduced cavitation risk
- Extended operating flow range

INVENTOR & DESIGNER
DIAPHRAGM VALVE



Machining tolerance < 1/10mm :
+ HIGH PRECISION
+ STABLE CONTROL FROM 2% OF CV

Internal mechanism guided by 2 bearings :
- NO RISK OF STICKING

Flat rubber diaphragm reinforced with dual nylon fabric :
+ FLEXIBLE
+ DURABLE
- LOW FRICTION

Permanent support of the inactive diaphragm surface :
+ EXTENDED DIAPHRAGM SERVICE LIFE

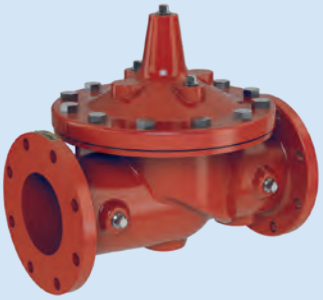
Reduced contact surface between seat disc & seat :
+ ABSOLUTE TIGHT SHUT-OFF !!

Optimized number of moving components :
- REDUCED RISK OF FAILURE

NEW !
10-YEAR WARRANTY EXTENSION THROUGH THE PROGRAM LINK2VALVES.COM

For more details see p. 11

Other Available Series : GE / AE / TYTAN



■ HYTROL GE :
Full Port - Globe Pattern

32mm to 400mm PN 10-16-25-40
- Reduced head loss
- High flow capacity
- Ø Seat diameter = valve DN
- Threaded connections : 1" 1/4 - 1" 1/2 - 2"
- Flanges : DN 32 to DN 400mm

■ HYTROL AE :
Full Port - Angle Pattern

32mm to 400mm PN 10-16-25-40
- Reduced head loss
- High flow capacity
- Ø Seat diameter = valve DN
- Threaded connections : 1" 1/4 - 1" 1/2 - 2"
- Flanges : DN 32 to DN 400mm

■ HYTROL TYTAN :
Large diameter

600mm to 1400mm PN 10-16-25
- Tytan S : DN 600 - 700 - 800mm
- Tytan M : DN 900 - 1000 mm
- Tytan L : DN 1200 - 1400mm

Main Valve Components
Standard Version – Hytrol 100-01

DN 32 to DN 1400
PN 10 - PN 16 - PN 25

WASHER
Stainless Steel 303

SPRING
Stainless Steel 302 (PN 10-16)
Stainless Steel (PN 25)

DIAPHRAGM WASHER
Ductile Iron GGG40

DISC RETAINER
Ductile Iron GGG40

SEAT RETAINER
Stainless Steel 316

SEAT RING
Stainless Steel 316

BODY
Ductile Iron GGG40

NUT
Stainless Steel 303

COVER
Ductile Iron GGG40

STEM NUT
Stainless Steel 303

DIAPHRAGM
EPDM Rubber (PN 10-16)
Fabric-Reinforced BRB Rubber (PN 25)

SEAT DISC
EPDM Rubber (PN 10-16)
Reinforced ADI Rubber (PN 25)

STEM
Stainless Steel 303

STUD BOLT
Stainless Steel 303

- Standard epoxy coating minimum 250 microns
- Other materials upon request: SS316, Nickel-Aluminum Bronze, Titanium...
- Other pressure ratings upon request: PN 40, ANSI 150, ANSI 300

Main Valve Options

■ ANTI-SCALING STEM KG & KG1 :

Scaling or hard / incrusting water problem? ?

The CLA-VAL solution consists of replacing the standard stem :

- with a stem equipped with helical grooves type KG1, allowing automatic in-service self-cleaning by scraping the guide bearing surfaces. The groove distribution per bearing ensures bidirectional cleaning, regardless of the differential pressure across the valve,
- or with a stem equipped with DELRIN type KG inserts, preventing any deposit formation on the upper and lower stem surfaces. Maximum allowable differential pressure: 5 bar across the valve.

■ LOW FLOW DEVICE 100- LFS :

Wide flow range required ?

The CLA-VAL solution consists of replacing the standard 100-01 valve mechanism with a 100-LFS Low Flow mechanism specifically designed to regulate very low flows without affecting high-flow performance :

- for a Cv of 10%, the stroke of a standard 100-01 valve is 15%, whereas the 100-LFS valve generates 45% stroke, ensuring accuracy without performance loss.

■ ANTI-CAVITATION DEVICE 100-KO & KOL :

Cavitation risk ?

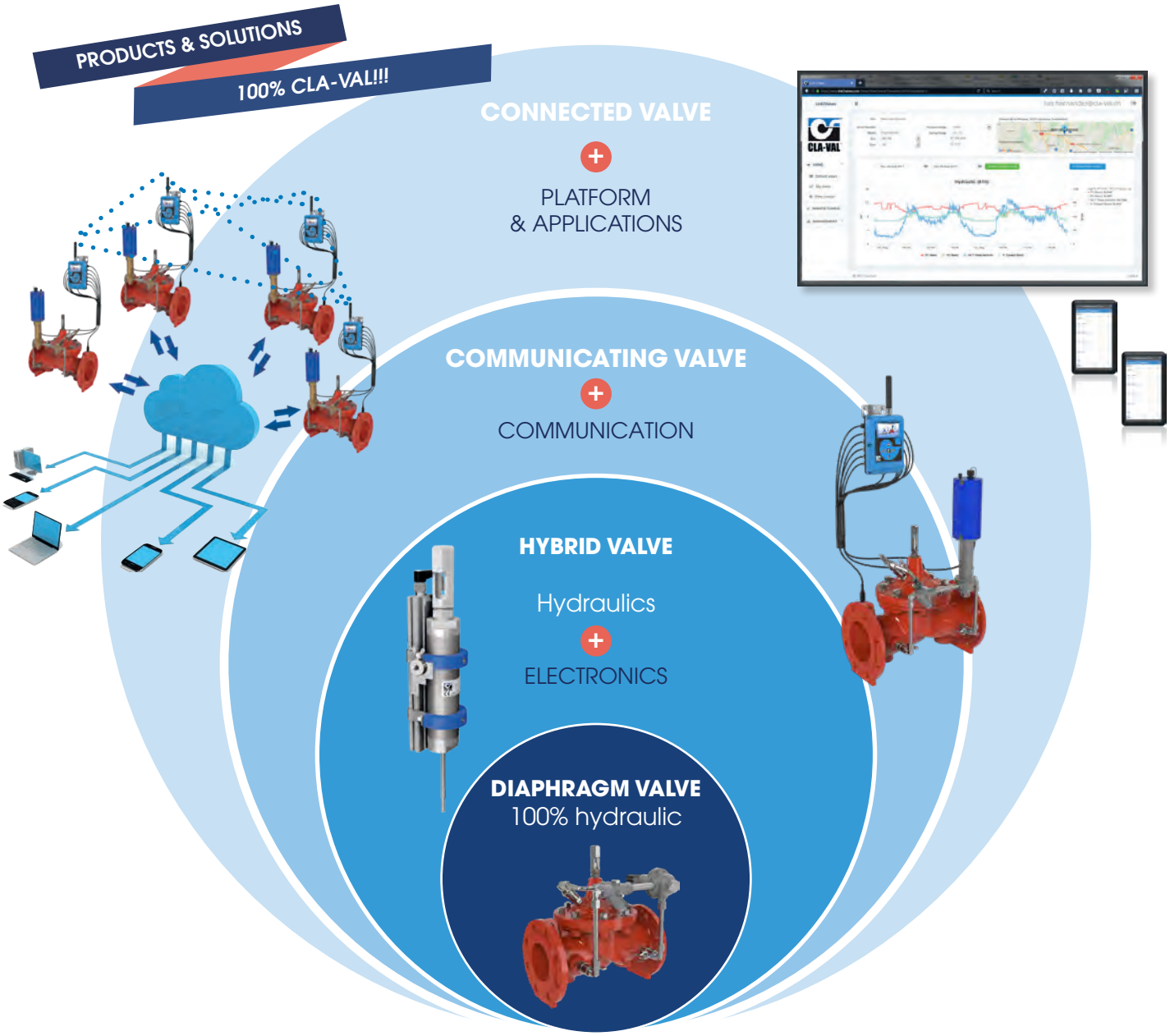
The CLA-VAL 100-01KO basic valve has been specifically developed for hydraulic applications with high differential pressure, eliminating cavitation risks and significantly reducing flow noise levels and vibrations. Its operating principle is comparable to the action of restrictions installed in series within a pipeline and is based on an engineered flow path design :

- Progressive multi-port seat
- Directional multi-port seat retainer (patent pending)

The Control Valve: At the Heart of the Group's Innovation

Since 1940, the date of the original patent for the automatic diaphragm control valve, the CLA-VAL Group has filed more than one hundred patents in over a dozen countries, all relating to pilots or hydraulic and/or electronic components dedicated to hydraulic regulation.
Driven by this spirit of continuous innovation, the CLA-VAL control valve has constantly evolved toward new functions.
From a simple initial regulating device, it has become a strategic element within interconnected networks, working alongside other system components to deliver ever greater performance.

The CLA-VAL Group's R&D activities rely on a global team of 30 people based in the United States and Europe.
We also work closely with several leading universities worldwide and fund research studies and doctoral projects related to our activities.



Our Single Objective :

> Improve the performance and reliability of the solutions we provide
> Integrate the latest technologies to continuously offer you enhanced services

CLA-VAL link2valves : Remote Valve Monitoring & Control

■ Description

The CLA-VAL Link2Valves™ platform is a dedicated tool for managing your control valve fleet. In addition to preventive maintenance tracking across your entire installed base, it enables remote visualization of valve performance to ensure proper operation of your control equipment. Link2Valves™ also allows fully secure remote control of your communicating valves.

■ Key features

ASSET MANAGEMENT

The CLA-VAL Link2Valves™ platform enables optimal management of your valve fleet through a control-valve-based architecture:

• **Inventory (multi-brand)**
- Geographic location,
- Brand,
- Photos,
- Model/Function,
- Serial number,
- Etc.

• **Performance tracking & planning**
- Maintenance/service history,
- Modifications,
- Specific events,
- Maintenance scheduling,
- Dedicated documentation,
- Spare parts lists, etc.

• **Fully customizable tracking with configurable additional fields**.

MONITORING

CLA-VAL Link2Valves™ also enables visualization of sensor and indicator data from connected valves to remotely ensure proper valve operation:

• Multi-site customizable data dashboards,

• Customizable event notifications (email and/or SMS),

• Interface option with your SCADA/supervisory system (via API or automated data export).

REMOTE CONTROL

With CLA-VAL Link2Valves™, it is also possible to fully and securely control your CLA-VAL control valve remotely:

• Adjustment of control profile (pressure, flow, level modulation, etc.),

• Set-point modification,

• Switching operating modes such as:

- Pressure modulation or fixed set-point,

- Time-based or flow-based pressure modulation, etc.

■ Operational Features

Organization and User Management

In some organizations, it is essential to create separate user groups with access levels aligned with responsibility levels. The CLA-VAL Link2Valves™ platform allows the creation of sub-organizations/ user groups within a main organization. Each group is fully segmented, enabling differentiated access, for example by geographic area. It is also possible to define specific access levels for each user to ensure optimal operational control within the organization.

Secure Environment

The CLA-VAL Link2Valves™ platform ensures a fully secure environment between the communicating valve, server, and user/ supervisory software, preventing any hacking risk between the supervision system and the communicating equipment.

• Two-factor authentication for Human-Machine Interface access,

• Brute-force attack protection,

• Secure HTTPS communication between valve and platform with verified certificates,

• Interface options with your supervisory system:

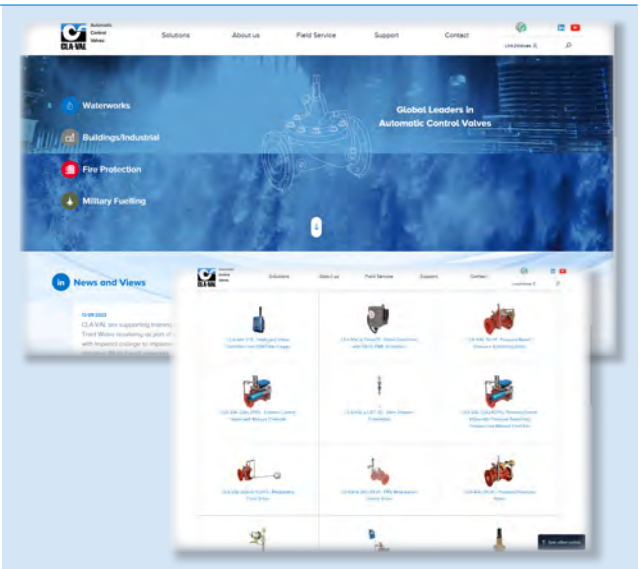
- via a secure Application Programming Interface (API),

- Automated data export (once per day) to an FTPS server.

www.cla-val.co.uk

■ Our Website

- A clear and simple presentation of our product and service range
- All technical documents required for the integration of an automatic diaphragm valve into a hydraulic network
- A link to the Group's YouTube channel for direct access to all tutorials dedicated to product training



www.link2valves.com

■ The CLA-VAL tool dedicated to control equipment

- **ASSET MANAGEMENT**

  Asset management of control equipment

- **MONITORING**

  Visualization of data from connected CLA-VAL control equipment

- **REMOTE CONTROL**

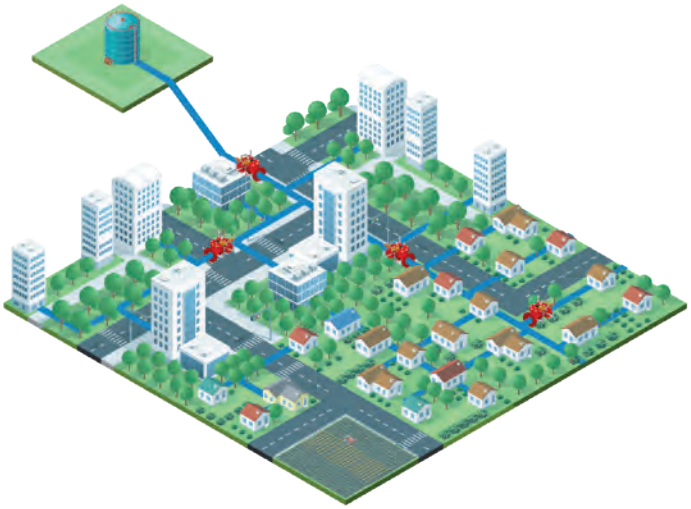
  Secure remote control of CLA-VAL control equipment

> For more details see p. 11

TABLE OF CONTENTS

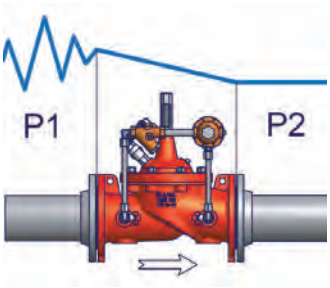
DOWNSTREAM PRESSURE CONTROL

Primary Function



The main function of this equipment is to reduce the distribution pressure of a network and keep it constant regardless of daily fluctuations in flow.

From simple pressure reducers to dynamic pressure management solutions applicable across an entire network, CLA-VAL offers solutions to meet all your needs.



Control Valves

■ Pressure Reducing Valve

Model **90-01**

CLA-VAL Model 90-01 pressure reducing valves automatically reduce a higher inlet pressure to a steady lower downstream pressure regardless of changing flow rate or varying inlet pressure.
This valve is an accurate, pilot operated regulator capable of holding downstream pressure to a pre-determined limit.

- Pressure reduction pilot: **CRD** model
  standard range: **1.4 - 7.2 bar**
  other ranges*: 0.1 - 0.5 bar
  0.1 - 2.1 bar
  1.0 - 5.3 bar
  2.1 - 21 bar
  *: on request

■ Pressure Reducing with Low head-loss

Model **90-01/LHL**

- Automatic and autonomous operation
- Maintains constant downstream pressure with pressure differential down to1 mhd
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure reduction pilot: **CRD** model
  standard range: **1.4 - 7.2 bar**
  other ranges*: 0.1 - 0.5 bar
  0.1 - 2.1 bar
  1.0 - 5.3 bar
  2.1 - 21 bar
  *: on request

DOWNSTREAM PRESSURE CONTROL

■ Pressure Reducing Valve with Return Flow Feature or non-Return Feature

Model **90-05 (Return flow) / 91-01 (Non return)**

Full opening or drip tight closing of the pressure reducing valve in the event of reverse flow

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure reduction pilot: **CRD** model

standard range:	**1.4 - 7.2 bar**
other ranges*:	0.1 - 0.5 bar
	0.1 - 2.1 bar
	1.0 - 5.3 bar
	2.1 - 21 bar

**: on request*

■ Pressure Reducing Valve and Upstream Pressure Control

Model **92-01**

Maintains stable downstream pressure whilst also maintaining a minimum upstream pressure

- Pressure reduction pilot: **CRD** model

standard range:	**1.4 - 7.2 bar**
other ranges*:	0.1 - 0.5 bar
	0.1 - 2.1 bar
	1.0 - 5.3 bar
	2.1 - 21 bar

- Pressure maintenance pilot: model **CRL-60**

standard range:	**1.4 - 14 bar**
other ranges*:	0.1 - 2.1 bar
	0.1 - 5.3 bar
	7.0 - 21 bar

**: on request*

■ Pressure Reducing Valve with Solenoid Shut-Off

Model **93E/D-01**

The solenoid can be energised or de-energised to close the valve drip tight

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure reduction pilot: **CRD** model

standard range:	**1.4 - 7.2 bar**
other ranges*:	0.1 - 0.5 bar
	0.1 - 2.1 bar
	1.0 - 5.3 bar
	2.1 - 21 bar

**: on request*

- Solenoid valve 311-C/D M (C = Energise to OPEN D = Energise to CLOSE)
- Available electrical specifications*:

DC / DC: 12 / 24 / 48 / 110 V
AC / 50Hz: 24 / 48 / 110 / 220-230 V

Product details:

Basic valve:
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel.
- Stainless steel parts and screws.
- Food-grade EPDM diaphragm and seals

Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Accessories and options:

Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 2 upstream and downstream pressure gauge connections

Options (upon request):
- **"LFS"** Low Flow System
- **KG** anti-fouling shaft
- **KO** anti-cavitation system
- PN 25 - 40
- Additional function(s)
- 2 upstream and downstream pressure gauges

Modulating Valves

■ 2-Stage Pressure Reducing - Hydraulically selected

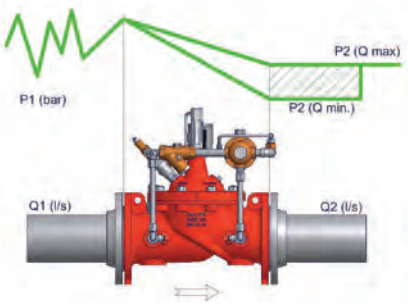
Model **98-35**

Dual pressure setting (HP – LP) Valve stem position (Flow) based pressure switching

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure reduction pilots: **CRD** model

standard range:	**1.4 - 7.2 bar**
other ranges**	0.1 - 0.5 bar
	0.1 - 2.1 bar
	1.0 - 5.3 bar
	2.1 - 21 bar

***: on request*



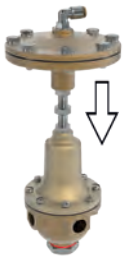
The CLA-VAL 98-35 model is used to modulate the downstream pressure of distribution network into two pressure stages.
Usually, high pressure is used during periods of high consumption and low pressure during the night, when consumption is low.
Guaranteed **switching** ensures **complete safety in the event of a fire** or any other rapid increase in demand.

■ 2-Stage Pressure Reducing - Electronically Selected

Model **D35-90-36**

The CLA-VAL D35-90-36 Combines a hydraulic 2 stage pressure reducing valve with a D35 combination datalogger and Solenoid output which activates according to programmed rules to switch the valve between High pressure and low pressure.

The CHA actuator can be easily installed on an existing CRD pilot by replacing the CRD adjustment screw**, transforming a simple 90-01 downstream pressure stabiliser into a two-stage hydraulic modulation valve.**



Product details:

Basic valve:
- GGG40 ductile iron body with food- grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel.
- Stainless steel parts and screws.
- Food-grade EPDM diaphragm and seals

Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Accessories and options:

Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 2 upstream and downstream pressure gauge connections

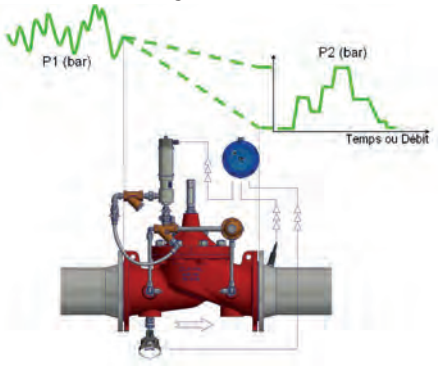
Options (upon request):
- **"LFS"** Low Flow System
- **KG** anti-fouling shaft
- **KO** anti-cavitation system
- PN 25 - 40
- Additional function(s)
- 2 upstream and downstream pressure gauges

Modulating Valves

■ Pressure Modulating Control Valve

Model **MD35-99-01** **NEW!**

- **Stand-alone valve controller**
- **Ultra-low power motorised modulator**
- **Pressure and flow logging** (optional)
- **100% self-sufficient**
- IP 68 controller
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure reduction pilots: CRD model
  standard range: **1.4 - 7.2 bar**



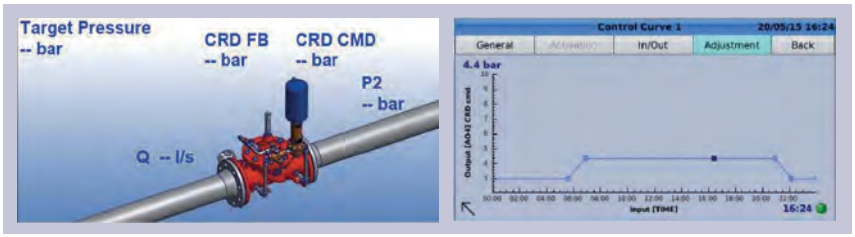
The CLA-VAL MD35-99-01 pressure modulating Control Valve automatically adjusts downstream pressure according to customized pre-defined rules for example Pressure v Flow or Pressure v Time.
The combination of precise, field proven, CLA-VAL hydraulic pressure reducing pilot controlled with an actuator and the CLA-VAL MD35 Electronic Controller, allows advanced pressure regulation whilst retaining full hydraulic control.
The control system can be factory mounted or retrofitted to a CLA-VAL Pressure reducing valve.
The MD35 controller can be connected to the CLA-VAL Link2Valves web platform for remote valve diagnostics and control.

■ Programmable Pressure Management Control Valve Electronic Controller and Actuated Pilot 4-20 mA

Model **D22-90-01**

- **Advanced valve controller**
- **Low-consumption motorised hydraulic pilot**
- **Simplified management interface**
- **Real-time monitoring**
- **Pressure and flow logging** *(optional)*
- IP68 protection
- Interfaces with Link2Valves.com platform or customer supervisor
- Power supply with e-Power IP turbine *(optional)*
- Integrated e-Flowmeter flow meter *(optional)*
- Pressure reduction pilots: model CRD-34
  standard range: **2.1 - 10 bar**
  other ranges*: 0.1 - 0.5 bar
  0.1 - 2.1 bar
  1.0 - 5.3 bar
  *: *on request*

The CLA-VAL D22-90-01 modulation valve is the most advanced solution for implementing dynamic pressure modulation in a network.
Used to control distribution pressure in real time, the D22 advanced valve controller gives you full access to control settings via its intuitive interface:



Multiple criteria are taken into account for pressure modulation: time, flow rate or an external parameter thanks to its integrated modem.

Direct Acting Pressure Reducing Valve

■ AQUA 80-451

Ideal for protecting domestic networks against excessive upstream pressure

- PFA 25 bar
- Adjustment range: 1 to 6 bar

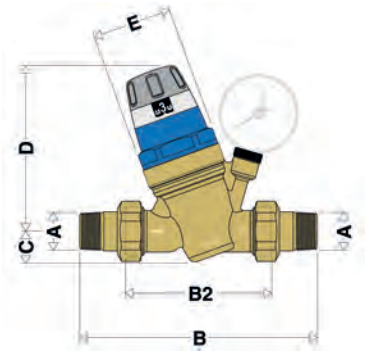
Product details:

- Anti-corrosion brass body dezincification EN12165 & 12164
- PA 66 G 30 cover
- Stainless steel drive shaft.
- Synthetic seat
- NBR membrane and seals
- Stainless steel filter.
- Male BSP thread / R"
- Downstream pressure gauge connection
- NBR membrane and seals

Accessories and options:

- Downstream pressure gauge *(optional)**

Dimensions:



DN	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"
B (mm)	140	160	180	200	220	250
B2 (mm)	76	90	95	110	120	130
C (mm)	20,5	20,5	20,5	40	40	40
D (mm)	112	112	112	178	178	178
E (mm)	Ø 54	Ø 54	Ø 54	Ø73	Ø73	Ø73
Weight	0,9	1,1	1,4	2,6	3,4	4,3

**: on request*

■ AQUA PRV/SC

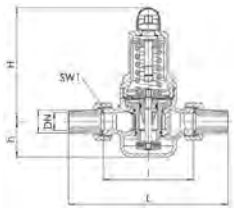
Ideal for protecting water distribution and domestic systems from excessive upstream pressure

- PFA 40 bar
- Adjustment range: 0.5 to 15 bar
- ¼" BSP/F Outlet Gauge / Test port

Product details:

- Body and moving parts: Gunmetal EN CC499K
- Stem and Seat retainer : Stainless Steel
- Seat : EPDM
- Diaphragm: EPDM
- Gaskets: RBR
- Strainer: Stainless Steel

Dimensions:



DN	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"
L (mm)	142	158	180	193	226	252
H (mm)	80	90	100	105	130	140
h (mm)	33	33	45	45	70	70
H (mm)	102	102	130	130	165	165
Weight (Kg)	1.2	1.3	2.4	2.6	5.5	6.0
Kvs (m3/h)	3.0	3.5	6.7	7.6	12.5	15.0

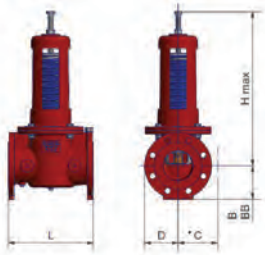
■ AQUA-PRV/FL

- Simple and robust design
- Stable operation
- Minimal maintenance
- Can be mounted in any position
- Complete dismantling from above
- Single range: 2.0–14.0 bar

Product details:

- Body and moving parts: Gunmetal EN CC499K
- Stem and Seat retainer : Stainless Steel
- Seat : EPDM
- Diaphragm: EPDM
- Gaskets: RBR
- Strainer: Stainless Steel
- Downstream pressure gauge connection

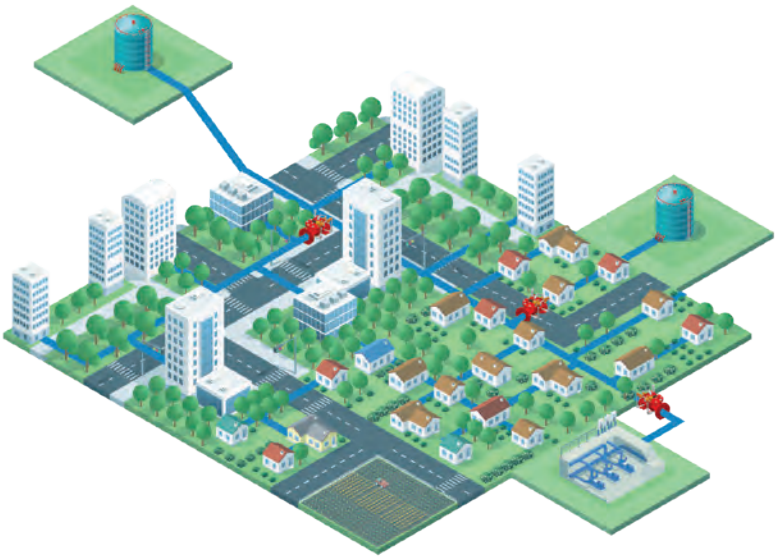
Dimensions:



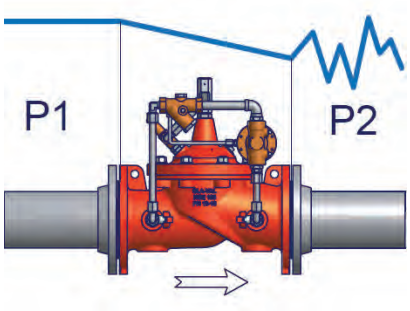
DN	40/50	60/65'	80	100	125	150
L (mm)	230	240	260	280	320	350
H (mm)	325	400	460	575	815	815
B (mm)	83	93	100	110	125	143
BB (mm)	83	93	100	117,5	135	150
*C (mm)	248	258	365	275	300	315
D (mm)	83	93	100	110	135	150
Weight (Kg)	13	18	27	45	90	100

UPSTREAM PRESSURE SUSTAINING

Primary Function



The main function of this equipment is to maintain the upstream pressure of a network at a minimum prescribed value that can be adjusted independently of daily fluctuations in flow.
It also protects upstream networks by releasing any excess pressure to atmosphere and limiting water hammer shocks.



Control Valves

■ Pressure Sustaining Valve

Model **50-01**

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure maintenance pilot: model **CRL-60**

standard range:	**1.4 - 14 bar**
other ranges*:	0.1 - 2.1 bar
	0.1 - 5.3 bar
	7.0 - 21 bar

**: on request*

■ Pressure Sustaining and Non Return Valve

Model **51-01**

Non-return function: complete closure of the valve in reverse flow

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure maintenance pilot: model **CRL-60**

standard range:	**1.4 - 14 bar**
other ranges*:	0.1 - 2.1 bar
	0.1 - 5.3 bar
	7.0 - 21 bar

**: on request*

UPSTREAM PRESSURE SUSTAINING

■ Pressure Sustaining and Solenoid Shut-Off Valve

Model **58E/D-01**

The solenoid can be energised or de-energised to close the valve drip tight

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Pressure maintenance pilot: model **CRL-60**

standard range:	**1.4 - 14 bar**
other ranges*:	0.1 - 2.1 bar
	0.1 - 5.3 bar
	7.0 - 21 bar

**: on request*

- Solenoid valve 311-C/D M (C = Energise to OPEN D = Energise to CLOSE)
- Available electrical specifications*:

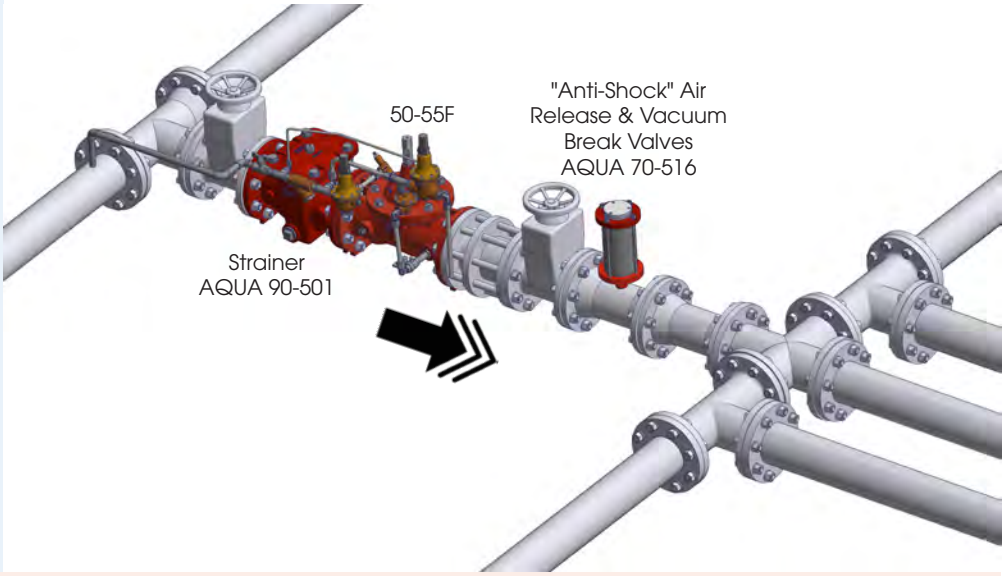
DC / DC: 12 / 24 / 48 / 110 V
AC / 50Hz: 24 / 48 / 110 / 220-230 V

■ Fast Acting pressure Relief with soft close

Model **50-55F**

The CLA-VAL 50-55F is typically installed in a main line by-pass and discharges any overpressure produced during the starting or stopping of pump(s).
The valve dampens the overpressure by opening quickly and prevents any additional surge build-up by its controlled closure

Recommended typical assembly for CLA-VAL automatic control valves
The H-Strainer AQUA 90-501 combined with the "anti-shock" air release & vacuum break valve AQUA 70-516 are added system products for the best CLA-VAL regulation.



Product details:

Basic valve:
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel
- Stainless steel parts and screws
- Food-grade EPDM diaphragm and seals

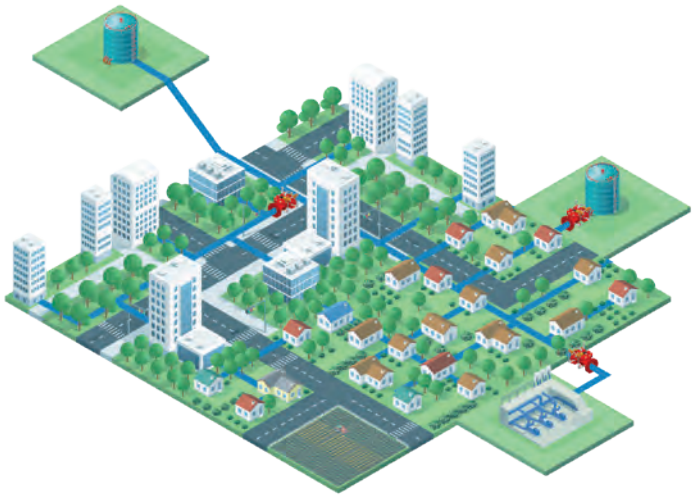
Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Accessories and options:

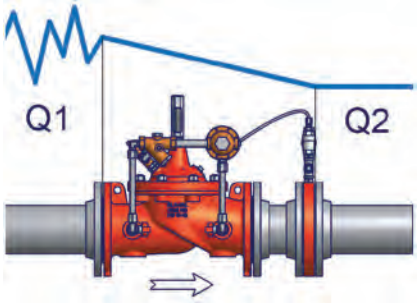
Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 1 upstream pressure gauge connection
- 1 downstream pressure gauge connection

Options (upon request):
- "**LFS**" Low Flow System
- **KG** anti-fouling shaft
- **KO** anti-cavitation system
- PN 25 - 40
- Additional function(s)

Primary Function

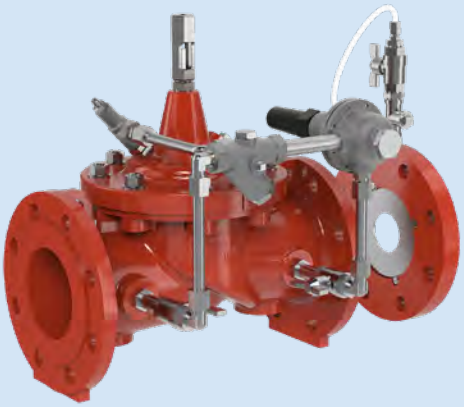


The main function of this equipment is to limit the flow rate to a predefined maximum value that can be adjusted independently of daily pressure fluctuations.
The flow rate is controlled by means of a calibrated orifice plate installed downstream of the valve, supplied as standard for the entire 40 series.



Control Valves

■ Flow Control Valve

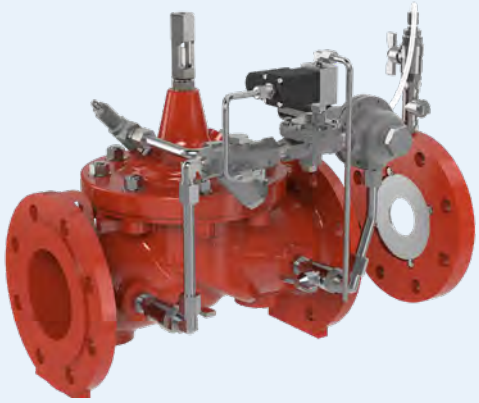


Model **40-01**

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Flow control pilot: model **CDHS-18**
  standard range: **0.1 - 1.2 bar**

- X52-A flow sensing orifice plate

■ Flow Control and Solenoid Shut-Off Valve



Model **43E/D-01**

The solenoid can be energised or de-energised to close the valve drip tight

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Flow control pilot: model **CDHS-18**
  standard range: **0.1 - 1.2 bar**

- X52-A flow sensing orifice plate

- Solenoid valve 311-C/D M (C = Energise to OPEN D = Energise to CLOSE)
- Available electrical specifications*:

DC / DC: 12 / 24 / 48 / 110 V
AC / 50Hz: 24 / 48 / 110 / 220-230 V

*: on request

Product details:

Basic valve:
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel.
- Stainless steel parts and screws.
- Food-grade EPDM diaphragm and seals

Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 1 socket + 1 upstream pressure gauge

Options (upon request):
- **"LFS"** Low Flow System
- **KG** anti-fouling shaft
- **KO** anti-cavitation system
- PN 25 - 40
- Additional function(s)

FLOW REGULATION

■ Flow Control and Pressure Reducing Valve

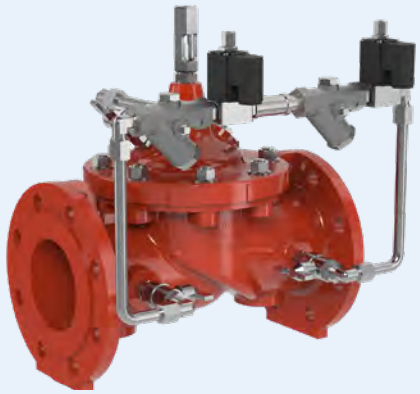
Model **49-01**

Limits flow while reducing downstream pressure to an adjustable maximum value

- Automatic and autonomous operation
- Stable and constant regulation
- Extended operating flow range
- Simple adjustments and easy maintenance
- Flow control pilot: model **CDHS-18**
  standard range: **0.1 - 1.2 bar**
- X52-A flow sensing orifice plate
- Pressure reduction pilots: **CRA** model
  standard range: **2.1 - 21 bar**
  other ranges*: 0.1 - 0.5 bar
  0.1 - 2.1 bar
  1.0 - 5.3 bar
  1.4 - 7.2 bar

*: on request

■ Dual Solenoid Control Valve



Model **136-07/38**

Remotely control flow (or pressure) by opening or closing the valve using electrical pulses.

- When the power is off, the valve remains locked in the set position (standard version).

- 311-C/D M solenoid valves (C = Energise to OPEN
D = Energise to CLOSE)
- Available electrical specifications*:

DC / DC: 12 / 24 / 48 / 110 V
AC / 50Hz: 24 / 48 / 110 / 220-30 V

*: on request

■ Position Control Valve 4-20 mA

Model **138-L21/P9**

- **CPC-34 low-powered motorised actuator**
- **Operated via a 4-20 mA signal or Modbus RTU 485**
- **10-32 VDC motor**
- **Designed for a setpoint change of 500 actions/day**
- Stainless steel construction
- IP68 protection
- Power supply with e-Power IP turbine *(optional*)*
- Integrated e-Flowmeter flow meter *(optional*)*
- Manual hydraulic positioner
- In the event of a power failure, the positioner remains in its position, ensuring the stability and integrity of the downstream system through hydraulic control alone.

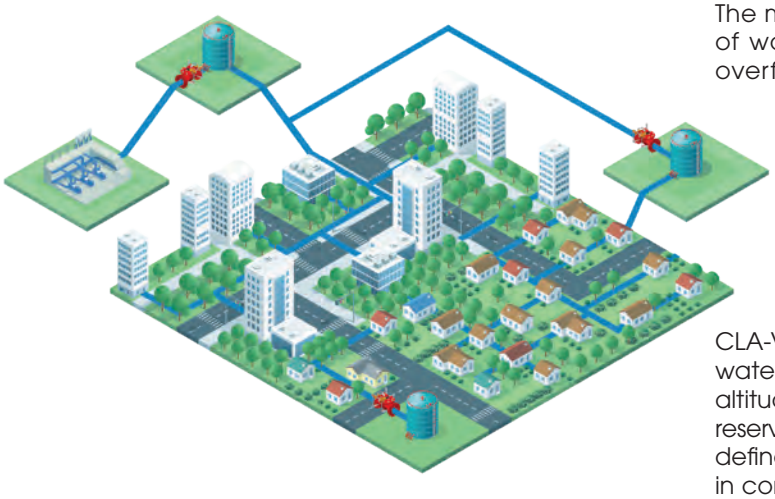
The CLA-VAL 138-L21/P9 motorised positioning valve is the ideal solution for remote flow control. Combined with a flow measurement system and controlled by a PLC, this valve is particularly suitable for systems where the user wishes to maintain hydraulic control while having the option of changing the setpoint value.

Depending on your equipment and requirements, CLA-VAL can offer you a complete solution from its e-Line range, including:
- The 138-L21/P9 modulation valve,
- The e-Flowmeter flow measurement device,
- Power supply to the system via e-Power-IP turbine

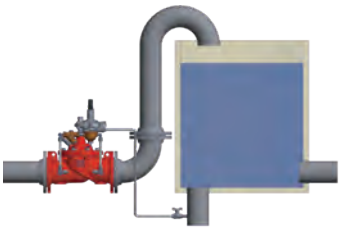
The CPC-34 motorised motorised actuator controls the opening of the base valve, meaning this solution can be used to regulate flow rate, pressure or level in a tank.

*: on request

Primary Function



The main function of this equipment is to regulate the filling of water tanks, reservoirs and water towers while ensuring overflow safety by controlling its high level.



CLA-VAL offers an extensive range of solutions for regulating water levels either hydraulically with a float assembly or an altitude pilot which is idea for water towers or bottom feeding reservoirs. Alternatively, water level and flow settings can be user defined using feedback from a level sensor and/or flow meter in combination with our model 138L-21/P9 (Page 22) and D22 electronic valve controller (page 39).

Float Valve

■ AQUA 80-910

Installed on the supply pipe inside the tank in the upper position, it constantly monitors the top water level of water storage tanks.

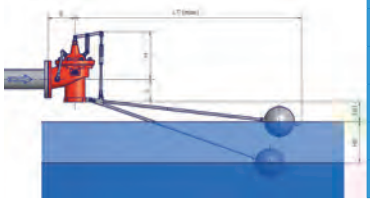
- Simple and robust design
- Stable operation
- Minimal maintenance

- DN 40 to DN 150 mm
- PFA 10 bar
- Maximum working pressure 16 bar
- P mini > 0.5 bar

Product details:

- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Removable seat made of 316 stainless steel
- Arms, wear parts and screws in stainless steel 303
- Polished 304 stainless steel float Ø 180 mm

Dimensions:



DN	40 / 50	60 / 65	80	100	125	150
E (mm)	120	120	140	160	170	190
L (mm)	100	110	110	135	150	175
H max	280	280	280	330	340	410
LT (mm)	870	880	890	1350	1365	1380
HH (mm)	100-300	100-300	100-300	100-300	100-300	100-300
HF (mm)	180	180	180	360	480	600
Weight	13,6	14,3	16,4	30,0	41,0	57,0

Control Valves

■ Modulating Altitude Level Control Valve for Constant Level Control

Model **278-01**

Installed outside the tank, maintains a constant level at all times.

- **Progressive system**
- Automatic and autonomous operation
- Stable and constant regulation
- Simple adjustments and easy maintenance
- Altitude pilot: **CRD-HS7** model
  available ranges: 1 .5 - 12.0 m
  2,0 - 25,0 m

LEVEL CONTROL

■ Modulating Float Level Control Valve

Model **429/427-01**

Float assembly installed inside the tank*, maintains a constant level at all times

- **Progressive operation for precise control**
- Automatic and autonomous operation
- Stable and constant regulation
- Simple adjustments and easy maintenance

- Progressive float pilot:
  series **427-01**: model **CFM-7**
  series **429-01**: model **CFM-9**

**: a solution with a progressive pilot to be installed outside the tank is also available*

■ On/off Float Level Control Valve

Model **100-CF9 / 113-CF9**

Float assembly installed inside the tank, monitors high and low levels in the tank

- **Delayed action OPEN / CLOSED operation**
- Automatic and autonomous operation
- Stable and constant regulation
- Simple adjustments and easy maintenance

- Float pilot: model **CF9-C**
  standard: **1m rod**
  + 304 stainless steel float Ø180mm
  other lengths available*

**: please contact us*

Product details:

Basic valve:
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel.
- Stainless steel parts and screws.
- Food-grade EPDM diaphragm and seals

Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Accessories and options:

Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 1 upstream pressure gauge connection
- 1 downstream pressure gauge connection

Options (upon request):
- "**LFS**" Low Flow System
- **KG** anti-fouling shaft
- **KO** anti-cavitation system
- PN 25 - 40
- Additional function(s)

■ Flow Control Valve with On/Off Level Control

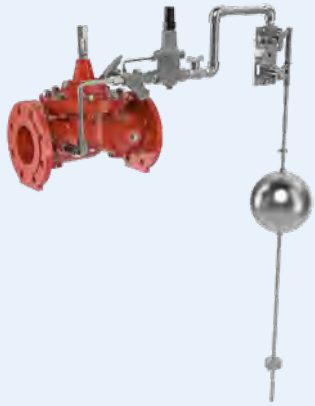
Model **40-CF9**

Pilot installed inside the tank, controls the upper and lower levels of the tank and the maximum supply flow rate.

- **Delayed action OPEN (with flow control) / CLOSED operation**
- Automatic and autonomous operation
- Stable and constant regulation
- Simple adjustments and easy maintenance
- Float pilot: model **CF9-C**
  standard: **1m rod**
  + 304 stainless steel float Ø180mm
  other lengths available*
- Flow control pilot: model **CDHS-18**
  standard range: **0.1 - 1.2 bar**
- X52-A flow sensing orifice plate

*: *please contact us*

■ Pressure Sustaining Valve with On/Off Level Control



Model **50-CF9**

Driver installed inside the tank, monitors the upper and lower levels of the tank and the upstream pressure on the network.

- **Delayed action OPEN (with sustaining control) / CLOSED operation**
- Automatic and autonomous operation
- Stable and constant regulation
- Simple adjustments and easy maintenance
- Float pilot: model **CF9-C**
  standard: **1m rod**
  + 304 stainless steel float Ø180mm
  other lengths available*
- Pressure maintenance pilot: model **CRL-60**
  standard range: **1.4 - 14.0 bar**

*: *please contact us*

■ ON/OFF Altitude Level Control

Model **270-01 / 270-02**

Installed outside the tank, monitors the high level and the tidal range of the reservoir.

- **Delayed action OPEN / CLOSED operation**
- Automatic and autonomous operation
- Stable and constant regulation
- Simple adjustments and easy maintenance

- Altitude pilot: model **CDS-7T**

Maximum levels:	1.5 - 12.0 m
	2,5 - 42,0 m
Level range:	0.8 - 4.5 m
	1,5 - 4,5 m

*: *please contact*

Product details:

Basic valve:
- GGG40 ductile cast iron body coated with food-grade epoxy inside and out
- Seat and Disc guide in 316 stainless steel
- Stainless steel parts and screws
- Food-grade EPDM diaphragm and seals

Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Accessories and options:

Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 1 upstream pressure gauge connection
- 1 downstream pressure gauge connection

Options (upon request):
- **"LFS"** Low Flow System
- **KG** anti-fouling shaft
- **KO** anti-cavitation system
- PN 25 - 40
- Additional function(s)

Primary Function

The main function of this equipment is to protect your networks and their equipment against problems related to transient phenomena and/or water quality management.

H-Strainer

■ AQUA 90-501

The AQUA 90-501 filter is used in pumping and distribution systems when filtration is required upstream of any device installed on the pipe.

- Compact and robust design
- Minimal pressure loss
- Large filtration surface area
- Simple cleaning from above
- Bottom drain screw on the side
- DN 40 to DN 1400 mm*
- PN 10 to 40 bar*

Product details:

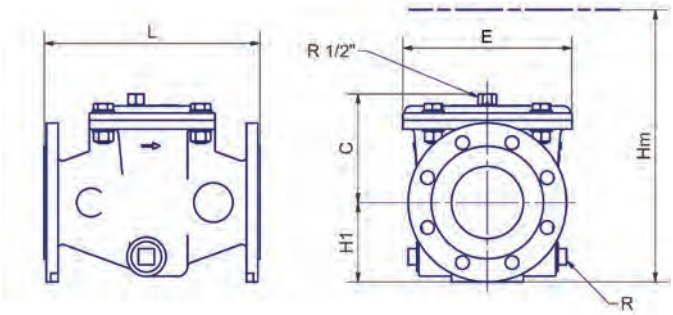
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Domed stainless steel sieve. 2x2 mm mesh
- Stainless steel drain plug.
- Stainless steel screws.
- Stainless steel drain plug.

Accessories and options:

- Manual or automatic purge (optional)
- Other mesh sizes: 1x1 mm, 8x8 mm*

**: on request*

Dimensions:



DN	40 / 50	60 / 65	80	100	125	150	200	250	300	350	400	450	500	600
L (mm)	230	230	300	300	400	400	500	580	610	650	800	800	950	1100
H1 (mm)	82,5	92,5	103	110	125	143	170	225	227,5	260	310	335	485	485
H1 (mm) PN25	82,5	92,5	103	118	135	150	188	225	242,5	277,5	310	335	485	485
C (mm)	96	96	150	150	191	196	230	310	385	385	500	500	609	609
E (mm)	200	200	235	235	380	380	440	560	680	680	900	900	1190	1190
Hm (mm)	340	340	450	450	620	620	700	950	1150	1150	1430	1430	2070	2070
Weight (kg)	13,8	14,6	22	23	46	48	76	165	230	250	410	430	770	850

Anti Slam Air Release and Vacuum Breaker Valve

■ AQUA 70-516

The result of extensive technological research into the degassing of air contained in water, the AQUA 70-516 is the ideal solution for optimising the protection of your network.

- 3 standard functions: Air release - Vacuum breaker - Anti-slam
- Water Hammer Prevention Device
- compact and robust construction
- Simple installation and economical maintenance

- Drinking water or raw water from 4°C to 80°C max.
- 25 bar or 40 bar max (depending on model)
- 1" and 2" Male Screwed - Rated to 25 Bar
- 80mm to 200mm: PN16, 25
- Also available in DN 250 and 300 mm**
- Also available for PFA > 25 bar**
- Option: RA - Male/Female Shut-off Tap R 1" or 2"

***: for other conditions and dimensions, please contact us*

Product details:

- Upper and lower flanges in spheroidal cast iron
- Stainless steel cylinder and ventilation grille. 304
- Stainless steel tie rods and screws. 304
- HDPE floats
- NBR O-ring
- Stainless steel nozzle. 304
- Natural rubber seat

Accessories and options:

- Outlet connection *

**: on request*

Dimensions:

Size	Model no.	Pressure Rating	Overall Height	Overall Diameter	Weight
25mm / 1"	AQUA 70-516	25 bar / 363 psi	286mm / 11.26"	100mm / 3.94"	4 kg / 9 lbs
	AQUA 70-516	40 bar / 580 psi	336mm / 13.23"	100mm / 3.94"	5 kg / 11 lbs
50mm / 2"	AQUA 70-516	25 bar / 363 psi	301mm / 11.85"	130mm / 5.12"	7 kg / 15 lbs
	AQUA 70-516	40 bar / 580 psi	346mm / 13.62"	130mm / 5.12"	8 kg / 18 lbs
80mm / 3"	AQUA 70-516	16 bar / 232 psi	279mm / 10.98"	200mm / 7.87"	16 kg / 35 lbs
	AQUA 70-516	25 bar / 363 psi	279mm / 10.98"	200mm / 7.87"	16 kg / 35 lbs
	AQUA 70-516	40 bar / 580 psi	313mm / 12.32"	200mm / 7.87"	19 kg / 42 lbs
100mm / 4"	AQUA 70-516	16 bar / 232 psi	274mm / 10.79"	220mm / 8.66"	16 kg / 35 lbs
	AQUA 70-516	25 bar / 363 psi	279mm / 10.98"	235mm / 9.25"	19 kg / 42 lbs
	AQUA 70-516	40 bar / 580 psi	319mm / 12.56"	235mm / 9.25"	23 kg / 51 lbs
150mm / 6"	AQUA 70-516	16 bar / 232 psi	438mm / 17.24"	285mm / 11.22"	40 kg / 88 lbs
	AQUA 70-516	25 bar / 363 psi	449mm / 17.68"	300mm / 11.81"	46 kg / 102 lbs
	AQUA 70-516	40 bar / 580 psi	484mm / 19.06"	300mm / 11.81"	61 kg / 135 lbs
200mm / 8"	AQUA 70-516	16 bar / 232 psi	497mm / 19.57"	340mm / 13.39"	55 kg / 121 lbs
	AQUA 70-516	25 bar / 363 psi	507mm / 19.96"	360mm / 14.17"	65 kg / 143 lbs
	AQUA 70-516	40 bar / 580 psi	530mm / 20.87"	375mm / 14.76"	87 kg / 192 lbs

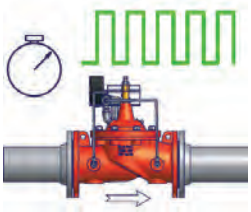
Flushing Valve with Electronic Autonomous Controller e-Timer-33

■ Autonomous drain valve

Model **ECO 32-27**

The CLA-VAL ECO 32-27 model allows sections of the network experiencing water quality issues to be purged.

- Its integrated e-timer-33 controller switches the valve on and off according to the time slots defined by the operator.
- Its mechanical opening limiter allows the purge flow rate to be adjusted according to the hydraulic conditions of the network.

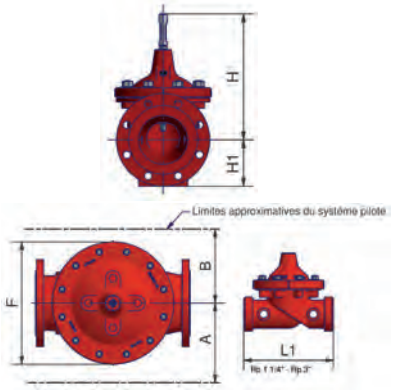


Product details:

Basic valve:
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel.
- Stainless steel parts and screws.
- Food-grade EPDM diaphragm and seals

Pilot circuit:
- Stainless steel pipes and fittings.
- e-Timer-33 controller
- Mechanical opening limiter
- Optional remote mounting *

Dimensions:



DN	1″	1″ 1/2	2″
L (mm)	130	184,5	238
H1 (mm)	41	75	82,5
H (mm)	130	191	215
A/B (mm)	150/100	150/100	150/100
Weight(mm)	3	13	20

*: please contact us

■ Flushing Valve

Model **D35 32-27**

www.link2valves.com

NEW!

MANAGE YOUR FLUSHING CAMPAIGNS REMOTELY!

The CLA-VAL D35 32-27 communicating flushing valve is the ideal solution for optimising and remotely controlling your flushing campaigns, thereby maintaining optimal water quality regardless of your specific issues (long residence time, high turbidity, high CVM rate, etc.).

Equipped with the new D35 autonomous communication controller, this solution allows sections of the network suffering from poor water quality to be purged according to time slots and/or volumes* defined by the operator.

Interfaced with the CLA-VAL Link2Valves™ web platform, it offers complete control over your flushing campaigns thanks to its advanced, high value-added features:
- Activation of campaigns locally or remotely,
- Management of purge campaigns by group or sector,
- Publishing purge reports (volumes) by period and sector,
- Remote control and modification of settings (dates, times, volumes).

Product details:

- DN: 1" (25 mm)
  1" 1/4 (32 mm)
  1" 1/2 (40 mm)
  2" (50 mm)
- Integrated flow limiter
- IP68
- Integrated 4G/2G communication
- 5-year battery life

Accessories and options:

- Pressure logging
- Temperature sensor (anti-freeze)

Pressure Relief Valve

■ Direct Acting Relief Valve

Model **55B-60**

The CLA-VAL Model 55B-60 Pressure Relief Valve is a direct-acting, 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.

- **Globe or angle configuration available.**
- No packing glands or stuffing boxes
- Factory preset certificate on request*

- Ranges: 0.1 - 5.3 bar (1.5 - 77 psi)
  1.4 - 14.0 bar (20 - 200 psi)
  7.0 - 21.0 bar (100 - 300 psi)

Product details:

- 1/2" , 3/4" & 1" (Rp or NPT)
- Low Lead bronze body and cover
- Internal components made of monel and stainless steel 303.
- RBR diaphram and seals

*: please contact

■ Pressure Relief Valve

Model **50-01**

This quick-opening valve model protects the upstream network by discharging any excess pressure to atmosphere, thereby limiting hydraulic shocks caused by water hammer.

- Automatic and autonomous operation
- Stable and constant regulation
- Simple adjustments and easy maintenance
- Pressure maintenance pilot: model **CRL-60**
  standard range: **1.4 - 14.0 bar**
  other ranges*: 0.1 - 2.1 bar
  0.1 - 5.3 bar
  7.0 - 21.0 bar

Solution also available for fire protection systems with ANSI or ISO standard flanges: model 50B-4KG-1 / 2050B-4KG-1*

*: please contact us

Product details:

Basic valve:
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel.
- Stainless steel parts and screws.
- Food-grade EPDM diaphragm and seals.

Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Accessories and options:

Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 2 upstream and downstream pressure gauge connections
- 2 upstream and downstream pressure gauges

Options (upon request):
- "LFS" Low Flow System
- KG anti-fouling shaft
- KO anti-cavitation system
- PN 25 - 40
- Additional function(s)

Pressure Relief Valve

Pressure Relief Valve with Standpipe Connections

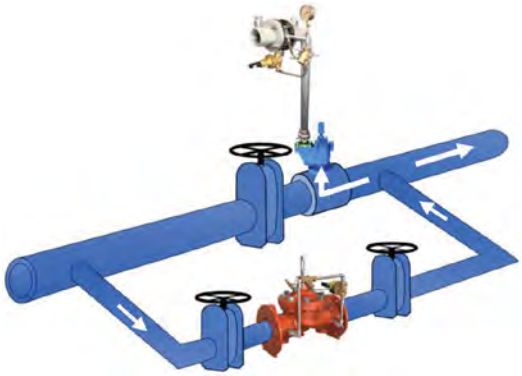
Standpipe shown for illustration purposes only

Model **750-SP**

The Cla-Val model 750-SP hydrant mounted relief valve is a lightweight and compact valve designed to relieve potentially damaging pressures within a pipe.

The 750-SP is equipped with a male standpipe adapter fitted to the inlet and female standpipe adapter fitted to the outlet and includes a quick release coupling for a pressure gauge.

As inlet pressure begins to exceed the pre-set pressure, the valve will open and modulate to relieve line pressure and keep it below the set point.



Surge Anticipator and Pressure Relief Valve

Model **52-03**

Installed on a discharge pipe to atmosphere, the CLA-VAL 52-03 model protects any pumping station by dampening hydraulic shocks created by the start-up or shutdown of pumps.

In the event of a sudden pump shutdown, the early opening of the valve, controlled by the vacuum wave, dampens the hydraulic shock (pressure surge), thereby reducing the risk of damage due to water hammer.

- Automatic and autonomous operation
- Simple adjustments and easy maintenance
- Pressure reducing valves: **CRA** model standard range*: **2.1 - 21.0 bar**
- Pressure maintenance pilot: model **CRL-60** standard range*: **1.4 - 14.0 bar**

**: other ranges - please contact us*

Product details:

Basic valve:
- GGG40 ductile iron body with food-grade epoxy coating inside and outside
- Seat and Disc guide in 316 stainless steel.
- Stainless steel parts and screws.
- Food-grade EPDM diaphragm and seals.

Pilot circuit:
- Stainless steel pipes and fittings.
- Bronze filter and pilot(s)

Accessories and options:

Model and accessories included:
- NGE or GE model
- PFA body and cover, 40 bar
- 2 upstream and downstream pressure gauge connections
- 2 upstream and downstream pressure gauges

Options (upon request):
- "LFS" Low Flow System
- KG anti-fouling shaft
- KO anti-cavitation system
- PN 25 - 40
- Additional function(s)

Options - Main valve

■ Anti-fouling stem KG & KG1

Option **KG / KG1**

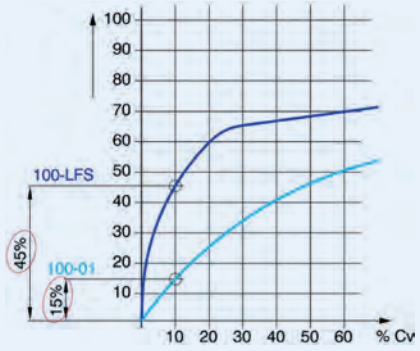
Problem with limescale or hard, encrusting water?

The CLA-VAL solution replaces the standard main valve stem:

• With a stem equipped with KG1-type helical grooved guide bearings that enable self-cleaning during operation by "scraping" the inside of the guide bearings. The arrangement of the grooves in relation to the bearings ensures bidirectional cleaning, regardless of the pressure differential acting on the valve.

• With a stem fitted with KG-type DELRIN bearings that prevent any form of deposit on the upper and lower parts of the shaft. Maximum pressure differential of 5 bar on the valve.

■ Low Flow Opening Device 100-LFS



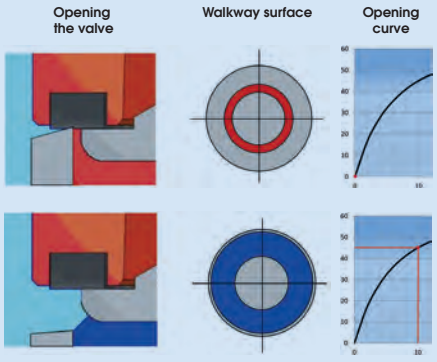
Option **LFS**

Problem with stability at low flows?

The CLA-VAL solution consists of replacing the conventional 100-01 seat/disc guide assembly with a 100-LFS "Low Flow" mechanism specially designed to regulate even very low flow rates without affecting the valve's performance at high flow rates.

Large daily variations in consumption pose delicate regulation challenges. Large variations in flow can cause water hammer, which leads to significant leaks during periods of low consumption.

These problems are only partially solved by a low flow bypass valve or a V-port system, as neither solution allows for precise control and both significantly affect the hydraulic performance of the device; a V-port system reduces the performance of a hydraulic valve by more than 30%.



0% CV
=> Watertight closure

10% CV
=> 45% open

The CLA-VAL 100-LFS "Low Flow" device has a specific adjustment between the seat and the Disc guide that promotes the opening of the valve at very low flow rates, thus allowing precise and progressive regulation of the Pressure set-point values even at the lowest flow rates while maintaining the performance at high flow rates.

For example, for a CV of 10%:

- The stroke of a conventional 100-01 valve is 15%.
- The stroke of a 100-LFS valve is 45%, ensuring precision without compromising performance.

■ Anti-Cavitation Device KO & KOL

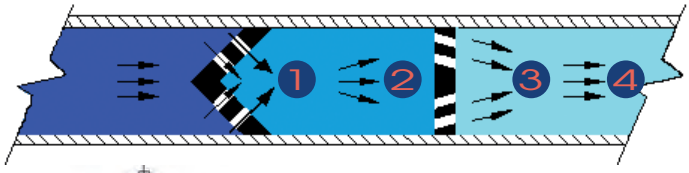
Option **KO / KOL**

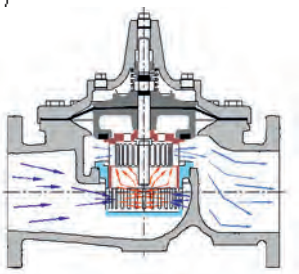
Risk of cavitation?

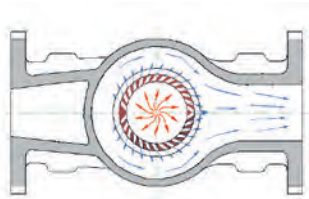
The CLA-VAL 100-01KO basic valve has been specially developed for hydraulic functions with high pressure differentials, eliminating the risk of cavitation and minimising flow noise and vibrations.

Its operating principle is similar to the action of restrictions mounted in series in a pipe. The specially engineered restrictions destroy energy by balancing the flow velocities across four successive pressure zones.

OPTIONS







These four areas are as follows:

• **Zone 1**: High pressure is reduced as it passes through the first restriction, which consists of **a series of progressive openings**.

• **Zone 2**: the fluid then converges towards the centre of the seat chamber, partially destroying its flow velocity.

• **Zone 3**: a second pressure reduction is caused by passing through the second restriction formed by **a series of oriented lights**.

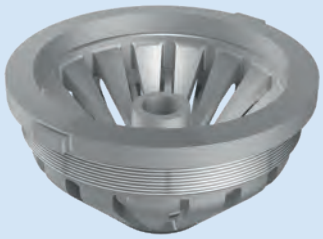
• **Zone 4:** the tangential outlet flow thus generated prevents cavitation and significantly reduces wear caused by high flow velocity.

■ KOL Anti-Cavitation Seat

In certain applications where the valve operates in an on/off mode,

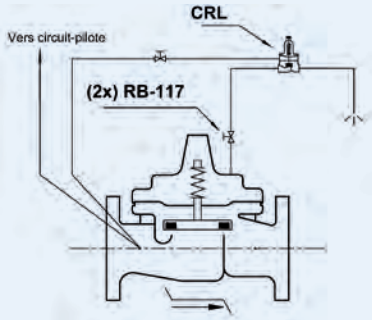
the CLA-VAL 100-01KOL basic valve equipped with a single KOL-type anti-cavitation seat is sufficient to eliminate the risk of cavitation. Under these specific operating conditions, the benefits are identical to those of a KO system:

- protection of the valve against cavitation,
- noise and vibration reduction,
- Increased equipment lifespan.



Options - Pilot System

■ Option N & N1: Upstream overpressure control



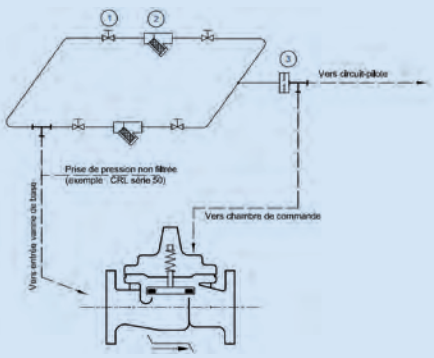
Problem of overpressure on the regulated upstream network?

Option N (and N1) protects the upstream network against overpressure by forcing the control valve to open further at the prescribed pressure set-point to protect upstream pipework from excess pressure.

• Option N consists of two RB-117 isolation valves and a CRL-60 upstream pressure control pilot. When opened, the pilot discharges to atmosphere (see diagram).

• Option N1 consists of three RB-117 isolation valves and a CRL-60 upstream pressure control pilot. When opened, the pilot discharges downstream of the valve.

■ Option Y2: double filter X43



Problem with dirty water?

The Y2 option increases the filtration surface area protecting the pilot circuit by installing two standard filters in parallel. It addresses the issue of contaminated water and facilitates filter maintenance without interrupting regulation.

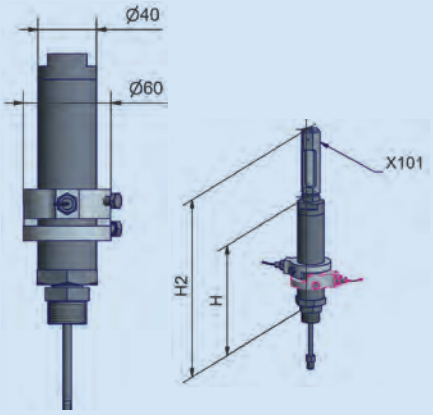
This option is one of many solutions offered by CLA-VAL to address issues with contaminated water. Many other solutions are available depending on the quality of your water to best meet your needs:
self-cleaning internal filter, high-capacity filter, backwashing and individual electrically controlled purging...

For further information, please contact us.

Options - e-Line

■ Limit switch : X105-P

Need to remotely
confirm the valve position?



The CLA-VAL X105-P model is a normally open dry contact position indicator.

It is generally used to remotely confirm that the valve is closed. A version equipped with two dry contacts is also available.

- **IP68 protection**
- **Operating temperature: -20°C/+80°C**
- **Model X105-PCW: 1 sensor**
- **Model X105-P2W: 2 sensors**
- **Supplied with 1 m cable**

Dimensions:

NGE (DN)	AE/GE(DN)	H	H2
50 - 100	32 - 80	180	268
125 - 200	100 - 150	195	285
250	200	225	340
300	250	225	400
350 - 600	300 - 400	280	455

■ Valve Position Transmitter

Model **e-Lift-35** ***NEW!***

CLA-VAL e-Lift-35 is the latest valve position transmitter to join the CLA-VAL e-Lift range. Simple and accurate, e-Lift-35 is equipped with a very low power consumption sensor and can be installed directly on a CLA-VAL X101 visual position indicator for quick and easy commissioning.

Its non-contact magnetic measurement system transmits the valve's opening position via a 0-10 V or 4-20 mA signal. Directly connected to a monitoring system, the valve's opening position is always visible in real time.

CLA-VAL e-Lift-35 is factory calibrated when delivered mounted on a valve. In the event of retrofitting on an existing valve, a simple button allows on-site calibration without the need for software or service interruption.

- **0-10V or 4-20 mA output**
- **IP68 protection**
- **Interface: 1x push button + LED**
- **Option X105: Limit switch**
- **Compatible with all CLA-VAL loggers and controllers D22, MD35, D35 and CV-LOG-35**

MEASURE THE FLOW THROUGH A VALVE USING THE ***VALVEFLOW***

FUNCTION AVAILABLE FOR ALL CLA-VAL CONTROLLERS AND LOGGERS.

With the arrival of the e-Lift-35, any control valve equipped with a controller or electronic logger from the CLA-VAL - D22, MD35, D35, CV-LOG-35 - an e-Lift-35 position transmitter and pressure transmitters upstream and downstream of the valve can benefit from the ValveFlow function.

This ValveFlow function allows the flow rate passing through the valve to be calculated at any time based on the degree of opening and the measured pressure differential.

This function **offers real added value** for valve installations which are not equipped with flow meters, as this measurement can simply be additional information for monitoring your network, such as input data for a valve controller to ensure the desired regulation in the network.

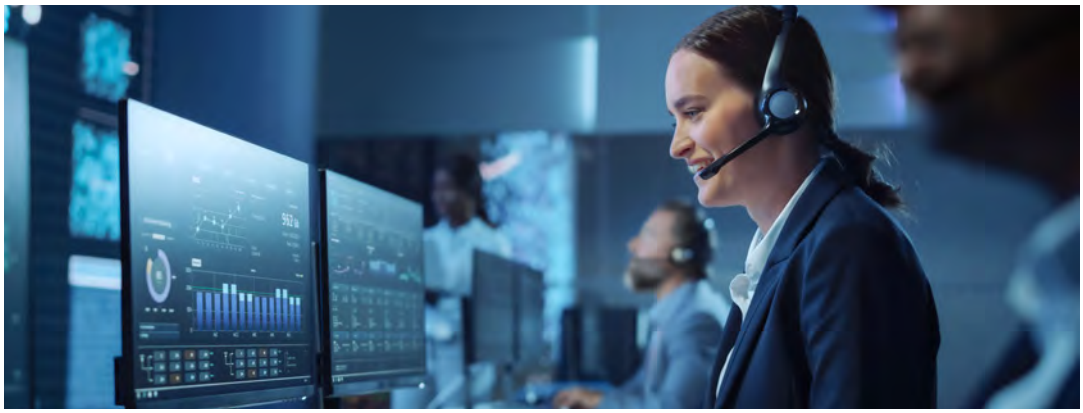
TECHNICAL INFORMATION

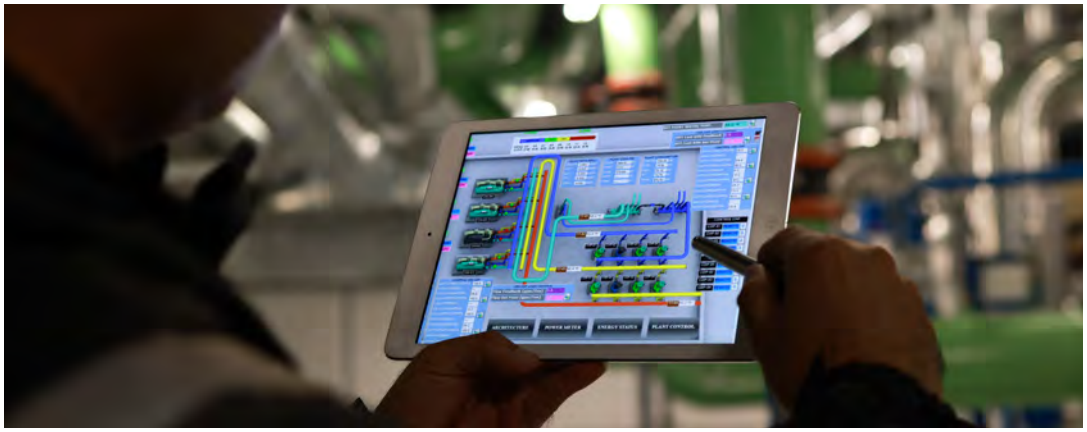
Valve Controllers and Data Loggers

Control Valve

Power Generation

General Technical Information





Data loggers and controllers

■ Advanced Data Logger

Model **CV-LOG-35** *NEW!*

- Up to 6 data acquisition channels
- 4G LTE-M, NB-IoT and 2G communication
- Embedded intelligence
- Local Wi-Fi configuration (smartphone, tablet, PC)
- Interfaces with the Link2Valves.com platform
- Battery life of 5 to 10 years (High Capacity option)
- IP68 protection

Product details:

- Interchangeable internal lithium battery
- Option: HC lithium battery pack or external 5-30 VDC power supply
- Up to 4 analogue inputs (0-5V/0-10V) and 2 digital inputs (dry contact or pulse)
- Configurable recording interval up to 100ms
- 16 MB flash memory + 8 GB Micro SD
- Interfaces with Link2Valves.com for remote configuration
- Communication to another configurable server
- Interfaces with Topkapi supervision

CLA-VAL CV-LOG-35 is an advanced, ultra-low power, multi-channel communication data logger compatible with 4G LTE-M, NB-IoT and 2G. The use of new networks dedicated to the Internet of Things optimises data and energy consumption. The CV-LOG-35 has embedded intelligence that allows the addition of functions such as DP-Metering™ (flow calculation), e-Pairing™ (CLA-VAL interconnection for advanced control) and High-Speed Surveillance™ (recording of transient phenomena).

■ Autonomous Electronic Valve Controller

Model **D35 / MD35** *NEW!*

- 2 bistable solenoid valve outputs configurable on time conditions and/or flow rate, pressure, volume
- Up to 6 data acquisition channels
- 4G LTE-M, NB-IoT and 2G communication
- Embedded intelligence
- Local Wi-Fi configuration (smartphone, tablet, PC)
- Interfaces with the Link2Valves.com platform
- Battery life of 5 to 10 years (High Capacity option)
- IP68 protection

Product details:

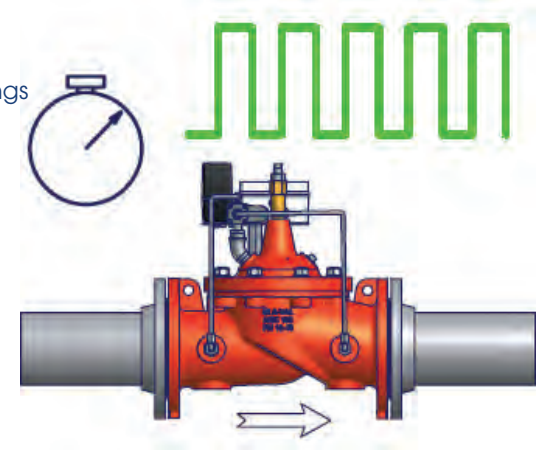
- Interchangeable internal or external HC lithium battery
- Option: external power supply 5-30 VDC
- Up to 4 analogue inputs (0-5V/0-10V) and 2 digital inputs (dry contact or pulse)
- 2 bistable solenoid valve outputs (6 VDC) and 1 digital output (dry contact or pulse)
- Configurable recording interval
- 16 MB flash memory + 32 GB Micro SD
- Interfaces with Link2Valves.com for remote configuration
- Communication to another configurable server
- Interfaces with Topkapi supervision

CLA-VAL D35/MD35 is an ultra-low power electronic valve controller that acquires signals from 1 to 6 sensors and transmits the acquired data via 4G LTE-M, NB-IoT or 2G networks. It also incorporates two bistable solenoid valve outputs that can be switched according to simple or combined conditions of time, flow and/or pressure defined by the user.
Combined with a CLA-VAL control valve, the D35/MD35 is the ideal stand-alone solution for logging hydraulic data at the valve and remotely modifying the setpoint switching programming. It is particularly suitable for applications such as bleed valves, dynamic sectorisation and pressure modulation.

Electronic controllers

Autonomous Electronic Time Controller

Model **e-Timer-33**



- Up to 6 rules for 3 daily openings/closings
- Time & Calendar function
- 0 to 16 bar
- On-site configuration
- IP68 protection

Product details:

- 9 VDC lithium battery
- Standard lifespan: 2 years for 2 daily actions at a temperature of 20°C
- 1 bistable 3-way solenoid valve output (6 VDC)
- On-site programming via specific USB cable ref. MEXUSB20401A

CLA-VAL e-Timer-33 is an easy-to-use, submersible time controller.
Operating in manual mode with a magnet, it is the ideal controller for simple time-based applications.

Electronic Valve Controller

Model **D22**

- Pre-loaded applications for standard hydraulic functions (ValvApps™)
- Precise and stable regulation
- Simple or combined control modes depending on: Time / Flow rate / Level / Pressure
- PID loop control, Control curves and/or Conditional actions
- Integrated multi-channel data recorder
- Local or remote programming
- Interfaces with the Link2Valves.com platform
- Modbus RTU/RS485 and Ethernet TCP/100 Base T communication
- 4G LTE-M, NB-IoT and 2G modem **NEW!**
- IP68 protection

Product details:

- 12 VDC to 24 VDC power supply
- Inputs: 6x analogue 4-20mA and 6x digital (dry contact)
- Outputs: 2x analogue 4-20mA, 2x 24 VDC solenoid valve and 2x 24 VDC mechanical relays
- Linux system
- Real-time backup to 2GB SD card and memory protection with 10-year lithium battery
- Wi-Fi interface for configuration (optional)
- Interfaces with Topkapi supervision **NEW!**

The CLA-VAL D22 electronic controller sets a new standard in the water industry. It meets the need for an integrated, efficient and easy-to-use electronic controller based on a library of ValvApps™ electronic applications for valve control.
These ValvApps™ applications are designed for both simple control functions and advanced solutions, and simply reflect CLA-VAL's more than 85 years of experience in meeting the new economic and performance challenges of water services.

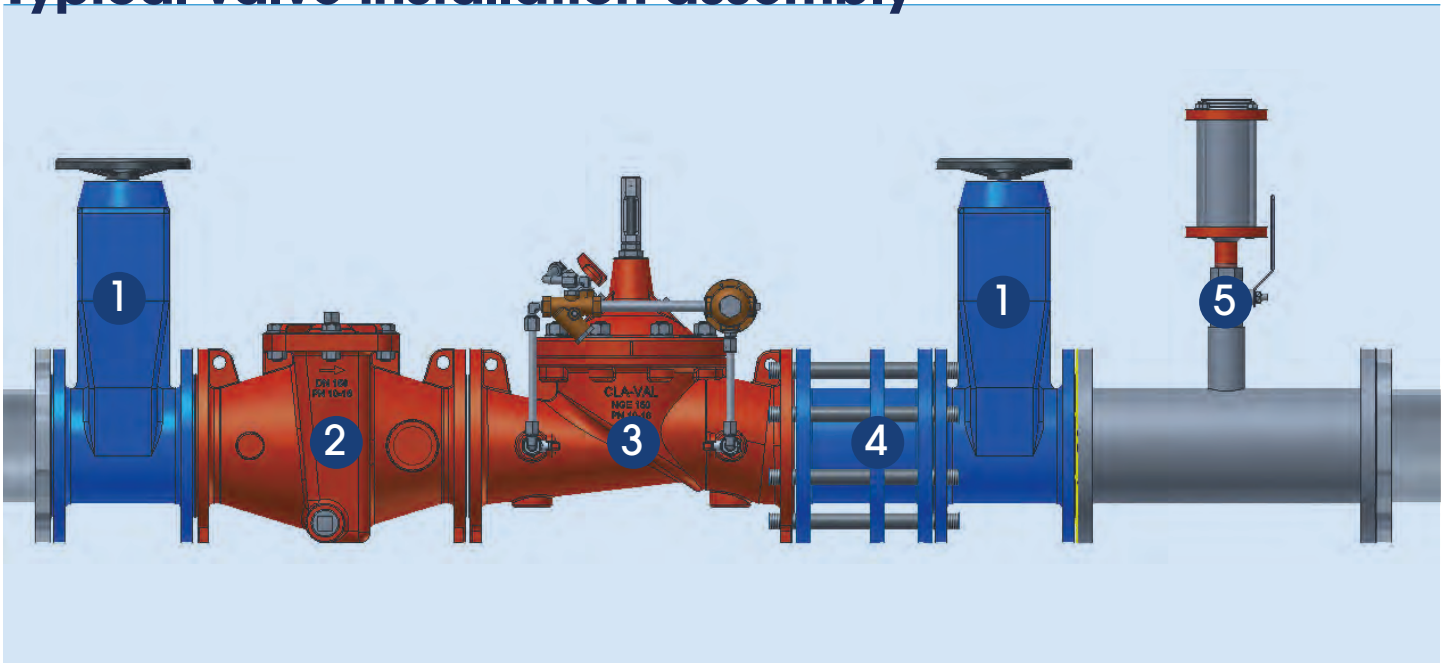
Summary of the Main Functions of the e-Line Range




	D22	D35 / MD35	e-Timer-33	CV-Log-35
Advanced control (PID)	■	■		
Simple regulation	■	■	■	
Data logger	■	■		■
Data transmission (www.link2valves.com)	■	■		■
Remote configuration	■	■		■
Frequency data transfer	Real time	1x per day		1x per day
Power	12–24 VDC	Battery or 12-24 VDC	Battery	Battery

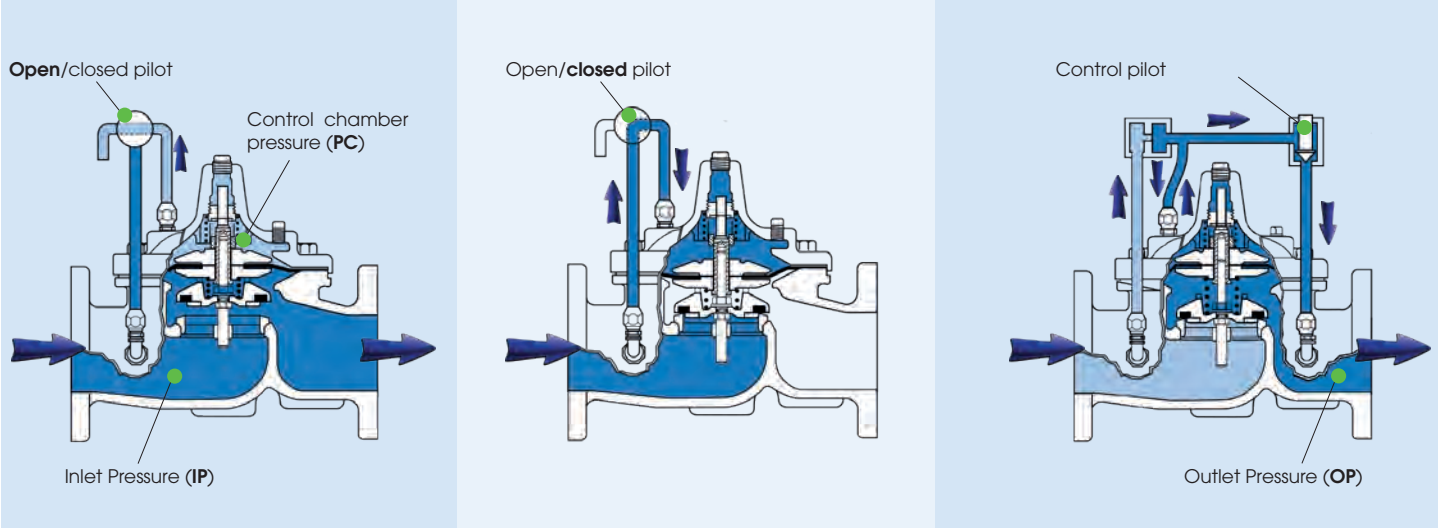
	Logger	output(s) Solenoid valve / M35	4x analogue outputs + 4x digital outputs
COMMUNICATING	CV-Log-35	D35 / MD35	D22
			
	• Data recording	• Very low power consumption • Simple/advanced modulation	• Advanced regulation • Full integration
NO COMMUNICATION		e-Timer-33	
			
		• 2 pressure stages • Time-dependent modulation • Flushing applications	

Typical valve installation assembly



1. Isolation valve - Gate Valve or Butterfly valve
2. CLA-VAL sludge trap filter type AQUA 90-501
3. CLA-VAL hydraulic control valve
4. Disassembly joint type connection system
5. Air release valve with isolating valve if the downstream pipe is descending

Hydraulic Operating Principle of the CLA-VAL Valve



FULL OPENING:

PC = Atmospheric pressure < PE
The release of pressure from the control chamber into the atmosphere causes the valve to open.

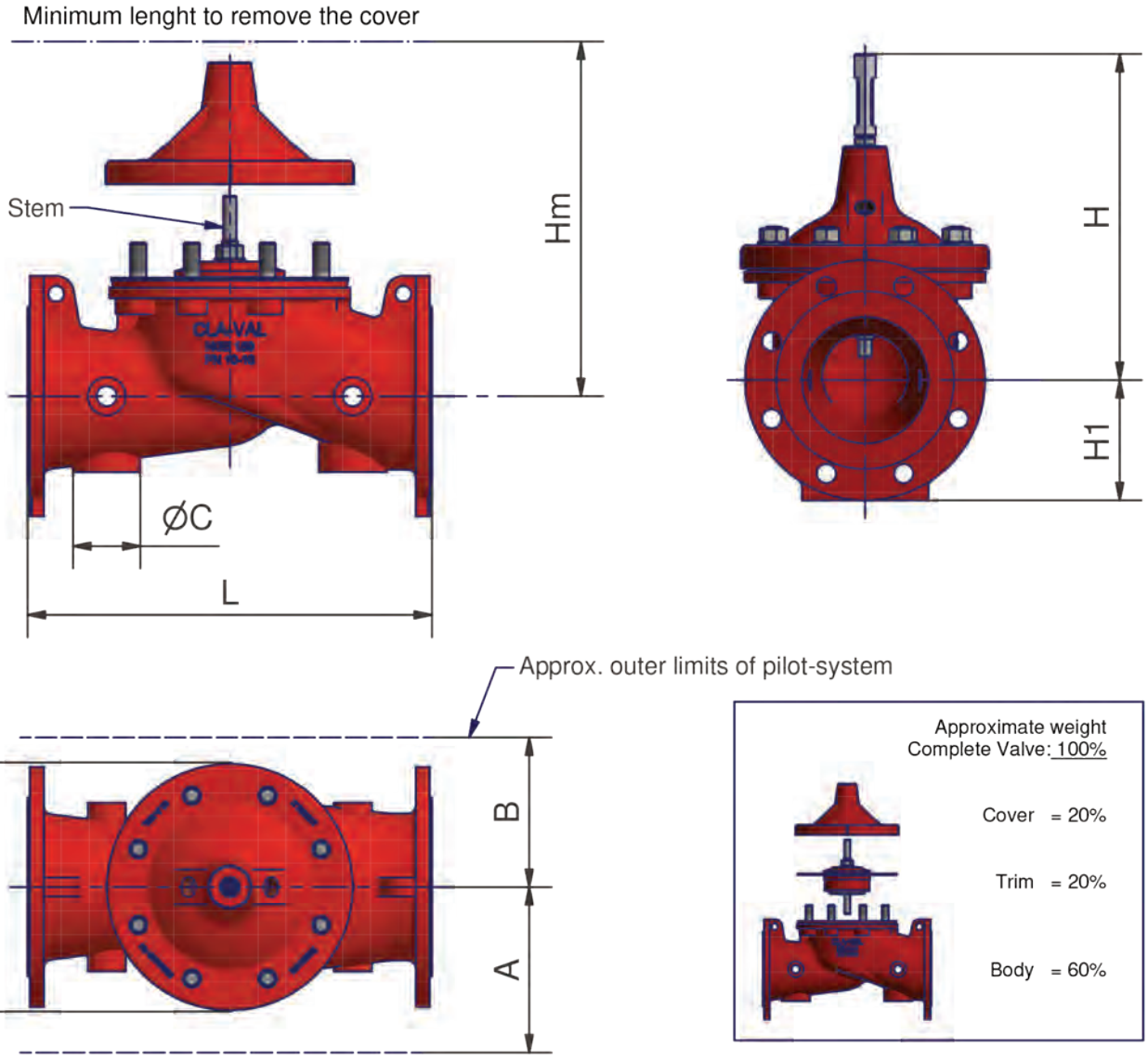
AIR-TIGHT CLOSURE:

PC = PE
When the inlet pressure is directed into the control chamber, the valve closes tightly.

REGULATION:

EP > CP > PS
The use of a control valve that responds to a setpoint causes pressure variations in the control chamber. The HYTROL valve then becomes a regulator.

Dimensions - CLA-VAL Main Valve - Hytrol NGE 100-01



▶ Technical Data:

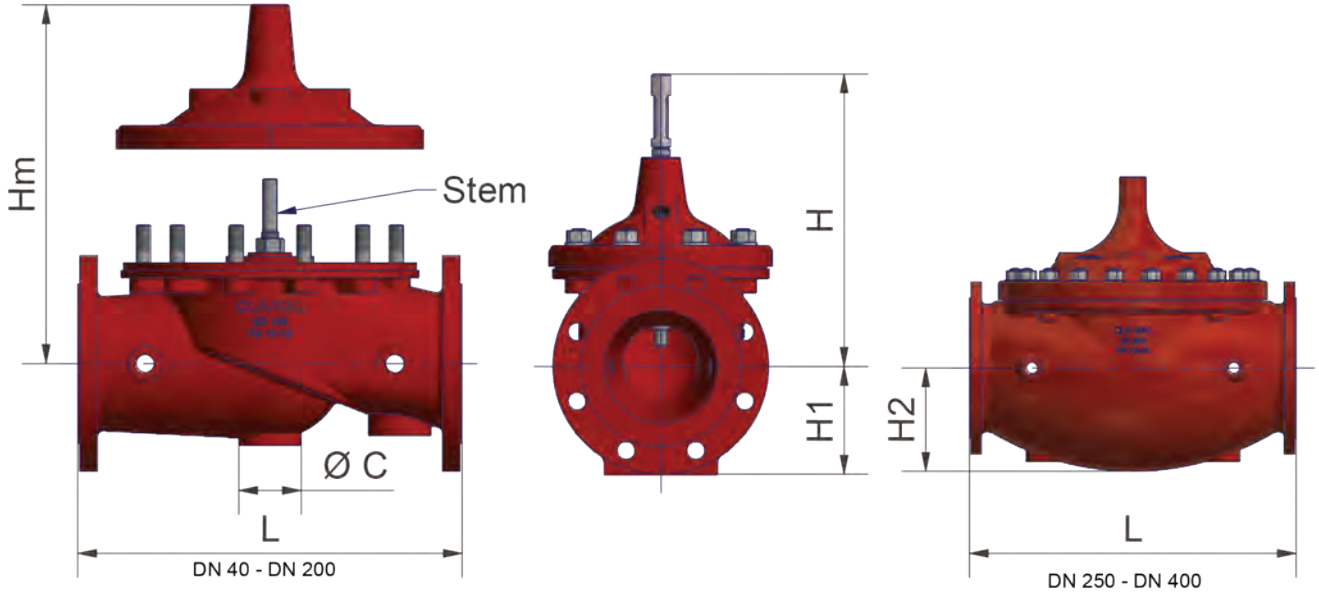
Flanged (mm)	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400	DN 450	DN 500	DN 600
L	230	290	310	350	400	480	600	730	850	980	1100	1200	1250	1450
F	145	170	170	235	295	295	400	510	600	712	712	712	900	900
H	220	250	260	305	395	410	490	590	730	850	850	850	1030	1030
H1 (PN10-16)	82.5	93	100	110	125	142.5	170	200	227.5	260	290	325	370	430
H1 (PN25)	82.5	93	100	117.5	135	150	188	225	242.5	277.5	310	335	370	430
Hm	255	290	300	390	470	480	585	700	890	1030	1030	1030	1310	1310
A	200	210	210	220	235	250	270	310	365	400	425	435	520	520
B	145	150	150	160	165	165	220	280	345	385	395	400	460	470
øC	45	60	60	60	60	80	80	80	80	80	80	80	120	120
Weight (Kg)	15	20	25	40	60	70	120	190	350	540	620	650	980	1080

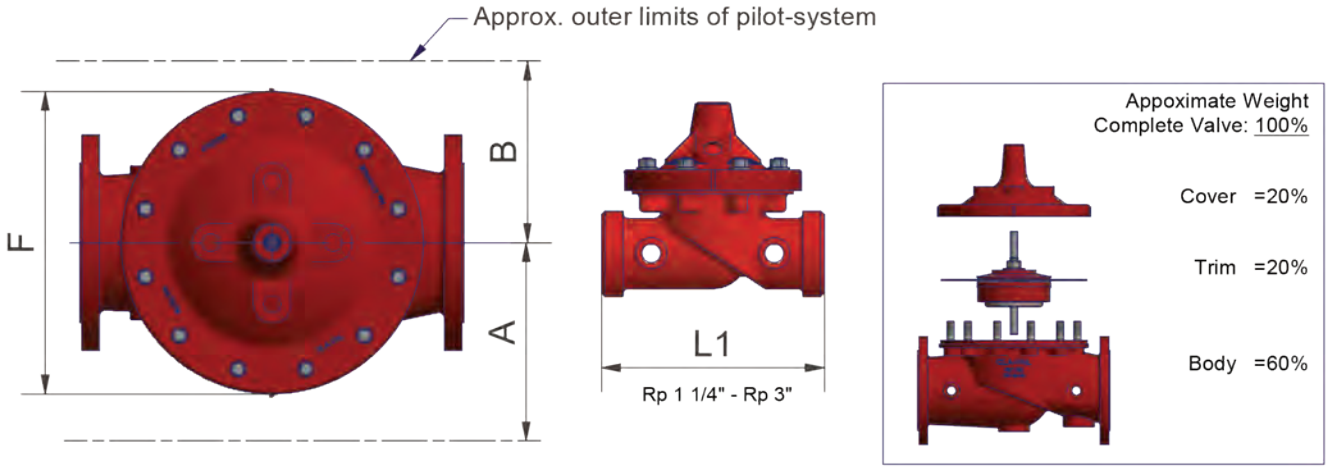
▶ Hydraulic Data:

Flanged (mm)	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400	DN 450	DN 500	DN 600
Kv (m3/h)	32	43	58	119	162	209	479	799	1292	1638	1789	2070	3049	3222
Cv (l/s)	9	12	16	33	45	58	133	222	359	455	497	575	847	895

Kv or Cv = m3/h or l/s @ 100kPa (1 bar) head loss with 15°C water (valve totally open).

Dimensions - CLA-VAL Main Valve - Hytrol 100GE-01





▶ Technical Data:

Flanged (mm) Screwed (in)	- * 1"	DN 32 1 1/4"	DN 40 1 1/2"	DN 50 2"	DN 65 2 1/2"	DN 80 3"	DN 100 -	DN 150 -	DN 200 -	DN 250 -	DN 300 -	DN 400 -
L	-	215	215	254	280	305	381	508	645	756	864	1051
L1	184.5	184.5	184.5	238	280	318	-	-	-	-	-	-
F	145	145	145	170	205	235	295	400	510	600	712	900
H	214	214	214	241	269	286	380	448	541	631	723	850
H1 (PN 10-16)	-	-	75	82.5	93	100	110	142.5	170	-	-	-
H1 (PN 25)	-	-	75	82.5	93	100	117.5	150	180	-	-	-
H2	-	-	-	-	-	-	-	-	-	236	274	395
Hm	252	252	252	285	320	345	450	540	645	780	905	1120
A	200	200	200	210	220	220	250	270	310	365	435	520
B	145	145	145	150	160	160	165	220	280	345	400	470
øC	-	-	-	47	60	60	82	82	82	82	-	-
Weight (Kg)	13	13	13	20	25	30	50	95	170	310	470	970

▶ Hydraulic Data:

Flanged (mm) Screwed (in)	- * 1"	DN 32 1 1/4"	DN 40 1 1/2"	DN 50 2"	DN 65 2 1/2"	DN 80 3"	DN 100 -	DN 150 -	DN 200 -	DN 250 -	DN 300 -	DN 400 -
Kv (m3/h)	17	26	28	47	72	101	173	400	666	1076	1490	2542
Cv (l/s)	5	7	8	13	20	28	48	111	185	299	414	706

* : Screwed valve size 1" with trim 1-1/4"
Kv or Cv = m3/h or l/s @ 100kPa (1 bar) head loss with 15°C water (valve totally open).

■ Power from Flowing Water

Model **e-Power IP**

The CLA-VAL e-Power IP electrical power generator is the ideal solution for providing autonomous power to various equipment located in the valve environment, such as motorised pilots, sensors, PLCs or other HMI interfaces.

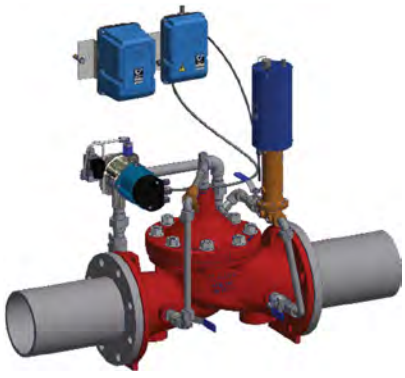
This system converts part of the hydraulic energy available at the valve into electrical power. Combined with a lead-acid battery, it continuously delivers 14W of power for a pressure differential of 6mCE and a flow rate of 50l/min.

Subject to these minimum hydraulic conditions, e-Power IP also enables autonomous water quality solutions such as online monitoring and chlorination.

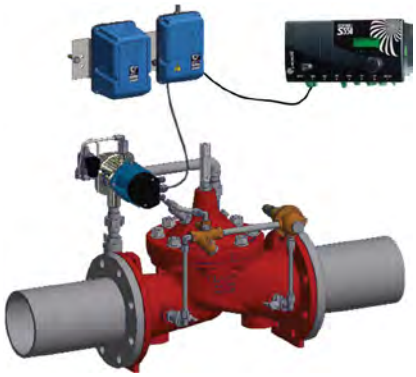
- **12VDC or 24VDC output (step-up)**
- **IP68 protection (excluding EV)**
- **PFA 10 bar**
- **12V - 7.0Ah sealed lead-acid VRLA battery**
  Lifespan of 5 to 7 years at 20°C - Fully recyclable battery
  Maximum operating temperature 55°C
- **Battery level alarm output via dry contact**
- **LED operation display**
- Power supply protection in the event of polarity reversal and/or short circuit
- Plug&Play interface; / Windows 7 (32 & 64 bit)

The e-Power IP includes a mechanical pressure differential limiting system that controls the turbine's
rotation speed and, consequently, the electrical power produced by this system. The management of this pressure
differential and energy production in a single, compact product is a CLA-VAL innovation.

■ CLA-VAL SERIES CPC



■ SCADA Systems

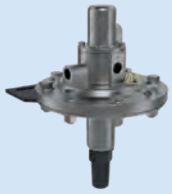


■ CLA-VAL SERIES PCM

■ Sensors & Data Loggers

CLA-VAL Pilot Adjustment Range





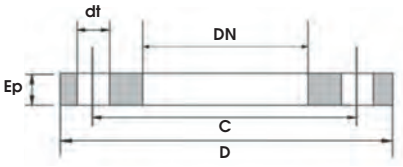
PILOT	Spring No.	(bar) min.-max.	1 x Turn (bar)	(psi) min.-max.	1x Turn (psi)	Preset factory (bar)
CRD	82575C	0,1 - 0,5	0,04	1,4 - 7,2	0,61	0,3
	81594E	0,1 - 2,1	0,20	1,4 - 30,0	3,00	1,0
	71884B	1,0 - 5,3	0,60	14,2 - 75,0	9,00	3,0
	206321-01E	1,4 - 7,2	1,00	20,0 - 105	13,00	3,0
	71885J	2,1 - 21,0	1,90	30,0 - 300	27,00	5,0
CRD-4	48211H	7,0 - 31,5	-	100 - 450	-	7,0
CRD-18/KX1	16302-01A	7,0 - 35,0	1,80	150 - 600	26,00	15,0
CRD-18	16302-01A	10,5 - 42,0	1,80	150 - 600	26,00	15,0
CRA	82575C	0,1 - 0,5	0,04	1,4 - 7,1	0,61	0,3
	81594E	0,1 - 2,1	0,20	1,4 - 30,0	3,00	1,0
	71884B	1,0 - 5,3	0,60	14,2 - 75,0	9,00	3,0
	206231-01E	1,4 - 7,2	1,00	20,0 - 105	13,00	3,0
	71885J	2,1 - 21,0	1,90	30,0 - 300	27,00	5,0
CRL / CRL-60	81594E	0,1 - 2,1	0,20	-	-	0,5
	71884B	0,1 - 5,3	0,60	0,1 - 75,0	8,50	3,0
	71885J	1,4 - 14,0	2,00	20,0 - 200	28,00	5,0
CRL 7.0–21.0	16302-01A	7,0 - 21,0	1,30	100 - 300	18,00	7,0
CRL-18	202787-01A	17,0 - 42,0	1,30	250 - 600	18,00	20,0
CDB-7	C-0492D	0,0 - 0,5	0,05	0,0 - 7,0	0,75	0,3
	32919D	0,4 - 1,8	0,28	5,0 - 25,0	4,00	1,0
	32447F	0,7 - 4,2	0,84	10,0 - 60,0	12,00	3,0
	V-5695B	1,4 - 5,6	1,02	20,0 - 80,0	14,50	3,0
	C-1124B	3,5 - 10,5	2,07	50,0 - 150	29,50	5,0
	V-6515A	4,5 - 12,6	3,09	65,0 - 180	44,00	5,0
CDHS-18	36773A	0,1 - 1,2	0,10	1,0 - 18,0	-	0,3
CDHS-2B	36773A	0,1 - 1,2	0,10	1,0 - 18,0	-	0,3
CDHS-2F	36773A	0,1 - 1,2	0,10	1,0 - 18,0	-	0,3
CDHS-3A	36773A	0,1 - 1,2	0,10	1,0 - 18,0	-	0,3
CDHS-208	C-0492D	0,0 - 0,5	0,05	-	-	0,3
CDS-6A CRD-HSA CRL-HSA	32919D	0,4 - 1,8	0,15	-	-	0,5
	1 x 2933502H	0,1 - 1,2	0,02	1,4 - 17,0	0,32	-
	2 x 2933502H	1,2 - 2,4	0,04	17,0 - 34,0	0,64	-
	3 x 2933502H	2,4 - 3,6	0,06	34,0 - 51,1	0,96	-
	4 x 2933502H	3,6 - 4,8	0,09	51,1 - 68,2	1,28	-
	5 x 2933502H	4,8 - 6,0	0,11	68,2 - 85,2	1,60	-

Flange Drilling Table

DN	ISO PN 6 EN 1092-1						ISO PN 10 EN 1092-1						ISO PN 16 EN 1092-1					
	Dimensions				Bolting		Dimensions				Bolting		Dimensions				Bolting	
	D	C	Dt	Ep	Num-	d	D	C	Dt	Ep	Num-	d	D	C	Dt	Ep	Num-	d
25	100	75	11	14	4	M10	115	85	14	16	4	M12	115	85	14	16	4	M12
32	120	90	14	16	4	M12	140	100	18	18	4	M16	140	100	19	16	4	M16
40	130	100	14	16	4	M12	150	110	18	18	4	M16	150	110	19	16	4	M16
50	140	110	14	16	4	M12	165	125	18	19	4	M16	165	125	19	18	4	M16
60							175	135	18	19	4	M16	175	135	19	18	4	M16
65	160	130	14	16	4	M12	185	145	18	19	4	M16	185	145	19	18	4	M16
80	190	150	18	18	4	M16	200	160	18	20	8	M16	200	160	19	20	8	M16
100	210	170	18	18	4	M16	220	180	18	22	8	M16	220	180	19	20	8	M16
125	240	200	18	20	8	M16	250	210	18	22	8	M16	250	210	19	22	8	M16
150	265	225	18	20	8	M16	285	240	22	24	8	M20	285	240	23	22	8	M20
175	295	255	18	22	8	M16	315	270	22	24	8	M20	315	270	23	24	8	M20
200	320	280	18	22	8	M16	340	295	22	24	8	M20	340	295	23	24	12	M20
250	375	335	18	24	12	M16	395	350	22	26	12	M20	405	355	28	32	12	M24
300	440	395	22	24	12	M20	445	400	22	26	12	M20	460	410	28	32	12	M24
350	490	445	22	26	12	M20	505	460	22	28	16	M20	520	470	28	36	16	M24
400	540	495	22	28	16	M20	565	515	26	32	16	M24	580	525	31	38	16	M27
450	595	550	22	30	16	M20	615	565	26	36	20	M24	640	585	31	42	20	M27
500	645	600	22	30	20	M20	670	620	26	38	20	M24	715	650	34	44	20	M30
600	755	705	26	32	20	M24	780	725	30	42	20	M27	840	770	37	48	20	M33
700	860	810	26		24	M24	895	840	30		24	M27	910	840	37		24	M33
800	975	920	30		24	M27	1015	950	33		24	M30	1026	950	40		24	M36
900	1075	1020	30	X	24	M27	1115	1050	33	X	28	M30	1125	1050	40	X	28	M36
1000	1175	1120	30		28	M27	1230	1160	36		28	M33	1255	1170	43		28	M39
1200	1405	1340	33		32	M30	1455	1380	39		32	M36	1485	1390	49		32	M45

DN	ISO PN 25 EN 1092-1						ISO PN 40 EN 1092-1					
	Dimensions				Bolting		Dimensions				Bolting	
	D	C	Dt	Ep	Num-	d	D	C	Dt	Ep	Num-	d
25	115	85	14	16	4	M12	115	85	14	16	4	M12
32	140	100	18	18	4	M16	140	100	18	18	4	M16
40	150	110	18	18	4	M16	150	110	18	18	4	M16
50	165	125	18	20	4	M16	165	125	18	20	4	M16
60	175	135	18	22	8	M16	175	135	18	22	8	M16
65	185	145	18	22	8	M16	185	145	18	22	8	M16
80	200	160	18	24	8	M16	200	160	18	24	8	M16
100	235	190	22	26	8	M20	235	190	22	26	8	M20
125	270	220	26	28	8	M24	270	220	26	28	8	M24
150	300	250	26	30	8	M24	300	250	26	30	8	M24
175	330	280	26	30	12	M24	350	295	30	34	12	M27
200	360	310	26	32	12	M24	375	320	30	36	12	M27
250	425	370	30	35	12	M27	450	385	33	42	12	M30
300	485	430	30	38	16	M27	515	450	33	48	16	M30
350	555	490	33	42	16	M30	580	510	36	54	16	M33
400	620	550	36	46	16	M33	660	585	39	60	16	M36
450	670	600	36	50	20	M33						
500	730	660	36	56	20	M33						
600	845	770	39	68	20	M36						
700	960	875	42		24	M39						
800	1085	990	48	X	24	M45						
900	1185	1090	56		28	M45						
1000	1320	1210	56		28	M52						

D: Outer diameter of the flange
C: Drilling circle
dt: Diameter of bolt holes
Ep: Flange thickness
No.: Number of bolt holes
d: Bolt diameter



IP Protection Table

Index	1st digit (tens) = Dust protection	2nd digit (unit) = Water protection
0	No protection.	No protection.
1	Protected against solid objects larger than 50 mm.	Protected against vertical water drops.
2	Protected against solid objects larger than 12 mm.	Protected against water droplets falling at angles up to 15° from the vertical.
3	Protected against solid objects larger than 2.5 mm.	Protected against rainwater up to 60° from the vertical.
4	Protected against solid objects larger than 1 mm.	Protected against water splashes from all directions.
5	Protected against dust.	Protected against water jets from all directions from a hose (22.5 mm nozzle / 12.5 l/min).
6	Fully protected against dust.	Protected against water jets from all directions from a hose (12.5 mm nozzle / 100 l/min).
7	-	**Protected against the effects of immersion (up to 1 metre).**
		No harmful ingress of water shall occur when the equipment is submerged in water under specified pressure and time conditions (up to 1 metre submersion).
8	-	**Equipment submersible under specified conditions (prolonged immersion) beyond 1 metre.**
		Normally, this means that the equipment is hermetically sealed. However, with certain types of equipment, it may mean that water can penetrate, but only on condition that it does not cause any harmful effects. Protection against submersion.
9	-	**Equipment submersible under specified conditions (prolonged immersion) beyond 1 metre and protection against high-pressure cleaning.**
		Normally, this means that the equipment is hermetically sealed and can withstand high water pressure.
9k	-	**Equipment submersible under specified conditions (prolonged immersion) beyond 1 metre and protection against high-pressure cleaning.**
		Normally, this means that the equipment is hermetically sealed and can withstand high water pressure. Standard for food service/kitchens/etc.

Maintenance and Commissioning Solutions

CLA-VAL SERVICES

Preventive or emergency service performed by factory-trained engineers

One of the best ways to ensure that your system operates at peak efficiency is to perform preventive maintenance on a regular basis.

When it comes to Cla-Val automatic control valves, no one can do a better job at keeping your valves in tip-top shape than our own in-house team of factory trained field service engineers.

Cla-Val UK offers a team of highly skilled engineers that are fully trained and equipped with the knowledge to maintain, service and commission the complete range of Cla-Val products from basic hydraulic functions to sophisticated electronic interfaces.

Our vehicles are well stocked with the aim of providing completion to the works to minimise downtime and disruptions to supply.

With over 30 years of experience, our engineers have a broad range of experience to support Cla-Val equipment across multiple sectors including: Waterworks, Fire protection and Fuelling.
Cla-Val engineers have confined spaces, street-works and hygiene certifications – all works are carried out diligently and within the companies 18001, 14001 and 9001 accreditations.
The team are experienced in the installation and commissioning of a variety of flow modulation devices, in conjunction with the optimization of DMA's – including Calm Networks.
We can also assist in the recommendation of solutions to solve any problems that may arise. Site visits can be arranged if any issues need to be discussed.

Experience the Cla-Val Advantage

Available Services

- Emergency repairs performed by certified engineers on call.
- Periodic inspection, maintenance and upgrading of installed valves, without removal from the pipeline
- Complete on-site valve refurbishment, including replacement of rubber goods and change-out of metal parts as needed
- Complete valve rebuilds in the workshop
- Field retrofits of a wide array of accessories and components to enhance valve function, including the addition of the following:
- Pressure Management Pilot Systems and Controllers
- Solenoid valves and E-Line Electronic Actuators for advanced electronic control
- Hydro-powered turbines
- Anti-Cavitation trim to protect valve from cavitation damage
- Installation of pressure gauges, position indicators, limit switches, etc.

Visit www.cla-val.co.uk for more details or contact our service team at services@cla-val.co.uk


Original Cla-Val parts


PRV Servicing

Fully stocked service vans

NOTES

USA
Global Headquarters
1701 Placentia Avenue,
Costa Mesa
CA 92627-4475
✆ + 949 722 4800

Canada
4687 Christie Drive
Beamsville, Ontario
Canada L0R 1B4
✆ + 905 563-4963

Mexico
Latin America
Circunvalacion Jorge Alvarez
del Castillo No 1206-3
Col. Chapultepec Country
CP 44620 - Guadalajara, Jalisco
✆ + 52 (33) 80007565

Switzerland
Europe-Middle East-Africa
Chemin des Mésanges 1
CH-1032 Romanel-sur-Lausanne
✆ + 41 21 643 15 55

United Kingdom
Dainton House,
Goods Station Road
CGB - Tunbridge Wells
Kent TN1 2 DH England
✆ + 44 1892 514 400

France
ZAC du Champ du Périer
1, Porte du Grand Lyon
FR - 01700 Neyron
✆ + 33 4 72 25 92 93

U.A.E.
Office 2004 ,
JBC5 - Cluster W - JLT
P.O. Box 336812 Dubaï, UAE
✆ +971 4 5667665

New Zealand
Asia-Pacific
45 Kennaway Road
1 Woolston, Christchurch, 8023
✆ + 64 396 44860

Singapore
48 Toh Guan Road East
Singapore
✆ + 65 9179 8177

WATERWORKS

From the reservoir to the customer tap, the CLA-VAL Company has developed more than 3500 Automatic Control Valve models. Accurately controlling pressure, tank level and flows within water networks is the result of more than 90 years of unparalleled expertise.

CLA-VAL

www.cla-val.co.uk