Fire Protection Solutions
for offshore and onshore applications

- Deluge
- Pressure Relief
- Pressure Reducing
- Level Control
- Solenoid Control
- Air Release and Check Valves

- Chemical storage
- Power plants
- Refineries and industrial facilities
- Offshore platforms
- Commercial high-rise
- Railway and road tunnels
- Mining operations
- Aviation facilities
Cla-Val Deluge Valves are available in a variety of configurations and sizes, providing highly accurate performance in the most demanding of fire protection applications.

- Hydraulic, Pneumatic or Electronic-Controlled Operation
- Fast-Acting, Drip-Tight Closure
- Available in a wide range of materials to meet unique application requirements

**Industrial Fire Protection Deluge Valve Applications**

**Water Cannon for Flammable Materials Storage**

![Water Cannon Diagram](image1)

CL-VAL 403-11 Deluge Valve for water or foam

**Water Curtain for Flammable Materials Storage**

![Water Curtain Diagram](image2)

CL-VAL 134-05 Deluge Valve

**Typical Applications**

- Chemical and flammable materials storage
- Helicopter Landing Pads
- Rail and roadway tunnels
- Water curtain systems
- Mining Operations
- Power Plants
- Aviation facilities
- Refineries

Visit www.cla-val.com for additional technical data on this and other Cla-Val Fire Protection Products.
Deluge Valves

134 Series Solenoid Operated Deluge Valve

- Fast acting solenoid control
- Reliable drip-tight shut-off
- Utilizes a three-way solenoid to open or close the valve
- Globe or angle patterns
- 150 and 300 Class
- UL Listed 3” - 10”
- For water or foam

400 Series Pneumatically Operated Remote Control Deluge Valve

- Reliable deluge service for fresh or seawater applications
- Quick response to remote control operation
- 150 and 300 Class
- Ideal for pressure up to 400 psi
- Main Valve UL Listed 3” - 10”
- For water or foam

800 Series Tubular Diaphragm Fire Deluge Valve

- Pressure operated in-line axial valve ideal for fire deluge applications
- Unique tubular diaphragm valve
- Cast and stainless steel construction for long service life
- FM Approved Components 4” - 10”
- For water or foam

Deck Integrated Fire Fighting System (DIFFS) for Helipads

The DIFFS utilizes the Cla-Val Model 134-60 Automatic Deluge Control Valve to quickly dispense foam or water, extinguishing flames in less than 15 seconds.
Cla-Val Pressure Reducing Valves are available in a variety of configurations. Their superior design provides highly accurate and reliable performance in fire protection piping systems.

- Flanged, Threaded or Grooved Ends
- Available in a wide range of materials to meet unique application requirements

**55L Series Pressure Relief Valve**

- Direct acting for precise pressure control
- May be installed in any position, making it ideal for tight locations
- Operates within very close pressure limits
- UL Listed, FM Approved 1/2” and 3/4”
- UL Listed/FM Approved for use as a fire pump casing relief valve

Model 55L-60

**Typical Applications**

- High-Rise buildings
- Tunnels and underground railways
- High pressure sprinkler systems
- Manufacturing plants
- Fire Hydrant Supply
- Ports, harbors and cargo storage areas

**Pressure Reducing/Pressure Relief Valve Application**

**Fire Pump Suction Control Valve Application**

**Fire Pump Pressure Relief Valve Application**
Pressure Reducing and Pressure Relief Valves

90 Series Hydraulic Pressure Reducing Valve

The valve automatically reduces a higher inlet pressure to a steady, lower outlet pressure, regardless of flow or inlet pressure fluctuations.

UL Listed 1-1/2" - 8"

Model 90-21
Model 90-21 Grooved

Cla-Val Fire Protection Products are available in a wide range of standard and special alloys

50 Series Fire Pump Pressure Relief Valve

Modulates upon fire pump start-up to relieve excess capacity, while maintaining positive system pressure at the pump discharge and preventing surge.

UL & ULC Listed, FM Approved

Model 50B-4KG-1

50 Series Pump Suction Relief Valve

Modulates to prevent pump suction pressure from dropping below a pre-set minimum, ensuring that the pump draw does not exceed the available water supply.

FM Approved 3" - 8"

Model 50B-5KG

UL Listed 3" - 10"
FM Approved 3" & 4"

Model 750B-4KG-1

 Automatically relieves excess pressure in fire protection pumping applications, while maintaining constant system pressure at the pump discharge.
• 316 SST construction • Compact

750 Series Pressure Relief Valve

CLA-VAL 750B-4KG-1 Pressure Relief Valve

CLA-VAL 850B-4 Series Pressure Relief TDV FM Approved

850 Series Tubular Diaphragm Fire Relief Valve

Unique tubular diaphragm design with built-in protection against cavitation provides fast-acting deluge service with very low head loss.

FM Approved 3" - 10"

Model 850B-4
The Cla-Val Automatic Breach Containment Valve (ABCV) isolates portions of distribution piping when catastrophic downstream breaches occur. The ABCV is ideal in commercial building water distribution systems, including fire protection, potable water service, or chilled water circulation.

Strategically located to isolate portions of water systems, the ABCV prevents significant water losses and resultant damage, while allowing limited continued service when distribution systems are damaged or out of service.

Cla-Val Automatic Breach Control Valve installation - one of the tallest high-rise buildings in the United States (1,776 ft)
The 124 Series Float Valve provides an effective means of controlling the liquid level in fire water reserve tanks, opening or closing when the liquid level reaches its pre-set low and high points.

The highly accurate 129 Series Float Valve maintains a consistent level in large diameter fire water storage tanks and reservoirs by admitting flow into the tank in direct proportion to flow out of the tank.

The 210 Series Altitude Valve is commonly used at reservoirs where water is withdrawn through a separate line or through a bypass line. The valve opens to refill the reservoir when the water reaches a point below the pre-set shut-off level. It is available in a variety of configurations including those designed for one-way flow and combination altitude and back pressure control.

Level Control Valve Applications

Altitude Valve Application
Air Release and Check Valve Application - Industrial Pump House:
- 33A High Performance Combination Air Release & Vacuum Breaker Valve with Series TD Throttling Air Control Device
- 500 Series Check Valve

33 Series High Performance Combination Air Release and Vacuum Breaker Valves protect pipelines from air lock and vacuum collapse. Its large venting orifice and float clearances freely exhaust or admit air during pipeline filling or draining.

34 Series Air Release Valves vent entrained air that collects at high points in a pipeline, preventing against decreased flow capacity and the possibility of complete air blockage and pipe rupture caused by excessive air accumulation.

500 Series Check Valves protect against flow reversal and water hammer. They are available in silent wafer, silent globe and two-door wafer check configurations as well as a broad range of materials.

The X43 H-Style Strainer offers an effective means of removing unwanted particles or debris in pipeline flow. Ideal for mounting to directly to any Cla-Val Automatic Control Valve, the H-Strainers large flow area ensures a low pressure drop.

Its unique design enables maintenance personnel to service or clean the strainer by simply removing the top cover.
Cla-Val Fire Deluge Valves for offshore and seawater applications are manufactured in the USA.

Special alloy castings are poured in company-owned foundries in the USA.

**Model 100GS/2100GS**

Seawater Service Deluge Valve
- UL Listed - Sizes 3” - 10”
- Globe and angle patterns
- Aluminum Nickel Bronze
- Controls water flow to deluge, pre-action or foam-water type sprinkler systems
- Ideal for seawater service
- UL/ULC Listed Models
- 100G/2100G also available for freshwater service

**Model 100GS Ti**

Seawater Service Deluge Valve
- UL Listed - Sizes 3” - 10”
- Globe and angle patterns
- Aluminum Nickel Bronze
- Controls water flow to deluge, pre-action or foam-water type sprinkler systems
- Ideal for seawater service
- UL/ULC Listed Models
- 100G/2100G also available for freshwater service

**Model 134-60**

Solenoid Control Valve for Seawater Deluge Service
- UL Listed - Sizes 3” - 10”
- Opens or closes upon receipt of an electrical signal
- Ideal for applications where remote on-off control is required
- Suitable for seawater service

**Model 403-11**

Pneumatically Operated Deluge Valve
- UL Listed - Sizes 3” - 10”
- Globe and angle patterns
- Ideal for applications where remote on-off control is required
- Suitable for freshwater or seawater service
Offshore Applications

Model 50-20
Seawater Service Pressure Relief Valve
• Sizes 1-1/4" - 24"
• Automatically relieves excess pressure in pumping systems
• Fast opening to maintain steady line pressure
• Closes gradually to prevent surge
• Adjustable pressure settings, unaffected by pressure at valve discharge

Model 33A
High Performance Combination Air Release/Vacuum Breaker Valve
• Sizes 1" - 6", threaded or flanged
• Installed at vertical turbine pump discharge and pipeline high points for air release
• Protects pipeline from air lock and vacuum collapse during filling or draining
• Available with AC throttling air control device

Model 50-49
Seawater Service Pump Start Pressure Relief Valve
• Sizes 1-1/4" - 24"
• Provides pump and pipeline protection during pump start sequence
• Protects pump when discharge rises to unsafe levels
• Adjustable pressure sensitive opening

Model 90-42
Seawater Service Pressure Reducing Valve
• Sizes 1-1/4" - 24"
• Automatically reduces higher inlet pressure to a steady, lower outlet pressure

Model X43-HL
H Style Strainer with Rapid Purge
• UL Listed - Sizes 2" - 8"
• Low pressure drop
• Ductile iron fusion bonded epoxy coated body with 316 SS strainer or Nickel Aluminum Bronze with Titanium strainer
• Large flow area H-style design
• Service without removal from line

Visit www.cla-val.com to download additional technical documents

Series 582SWS
Two-Door Check Valve
• Sizes 4" - 24"
• FM Approved sizes 4" - 12"
• Aluminum Bronze or Super Duplex Stainless Steel for corrosion resistance
• Prevents reverse flow
Value Added Products and Accessories

**KO Anti-Cavitation Trim Retrofit Kit**
Retrofittable to any Cla-Val Automatic Control Valve without removal from the pipeline.

**CRD Pressure Reducing Pilot Control**
Automatically reduces higher inlet pressure to a lower output pressure. Can be retrofitted to an existing valve for added control.

**100G/2100G Deluge Valve (Globe or Angle)**
Designed for use in controlling water flow to deluge, pre-action or foam-water type fire protection sprinkler systems.
UL Listed in sizes 3” - 10”.

**CRL-60 Pressure & Casing Relief Pilot Control**
The direct-acting CRL-60 Pressure and Casing Relief Pilot Control is a highly accurate means of maintaining desired pressure in the most critical of fire protection applications.

**X46 and X43 Strainers**
X46 and X43 Series Strainers prevents passage of foreign particles larger than .015 inches from entering pilot system tubing.

**Solenoid Valve**
Direct Acting High Flow/High Pressure Valves are available in normally closed, normally open, and either AC or DC operated with brass or SS bodies.
All classes of service: general purpose to hazardous location.

**Water Gong Alarm**
Durable and rugged, the hydraulically operated water gong outdoor alarm is ideal for use with fire protection system water flow detection valves.

**X141 Pressure Gauge**
The Stainless Steel X140 Pressure Gauge, available in sizes 2.5 and 4-inches, is an easily retrofittable solution in applications where visual pressure indication is desired.

**Limit Switch Assembly**
The X105L Limit Switch Assembly is a rugged, dependable and positive-acting switch actuated by the opening or closing of a Cla-Val Automatic Control Valve.

**Waste Cone**
The Fire Pump Discharge Relief Waste Cone is manufactured in accordance with NFPA 20 requirements.

**Pressure Switch**
This durable, explosion proof Pressure Switch is used to signal that a deluge valve has opened. It can be specified on a new valve or easily retrofitted to an existing valve in the field.

**Automatic Air Maintenance Panel**
The Automatic Air Maintenance Panel automatically maintains the air or nitrogen pressure within preset limits in a dry pipe sprinkler system or a dry pilot line which actuate Deluge or Pre-action system.
Experience & Capabilities

For more than 50 years, Cla-Val has supplied top quality automatic control valves for fire applications in facilities throughout the world. Typical applications include pressure regulation, pressure relief, rate of flow control, pump suction control, liquid level control and foam or water deluge.

Cla-Val control valves provide years of trouble-free operation and require minimal maintenance, backed by the assurance that comes from using the industry’s most trusted fire protection valves.

Cla-Val is a global company, headquartered in Southern California, with production facilities and offices in the US, Canada, Europe, and New Zealand, supported by a network of technical experts around the world.

Certifications, Approvals and Quality Assurance

Canadian Standards Association (CSA)
NYC Material & Equipment Acceptance Division (MEA)
Underwriter’s Laboratories (UL)
Underwriter’s Laboratories Canada (ULC)
FM Global Technologies LLC (FM)
Technical Standards & Safety Authority
Public Utilities Board Singapore
Department of the Navy
Soundcast Company: TUV Approval
International Organization for Standardization (ISO)
American Bureau of Shipping (ABS)

When protecting life and property, you can count on Cla-Val Fire Protection Products.
**Cavitation Protection**

- Cla-Val’s proprietary CLA-CAV software is an ideal way to analyze your distribution system to determine the potential for cavitation.
- Any Cla-Val automatic control valve can be equipped with KO Anti-Cavitation trim to minimize or alleviate cavitation damage.

**Product Advantages**
- Significantly reduces noise and vibration
-Eliminates valve body and internal trim cavitation
-Provides drip-tight, positive sealing
- KO trim can be installed in existing valves without removal of the valve from pipeline

**In-house Foundry Capabilities**

Cla-Val automatic control valves can be provided in a wide variety of metals to meet any application challenge.

By having our own on-site sand casting and investment foundries, we are able to provide fire protection valves in over 50 different metals and special alloys, making Cla-Val’s product offering one of the most extensive in the valve industry. Combined with our state-of-the-industry manufacturing capabilities, we can exercise maximum control over the quality of the valves we produce -- from start to finish.

**Sample of Available Materials**

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Material Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM B367, Grade C2 Titanium</td>
<td>Monel QQ-N-288 Comp B</td>
</tr>
<tr>
<td>ASTM A536-65 Ductile Iron</td>
<td>ASTM A216 WCB Cast Steel</td>
</tr>
<tr>
<td>ASTM B148 Alloy C95800 Ni. Alum. Bronze</td>
<td>ASTM B61 Naval Bronze</td>
</tr>
<tr>
<td>UNS S31254 Super Austenitic Stainless Steel</td>
<td>UNS S32760 Duplex Stainless Steel</td>
</tr>
<tr>
<td>UNS J93404 Super Duplex Stainless Steel</td>
<td>ASTM A-743 GR CF 8M 316 SS</td>
</tr>
</tbody>
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**Cutting Edge Manufacturing Technology**

The production processes at Cla-Val’s factories are a unique combination of the latest in machining technologies and more than 75 years of manufacturing know-how. Never content to rest on our laurels, Cla-Val continually reinvests in machines, processes and our people to ensure that each valve we produce is of the highest quality possible.
When protecting life and property, depend on Cla-Val.

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