

100G/2100G Fresh Water Version

100GS/2100GS Seawater Version

MODELS



Deluge Valve



- UL Listed / ULC Listed/ABS Approved
- Globe or Angle Pattern
- Proven Reliable Design



Type Approved

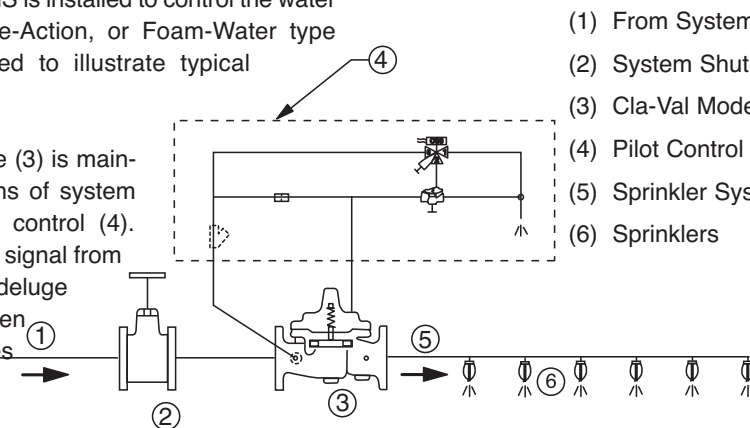
The Cla-Val Model 100G/2100G Deluge Valve is designed for use in controlling water flow to Deluge, Pre-Action, or Foam-Water type fire protection sprinkler systems. This valve is UL Listed in "Special Systems Water Control Valves Class I (VLFT) for both vertical and horizontal installation applications. This valve is UL/ULC Listed for operation manually, electronically, with hydraulic or pneumatic pilot control system for a wet pilot line of sprinklers.

The Model 100G/2100G is a hydraulically-operated, diaphragm-actuated, globe or angle pattern Deluge Valve. It consists of three major components: the body, the cover, and the diaphragm assembly. The only moving part is the diaphragm assembly. Packless construction and simplicity of design assures long service life and dependable low maintenance for this valve. All ferrous parts are fusion epoxy coated internally and externally for added corrosion resistance, along with a Dura-Kleen™ stem.

Typical Application

The Model 100G/2100G-100GS/2100GS is installed to control the water flow to the sprinklers in Deluge, Pre-Action, or Foam-Water type systems. A simplified system is used to illustrate typical operation.

The Model 100G/2100G Deluge Valve (3) is maintained in the closed position by means of system water pressure controlled by a pilot control (4). When the pilot control valve receives a signal from the fire detection system, it allows the deluge valve to open. Firefighting water (1) then enters system piping (5) and discharges from sprinklers (6).



- (1) From System Water Supply
- (2) System Shut-off Valve (Visual Stem)
- (3) Cla-Val Model 100G or 2100G
- (4) Pilot Control System
- (5) Sprinkler System Piping
- (6) Sprinklers

Specifications

- Sizes** *Globe:* 3" – 12" • *Angle:* 3" – 12"
- End Details**
 Ductile Iron 150 ANSI B16.42 flanged
 Ductile Iron 300 Grooved Ends
 Cast Steel 150 ANSI B16.5 flanged
- Pressure Rating**
 150 class, 250 psi maximum (Ductile Iron)
 150 class, 285 psi maximum (All other materials)
 300 class, 300 psi maximum (All materials)
- Temperature Range**
 Water, to 180°F MAX.
- Materials**
Main Valve Body & Cover:
- Ductile Iron ASTM A-536* **UL, ULC**
 - Cast Steel ASTM A216-WCB* **UL, ULC**
 - Nickel Aluminum Bronze ASTM B148 **UL, ULC**
 - Naval Bronze ASTM B61 **UL, ULC**
 - 316 Stainless Steel - ASTM A743 Grades CF3M and CFM8
 - Super Austenitic Stainless Steel - ASTM A351 Grade CK3MCuN (SMO 254)
 - Super Duplex Stainless Steel - ASTM A890 Grade 5A (CE3MN)
- Main Valve Internal Trim:**
 Bronze ASTM B61 • Monel QQ-N-281 Class B
Diaphragm and Disc: Buna-N® synthetic rubber

*Internally & Externally Epoxy Coated

Specifications Seawater Service Option

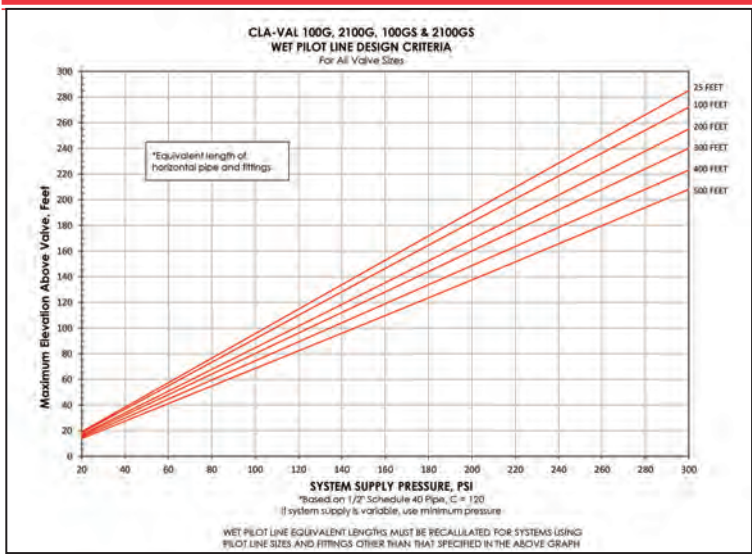
- Sizes** *Globe:* 3" - 12" flanged
Globe: 3" - 8" grooved
Angle: 3" - 12" flanged

Consult factory for materials and flange ratings.

When Ordering, Please Specify

1. Catalog No. 100G or 2100G
2. Size
3. Body and Cover Material
4. Globe or Angle Pattern
5. Pressure Class
6. Internal Trim Material

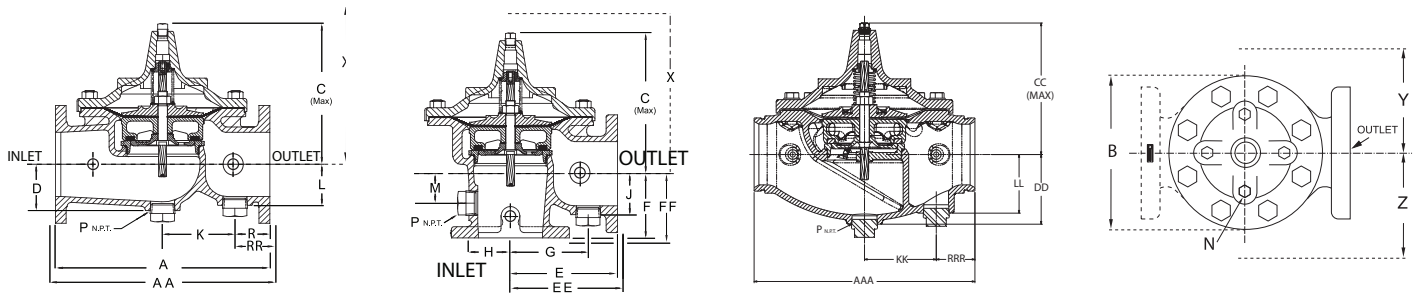
*optional Teflon™ coated seat upon request.



To calculate the maximum wet sprinkler pilot height above the valve, use the graph shown.

Functional Data

Valve Size	Inches	3	4	6	8	10	12	
	mm	80	100	150	200	250	300	
C _v Factor	Globe Pattern	Gal./Min. (gpm)	115	200	440	770	1245	1725
		Litres/Sec. (l/s)	27.6	48	105.6	184.8	299	414
	Angle Pattern	Gal./Min. (gpm)	139	240	541	990	1575	2500*
		Litres/Sec. (l/s)	33.4	58	130	238	378	600



Valve Size (in.)	3	4	6	8	10	12
A 150 ANSI	12.00	15.00	20.00	25.38	29.75	34.00
AA 300 ANSI	13.25	15.62	21.00	26.38	31.12	35.50
AAA Grooved	12.50	15.00	20.00	25.38	--	--
B Dia.	9.12	11.50	15.75	20.00	23.62	28.00
C Max.	8.19	10.62	13.38	16.00	17.12	21.00
CC Max.	7.50	9.94	12.13	15.00	--	--
D	2.56	3.19	4.31	5.16	8.50	9.39
DD	3.62	4.50	6.31	7.81	--	--
E 150 ANSI	7.00	8.50	10.00	12.69	14.88	17.00
EE 300 ANSI	--	8.81	10.50	13.19	--	17.75
F 150 ANSI	4.00	4.97	6.00	8.00	8.62	13.75
FF 300 ANSI	--	5.28	6.50	8.50	--	14.50
G	4.75	5.94	7.25	8.50	10.50	17.00
H	2.69	2.81	3.88	5.31	6.56	7.00
J	2.56	2.81	3.81	4.81	5.81	7.00
K	7.00	4.03	6.75	17.00	15.50	21.00
KK	3.50	4.56	6.50	7.00	--	--
L	2.56	2.81	3.81	4.81	8.50	9.39
LL	3.25	4.00	5.31	7.00	--	--
M	1.75	2.41	2.75	4.00	4.24	8.75
N NPT	1/2 - 14	3/4 - 14	3/4 - 14	1 - 11-1/2	1 - 11-1/2	1 - 11-1/2
P NPT	1-1/4 - 11-1/2		2 - 11-1/2			
R 150 ANSI	2.50	3.47	3.25	4.19	7.12	6.50
RR 300 ANSI	3.12	3.78	3.75	4.69	7.81	7.25
RRR Grooved	2.75	2.94	3.50	5.69	--	--
X Pilot System	15.00	17.00	29.00	31.00	33.00	35.00
Y Pilot System	11.00	12.00	20.00	22.00	24.00	26.00
Z Pilot System	11.00	12.00	20.00	22.00	24.00	26.00

Valve Size (mm)	80	100	150	200	250	300
A 150 ANSI	305	381	508	645	756	864
AA 300 ANSI	337	397	533	670	791	902
AAA Grooved	318	381	508	645	--	--
B Dia.	232	292	400	508	600	711
C Max.	208	270	340	406	435	533
CC Max.	191	252	308	381	--	--
D	65	81	110	131	216	239
DD	92	114	160	198	--	--
E 150 ANSI	178	216	254	322	378	432
EE 300 ANSI	--	224	267	350	--	451
F 150 ANSI	102	126	152	203	219	349
FF 300 ANSI	--	134	165	216	--	368
G	121	151	184	216	267	432
H	68	71	99	135	167	178
J	65	71	97	122	148	178
K	178	102	171	432	394	533
KK	89	116	165	178	--	--
L	65	71	97	122	216	239
LL	83	102	135	178	--	--
M	45	61	70	102	108	222
N NPT	1/2 - 14	3/4 - 14	3/4 - 14	1 - 11-1/2	1 - 11-1/2	1 - 11-1/2
P NPT	1-1/4 - 11-1/2		2 - 11-1/2			
R 150 ANSI	64	88	83	106	181	165
RR 300 ANSI	79	96	95	119	198	184
RRR Grooved	70	75	89	145	--	--
X Pilot System	381	432	737	787	838	889
Y Pilot System	279	305	508	559	610	660
Z Pilot System	279	305	508	559	610	660

50B-4KG1 Globe 2050B-4KG1 Angle

MODEL _____



Fire Protection Pressure Relief Valve



Type Approved

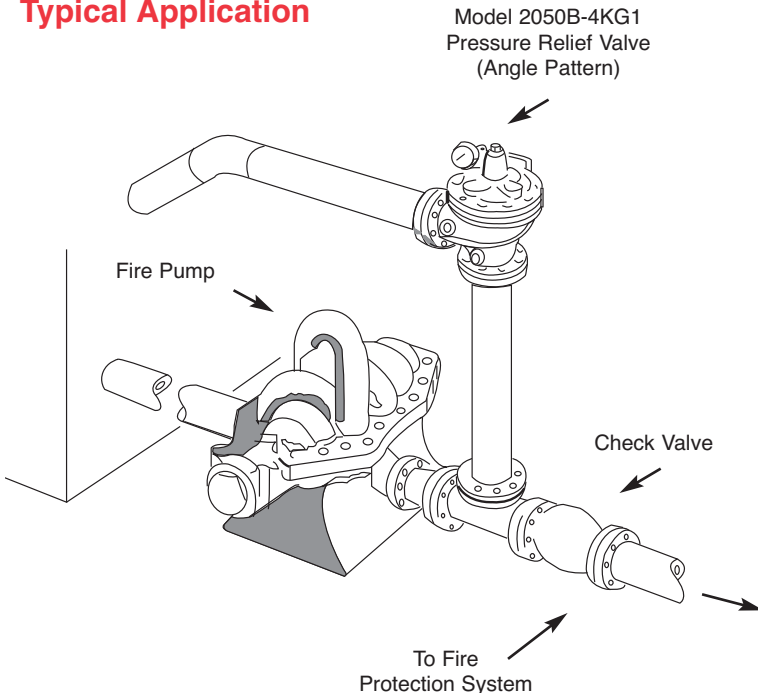


UL Listed.....Sizes 3" thru 8"
FM Approved.....Sizes 3" thru 8"
ULC Listed.....Sizes 2" thru 10"

- **UL Listed / ULC Listed**
- **Factory Mutual Approved**
- **Fast Opening to Maintain Steady Line Pressure**
- **Accommodates Wide Range of Flow Rates**
- **Closes Gradually for Surge-Free Operation**
- **Adjustable Pressure Settings, Not Affected by Pressure At Valve Discharge**

The Cla-Val Model 50B-4KG1 Globe / 2050B-4KG1 Angle Pressure Relief Valve is designed specifically to automatically relieve excess pressure in fire protection pumping systems. Pilot controlled, it maintains constant system pressure at the pump discharge within very close limits as demands change. The 50B-4KG1 and 2050B-4KG1 can be supplied with optional internal and external epoxy coating of the main valve wetted surfaces.

Typical Application



Operation Sequence

At pump start, Cla-Val Relief Valve modulates to relieve excess pump capacity, maintaining positive system pressure at the pump discharge.

When fire demand slows or ceases, Cla-Val Model 50B-4KG1 opens, diverting entire pump output to discharge, allowing fire pump to be stopped without causing surging in the lines.

(Please note that if the Model 50B-4KG1 is to be used on a continuous duty basis to maintain fire-system pressure, suitable back pressure must be provided on the valve to prevent cavitation damage. Consult the factory for details.)

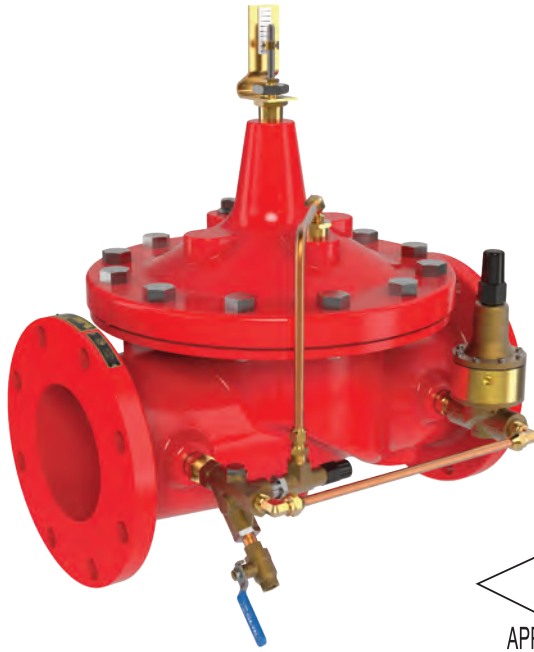
Optional UL Listed Materials for Seawater and Severe Service Applications:

- Nickel Aluminum Bronze (NAB) - ASTM B148 Alloy C95800
- Monel - QQ-N-288 Comp B - ASTM A494 Grade M30H
- Cast Steel - ASTM A216 Grade WCB
- 316 Stainless Steel - ASTM A743 Grades CF3M and CFM8
- Super Austenitic Stainless Steel - ASTM A351 Grade CK3MCuN (SMO 254)
- Super Duplex Stainless Steel - ASTM A890 Grade 5A (CE3MN)



— MODEL — **50B-5KG**

Pump Suction Control Valve



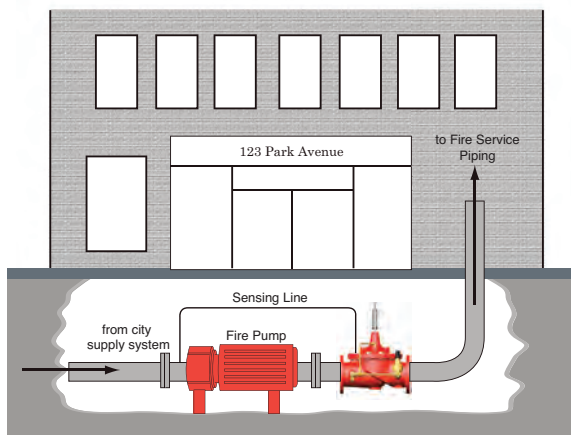
- Adjustable Opening Speed For Pump Suction Protection
- Pilot Control Provides Wide Flow Range With Minimal Pressure Variations
- Controlled Closing For System Protection
- Modulates Within 5% of Setting for Accurate Pressure Control
- Pressure Setting Adjustable
- Pressure Setting Not Affected by Pressure at Valve Discharge

The Model 50B-5KG Pump Suction Control Valve is designed specifically for Fire Pump Suction Control Service. It modulates to maintain the pump discharge in relation to the suction head available, thus assuring that the suction head pressure does not fall below the pre-set minimum. The 50B-5KG can be supplied with optional internal and external epoxy coating of the main valve wetted surfaces.

Typical Installation

When there is a demand in the Fire System, the pump is started, delivering water from the supply source to the area of demand. To assure that the fire pump draw does not exceed the available water supply, the Model 50B-5KG, sensing the pump suction, modulates to prevent suction pressure from dropping below a pre-set minimum.

By maintaining minimum pressure requirements in the supply main, the main is protected from possible damage or backflow conditions. Also, a minimum supply pressure is provided for local fire apparatus.



Specifications

Sizes *Globe:* 3" - 8" flanged
Angle: 3" - 8" flanged

End Details 150 and 300 ANSI B16.42

Pressure Ratings 150 class - 250 psi Max.
300 class - 400 psi Max

Temperature Range Water, to +180°F Max.

Materials **Main valve body & cover**
Ductile Iron ASTM A-536

Main valve trim:
Brass QQ-B-626
Bronze Seat ASTM B61
Stainless Steel Stem 303
Delrin Sleeved

Pilot control system:
Cast Bronze UNS 87850 with
303 Stainless Steel trim

Adjustment Range Available in the following pressure range only:
5 to 25 psi
Set at 10 psi

85-09-1

(Full Internal Port)

MODEL _____

685-09-1

(Reduced Internal Port)



AUTOMATIC BREACH CONTROL VALVE



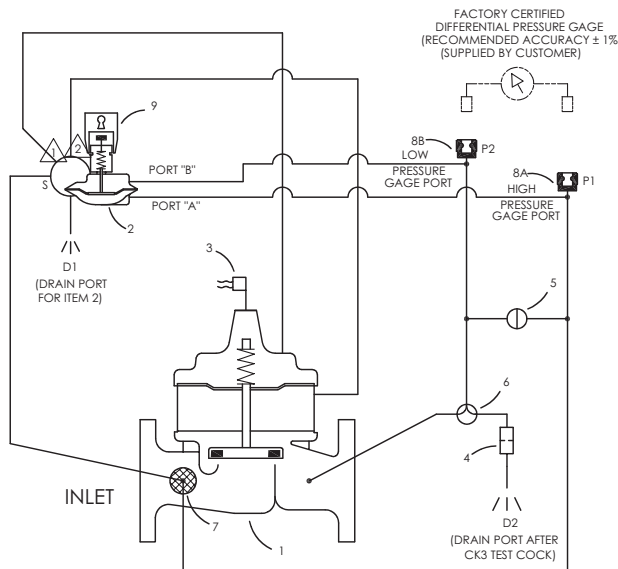
- Simple Proven Design
- Non-Surge Operation
- Drip-Tight Shut-Off
- No Packing Glands or Stuffing Boxes
- Static System Operational Testing
- Available in a Variety of Materials

The Cla-Val Model 85-09-1/685-09-1 Automatic Breach Containment Valve (ABCV) will isolate portions of distribution piping when catastrophic downstream breach occurs. The ABCV is designed for protecting commercial building water distribution systems, such as fire protection, potable water service, or chill water circulation. Strategically located to isolate portions of water systems, the ABCV prevents significant water losses and resultant damage, and allows limited continued service when distribution systems are damaged or out of service.

During normal conditions the ABCV is fully open allowing normal water flows. When excessive flows occur due to pipe damage or breach, the ABCV closes drip-tight, isolating the breached downstream portion of system. When the ABCV is closed, normal water flow occurs through remaining upstream distribution piping. Once closed, the ABCV will automatically re-open when downstream pressure is restored.

The Cla-Val Model 85-09-1/685-09-1 Automatic Breach Containment Valve is a pilot controlled, hydraulically-operated, diaphragm-actuated, globe pattern valve. The valve consists of a Powertrol main valve and a pre-installed pilot control system. Using line fluid as operating medium, the ABCV is completely self-contained, requiring no additional power to operate. The Powertrol can be supplied with optional fusion bonded epoxy coating for longer service life and lower maintenance costs.

The custom pilot control senses pressure differential across valve, and is factory-preset to shift at differential corresponding to specified breach flow. The control smoothly closes Powertrol hydraulically. The pilot control has locking cap to protect calibrated settings. Supplied valve position electric switch assembly provides remote confirmation or alarm signal that ABCV is fully closed. Two quick-connect ports allow verification of differential pressure setting and conducting operational ABCV testing when water system is static. Test Kit consisting of differential gauge and hose connections is available option. The ABCV operates most efficiently when installed in horizontal pipe with Powertrol cover and internal-stem oriented vertically up.



Schematic Diagram

Item	Description
1	100-02 Powertrol (Main Valve)
2	CDH4-A3 Differential Control
3	X105L Limit Switch
4	X58C Restriction
5	CK2 Isolation Valve Manual Reset
6	CK3 (Isolation Valve) DP Test
7	X46A Flow Clean Strainer
8	QD Socket, Gage Connection
9	X140 Locking Security Cap



MODELS 90G-21 and 90G-21P 90A-21 and 90A-21P

Fire Protection Pressure Reducing Valves



90-21P UL Listed Fire Protection Pressure Reducing Valve with Gauges



90-21 UL Listed Grooved End Fire Protection Pressure Reducing Valve



MEA Approved



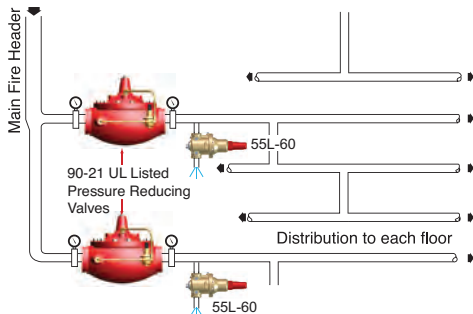
Special System Water Control Valves – Class II
UL Product Category VLMT – File No. Ex 2534

- U.L. Listed, ULC Listed, MEA Approved
- Globe or Angle Pattern
- Proven Reliable Design
- Available in Cast Bronze, Ductile Iron and Cast Steel
- Accurate Pressure Control
- In Line Service
- Grooved Ends (1 1/2" - 8")

Cla-Val 90-21 and 90-21P Pressure Reducing Valves are indispensable in any fire protection system. Available in globe (90G-21/90G-21P) and angle patterns (90A-21 and 90A-21P), our diaphragm actuated design is proven to be highly reliable and easy to maintain. Globe and angle pattern valves feature a full range of adjustments. These valves are also available in a variety of material options. Epoxy coating is strongly recommended for all fire system valves (excluding bronze valves). All configurations of the valve can be supplied with optional internal and external epoxy coating of the main valve wetted surfaces.

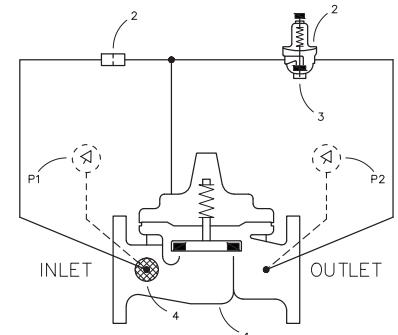
Function

Cla-Val 90G-21 (globe) and 90A-21 (angle) Pressure Reducing Valves automatically reduce a higher inlet pressure to a steady lower outlet pressure regardless of changing flow rate and/or varying inlet pressure. The valves pilot control system is very sensitive to slight downstream pressure fluctuations, and will automatically open or close to maintain the desired pressure setting. The downstream pressure can be set over a wide range by turning the adjustment screw on the CRD pilot control. The adjustment screw is protected by a screw-on cover, which can be sealed to discourage tampering.



Schematic Diagram

- | Item | Description |
|------|--|
| 1 | 100KX Hytrol Main Valve |
| 2 | X58C Restriction Assembly |
| 3 | CRD Pressure Reducing Control (see note) |
| 4 | X46A Flow Clean Strainer |
| P | Gauge Option |



Note:

For Steel and Ductile Iron 300 Class Valves, use CRDKX with a special diaphragm washer, yoke and screws (30- 165)

Typical Application

Underwriters Laboratories requires the installation of pressure gauges upstream and downstream of the Pressure Reducing Valve.

A relief valve of not less than 1/2 inch in size must also be installed on the downstream side of the pressure control valve. Adequate drainage for the relief valve discharge must be provided.

The valve must be installed in either vertical or horizontal positions.

UL / ULC Listings

Size	Ductile Iron 150# Flanged	Ductile Iron 300# Screwed	Ductile Iron 300 # Flanged	Bronze 300# Threaded	Bronze 150# Flanged	Bronze 300# Flanged	Cast Steel 300# Flanged & Grooved End	Globe Pattern Ductile Iron Grooved End	Angle Pattern Ductile Iron Grooved End
1 1/2"	UL / ULC	UL / ULC	UL / ULC	UL / ULC			UL / ULC	UL / ULC	
2"	UL / ULC	UL / ULC	UL / ULC	UL / ULC	ULC	ULC	UL / ULC	UL / ULC	UL / ULC
2 1/2"	UL / ULC	UL / ULC	UL / ULC	UL / ULC	ULC	ULC	UL / ULC	UL	
3"	UL / ULC	UL / ULC	UL / ULC	UL / ULC	ULC	ULC	UL / ULC	UL / ULC	UL / ULC
4"	UL / ULC		UL / ULC	UL / ULC	ULC	ULC	UL / ULC	UL / ULC	UL / ULC
6"	UL / ULC		UL / ULC	UL / ULC			UL / ULC	UL / ULC	UL / ULC
8"	UL / ULC		UL / ULC	UL / ULC				UL / ULC	
10"	ULC		ULC	ULC					



— MODEL — **134-05**

Solenoid Operated Deluge Valve



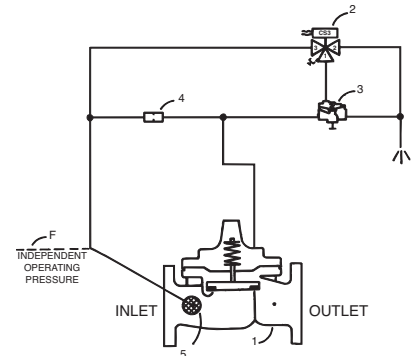
- **UL Listed / ULC Listed Main Valves - 3 - 12 inch sizes***
- **Fast Acting Solenoid Control**
- **Reliable Drip Tight Shut-off**
- **Simple Design, Proven Reliable**
- **Easy Installation & Maintenance**

The Cla-Val Model 134-05 Solenoid Control Valve is an on-off control valve which either opens or closes upon receiving an electrical signal to the solenoid pilot control. This valve consists of a 100G/2100G UL/ULC Listed Hytrol Main Valve, a three-way solenoid valve and an auxiliary pilot valve. This pilot control system alternately applies pressure to/or relieves pressure from the diaphragm chamber of the main valve. It is furnished either normally open (de-energize solenoid to open) or normally closed (energize solenoid to open).

Note: For seawater applications use 100GS/2100GS main valve

Schematic Diagram

Item	Description
1	100G/2100G UL/ULC Listed Hytrol Main Valve
2	CS3 Solenoid Control
3	100-01 Hytrol Pilot Valve
4	X58C Restriction Orifice
5	X46A Flow Clean Strainer



Specifications

SIZES Globe: 3" - 12" flanged
 Globe: 3" - 8" grooved
 Angle: 3" - 12" flanged

END DETAILS Ductile Iron 150 ANSI B16.42 flanged
 Ductile Iron 300 grooved
 Cast Steel 150 ANSI B16.5 flanged

PRESSURE RATINGS

150 class, 250 psi maximum (Ductile Iron)
 150 class, 285 psi maximum (All other materials)
 300 class, 300 psi maximum (All materials)

TEMPERATURE RANGE Water: to 180° F. Max

Functional Data

Valve Size	Inches	3	4	6	8	10	12	
	mm	80	100	150	200	250	300	
C _v Factor	Globe Pattern	Gal./Min. (gpm)	115	200	440	770	1245	1725
		Litres/Sec. (l/s)	27.6	48	105.6	184.8	299	414
C _v Factor	Angle Pattern	Gal./Min. (gpm)	139	240	541	990	1575	2500*
		Litres/Sec. (l/s)	33.4	58	130	238	378	600

Materials

Main valve body & cover:

Ductile Iron ASTM A-536*
 Cast Steel ASTM A216-WCB*
 Naval Bronze ASTM B61
 Nickel Aluminum Bronze ASTM B148
 Super Duplex Stainless Steel
 Stainless Steel ASTM A743-CF-8M

Main valve trim:

Bronze / Stainless Steel

Pilot control system:

Cast Bronze ASTM B62
 UL /ULC Listed 3" - 12"

Cover Capacity

Valve Size	Displacement
3"	.080 gal
4"	.169 gal
6"	.531 gal
8"	1.26 gal
10"	2.51 gal
12"	4.00 gal



— MODEL — **Series 403**

Pneumatically Operated Remote Control Valve
For Freshwater and Seawater Service



403G-11A

- **Single Seat with Resilient Disc Insures Tight Seal**
- **Simply Designed with Few Working Parts**
- **Quick Response to Remote Control**
- **Fully Supported Frictionless Diaphragm**
- **Leak-proof Service Assured – No Packing Glands**
- **Single Tube Line Required for Control**
- **Opens Wide for Minimum Flow Resistance**

The Cla-Val 403 Series Remote Control Valve is used where “on-off” control is required. Pressure signals from a remote control “open or close” a small auxiliary valve installed on the main valve cover, which in turn opens or closes the main valve. Only the small amount of fluid in the auxiliary valve cover must pass through the remote control pilot in order to fully open or close the larger main valve.

The Model 403 Series consists of a 100-01 Hytrol main valve and a small Hytrol auxiliary valve. Both the main valve and the auxiliary valve are single-seated, diaphragm operated globe type valves. Line pressure applied to the auxiliary valve cover closes the main valve drip tight.

For Seawater Service use 100S/2100S or 100GS/2100GS Main Valve

Specifications

Sizes	Globe: 1 1/2" - 24" flanged Angle: 1 1/2" - 16" flanged
End Details	125 and 250 ANSI B16.1
Pressure Ratings	150 class - 250 psi Max. 300 class - 400 psi Max.
Temperature Range	Water: to 180° F. Max.

Materials

Main valve body & cover:	Ductile Iron ASTM A-536*
	Cast Steel ASTM A216-WCB*
	Naval Bronze ASTM B-61
	Nickel Aluminum Bronze ASTM B148
	Super Duplex Stainless Steel
	Stainless Steel ASTM A743-CF-8M

Main valve trim:

	Bronze ASTM B61
	Monel
	Stainless Steel 316

Pilot control system:

	Cast bronze ASTM B61 with monel trim
	Stainless Steel 316 Tubing & Fitting

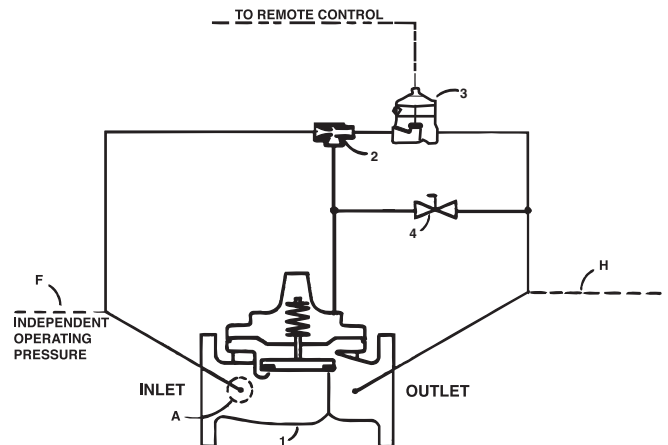
***Internally & Externally Epoxy Coated**

Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	X47A Ejector
3	100-02 Powertrol
4	CK2 Ball Valve

Optional Features

Item	Description
A	X46A Flow Clean Strainer
F	Independent Operating Pressure
H	Drain to Atmosphere





— MODEL — **834-05**

800 Series (Tubular Diaphragm Valve)

Fire Deluge Valve



- Low Head Loss
- Cast Steel Construction
- Stainless Steel Pilot and Tubing
- Stainless Steel Solenoid
- Anti-Cavitation Design
- Fusion Coated Epoxy Inside and Out
- Nickel Aluminum Bronze Construction Option (Alloy C95800)
- Duplex Stainless Steel Construction Option (Alloy 2205)
- Low Maintenance
- Simple and Reliable Operation
- 1-Year Warranty

The Cla-Val 834-05 Deluge Valve is a pressure-operated, in-line axial valve. A tube diaphragm actuates the valve, which is comprised of three major components: 1) Tube 2) Barrier and 3) Body. There is only one moving part in the valve - the tube diaphragm. There are no shafts, packing, stem guides or springs.

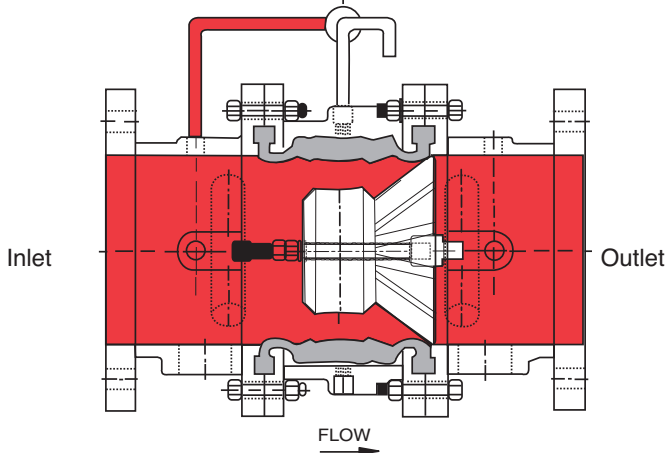
The tube diaphragm is a one piece, homogeneous nitrile rubber part which is extremely durable. The ends of the tube are thick solid rubber, designed to fit between mating flanges. This design eliminates the possibility of cutting the tube diaphragm due to over tightening or piping misalignment during installation.

The tube forms a drip tight seal around the barrier when the pressure is equalized between the valve inlet and the control chamber. When pressure is removed from the control chamber, the valve is open. The minimum recommended operating pressure is 40 P.S.I. of inlet pressure.

Principle of Operation

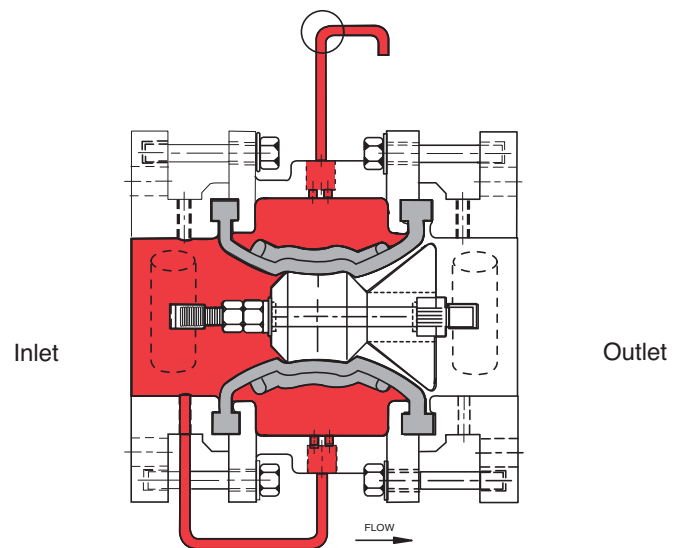
Control Options

- Electric Operation
- Pneumatic Operation
- Hydraulic Operation
- Manual Operation



Full Open Operation

When pressure in control chamber is relieved, the valve is open.



Tight Closing Operation

Water pressure from valve inlet is applied to the control chamber. Valve closes bubble tight.



— MODEL — **850B-4**

800 Series (Tubular Diaphragm Valve)

Fire Relief Valve



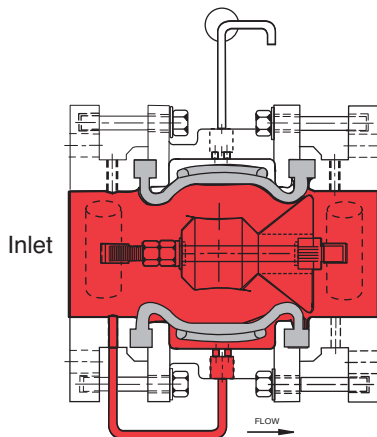
- Low Head Loss
- One Spring for all Pressure Ranges between 30 and 200 PSIG
- Cast Steel Construction
- Pressure Excursions Do Not Exceed 3% of Set Pressure
- Fusion Coated Epoxy Inside and Out
- Anti-Cavitation Design
- Nickel Aluminum Bronze Construction Option (Alloy C95800)
- Duplex Stainless Steel Construction Option (Alloy 2205)
- Low Maintenance
- Simple and Reliable Operation
- 1-Year Warranty

The Cla-Val Model 850B-4 Fire Relief Valve is a pressure-operated, in-line axial valve. A tube diaphragm actuates the valve, which is comprised of three major components: 1) Tube 2) Barrier and 3) Body. There is only one moving part in the valve — the tube diaphragm. There are no shafts, packing, stem guides or springs.

The tube diaphragm is a one piece, homogeneous nitrile rubber part which is extremely durable. The ends of the tube are thick solid rubber, designed to fit between mating flanges. This design eliminates the possibility of cutting the tube diaphragm due to over tightening or piping misalignment during installation.

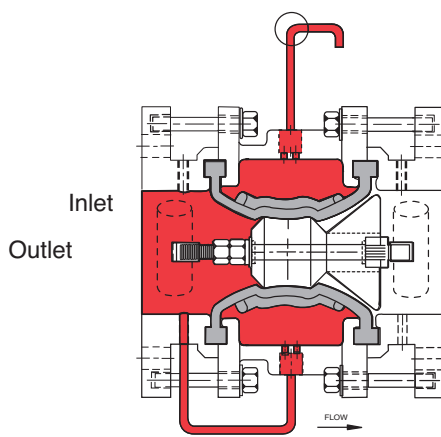
The tube forms a drip tight seal around the barrier when the pressure is equalized between the valve inlet and the control chamber. When pressure is removed from the control chamber, the valve is open. The minimum recommended operating pressure is 40 P.S.I. of inlet pressure.

Principle of Operation



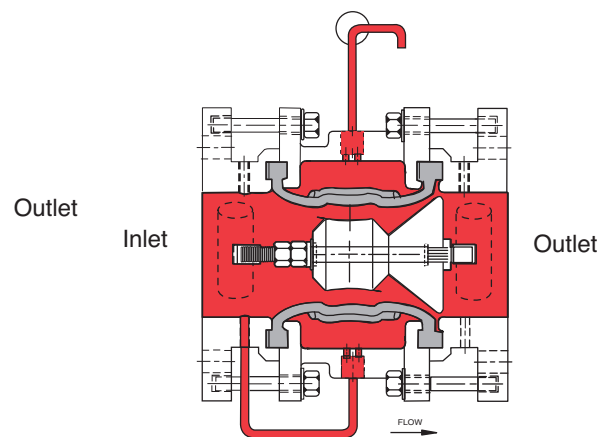
Full Open Operation

The valve opens when pilot set pressure is reached and pressure in the control chamber is relieved.



Tight Closing Operation

Water pressure (equal to inlet pressure) from valve inlet or from upstream of valve is applied to the control chamber. Valve closes bubble tight.



Modulating Action

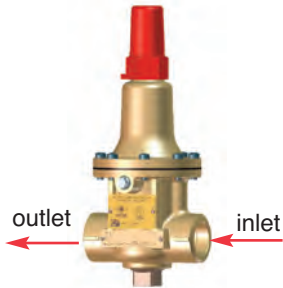
The valve tube diaphragm holds any intermediate position when a quantity of water is exhausted from the control chamber via the pilot. The quantity of water in the control chamber is established by the “set pressure” of the pilot. The control chamber is filled or exhausted to atmosphere, maintaining “set pressure.”



— MODEL — **55L-60**

Pressure Relief Valve/ Pump Casing Relief Valve

1/2" and 3/4" Globe Configuration

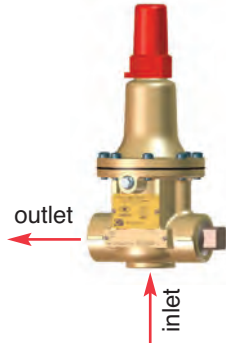


0-75 psi
20-200 psi

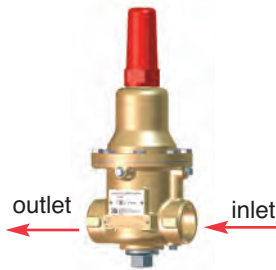


100-300 psi

1/2", 3/4" and 1" Angle Configuration



1" Size
20-75 psi
40-200 psi
100-300 psi



more materials available

- Available sizes 1/2", 3/4" and 1"
- UL Listed/FM Approved for use as a Fire Pump Casing Relief Valve
- Direct Acting - Precise Pressure Control
- Drip Tight Closure
- No Packing Glands or Stuffing Boxes
- Globe or Angle configurations available
- Sensitive to Small Pressure Variations
- Meets low lead requirements
- Available in Cast Bronze, 316 Stainless Steel, Monel & Super Duplex Stainless Steel

The Cla-Val Model 55L-60 (UL Listed, FM Approved) 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.

The Model 55L-60 is normally held closed by the force of the compression spring above the diaphragm. When the controlling pressure applied under the diaphragm exceeds the spring setting, the disc is lifted off its seat, permitting flow through the control. When control pressure drops below the spring setting, the spring forces the control back to its normally closed position. The controlling pressure is applied to the chamber beneath the diaphragm through an internal passage. A gauge port is provided for accurate pressure setting.

Pressure adjustment is done by turning the adjusting screw to vary the spring load on the diaphragm. The 55L-60 is available in pressure ranges suited to agency approval tests. To prevent tampering, the adjustment cap can be wire sealed by using the lock wire holes provided in the cap and cover.



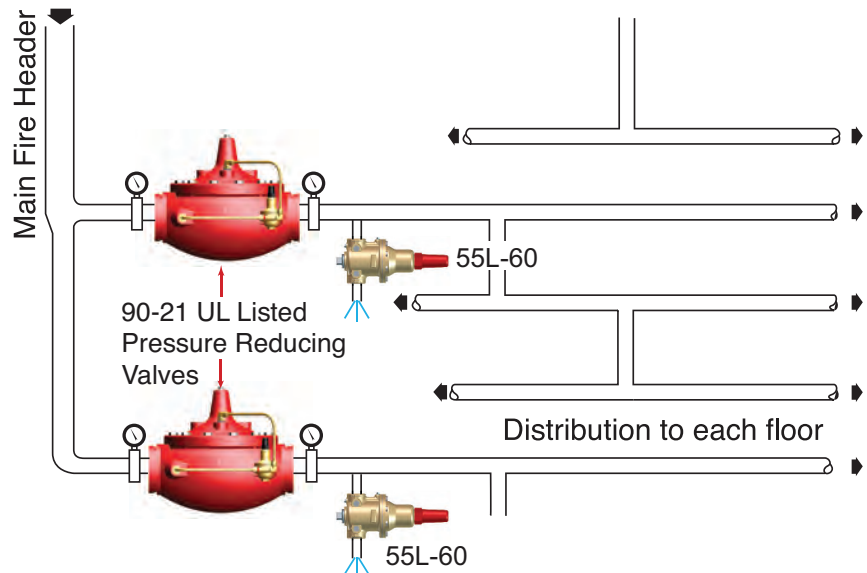
Fire Protection System Service

The **Model 55L-60** is typically used in a fire protection system to trim water pressure, thus preventing pressure build-up whenever line pressure exceeds the setting of the spring.

The 55L-60 will relieve excess pressure to atmosphere to prevent damage to the distribution network.

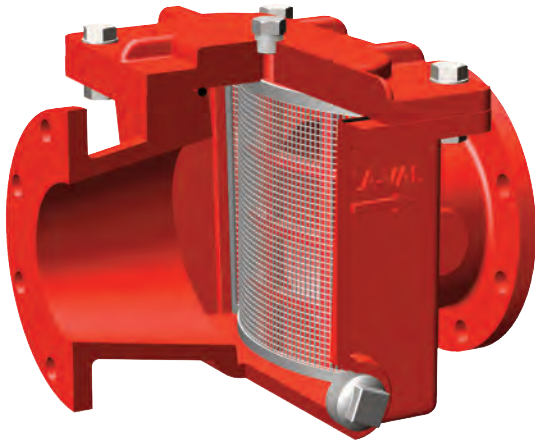
NOTE: Model 55L-60 is not suitable for discharging the full-rated pump capacity of a fire pump. See Model 50B-4KG1 Fire Pump Relief Valve for such applications.

Typical Application for Fresh Water or Seawater Service



X43HL — MODEL —

X43HL Strainer

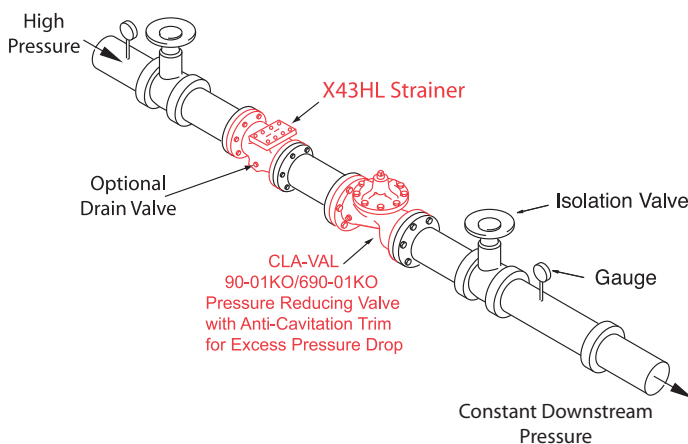


Now available up to
48-inches/1200 mm

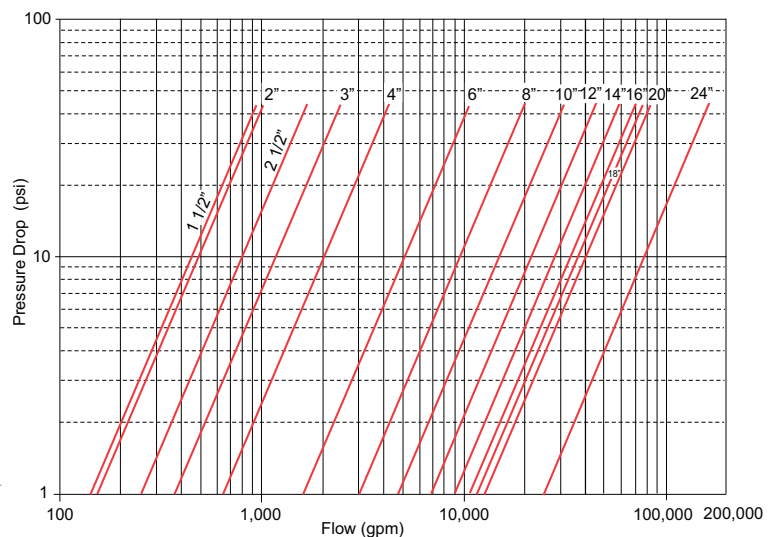
- Low Pressure Drop
- Ductile Iron Fusion Bonded Epoxy Coated construction with a 316 Stainless Steel Strainer
- Also available: Nickel Aluminum Bronze Construction with a Titanium Strainer
- Large Flow Area H-Style Design
- Service Without Removal From Line

The durable Cla-Val Model X43HL Strainer is the easiest and most cost effective way to protect piping and equipment from damage caused by pipeline debris. Its large flow area and durable materials of construction means it can withstand the harsh conditions often encountered in refinery and offshore applications. The body port allows for installation of a manual flush valve to clear small amounts of debris from the strainer without removing the cover. For more thorough cleaning, the top cover can easily be removed without taking strainer out of the pipeline. The strainer may be installed in any position, however, installation with cover up is recommended

Model X43HL Strainer Typical Application



Model X43HL Flow Chart



Please consult factory to confirm flow data
for 36-inch/900 mm and 48-inch/1200 mm strainers

C_v Factor

Strainer Size (inches)	1 ½	2	2 ½	3	4	6	8	10	12	14	16	18	20	24
C _v (Gal/Min. - gpm.)	96	150	254	367	654	1644	3922	4566	6800	8949	11692	12796	18264	26302
C _v (Litres/Sec - l/s.)	23	36	61	85	157	395	702	1097	1580	2150	2809	3555	4388	6319

C_v in gpm = gpm @ 1psid head loss • C_v in l/s = l/s @ 1bar head loss