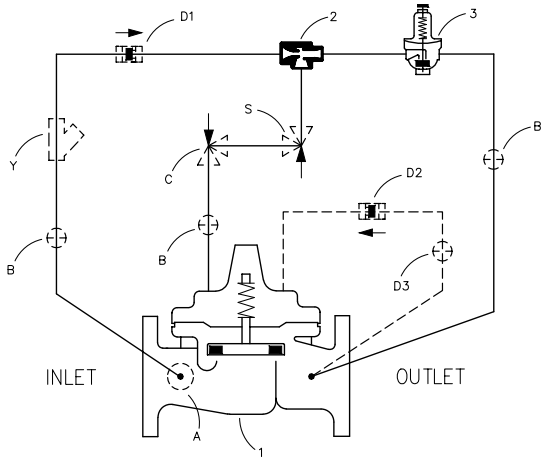
Model 90-66
PRESSURE REDUCING VALVE



- Sensitive and Accurate Pressure Control
- Easy Adjustment and Maintenance
- Optional Check Feature
- Fully Supported Frictionless Diaphragm
- Meets National Lead Reduction Mandate

The Cla-Val Model 90-66 Pressure Reducing Valve automatically reduces a higher inlet pressure to a steady lower downstream pressure, regardless of changing flow rate and/or varying inlet pressure. This valve is an accurate, pilot-operated regulator capable of holding downstream pressure to a pre-determined limit. When downstream pressure exceeds the pressure setting of the control pilot, the main valve and pilot valve close drip-tight. If a check feature is added, and a pressure reversal occurs, the downstream pressure is admitted into the main valve cover chamber, closing the valve to prevent return flow.

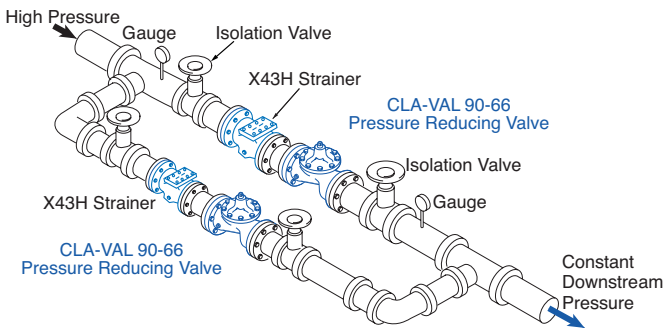
Schematic Diagram	
Item	**Description**
1	100-01 Hytrol Main Valve
2	X50A Ejector
3	CRD-L Pressure Reducing Valve

Optional Features	
Item	**Description**
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
C	CV Flow Control (Closing)*
D	Check Valves with Isolation Valve
P	X141 Pressure Gauge
S	CV Flow Control (Opening)
V	X101D Valve Position Indicator
Y	X43 "Y" Strainer

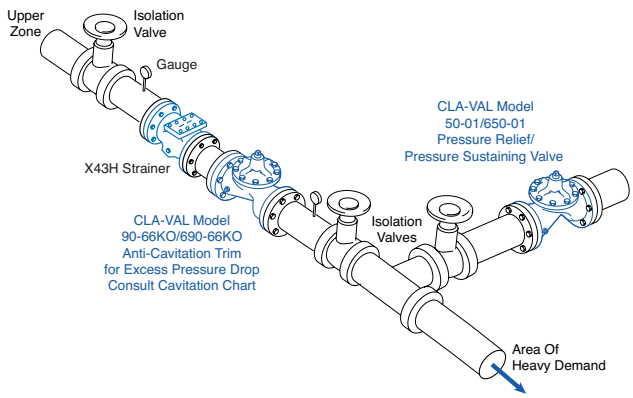
***The closing speed control (optional) on this valve should always be open at least three (3) turns off its seat.**

Typical Applications

Typical applications include pressure reducing valve station using Model 90-66 and Model 90-66 in parallel to handle wide range of flow rates. Larger Model 90-66 valve meets requirements of peak loads and smaller Model 90-66 handles low flows. A downstream pressure relief valve is also recommended for this type of application.



Cla-Val Model 90-66KO Pressure Reducing Valve with Anti-Cavitation Trim provides for optimum downstream pressure control while reducing noise and eliminating damage associated with cavitation. See Cavitation Guide to determine if the valve is a candidate for the KO Anti-Cavitation Trim. A downstream pressure relief valve is recommended for this type of application.



Model 90-66 (Uses 100-01 Hytrol Main Valve)

Recommended Maximum Pressure - psi

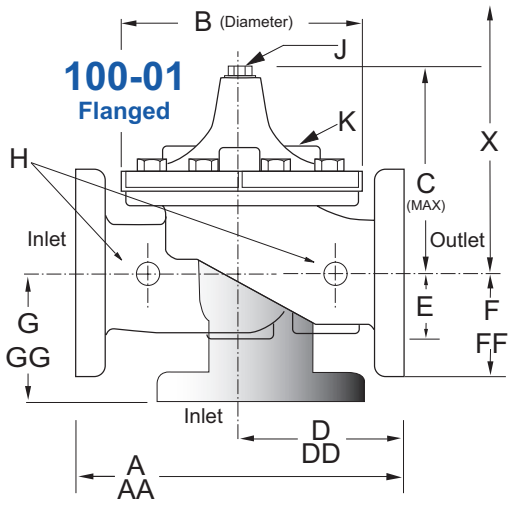
Pressure Ratings

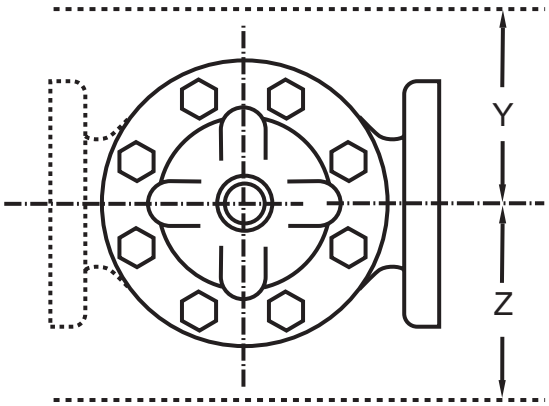
Valve Body & Cover		Pressure Class		
		Flanged		
Grade	Material	ANSI Standards*	150 Class	300 Class
ASTM A536	Ductile Iron	B16.42	250	400

Note:
* ANSI standards are for flange dimensions only.
Flanged valves are available faced but not drilled.
Valves for higher pressure are available; consult factory for details

Materials

Component	Standard Material Combinations
Body & Cover	Ductile Iron
Available Sizes	1" - 36" 25 - 900 mm
Disc Retainer & Diaphragm Washer	Cast Iron
Trim: Disc Guide, Seat & Cover Bearing	Bronze is Standard Stainless Steel is Optional
Disc	Buna-N® Rubber
Diaphragm	Nylon Reinforced Buna-N® Rubber
Stem, Nut & Spring	Stainless Steel
For material options not listed, consult factory. Cla-Val manufactures valves in more than 50 different alloys.	





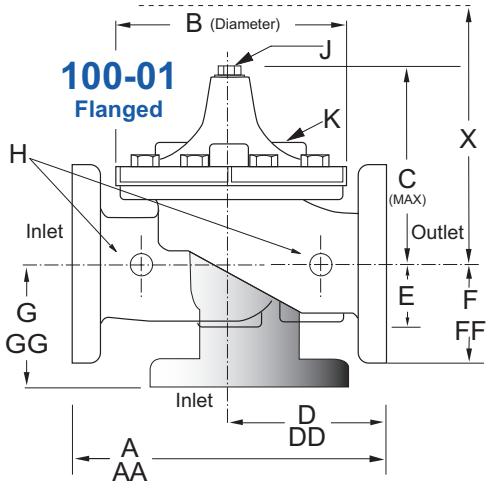
In Inches - For larger sizes, consult Factory

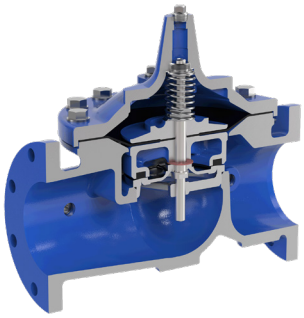
Model 90-66 Dimensions

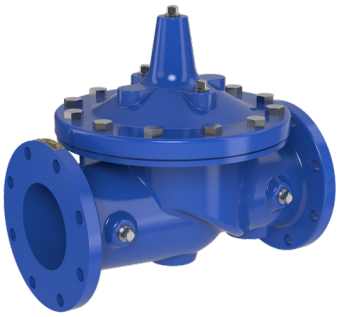
Valve Size (Inches)	**18**	**20**	**24**	**30**	**36**
A 150 ANSI	46.00	52.00	61.50	63.00	72.75
AA 300 ANSI	47.64	53.62	63.24	64.50	74.75
B Diameter	41.50	45.00	53.16	56.00	66.00
C Maximum	39.06	41.90	43.93	54.60	59.00
D 150 ANSI	—	—	30.75	—	—
DD 300 ANSI	—	—	31.62	—	—
E	12.95	15.00	17.75	21.31	24.56
F 150 ANSI	15.00	16.50	19.25	22.50	28.50
FF 300 ANSI	15.00	16.50	19.25	24.00	30.00
G 150 ANSI	—	—	22.06	—	—
GG 300 ANSI	—	—	22.90	—	—
H NPT Body Tapping	1.00	1.00	1.00	2.00	2.00
J NPT Cover Center Plug	1.00	1.00	1.00	2.00	2.00
K NPT Cover Tapping	1.00	1.00	1.00	2.00	2.00
Stem Travel	5.10	5.63	6.75	7.50	8.50
Approx. Ship Weight (lbs)	2982	3900	6200	7703	11720
Approx. **X** Pilot System	50	54	68	79	85
Approx. **Y** Pilot System	32	34	39	46	48
Approx. **Z** Pilot System	32	34	39	46	48

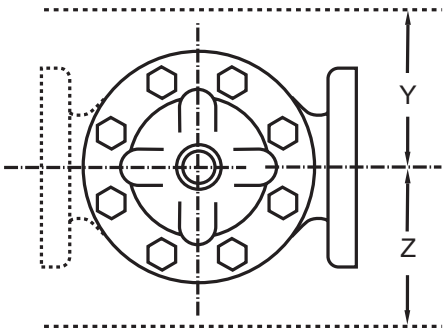
Model 90-66 Metric Dimensions (Uses 100-01 Hytrol Main Valve)

Model 100-01 Full Port Hytrol Main Valve









Other 90 Series Products

- 90-01KO - Model 90-01 supplied with KO Anti-Cavitation Trim
- 90-01H - Model 90-01 supplied with X43H Strainer
- 90-01KOH - Model 90-01 supplied with KO Trim & X43H Strainer
- 690-01 - Reduced Port Pressure Reducing Valve
- 690-01KO - Reduced Port Pressure Reducing Valve with KO Trim
- 690-01H - Reduced Port Pressure Reducing Valve with X43H Strainer
- 690-01KOH - Reduced Port Pressure Reducing Valve with KO Trim and X43H Strainer

In mm - For larger sizes, consult Factory

Model 90-66 Dimensions

Valve Size (mm)	**450**	**500**	**600**	**750**	**900**
A 150 ANSI	1168	1321	1562	1600	1848
AA 300 ANSI	1210	1326	1606	1638	1899
B Diameter	1054	1143	1350	1422	1676
C Maximum	992	1064	1116	1387	1499
D 150 ANSI	—	—	781	—	—
DD 300 ANSI	—	—	803	—	—
E	329	381	451	541	624
F 150 ANSI	381	419	489	572	724
FF 300 ANSI	381	419	489	610	762
G 150 ANSI	—	—	560	—	—
GG 300 ANSI	—	—	582	—	—
H NPT Body Tapping	1.00	1.00	1.00	2.00	2.00
J NPT Cover Center Plug	1.00	1.00	1.00	2.00	2.00
K NPT Cover Tapping	1.00	1.00	1.00	2.00	2.00
Stem Travel	130	143	171	190	216
Approx. Ship Weight (kgs)	1353	1769	2812	3494	5316
Approx. **X** Pilot System	1270	1372	1728	2007	2159
Approx. **Y** Pilot System	813	864	991	1168	1219
Approx. **Z** Pilot System	813	864	991	1168	1219

90-66 Valve Selection	100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes					
	Inches	18	20	24	30	36
	mm	450	500	600	750	900
Main Valve 100-01	Pattern	G	G	G, A	G	G
	End Detail	F	F	F	F	F
Suggested Flow (gpm)	Maximum	14000	17000	25000	42000	50000
	Maximum Intermittent	17500	21700	31300	48000	62500
	Minimum	120	150	572	450	650
Suggested Flow (Liters/Sec)	Maximum	883	1073	1577	2650	3150
	Maximum Intermittent	1104	1369	1972	3028	3940
	Minimum	7.6	9.5	17.4	28.4	41.0
100-01 Series is the full internal port Hytrol.						For Lower Flows Consult Factory

Notes:
- Many factors should be considered in sizing pressure reducing valves including inlet pressure, outlet pressure and flow rates.
- For sizing questions or cavitation analysis, consult Cla-Val with system details.

Pilot System Specifications

CRD-L (Bypass)

Adjustment Ranges

1/2", 3/4", & 1"	1-1/4" & 1-1/2"	2"	2-1/2"
25-100	25-100	30-95	30-95
80-150	75-160	75-200	75-200
125-250	--	--	--

***Supplied unless otherwise specified Other ranges available, please consult factory**

Temperature
Water: to 180° F /82° C

***Consult factory for hot water applications.**

Materials

Standard Pilot System Materials
Pilot Control: Low Lead Bronze
Trim: Stainless Steel Type 303
Rubber: Buna-N® Synthetic Rubber

Optional Pilot System Materials
Pilot Systems are available with optional Stainless Steel or Monel materials.

Note: Available with remote sensing control.

Main Valve Options

EPDM Rubber Parts
Optional diaphragm, disc and o-ring fabricated with EPDM synthetic rubber

Viton® Rubber Parts - suffix KB
Optional diaphragm, disc and o-ring fabricated with Viton® synthetic rubber

Epoxy Coating - suffix KC
NSF/ANSI 61 Fusion Bonded Epoxy

Dura-Kleen® Stem - suffix KD
Fluted design prevents dissolved minerals build-up on the stem

LFS Trim
Designed to regulate precisely and smoothly at typical flow rates as well as lower than the industry standard of 1 fps, without decreasing the valve's capacity

Valve Options

Model X141
Pressure Gauge

Model X101AR
Valve Position Indicator with Air Release

Model X101D
Valve Position Indicator

Model X43H
Strainer

Stainless Steel Pilot

When Ordering, Please Specify

1. Catalog No. 90-66
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Flange
6. Trim Material
7. Adjustment Range
8. Desired Options
9. When Vertically Installed