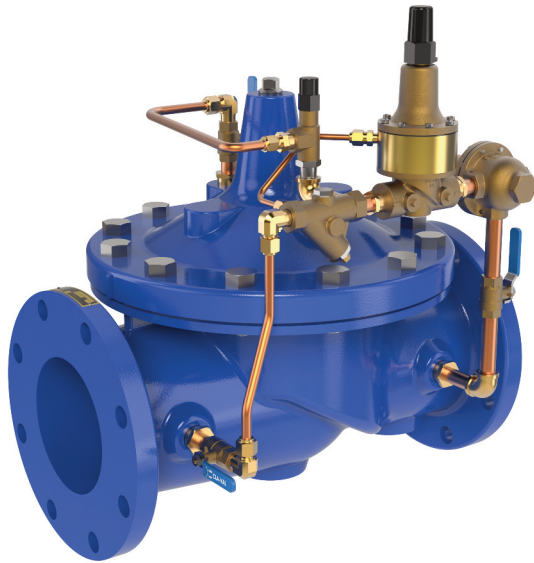




# MODEL 92-01

## Combination Pressure Reducing & Pressure Sustaining Valve



- Accurate Response to Slight Pressure Changes
- Check Feature Available
- Completely Automatic Operation
- Drip-Tight, Positive Seating Action
- Operation is Fully Hydraulic

The Cla-Val Model 92-01 Combination Pressure Reducing and Pressure Sustaining Valve automatically performs two independent functions. It maintains a constant downstream pressure, regardless of fluctuating demand and sustains the upstream pressure to a pre-determined minimum.

The pressure reducing control responds to slight variations in downstream pressure and immediately repositions the main valve to maintain the desired downstream pressure. The pressure sustaining control is normally held open by the upstream pressure, but modulates should the pressure drop to the control set point. This, in turn, modulates the main valve to sustain the desired upstream pressure.

If a check feature is added, and a pressure reversal occurs, the downstream pressure is admitted into the main valve cover chamber and the valve closes to prevent return flow.

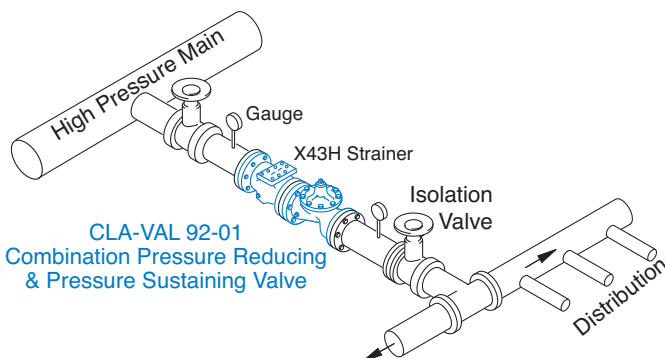
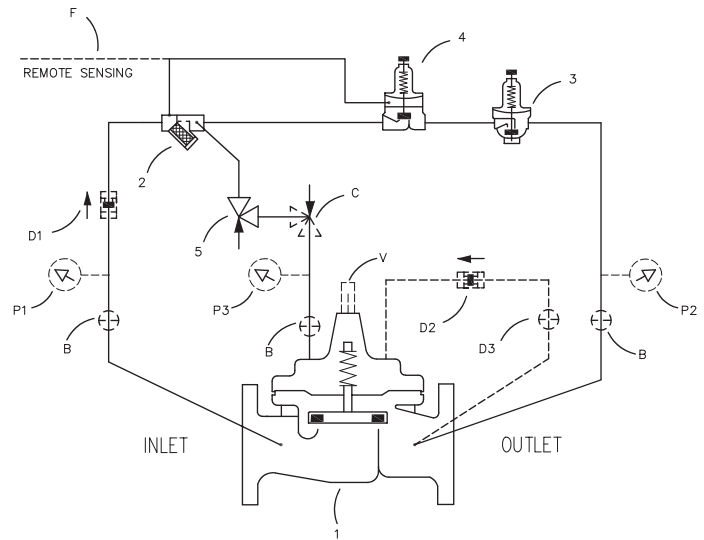
### Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	X44A Strainer & Orifice
3	CRD Pressure Reducing Control
4	CRL-60 Pressure Relief Control
5	CV Flow Control (Opening)

### Optional Features

Item	Description
B	CK2 Isolation Valve
C	CV Flow Control (Closing)*
D	Check Valves With Isolation Valve
F	Remote Pilot Sensing
P	X141 Pressure Gauge
V	X101 Valve Position Indicator

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

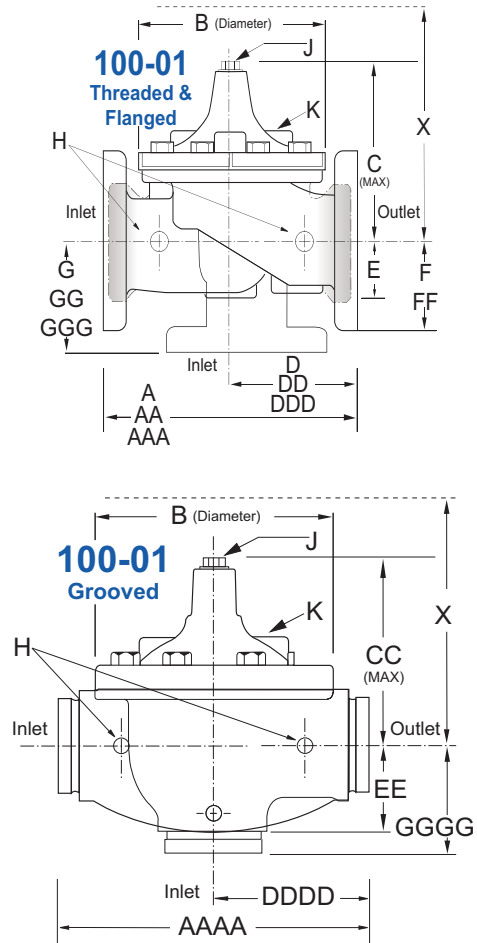


### Typical Applications

A Combination Pressure Reducing and Pressure Sustaining Valve is typically used to automatically reduce pressure for the downstream distribution network and sustain a minimum pressure in the high pressure main regardless of distribution demand.



**Model 92-01 Metric Dimensions** (Uses the 100-01 Hytrol Main Valve)



**Valve Options**

X141 Pressure Gauge



X101AR Valve Position Indicator with Air Release



X101 Valve Position Indicator



X144 e-FlowMeter



X43H Strainer



Stainless Steel Pilot



**92-01 Dimensions** (In mm)

Valve Size (mm)	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
A Threaded	184	184	184	238	279	318	—	—	—	—	—	—	—	—	—	—	—	—
AA 150 ANSI	—	—	216	238	279	305	381	508	645	756	864	991	1051	1168	1321	1562	1600	1848
AAA 300 ANSI	—	—	229	254	295	337	397	533	670	790	902	1029	1105	1210	1326	1606	1638	1899
AAAA Grooved End	—	—	216	228	279	318	381	508	645	—	—	—	—	—	—	—	—	—
B Diameter	143	143	143	168	203	232	292	400	508	600	711	832	902	1054	1143	1350	1422	1676
C Maximum	140	140	140	165	192	208	270	340	406	435	530	614	635	992	1064	1116	1387	1499
CC Maximum Grooved End	—	—	120	146	175	184	236	308	371	—	—	—	—	—	—	—	—	—
D Threaded	83	83	83	121	140	159	—	—	—	—	—	—	—	—	—	—	—	—
DD 150 ANSI	—	—	102	121	140	152	191	254	322	378	432	495	528	—	—	781	—	—
DDD 300 ANSI	—	—	108	127	149	162	200	267	337	395	451	514	549	—	—	803	—	—
DDDD Grooved End	—	—	—	121	—	152	191	—	—	—	—	—	—	—	—	—	—	—
E	29	29	29	38	43	52	81	110	135	235	273	321	394	329	381	451	541	624
EE Grooved End	—	—	52	64	73	79	108	152	192	—	—	—	—	—	—	—	—	—
F 150 ANSI	—	—	64	76	89	95	114	140	171	203	241	267	298	381	419	489	572	724
FF 300 ANSI	—	—	78	83	95	105	127	159	191	222	260	292	324	381	419	489	610	762
G Threaded	48	48	48	83	102	114	—	—	—	—	—	—	—	—	—	—	—	—
GG 150 ANSI	—	—	102	83	102	102	127	152	203	219	349	378	399	—	—	560	—	—
GGG 300 ANSI	—	—	102	89	110	111	135	165	216	236	368	397	419	—	—	582	—	—
GGGG Grooved End	—	—	—	83	—	108	127	—	—	—	—	—	—	—	—	—	—	—
H NPT Body Tapping	0.375	0.375	0.375	0.375	0.50	0.50	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
J NPT Cover Center Plug	0.25	0.25	0.25	0.50	0.50	0.50	0.75	0.75	1.00	1.00	1.25	1.50	2.00	1.00	1.00	1.00	2.00	2.00
K NPT Cover Tapping	0.375	0.375	0.375	0.375	0.50	0.50	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Stem Travel	10	10	10	15	18	20	28	43	58	71	86	102	114	130	143	171	190	216
Approx. Ship Weight (kgs)	7	7	7	16	23	32	64	129	227	354	528	726	1027	1353	1769	2812	3494	5316
Approx. X Pilot System	280	280	280	331	356	381	432	737	788	839	915	1016	1016	1093	1194	1728	2007	2159
Approx. Y Pilot System	229	229	229	229	254	280	305	508	559	610	661	737	762	813	864	991	1016	1143
Approx. Z Pilot System	229	229	229	229	254	280	305	508	559	610	661	737	762	813	864	991	1067	1194

92-01 Valve Selection	100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes																			
	Inches	1	1¼	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36	
	mm	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900	
Main Valve 100-01	Pattern	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G	G	G, A	G	G	
	End Detail	T	T	T, F, Gr*	T, F, Gr	T, F, Gr*	T, F, Gr	F, Gr	F, Gr	F, Gr*	F, Gr*	F	F	F	F	F	F	F	F	F
Suggested Flow (gpm)	Maximum	55	93	125	210	300	460	800	1800	3100	4900	7000	8400	11000	14000	17000	25000	42000	50000	
	Maximum Intermittent	68	120	160	260	370	580	990	2250	3900	6150	8720	10540	13700	17500	21700	31300	48000	62500	
	Minimum	1	1	1	1	2	2	4	10	15	35	50	70	95	120	150	275	450	650	
Suggested Flow (Liters/Sec)	Maximum	3.5	6	8	13	19	29	50	113	195	309	442	530	694	883	1073	1577	2650	3150	
	Maximum Intermittent	4.3	7.6	10	16	23	37	62	142	246	387	549	664	863	1104	1369	1972	3028	3940	
	Minimum	.03	.03	.03	.06	.09	0.13	0.25	0.63	0.95	2.2	3.2	4.4	6.0	7.6	9.5	17.4	28.4	41.0	

100-01 Series is the full internal port Hytrol.

For Lower Flows Consult Factory

\*Globe Grooved Only

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.

### CRD Pressure Reducing Pilot Control



The CRD Pilot is held open by the force of the compression spring above the diaphragm, and closes when the downstream pressure acting on the underside of the diaphragm exceeds the spring setting. The CRD senses downstream pressure directly.

Flow through the control responds to changes in downstream pressure. Turning the adjusting screw clockwise increases the delivery pressure. Turning it counterclockwise decreases the pressure. A resilient disc assures tight shut-off on dead-end service.

See the E-CRD E-Sheet for more details.

### CRL-60 Pressure Relief Pilot Control



The Model CRL-60 is normally held closed by the force of the compression spring above the diaphragm. Control pressure is applied under the diaphragm. When the controlling pressure 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 a sensing port on the CRL-60 body.

See the E-CRL-60 E-Sheet for more details.

### Pilot System Specifications

#### Adjustment Ranges

CRD	CRL-60
2 to 30 psi	0 to 75 psi
15 to 75 psi	20 to 105 psi*
20 to 105 psi	20 to 200 psi
30 to 300 psi*	100 to 300 psi

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

#### Temperature Range

Water: to 180°F

#### Materials

##### Standard Pilot System Materials

Pilot Control: Low Lead Bronze  
Trim: Brass & 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.

#### When Ordering, Specify:

1. Catalog No. 92-01
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Threaded or Flanged
6. Trim Material
7. Adjustment Range
8. Desired Options
9. When Vertically Installed