



— MODEL — **136-03**

Solenoid Control Valve



- Fast Acting Solenoid Control
- Drip Tight Shut-Off
- Simple Design, Proven Reliable
- Optional Check Feature
- Easy Installation & Maintenance

The Cla-Val Model 136-03 Solenoid Control Valve is an on-off control valve which either opens fully or closes drip-tight upon receiving an electrical signal to the solenoid pilot control. This valve consists of a Hytrol main valve, a three way solenoid and a high capacity three-way pilot valve. The solenoid control operates the three-way valve which 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).

If the check feature option 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.

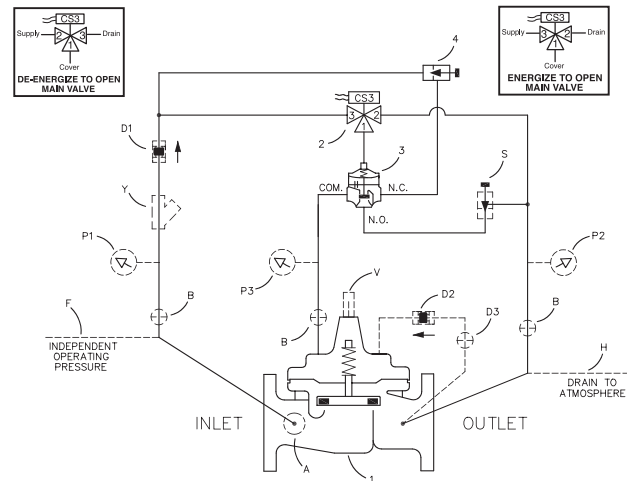
Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	CS3 Solenoid Control
3	102C-3H Three-Way Valve
4	CNA Needle Valve (Closing)

Closing Speed Control

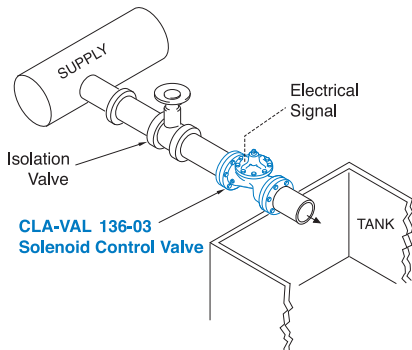
Optional Features

Item	Description
A	X46 Flow Clean Strainer
B	CK2 (Isolation Valve)
D	Check Valves With Isolation Valve
F	Independent Operating Pressure
H	Atmospheric Drain
P	X141 Pressure Gauge
S	CNA Needle Valve (Opening)
V	X101 Valve Position Indicator
Y	X43 "Y" Strainer
KC	Epoxy Coated

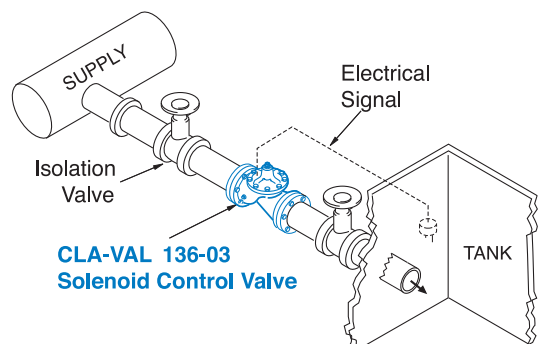


Valves 6" and larger with a "D" check feature must be installed with the main valve stem in a vertical position

Typical Applications



Industrial uses for the solenoid control valve are many and include accurate control of process water for batching, mixing, washing, blending or other on-off type uses.



Liquid level control can be provided by using a float switch or electrode probe which sends an electrical signal to open or close the valve as needed.

Model 136-03 (Uses Hytrol Main Valve Model 100-01)

Pressure Ratings (Recommended Maximum Pressure - psi)

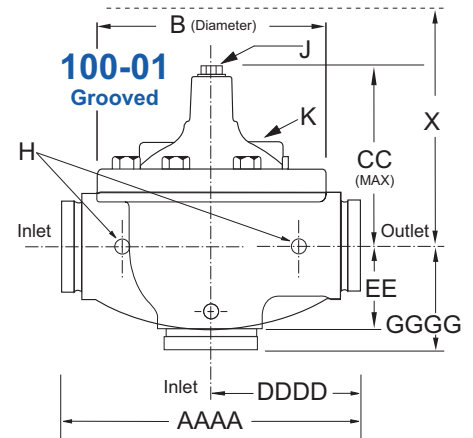
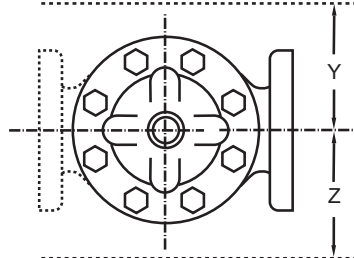
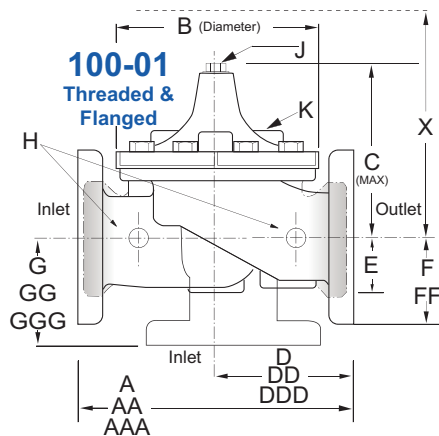
Valve Body & Cover		Pressure Class				
		Flanged		Grooved	Threaded	
Grade	Material	ANSI Standards*	150 Class	300 Class	300 Class	End† Details
ASTM A536	Ductile Iron	B16.42	250	400	400	400
ASTM A216-WCB	Cast Steel	B16.5	285	400	400	400
UNS 87850	Bronze	B16.24	225	400	400	400

Note: * ANSI standards are for flange dimensions only.
 Flanged valves are available faced but not drilled.
 † End Details machined to ANSI B2.1 specifications.
Valves for higher pressure are available; consult factory for details

Materials

Component	Standard Material Combinations		
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes	4" - 36" 100 - 900mm	4" - 16" 100 - 400mm	4" - 16" 100 - 400mm
Disc Retainer & Diaphragm Washer	Cast Iron	Cast Steel	Bronze
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.



Model 136-03 Dimensions (inches)

Valve Size (Inches)	4	6	8	10	12	14	16	18	20	24	30	36
A Threaded	—	—	—	—	—	—	—	—	—	—	—	—
AA 150 ANSI	15.00	20.00	25.38	29.75	34.00	39.00	41.38	46.00	52.00	61.50	63.00	72.75
AAA 300 ANSI	15.62	21.00	26.38	31.12	35.50	40.50	43.50	47.64	53.62	63.24	64.50	74.75
AAAA Grooved End	15.00	20.00	25.38	—	—	—	—	—	—	—	—	—
B Diameter	11.50	15.75	20.00	23.62	28.00	32.75	35.50	41.50	45.00	53.16	56.00	66.00
C Maximum	10.62	13.38	16.00	17.12	20.88	24.19	25.00	39.06	41.90	43.93	54.60	59.00
CC Maximum Grooved End	9.31	12.12	14.62	—	—	—	—	—	—	—	—	—
D Threaded	—	—	—	—	—	—	—	—	—	—	—	—
DD 150 ANSI	7.50	10.00	12.69	14.88	17.00	19.50	20.81	—	—	30.75	—	—
DDD 300 ANSI	7.88	10.50	13.25	15.56	17.75	20.25	21.62	—	—	31.62	—	—
DDDD Grooved End	7.50	—	—	—	—	—	—	—	—	—	—	—
E	3.19	4.31	5.31	9.25	10.75	12.62	15.50	12.95	15.00	17.75	21.31	24.56
EE Grooved End	4.25	6.00	7.56	—	—	—	—	—	—	—	—	—
F 150 ANSI	4.50	5.50	6.75	8.00	9.50	10.50	11.75	15.00	16.50	19.25	22.50	28.50
FF 300 ANSI	5.00	6.25	7.50	8.75	10.25	11.50	12.75	15.00	16.50	19.25	24.00	30.00
G Threaded	—	—	—	—	—	—	—	—	—	—	—	—
GG 150 ANSI	5.00	6.00	8.00	8.62	13.75	14.88	15.69	—	—	22.06	—	—
GGG 300 ANSI	5.31	6.50	8.50	9.31	14.50	15.62	16.50	—	—	22.90	—	—
GGGG Grooved End	5.00	—	—	—	—	—	—	—	—	—	—	—
H NPT Body Tapping	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	0.75	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	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Stem Travel	1.10	1.70	2.30	2.80	3.40	4.00	4.50	5.10	5.63	6.75	7.50	8.50
Approx. Ship Weight (lbs)	140	285	500	780	1165	1600	2265	2982	3900	6200	7703	11720
Approx. X Pilot System	17	29	31	33	36	40	40	43	47	68	79	85
Approx. Y Pilot System	12	20	22	24	26	29	30	32	34	39	40	45
Approx. Z Pilot System	12	20	22	24	26	29	30	32	34	39	42	47

136-03 Valve Selection	100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes												
	Inches	4	6	8	10	12	14	16	18	20	24	30	36
	mm	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	G	G, A	G	G
	End Detail	F, Gr	F, Gr*	F, Gr*	F	F	F	F	F	F	F	F	F
Suggested Flow (gpm)	Maximum	800	1800	3100	4900	7000	8400	11000	14000	17000	25000	42000	50000
	Maximum Intermittent	990	2250	3900	6150	8720	10540	13700	17500	21700	31300	48000	62500
Suggested Flow (Liters/Sec)	Maximum	50	113	195	309	442	530	694	883	1073	1577	2650	3150
	Maximum Intermittent	62	142	246	387	549	664	863	1104	1369	1972	3028	3940
100-01 Series is the full internal port Hytrol.													*Globe Grooved Only

Pilot System Specifications

Temperature Range

Water: to 180°F/82°C

Fluids

Air, water, light oils

Solenoid Control

Body:

Brass ASTM B283

Rubber Parts:

Buna-N® Synthetic Rubber

Enclosure:

NEMA Type 1,2,3,3S,4,4X general purpose watertight*

NEMA Type 6,6P,7,9 watertight Explosion Proof available.

Voltages:

110, 220 - 50Hz AC

24, 120, 240, 480 - 60Hz AC

6, 12, 24, 120, 240 - DC

Others available at additional cost

Max. operating pressure differential:

200 psi*

Coil:

Insulation molded Class F

Watts AC 6

AC Volt Amps Inrush 30

AC Volt Amps Holding 16

Watts DC 10.6

Manual operator available at additional cost.

*Supplied unless otherwise specified

Note: Flowing Pressure Differential: 5 psi minimum

When Ordering, Specify

1. Catalog No. 136-03
2. Valve Size
3. Pattern - **Globe** or Angle
4. Pressure Class
5. Threaded or **Flanged**
6. Materials Desired
7. **Energized** or de-energized to open Main Valve
8. Solenoid Enclosure, Voltage & Hertz, Coil Insulation, and Max. Operating Pressure Differential
9. Desired Options
10. When Vertically Installed

Valve Options

X141 Pressure Gauge



X101AR Valve Position Indicator with Air Release



X101 Valve Position Indicator



X144 e-FlowMeter



X43H Strainer



Stainless Steel Pilot