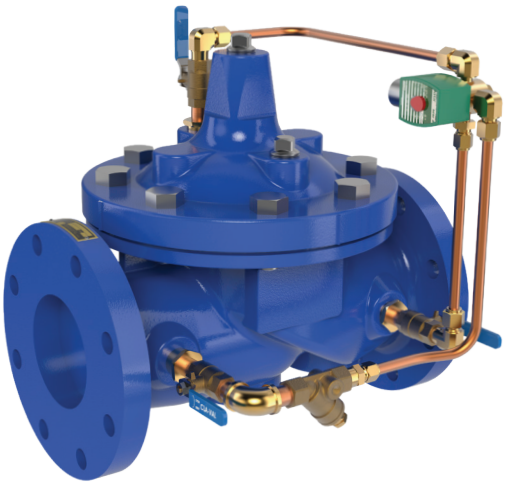
Model 136-01
SOLENOID CONTROL VALVE

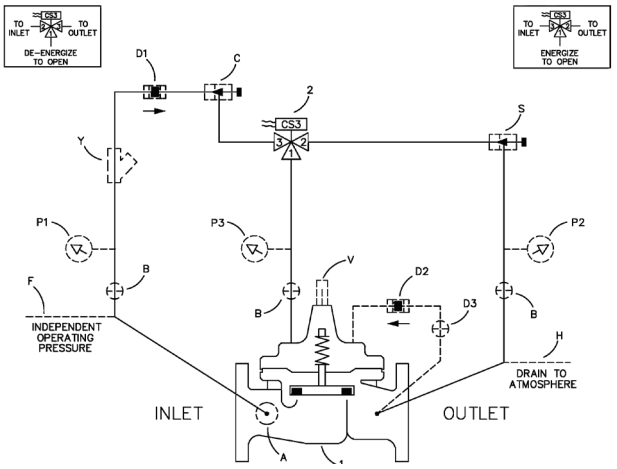
ENGINEERING DATA SHEET



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

The Cla-Val Model 136-01 Solenoid Control Valve is an on-off control valve that either opens or closes upon receiving an electrical signal to the solenoid pilot control. This valve consists of a Hytrol main valve and a three-way solenoid valve that alternately applies pressure to or relieves pressure from the diaphragm chamber of the main valve. It is furnished either normally open (de-energized solenoid to open) or normally closed (energized 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.

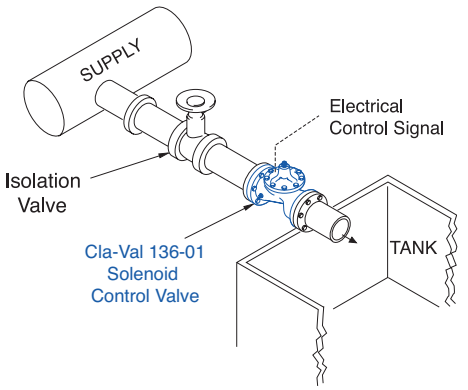


Schematic Diagram	
Item	**Description**
1	100-01 Hytrol Main Valve (full port)
2	CS3 Solenoid Control

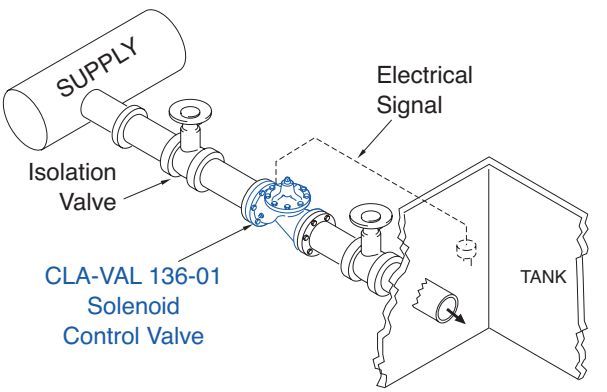
Optional Features	
Item	**Description**
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
C	CNA Closing Speed Control
D	Check Valves with Isolation Valve
P	X141 Pressure Gauge
S	CNA Needle Valve (Opening)
V	X101D Valve Position Indicator
Y	X43 "Y" Strainer

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.



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

Recommended Maximum Pressure - psi

Pressure Ratings

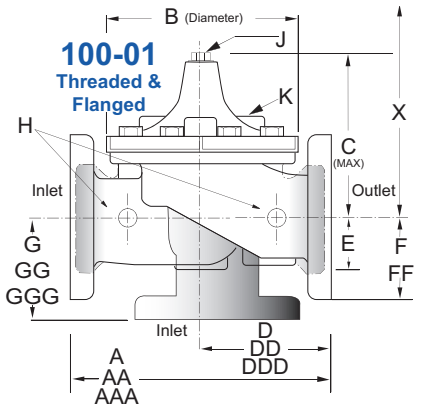
Valve Body & Cover		Pressure Class				
		Flanged			Grooved	Threaded
Grade	Material	ANSI Standards*	150 Class	300 Class	300 Class	End‡ Details
ASTM A536	Ductile Iron	B16.42	250	400	400	400
ASTM A216-WCB	Cast Steel	B16.5	285	400	400	400
UNS 87850	Bronze	B16.24	225	400	400	400

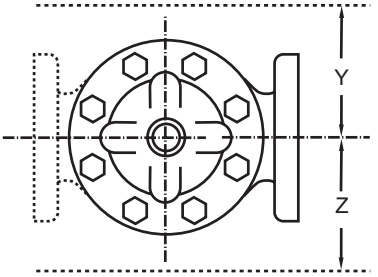
Note:
* ANSI standards are for flange dimensions only.
Flanged valves are available faced but not drilled.
‡ End Details machined to ANSI B2.1 specifications.
Valves for higher pressure are available; consult factory for details

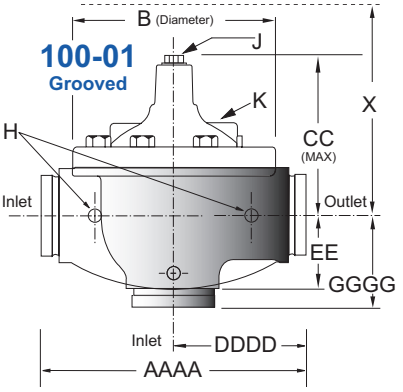
Materials

Component	Standard Material Combinations		
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes	1/2" - 4" 15mm - 100mm	1/2" - 4" 15mm - 100mm	1/2" - 4" 15mm - 100mm
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.







In Inches

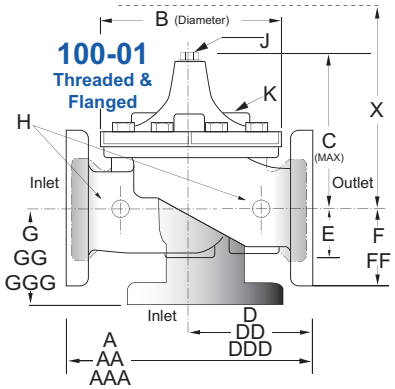
Model 136-01 Dimensions

Valve Size (Inches)	½*	¾*	1*	1	1¼	1½	2	2½	3	4
A Threaded	3.50	3.50	5.12	7.25	7.25	7.25	9.38	11.00	12.50	—
AA 150 ANSI	—	—	—	—	—	8.50	9.38	11.00	12.00	15.00
AAA 300 ANSI	—	—	—	—	—	9.00	10.00	11.62	13.25	15.62
AAAA Grooved End	—	—	—	—	—	8.50	9.00	11.00	12.50	15.00
B Diameter	3.12	3.12	4.38	5.62	5.62	5.62	6.62	8.00	9.12	11.50
C Maximum	5.88	5.88	6.25	5.50	5.50	5.50	6.50	7.56	8.19	10.62
CC Maximum Grooved End	—	—	—	—	—	4.75	5.75	6.88	7.25	9.31
D Threaded	—	—	—	3.25	3.25	3.25	4.75	5.50	6.25	—
DD 150 ANSI	—	—	—	—	—	4.00	4.75	5.50	6.00	7.50
DDD 300 ANSI	—	—	—	—	—	4.25	5.00	5.88	6.38	7.88
DDDD Grooved End	—	—	—	—	—	—	4.75	—	6.00	7.50
E	0.88	0.88	1.63	1.12	1.12	1.12	1.50	1.69	2.06	3.19
EE Grooved End	—	—	—	—	—	2.00	2.50	2.88	3.12	4.25
F 150 ANSI	—	—	—	—	—	2.50	3.00	3.50	3.75	4.50
FF 300 ANSI	—	—	—	—	—	3.06	3.25	3.75	4.13	5.00
G Threaded	—	—	—	1.88	1.88	1.88	3.25	4.00	4.50	—
GG 150 ANSI	—	—	—	—	—	4.00	3.25	4.00	4.00	5.00
GGG 300 ANSI	—	—	—	—	—	4.25	3.50	4.31	4.38	5.31
GGGG Grooved End	—	—	—	—	—	—	3.25	—	4.25	5.00
H NPT Body Tapping	0.125	0.125	0.25	0.375	0.375	0.375	0.375	0.50	0.50	0.75
J NPT Cover Center Plug	0.125	0.125	0.25	0.25	0.25	0.25	0.50	0.50	0.50	0.75
K NPT Cover Tapping	0.125	0.125	0.25	0.375	0.375	0.375	0.375	0.50	0.50	0.75
Stem Travel	—	—	—	0.40	0.40	0.40	0.60	0.70	0.80	1.10
Approx. Ship Weight (lbs)	3	8	8	15	15	15	35	50	70	140
Approx. **X** Pilot System	—	—	—	11	11	11	13	14	15	17
Approx. **Y** Pilot System	—	—	—	9	9	9	9	10	11	12
Approx. **Z** Pilot System	—	—	—	9	9	9	9	10	11	12

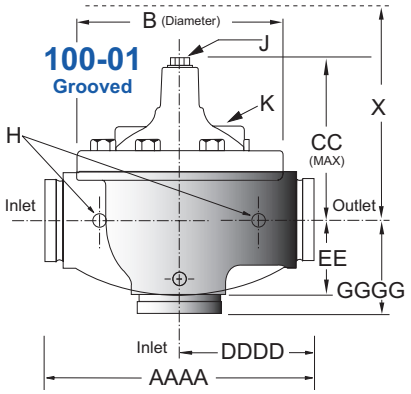
*Non Guided Stem Auxiliary Hytrol Controls

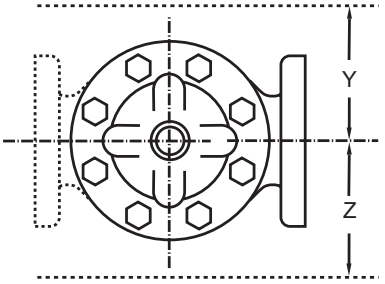
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Model 136-01 Metric Dimensions (Uses 100-01 Hytrol Main Valve)









In MM

Model 136-01 Dimensions

Valve Size (mm)	**15***	**20***	**25***	**25**	**32**	**40**	**50**	**65**	**80**	**100**
A Threaded	89	89	130	184	184	184	238	279	318	—
AA 150 ANSI	—	—	—	—	—	216	238	279	305	381
AAA 300 ANSI	—	—	—	—	—	229	254	295	337	397
AAAA Grooved End	—	—	—	—	—	216	228	279	318	381
B Diameter	80	80	111	143	143	143	168	203	232	292
C Maximum	149	149	159	140	140	140	165	192	208	270
CC Maximum Grooved End	—	—	—	—	—	120	146	175	184	236
D Threaded	—	—	—	83	83	83	121	140	159	—
DD 150 ANSI	—	—	—	—	—	102	121	140	152	191
DDD 300 ANSI	—	—	—	—	—	108	127	149	162	200
DDDD Grooved End	—	—	—	—	—	—	121	—	152	191
E	23	23	42	29	29	29	38	43	52	81
EE Grooved End	—	—	—	—	—	52	64	73	79	108
F 150 ANSI	—	—	—	—	—	64	76	89	95	114
FF 300 ANSI	—	—	—	—	—	78	83	95	105	127
G Threaded	—	—	—	48	48	48	83	102	114	—
GG 150 ANSI	—	—	—	—	—	102	83	102	102	127
GGG 300 ANSI	—	—	—	—	—	102	89	110	111	135
GGGG Grooved End	—	—	—	—	—	—	83	—	108	127
H NPT Body Tapping	0.125	0.125	0.25	0.375	0.375	0.375	0.375	0.50	0.50	0.75
J NPT Cover Center Plug	0.125	0.125	0.25	0.25	0.25	0.25	0.50	0.50	0.50	0.75
K NPT Cover Tapping	0.125	0.125	0.25	0.375	0.375	0.375	0.375	0.50	0.50	0.75
Stem Travel	—	—	—	10	10	10	15	18	20	28
Approx. Ship Weight (kgs)	1.4	1.4	6	7	7	7	16	23	32	64
Approx. **X** Pilot System	—	—	—	280	280	280	331	356	381	432
Approx. **Y** Pilot System	—	—	—	229	229	229	229	254	280	305
Approx. **Z** Pilot System	—	—	—	229	229	229	229	254	280	305

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136-01 Valve Selection	100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes									
	Inches	½	¾	1	1 ¼	1 ½	2	1 ½	3	4
	mm	15	20	25	32	40	50	65	80	100
Main Valve 100-01	Pattern	G	G	G,A	G,A	G,A	G,A	G,A	G,A	G,A
	End Detail	T	T	T	T	T, F, Gr*	T, F, Gr	T, F, Gr*	T, F, Gr	F, Gr
Suggested Flow (gpm)	Maximum	19	33	55	93	125	210	300	460	800
	Maximum Intermittent	24	42	68	120	160	260	370	580	990
Suggested Flow (Liters/Sec)	Maximum	1.2	2.1	3.5	6	8	13	19	29	50
	Maximum Intermittent	1.5	2.6	4.3	7.6	10	16	23	37	62

100-01 Series is the full internal port Hytrol. *Globe Grooved Only

Pilot System Specifications

Temperature
Water: to 180° F/ 82° C

Fluids
Air, water, light oils

Solenoid Control
Body: Brass ASTM B283,
Rubber Parts: Buna-N® Rubber 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

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. 136-01
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

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