



# MODEL 139-10

## Programmable Timer Control Valve



- **Precise Valve On-Off Control**
- **Completely Self-contained**
- **High Energy Efficiency**
- **Retains Stored Data Even After Battery is Depleted**
- **Direct Control of Valve Opening and Closing 4 Times Daily**
- **IP68 submersible Timer Control can be factory preset**
- **Use this valve for Pressure Management and Water Quality Control applications**
- **Combines with Pressure, Flow or Level Control**
- **Ideal for Remote Valve Location Control**

The Cla-Val Model 139-10 Programmable Timer Control Valve is an on-off control valve for applications using a programmable time schedule. Using the CTC-33 Electronic Timer Control up to four opening and closing times per day can be set for a weekly schedule.

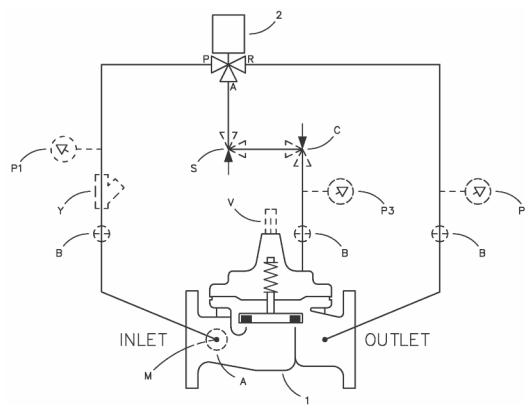
Timer function and parameters are changed using downloadable software from the Cla-Val website [www.cla-val.com](http://www.cla-val.com) and special USB cable (part number 20519203A). Future software and firmware upgrades will be available from Cla-Val website. Powered by a long-life lithium battery, the CTC-33 control offers exceptional valve control for remote locations and other valve automation applications.

### Schematic Diagram

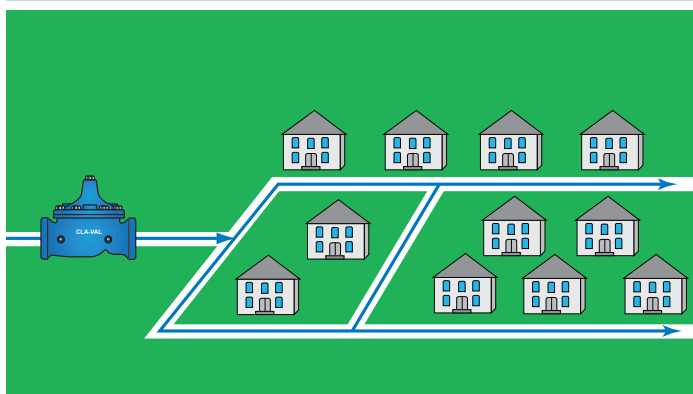
Item	Description
1	100-10 Hytrol Main Valve
2	CTC-33 Electronic Timer Control

### Optional Features

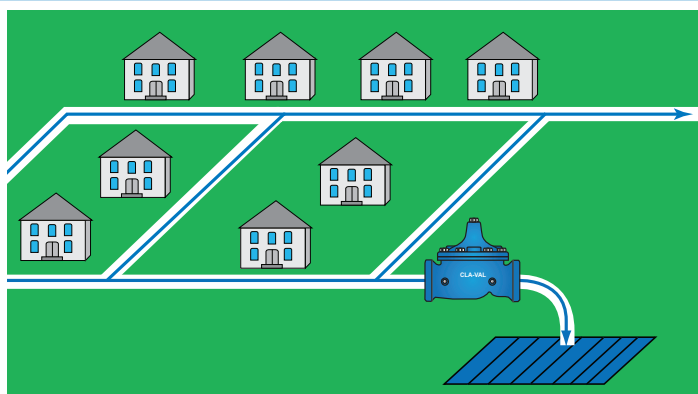
Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
P	X141 Pressure Gauge
V	X101 Valve Position Indicator
Y	X43 "Y" Strainer



### Typical Applications



The CTC-33 Timer Control is used for pressure management applications in water distribution systems where SCADA control is not available. Use a 139 Series Cla-Val Pressure Control Valve equipped with the CTC-33 Timer to change pressure during periods of high and low demand according to pre-set schedule to reduce leaks and pipe burst frequency, while delivering adequate supply.



The CTC-33 Electronic Timer Control is used in 139 Series Control Valves to automate circulating water requirements (i.e. anti-stagnation) in distribution system applications. Valve opening and closing time of day and duration can be set according to system requirements for convenient flushing and circulating during times of low flow to optimize water quality.

## Pressure Ratings (Recommended Maximum Pressure - psi)

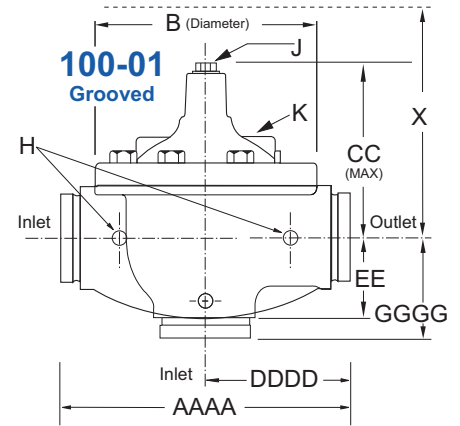
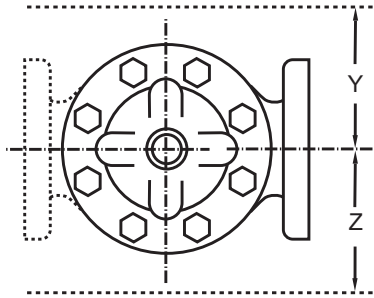
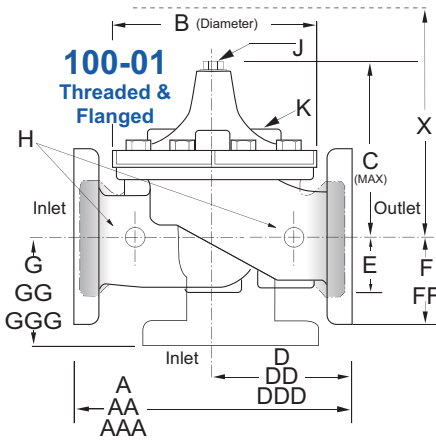
Valve Body & Cover		Pressure Class				
		Flanged			Grooved	Threaded
Grade	Material	ANSI Standards*	150 Class	300 Class	300 Class	End‡ Details
ASTM A536	Ductile Iron	B16.42	250	400	400	400
ASTM A216-WCB	Cast Steel	B16.5	285	400	400	400
UNS 87850	Bronze	B16.24	225	400	N/A	400

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		
	Ductile Iron	Cast Steel	Bronze
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes	1" - 4" 25 - 100mm	1" - 4" 25 - 100mm	1/2" - 4" 15 - 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		

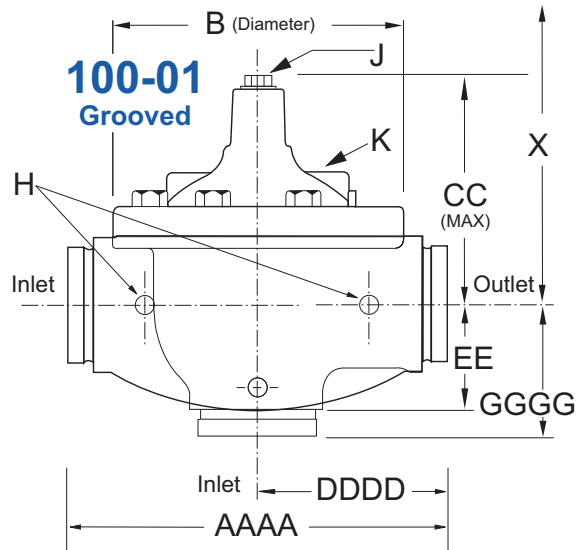
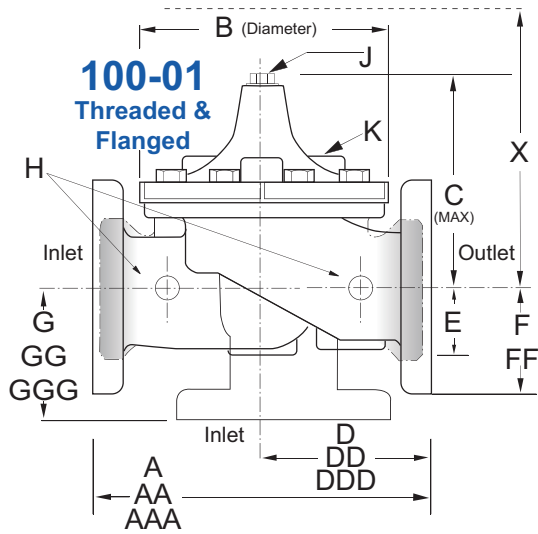
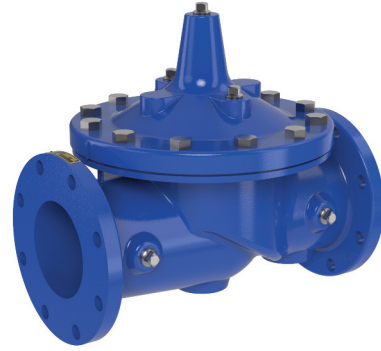
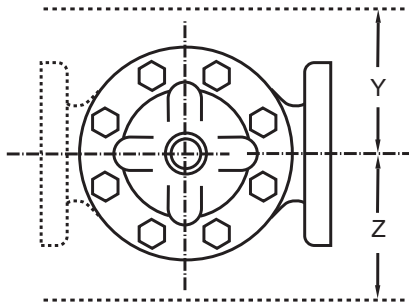
For material options not listed, consult factory.  
 Cla-Val manufactures valves in more than 50 different alloys.



## Model 139-10 Dimensions (Inches)

Valve Size (Inches)	1/2*	3/4*	1	1 1/4	1 1/2	2	2 1/2	3	4
A Threaded	3.50	3.50	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	5.62	5.62	5.62	6.62	8.00	9.12	11.50
C Maximum	5.88	5.88	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	1.12	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	0.375	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	0.50	0.50	0.50	0.75
K NPT Cover Tapping	0.125	0.125	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	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

## Model 139-10 Metric Dimensions (Uses 100-01 Hytrol Main Valve)



## Model 139-10 Dimensions (mm)

Valve Size (mm)	15*	20*	25	32	40	50	65	80	100
A Threaded	89	89	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	143	143	143	168	203	232	292
C Maximum	149	149	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	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	0.375	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	0.50	0.50	0.50	0.75
K NPT Cover Tapping	0.125	0.125	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	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

139-10 Valve Selection	100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes									
	Inches	½	¾	1	1¼	1½	2	2½	3	4
	mm	15	20	25	32	40	50	65	80	100
Main Valve 100-01	Pattern	G	G	G	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
	Minimum	1	1	1	1	2	2	4	10	15
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
	Minimum	.03	.03	.03	.06	.09	0.13	0.25	0.63	0.95

100-01 Series is the full internal port Hytrol.

For Lower Flows Consult Factory

\*Globe Grooved Only

### CTC Electronic Timer Control Specifications

Maximum Pressure: 232 psi (16 bar)  
 Temperature Range: 14° - 176°F (-10° - +80°C)  
 Battery: 14° - 140°F (-10° - +60°C)  
 Enclosure Protection: IP68; Validated 1 month at 0.2 bar (2m water depth)  
 Battery Type: Lithium 9V/PP3 (Lifetime: ~2 years for 2 actions/day @ 20°C)  
 Solenoid: 3-Way Bi-Stable  
 Orifice Size: 0.05 in (1.2mm)  
 Voltage: 6VDC (minimum)  
 Rules: Up to 8 actions (4X opening-closing per day) • Time and calendar  
 Fluids: Water  
 Port Size: 1/8-inch FNPT Threaded  
 Programming Interface: Custom USB cable (1 m)  
 Operating Systems: Compatible with Windows 8, 7 Vista and XP  
 Programming Software is free download from Cla-Val website



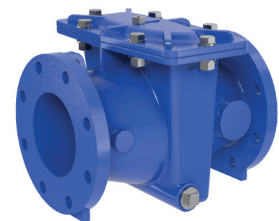
### Valve Options



X141 Pressure Gauge



X101 Valve Position Indicator



X43H Strainer

### When Ordering, Specify

1. Catalog No. 139-10
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Threaded or Flanged
6. Trim Material
7. Desired Options



E-139-10 (R-03/2019)

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