



— MODEL — **639-10**

# 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 639-10 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.

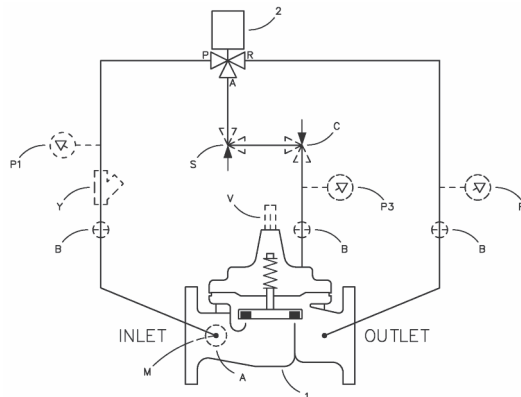
Timer function and parameters are changed using downloadable software from the Cla-Val website [www.cla-val.com](http://www.cla-val.com) and special USB cable (part number 20519203A). Future software and firmware upgrades will be available from Cla-Val website. Powered by a long-life lithium battery,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

## Schematic Diagram

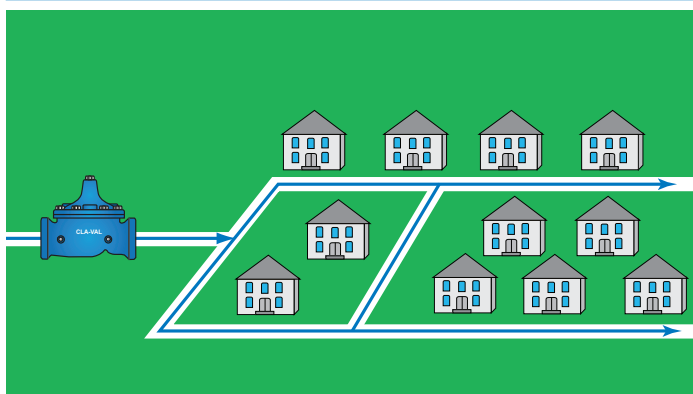
Item	Description
1	100-20 Hytrol Main Valve
2	CTC-33 Electronic Timer Control

## Optional Features

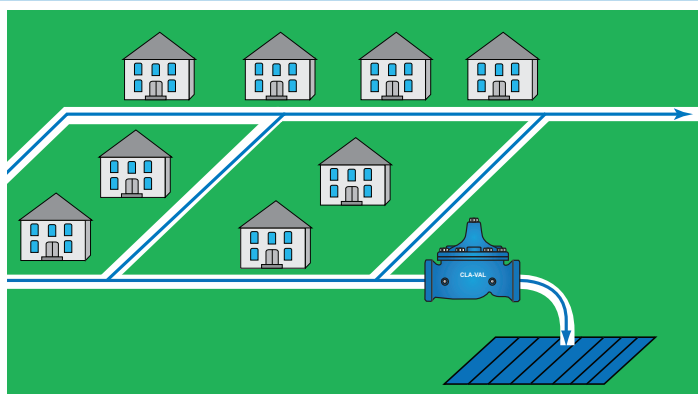
Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
P	X141 Pressure Gauge
V	X101 Valve Position Indicator
Y	X43 "Y" Strainer



## 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 639 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.

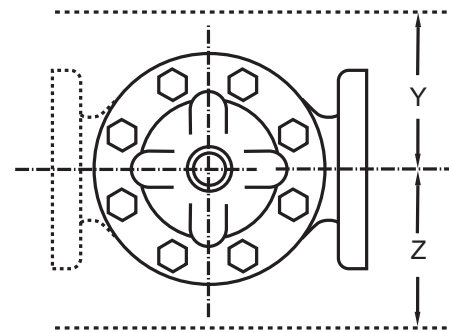
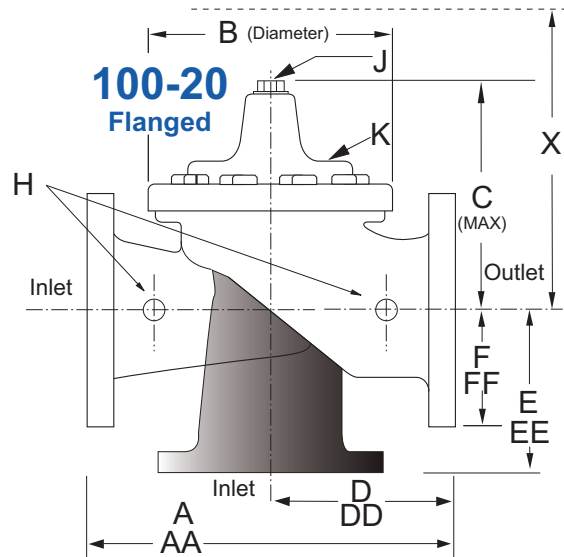


The CTC-33 Electronic Timer Control is used in 1639 Series Control Valves to automate circulating water requirements (i.e. anti-stagnation) in distribution system applications. Valve opening and closing time of day and duration can be set according to system requirements for convenient flushing and circulating 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

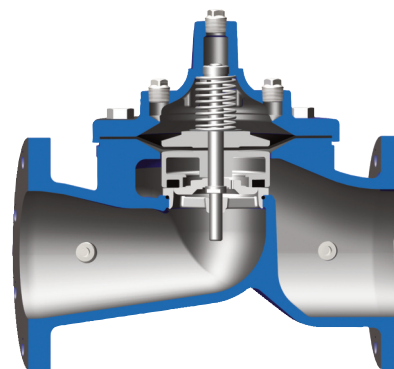
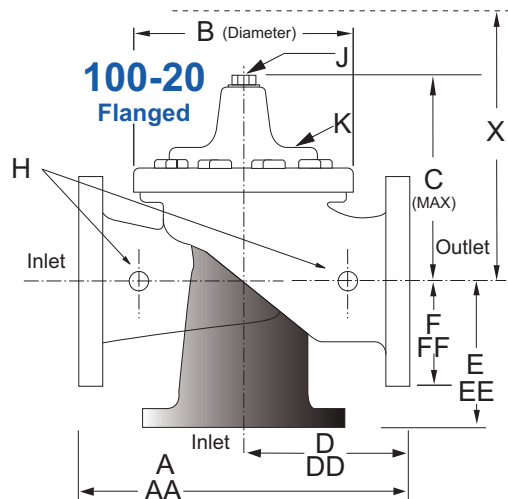
Component	Standard Material Combinations		
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes	3" - 4" 80 - 100mm	3" - 4" 80 - 100mm	3" - 4" 80 - 100mm
Disc Retainer & Diaphragm Washer	Cast Iron	Cast Steel	Bronze
Trim: Disc Guide, Seat & Cover Bearing	Bronze is Standard Stainless Steel is Optional		
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.

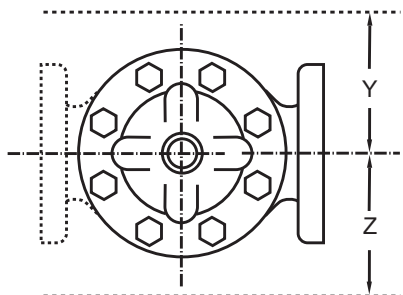
## Model 639-10 Dimensions (Inches)

Valve Size (Inches)	3	4
A 150 ANSI	10.25	13.88
AA 300 ANSI	11.00	14.50
B Diameter	6.62	9.12
C Maximum	7.00	8.62
D 150 ANSI	—	6.94
DD 300 ANSI	—	7.25
E 150 ANSI	—	5.50
EE 300 ANSI	—	5.81
F 150 ANSI	3.75	4.50
FF 300 ANSI	4.12	5.00
H NPT Body Tapping	0.375	0.50
J NPT Cover Center Plug	0.50	0.50
K NPT Cover Tapping	0.375	0.50
Stem Travel	0.60	0.80
Approx. Ship Weight (lbs)	45	85
Approx. X Pilot System	13	15
Approx. Y Pilot System	10	11
Approx. Z Pilot System	10	11

## Model 639-10 Metric Dimensions (Uses 100-20 Hytrol Main Valve)



**Model 100-20 Reduced Port Hytrol Main Valve**



## Model 639-10 Dimensions (mm)

Valve Size (mm)	80	100
A 150 ANSI	260	353
AA 300 ANSI	279	368
B Diameter	168	232
C Maximum	178	219
D 150 ANSI	—	176
DD 300 ANSI	—	184
E 150 ANSI	—	140
EE 300 ANSI	—	148
F 150 ANSI	95	114
FF 300 ANSI	105	127
H NPT Body Tapping	0.375	0.50
J NPT Cover Center Plug	0.50	0.50
K NPT Cover Tapping	0.375	0.50
Stem Travel	15	20
Approx. Ship Weight (kgs)	20	39
Approx. X Pilot System	331	381
Approx. Y Pilot System	254	280
Approx. Z Pilot System	254	280

<b>639-10</b> <b>Valve Selection</b>	<b>100-20 Pattern:</b> Globe (G), Angle (A), <b>End Connections:</b> Flanged (F) Indicate Available Sizes		
	Inches	3	4
	mm	80	100
Main Valve 100-20	Pattern	G	G, A
	End Detail	F	F
Suggested Flow (gpm)	Maximum	260	580
	Minimum	1	2
Suggested Flow (Liters/Sec)	Maximum	16	37
	Minimum	.06	.13
<b>100-20 Series is the reduced internal port size version of the 100-01 Series.</b>			<b>For Lower Flows Consult Factory</b>

### 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. 639-10
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Threaded or Flanged
6. Trim Material
7. Desired Options



E-639-10 (R-03/2021)

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