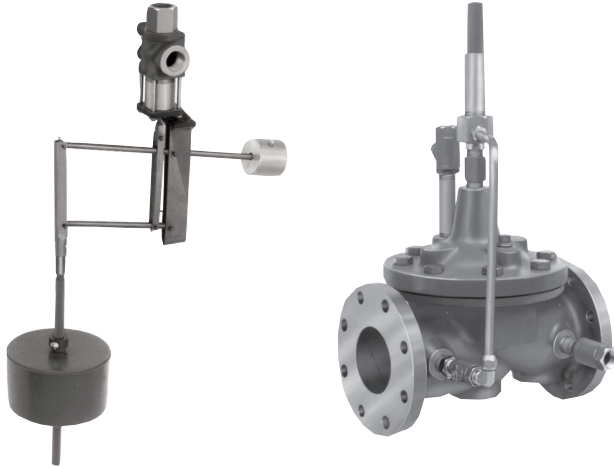




— MODEL — **627-01**

Modulating Float Valve



Schematic Diagram

Item	Description
1	100-20 Hytrol Main Valve
2	X74B-3 Stem Valve (Variable Orifice Pilot)
3	CFM-7 Float Control or CFM-7A

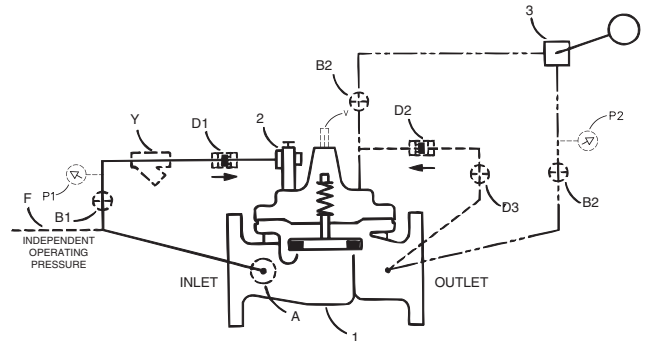
Optional Features

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

- **Accurate and Repeatable Level Control**
- **Reliable Hydraulic Operation**
- **Multi Function Capability**
- **Completely Automatic Operation**

The Cla-Val Model 627-01 Float Valve modulates to maintain a constant liquid level in a storage tank by compensating for variations in supply or demand. It can be installed to control either the flow into or out of the tank by either Closing on a rising level or Opening on a rising level. This valve is a hydraulically-operated, pilot controlled diaphragm valve.

The Pilot Control System consists of a Variable Orifice Pilot Control mounted on the valve cover, and a Remote Mounted Float Control. A slight change in liquid level moves the float control. This action varies the pressure in the valve cover, causing the main valve to seek a new position. The Variable Orifice Pilot tracks the valve movement, automatically regulating the flow into the cover until the valve attains a position that is in direct relation to the position of the float control.



Installation Data

The valve may be installed in any position. The Remote Float Control may be mounted at any convenient location above the liquid level. Float rods are available in lengths from 2' to 12' in two-foot increments.

A stilling well (8" min. diameter) should be provided around the float if the liquid surface is subject to turbulence, ripples or wind.

The float control may be installed at any elevation above the valve providing that the amount of flowing line pressure in psi is equal to or greater than the vertical distance in feet between the valve and the float control.

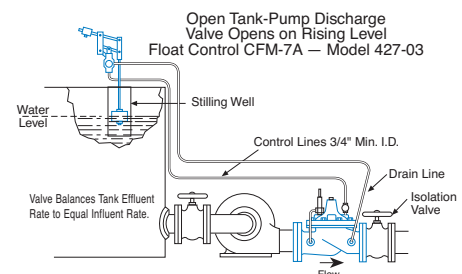
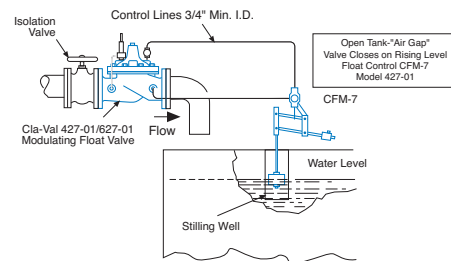
For good modulation under all conditions the float control discharge must be piped back into the main valve discharge side. Both lines connecting the valve and float control must be large enough to minimize pressure drop under maximum flow conditions ($\frac{3}{4}$ " I.D. to 20', 1" I.D. up to 30').

When a separate source of supply pressure is used by the pilot control system, that pressure must at all times be constant and equal to or greater than the pressure at the valve inlet.

DO NOT USE FOR ON-OFF SERVICE.

Note: We recommend protecting tubing and valve from freezing temperatures.

Typical Applications



Model 627-01 (Uses 100-20 Hytrol Main Valve)

Pressure Ratings (Recommended Maximum Pressure - psi)

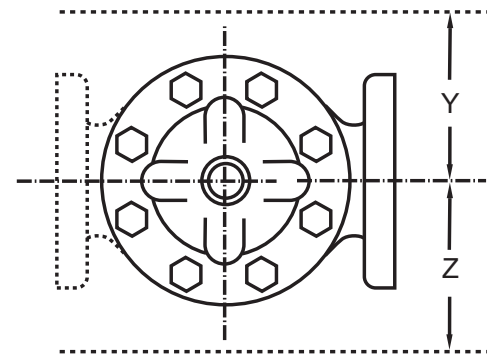
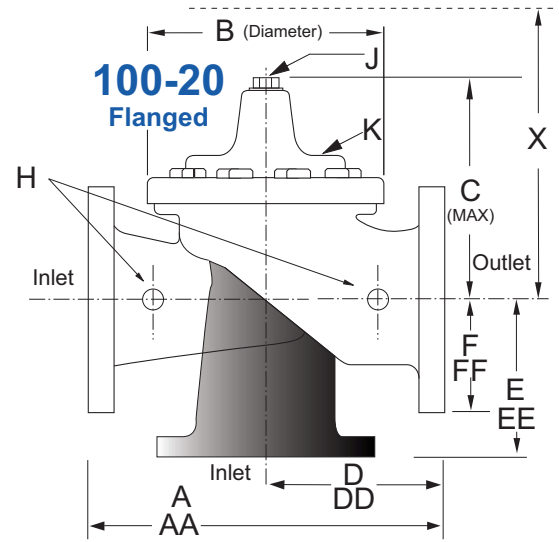
Valve Body & Cover		Pressure Class		
		Flanged		
Grade	Material	ANSI Standards*	150 Class	300 Class
ASTM A536	Ductile Iron	B16.42	250	400
ASTM A216-WCB	Cast Steel	B16.5	285	400
UNS 87850	Bronze	B16.24	225	400

Note: * ANSI standards are for flange dimensions only.
Flanged valves are available faced but not drilled.
Valves for higher pressure are available; consult factory for details

Materials

Component	Standard Material Combinations		
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes (inches)	3" - 48"	3" - 16"	3" - 16"
Available Sizes (mm)	80 - 1200 mm	80 - 400 mm	8025 - 400 mm
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.



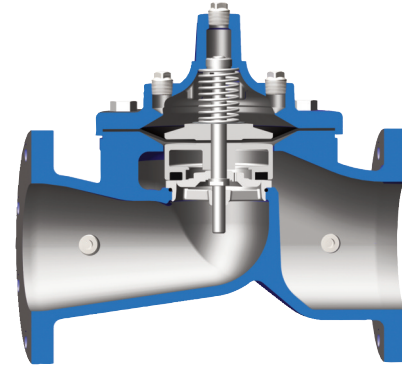
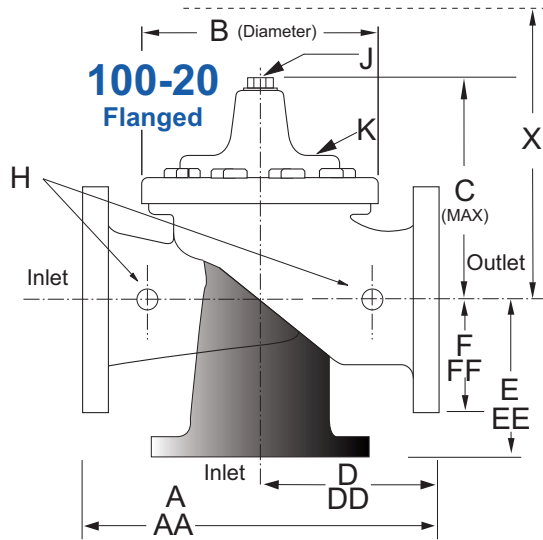
Model 627-01 Dimensions (Inches)

Important Notice: Do Not Oversize

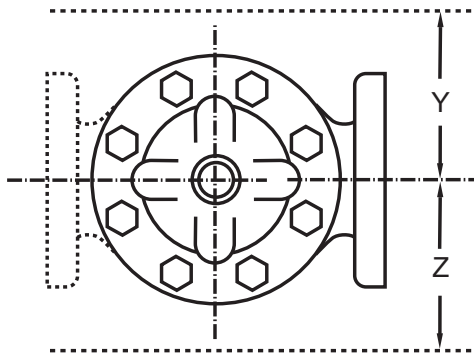
Note: The top two flange holes on valve size 36 are threaded to 1 1/2"-6 UNC.

Valve Size (Inches)	3	4	6	8	10	12	14	16	18	20	24	30	36	48
A 150 ANSI	10.25	13.88	17.75	21.38	26.00	30.00	34.25	35.00	42.12	48.00	48.00	63.25	65.00	88.0
AA 300 ANSI	11.00	14.50	18.62	22.38	27.38	31.50	35.75	36.62	43.63	49.62	49.75	63.75	67.00	90.62
B Diameter	6.62	9.12	11.50	15.75	20.00	23.62	27.47	28.00	35.44	35.44	35.44	53.19	56.00	66.00
C Maximum	7.00	8.62	11.62	15.00	17.88	21.00	20.88	25.75	25.00	31.50	31.50	43.94	54.75	59.00
D 150 ANSI	—	6.94	8.88	10.69	CF*	17.00	CF*	CF*	CF*	CF*	21.06	—	—	—
DD 300 ANSI	—	7.25	9.38	11.19	CF*	17.75	CF*	CF*	CF*	CF*	CF*	—	—	—
E 150 ANSI	—	5.50	6.75	7.25	CF*	13.75	CF*	CF*	CF*	CF*	15.94	—	—	—
EE 300 ANSI	—	5.81	7.25	7.75	CF*	14.75	CF*	CF*	CF*	CF*	CF*	—	—	—
F 150 ANSI	3.75	4.50	5.50	6.75	8.00	9.50	11.00	11.75	15.88	14.56	17.00	19.88	25.50	34.00
FF 300 ANSI	4.12	5.00	6.25	7.50	8.75	10.25	11.50	12.75	15.88	16.06	19.00	22.00	27.50	38.50
H NPT Body Tapping	0.375	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	0.50	0.50	0.75	0.75	1.00	1.00	1.25	2.00	2.00	2.00	2.00	2.00	2.00	2.00
K NPT Cover Tapping	0.375	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	0.60	0.80	1.10	1.70	2.30	2.80	3.40	4.50	4.50	4.50	6.50	7.50	7.50	8.50
Approx. Ship Weight (lbs)	45	85	195	330	625	900	1250	1380	2365	2551	2733	6500	8545	13100
Approx. X Pilot System	13	15	27	30	33	36	36	41	40	46	55	68	79	86
Approx. Y Pilot System	10	11	18	20	22	24	26	26	30	30	30	39	40	47
Approx. Z Pilot System	10	11	18	20	22	24	26	26	30	30	30	39	42	49

Model 627-01 Metric Dimensions (Uses 100-01 Hytrol Main Valve)



Model 100-20 Reduced Port Hytrol Main Valve



Model 627-01 Dimensions (mm)

Important Notice: Do Not Oversize

Note: The top two flange holes on valve size 36 are threaded to 1 1/2"-6 UNC.

Valve Size (mm)	80	100	150	200	250	300	350	400	450	500	600	750	900	1200
A 150 ANSI	260	353	451	543	660	762	870	889	1070	1219	1219	1607	1651	2235
AA 300 ANSI	279	368	473	568	695	800	908	930	1108	1260	1263	1619	1702	2302
B Diameter	168	232	292	400	508	600	698	711	900	900	900	1351	1422	1676
C Maximum	178	219	295	381	454	533	530	654	635	800	800	1116	1391	1499
D 150 ANSI	—	176	226	272	CF*	432	CF*	CF*	CF*	CF*	535	—	—	—
DD 300 ANSI	—	184	238	284	CF*	451	CF*	CF*	CF*	CF*	CF*	—	—	—
E 150 ANSI	—	140	171	184	CF*	349	CF*	CF*	CF*	CF*	405	—	—	—
EE 300 ANSI	—	148	184	197	CF*	368	CF*	CF*	CF*	CF*	CF*	—	—	—
F 150 ANSI	95	114	140	171	203	241	279	289	403	370	432	505	648	864
FF 300 ANSI	105	127	159	191	222	260	292	324	403	408	483	559	699	978
H NPT Body Tapping	0.375	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	0.50	0.50	0.75	0.75	1.00	1.00	1.25	2.00	2.00	2.00	2.00	2.00	2.00	2.00
K NPT Cover Tapping	0.375	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	15	20	28	43	58	71	86	86	114	114	114	165	191	216
Approx. Ship Weight (kgs)	20	39	89	150	284	409	568	627	681	1157	1249	2951	3876	5942
Approx. X Pilot System	331	381	686	762	839	915	915	1042	1016	1169	1397	1728	2007	2185
Approx. Y Pilot System	254	280	458	508	559	610	661	661	762	762	762	991	1016	1194
Approx. Z Pilot System	254	280	458	508	559	610	661	661	762	762	762	991	1067	1245

*Consult Factory

Note: The top two flange holes on valve sizes 36 thru 48 are threaded to 1 1/2"-6 UNC.

627-01 Valve Selection	100-20 Pattern: Globe (G), Angle (A), End Connections: Flanged (F) Indicate Available Sizes															
	Inches	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
	mm	80	100	150	200	250	300	350	400	450	500	600	750	900	1000	1200
Main Valve 100-20	Pattern	G	G, A	G, A	G, A	G	G	G	G	G	G	G	G	G	G	G
	End Detail	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
Suggested Flow (gpm)	Maximum	260	580	1025	2300	4100	6400	9230	9230	16500	16500	16500	28000	33500	33500	33500
Suggested Flow (Liters/Sec)	Maximum	16	37	65	145	258	403	581	581	1040	1040	1040	1764	2115	2115	2115

100-20 Series is the reduced internal port size version of the 100-01 Series.

Notes:

- 5 psi minimum differential between valve inlet and outlet
- Having adequate space around valve for maintenance work is recommended

Important Notice: Do Not Oversize

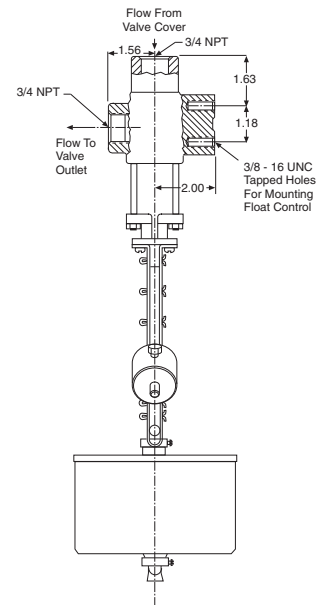
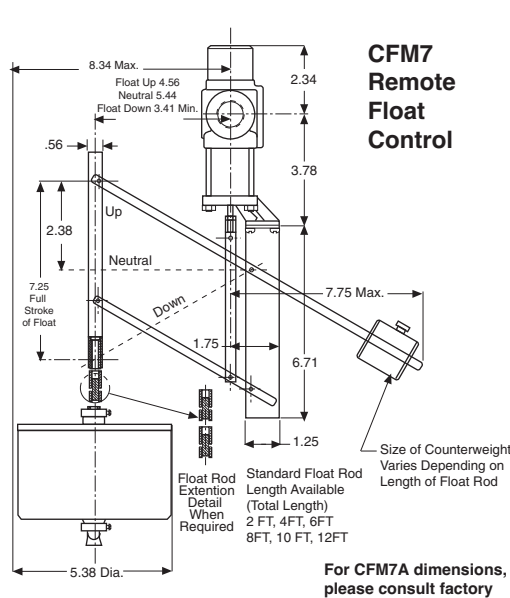
Pilot System Specifications

Temperature Range

Water: to 180° F / 82° C

Materials

- Pilot Control: Brass
- Trim: Stainless Steel Type 303
- Rubber: Buna-N® Synthetic
- Float: Polypropylene, 5 3/8" / 136.5mm dia. If temp exceeds 160° F / 70° C, specify a stainless steel float.
- Float Rod: Valves 6"/150 mm & smaller, two 12" / 300 mm sections of PVC rod.
- Valves 8" / 200 mm & larger, Four sections as above.



When Ordering, Please Specify:

1. Catalog No. 627-01
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Materials Desired
6. Threaded or Flanged
7. Valve Closing or Valve Opening on Rising Water Level.
8. Desired Options
9. When Vertically Installed