



Model 100-01 Hytrol Basic Valve

SIZES

Globe: 3/8" to 3" screwed, 1-1/2" to 24" flanged
 Angle: 1-1/2" to 3" screwed, 2" to 24" flanged

TEMP RANGE

-40° to 180°F

DESCRIPTION

The Cla-Val Model 100-01 Hytrol Valve is a hydraulically operated, diaphragm actuated, globe or angle pattern valve. It consists of three major components: body, diaphragm assembly, and cover. The diaphragm assembly is the only moving part.

The diaphragm assembly is guided top and bottom by a precision machined stem. It utilizes a non-wicking diaphragm of nylon fabric bonded with synthetic rubber. A resilient synthetic rubber disc retained on three and one half sides by a disc retainer forms a drip-tight seal with the renewable seat when pressure is applied above the diaphragm.

The Model 100-01 is the basic valve used in nearly all Cla-Val Automatic Control Valves. It is the valve of choice for system applications requiring remote control, pressure regulation, solenoid operation, rate of flow control, liquid level control or check valve operation. The rugged simplicity of design and pack-less construction assure a long life of dependable, trouble-free operation. It is available in various materials and in a full range of sizes, with either screwed or flanged ends. Its applications are unlimited.

FEATURES

- Drip - Tight, Positive Seating
- Service Without Removal From Line
- Screwed or Flanged Ends
- Globe or Angle Pattern
- Every Valve Factory-Tested

PRESSURE RATINGS

Valve Body & Cover		Pressure Class			
		Flanged			Screwed
Grade	Material	ANSI Standards*	150 lb.	300 lb.	End** Details
ASTM A536	Ductile Iron	B16.42	250	400	400
ASTM A216-WCB	Cast Steel	B16.5	285	400	400
ASTM B62	Bronze	B16.24	225	400	400
ASTM A743	Stainless Steel	B16.5	285	400	400
356-T6	Aluminum	B16.1	275	—	—

Note: *ANSI standards are for flange dimensions only.
 Flanged valves are available faced but not drilled.
 **End Details machined to ANSI B2.1 specifications.

MATERIALS

Component	Material Options				
Body & Cover	Ductile Iron	Cast Steel	Bronze	Stainless Steel	Aluminum
Available Sizes	1" - 24"	1" - 24"	3/4" - 16"	1/2" - 16"	1/2" - 16"
Disc Retainer & Diaphragm Washer	Ductile Iron	Cast Steel	Bronze	Stainless Steel	Aluminum
Trim: Disc Guide, Seat & Cover Bearing	Bronze is standard. Stainless Steel is optional.			Stainless Steel is standard.	
Disc	Buna-N [®] Rubber				
Diaphragm	Nylon Reinforced Buna-N [®] Rubber				
Stem, Nut & Spring	Stainless Steel				

OPTIONS

Epoxy Coating - suffix KC (FDA approved, fusion bonded epoxy coating, up to 175° F. Delrin[®] Sleeved Stem - suffix KG (prevents deposit build-up). Viton[®] Rubber Parts - suffix KB (Optional diaphragm, disc and o-ring fabricated with Viton[®] synthetic rubber, up to 250° F). Dura-Kleen[®] Stem - suffix KD (A patented self-cleaning design). Water Treatment Clearance - suffix KW (keeps water treatment compounds from interfering with the valve operation, best for non-modulating service). Heavy Spring - suffix KH (for low differential pressure, helps the valve close. Best non-modulating valves).

American Backflow Specialties

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(800) 66-BKFLO

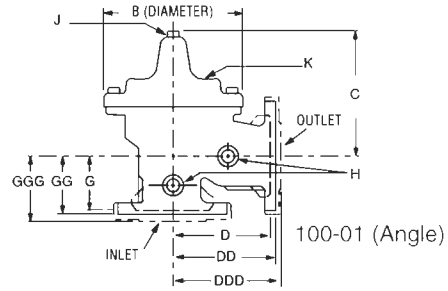
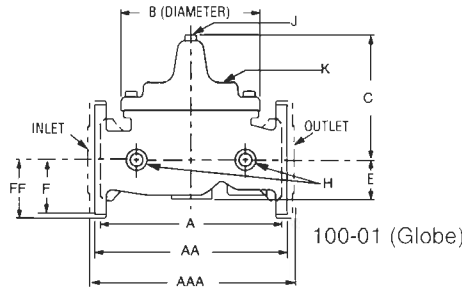
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Hytrol 100-01 Basic Valve



Dimensions

Valve Size (Inches)	3/8	1/2-3/4	1	1 1/4-1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	24
A Screwed	2.75	3.50	5.12	7.25	9.38	11.00	12.50	—	—	—	—	—	—	—	—
AA 150 ANSI	—	—	—	8.50*	9.38	11.00	12.00	15.00	20.00	25.38	29.75	34.00	39.00	41.38	61.50
AAA 300 ANSI	—	—	—	9.00*	10.00	11.62	13.25	15.62	21.00	26.38	31.12	35.50	40.50	43.50	63.24
B Dia.	2.50	3.12	4.38	5.62	6.62	8.00	9.12	11.50	15.75	20.00	23.62	28.00	32.75	35.50	53.16
C Max.	2.00	3.00	2.75	5.50	6.50	7.56	8.19	10.62	13.38	16.00	17.12	20.88	24.19	25.00	43.93
D Screwed	—	—	—	3.25	4.75	5.50	6.25	—	—	—	—	—	—	—	—
DD 150 ANSI	—	—	—	4.00*	4.75	5.50	6.00	7.50	10.00	12.75	14.88	17.00	19.50	20.81	—
DDD 300 ANSI	—	—	—	4.25*	5.00	5.88	6.38	7.88	10.50	13.25	15.56	17.75	20.25	21.62	—
E	1.25	0.88	1.63	1.12	1.50	1.69	2.56	3.19	4.31	5.31	9.25	10.75	12.62	15.50	17.75
F 150 ANSI	—	—	—	2.50	3.00	3.50	3.75	4.50	5.50	6.75	8.00	9.50	10.50	11.75	19.25
FF 300 ANSI	—	—	—	3.06	3.25	3.75	4.13	5.00	6.25	7.50	8.75	10.25	11.50	12.75	—
G Screwed	—	—	—	1.88	3.25	4.00	4.50	—	—	—	—	—	—	—	—
GG 150 ANSI	—	—	—	4.00*	3.25	4.00	4.00	5.00	6.00	8.00	8.62	13.75	14.88	15.69	—
GGG 300 ANSI	—	—	—	4.25*	3.50	4.31	4.38	5.31	6.50	8.50	9.31	14.50	15.62	16.50	—
H NPT Body Tapping	—	1/8	1/4	3/8	3/8	1/2	1/2	3/4	3/4	1	1	1	1	1	1
J NPT Cover Center Plug	1/8	1/8	1/4	1/4	1/2	1/2	1/2	3/4	3/4	1	1	1 1/4	1 1/2	2	1 1/2
K NPT Cover Tapping	—	1/8	1/4	3/8	3/8	1/2	1/2	3/4	3/4	1	1	1	1	1	1
Valve Stem Internal Thread UNF	—	—	—	10-32	10-32	10-32	1/4-28	1/4-28	3/8-24	3/8-24	3/8-24	3/8-24	3/8-24	1/2-20	3/4-16
Stem Travel	—	—	—	0.4	0.6	0.7	0.8	1.1	1.7	2.3	2.8	3.4	4.0	4.5	6.50
Approx. Ship Wt. Lbs.	3	3	8	15	35	50	70	140	285	500	780	1165	1600	2265	6200

*1 1/2" Size Only

4
Valves

A
Ball Valves

B
Regulators

C
Automatic Control Valves

Functional Data

Valve Size	Inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	24	
	mm.	10	15	20	25	32	40	50	65	80	100	150	200	250	300	350	400	600	
C _v Factor	Globe Pattern	Gal./Min. (gpm.)	1.8	6	8.5	13.3	30	32	54	85	115	200	440	770	1245	1725	2300	2940	7655
		Litres/Sec. (l/s.)	.43	1.44	2.04	3.2	7.2	7.7	13	20.4	27.6	48	105.6	184.8	299	414	552	706	1837
	Angle Pattern	Gal./Min. (gpm.)	—	—	—	—	—	29	61	101	139	240	541	990	1575	2500*	3060*	4200*	—
		Litres/Sec. (l/s.)	—	—	—	—	—	7	14.6	24.2	33.4	58	130	238	378	600	734.4	1008	—
Equivalent Length of Pipe	Globe Pattern	Feet (ft.)	25	7	16	23	19	37	51	53	85	116	211	291	347	467	422	503	628
		Meters (m.)	7.6	2.2	4.8	7.1	5.7	11.4	15.5	16.0	25.9	35.3	64.2	88.6	105.8	142.4	128.6	153.6	191.6
	Angle Pattern	Feet (ft.)	—	—	—	—	—	46	40	37	58	80	139	176	217	222*	238*	247*	—
		Meters (m.)	—	—	—	—	—	13.9	12.1	11.4	17.8	24.5	42.5	53.6	66.1	67.8	72.7	75.2	—
K Factor	Globe Pattern	16.3	3.7	5.7	6.1	3.6	5.9	5.6	4.6	6.0	5.9	6.2	6.1	5.8	6.1	5.0	5.2	4.0	
	Angle Pattern	—	—	—	—	—	7.1	4.4	3.3	4.1	4.1	4.1	3.7	3.6	2.9	2.8	2.6	—	
Liquid Displaced from Diaphragm Chamber When Valve Opens	Fl. Oz	.12	.34	.34	.70	—	—	—	—	—	—	—	—	—	—	—	—	—	
	U.S. Gal.	—	—	—	—	.02	.02	.03	.04	.08	.17	.53	1.26	2.51	4.0	6.5	9.6	29	
	ml	3.5	10.1	10.1	20.7	75.7	75.7	121	163	303	643	—	—	—	—	—	—	—	
	Litres	—	—	—	—	—	—	—	—	—	—	—	2.0	4.8	9.5	15.1	24.6	36.2	109.8

*Estimated

List of Controls

Float control, Solenoid control, Pump control, Rate of flow, Pressure reducing, Pressure relief & sustaining, Check valves, Altitude valves.

Some of the more commonly requested accessories are listed on the following page.



COMMONLY ORDERED CLA-VAL ACCESSORIES

CRA - Pressure Reducing Control

Reduces high inlet psi to low outlet pressure. Direct acting, spring loaded, diaphragm type control regulator operates hydraulically or pneumatically. Opens valve via a compression spring over the diaphragm. It closes when downstream psi under the diaphragm exceeds the spring setting. Senses downstream psi remotely. Size: 3/8.



CRD - Pressure Reducing Control

This model is identical to the CRA model, except that it senses downstream psi directly. Size: 3/8.



CRL - Pressure Relief Valve

Direct acting, spring loaded, diaphragm type relief valves. Held closed by the force of the compression spring above the diaphragm. If control psi exceeds spring setting, flow occurs. When control psi drops below spring setting, the valve closes. Control psi is applied to the chamber beneath the diaphragm through a sensing port. Size: 1/2 to 3/4.



X101 - Valve Position Indicator

Visual Position Indicator quickly shows valve position. A solid brass indicator rod fastened to the valve stem moves up and down inside a pyrex tube within a brass housing. Housing is open on two sides to permit clear view of indicator rod. A vent valve purges air trapped in the valve cover. Furnished ready for install. Size: 1" to 24".



X102 - Flow Limiting Assembly

Regulates flow from full flow to shut-off. The adjustable assemblies control flow by limiting the valve opening size. The X102A & X102D maintain a pressure seal via an internal "O" Ring. The X102B is pressure sealed by an external resilient washer that is compressed with the Jam Nut tightened. Inches: 1/2 to 1".



CF1-C1 - Float Control For Open Tanks

Provides non-modulating operation. Operates remotely located ACVs requiring 3-way or 4-way pilot valve operation. Operates on a min. (max.) level change of 1" (19"). Can be up to 11.5' from the control via extensions. If liquid level rises (lowers), float lifts (lowers) a linkage to close (open) the valve. Inches: 1/8 NPT.



136-01 Solenoid Control *(shown with ACV)*

Sends an electrical signal to the valve to tell it to open or close (non-throttling). This 3-way solenoid valve applies or relieves pressure from the diaphragm chamber of the main valve. Furnished either normally open (de-energize solenoid to open) or normally closed (energize solenoid to open). Inches: 1/2 to 4".



There are many more controls, pilots & accessories made by Cla-Val available. Repair parts are also available!

Call today if you require more information!

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