

Modulating Float Level Control Valve

- Accurate and Repeatable Level Control
- Reliable Hydraulic Operation
- Drip-Tight Positive Shut-Off
- Multi Function Capability
- Completely Automatic Operation

The Cla-Val Model 429-01/91 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.

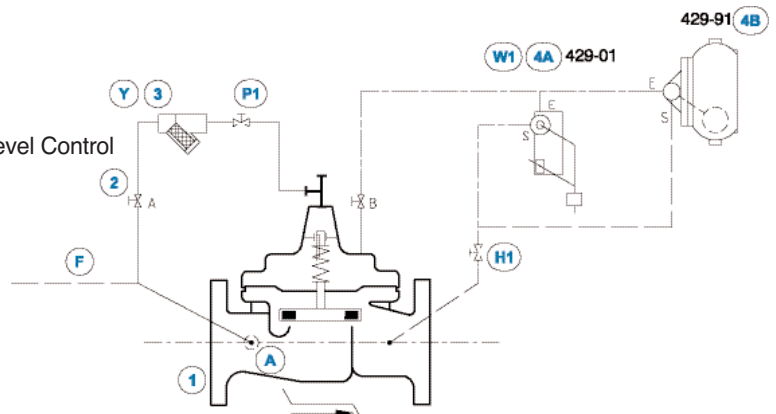


Schematic Diagram

Item	Description
1	Hytrol Main Valve
2	RB-117 Isolation Ball Valve
3	X43 Strainer
4A	CFM-9 (2-Way Modulating Float Level Control)
4B	CFCM-M1E (2-Way Modulating Float Chamber Level Control)

Optional Features

Item	Description
A	X46A Flow Clean Strainer
F	Remote Sensing
H1	RB-117 Drain to Main Valve Outlet
P1	RB-117 Isolation Ball Valve
W1	Anti-Freeze Feature
Y	X43/80-EP High Capacity Strainer



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 0.5m to 3m in 0.5m increments

A stilling well (200mm 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 mhd is equal to or greater than the vertical distance in meters between the valve and the float control.

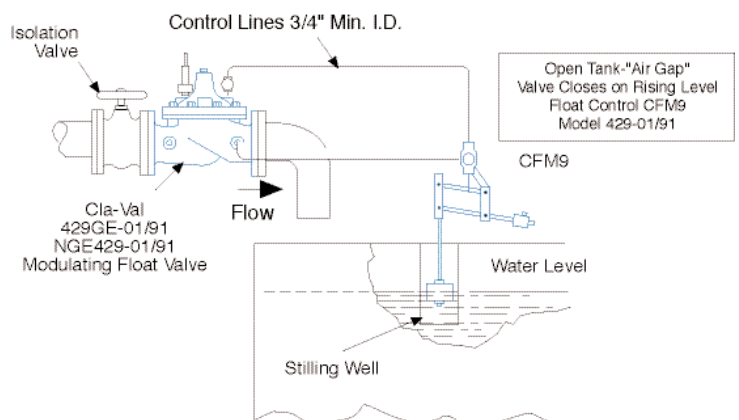
For good modulation under all conditions the float control discharge must be piped back into the main valve discharge side. Both lines connecting the valve and float control must be large enough to minimize pressure drop under maximum flow conditions (19mm I.D. to 6.0 meters, 25mm I.D. up to 9.2 meters).

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.

Typical Applications

(Standard - 1m)



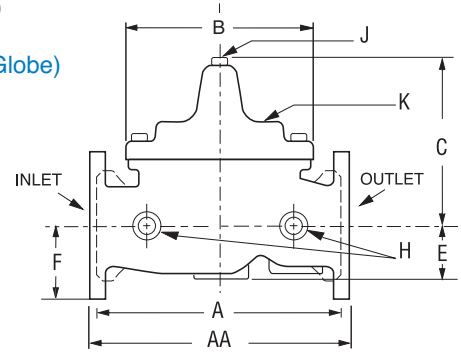
Model 429GE-01/91 (Uses Basic Valve Model 100GE-01)

Dimensions
(In mm)

Pressure Ratings (Recommended Maximum Pressure - bar)

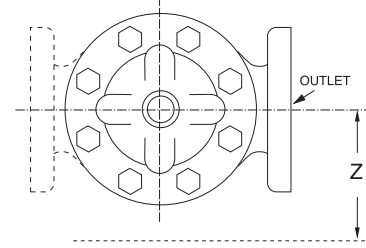
Valve Body & Cover		Pressure Class				
		Flanged				Threaded
Grade	Material	PN10	PN16	PN25	PN40	End Details
ASTM A536	Ductile Iron	10	16	25	40	20

100GE-01 (Globe)

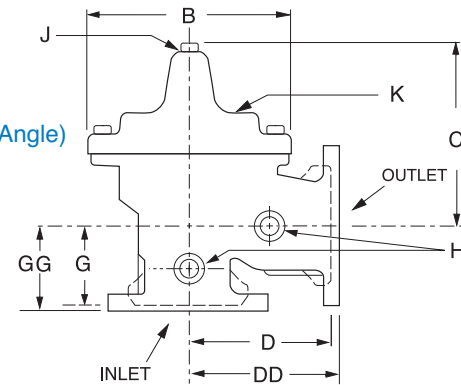


Materials

Component	Standard Material Combinations
Body & Cover	Ductile Iron - Fusion Bonded Epoxy coated
Available Sizes	32mm - 150mm
Disc Retainer & Diaphragm Washer	Cast Iron - Fusion Bonded Epoxy coated
Trim: Disc Guide, Seat & Cover Bearing	Stainless Steel
Disc	EPDM
Diaphragm	Nylon Reinforced EPDM
Stem, Nut & Spring	Stainless Steel



100AE-01 (Angle)



Model 429GE-01/91 Dimensions (In mm)

Valve Size (mm)	32-40	50	65	80	100	150
A Threaded	200	238	280	318	—	—
AA Flanged	216*	254	279	305	381	508
AAAA Grooved End	216	228	279	318	381	508
B Dia.	145	170	205	235	295	400
C Max.	140	165	192	208	270	340
CC Max. Grooved End	120	146	175	184	236	308
D Threaded	83	121	140	159	—	—
DD Flanged	102*	127	149	162	191	254
DDDD Grooved End	—	121	—	152	191	—
E	29	38	43	52	81	110
EE Grooved End	52	64	73	79	108	152
F	75	82.5	93	100	110	142.5
G Threaded	48	83	102	114	—	—
GG Flanged	102*	89	110	111	126	153
GGGG Grooved End	—	83	—	108	127	—
H BSP Body Tapping	3/8	3/8	1/2	1/2	3/4	3/4
J BSP Cover Center Plug	1/4	1/2	1/2	1/2	3/4	3/4
K BSP Cover Tapping	3/8	3/8	1/2	1/2	3/4	3/4
Z (Approx Outer Limits of Pilot System)	150	150	165	203	216	230
Valve Stem Internal Thread UNF	10-32	10-32	10-32	1/4-28	1/4-28	3/8-24
Stem Travel	10	15	18	20	28	43
Approx. Ship Wt. Kgs.	13	20	25	30	50	95

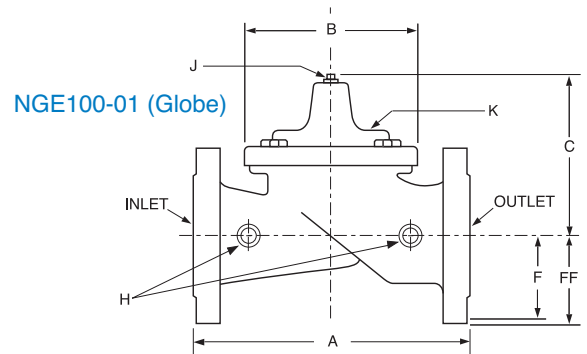
For Larger Sizes
refer to Datasheet
427-01

Model NGE429-01/91 (Uses Basic Valve Model NGE100-01)

Dimensions
(In mm)

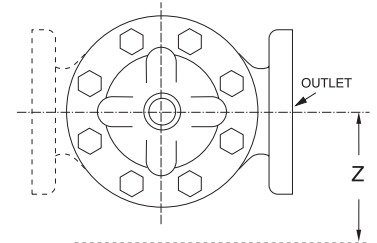
Pressure Ratings (Recommended Maximum Pressure - bar)

Valve Body & Cover		Pressure Class				
		Flanged				Threaded
Grade	Material	PN10	PN16	PN25	PN40	End Details
ASTM A536	Ductile Iron	10	16	25	40	20



Materials
























Component	Standard Material Combinations
Body & Cover	Ductile Iron - Fusion Bonded Epoxy coated
Available Sizes	50mm - 200mm
Disc Retainer & Diaphragm Washer	Cast Iron - Fusion Bonded Epoxy coated
Trim: Disc Guide, Seat & Cover Bearing	Stainless Steel
Disc	EPDM
Diaphragm	Nylon Reinforced EPDM
Stem, Nut & Spring	Stainless Steel



Model NGE429-01/91 Dimensions (In mm)

Valve Size (mm)	50	65	80	100	150	200
A	230	290	310	350	480	600
B Dia.	145	170	170	235	295	400
C Max.	136	170	178	219	295	381
F PN16	83	93	100	110	143	170
FF PN25	83	93	100	118	150	180
H BSP Body Tapping	3/8"	3/8"	3/8"	1/2"	3/4"	3/4"
J BSP Cover Center Plug	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"
K BSP Cover Tapping	3/8"	3/8"	3/8"	1/2"	3/4"	3/4"
Z (Approx Outer Limits of Pilot System)	190	200	200	200	250	270
Valve Stem Internal Thread UNF	10-32	10-32	10-32	1/4-28	1/4-28	3/8-24
Stem Travel	10	15	15	20	28	43
Approx. Ship Wt. Kgs.	15	20	25	39	70	120

For Larger Sizes
refer to Datasheet
427-01

Valve Selection		These Symbols  and  Indicate Available Sizes									
		Inches	1¼	1½	2	2½	3	4	6	8	
		mm	32	40	50	65	80	100	150	200	
		End Detail	Threaded	Threaded & Flanged				Flanged			
Model 429GE-01/91	Basic Valve 100GE-01	Globe Pattern								--	
		CV (L/S)	7	8	13	20	28	48	111	--	
		Angle Pattern									--
		CV (L/S)	6	7	16	24	33	57	130	--	
	Suggested Flow (M³/hr)	Max. Continuous	21	29	43	72	108	173	389	--	
		Max. Intermittent	27	34	54	90	137	216	482	--	
	Suggested Flow (Litres/Sec)	Max. Continuous	6	8	12	20	30	48	108	--	
		Max. Intermittent	7.6	9.5	15	25	38	60	134	--	
<small>Contact Factory for Sizes not Shown</small>											
Model NGE429-01/91	Basic Valve NGE100-01	Globe Pattern									
		CV (L/S)	--	--	9	12	16	33	58	133	
	Suggested Flow (M³/hr)	Max. Continuous	--	--	36	61	90	144	316	565	
		Max. Intermittent	--	--	10	17	25	40	88	157	

NGE429-01/91 is the reduced internal port size version of the 429GE-01/91. **Flanged End Detail Only **Important Notice: Do Not Oversize**
The flow coefficient CV, expressed as l/s is the flow which produces a 1 bar pressure drop across the fully open valve at a water temperature of 15 °C.
 For 100GE-01 basic valves, suggested flow calculations were based on flow through Schedule 40 Pipe. Maximum continuous flow is approx. 6.1 meters/sec & maximum intermittent is approx. 7.6 meters/sec. For NGE100-01 basic valves, suggested flow calculations were based on flow through the valve seat of approx. 5.0 meters/sec was used for maximum continuous flow.

We recommend providing adequate space around valve for maintenance work

Minimum Differential: 0.35 bar between valve inlet and outlet

Pilot System Specifications

Temperature Range

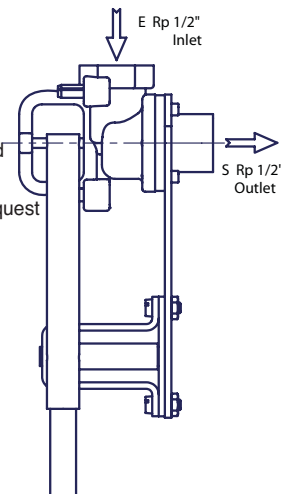
Water: to 65°C

Materials

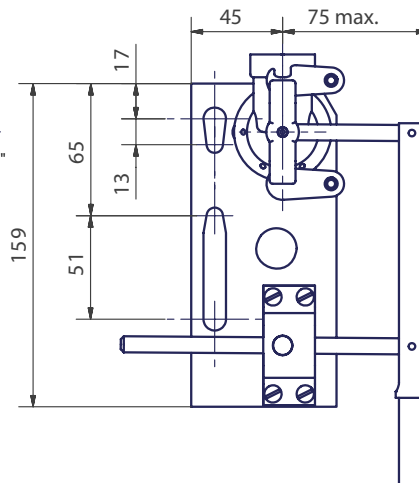
Pilot Control: Brass
 Trim: Stainless Steel
 Type 303
 Rubber: Buna-N® Synthetic
 Rubber
 Float: Stainless steel float.
 Float Rod: Stainless Steel Standard
 Length 1 meter, other
 Lengths available on request

When Ordering, Please Specify

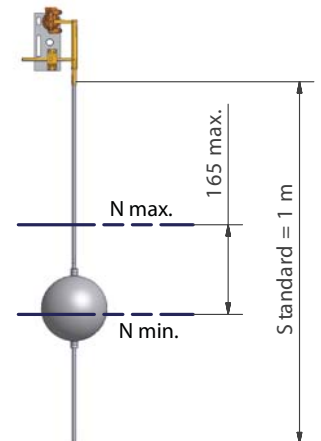
- Catalog No. 429-01/91
- Valve Size
- Pattern - Globe or Angle
- Pressure Class
- Materials Desired
- Threaded or Flanged
- Valve Closing or Valve Opening on Rising Water Level
- Desired Options
- When Vertically Installed



CLA-VAL CFM9 Standard 2-WAY MODULATING FLOAT LEVEL CONTROL



Float rod (25) & (26) stainless steel.
 Standard length : L = 1m
 Other lengths upon request.



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