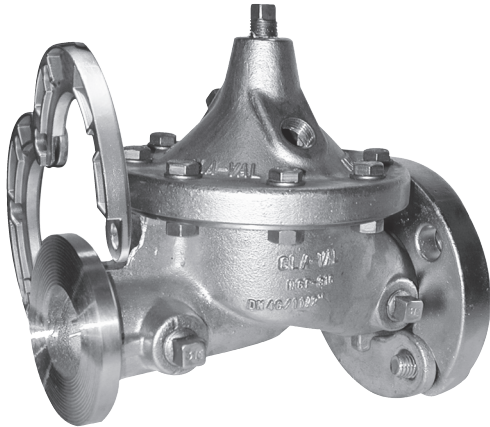




— MODEL — **100-46**  
(Full Internal Port)

# 316SS Hytrol Valve



- All 316 Stainless Steel
- Reduced Cavitation Design
- Drip-Tight, Positive Sealing Action
- Service Without Removal From Line
- Every Valve Factory Tested
- Three-Year Warranty

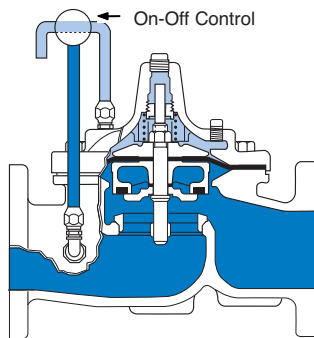
The Cla-Val Model 100-46 Hytrol 316SS Valve is a full ported hydraulically operated, diaphragm actuated, globe pattern valve with all 316 Stainless Steel metal parts. Specially designed 316 Stainless Steel removable slip-on flanges provide 150 or 300 ANSI class flange connections that meet ANSI and ISO standards. This valve is ideal for control valve applications where fluid compatibility is often a problem. The standard Electropolish finish on the 316 Stainless Steel parts offers extreme corrosion resistance to many industrial fluids such as seawater, high alkyl or high acid concentrations or other aggressive or corrosive fluids.

**Note:**

KO anti-cavitation trim is available for valves in sizes 3" and larger only.

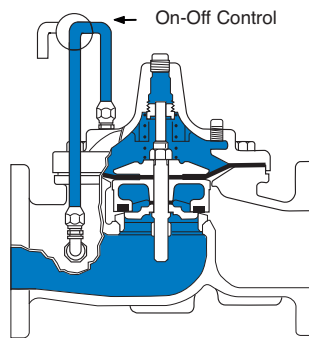
The Model 100-46 Hytrol consists of these major components: body, flanges, diaphragm assembly and cover. The diaphragm assembly is the only moving part and is guided top and bottom by a precision-machined stem. A non-wicking diaphragm of nylon fabric reinforced, synthetic rubber creates the control chamber for the valve. A resilient, synthetic rubber disc forms a drip-tight seal, when pressure is applied to the control chamber. The rugged simplicity of design and packless construction assures a long life of dependable, trouble-free operation. Smooth flow passages and fully guided diaphragm assembly assure optimum control, when used in piping systems requiring remote control, pressure regulation, solenoid operation, rate of flow control or check valve operation.

## Principle of Operation



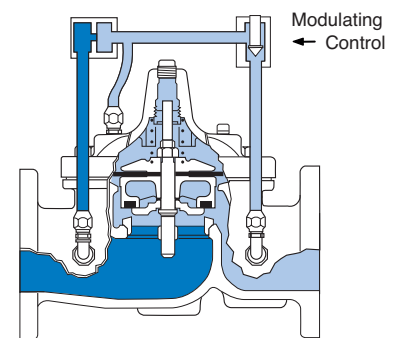
### Full Open Operation

When pressure in the cover chamber is relieved to a zone of lower pressure, the line pressure at the valve inlet opens the valve, allowing full flow.



### Tight Closing Operation

When pressure from the valve inlet is applied to the cover chamber, the valve closes drip-tight.



### Modulating Action

The valve holds any intermediate position when operating pressure is equal above and below the diaphragm. Using a Cla-Val "Modulating" Control will allow the valve to automatically compensate for line pressure changes.

# 100-46 Main Valve Specifications

## Sizes

Globe (inch):  
 1½", 2", 2-1/2", 3", 4", 6", 8", 10", 12"  
 Grooved End: 1-1/2" - 6"

## End Detail

Slip-on Two Piece Flange  
 Dimensions Per ANSI B16.5  
 Grooved End AWWA/ANSI C-606

## Pressure Rating

ANSI Class 150:  
 Maximum 285 psi  
 ANSI Class 300:  
 Maximum 400 psi  
 Higher Pressure Available  
 Please Contact Factory

## Operating Temperature

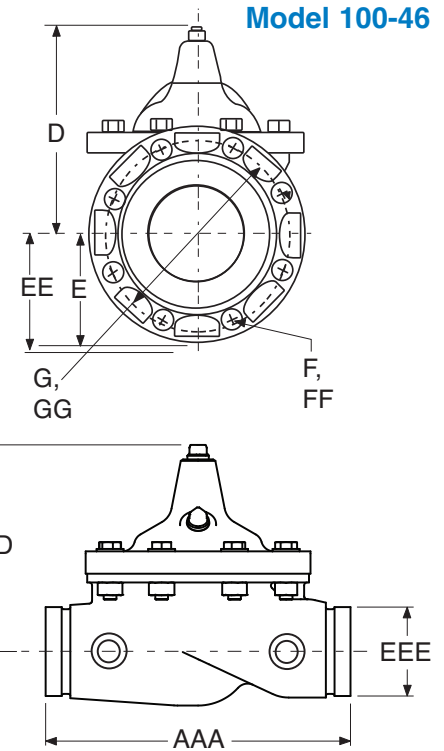
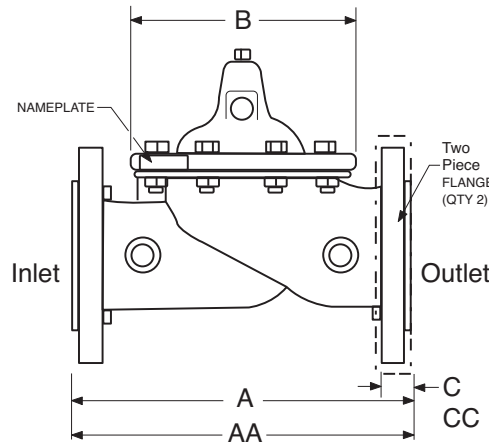
Fluids Compatible with Valve  
 Materials  
 -40° to 180° F (-40° to 82° C)

## Materials

Body, Cover, Trim,  
 Diaphragm Assembly,  
 Flanges, and Fasteners  
 316 Series  
 Stainless Steel  
 Electropolished  
 Disc:  
 Buna-N® Rubber\*  
 Diaphragm:  
 Nylon Fabric Reinforced  
 Synthetic Buna-N® Rubber\*

\*Contact Factory for Other  
 Disc or Diaphragm Materials

**Note:** 100-46 valve uses the same  
 internal parts as the basic Cla-Val  
 standard main full Internal port  
 100-01 Hytrol.



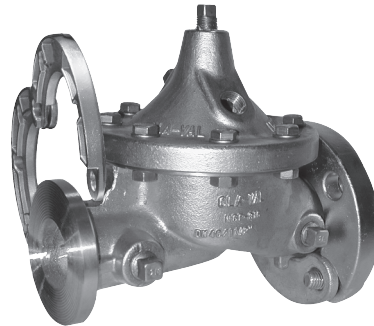
## 100-46 Dimensions (Inches)

Valve Size (Inches)	1½	2	2½	3	4	6	8	10	12
A 150 ANSI	7.87	9.38	11.00	12.00	15.00	20.00	25.38	29.75	34.00
AA 300 ANSI	7.87	9.38	11.00	12.00	15.00	20.00	25.38	29.75	34.00
AAA Grooved End	8.50	11.00	11.00	12.00	15.00	20.00	—	—	—
B	5.62	6.61	8.00	9.13	11.50	15.75	20.00	23.62	28.00
C	0.56	0.62	0.69	0.75	0.94	1.00	1.12	1.19	1.25
CC 300 ANSI	0.81	0.88	1.00	1.12	1.25	1.44	1.62	1.88	2.00
D	5.90	6.25	7.25	8.20	10.21	13.32	16.38	21.00	25.38
DDD Grooved End	5.29	6.34	7.43	8.14	10.30	13.03	—	—	—
E	2.56	3.05	3.54	3.75	4.53	5.61	6.75	8.00	9.50
EE 300 ANSI	3.05	3.25	3.74	4.13	5.02	6.30	7.50	8.75	10.25
EEE Grooved End	1.13	1.50	1.88	2.13	2.68	3.86	—	—	—
F	0.62	0.75	0.75	0.75	0.75	0.88	0.88	1.00	1.00
FF 300 ANSI	0.88	0.75	0.88	0.88	0.88	0.88	1.00	1.12	1.25
G	3.88	4.75	5.50	6.00	7.50	9.50	11.75	14.25	17.00
GG 300 ANSI	4.50	5.00	5.88	6.62	7.88	10.62	13.00	15.25	17.75
Flange Bolts (150 Class)	4	4	4	4	8	8	8	12	12
Flange Bolts (300 Class)	4	8	8	8	8	12	12	12	16
Approx. Wt. (Lbs.)	25	35	55	75	160	290	340	600	1000

## Full Port Functional Data

Size (Inches)	Cv (gpm)*	Cv (l/s)**
1½	32	8
2	54	13
2½	85	20
3	115	27
4	200	48
6	440	105
8	770	185
10	1245	299
12	1725	414

\*Cv = gpm flow at 1 psi drop  
 \*\*Cv = l/s flow at 1 bar drop



### When Ordering Please Specify:

1. Catalog No. 100-46
2. Valve Size
3. Fluid Being Handled
4. Fluid Temperature
5. Inlet Pressure Range
6. Outlet Pressure Range
7. Maximum and Minimum Differential Pressure
8. Flow Rate Range



E-100-46 US Units (R-02/2021)

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