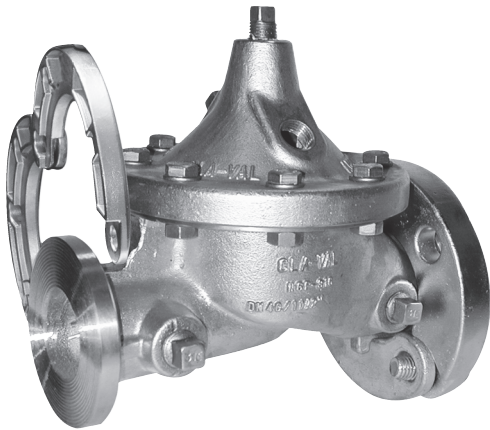




— MODEL — **100-46**  
(Full Internal Port)

# 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

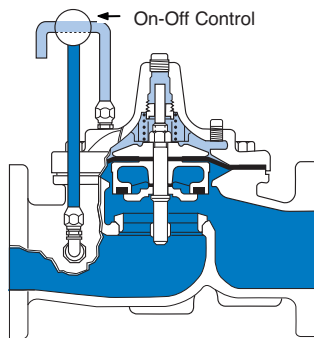
The Cla-Val Model 100-46 Hytrol 316SS Valve is a full ported hydraulically operated, diaphragm actuated, globe pattern valve with all 316 Stainless Steel metal parts. Specially designed 316 Stainless Steel removable slip-on flanges provide 150 or 300 ANSI class flange connections that meet ANSI and ISO 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 80 mm and larger only.

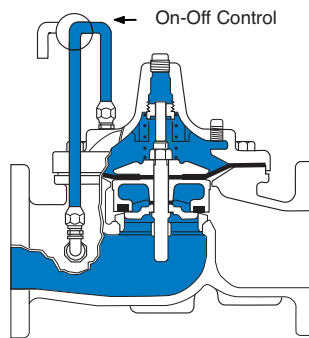
The Model 100-46 Hytrol consists of these major components: body, flanges, diaphragm assembly and cover. The diaphragm assembly is the only moving part and is guided top and bottom by a precision-machined stem. A non-wicking diaphragm of nylon fabric reinforced, synthetic rubber creates the control chamber 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



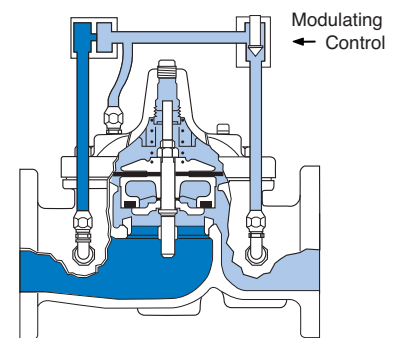
### Full Open Operation

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

Model 100-46

## Sizes

Globe (millimeters):  
40, 50, 65, 80, 100, 150, 200  
250 and 300 mm  
Grooved End: 40 - 150 mm

## 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

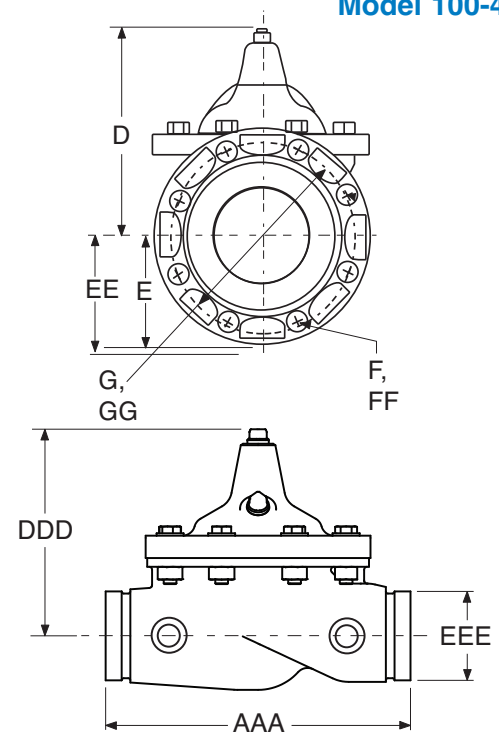
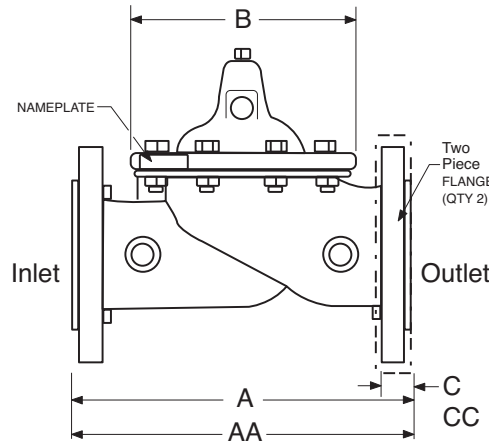
Fluids Compatible with Valve  
Materials  
-40° to 82° C (-40° to 180° F)

## 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.



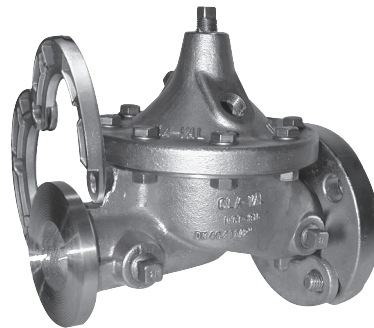
## 100-46 Dimensions (mm)

Valve Size (mm)	40	50	65	80	100	150	200	250	300
A 150 ANSI	200	238	279	305	381	508	645	756	864
AA 300 ANSI	200	238	279	305	381	508	645	756	864
AAA Grooved End	216	279	279	305	381	508	—	—	—
B	143	168	203	232	292	400	508	600	711
C	14	16	18	19	24	25	28	30	32
CC 300 ANSI	21	22	25	28	32	37	41	48	51
D	150	159	184	208	259	338	416	533	645
DDD Grooved End	134	161	189	207	262	331	—	—	—
E	65	78	90	95	115	143	172	203	241
EE 300 ANSI	78	83	95	105	128	160	190	222	260
EEE Grooved End	29	38	48	54	68	98	—	—	—
F	16	19	19	19	19	22	22	25	25
FF 300 ANSI	22	19	22	22	22	22	25	28	32
G	99	121	140	152	190	241	299	362	432
GG 300 ANSI	114	127	149	168	200	270	330	387	451
Flange Bolts (150 Class)	102	102	102	102	203	203	203	305	305
Flange Bolts (300 Class)	102	203	203	203	203	305	305	305	406
Approx. Wt. (Kgs.)	11	16	25	34	73	132	154	272	454

## Full Port Functional Data

Size (Inches)	Cv (gpm)*	Cv (l/s)**
40	32	8
50	54	13
65	85	20
80	115	27
100	200	48
150	440	105
200	770	185
250	1245	299
300	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 Metric (R-02/2021)

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