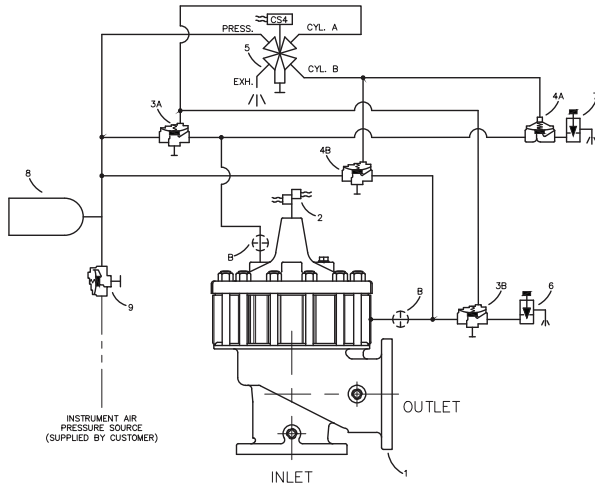




# — MODEL — 136-BY

## Pneumatically-Operated Surge Relief Valve



- **Fast Acting Solenoid Control**
- **Reliable Drip Tight Shut-off**
- **Simple Design, Proven Reliable**
- **Easy Installation & Maintenance**

The Cla-Val Model 136-BY Pneumatically-Operated Surge Relief Valve is a quick opening relief valve which opens to relieve surges to atmosphere. This valve consists of an angle-pattern, single control chamber Hytrol main valve, a three-way solenoid valve, an auxiliary pilot valve, and a manual control valve. In normal operation, the valve is closed due to pilot control system directing pneumatic pressure to hold Hytrol main valve closed. Customer-supplied surge sensors activate 136-BY pilot system solenoid for quick valve response to pipeline surges. After solenoid activation pneumatic pressure is quickly vented from Hytrol control chamber and Hytrol opens fully. Manual override to open valve is provided standard. Pneumatic pressure source must have clean, dry air.

### Schematic Diagram

Item	Description
1	2100P Hytrol (Main Valve)
2	Solenoid Valve
3	Receiver Tank
4	Check Valve

#### Optional Features

B	CK2 Cock (Isolation Valve)
C	CNA Needle Valve (Closing)
S	CNA Needle Valve (Opening)

Other main valve configurations and control functions available, consult factory for details.

### Specifications

**SIZES** Globe: 3" - 36" flanged  
Angle: 3" - 36" flanged

**END DETAILS** Ductile Iron 150 ANSI B16.42 flanged  
Cast Steel 150 ANSI B16.5 flanged

#### PRESSURE RATINGS

150 class, 250 psi maximum (Ductile Iron)  
150 class, 285 psi maximum (All other materials)  
300 class, 300 psi maximum (All materials)

**TEMPERATURE RANGE** Water: to 180° F. Max

8" and larger Hytrol main valves must be installed with internal stem vertically oriented.

### Functional Data

E-100-02

Valve Size		Inches	3	4	6	8	10	12	14	16	18	20	24	30	36
C <sub>v</sub> Factor	Globe Pattern	Gal./Min.(gpm.)	115	200	440	770	1245	1725	2300	3130	3725	5345	7655	10150	14020
	Angle Pattern	Gal./Min.(gpm.)	139	240	541	990	1575	2500*	3060*	4200*	3725*	5345*	7655*	10150*	10150*
Liquid Displaced from Cover Chamber When Valve Opens		U.S. Gal.	.08	.17	.53	1.26	2.51	4.0	6.5	9.6	11	12	29	42	90

### MATERIALS

#### Main valve body & cover:

Ductile Iron ASTM A-536

Cast Steel ASTM A216-WCB

Other materials available, consult factory for recommendations.

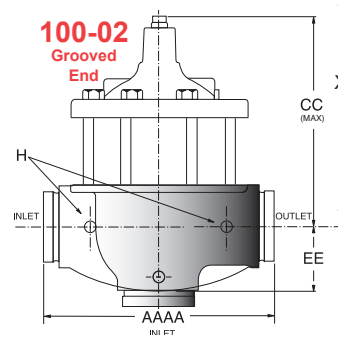
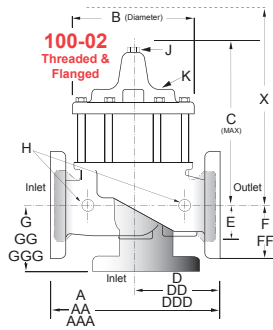
#### Main valve trim:

Bronze / Stainless Steel

#### Pilot control system:

Cast Bronze ASTM B62





Valve Size (Inches)	3	4	6	8	10	12	14	16	18	20	24	30
A Threaded	12.50	—	—	—	—	—	—	—	—	—	—	—
AA 150 ANSI	12.00	15.00	20.00	25.38	29.75	34.00	39.00	41.38	46.00	52.00	61.50	63.00
AAA 300 ANSI	13.25	15.62	21.00	26.38	31.12	35.50	40.50	43.50	47.64	53.62	63.24	64.50
AAAA Grooved End	12.50	15.00	20.00	25.38	—	—	—	—	—	—	—	—
B Dia.	9.12	11.50	15.75	20.00	23.62	28.00	32.75	35.50	41.50	45.00	53.16	56.00
C Max.	11.19	14.25	18.44	21.81	23.38	29.31	32.12	35.00	49.43	53.09	56.50	68.70
CC Max. Grooved End	10.25	13.50	17.18	20.43	—	—	—	—	—	—	—	—
D Threaded	6.25	—	—	—	—	—	—	—	—	—	—	—
DD 150 ANSI	6.00	7.50	10.00	12.69	14.88	17.00	19.50	20.81	—	—	—	—
DDD 300 ANSI	6.38	7.88	10.50	13.25	15.56	17.75	20.25	21.62	—	—	—	—
DDDD Grooved End	6.00	7.50	—	—	—	—	—	—	—	—	—	—
E	2.06	3.19	4.31	5.31	9.25	10.75	12.62	15.50	12.95	15.00	17.75	21.31
EE Grooved End	3.12	4.25	6.00	7.56	—	—	—	—	—	—	—	—
F 150 ANSI	3.75	4.50	5.50	6.75	8.00	9.50	10.50	11.75	15.00	16.50	19.25	22.50
FF 300 ANSI	4.13	5.00	6.25	7.50	8.75	10.25	11.50	12.75	15.00	16.50	19.25	24.00
G Threaded	4.50	—	—	—	—	—	—	—	—	—	—	—
GG 150 ANSI	4.00	5.00	6.00	8.00	8.62	13.75	14.88	15.69	—	—	—	—
GGG 300 ANSI	4.38	5.31	6.50	8.50	9.31	14.50	15.62	16.50	—	—	—	—
GGGG Grooved End	4.25	5.00	—	—	—	—	—	—	—	—	—	—
H NPT Body Tapping	.50	.75	.75	1	1	1	1	1	1	1	1	2
J NPT Cover Center Plug	.50	.75	.75	1	1	1.25	1.50	2	1.5	1.50	1.50	2
K NPT Cover Tapping	.50	.75	.75	1	1	1	1	1	1	1	1	2
Valve Stem Internal Thread UNF	1/4-28	1/4-28	3/8-24	3/8-24	1/2-24	1/2-24	1/2-24	1/2-24	3/4-20	3/4-16	3/4-16	3/4-16
Stem Travel	0.8	1.1	1.7	2.3	2.8	3.4	4.0	4.5	5.1	5.63	6.75	7.5
Approx. Ship Wt. Lbs.	95	190	320	650	940	1675	2460	3100	4300	5400	8150	10300

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

## Pilot System Specifications

### Temperature Range

Water: to 180°F

### Fluids

Air, water, light oils

### Rubber Parts

Buna-N® Synthetic Rubber

### Solenoid Control

Body:

Brass ASTM B283

Enclosure:

NEMA Type 1, 2, 3, 3S, 4, 4X general purpose watertight

NEMA Type 6, 6P, 7, 9 watertight and

Explosion Proof available at extra cost

Voltages:

110, 220 -50Hz AC

24, 120, 240, 480 - 60Hz AC

6, 12, 24, 120, 240 - DC

Others available at extra cost

Max. operating pressure differential: 200 psi

Coil:

Insulation molded Class

F

Watts AC

6

AC Volt Amps Inrush

30

AC Volt Amps Holding

16

Watts DC

10.6

Manual operator available at extra cost.

## When Ordering, Please Specify

1. Catalog No. 136-BY
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Material Desired
6. Solenoid Enclosure, Voltage & Hertz
7. When Vertically Installed



136-BY (02/2016)

## CLA-VAL

PO Box 1325 Newport Beach CA 92659-0325 • Phone: 949-722-4800  
 Fax: 949-548-5441 • Web Site: cla-val.com • E-mail: claval@cla-val.com

### CLA-VAL CANADA

4687 Christie Drive  
 Beamsville, Ontario  
 Canada L0R 1B4  
 Phone: 905-563-4963  
 Fax: 905-563-4040  
 E-Mail: sales@cla-val.ca

### CLA-VAL EUROPE

Chemin des Mésanges 1  
 CH-1032 Romanel/  
 Lausanne, Switzerland  
 Phone: 41-21-643-15-55  
 Fax: 41-21-643-15-50  
 E-Mail: cla-val@cla-val.ch

### CLA-VAL UK

Dainton House, Goods Station Road  
 GB - Tunbridge Wells  
 Kent TN1 2 DH England  
 Phone: 44-1892-514-400  
 Fax: 44-1892-543-423  
 E-Mail: info@cla-val.co.uk

Represented By: