



MODEL — 552-01

Pressure Relief and Surge Anticipator Valve



- All Stainless Steel
- System Saver
- Protects Against Water Hammer Surges
- Opens On Initial Low Pressure Wave
- Closes Slowly To Prevent Subsequent Surges
- Adjustable Over A Wide Range of Settings

The Cla-Val Model 552-01 Surge Anticipator Valve is indispensable for protecting pumps, pumping equipment and all applicable pipelines from dangerous pressure surges caused by rapid changes of flow velocity within a pipeline.

When pumping systems are started and stopped gradually, harmful surges do not occur. However, should a power failure take place, the abrupt stopping of the pump can cause dangerous surges in the system which could result in severe equipment damage.

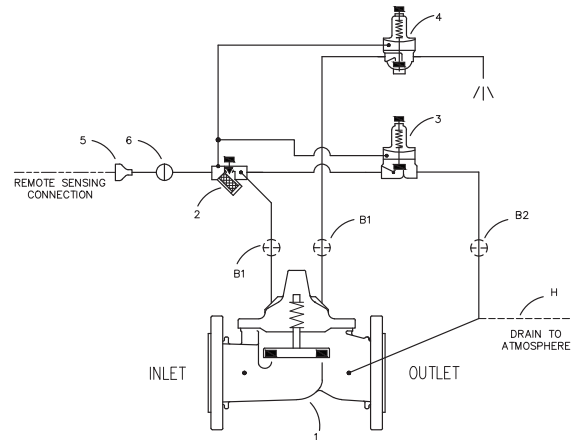
Power failure to a pump will usually result in a down surge in pressure, followed by an up surge in pressure. The surge control valve opens on the initial low pressure wave, diverting the returning high pressure wave from the system. In effect, the valve has anticipated the returning high pressure wave and is open to dissipate the damage causing surge. The valve will then close slowly without generating any further pressure surges.

Schematic Diagram

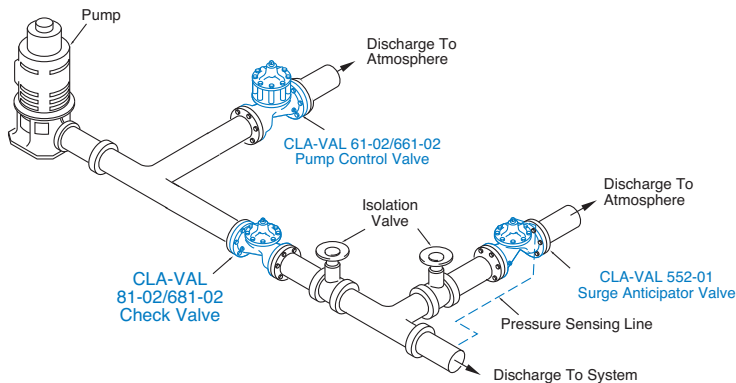
Item	Description
1	100-46 Hytrol Main Valve
2	X42N-2 Strainer & Needle Valve
3	CRL Pressure Relief Control
4	CRA Pressure Reducing Control
5	Bell Reducer
6	CK2 Isolation Valve

Optional Features

Item	Description
B	CK2 Isolation Valve
H	Drain to Atmosphere



Typical Applications



The 552-01 discharges to atmosphere from a tee in the pump discharge header. The valve anticipates surges caused by power failure as well as acting as a standard over pressure relief valve.

The required remote pressure sensing line should be $\frac{3}{4}$ " minimum I.D. installed with a 2° slope from the valve to the pipeline to avoid air pockets.

We recommend protecting tubing and valve from freezing temperatures.

Specifications

Model 552-01

Sizes

- Globe (inch): 1½", 2", 2-1/2", 3", 4", 6"
- Globe (mm): 40, 50, 65, 80, 100, 150
- Grooved End (inch): 1-1/2" - 6"
- Grooved End (mm): 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 180° F (-40° to 82° C)

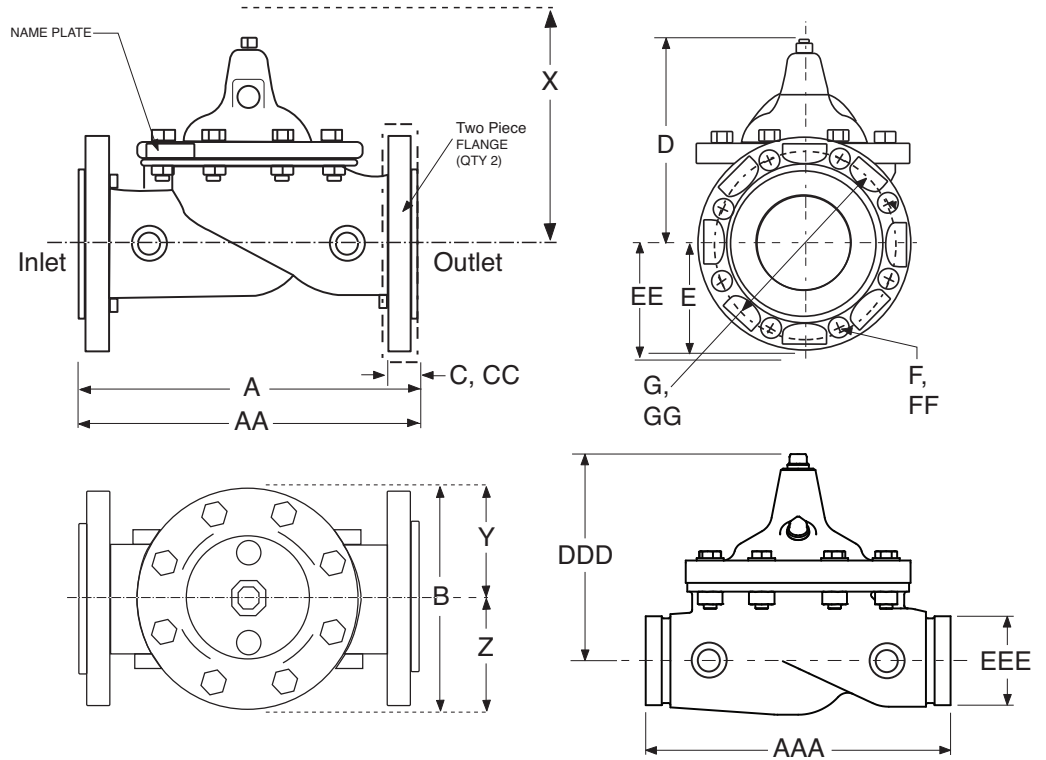
Materials

- 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



Model 552-01 Dimensions (Inches)

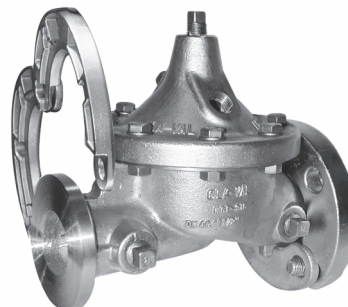
Valve Size (Inches)	1½	2	2½	3	4	6
A 150 ANSI	7.87	9.38	11.00	12.00	15.00	20.00
AA 300 ANSI	7.87	9.38	11.00	12.00	15.00	20.00
AAA Grooved End	8.50	11.00	11.00	12.00	15.00	20.00
B	5.62	6.61	8.00	9.13	11.50	15.75
C	0.56	0.62	0.69	0.75	0.94	1.00
CC 300 ANSI	0.81	0.88	1.00	1.12	1.25	1.44
D	5.90	6.25	7.25	8.20	10.21	13.32
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
EE 300 ANSI	3.05	3.25	3.74	4.13	5.02	6.30
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
FF 300 ANSI	0.88	0.75	0.88	0.88	0.88	0.88
G	3.88	4.75	5.50	6.00	7.50	9.50
GG 300 ANSI	4.50	5.00	5.88	6.62	7.88	10.62
Flange Bolts (150 Class)	4	4	4	4	8	8
Flange Bolts (300 Class)	4	8	8	8	8	12
Approx. Wt. (Lbs.)	25	35	55	75	160	290
Approx. X Pilot System	11.00	13.00	14.00	15.00	17.00	29.00
Approx. Y Pilot System	9.00	9.00	10.00	11.00	12.00	20.00
Approx. Z Pilot System	9.00	9.00	10.00	11.00	12.00	20.00

Full Port Functional Data

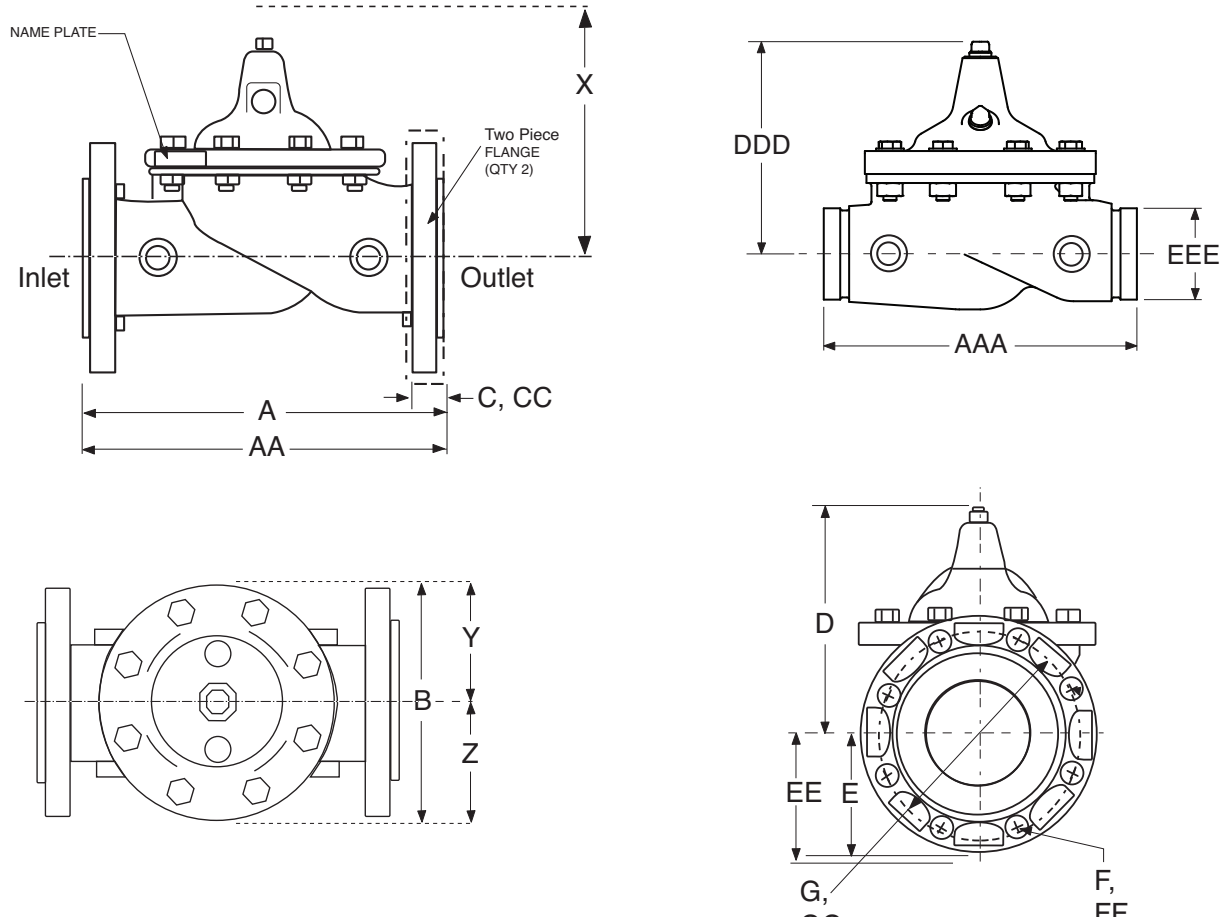
Size (Inches)	Cv (gpm)*	Cv (l/s)**
1½	32	8
2	54	13
2½	85	20
3	115	27
4	200	48
6	440	105

*Cv = gpm flow at 1 psi drop

**Cv = l/s flow at 1 bar drop



Model 552-01 Dimensions (mm)



Model 552-01 Dimensions (mm)

Valve Size (mm)	40	50	65	80	100	150
A 150 ANSI	200	238	279	305	381	508
AA 300 ANSI	200	238	279	305	381	508
AAA Grooved End	216	279	279	305	381	508
B	143	168	203	232	292	400
C	14	16	18	19	24	25
CC 300 ANSI	21	22	25	28	32	37
D	150	159	184	208	259	338
DDD Grooved End	134	161	189	207	262	331
E	65	78	90	95	115	143
EE 300 ANSI	78	83	95	105	128	160
EEE Grooved End	29	38	48	54	68	98
F	16	19	19	19	19	22
FF 300 ANSI	22	19	22	22	22	22
G	99	121	140	152	190	241
GG 300 ANSI	114	127	149	168	200	270
Flange Bolts (150 Class)	102	102	102	102	203	203
Flange Bolts (300 Class)	102	203	203	203	203	305
Approx. Wt. (Kgs.)	11	16	25	34	73	132
Approx. X Pilot System	279	330	356	381	432	737
Approx. Y Pilot System	229	229	254	279	305	508
Approx. Z Pilot System	229	229	254	279	305	508

552-01 Valve Selection	100-46 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes						
	Inches	1½	2	2½	3	4	6
	mm	40	50	65	80	100	150
Main Valve 100-46	Pattern	G	G	G	G	G	G
	End Detail	F	F	F	F	F	F
Suggested Flow (gpm)	Maximum	125	210	300	460	800	1800
	Maximum Surge	280	470	670	1000	1800	4000
Suggested Flow (Liters/Sec)	Maximum	8	13	19	29	50	113
	Maximum Surge	10.1	30	42	63	113	252

100-46 Series is the full internal port 316 Stainless Steel Hytrol.

Pilot System Specifications

Temperature Range

Water: to 180°F

Materials

Standard Pilot System Materials

Pilot Control: Stainless Steel Type 303

Trim: Stainless Steel Type 303

Rubber: Buna-N® Synthetic Rubber

Tubing & Fitting: Stainless Steel

Optional Pilot System Materials

Pilot Systems are available with optional 316 Stainless Steel or Monel materials.



Model CRL
Pressure Relief Control



Model CRA
Pressure Reducing Control

When Ordering, Specify

1. Catalog No. 552-01
2. Valve Size
3. Pilot System Materials
4. End Detail (150/300)
5. Fluid to be Handled
6. Fluid Temperature
7. Inlet Pressure
8. Outlet Pressure
9. Adjustment Range
10. Desired Options



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