

### ► Simple, Reliable and Accurate

- Seawater Service Materials
- Reduced Cavitation Design
- Drip-tight, Positive Seating Action
- Globe or Angle Pattern for Model 50-49
- Every Valve Factory-Tested
- Three Year Warranty

CLA-VAL Model 50-49 Pump Start / Pressure Relief Valve provides pump and pipeline protection during pump start sequence and pump operation when discharge pressure rises to unsafe levels. CLA-VAL Model 50-49 Pump Start / Pressure Relief Valve available in sizes 2" - 36" in both globe and angle pattern.

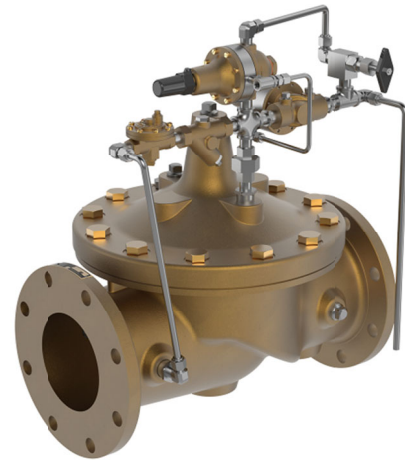
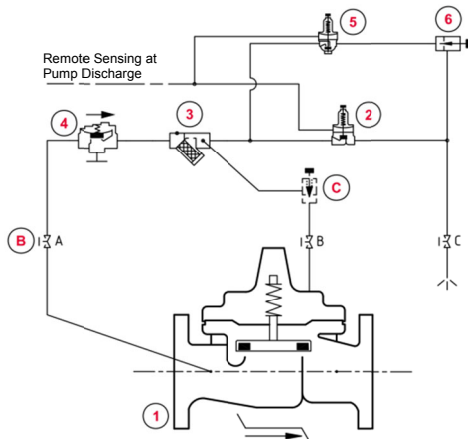


Illustration 50G-49 (Globe)



Type Approved

### ► Function



#### Schematic Diagram

ITEM	DESCRIPTION
1	100S/2100S HYTROL AE/GE (Main valve)
2	CRL Pressure relief control
3	X44-A Strainer with incorporated orifice
4	81-01 Check valve
5	CRA Pressure reducing control
6	6120 Needle valve

#### Optional Features

ITEM	DESCRIPTION
B	RB-117 Isolation ball valve
C	CV One-way flow control (Closing speed)

Please note that if the Model 50-49 is to be used on a continuous duty basis to maintain fire-system pressure, suitable back pressure must be provided on the valve to prevent cavitation damage. Consult the factory for details.

### ► Standard Specifications

**Sizes:** Treaded ends: 1 1/2" - 3"

Globe flanged: 2" - 36"

Angle flanged: 2" - 16"

#### End Details:

Ductile iron ANSI B16.42

Cast steel ANSI B16.5

Bronze ANSI B16.24

Stainless steel ANSI B16.5

#### Pressure Ratings:

150 class 250 psi max.

300 class 400 psi max.

**Temperature Range:** Water max. 180°F / 82°C

#### Pressure Adjustment Range:

150 lb. Class: 20-200 psi

300 lb. Class: 100-300 psi

### ► Materials

#### Main Valve Body & Cover:

Ductile iron\* ASTM A536 / EN-GJS-400

Cast steel ASTM A216-WCB\*

Naval bronze ASTM B61

Stainless steel ASTM A743-CF-8M

Ni-Al bronze ASTM B148

Super duplex SST

#### Main Valve Trim:

Bronze ASTM B61 seat

Monel Trim

#### Pilot Control System:

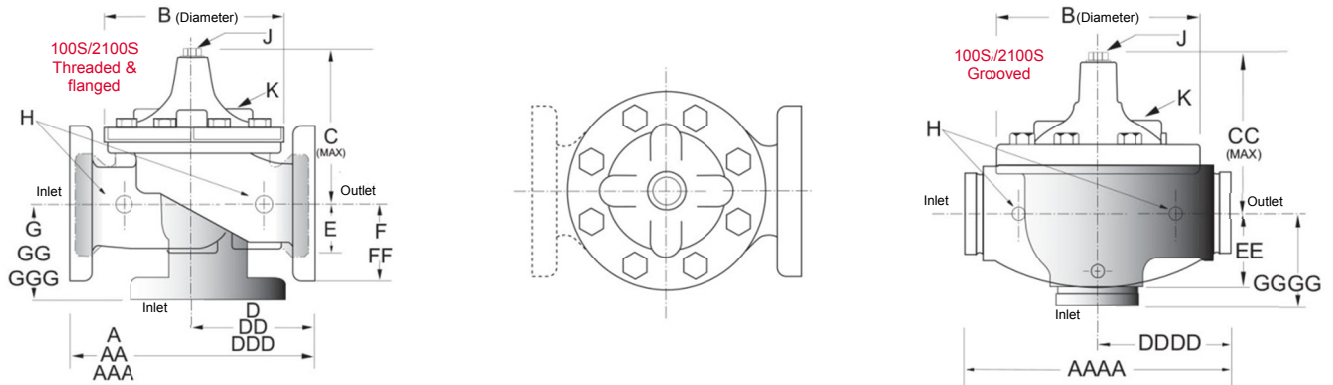
Cast bronze ASTM B61 with Monel trim

Monel, super duplex stainless steel optional

Stainless steel 316 tubing & fittings

\*The 50G-49 (globe) and 50A-49 (angle) in ductile iron / cast steel are supplied with standard internal and external epoxy coating

### Dimensions



Valve size [mm]	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
A Threaded	184	184	184	238	279	318	-	-	-	-	-	-	-	-	-	-	-	-
AA 150 ANSI	-	-	216	238	279	305	381	508	645	756	864	991	1051	1168	1321	1562	1600	1930
AAA 300 ANSI	-	-	229	254	295	337	397	533	670	790	902	1029	1105	1210	1362	1606	1638	1930
AAAA Grooved end	-	-	216	228	279	318	381	508	645	-	-	-	-	-	-	-	-	-
B Dia.	143	143	143	168	203	232	292	400	508	600	711	832	902	1054	1143	1350	1422	1676
C Max.	140	140	140	165	192	208	270	340	406	435	530	614	635	992	1064	1116	1387	1562
CC Max. Grooved end	-	120	120	146	175	184	236	308	371	-	-	-	-	-	-	-	-	-
D Threaded	83	83	83	121	140	159	-	-	-	-	-	-	-	-	-	-	-	-
DD 150 ANSI	-	-	102	121	140	152	191	254	322	378	432	495	528	-	-	781	-	-
DDD 300 ANSI	-	-	108	127	149	162	200	267	337	395	451	514	549	-	-	803	-	-
DDDD Grooved end	-	-	-	121	-	152	191	-	-	-	-	-	-	-	-	-	-	-
E	29	29	29	38	43	52	81	110	135	235	273	321	394	329	381	451	541	624
EE Grooved end	-	-	52	64	73	79	108	152	192	-	-	-	-	-	-	-	-	-
F 150 ANSI	-	-	64	76	89	95	114	140	171	203	241	267	298	381	419	489	572	650
FF 300 ANSI	-	-	78	83	95	105	127	159	191	222	260	292	324	381	419	489	610	650
G Threaded	48	48	48	83	102	114	-	-	-	-	-	-	-	-	-	-	-	-
GG 150 ANSI	-	-	102	83	102	102	127	152	203	219	349	378	399	-	-	560	-	-
GGG 300 ANSI	-	-	102	89	110	111	135	165	216	236	368	397	419	-	-	582	-	-
GGGG Grooved end	-	-	-	83	-	108	127	-	-	-	-	-	-	-	-	-	-	-
H NPT body tapping	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	3/4"	3/4"	1"	1"	1"	1"	1"	1"	1"	1"	2"	2"
J NPT cover center plug	1/4"	1/4"	1/4"	1/2"	1/2"	1/2"	3/4"	3/4"	1"	1"	1 1/4"	1 1/2"	2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
K NPT cover tapping	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	3/4"	3/4"	1"	1"	1"	1"	1"	1"	1"	1"	2"	2"
Stem travel	10	10	10	15	18	20	28	43	58	71	86	102	114	130	143	171	190	216
Approx. ship Wt. [Kg]	7	7	7	16	23	32	64	129	227	354	528	726	1027	1353	1769	2812	3494	5316

### Valve Capacity

Valve size [mm]	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
Max. continuous [l/s]	3.5	5.9	7.9	13	19	29	50.5	113.6	196	309	442	530	694	883	1073	1577	2650	3155
Max. surge [l/s]	7.6	13	17.7	30	42.3	63	114	252	441.6	694	1009	1199	1577	1956	2461	3565	3975	5363

We recommend providing adequate space around valve for maintenance work.

### Operation

The Model 50-49 has both a normally open and normally closed pilot controls. The valve mounts on a pipe tee at the pump discharge and provides pipeline protection at pump start-up through the normally open pilot control. This pilot will be open to vent the relief valve cover chamber and enable the relief valve to be open at pump start. When the pump first starts, the relief valve relieves both air and start-up water pressure to atmosphere and protects the pump discharge piping from accelerated pressure spikes. The spring loaded pilot with adjustable spring range will slowly close and divert the system pressure into system eliminating unsafe pressure spikes which can damage or rupture discharge piping.

Should the discharge pump pressure continue to rise due to little or no system demand, the normally closed pilot provides overpressure protection by relieving excess pressure to atmosphere as long as the relief valve inlet pressure is greater than the pilot pressure setting. This pilot has various adjustable spring ranges to meet the system pressure requirements.