

# 1982

## Safety Relief Valve



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**1982**

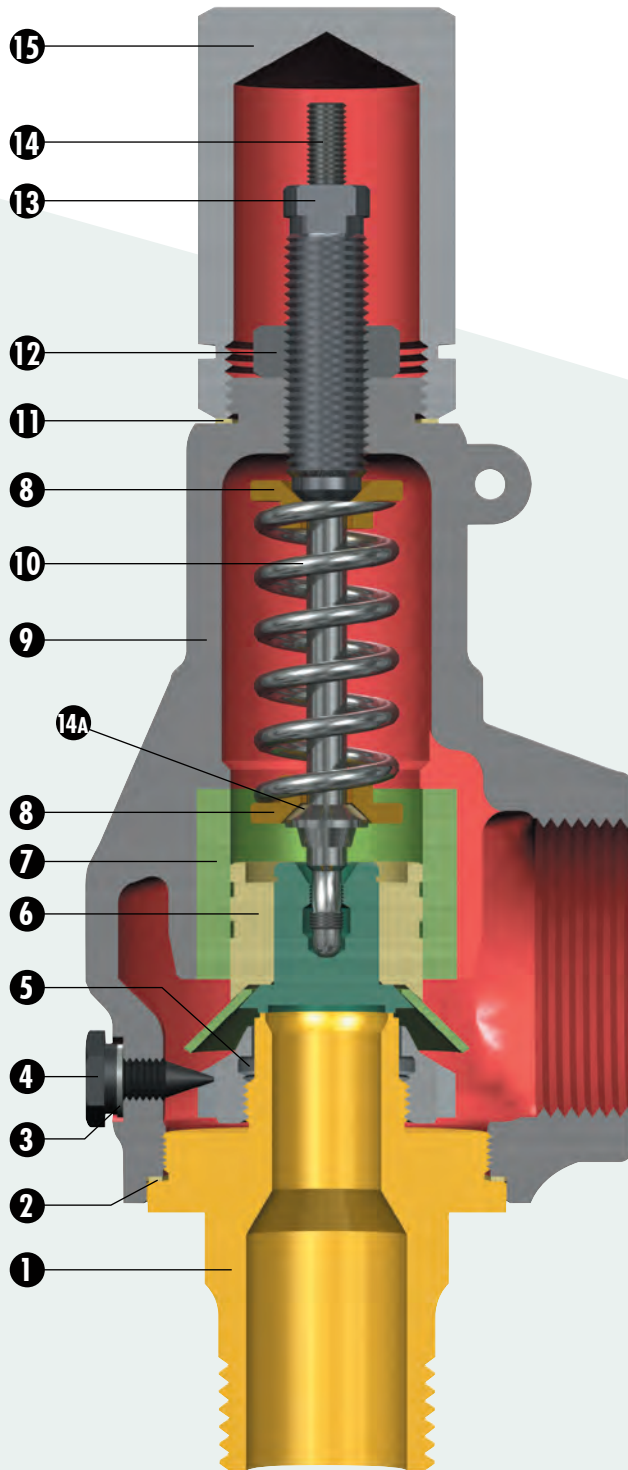
## Scope of Design

This product is normally supplied with threaded inlet and outlet connections. The valve ranges in inlet sizes from 1/2" thru 2". Maximum pressure setting is 500 psig, minimum pressure setting is 10 psig. This valve is available with a screwed cap, packed lever, plain lever and gag. Unless otherwise specified, the valve is shipped with a screwed cap. The 2" 1982 valve can be used for all service media except steam service above 100 psig.

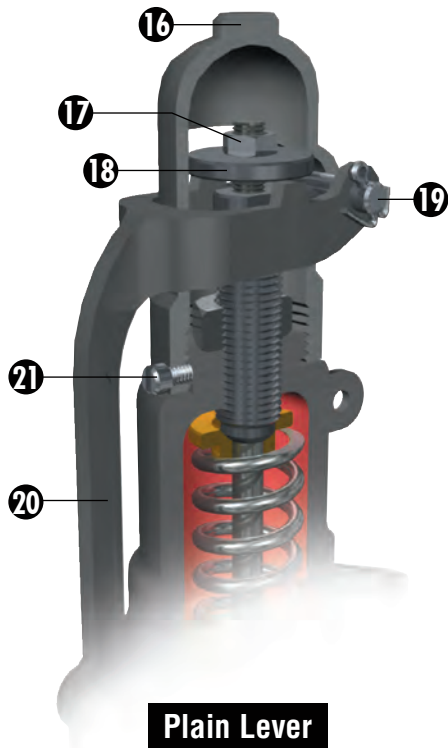
Valve Size (in)	Valve Type	Inlet Pressure & Temperature Limits	Actual (ASME) Orifice Area (in <sup>2</sup> )	Standard Connections		Back Pressure Limit
				INLET	OUTLET	
1/2 x 3/4	1982c	500 psig to 400°F (204.4°C)	.121	Male Threaded	Female Threaded	50 psig
	1982f	500 psig to 800°F (426.6°C)				
3/4 x 1	1982c	500 psig to 400°F (204.4°C)	.216	Male Threaded	Female Threaded	50 psig
	1982f	500 psig to 800°F (426.6°C)				
1 x 1-1/2	1982c	500 psig to 400°F (204.4°C)	.332	Male Threaded	Female Threaded	50 psig
	1982f	500 psig to 800°F (426.6°C)				
1-1/2 x 2	1982c	500 psig to 400°F (204.4°C)	.857	Male Threaded	Female Threaded	50 psig
	1982f	500 psig to 800°F (426.6°C)				
2 x 2-1/2	1982c	500 psig to 400°F (204.4°C)	1.399	Male Threaded	Female Threaded	50 psig
	1982f	500 psig to 800°F (426.6°C)				

## Materials

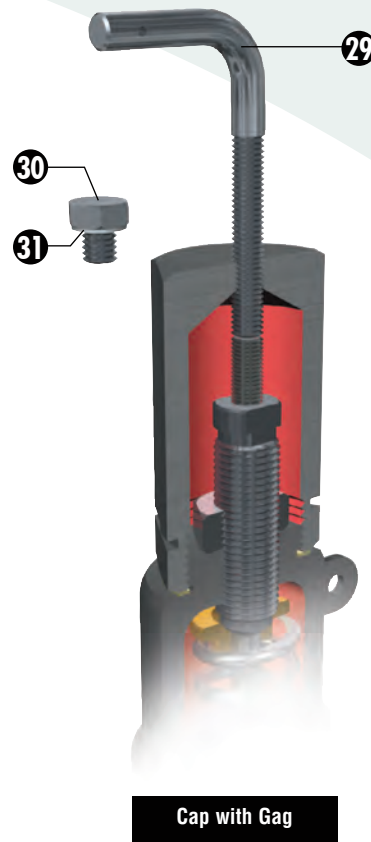
Standard material of construction shown below. Optional materials available. Consult factory.



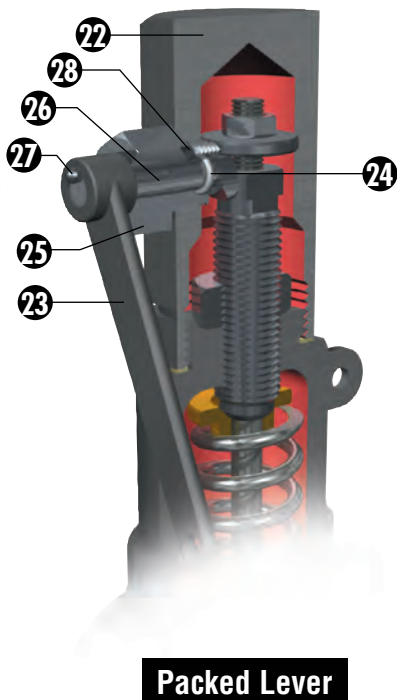
Standard Material		
Part	Material	
1	Base	316 SS
	1/2", 3/4", 1"	
	1-1/2", 2"	SA351 CF8M SS
2	Bonnet Gasket	Soft Iron
3	Adjusting Ring Pin Gasket	Soft Iron
4	Adjusting Ring Pin	416 SS
5	Adjusting Ring	316 SS
6	Disc Assembly	316 SS
	Disc Collar	
	Disc Holder	316 SS
	Disc	316 SS
	Disc Retainer	PH15-7 MO SS
7	Guide	410 SS
8	Spring Washer	Carbon Steel (Phosphated)
9	Bonnet	SA216 WCC Carbon Steel (Phosphated)
10	Spring	Alloy Steel (Phosphated)
	1982c	
	1982 †	Inconel X750
11	Cap Gasket	Soft Iron
12	Adjusting Screw Locknut	Carbon Steel (Phosphated)
13	Adjusting Screw	416 SS
14	Spindle	Carbon Steel (Phosphated)
14A	Spindle Collar	410 SS
15	Screwed Cap	Carbon Steel (Phosphated)



**Plain Lever**



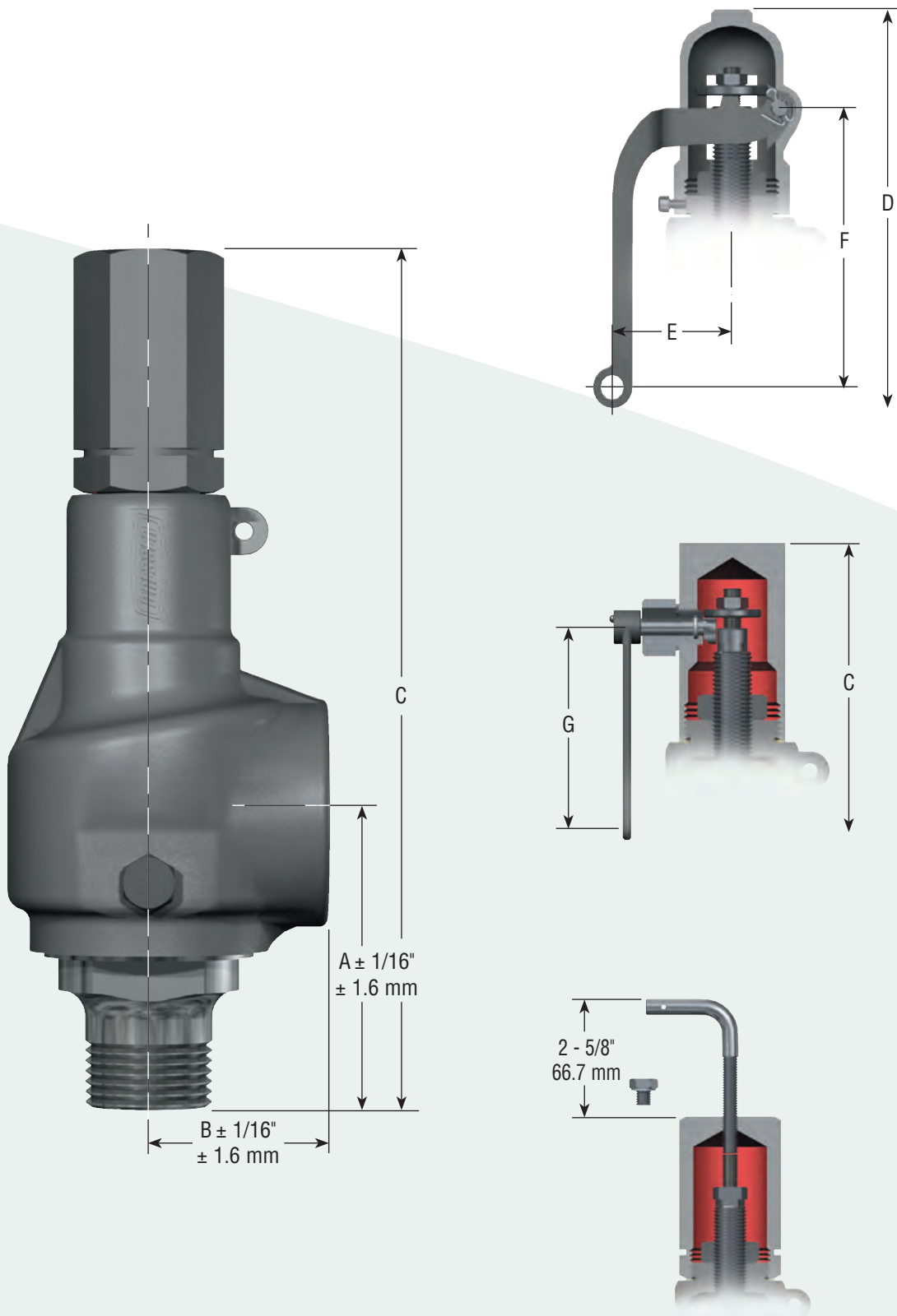
**Cap with Gag**



**Packed Lever**

	Part	Material
16	Plain Cap	Malleable Iron
17	Release Locknut	Carbon Steel
18	Release Nut	410/416 SS
19	Lever Pin	Carbon Steel
20	Plain Lever	Malleable Iron
21	Cap Screw	Carbon Steel
22	Packed Cap	Carbon Steel (Phosphated)
23	Packed Lever	Malleable Iron
24	O-Ring	Viton
25	Bushing	416 SS
26	Cam Shaft	410 SS
27	Drive Stud	Carbon Steel (Nickel Plated)
28	Lever Gasket	Soft Iron
29	Gag	Carbon Steel
30	Sealing Plug	Carbon Steel
31	Sealing Plug Gasket	Soft Iron

## Dimensions & Weights



## Dimensions & Weights

**1982 Series Valves  
USCS Dimensions (in.) and Weights (lbs.)**

Inlet x Outlet	Size & Type	A	B	C	D	E	F	G	Approx. Weight
1/2 MNPT x 3/4 FNPT	1/2 - 1982	2 - 5/8	1-1/4	7-1/8	7-1/4	1-3/8	2-3/4	2-3/8	2.2
3/4 MNPT x 1 FNPT	3/4 - 1982	2-3/4	1-7/16	7-1/2	7-5/8	1-3/8	2-3/4	2-3/8	3.0
1 MNPT x 1-1/2 FNPT	1 - 1982	3-1/4	1-7/8	9-1/8	9-1/8	2-1/8	4-5/8	3-1/2	5.0
1-1/2 MNPT x 2 FNPT	1-1/2 - 1982	3-7/8	2-5/8	12	11-7/8	3-11/16	5-13/16	4-3/4	12.0
2 MNPT x 2-1/2 FNPT	2 - 1982	4-3/8	3-1/4	14-1/16	13-7/8	3-11/16	5-13/16	4-3/4	18.5

**1982 Series Valves  
Metric Dimensions (mm) and Weights (kg)**

Inlet x Outlet	Size & Type	A	B	C	D	E	F	G	Approx. Weight
1/2 MNPT x 3/4 FNPT	1/2 - 1982	66.7	31.8	181.0	184.2	34.9	69.8	60.3	1.0
3/4 MNPT x 1 FNPT	3/4 - 1982	69.9	36.5	190.5	193.7	34.9	69.8	60.3	1.4
1 MNPT x 1-1/2 FNPT	1 - 1982	82.6	47.6	231.8	231.8	54.0	117.5	88.9	2.3
1-1/2 MNPT x 2 FNPT	1-1/2 - 1982	98.4	66.7	304.8	301.6	93.6	147.6	120.7	5.4
2 MNPT x 2-1/2 FNPT	2 - 1982	111.1	82.6	357.2	352.4	93.6	147.6	120.7	8.4

# Capacities

1982 Valve Orifice Capacities  
for Air & Steam (USCS Units)  
ASME B & PVC, Section VIII

Set Pressure plus 10% overpressure  
or 3 psig, whichever is greater

Set Press. (psig)	SCFM Air @ 60°F (15°C)					Pounds of Saturated Steam Per Hour				
	Valve Size / Orifice Area (Sq. In.)									
	1/2" (0.121)	3/4" (0.216)	1" (0.332)	1-1/2" (0.857)	2" (1.399)	1/2" (0.121)	3/4" (0.216)	1" (0.332)	1-1/2" (0.857)	2" (1.399)
15	62	110	170	439	717	174	311	478	1233	2014
20	71	127	196	507	827	200	358	551	1422	2322
30	90	161	248	641	1047	254	453	697	1800	2938
40	111	198	305	789	1288	312	558	858	2215	3616
50	132	236	363	937	1530	371	662	1018	2630	4293
60	153	273	420	1085	1771	429	767	1179	3045	4971
70	174	310	477	1233	2013	488	872	1340	3460	5648
80	195	348	535	1381	2254	547	946	1501	3875	6326
90	215	385	592	1529	2496	605	1081	1662	4290	7004
100	236	422	649	1677	2737	664	1186	1822	4705	7681
120	278	497	764	1972	3220	781	1395	2144	5535	
140	320	571	878	2268	3703	898	1604	2466	6366	
160	362	646	993	2564	4186	1016	1813	2787	7196	
180	403	721	1108	2860	4669	1133	2022	3109	8026	
200	445	795	1222	3156	5152	1250	2232	3431	8856	
220	487	870	1337	3452	5635	1367	2441	3752	9686	
240	529	944	1452	3748	6118	1484	2650	4074	10516	
260	571	1019	1566	4044	6601	1602	2859	4395	11347	
280	612	1093	1681	4340	7084	1719	3069	4717	12177	
300	654	1168	1795	4635	7567	1836	3278	5039	13007	
320	696	1243	1910	4931	8050	1953	3487	5360	13837	
340	738	1317	2025	5227	8533	2070	3696	5682	14667	
360	779	1392	2139	5523	9016	2188	3906	6003	15498	
380	821	1466	2254	5819	9499	2305	4115	6325	16328	
400	863	1541	2369	6115	9982	2422	4324	6647	17158	
420	905	1615	2483	6411	10465	2539	4533	6968	17988	
440	946	1690	2598	6707	10948	2657	4743	7290	18818	
460	988	1765	2712	7002	11431	2774	4952	7612	19649	
480	1030	1839	2827	7298	11914	2891	5161	7933	20479	
500	1072	1914	2942	7594	12397	3008	5370	8255	21309	

# Capacities

**1982 LS Valve Orifice Capacities for Water (USCS Units)**  
*ASME B & PVC, Section VIII*

Set Pressure Plus 10% overpressure or 3 psig, whichever is greater, 0 psig back pressure

<b>GPM Water @ 70°F at 10% Overpressure</b>					
<b>Valve Size / Orifice Area (Sq. In.)</b>					
<b>Set Press. (psig)</b>	<b>1/2" (0.121)</b>	<b>3/4" (0.216)</b>	<b>1" (0.332)</b>	<b>1-1/2" (0.857)</b>	<b>2" (1.399)</b>
15	14.79	26.40	40.57	104.73	170.96
20	16.71	29.84	45.86	118.39	193.26
30	20.02	35.74	54.93	141.80	231.49
40	23.12	41.27	63.43	163.74	267.30
50	25.85	46.14	70.92	183.07	298.85
60	28.31	50.55	77.69	200.54	327.37
70	30.58	54.59	83.91	216.61	353.60
80	32.69	58.36	89.71	231.57	378.02
90	34.68	61.90	95.15	245.61	400.95
100	36.55	65.25	100.30	258.90	422.64
120	40.04	71.48	109.87	283.61	462.97
140	43.25	77.21	118.67	306.33	500.07
160	46.24	82.54	126.87	327.48	534.60
180	49.04	87.55	134.56	347.35	567.03
200	51.70	92.28	141.84	366.14	597.70
220	54.22	96.79	148.76	384.01	626.87
240	56.63	101.09	155.38	401.08	654.75
260	58.94	105.22	161.72	417.46	681.48
280	61.17	109.19	167.83	433.22	707.21
300	63.31	113.02	173.72	448.43	732.03
320	65.39	116.73	179.42	463.13	756.03
340	67.40	120.32	184.94	477.39	779.30
360	69.36	123.81	190.30	491.23	801.90
380	71.26	127.20	195.51	504.69	823.87
400	73.11	130.51	200.59	517.80	845.27
420	74.91	133.73	205.55	530.58	866.15
440	76.68	136.88	210.38	543.07	886.53
460	78.40	139.95	215.11	555.28	906.45
480	80.09	142.96	219.74	567.22	925.95
500	81.74	145.91	224.27	578.92	945.04