

KUNKLE

Liquid Relief Valves

Features

- Suitable for back pressure to 50 psig.¹
- Seats lapped for optimum performance.
- Ball pivot between disc and spring corrects misalignment and compensates for spring side thrust.
- Stainless Steel (SS) springs.
- Each Kunkle valve is tested and inspected for pressure setting and leakage.

Model Descriptions

Model 71S: Cast iron body with SS seat and disc. Pressure-tight hood.

Model 171: Carbon Steel (CS) with SS seat and disc. Pressure-tight hood.

Model 171P: Same as model 171 with packed lift lever.

Model 171S: All 316 SS construction including spring. Available with pressure-tight hood or packed lift lever.

Applications

- Overpressure relief and protection of pumps, tanks, lines and hydraulic systems. Acid, caustic, ammonia and other corrosive liquids requiring iron, steel or SS materials.
- Pressure regulation.
- By-pass relief.
- Model 171S is all 316 SS potentially suitable for sanitary applications depending on requirements.



Model 171

Pressure and Temperature Limits

Model 71S:

1 to 250 psig
-20° to 406°F

Models 171, 171P, 171S:

1 to 400 psig
-20° to 550°F

Note

1. Back pressure increases set pressure on a one to one basis, and reduces capacity. Back pressure in excess of 10% of set pressure is not recommended.

Parts and Materials

Models 71S, 171, 171S

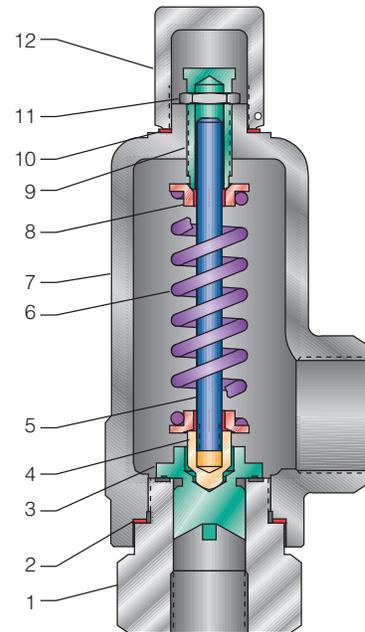
No.	Part Name	71S	171	171S
1	Nozzle	SS A479-316 ¹	SS A479-316 ¹	SS A479-316 ¹
2	Body Gasket	Teflon®	Teflon®	Teflon®
3	Disc	SS A743-CF8M	SS A743-CF8M	SS A743-CF8M
4	Stem End	SS A479-316	SS A479-316	SS A479-316
5	Stem	SS A479-316	SS A479-316	SS A479-316
6	Spring	SS A313-316	SS A313-316	SS A313-316
7	Body	Cast Iron 126	Steel A216-WCB	SS A351-CF8M
8	Spring Step	SS A479-316	SS A479-316	SS A479-316
9	Compression Screw	SS A479-316	SS A479-316	SS A479-316
10	Cap Gasket	Teflon®	Teflon®	Teflon®
11	Jam Nut	SS A479-316	SS A479-316	SS A479-316
12	Cap	Steel A108	Steel A108	SS A479-316

Models 171P, 171S with Packed Lift Lever

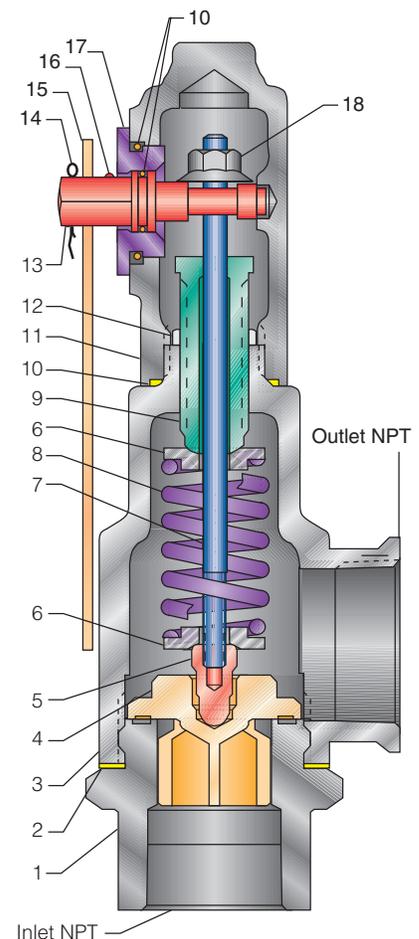
No.	Part Name	171P	171S
1	Nozzle	SS A479-316 ¹	SS A479-316 ¹
2	Body Gasket	Teflon®	Teflon®
3	Body	Steel A216-WCB	SS A351-CF8M
4	Disc	SS A743-CF8M	SS A743-CF8M
5	Stem End	SS A479-316	SS A479-316
6	Spring Step	SS A479-316	SS A479-316
7	Stem	SS A479-316	SS A479-316
8	Spring	SS A313-316	SS A313-316
9	Compression Screw	SS A479-316	SS A479-316
10	O-ring	BUNA-N	BUNA-N
11	Cap	SS A296-CF8M	SS A296-CF8M
12	Jam Nut	SS A479-316	SS A479-316
13	Lift Cam	SS A296-CF8M	SS A296-CF8M
14	Cotter Pin	Steel Commercial	Steel Commercial
15	Lever	Steel A108 Zinc Plated	Steel A108 Zinc Plated
16	Drive Screw	SS Commercial	SS Commercial
17	Retainer Nut	SS A479-316	SS A479-316
18	Lift Nut	Steel A108 Zinc Plated	Steel A108 Zinc Plated

Note

1. SS A351-CF8M for 1 1/2" and 2" size.



Models 71S, 171, 171S



Models 171P, 171S

Capacities

Non-code Liquid - 25% Accumulation (GPM)

Set Pressure (psig)	Valve Inlet and Outlet Size					
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
1	1	2	4	6	10	19
3	2	4	6	11	17	32
5	2	5	8	14	22	42
7	2	6	9	16	26	49
10	3	7	11	20	31	59
20	4	9	16	28	43	84
30	5	11	20	34	53	102
40	6	13	23	39	61	118
50	7	15	25	44	68	132
60	7	16	28	48	75	145
70	8	17	30	52	81	156
80	8	19	32	55	87	167
90	9	20	34	59	92	177
100	9	21	36	62	97	187
110	10	22	37	65	102	196
120	10	23	39	68	106	205
130	11	24	41	71	110	213
140	11	25	42	73	115	221
150	11	25	44	76	119	229
160	12	26	45	78	123	236
170	12	27	47	81	126	244
180	13	28	48	83	130	251
190	13	29	49	86	134	258
200	13	29	50	88	137	264
210	14	30	52	90	140	271
220	14	31	53	92	144	277
230	14	32	54	94	147	284
240	14	32	55	96	150	290
250	15	33	56	98	153	296
260	15	34	58	100	156	301
270	15	34	59	102	159	307
280	16	35	60	104	162	313
290	16	35	61	106	165	318
300	16	36	62	107	168	324
310	16	37	63	109	171	329
320	17	37	64	111	173	334
330	17	38	65	113	176	340
340	17	38	66	114	179	345
350	17	39	67	116	181	350
360	18	39	68	118	184	355
370	18	40	69	119	186	360
380	18	41	70	121	189	364
390	18	41	70	122	191	369
400	19	42	71	124	194	374

Note

1. Liquid Overpressure Factors

To determine capacities at other than 25% overpressure/accumulation, multiply capacity shown by:

10% Acc. = 0.6

15% Acc. = 0.8

20% Acc. = 0.9

Kunkle Safety and Relief Products

Models 71S, 171, 171P and 171S

Dimensions

Models 71S, 171, 171P, 171S, 171S

Inlet and Outlet Female, NPT (in)	Dimensions, in				Weight (lb)
	A	B	C 71S, 171, 171S	C 171P, 171S	
1/2 ¹	27/16	1 ³ / ₄	67/8	8 ³ / ₈	2 ¹ / ₂
3/4	27/16	1 ³ / ₄	67/8	8 ³ / ₈	2 ⁵ / ₈
1	2 ¹¹ / ₁₆	1 ³ / ₄	7	8 ⁹ / ₁₆	3 ¹ / ₄
1 ¹ / ₄	3 ⁵ / ₁₆	2 ¹ / ₈	7 ³ / ₄	8 ³ / ₄	5 ¹ / ₂
1 ¹ / ₂	3 ¹ / ₈	27/16	8 ¹ / ₄	9 ³ / ₄	7 ¹ / ₄
2	4 ³ / ₁₆	2 ³ / ₄	9 ³ / ₄	11 ¹ / ₈	12

Dimensions are for reference only.

Model Number/Order Guide

Model Number Position

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Example

0 7 1 S — C 0 1 — M G 0 2 5 0

Model

071S (Cast Iron)
0171 (Cast Steel)
171S (Cast SS)
171P

Inlet Size

C - 1/2"
D - 3/4"
E - 1"
F - 1¹/₄"
G - 1¹/₂"
H - 2"

Variation (01 to 99)

01 - Catalog standard
02 - Packed lever (Models 171P, 171S)

Design Revision

Indicates non-interchangeable
revision. Dash (-) if original design.

Spring Material

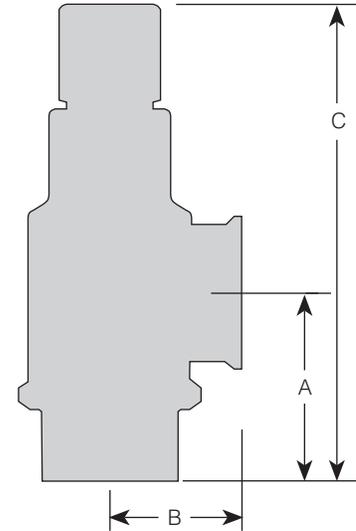
G - 316 SS

Set Pressure

0005 - 5 psig
0400 - 400 psig

Note

1. 1/2" size has 3/4" outlet.



KUNKLE

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