

KUNKLE SAFETY AND RELIEF PRODUCTS

MODELS 264, 265, 266, 267, 264P, 265P, 266P AND 267P

Non-Code Liquid Relief, ASME Section VIII, Air/Gas and Steam, National Board Certified, Safety and Relief Valves



Model 264

Model descriptions

Model 264: Carbon Steel (CS) housing with 316 Stainless Steel (SS) trim (nozzle and disc), SS spring. Pressure-tight cap.

Model 265: Same as model 264 except high-temperature alloy spring (temperatures to 750°F [400°C]).

Model 266: Same as model 264 except all 316 SS materials.

Model 267: Same as model 266 except high-temperature alloy spring (temperatures to 750°F [399°C]).

Model 264P: Same as model 264 with pressure-tight packed lift lever.

Model 265P: Same as model 265 with pressure-tight packed lift lever.

Model 266P: Same as model 266 with pressure-tight packed lift lever.

Model 267P: Same as model 267 with pressure-tight packed lift lever.

Features

- Top guided design offers high capacity with 0.110 in² [0.710 cm²] orifice area.
- Ball pivot between disc and spring corrects misalignment and compensates for spring side thrust.
- Standard outlet with 1" Female NPT.
- Each Kunkle valve is tested and inspected for pressure setting and leakage.

Technical data
Pressure and Temperature Limits¹
Air, Gas, and Liquid Service
Model 264:

 4 to 3300 psig [0.28 to 227 barg]
 -20° to 550°F [-29° to 288°C]

Model 266:

 4 to 3300 psig [0.28 to 227 barg]
 -320° to 550°F [-195° to 288°C]

Model 265:

 4 to 3300 psig [0.28 to 227 barg]
 -20° to 750°F [-29° to 399°C]

Model 267:

 4 to 3300 psig [0.28 to 227 barg]
 -320° to 750°F [-195° to 316°C]

Steam Service (all Models):

 2000 psig [137.9 barg]
 Maximum back pressure 400 psig [27.6 barg]⁴.

Code:

Notes:

1. Pressures are female NPT inlets only. For maximum pressures for male NPT inlets see chart on page 5.
2. ASME standard valves for air or steam service must have lift lever.

Applications

- Protection of pumps, compressors, pressure vessels or systems handling corrosive fluids or vapors at high pressure and/or temperature.
 - Sentinel (warning) on steam equipment.
3. Due to the capacity of this valve, thrust calculations should be reviewed and valve supported accordingly.
 4. Back pressure increases set pressure on a one to one basis, and reduces capacity. Back pressure in excess of 10% of set pressure is

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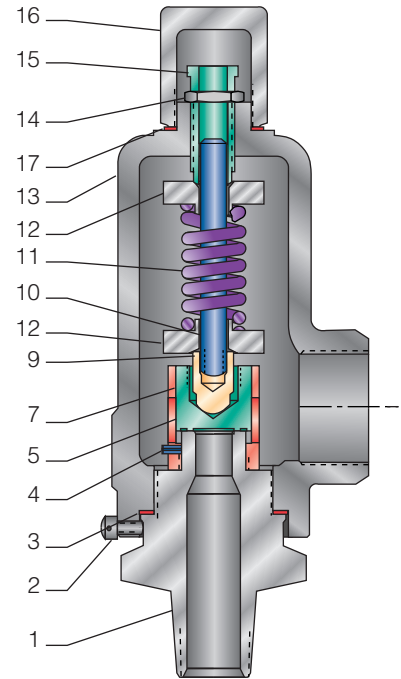
Parts and Materials

Models 264, 265, 266 and 267 - Threaded Cap

No.	Part Name	264, 265	266, 267
1	Nozzle	SS SA351-CF8M	SS SA351-CF8M
2	Lock Screw	SS Commercial 18-8	SS Commercial 18-8
3	Gasket	Teflon®	Teflon®
4	Spring Pin	SS Commercial	SS Commercial
5	Guide	SS A743-CF8M	SS A743-CF8M
7	Disc	SS A479-316	SS A479-316
9	Stem Retainer	SS A479-316	SS A479-316
10	Stem	SS A479-316	SS A479-316
11	Spring ²	A313-316 or 6312 ²	SS A313-316 or 6312 ²
12	Spring Step	SS A479-316	SS A479-316
13	Bonnet	Steel SA216-WCB	SS A351-CF8M
14	Jam Nut	SS A479-316	SS A479-316
15	Compression Screw	SS A479-316	SS A479-316
16	Cap	Steel A108	SS A479-316
17	Cap Gasket	Teflon®	Teflon®

Notes:

1. SA479-316 for internal thread.
2. Tungsten alloy steel (X750 B637 or ASM5699) for Models 265, 267.

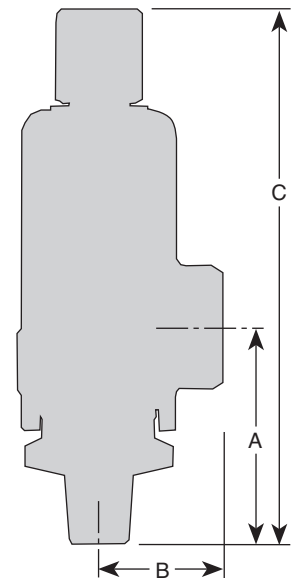


Models 264, 265, 266 and 267

Specifications

Size Inlet	Size Outlet	Dimensions, in [mm]			Weight (lb) [kg]
		A	B	C	
1/2", 3/4", 1"	3/4", 1"	3 1/16 [77.8]	1 3/4 [44.5]	9 [228.6]	4 1/2 [2.3]

Dimensions are for reference only.

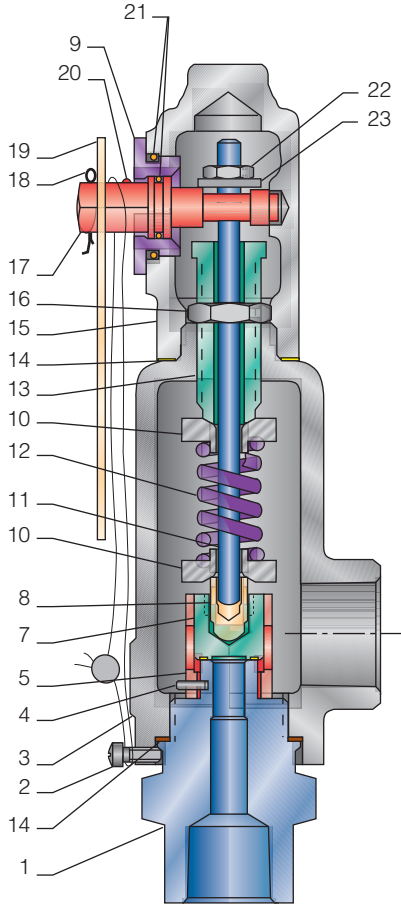


Models 264, 265, 266 and 267

KUNKLE SAFETY AND RELIEF PRODUCTS

MODELS 264, 265, 266, 267, 264P, 265P, 266P AND 267P

Parts and Materials



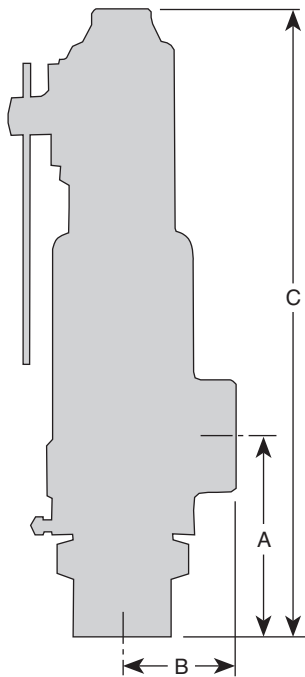
Models 264P, 265P, 266P and 267P - Packed Lever

No.	Part Name	264P/265P	266P/267P
1	Nozzle ¹	SS SA479-316	SS SA479-316
2	Lock Screw	SS Commercial	SS Commercial
3	Bonnet	Steel SA216-WCB	SS A351-CF8M
4	Spring Pin	SS Commercial	SS Commercial
5	Guide	SS A743-CF8M	SS A743-CF8M
7	Disc	SS A479-316	SS A479-316
8	Stem Retainer	SS A479-316	SS A479-316
9	Retainer Nut	SS A479-316	SS A479-316
10	Spring Step	SS A479-316	SS A479-316
11	Stem	SS A479-316	SS A479-316
12	Spring ²	SS A313-316, Optional 6312	SS A313-316, Optional 6312
13	Compression Screw	SS A479-316	SS A479-316
14	Gasket - Body	Teflon®	Teflon®
15	Cap	SS A743-CF8M	SS A473-CF8M
16	Jam Nut	SS A479-316	SS A479-316
17	Lift Cam	SS A743-CF8M	SS A743-CF8M
18	Cotter Pin	Steel Commercial	Steel Commercial
19	Lever	Steel A108 Zinc Plated	Steel A108 Zinc Plated
20	Drive Screw	SS Commercial	SS Commercial
21	O-ring	BUNA-N	BUNA-N
22	Lift Disc Nut	SS A479-316	SS A479-316
23	Lift Disc	SS A756-440C	SS A756-440C
24	Cap Gasket	Teflon®	Teflon®

Notes:

1. SA351-CF8M for external thread.
2. Tungsten alloy steel for Models 265, 267.

Models 264P, 265P, 266P and 267P



Models 264P, 265P, 266P and 267P

Specifications

Inlet	Size	Outlet	Dimensions, in [mm]			Weight (lb) [kg]
			A	B	C	
1/2", 3/4", 1"		3/4", 1"	3 1/16 [77.8]	1 3/4 [44.5]	9 [228.6]	4 1/2 [2.3]

Dimensions are for reference only.

KUNKLE SAFETY AND RELIEF PRODUCTS

MODELS 264, 265, 266, 267, 264P, 265P, 266P AND 267P

Capacities

ASME Section VIII, Air/Gas, and Steam, Non-Code Liquid

Set Pressure psig [barg]	Water Non-code GPM [m ³ /h]	Air SCFM [Nm ³ /h]	Steam lb/h [kg/h]
4 [0.3]	5 [1]	25 [44]	79 [37]
6 [0.4]	5 [1]	31 [50]	96 [42]
8 [0.6]	6 [1]	36 [61]	109 [51]
10 [0.7]	6 [1]	40 [66]	120 [55]
20 [1.4]	8 [2]	58 [97]	164 [75]
30 [2.1]	10 [2]	74 [123]	207 [95]
40 [2.8]	11 [3]	91 [152]	255 [117]
50 [3.5]	13 [3]	108 [180]	302 [139]
75 [5.2]	15 [4]	150 [249]	422 [192]
100 [6.9]	18 [4]	193 [319]	541 [246]
125 [8.6]	20 [5]	235 [388]	660 [299]
150 [10.3]	22 [5]	278 [457]	780 [353]
200 [13.8]	25 [6]	363 [600]	1018 [463]
250 [17.2]	28 [6]	447 [738]	1257 [570]
300 [20.7]	31 [7]	532 [881]	1496 [680]
350 [24.1]	33 [8]	617 [1020]	1734 [787]
400 [27.6]	36 [8]	702 [1162]	1973 [897]
500 [34.5]	40 [9]	872 [1444]	2450 [1113]
600 [41.4]	44 [10]	1042 [1725]	2928 [1330]
700 [48.3]	47 [11]	1212 [2006]	3405 [1547]
800 [55.2]	51 [11]	1382 [2287]	3882 [1764]
900 [62.1]	54 [12]	1552 [2569]	4360 [1981]
1000 [69.0]	57 [13]	1722 [2850]	4837 [2198]
1200 [83.0]	62 [14]	2062 [3421]	5792 [2638]
1400 [96.5]	67 [15]	2401 [3971]	6746 [3063]
1600 [111]	72 [16]	2741 [4562]	7789 [3561]
1800 [124]	76 [17]	3081 [5092]	8885 [4031]
2000 [138]	80 [18]	3421 [5662]	10036 [4541]
2250 [155]	85 [19]	3846 [6355]	—
2500 [173]	89 [20]	4270 [7089]	—
2750 [190]	94 [21]	4695 [7782]	—
3000 [207]	98 [22]	5120 [8475]	—
3300 [227]	103 [23]	5630 [9290]	—

Notes:

1. 10% or 3 psig [0.2 barg] accumulation, whichever is greater.
2. Below 15 psig is non-code.
3. Orifice Area = 0.110 square inch

KUNKLE SAFETY AND RELIEF PRODUCTS

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Maximum Pressure and Temperature Limits - Male NPT Inlet Connections

Temperature °F [°C]	Air, Steam, Water psig [barg]		Air psig [barg]	Steam, Water psig [barg]
	1/2"	3/4"	1"	1"
100 [38]	1950 [134.4]	3299 [227.5]	3300 [227.5]	3300 [227.5]
200 [93]	1675 [115.5]	2836 [195.5]	3300 [227.5]	2933 [202.2]
300 [149]	1508 [104]	2554 [176.1]	3300 [227.5]	2643 [182.2]
350 [177]	1435 [98.9]	2432 [167.7]	3300 [227.5]	2539 [175.1]
400 [204]	1334 [92]	2269 [156.4]	3300 [227.5]	2421 [166.9]
450 [232]	1257 [86.7]	2146 [148]	3300 [227.5]	2335 [161]
500 [260]	1186 [81.8]	2030 [140]	3300 [227.5]	2268 [156.4]
550 [288]	1127 [77.7]	1935 [133.4]	3300 [227.5]	2186 [150.7]
600 [316]	1108 [76.4]	1844 [127]	3300 [227.5]	2148 [148.1]
650 [343]	1095 [75.5]	1805 [124.5]	3300 [227.5]	2090 [144.1]
700 [371]	1084 [74.7]	1779 [122.7]	3211 [221.4]	2063 [142.2]
750 [399]	1055 [72.7]	1770 [122]	3157 [217.7]	2029 [139.9]

Note:

1. Female inlet is rated to 3300 psi at 550°F for 264/266 and 750°F for 265/267.

Service Recommendations for Resilient Seat/Seal Materials

Seat/Seal Materials	Service Recommendation
BUNA-N (-30° to 275°F) [-40° to 135°C]	Air, Anhydrous Ammonia, Butane, Carbon Dioxide, Diesel Oil, Ethyl Chloride, Ethyl Ether, Freons #11 and 12, Fuel Oil, Gasoline, Helium, Hydrogen Sulphide, Kerosene, Lube Oil, Natural Gas, Nitrogen, Oxygen (Gas), Propane, Propylene, Sulphur Dioxide, Vinyl Chloride
Viton® A (-10° to 406°F) [-23° to 208°C]	Acetone, Air, Amyl Alcohol, Aniline, Benzene, Butane, Carbon Disulphide, Carbon Tetrachloride, Dowtherm "A" and "J," Ethyl Chloride, Ethylene, Ethylene Glycol, Ethyl Alcohol, Gasoline, Hexane, Hydrogen Sulphide, Isobutyl Alcohol, JP - 4 Fuel, JP - 5 Fuel, Kerosene, Lube Oil, Natural Gas, Naphtha, Nitrogen, Propane, Propylene, Propyl Alcohol, Sulphur Dioxide, Toluene, Trichloroethylene, Turpentine, Water, Xylene
Silicone (-100° to 406°F) [-73° to 208°C]	Air, Helium, Nitrogen, Oxygen (Gas)
Ethylene Propylene (-70° to 400°F) [-57° to 205°C]	Steam, Hot Water
Neoprene (-45° to 300°F) [-43° to 149°C]	Air, Anhydrous Ammonia, Butane, Butyl Alcohol, Castor Oil, Denatured Alcohol, Ethanol, Ethyl Alcohol, Freons (12, 13, 14 and 22), Glycols, Natural Gas and Silicate Esters

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Model Number/Order Guide

Model Number Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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Example	0	2	6	4	—	D	0	1	—	K	G	1	0	0	0
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Model

0264 264P
 0265 265P
 0266 266P
 0267 267P

Seat Material

M - Metal
 B - Buna^{1,2}
 E - EPR^{1,2}
 S - Silicone^{1,2}
 V - Viton^{1,2}
 N - Neoprene^{1,2}

Inlet Size

C - 1/2" [12.7 mm]
 D - 3/4" [19.0 mm]
 E - 1" [25.4 mm]

Variation

01 - MNPT x 1" FNPT 04 - FNPT x 3/4" FNPT
 02 - MNPT x 3/4" FNPT 60 - MBSPT x FBSPT
 03 - FNPT x 1" FNPT

Design Revision

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

Valve Service

K - Air/Gas ASME Section VIII Models 264P, 265P, 266P, 267P required for air code service
 L - Steam ASME Section VIII Models 264P, 265P, 266P, 267P required for steam code service
 M - Non-code liquid, all models
 N - Non-code air/gas, all models
 O - Required for steam service greater than 1030 psig
 P - Non-code steam, all models

Spring Material

F³ - High-temperature (tungsten alloy steel), (temperatures above 550°F)
 G - SS (ASTM A313-316 or T631, 17-7) standard
 M - SS (ASTM A313-316 or T631, 17-7) 2700 psi and above

Set Pressure

4 psig [0.3 barg] [0004] to 3300 psig [227 barg] [3300]

Notes:

1. Soft seat not available below 150 psi.
2. Not available for Section VIII steam service.
3. Required for steam service above 1029 psig.



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