



## KUNKLE MODELS 189/363/389 SAFETY VALVES

SAFETY AND RELIEF PRODUCTS

Heavy duty ASME Section VIII, air/gas cryogenic, 'UV', National Board certified safety valves

MODEL 189



### FEATURES

- Heavy duty construction provides long service life.
- Unique three-piece disc assembly with PTFE seat/seal offers superior leak-free performance over the entire pressure/temperature operating range.
- Control ring offers precise blowdown adjustment.
- Pivot between disc and spring corrects for misalignment and compensates for spring side thrust.
- Every valve 100% tested/inspected for set pressure, blowdown and leakage.
- All adjustments factory sealed to prevent tampering and disassembly.

### GENERAL APPLICATION

Suitable for cryogenic and liquefied air, oxygen and gas services on multi-stage air and gas compressors, intercoolers, aftercoolers and receivers. Also for thermal expansion relief and/or full rated capacity discharge and air, gas and liquefied gas lines and systems.

### TECHNICAL DATA

Connections:	FNPT
Temperature range:	-320° to 350°F (-195° to 177°C)
Pressure ranges:	
Model 189:	1000 to 2500 psig (69 to 172.4 barg)
Model 363:	50 to 1000 psig (3.45 to 69 barg)
Model 389:	50 to 2500 psig (3.45 to 172.4 barg)
Code:	ASME VIII



# KUNKLE MODELS 189/363/389 SAFETY VALVES

## SAFETY AND RELIEF PRODUCTS

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### MODELS OVERVIEW

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**Model 189:** bronze housing with stainless steel (SS) trim (nozzle and disc) with PTFE seat/seal in disc. Plain lift lever.

**Model 189C:** as model 189 except pressure tight cap for gas service only. Suitable for maximum back pressure of 50 psig (3.45 barg)<sup>[1]</sup>.

**Model 189P:** as model 189 except pressure tight packed lift lever. Suitable for maximum back pressure of 50 psig (3.45 barg)<sup>[1]</sup>.

**Model 363:** bronze housing with SS trim (nozzle and disc) with PTFE seat/seal in disc. Plain lift lever. 1000 psig (69 barg) maximum set pressure.

**Model 363C:** as model 363 except pressure tight cap for gas service only. Suitable for maximum back pressure of 50 psig (3.45 barg)<sup>[1]</sup>. 1000 psig (69 barg) maximum set pressure.

**Model 363P:** as model 363 except pressure tight packed lift lever. Suitable for maximum back pressure of 50 psig. (3.45 barg)<sup>[1]</sup>. 1000 psig (69 barg) maximum set pressure.

**Model 389C:** all SS with PTFE seat/seal in disc. Pressure tight cap for gas service only. Suitable for maximum back pressure of 50 psig (3.45 barg)<sup>[1]</sup>.

**Model 389P:** as model 389C except pressure tight packed lift lever. Suitable for maximum back pressure of 50 psig (3.45 barg)<sup>[1]</sup>.

### 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.

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## SAFETY AND RELIEF PRODUCTS

### PARTS AND MATERIALS - MODELS 189C, 363C AND 389C

No.	Part name	189C and 363C	389C
1	Nozzle	SS SA479-316	SS SA479-316
2	Body lock screw	Brass B16	SS commercial
3	Body gasket	PTFE	PTFE
4	Lock screw gasket	PTFE	PTFE
5	Lock screw-ring	Brass B16	SS A582-303
6	Spring pin <sup>(1)</sup>	SS commercial	SS commercial
7	Body	Bronze SB-62	SS SA351-CF8M
8	Spring	SS A313-304	SS A313-304
9	Stem	SS A582-303	SS A582-303
10	Top spring step	SS A582-303	SS A582-303
11	Jam nut	Brass B16	SS A479-316
12	Compression screw	SS A582-303 <sup>(2)</sup>	SS A582-303
13	Cap	Brass B16	SS A479-316
14	Cap gasket	PTFE	PTFE
15	Retainer nut	SS 582-303	SS A582-303
16	Bottom spring step	SS A582-303	SS A582-303
17	Disc	SS A582-303	SS A582-303
18	Regulator ring	Brass B16	SS A743-CF8M
19	Seat	PTFE	PTFE
20	Guide	SS A582-303	SS A582-303

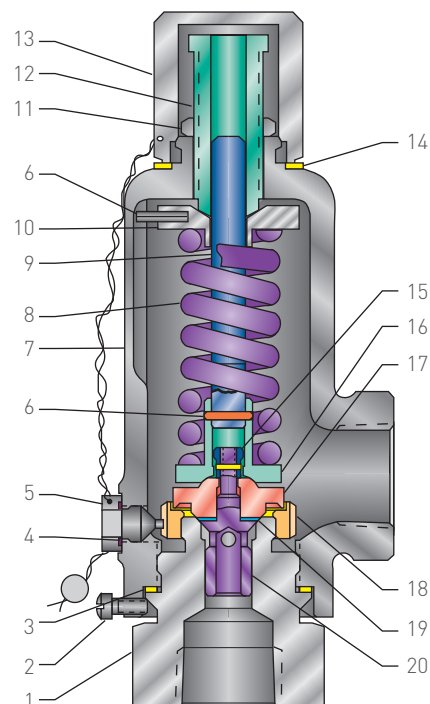
### PARTS AND MATERIALS - MODELS 189P, 363P AND 389P WITH PACKED LIFT LEVER

No.	Part name	189P, 363P	389P
9	Spring pin	SS commercial	SS commercial
10	Body	Bronze SB-62	SS SA351-CF8M
11	Spring	SS A313-304	SS A313-304
12	Stem	SS A582-303	SS A582-303
13	Spring step - top	SS A582-303	SS A582-303
14	Jam nut	Brass B16	SS A479-316
15	Compression screw	SS A582-303 <sup>(2)</sup>	SS A582-303
16	Cap	Bronze B584 Alloy 84400	SS A743-CF8M
17	Lift cam	SS A473-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	Retainer nut	Brass B16	SS A479-316
22	O-ring	NBR	NBR
23	Lift nut	Steel A108, zinc plated	Steel A108, zinc plated

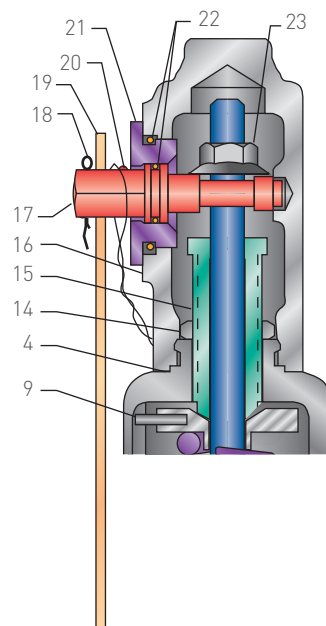
### NOTES

- Upper spring pin available on Models 189C and 389C.
- Models 363C and 363P, Brass B16.

THREADED CAP



PACKED LEVER



# KUNKLE MODELS 189/363/389 SAFETY VALVES

## SAFETY AND RELIEF PRODUCTS

### PARTS AND MATERIALS - MODELS 189 AND 363 WITH PLAIN LEVER

No.	Part name	189, 363
10	Spring pin <sup>[1]</sup>	SS commercial
11	Jam nut	Brass B16
12	Lever	Steel A109, zinc plated
13	Compression screw	SS A582-303 <sup>[2]</sup>
14	Cap	Aluminum, SB85 A380.0
15	Stem	SS A582-303
16	Lift nut	Steel A108, zinc plated
17	Rivet	Steel commercial
18	Lock screw	SS commercial

#### NOTE

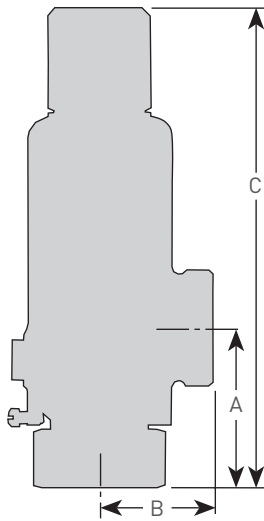
1. Spring pin available on Models 189 and 389 only.
2. Model 363, Brass B16.

### SPECIFICATIONS

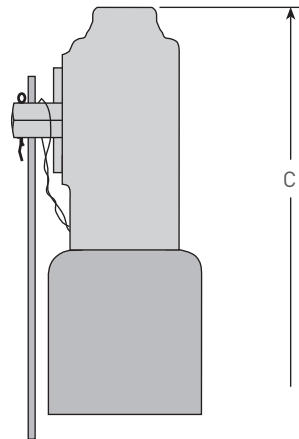
Size	Inlet	Outlet	Dimensions (in)				Weight (lb)	
			A	B	C Cap	C Plain lever		C Packed lever "P"
1/2" / 3/4"	3/4"		2 7/16	1 3/4	7 3/16	9	8 1/2	5

Dimensions are for reference only

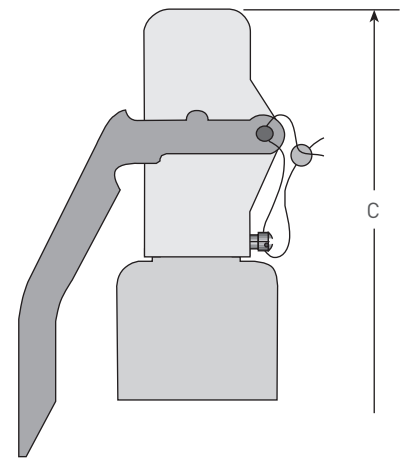
MODELS 189C, 363C AND 389C  
(THREADED CAP)



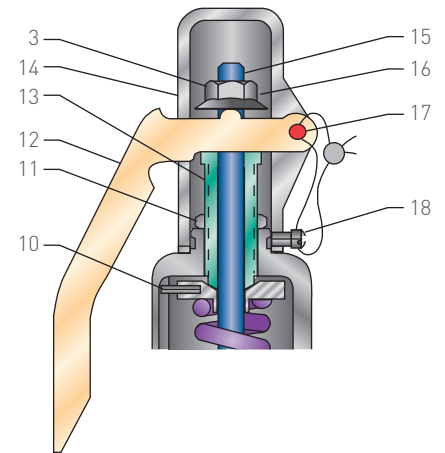
MODELS 189P, 363P AND 389P  
(PACKED LIFT LEVER)



MODELS 189 AND 363  
(PLAIN LEVER)



### PLAIN LEVER



# KUNKLE MODELS 189/363/389 SAFETY VALVES

## SAFETY AND RELIEF PRODUCTS

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### CAPACITIES FOR ASME SECTION VIII AIR, (SCFM)

Set pressure (psig)	Capacity (SCFM)
50	38
100	68
150	98
200	128
250	158
300	188
350	218
400	248
450	278
500	308
550	338
600	368
650	397
700	427
750	457
800	487
850	517
900	547
950	577
1000	607
1050	637
1100	667
1150	697
1200	727
1250	757
1300	787
1350	817
1400	847
1450	877
1500	907
1550	937
1600	967
1650	997
1700	1027
1750	1057
1800	1087
1850	1117
1900	1146
1950	1176
2000	1206
2050	1236
2100	1266
2150	1296
2200	1326
2250	1356
2300	1386
2350	1416
2400	1446
2450	1476
2500	1506

# KUNKLE MODELS 189/363/389 SAFETY VALVES

## SAFETY AND RELIEF PRODUCTS

### SELECTION GUIDE

<b>Example:</b>	<b>0189</b>	<b>-</b>	<b>D</b>	<b>01</b>	<b>-</b>	<b>K</b>	<b>H</b>	<b>1000</b>
<b>Model</b>								
<b>0189</b>								
<b>189C</b>								
<b>189P</b>								
<b>0363</b>								
<b>363C</b>								
<b>363P</b>								
<b>389C</b>								
<b>389P</b>								
<b>Connection size</b>								
<b>C</b>	1/2" inlet x 3/4" outlet							
<b>D</b>	3/4" inlet x 3/4" outlet							
<b>Variation</b>								
<b>01</b>	Catalog standard							
<b>02</b>	Plain lever with vibration dampener (Model 0189 and 0363 only)							
<b>02</b>	Packed lever with gag (Model 189P only)							
<b>Design revision</b>								
	Indicates non-interchangeable revision							
	Dash (-) if original design							
<b>Service</b>								
<b>K</b>	Air ASME section VIII							
<b>N</b>	Non-code air (Models 0363, 363C, 363P, 389C, 389P only)							
<b>Spring material</b>								
<b>H</b>	304 SS							
<b>Set pressure</b>								
<b>Model 189</b>	1000 psig (1000) to 2500 psig (2500)							
<b>Model 363</b>	50 psig (0050) to 1000 psig (1000)							
<b>Model 389</b>	50 psig (0050) to 2500 psig (2500)							