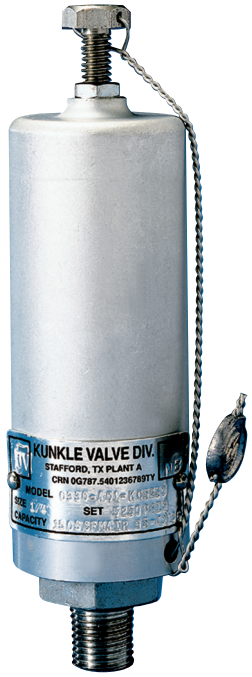
KUNKLE SAFETY AND RELIEF PRODUCTS
MODELS 230, 330, 330S AND 333S

ASME Section VIII, Gas, "UV" National Board Certified. PED certified for non-hazardous gas.



Model 330

Model descriptions

Model 230: 1/4" Male NPT – 300/1500 psig. Aluminum housing with SS trim.

Model 330: 1/4" Male NPT – 1000/5500 psig. Aluminum housing, SS trim. Sidewall discharge.

Model 330S: Same as Model 330 except SS body suitable for 1000/6500 psig.

Model 333S: Same as Model 330S except 1/2" Female NPT side outlet. Pressure-tight cap.

Features

- Improved Soft Seat option – provides repeatable leak-tight performance before and after each relief cycle. Allows for reduced maintenance costs, multiple cycles with tight shut-off, and improved seating integrity (Models 330, 330S and 333S).
- Lightweight aluminum construction. Resistant to environmental and internal corrosion.
- Model 230 (non-code) is direct spring-loaded design with synthetic disc insert.
- Model 330 series incorporates a differential mechanism which maintains a predetermined seatcontact load.
- The full spring load is never imparted to synthetic disc insert (Models 330, 330S, and 333S only).
- Seat tightness increases as inlet pressure approaches set (opening) pressure.
- Each Kunkle valve is tested and inspected for pressure setting and leakage.

Technical data

Pressure and Temperature Limits

Model 230:
300 to 1500 psig [20.6 to 103.4 barg]
-20 to 185°F [28.9 to 85°C]

Model 330:

1000 to 5500 psig [68.9 to 379.2 barg]
-20 to 185°F [28.9 to 85°C]

Model 330S:

1000 to 6500 psig [68.9 to 448.1 barg]
-20 to 185°F [28.9 to 85°C]

Model 333S:

1000 to 6500 psig [68.9 to 448.1 barg]
-20 to 185°F [28.9 to 85°C]

Maximum back pressure 100 psig[1].

Code: UV CE

Note:

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

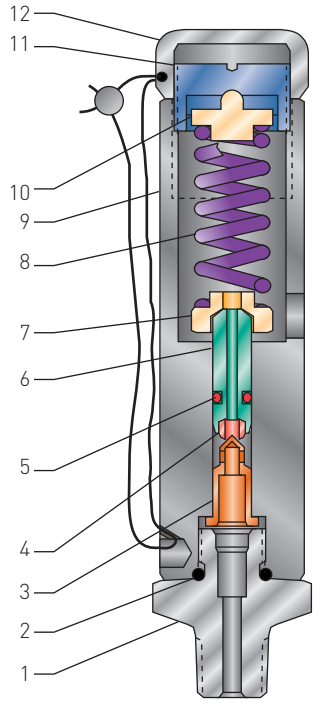
Applications

- Multi-stage high pressure compressors, intercoolers and aftercoolers.
- High pressure receivers and storage bottles.
- Thermal expansion relief.

Parts and Materials

Model 230

No.	Part Name	Materials
1	Nozzle	SS SA479-304
2	O-ring	Teflon®
3	Bottom Disc	SS A582-303
4	Insert	Kynar®
5	Seal	Teflon®
6	Top Disc	SS A582-303
7	Spring Step	Aluminum B211 Alloy 2024 T351
8	Spring	Steel A231, Aluminum Coated
9	Cap	Aluminum B211 Alloy 2024 T351
10	Top Spring Plate	Aluminum B211 Alloy 2024 T351
11	Compression Screw	Aluminum B211 Alloy 2024 T351
12	Hood	Aluminum B211 Alloy 2024 T351



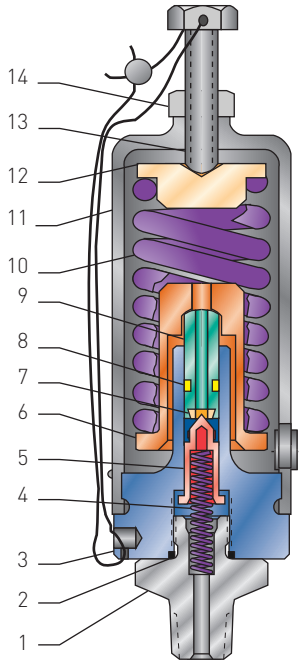
Model 230

Models 330 and 330S

No.	Part Name	Materials
1	Nozzle	SS SA479-304
2	O-ring	Teflon®
3	Body	Aluminum SB211 Alloy 2024 T351[1]
4	Bottom Spring	SS A313-302
5	Bottom Disc	SS A582-303
6	Bottom Spring Step	Aluminum B211 Alloy 2024 T351
7	Insert	Kynar®
8	Seal	Teflon®
9	Top Disc	SS A582-303
10	Top Spring	Steel A231 Aluminum Coated
11	Cap	Aluminum SB-211 Alloy 6061-T6
12	Top Spring Step	Aluminum B211 Alloy 2024 T351
13	Compression Screw	SS A582-303
14	Jam Nut	SS 18-8

Note:

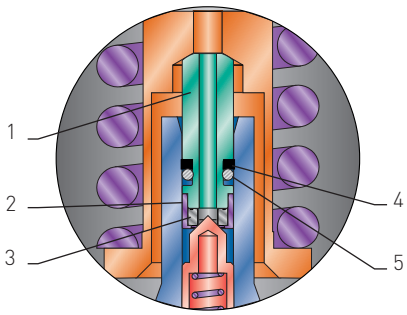
1. Model 330S, SS SA479-304.



Models 330 and 330S

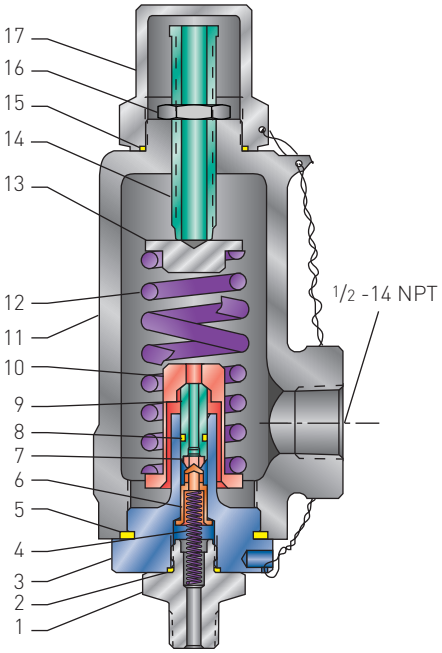
330, 330S, 333S Soft Seat

No.	Part Name	Materials
1	Top Disc	SS A582 303
2	Disc Cap	SS A582 303
3	Seat	Urethane
4	Back Up Ring	Teflon®
5	O-ring	EPDM



Urethane Soft Seat

Parts and Materials



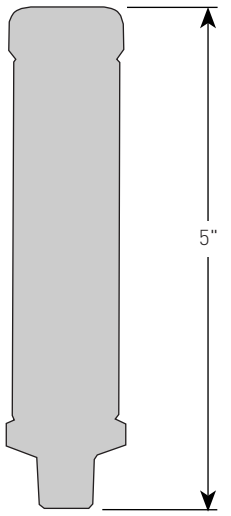
Model 333S

Model 333S		
No.	**Part Name**	**Material**
1	Nozzle	SS SA479-304
2	O-ring	Teflon®
3	Body	SS SA479-304
4	Bottom Spring	SS A313-302
5	O-ring	BUNA-N
6	Bottom Disc	SS A582-303
7	Insert	Kynar®
8	Seal	Teflon®
9	Top Disc	SS A582-303
10	Spring Step - Bottom	Aluminum B211 Alloy 2024-T351
11	Bonnet	Aluminum SB26 Alloy 356-T6
12	Top Spring	Steel A231 Aluminum Coated
13	Spring Step - Top	Aluminum B211 Alloy 2024-T351
14	Compression Screw	SS A479-316
15	O-ring	BUNA-N
16	Jam Nut	SS A479-316
17	Cap	Aluminum B211 Alloy 2024-T351

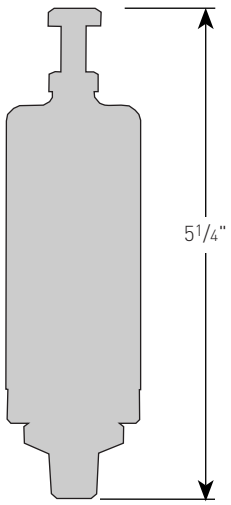
Specifications

Size (Model 333S)		Dimensions, in			Weight
Inlet	**Outlet**	**A**	**B**	**C**	**(lb)**
1/4" and 1/2"	1/2" and 3/4"	2 7/8	1 7/8	7 11/16	1

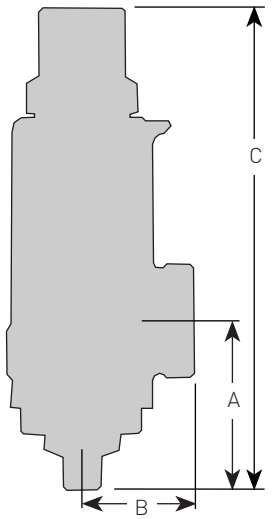
Dimensions are for reference only.



Model 230



Models 330 and 330S



Model 333S

Ordering and Capacities

Model Number/Order Guide

Model Number Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example	0	2	3	0	—	A	0	1	—	N	C	1	4	0	0

Model
- 0230
- 0330
- 330S
- 333S

Seat Material
- – - Kynar hard plastic
- U - Urethane soft seat (Models 330, 330S, 333S only)

Inlet
- A - 1/4" MNPT
- C - 1/2" MNPT

Variation (01 to 99)
- 01 - Catalog standard
- 01 - 1/2" MNPT x 1/2" FNPT (Model 333S only)
- 02 - 1/2" MNPT x 3/4" FNPT (Model 333S only)

Design Revision
Indicates non-interchangeable revision
Dash (-) if original design

Valve Service
- N - Non-code Air/Gas (Model 230 only)
- K - Gas ASME Section VIII (Models 330, 330S, and 333S only)

Spring Material
- C - Steel A231 with Coating (Polyester)

Set Pressure
Model 230 - 300 psig (0300) to 1500 psig (1500)
Model 330 - 1000 psig (1000) to 5500 psig (5500)
Models 330S and 333S - 1000 psig (1000) to 6500 psig (6500)

Model 230 Capacities SCFM Air, 10% Accumulation

Set Pressure psig	Capacity (Non-code)
300	14
500	23
750	34
1000	45
1250	56
1500	67

Models 330, 330S, 333S Capacities SCFM Air, 10% Accumulation

Set Pressure psig	Capacity
1000	29
1100	32
1200	35
1300	38
1400	40
1500	43
1750	50
2000	58
2250	65
2500	72
2750	79
3000	86
3500	100
4000	115
4500	129
5000	143
5500	158
6000	172
6500	186

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