

SAFETY & RELIEF VALVES

Hot Water Boiler Safety Relief Valves

10 SERIES

Brass/bronze safety relief valves protect ASME Section IV hot water heating boilers and hydronic heating systems. High capacity design features corrosion resistant construction. Brass, satin or polished chrome finishes available.

ASME Section IV

Inlet Size 3/4" - Outlet - 3/4" & 1"

Factory set Pressure 20-150 psi

Maximum temperature service: 250°F



APPLICATIONS:

Ideal for use with hot water boilers and hydronic heating systems.

FEATURES:

- Pressures from 20 to 150 psig
- Registered in all Canadian provinces and territories, CRN #0G8547.5C
- Stainless steel springs standard
- 10-624/634 are ideal for use in various plumbing systems, commercial boiler applications and swimming pool heaters
- 10-418/417 are ideal for use in swimming pool heater applications

OPTIONS:

- Model 10-104 and 10-301 are available with optional satin or polished chrome finish
- 10-321 available in polished chrome only

DIMENSIONS AND WEIGHTS

Model Number	Size(in./mm.)		Certified Pressure Range psig	Height (in./mm.)	Wt./100 (lbs./kg.)
	Inlet NPT	Outlet NPT			
10-102	3/4 F	1 F	20-60	3.94	105
	20 F	25 F		100	47.7
10-104	3/4 M	1 F	20-60	3.75	109
	20 M	25 F		95	49.5
10-301	3/4 M	3/4 F	20-60	3.75	114
	20 M	20 F		95	51.8
10-303	3/4 F	3/4 F	20-60	3.94	115
	20 F	20 F		100	52.3
10-321	3/4 M	3/4 F	20-60	3.75	123
	20 M	20 F		95	55.9
10-407	3/4 M	3/4 F	30	3	62
	20 M	20 F		76	28.2
10-408	3/4 F	3/4 F	30	2.75	65
	20 F	20 F		70	29.5
10-417	3/4 M	3/4 F	20-80	3	62
	20 M	20 F		76	28.1
10-418	3/4 F	3/4 F	20-80	2.75	65
	20 F	20 F		70	29.5
10-624	3/4 M	3/4 F	30-150	4.62	106
	20 M	20 F		117	48.2
10-634	3/4 F	3/4 F	30-150	4.62	106
	20 F	20 F		117	48.2



10-102
10-303



10-104
10-301



10-321



10-407
10-417



10-408
10-418



10-624
10-634 OEM

SAFETY & RELIEF VALVES

OEM Style Steam Safety Relief Valves

10-322 AND 10-512 SERIES



10-512



10-322

National Board capacity-certified safety valves; brass body with optional satin or polished chrome finish. Protects against excess pressure from thermal expansion and steam caused by failure of Btu input controls.

ASME Section VIII

Sizes 1/2" and 3/4"

Factory set pressures 15 to 60 psig @ 312°F max

National Board Certified Capacity



APPLICATIONS:

Ideally suited for OEM applications such as steam carpet and jewelry cleaners, autoclaves, sterilizers, commercial pressure cookers, steam jacketed kettles, dental equipment, coffee makers and similar equipment.

FEATURES:

- Stainless steel springs
- Small physical size
- Discharge capacities to 725 lbs./hr.
- Soft seating for exceptional seat tightness
- Pressure settings 15 to 60 psig
- 10-322 in polished chrome only (10-322-P)
- CRN OG8547.5C, registered in all Canadian provinces and territories
- More descriptive model numbering system

OPTIONS:

(Model 10-512 Only)

- Satin or polished chrome finish
- Stainless steel wetted trim
- BSP pipe connections
- CE/PED compliance

P/N SUFFIX KEY

Set Pressure psig	*Certified Capacities	
	10.322 lbs.hr.	15.512 lbs.hr.
15	-	151
20	325	178
25	375	205
30	425	232
35	475	258
40	525	285
45	575	312
50	625	339
55	675	366
60	725	392

* ASME (UV) Rating – 90% of actual capacity at 10% accumulation. Capacity in lbs. of saturated steam per hour.

DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)		Set Pressure Range psig	Height (in./mm.)	Wt./100 (lbs./kg.)
	Inlet NPT	Outlet NPT			
10-322	3/4 M	3/4 F	20-60	3.75	128
	20	20		95	58.2
10-512	1/2 M	1/2 F	15-60	2.62	58
	15	15		67	26.4

MODEL NUMBERING SYSTEM

10 - X	-X	-XX	-X
MODEL AND SIZE (IN.)	FINISH	SET PRESSURE	OPTIONS
512 = 1/2 x 1/2 322 = 3/4 x 3/4	B = Plain Brass S = Satin Chrome P = Polished Chrome	Set Pressure in PSIG (2 Digits)	B = BSPP connections CE = PED/CE S = Stainless Steel trim V = Viton® Seat X = Blank Outlet not threaded

EXAMPLE:

10-322-P-20

3/4" 10-322 set @ 20 psig, polished chrome finish.

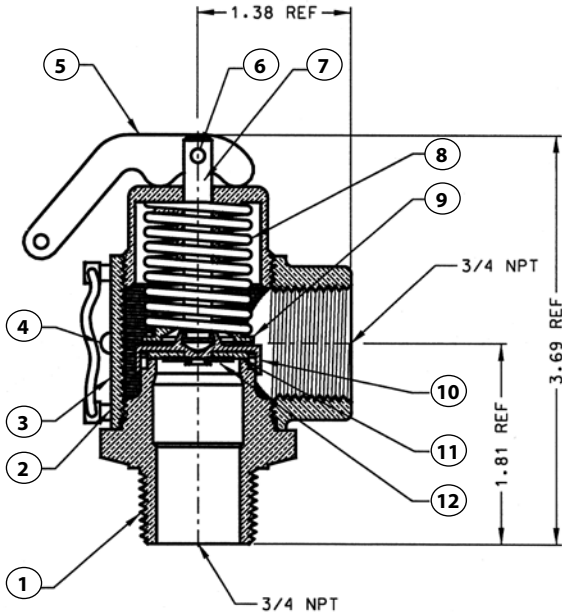
NOTE:

- Model 10-322 available in polished chrome finish only.
- Valves may be set for any pressure between 15 and 60 psig.

SAFETY & RELIEF VALVES

OEM Style Steam Safety Relief Valves

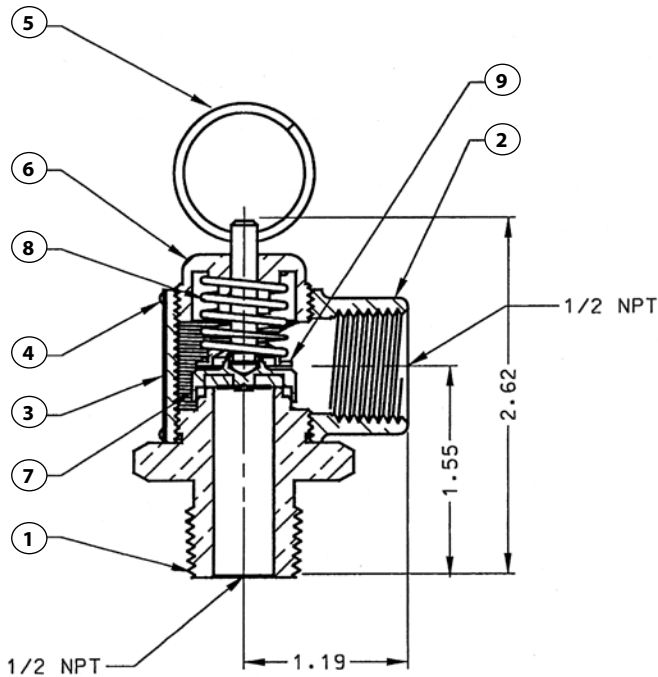
10-322 SERIES



10-322 MATERIALS

Item	Component	Material
1	Nozzle	Brass ASTM B-16
2	Body	Brass ASTM B-16
3	Nameplate	Aluminum
4	Drive Screw	Steel, Zinc Plated
5	Handle	Steel, Zinc Plated
6	Cotter Pin	Steel, Zinc Plated
7	Stem	Brass ASTM B-16
8	Spring	Stainless Steel
9	Spring Washer	Brass ASTM B-16
10	Disc	Brass ASTM B-16
11	Seat	Teflon Faced EPDM
12	Washer	Brass ASTM B-16

10-512 SERIES



10-512 MATERIALS

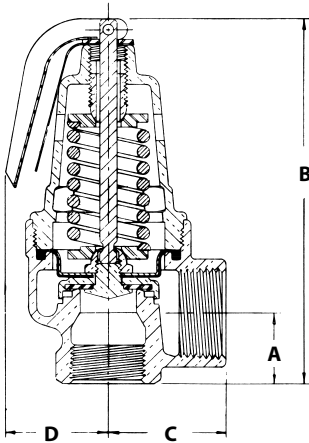
Item	Component	Material
1	Nozzle	Brass ASTM B-16
2	Body	Brass ASTM B-16
3	Nameplate	Aluminum
4	Drive Screw	Steel, Zinc Plated
5	Pull Ring	Steel, Zinc Plated
6	Cap	Brass ASTM B-16
7	Disc Assembly	Brass, Silicone
8	Spring	Stainless Steel
9	Spring Washer	Brass ASTM B-16

Model 10-512 available with optional stainless steel wetted trim. Nozzle, disc holder and disc washer are type 316 stainless steel.

SAFETY & RELIEF VALVES

High Capacity Safety Relief Valves for Hot Water Heating Boilers

10-600 SERIES



High-capacity heating system valves with female inlet and standard or expanded female outlet. Elevated seat for drainage of water away from seat area. Entire pressure range is National Board capacity certified.

ASME Section IV

Inlet Sizes 3/4" to 2"

Factory set pressures from 15-160 psig

Maximum temperature service 250°F



HV
Section IV
Heating Boilers

APPLICATIONS:

Hot water heating boilers and hot water supply systems

FEATURES:

- High Btu capacity rating
- Silicone seat
- Fabric reinforced molded diaphragm isolates spring from water at all times
- Bronze body and spring cage
- Registered in Canadian provinces and territories CRN #0G8547.5C
- Protects against excessive water pressure due to failure of controls to regulate Btu input

DIMENSIONS AND WEIGHTS

Model Number	Size(in./mm.)		Certified Pressure Range psig	Wt./100 (lbs./kg.)	Dimensions (in./mm.)			
	Inlet NPT	Outlet NPT			A	B	C	D
10-604	3/4F	3/4F	15-160	232	1.03	5.25	1.62	1.56
	20	20		105.2	26	133	41	39
10-614	3/4F	1 F	15-160	226	1.03	5.25	1.72	1.56
	20	25		102.5	26	133	43	39
10-605	1F	1F	15-160	410	1.25	6.69	2.00	2.00
	25	25		185.9	31	169	50	50
10-615	1 F	1-1/4F	15-160	390	1.25	6.69	2.00	2.00
	25	32		176.9	31	169	50	50
10-606	1-1/4F	1-1/4F	15-160	795	1.25	8.37	2.47	2.62
	32	32		360.5	31	212	63	67
10-616	1-1/4F	1-1/2F	15-160	755	1.25	8.37	2.47	2.62
	32	40		342.4	31	212	63	67
10-607	1-1/2F	1-1/2F	15-160	1100	2.00	10.75	2.75	3.12
	40	40		498.9	50	273	69	79
10-617	1-1/2F	2F	15-160	1145	2.00	10.75	2.75	3.12
	40	50		519.3	50	273	69	79
10-608	2F	2F	15-160	2375	2.19	14.00	3.69	3.50
	50	50		1077.1	55	355	93	88
10-618	2F	2-1/2F	15-160	2315	2.19	14.00	3.66	3.50
	50	65		1049.9	55	355	92	88

P/N SUFFIX KEY

Set Pressure psig	Suffix	Set Pressure psig	Suffix
15	-01	85	-17
20	-02	90	-18
22	-03	95	-19
25	-04	100	-20
30	-05	105	-21
35	-06	110	-22
40	-07	115	-23
43	-08	120	-24
45	-09	125	-25
50	-10	130	-30
55	-11	135	-31
60	-12	140	-32
65	-13	145	-33
70	-14	150	-34
75	-15	155	-35
80	-16	160	-36

ORDERING CODE:

Use two-digit suffix number to indicate Inlet x Outlet size and set pressure.

EXAMPLES:

10-615-12

1"x 1-1/4" 10-610 set 60 psig

10-608-05

2"x 2" 10-600 set 30 psig



For additional information, submittal sheets and manuals, visit www.apollovalves.com

Customer Service (704) 841-6000

SAFETY & RELIEF VALVES

Low Pressure Steam Heating Boiler Safety Valves

12-200 SERIES



Medium capacity safety valves protect ASME Section IV low pressure steam heating boilers. Cast bronze, full nozzle design features PTFE faced elastomer soft seating for dependable operation. Ideal for OEM applications.

ASME Section IV

Sizes 2, 2-1/2" and 3"

Factory set pressures 5-15 psig



HV
Section IV
Heating Boilers

APPLICATIONS:

Medium and large commercial and industrial steam heating and processing boilers.

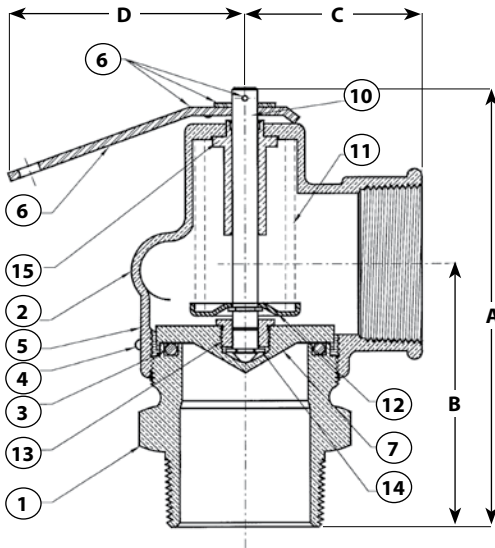
FEATURES:

- All bronze construction
- PTFE-coated O-ring seat seal
- 3/8" NPT side tapping for drain
- Rust-proofed steel spring
- Top guided, high capacity design
- Registered in all Canadian provinces and territories, CRN #0G8547.5C
- National Board certified at 15 psig

DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)		Wt./Ea. (lbs./kg.)	Dimensions (in./mm.)			
	Inlet NPT	Outlet NPT		A	B	C	D
12-205	2M	2F	5.1	6.00	3.75	2.62	4.00
	50	50	2.3	152	95	67	102
12-206	2-1/2M	2-1/2F	8.4	8.50	5.25	3.06	4.00
	65	65	3.8	216	133	78	102
12-208	3M	3F	11.6	9.50	6.00	3.75	4.00
	80	80	5.3	241	152	95	102

NOTE: See Capacities page 15



10-512 MATERIALS

Item	Component	Material
1	Nozzle	Bronze ASTM B584
2	Body	Bronze ASTM B584
3	O-ring	Teflon Coated EPDM
4	Drive Screw	AISI 1010 Plated CR Steel
5	Nameplate	Aluminum
6	Handle Assembly	Steel, Plated
7	Disc	Brass ASTM B-16
10	Stem	Brass ASTM B-16
11	Spring	Stainless Steel
12	Spr. Washer	AISI 1010 Plated CR steel
13	Stem Nut	Brass ASTM B-16
14	Retainer Ring	Brass ASTM B-16
15	Guide	Brass ASTM B-16

ORDERING CODE:

Use two-digit suffix number to indicate set pressure and body finish.

P/N SUFFIX KEY

Set Pressure psig	Suffix
5	-03
6	-04
8	-05
10	-06
12	-07
15	-08

EXAMPLE:

12-205-08
2" 12 Series set 15 psig

SAFETY & RELIEF VALVES

Low Pressure Steam Heating Boiler Safety Valves

13 SERIES

ASME Section IV bronze safety valves protect small to medium low pressure steam heating boilers. Three design configurations feature top guiding and raised seating area for extended service life. Available top and side discharge models.

ASME Section IV

Sizes 3/4"-1-1/2"

Factory set pressure 5 to 15 psi



HV
Section IV
Heating Boilers

APPLICATIONS:

Low pressure steam heating and supply boilers.

FEATURES:

- Flat seat, PTFE faced disc for positive seal
- Standard set pressure of 15 psig
- Positive drainage of condensate from seat area
- No. 13-101 is top outlet discharge
- Registered in all Canadian provinces and territories, CRN #0G8547.5C
- ASME and National Board certified at 15 psig

OPTIONS:

- Satin or polished chrome finishes

DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)		Wt./100 (lbs./kg.)	Dimensions (in./mm.)			
	Inlet NPT	Outlet NPT		A	B	C	D
13-101	3/4 M	Top	64	2.87	0.94	1.25	—
	20		29.0	73	23	31	—
13-211	3/4 M	3/4 F	107	1.81	3.69	1.44	1.41
	20	20	48.5	46	93	36	35
13-202	1 M	1 F	110	2.06	3.87	1.53	1.41
	25	25	49.9	52	98	39	35
13-213	1-1/4 M	1-1/2 F	218	2.53	4.50	1.87	1.50
	32	40	98.9	64	114	47	38
13-214	1-1/2 M	2 F	320	3	5.25	2.19	1.81
	40	50	145.1	76	133	55	46
13-511	3/4 M	3/4 F	62	1.69	3.25	1.19	1.25
	20	20	28.1	42	82	30	31
13-512	3/4 F	3/4 F	59	1.19	2.75	1.19	1.25
	20	20	26.8	30	69	30	31

NOTE: See Capacities page 15

MODEL NUMBERING SYSTEM

13 - XXX	-X	-XX	-X
MODEL	FINISH	SET PRESSURE	OPTIONS
101 = 3/4" M x Top	B = Plain Brass	Set Pressure in PSIG (2 Digits)	A = Air Service (Non-ASME)
211 = 3/4" M x 3/4" F	S = Satin Chrome*		
202 = 1" M x 1" F	P = Polished Chrome*		
213 = 1-1/4" M x 1-1/2" F			
214 = 1-1/2" M x 2" F			
511 = 3/4" M x 3/4" F			
512 = 3/4" F x 3/4" F			

EXAMPLE:

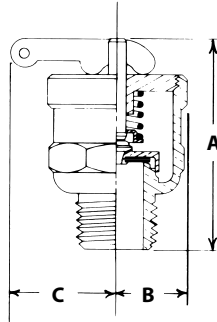
13-511-B15

3/4" 13-511 set at 15 psig

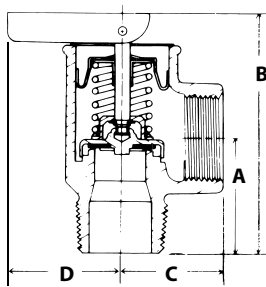
* Available on select models only



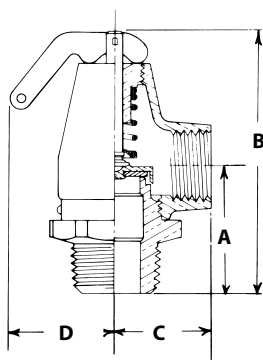
13-101



13-511



13-200



SAFETY & RELIEF VALVES

Low Pressure Steam Heating Boiler Safety Valves

14-200 SERIES

ASME Section IV

Factory set pressures from 5 to 15 psig.
Sizes 2", 2-1/2" and 3".



HV
Section IV
Heating Boilers



APPLICATIONS:

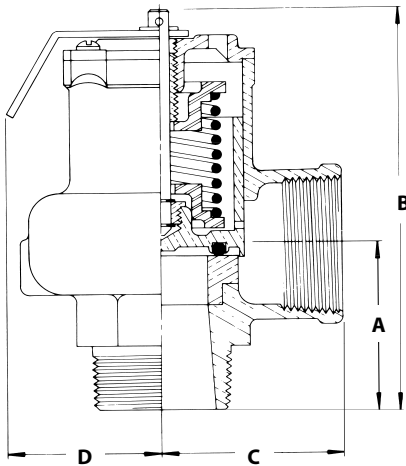
The 14 Series is an ASME Section IV high capacity steam safety valve for use with medium and large size commercial and industrial heating boilers.

FEATURES:

- One piece body, all bronze construction
- Rust proofed steel spring
- Chrome plated seat, PTFE coated disc
- PTFE coated EPDM O-ring for positive seal
- 3/8" NPT side tapping for drain connection
- Valves are capacity certified by the National Board at 15 psig only, in accordance with ASME Boiler and Pressure Vessel Code Section IV
- Registered in all Canadian provinces and territories, CRN #0G8547.5C

OPTIONS:

- Test gag available to prevent the valve from opening during hydrostatic testing of the boiler. To specify gag option, add "G" to suffix.



DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)		Wt./Ea. (lbs./kg.)	Dimensions (in./mm.)			
	Inlet NPT	Outlet NPT		A	B	C	D
14-205	2M	2F	8.4	3.00	7.12	3.12	4.00
	50M	50F	3.8	76	181	79	101
14-206	2-1/2M	2-1/2F	13.0	3.50	8.25	3.50	4.00
	65M	65F	5.9	88	209	88	101
14-207	3M	3F	17.0	4.12	9.37	3.87	4.00
	80M	80F	7.7	104	238	98	101

NOTE: See Capacities page 15

ORDERING CODE:

Use model number and two digit suffix number to indicate size and set pressure.

P/N SUFFIX KEY

Set Pressure psig	Suffix
5	-03
6	-04
8	-05
10	-06
12	-07
15	-08

EXAMPLE:

14-206-08

2-1/2" valve set at 15 psi

Note:

- ASME IV and NB certified capacities at 15 psi only
- Valves may be set for any pressure between 5 and 15 psi. Consult factory for set pressures not listed.
- To specify test gag option add "G" to suffix.

SAFETY & RELIEF VALVES

Low Pressure Air Relief Valves

14-400 AND 14-500 SERIES

High volume air relief valves designed for low pressure/high volume air and gas service. Rugged bronze construction features elastomer soft seating and TFE coated discs for dependable operation.

Inlet sizes 2", 2 1/2" and 3"
Factory set pressures 4 to 22 psig @ 400°F max.

APPLICATIONS:

- Non-ASME code air and gas service
- Low pressure, high volume blowers and compressors
- Bulk hauling tanks, trailers and rail cars
- Powdered solids / bulk handling
- Pneumatic conveying equipment

FEATURES:

- Vibration resistant soft seat is standard
- Stainless steel spring
- One piece corrosion resistant bronze body design
- High flow "top-guided" design

OPTIONS:

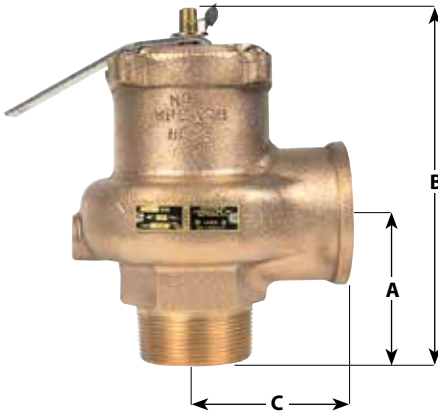
- Model 14-400 with test lever
- Model 14-500 with plain cap, weather resistant sealed body

AIR RELIEF CAPACITY:

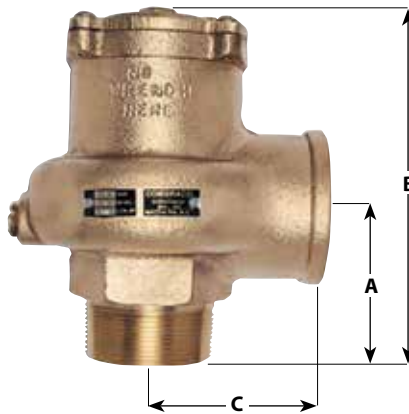
See page 19

DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)	Dimensions (in./mm.)			Wt./Ea. (lbs./kg.)
		A	B	C	
14-X05	2 x 2	3	6-1/2	3-1/8	8.4
	50M x 50F	76	165	79	3.81
14-X06	2-1/2 x 2-1/2	3-1/2	7-5/8	3-1/2	12.5
	65M x 65F	89	194	89	5.7
14-X07	3 x 3	4-1/8	8-3/4	3-7/8	17.0
	80M x 80F	105	222	98	7.7



14-400
W/LIFT LEVER



14-500
PLAIN CAP

MODEL NUMBERING SYSTEM

14-400/500 Series Air Relief Valves

14	-X	-XX	-X
SERIES NUMBER	BODY/CAP STYLE AND SERVICE	INLET CONNECTION	RELIEF PRESSURE
14 = Base Model No.	4 = Air Relief, with Test Lever 5 = Air Relief, Plain Cap	05 = 2" NPT 06 = 2 1/2" NPT 07 = 3" NPT	Set Pressure in PSIG (2 Digits)

EXAMPLES:

14-406 12

2-1/2" 14 Series air relief valve set at 12 psig, with lift lever

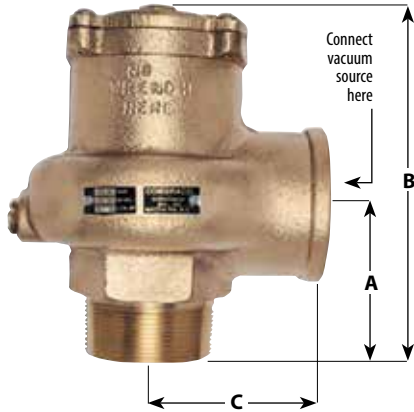
14-505-08

2" air relief valve set at 8 psig, with sealed cap

SAFETY & RELIEF VALVES

Vacuum Relief Valves

14-600 SERIES



14-600

High flow vacuum relief valves feature one piece cast bronze bodies. Teflon coated discs and elastomer soft seating provide accurate and dependable operation.

Connection sizes 2", 2 1/2" and 3"
Relief settings 8" to 30" Hg @ 400°F max.

APPLICATIONS:

- High volume vacuum systems
- Bulk hauling tanks and trailers
- Powdered solids / bulk handling
- Pneumatic conveying equipment

FEATURES:

- Weather resistant construction
- Elastomer soft seat is vibration resistant
- Stainless steel spring
- One piece corrosion resistant bronze body design
- High capacity "top-guided" design
- TFE / chrome plated internals

VACUUM AIR RELIEF CAPACITY:

See page 19

DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)	Dimensions (in./mm.)			Wt./Ea. (lbs./kg.)
		A	B	C	
14-605	2 x 2	3	6-1/2	3-1/8	8.4
	50M x 50F	76	165	79	3.81
14-606	2-1/2 x 2-1/2	3-1/2	7-5/8	3-1/2	11.8
	65M x 65F	89	194	89	5.4
14-607	3 x 3	4-1/8	8-3/4	3-7/8	16.3
	80M x 80F	105	222	98	7.4

MODEL NUMBERING SYSTEM

14	-6	-0X	-VXX
SERIES NUMBER	BODY/CAP STYLE AND SERVICE	INLET CONNECTION	RELIEF PRESSURE
14 = Base Model No.	6 = Vacuum Relief	05 = 2" NPT 06 = 2 1/2" NPT 07 = 3" NPT	Vacuum Relief Setting, HG "V" Prefix + Inches Mercury ("V" + 2 Digits)

EXAMPLE:

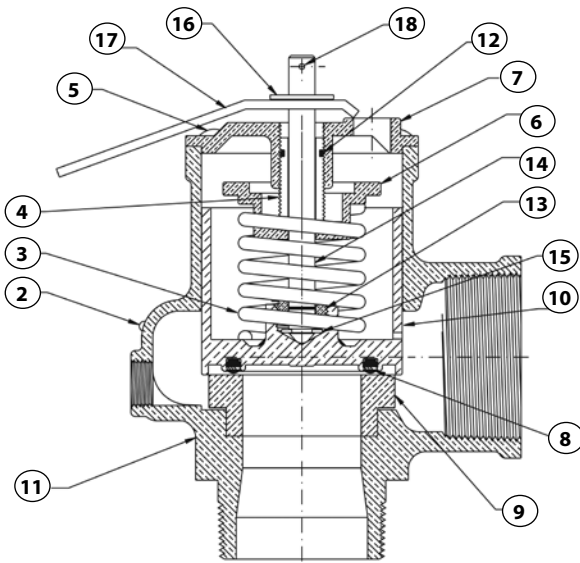
14-607-V14

3" Vacuum relief valve set at 14 Hg"

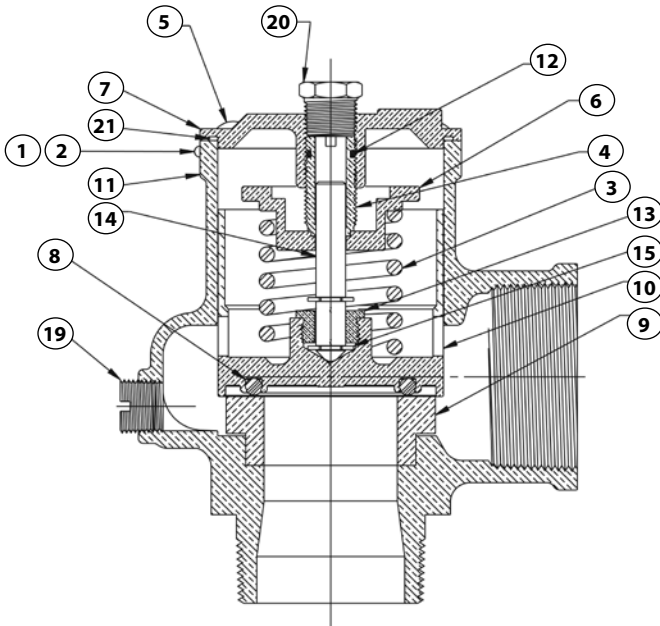
SAFETY & RELIEF VALVES

Low Pressure Air and Vacuum Relief Valves

14-400, 14-500 AND 14-600 SERIES



14-400



14-500 & 14-600

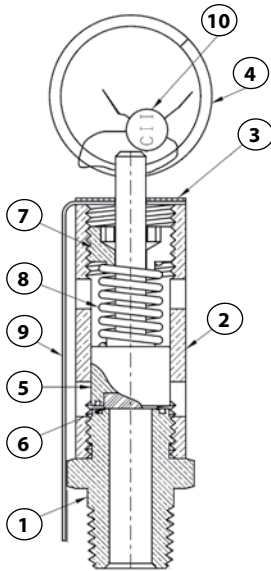
MATERIALS

Item	Component	Material
1	Nameplate	Aluminum
2	Drivescrews (2)	Steel (Plated)
3	Spring	Stainless Steel
4	Adjusting Screw	Brass ASTM B-16
5	Cap Screw (4)	Steel (Plated)
6	Spring Washer	Brass ASTM B-16
7	Cap	Bronze ASTM B-584
8	Seat-O-Ring	Silicone
9	Seat Insert	Brass ASTM B-16
10	Disc	Bronze ASTM B-584
11	Body	Bronze ASTM B-584
12	Friction Ring	EPDM
13	Stem Nut	Brass ASTM B-16
14	Stem	Brass ASTM B-16
15	Retaining Ring	Steel (Plated)
16	Lift Washer	Steel (Plated)
17	Lift Lever	Steel (Plated)
18	Roll Pin	Steel (Plated)
19	Plug	Brass ASTM B-16
20	Plug	Brass ASTM B-16
21	Cap Seal O-Ring	Silicone

SAFETY & RELIEF VALVES

Air Relief Valves

15 SERIES



Rugged design 15 Series air relief valves provide dependable overpressure protection at an economical price. Top guided design features brass construction and resilient seating for superior performance. Widely used by OEM's and for aftermarket replacement.

ASME Section VIII

Sizes 1/4" to 1"

Factory set pressures from 15 to 250 psi

Maximum Temp. 325°F



UV
Section VIII
Pressure Vessels

APPLICATIONS:

Ideal for a wide range of air and inert gas applications including compressors, intercoolers, dryers, receivers, control and instrument air lines, and pressurized systems and equipment.

FEATURES:

- National Board certified 15 psig through 250 psig
- Stainless steel springs
- Viton O-ring seat
- Registered in all Canadian provinces and territories: CRN #0G8547.5C
- ASTM B16 Brass Body
- RoHS Compliant Materials
- European pressure equipment directive compliant option (CE/PED)

DIMENSIONS AND WEIGHTS

Model Number	Inlet Size (in./mm.)	Dimensions (in./mm.)		Wt./100 (lbs./kg.)
		A	B	
15-112	1/4 NPT	2.62	0.78	18.5
	8	66	20	8.4
15-115	3/8 NPT	3.25	1.12	42.2
	10	82	28	19.2
15-117	1/2 NPT	3.37	1.12	45.3
	15	85	28	20.6
15-118	3/4 NPT	4.06	1.21	58
	20	105	30	26.4
15-119	1 NPT	5.12	1.87	153
	25	130	47	69.5

MATERIALS

Item	Component	Material
1	Nozzle	ASTM B-16 Brass
2	Body	ASTM B-16 Brass
3	Nameplate	Aluminum
4	Pull Ring	Plt'd. AISI 1018 CRS
5	Disc/Stem	ASTM B-16 Brass
6	Seat	Viton
7	Cap	ASTM B-16 Brass
8	Spring	ASTM A-227 Steel
9	Inst. Tag	Paper
10	Lead Seal	Lead

MODEL NUMBERING SYSTEM

15-XXX	-X	-XXX	-XX
MODEL AND SIZE (IN.)	FINISH	SET PRESSURE	OPTIONS
112 = 1/4 NPT	B = Plain Brass	Set Pressure in PSIG	CE = PED/CE
115 = 3/8 NPT			Q = Performance (Calibration) Test Reports
117 = 1/2 NPT			
118 = 3/4 NPT			
119 = 1 NPT			

EXAMPLE:

15 117 B 165

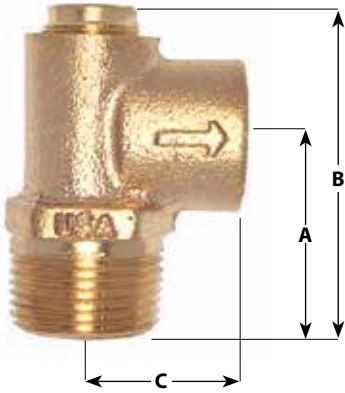
15 Series set @ 165 psig.

SAFETY & RELIEF VALVES

General Purpose Pressure Relief Valves

Economical relief valves for general purpose non-code overpressure protection and bypass relief applications. Applications include liquid bypass or thermal expansion relief of well pumps, tanks, fire protection systems and all types of water or liquid piping systems. Not intended for steam service.

16-200 SERIES



16-200

Pressure relief valves relieve excess pressure in cold water supply systems, storage tanks, well pumps. Also suitable for air, oil and other non-hazardous liquids.

FEATURES:

- Standard pressure settings from 50 to 175 psi
- Cast bronze body, stainless steel springs
- Silicone soft seat ensures seat tightness, extended service life
- All valves are 100% factory tested
- Maximum recommended service temperature 120°F
- **Lead Free Option, Model 16LF is NSF/ANSI 372 Lead Free**

DIMENSIONS AND WEIGHTS

Model Number	LF Model Number	Inlet Size (in./mm.)	Dimensions (in./mm.)			Wt./100 (lbs./kg.)
			A	B	C	
16-202	16LF-202	1/2 M X 1/2 F	1.41	2.12	1.00	33
		15 M x 15 F	36	54	25	15
16-203	16LF-203	3/4 M x 1/2 F	1.41	2.50	1.00	37.5
		20 M x 15 F	36	63	25	17

ORDERING CODE:

Use two-digit suffix number to indicate set pressure and body finish.

P/N SUFFIX KEY

Set Pressure psig	Suffix
50	-01
75	-02
100	-03
125	-04
150	-05
175	-06

EXAMPLE:

16-202-03
1/2" model set @ 100 psi.

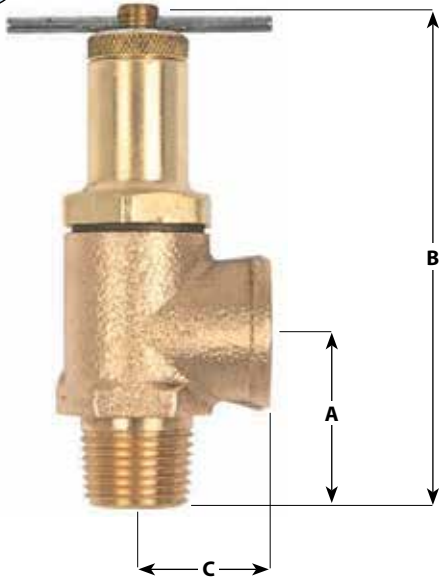
NOTE:

- Valves may be set for any pressure between 30 and 180 psi. Consult factory for pressure settings not shown.

SAFETY & RELIEF VALVES

General Purpose Liquid Relief Valves

16-501 SERIES



16-501

Adjustable relief valves protect equipment by providing low volume liquid relief or bypass control. Excess volume may be discharged back to the low pressure source. Ideal for agricultural sprayers and simple commercial or industrial pressurized systems.

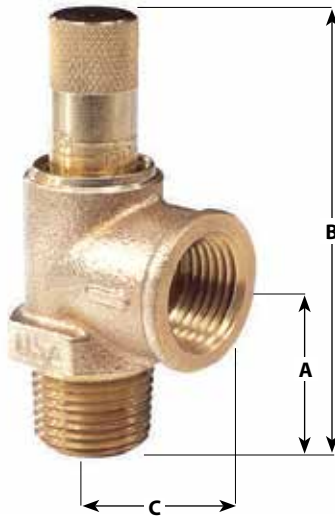
FEATURES:

- Adjustable relief settings, in two ranges to 600 psi
- Cast bronze body, stainless steel springs
- Choice of Nitrile (Buna) or PTFE soft seats
- Knurled locknut locks pressure adjustment
- Viton stem seal, polypropylene body gasket
- Maximum recommended service temperature 200°F

DIMENSIONS AND WEIGHTS

Model Number	Inlet Size (in./mm.)	Relief Range	Seat Material	Dimensions (in./mm.)			Wt./100 (lbs./kg.)
				A	B	C	
16-501-01	1/2 M X 1/2 F	50 - 250	Nitrile	1.29	4.12	1.00	62
16-501-02		250 - 600					
16-501-25	15 M x 15 F	50 - 250	PTFE	33	105	25	28
16-501-60		250 - 600					

16-503 & 16-504 SERIES



16-503
16-504

Calibrated pressure relief valve allows for in-line pressure adjustments without the need for a pressure gauge. Provides static overpressure protection for liquid filled systems such as well pumps, tanks, fire protection systems.

FEATURES:

- Choice of 1/2" or 3/4" inlet connection
- Factory preset at 100 psi
- Pressure range 50 to 175 psi, calibrated in 25 psi increments
- Cast bronze body, stainless steel spring
- Silicone soft seat, EPDM cap seal
- Maximum recommended service temperature 200°F
- Lead Free Option, Model 16LF is NSF/ANSI 372 Lead Free

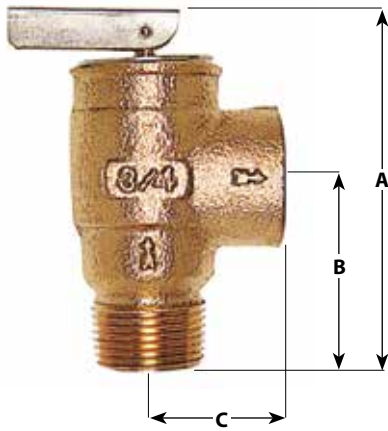
DIMENSIONS AND WEIGHTS

Model Number	LF Model Number	Inlet Size (in./mm.)	Dimensions (in./mm.)			Wt./100 (lbs./kg.)
			A	B	C	
16-503-01	16LF-503-01	1/2 M X 1/2 F	1.31	3.44	1.00	37
		15 M x 15 F				
16-504-01	16LF-504-01	3/4 M X 1/2 F	33	87	25	17
		20 M x 15 F				

SAFETY & RELIEF VALVES

Pressure Only Hot Water Relief Valves

17-400 SERIES



17-400

17-400 series pressure only relief valves are engineered to protect against excessive pressure buildup due to thermal expansion in hot water supply systems. Both models are CSA certified to ANSI Z21.22 "Relief Valves for Hot Water Supply Systems". In addition the 17-402 is design certified to ASME Section IV for hot water relief.

Connection sizes 1/2" (model 17-401) and 3/4" (model 17-402)

CSA certified to ANSI Z21.22

Pressure settings 75 through 150 psi @ 250°F max.

ASME Section IV Hot Water, model 17-402 only



APPLICATIONS:

Model 17-401: overpressure protection of domestic tankless water heaters. Also ideal for protecting plumbing and well systems, small liquid filled vessels and similar equipment from thermal expansion or pressure surges.

Model 17-402: as above plus suitable for ASME Section IV hot water heating and supply boilers and storage tanks.

FEATURES:

- Cast bronze body, stainless steel springs
- Soft seat for durability, extended service life
- Conforms to HUD / FHA requirements
- CSA certified to ANSI Z21.22
- ASME Section IV hot water, model 17-402
- CSA B-51, CRN 0G8547.5C

DIMENSIONS AND WEIGHTS

Model Number	Inlet Size (in./mm.)	CSA Capacity Rating	ASME Capacity Rating	Dimensions (in./mm.)			Wt./100 (lbs./kg.)
				A	B	C	
17-401	1/2 M X 1/2 F	15,000	-	3.26	1.73	1.16	57
	15 M X 15 F			83	44	29	26
17-402	3/4 M X 3/4 F	200,000	See table below	3.14	1.62	1.13	53
	20 M X 20 F			80	41	29	24

ORDERING CODE:

Use model number and two-digit suffix number to indicate size and set pressure.

P/N SUFFIX KEY

Set Pressure psig	Suffix	Btu/hr. ASME Sec. IV 17-402
75	-01	505,000
100	-02	648,000
125	-03	791,000
150	-04	934,000
160	-05	-

EXAMPLES:

17-401-03

1/2" model 17 set @ 125 psig.

17-402-04

3/4" model 17 set @ 150 psig.

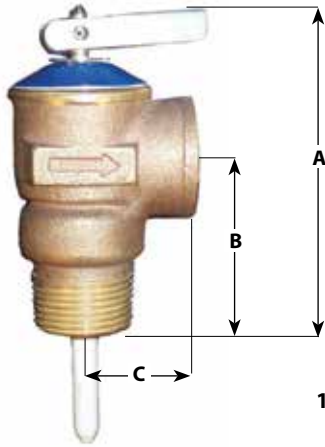
NOTE:

- Valves may be set for any pressure between 70 and 175 psi. Consult factory for pressure settings not shown.
- ASME Section IV certified model 17-402 only, pressure settings 75 to 150 psig.

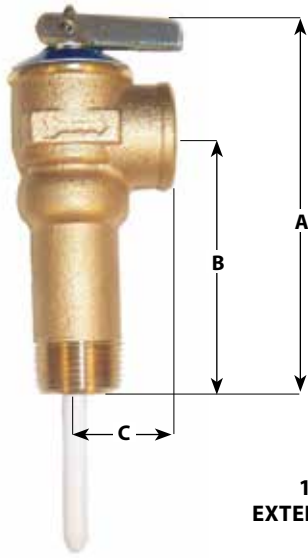
SAFETY & RELIEF VALVES

Water Heater T&P Relief Valves

18C-400 AND 18C-402X SERIES



18C-400



18C-402X
EXTENDED SHANK

Automatic temperature and pressure relief valves feature unique non-metallic coating which protects the element against galvanic and electromechanical corrosion by isolating it from the heated water. This coating is electrostatically applied for uniform coverage, then thermobonded, resulting in optimum adhesion for extended service life.

CSA design certified at all settings to ANSI Z21.22.

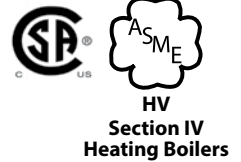
ASME Section IV rated at 125 and 150 psig settings for 3/4 NPT only.

APPLICATIONS:

Temperature and pressure protection for hot water heaters and storage tanks.

FEATURES:

- Meets HUD/FHA requirements
- Cast bronze body, stainless steel spring
- Rated 210°F maximum
- Registered in all Canadian provinces and territories
- ASME capacity certified to 500,000 Btu/hr.



OPTIONS:

- Model 18C-402X features a body inlet extended 2" for insulated vessels.

DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)	Element Length (in./mm.)	CSA Capacity Rating Btu/HR	Dimensions (in./mm.)			Wt./100 (lbs./kg.)
				A	B	C	
18C-401	1/2 M x 1/2 F	1.44, 3 & 8"	15,000	3.25	1.75	1.13	64
	15 M x 15 F	37, 76 & 200		83	44	29	29
18C-402	3/4 M x 3/4 F	1.44	95,000	3.25	1.75	1.13	64
	20 M x 20 F	37		83	44	29	29
18C-402	3/4 M x 3/4 F	3 & 8"	105,000	3.25	1.75	1.13	64
	20 M x 20 F	76 & 200		83	44	29	29
18C-402X	3/4 M x 3/4 F	3"	105,000	4.51	2.97	1.13	75
	20 M x 20 F	76		115	75	29	34

ORDERING CODE:

Use model number and two-digit suffix number to indicate size and set pressure.

P/N SUFFIX KEY - MODEL 18C-401

Set Pressure psig	Coated Element Length (in.)	
	1.44	3
125	-27	-29
150	-28	-30

P/N SUFFIX KEY - MODEL 18C-402X

Set Pressure psig	Coated Element Length (in.)
125	-39
150	-38

P/N SUFFIX KEY - MODEL 18C-402

Set Pressure psig	Coated Element Length (in.)		
	1.44	3	8
125	-27	-29	-36
150	-28	-30	-37
175		-24	

EXAMPLE:

18C-402X-38

3/4" model 18C-402X set 150 psig with 3" element

EXAMPLE:

18C-402-30

3/4" model 18C-402 set 150 psig with 3" element

Special statement regarding T&P Valves and compliance to the Lead Free requirements of the U.S. Safe Drinking Water Act.

Effective January 4th 2014 the SDWA requires that pipes, fittings or fixtures used to convey or dispense potable water must be lead free. Further clarification has been provided by the EPA in a document titled "Summary of the Reduction of Lead In Drinking Water Act and frequently Asked Questions". The latest document can be viewed on our website: www.apollovalves.com/lead_free; click on the NEW EPA FAQ link.

FAQ #6 states that water heaters are covered by the Act and must comply. However most water heater OEM's are certifying their heaters as complete assemblies using non-Lead Free T&P valves due to their relatively small wetted surface area.

FAQ #23 acknowledges this and states that replacement parts (including T&P valves) need not be lead free as long as the entire water heater with all installed components overall device would meet the Lead Free requirements of the Act.



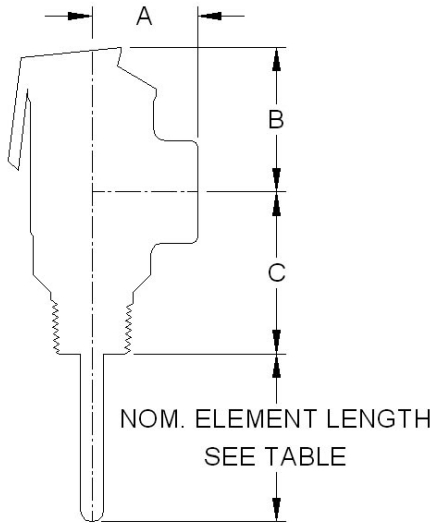
For additional information, submittal sheets and manuals, visit www.apollovalves.com

Customer Service (704) 841-6000

SAFETY & RELIEF VALVES

Bronze High Capacity Commercial T&P Valves

18C SERIES



Special statement regarding T&P Valves and compliance to the Lead Free requirements of the U.S. Safe Drinking Water Act.

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FAQ #23 acknowledges this and states that replacement parts (including T&P valves) need not be lead free as long as the entire water heater with all installed components overall device would meet the Lead Free requirements of the Act.

The Apollo® 18C-500 Series bronze automatic temperature and pressure relief valves are used for high capacity protection of commercial hot water heaters and storage tanks.

FEATURES:

- ASME Section IV certified capacity
- 3/4" through 2" NPT connections
- CSA Listed and certified to ANSI Z21.22
- 125 and 150 psig set pressures at 210°F max
- Coated element protects against corrosion
- SS elements (1-1/2" and 2")
- ASME Section IV heating boilers
- Canadian registration number CSA- OG1438.6C



HV
Section IV
Heating Boilers



DIMENSIONS AND WEIGHTS

Part Number	Size (in.)	Element Length (in.)	Inlet Type	CSA Capacity Rating Btu/HR	*ASME Cap. Rating BTU/HR
18C5113125	3/4"	2.69"	M	185,000	1,619,000
18C5113150	3/4"	2.69"	M	185,000	1,912,000
18C5115125	3/4"	4.38"	M	205,000	1,619,000
18C5115150	3/4"	4.38"	M	205,000	1,912,000
18C5118125	3/4"	7.56"	M	205,000	1,619,000
18C5118150	3/4"	7.56"	M	205,000	1,912,000
18C5123125	3/4"	2.88"	F	185,000	1,619,000
18C5123150	3/4"	2.88"	F	185,000	1,912,000
18C5125125	3/4"	4.56"	F	205,000	1,619,000
18C5125150	3/4"	4.56"	F	205,000	1,912,000
18C5128125	3/4"	7.75"	F	205,000	1,619,000
18C5128150	3/4"	7.75"	F	205,000	1,912,000
18C5213125	1"	3.06"	M	500,000	1,825,000
18C5213150	1"	3.06"	M	500,000	2,155,000
18C5215125	1"	4.75"	M	500,000	1,825,000
18C5215150	1"	4.75"	M	500,000	2,155,000
18C5225125	1"	4.75"	F	750,000	3,070,000
18C5225150	1"	4.75"	F	750,000	3,625,000
18C5228125	1"	8.13"	F	750,000	3,070,000
18C5228150	1"	8.13"	F	750,000	3,625,000
18C5314125	1-1/4" x 1"	3.97"	M	750,000	3,070,000
18C5314150	1-1/4" x 1"	3.97"	M	750,000	3,625,000
18C5424125	1-1/2"	4.13"	F	1,200,000	5,125,000
18C5424150	1-1/2"	4.13"	F	1,200,000	6,050,000
18C5513125	2" x 1-1/2"	3.25"	M	1,200,000	5,125,000
18C5513150	2" x 1-1/2"	3.25"	M	1,200,000	6,050,000

* National Board certified capacity per ASME Section IV-Heating Boilers

DIMENSIONS AND WEIGHTS

Model Number	Inlet Size (in./mm.)	Dimensions (in./mm.)		
		A	B	C
18C511	3/4" M x 3/4" FNPT	1.50	3.47	2.53
	(20)	(40)	(88)	(64)
18C512	3/4" F x 3/4" FNPT	1.50	3.47	2.35
	(20)	(40)	(88)	(60)
18C521	1" M x 1" FNPT	1.56	3.47	2.38
	(25)	(40)	(88)	(60)
18C522	1" F x 1" FNPT	1.56	3.47	2.13
	(25)	(40)	(88)	(54)
18C531	1-1/4" M x 1" FNPT	1.75	4.34	1.91
	(32)	(44)	(110)	(49)
18C542	1-1/2" M x 1-1/2" FNPT	2.47	5.84	1.71
	(40)	(63)	(148)	(43)
18C551	2" M x 1-1/2" FNPT	2.47	5.84	2.59
	(50)	(63)	(148)	(66)

SAFETY & RELIEF VALVES

Bronze Safety Valves For Steam, Air and Gas Service

19 SERIES



A dependable cast bronze high capacity safety valve ideal for use on all types of boilers, piping systems and unfired pressure vessels. This rugged design features top guided alignment for enhanced performance and reliability. Other features include optional metal seating, optional stainless steel wetted trim in all sizes, and a new, more descriptive model numbering system. Flow ratings are National Board certified in accordance with ASME sections I and VIII.

ASME Section I and VIII

Sizes 1/2" through 2-1/2"

Factory set pressures 5 to 300 psig

Maximum temperature is 406°F, 422°F for model 19S



**Section I
Power Boilers**

APPLICATIONS:

Overpressure protection of steam boilers, sterilizers, distillers, cookers, and pressure reducing stations. Pneumatic conveying equipment, air compressors, receivers and dryers. Steam, air and gas accumulators, pressure vessels and pressure piping systems.



**Section VIII
Pressure Vessels**

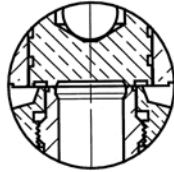
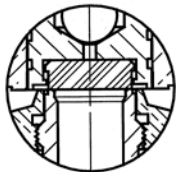
FEATURES:

- Wide wrenching hex for easier, faster installations
- Stainless steel springs are standard
- Choice of Teflon® or metal-to-metal seating
- Teflon® PFA seat resists corrosive boiler chemicals and excessive vibration
- High-capacity full nozzle design available in six orifice sizes
- Two control rings for maximum performance and adjustability
- Short "tuned" blow down minimizes product loss
- Tapped body drain allows piping of condensate safely away from equipment
- Reduced repair costs: soft seat easily replaced
- Registered in all Canadian provinces under CSA B51 CRN OG8547.5C

OPTIONS:

- Choice of Teflon® or metal to metal seating
- Steam set pressures to 300 psi @ 422°F (Model 19S, stainless steel trim)
- 316 stainless steel wetted trim available for all sizes
- Anti-vibration dampened lifting lever
- Oxygen cleaning
- European Pressure Equipment Directive compliant option (CE/PED)

SEAT DETAIL



Soft Seat Design
Model 19K - Brass
Model 19L - Stainless

Metal to Metal Seat Design
Model 19M - Brass
Model 19S - Stainless

4 TRIM STYLES TO CHOOSE FROM

Series	19K	19M	19L	19S
Trim	Brass	Brass	SS	SS
Seat	Teflon®	Metal to Metal	Teflon®	Metal to Metal
Max. Set - Steam	250	250	250	300
Max. Set - Air/Gas	300	300	300	300
Max. Temperature	406°F	406°F	406°F	422°F

* Teflon is a registered trademark of DuPont.

19 SERIES MODEL NUMBERING SYSTEM

19M	D	C	K	165	A
BASE MODEL NUMBER	ORIFICE LETTER	INLET SIZE (IN.) NPT	ASME CODE AND SERVICE	SET PRESSURE IN PSI	SPECIAL OPTIONS
19K = Brass Trim/Teflon Seat	D	C = 1/2	A = Sect. I Steam		A = Anti-vibration trim
19M = Brass Trim/Metal Seat	E	D = 3/4	K = Sect. VIII Air		CE = CE/PED Compliant
19L = Stainless Trim/Teflon Seat	F	E = 1	L = Sect. VIII Steam		Q = Performance (Calibration) test report
19S = Stainless Trim/Metal Seat	G	F = 1-1/4	N = Non-Code Air		X = Oxygen cleaning
	H	G = 1-1/2	P = Non-Code Steam		* Other suffixes - factory issued
	J	H = 2			
		J = 2-1/2			



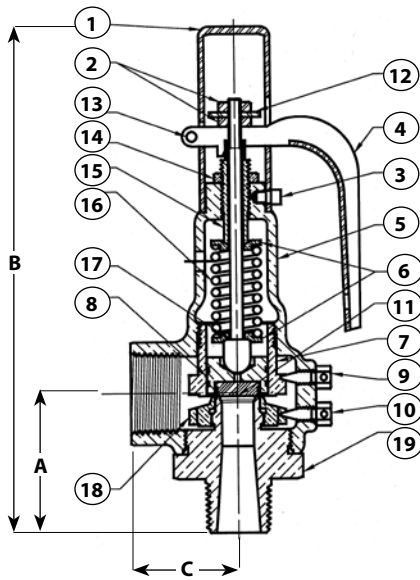
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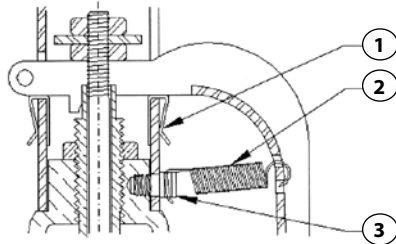
SAFETY & RELIEF VALVES

Bronze Safety Valves

19 SERIES



19 SERIES



MATERIALS 19 SERIES WITH OPTION "A" ANTI-VIBRATION TRIM

Item	Component	Material
1	Friction Clip (4)	Steel Plated
2	Extension Spring	Stainless Steel
3	Cap Lock Screw	Stainless Steel

Note: Preparation includes threadlocking of all internal threaded connections.

MATERIALS

Item	Component	Material 19K, 19M	Material 19L, 19S
1	Cap	Brass	Brass
2	Stem Nut (2)	Steel - Plated	Steel - Plated
3	Cap Lock Screw	Brass	Brass
4	Lift Lever	Steel - Plated	Steel - Plated
5	Body	Bronze	Bronze
6	Spring Washer (2)	Brass	Brass
7	Guide Ring	Brass	Brass
8	Disc	Brass	Stainless Steel
9	Guide Ring Screw	Brass	Brass
10	Nozzle Ring Screw	Brass	Brass
11	Seat Insert-19K & 19L	PFA Teflon®	PFA Teflon®
12	Lift Washer	Steel - Plated	Steel - Plated
13	Lever Pin	Steel - Plated	Steel - Plated
14	Adjusting Screw Lock Nut	Steel - Plated	Steel - Plated
15	Adjusting Screw	Brass	Brass
16	Spring	Stainless Steel	Stainless Steel
17	Stem	Stainless Steel	Stainless Steel
18	Nozzle Ring	Brass	Brass
19	Nozzle	Brass	Stainless Steel
-	Nameplate	Stainless Steel	Stainless Steel
-	Seal and Wire	Lead/SS*	Lead/SS*

* Alum/SS on CE models

DIMENSIONS AND WEIGHTS

Old Model Number	New Model Number	Orifice Letter	Size (in./mm) Inlet x Outlet	Dimensions (in./mm.)			Wt./Ea. (lbs./kg.)
				A	B	C	
19-202	19*DC	D	1/2 X 3/4	2.21	6.52	1.37	1.6
			15 x 20	56	166	35	.73
19-301	19*DD	D	3/4 X 3/4	2.21	6.52	1.37	1.6
			20 x 20	56	166	35	.73
19-302	19*ED	E	3/4 X 1	2.50	7.16	1.75	2.0
			20 x 25	64	182	44	.91
19-401	19*EE	E	1 X 1	2.64	7.30	1.75	2.2
			25 x 25	67	185	44	1.0
19-402	19*FE	F	1 X 1-1/4	2.95	9.34	2.00	4.1
			25 x 32	75	237	51	1.9
19-501	19*FF	F	1-1/4 X 1-1/4	2.95	9.34	2.00	4.3
			32 x 32	75	237	51	2.0
19-502	19*GF	G	1-1/4 X 1-1/2	3.38	11.01	2.37	7.4
			32 x 40	86	280	60	3.4
19-601	19*GG	G	1-1/2 X 1-1/2	3.38	11.01	2.37	7.6
			40 x 40	86	280	60	3.4
19-602	19*HG	H	1-1/2 X 2	3.63	11.96	2.75	11.5
			40 x 50	92	304	70	5.2
19-701	19*HH	H	2 X 2	3.63	11.96	2.75	11.6
			50 x 50	92	304	70	5.3
	19*JG ¹	J	1-1/2F X 2-1/2	3.80	14.00	3.50	20.0
			40 x 65	97	356	89	9.1
19-702	19*JH	J	2 X 2-1/2	4.06	14.25	3.50	19.9
			50 x 65	103	362	89	9.0
19-801	19*JJ	J	2-1/2 X 2-1/2	4.50	14.68	3.50	20.8
			65 x 65	114	373	89	9.4

* Specify trim letter (see previous page):

1: Available in bronze trim only, Model 19KJG & 19MJG.

Connections are 1-1/2" FNPT x 2-1/2" FNPT.

SAFETY & RELIEF VALVES

OEM Style Bronze Safety Valves for Steam, Air and Non-Hazardous Gas

29 SERIES



Conbraco 29 Series is ideally suited for OEM applications where compact size, dependable performance and maximum economy are required. These rugged safety valves feature a top guided design and patented Teflon® "soft-seat" for dramatically reduced seat leakage. Flow ratings are National Board certified.

ASME Sections I and VIII

Sizes 3/8" - 1-1/4" NPT

Factory set pressures 30 to 200 psig

Maximum temperature 406°F



Section I
Power Boilers

Section VIII
Pressure Vessels

APPLICATIONS:

Small to medium sized steam power boilers, sterilizers and distillers, air compressors and receivers, pressure vessels and pressure piping systems.

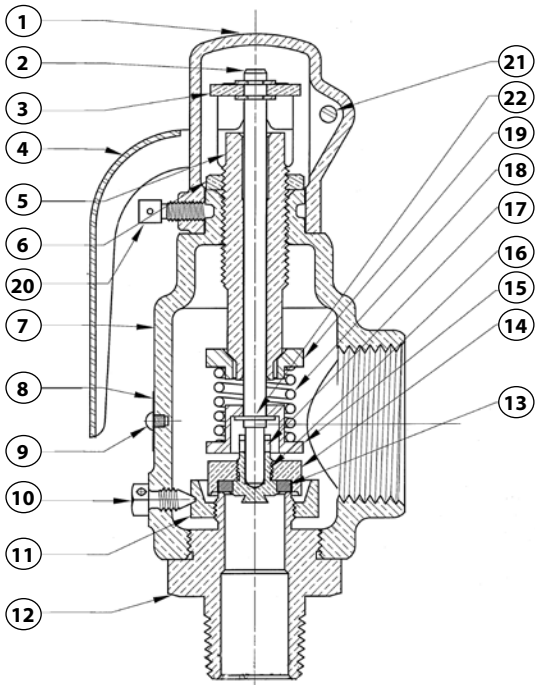
FEATURES:

- Stainless steel springs are standard
- PFA Teflon® seat resists corrosive boiler chemicals
- Rust-proofed steel stem and spring washers
- Lower control ring ensures short, consistent blowdown
- Tapped body drain allows piping of condensate away from equipment
- Reduced repair costs; soft seat easily replaced
- Registered in all Canadian Provinces under CSA B51 CRN OG8547.5C

OPTIONS:

- 316 Stainless steel wetted trim (29-202 & 29-303 sizes only)
- Oxygen cleaning
- European pressure equipment directive compliant option (CE/PED)

MATERIALS



Item	Component	Material
1	Cap	Bronze or Brass
2	Stem	Steel - Plated
3	Lift Washer	Steel - Plated
4	Lift Lever	Steel - Plated
5	Adjusting Screw	Brass
6	Lock Nut	Brass
7	Body	Bronze
8	Nameplate	Stainless Steel
9	Drive Screws	Stainless Steel
10	Set Screw	Brass
11	Blowdown Ring	Brass
12	Nozzle*	Brass/Stainless
13	Seat Insert	Teflon® PFA
14	Disc Holder	Brass
15	Lower Washer	Steel - Plated
16	Seat Retainer*	Brass/Stainless
17	Stem Pin	Stainless Steel
18	Spring	Stainless Steel
19	Upper Washer	Steel - Plated
20	Lock Screw	Steel - Plated
21	Lever Pin	Steel - Plated
22	Retaining Ring	Stainless Steel
-	Seal & Wire	Lead/Steel

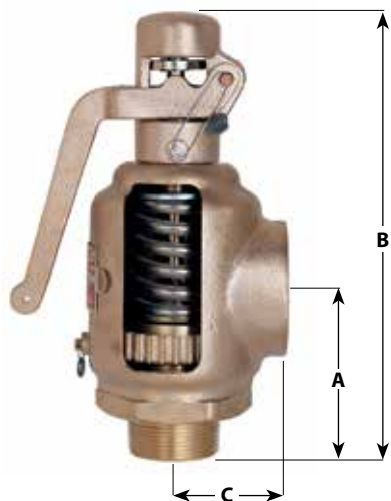
*Teflon is a registered trademark of DuPont.

* Optional stainless steel wetted trim for models 29-202XXL and 29-302XXL. Items 12 & 16 are type 316 stainless steel.

SAFETY & RELIEF VALVES

Bronze Safety Valves

29 SERIES



DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.)		Wt./Ea. (lbs./kg.)	Dimensions (in./mm.)		
	Inlet	Outlet		A	B	C
29-102	3/8	1	1.30	2.12	5.40	1.25
	10	25	.59	53	137	31
29-202	1/2	1	1.33	2.12	5.40	1.25
	15	25	.60	53	137	31
29-302	3/4	1	1.90	2.12	5.40	1.25
	20	25	.86	53	137	31
29-303	3/4	1-1/4	3.43	2.75	7.25	1.69
	20	32	1.55	69	184	42
29-402	1	1-1/4	3.43	2.75	7.25	1.69
	25	32	1.55	69	184	42
29-501	1-1/4	1-1/4	3.48	2.75	7.25	1.69
	32	32	1.58	69	184	42

29 SERIES MODEL NUMBERING SYSTEM

29	202	A	100	S
BASE MODEL NUMBER	INLET x OUTLET NPT	SERVICE	SET PRESSURE	OPTIONS
Bronze with Brass Trim and Teflon® Soft Seat	102 = 3/8 x 1 202 = 1/2 x 1 302 = 3/4 x 1 303 = 3/4 x 1-1/4 402 = 1 x 1-1/4 501 = 1-1/4 x 1-1/4	A = ASME Sec I Steam K = ASME Sec VIII Air L = ASME Sec VIII Steam	Set Pressure, PSIG (range 30-200 psig)	S = Stainless Steel Wetted Trim (models 29-202 & 29-303 only) CE = CE/PED Q = Performance (Calibration) test reports

EXAMPLES:

29 202 A100

1/2 X 1" 29 series set at 100 psig, ASME Section I "V" Steam

29 202 L40

1/2 X 1" 29 series set at 40 psig, ASME Section VIII "UV" Steam

29 303 K200 S

3/4 X 1" 29 series set at 200 psig, ASME Section VIII "UV" air, stainless steel wetted trim

SAFETY & RELIEF VALVES

Cast Iron Flanged Safety Valves

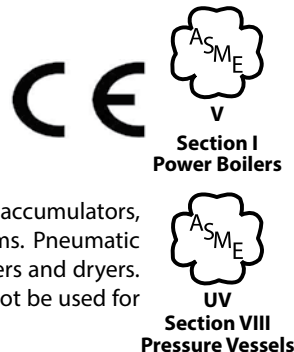
119 SERIES



These flanged, heavy duty and high capacity safety valves are ideal for use on all types of boilers, pressure vessels and pressure piping systems. These ruggedly built valves offer you a cost-saving alternative to conventional steel bodied valves — without compromising quality or performance. These valves feature a top guided design and two control rings to ensure seat tightness, repeatable performance and extended service life. Flow ratings are National Board certified.

ASME Sections I & VIII, for steam, air and gas service

Set pressures to 250 psig at 450°F max
 Flanged inlet sizes 1 1/2" through 6" ANSI 250 lb.
 Threaded inlet sizes 2" through 3" FNPT



APPLICATIONS:

Overpressure protection of steam boilers, deaerators, accumulators, pressure reducing stations and pressure piping systems. Pneumatic conveying equipment, air and gas compressors, receivers and dryers. Per the ASME Code, cast iron safety relief valves must not be used for lethal or flammable fluid service.

FEATURES:

- Metal to metal seating, lapped to optical flatness
- High-capacity semi-nozzle design available in 8 orifice sizes
- Stainless steel wetted trim is standard
- Two control rings assure maximum performance and dependability
- Designed for new installations and replacement of existing valves (high flow rates and face to face dimensions enable direct replacement of most competitive models)
- Designed for ease of service or repair
- Ductile iron caps, forks and levers for added durability
- Registered in all Canadian provinces under CSA B51, CRN OG8547.5C

OPTIONS:

- Drip pan elbows for discharge piping (See pg. 42)
- European pressure equipment directive compliant option (CE/PED)

119 SERIES MODEL NUMBERING SYSTEM

119	K	H	C	A	MAA	0150	Q
SERIES NUMBER	ORIFICE LETTER	INLET (IN.)	CONNECTION	SERVICE	SPECIAL OPTIONS	SET PRESSURE	SUFFIX
119 = Stainless Steel Wetted Trim	The orifice letter from the Capacity Chart (pg. 39-41)	G = 1-1/2 H = 2 J = 2-1/2 K = 3 M = 4 P = 6	A = FNPT x FNPT C = 250# x FNPT D = 250# x 125#	A = Sec I Steam K = Sec VIII Air L = Sec VIII Steam N = Non Code Air P = Non Code Steam	Factory issued letters/numbers (MAA default) MCE = CE/PED	Set Pressure, PSIG (4 digits)	Q = Performance (Calibration) test reports

HOW TO SELECT:

1. Determine the orifice letter that corresponds to your required flow rate from the capacity charts on pages 39-41.
2. Select the inlet x outlet connection options from the list of models available for that orifice from page 38.
3. Enter this base model number into the matrix above. Complete by specifying the Code, service and set pressure requirements.

EXAMPLES:

119 KHC A MAA 0150

2" "K" 3" ASME Section I steam service valve set at 150 psig, with flanged inlet.

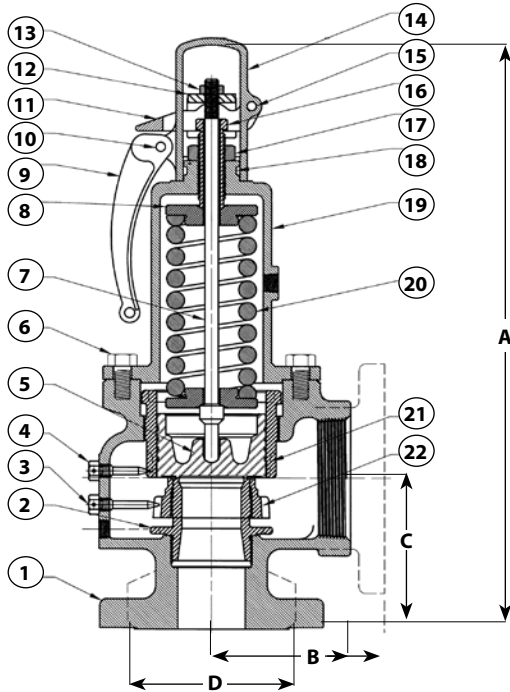
119 QPD L MAA 0025

6" "Q" 8" ASME Section VIII steam service valve set at 25 psi, with flanged inlet.

SAFETY & RELIEF VALVES

Cast Iron Flanged Safety Valves

119 SERIES



MATERIALS

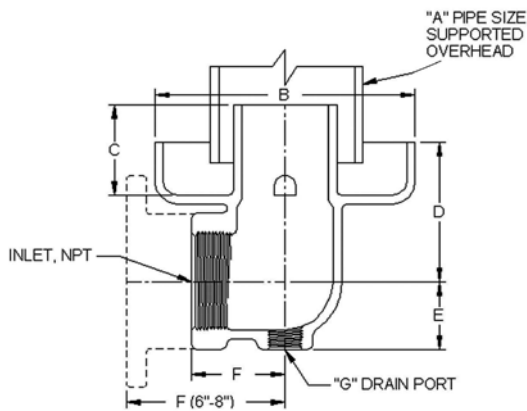
Item	Component	Material
1	Body	Gray Iron
2	Nozzle	Stainless Steel
3	Nozzle Ring Screw	Brass
4	Guide Ring Screw	Brass
5	Disc	Stainless Steel
6	Bonnet Bolt	Steel (Plated)
7	Stem	Steel (Plated)
8	Spring Washer	Steel (Plated)
9	Test Lever	Ductile Iron or
10	Clevis Pin	Steel (Plated)
11	Lifting Fork	Ductile Iron
12	Stem Nut	Steel (Plated)
13	Stem Nut Lock Nut	Steel (Plated)
14	Lifting Cap	Ductile Iron
15	Clevis Pin	Steel (Plated)
16	Adjusting Screw	Brass
17	Lock Nut	Steel (Plated)
18	Lift Cap Lockscrew	Steel (Plated)
19	Bonnet	Gray Iron
20	Spring	Steel (Plated) or SS
21	Disc Guide	Brass or Bronze
22	Nozzle Ring	Brass or Bronze
-	Nameplate	Aluminum
-	Seal and Wire	Lead/Steel
-	Seal and Wire (CE)	Alum/SS

DIMENSIONS AND WEIGHTS

Model Number	Size (in./mm.) Inlet x Outlet	Orifice Size	Dimensions (in./mm.)			Hex Flat D (in./mm)	Weight (lbs./kg.)
			A	B	C		
119 JGC	1-1/2 250# X 2-1/2 FNPT DN40 x DN65	J	15	4	4.31		35
			381	101	109		15.8
119 KHC	2 250# X 3 FNPT DN50 x DN80	K	16	4	4.63		36
			406	101	109		16.3
119 KHA	2 FNPT X 3 FNPT DN50 x DN80	K	16	4	4.63	3.75	37
			406	101	109	95	16.7
119 KJC	2-1/2 250# X 3 FNPT DN65 x DN80	K	16	4	4.63		41
			406	101	109		18.6
119 KKC	3 250# X 3 FNPT DN80 x DN80	K	16	4	4.63		45
			406	101	109		20.5
119 LJC	2-1/2 250# X 4 FNPT DN65 x DN100	L	22	5.13	5.63		84
			558	130	143		38.1
119 LJA	2-1/2 FNPT X 4 FNPT DN65 x DN100	L	22	5.13	5.63	5.38	81
			558	130	143	136	36.7
119 LKC	3 250# X 4 FNPT DN80 x DN100	L	22	5.13	5.63		85
			558	130	143		38.5
119 LMC	4 250# X 4 FNPT DN100 x DN100	L	22	5.13	5.63		90
			558	130	143		40.9
119 MKA	3 FNPT X 4 FNPT DN80 x DN100	M	22	5.13	5.63	5.38	80
			558	130	143	136	36.2
119 MKC	3 250# X 4 FNPT DN80 x DN100	M	22	5.13	5.63		87
			558	130	143		39.4
119 MMC	4 250# X 4 FNPT DN100 x DN100	M	22	5.13	5.63		95
			558	130	143		43.2
119 NMD	4 250# X 6 125# DN100 x DN150	N	28	7.25	6.75		210
			711	184	171		95.2
119 PMD	4 250# X 6 125# DN100 x DN150	P	28	7.25	6.75		215
			711	184	171		97.5
119 QPD	6 250# X 8 125# DN150 x DN200	Q	42	10	9.25		530
			1066	254	234		240.4
119 RPD	6 250# X 8 125# DN150 x DN200	R	42	10	9.25		530
			1066	254	234		240.4

SAFETY & RELIEF VALVES

Drip Pan Elbows



The use of an Apollo International™ drip pan elbow is highly recommended for steam safety valve installations. The drip pan elbow connects to the valve outlet to safely direct steam discharge away from the valve and into the discharge piping. Condensate is directed to drain. Drip pans offer ideal flow characteristics, and serve to isolate the valve from piping stresses that can adversely effect safety valve performance and longevity.

Sizes 3/4" through 8", flanged and threaded models
 Material: Gray iron ASTM A126 class B
 Finish: Black phosphate or black paint coating

FEATURES:

- Sizes 3/4" through 8" available from stock
- Ideal flow characteristics
- Directs condensate to drain
- Isolates safety valve from piping stresses caused by:
 - weight of discharge piping
 - thermal expansion
 - reaction forces during valve discharge

INSTALLATION:

Sizes 3/4" through 4" feature FNPT connections and connect directly to the valve outlet by means of a short pipe nipple, or with an appropriate companion flange and nipple for flanged outlet connections. Sizes 6" and 8" have integral cast ANSI 125# flanges that bolt directly to the valve outlet.

ORDERING INFORMATION:

Select the drip pan to match the nominal outlet size of the safety valve. Specify part number and quantity.

DIMENSIONS AND WEIGHTS

Part Number	Size (In.) NPS/DN	Dimensions (in./mm.)							Wt./Ea. (lbs./kg.)
		A NPS/DN	B	C	D	E	F	G NPS/DN	
DPE 07	3/4	1-1/2	3.75	1.63	2.25	1	1.5	1/4	2
	20	40	95	41	57	25	40	8	.9
DPE 10	1	1-1/2	3.75	1.63	2.25	1	1.5	1/4	2
	25	40	95	41	57	25	40	8	.9
DPE 12	1-1/4	2	5.5	2.13	3.38	1.5	2.13	3/8	5
	32	50	127	54	86	40	54	10	2.1
DPE 15	1-1/2	2	5.5	2.13	3.38	1.5	2.13	3/8	5
	40	50	127	54	86	40	54	10	2.1
DPE 20	2	3	6.25	2.25	3.63	1.63	2.25	1/2	7
	50	80	159	57	92	41	57	15	3.2
DPE 25	2-1/2	4	7.38	3	4.38	1.88	2.75	3/4	11
	65	100	187	80	111	48	70	20	5.0
DPE 30	3	4	8	3.5	4.88	2.13	3.13	3/4	17
	80	100	200	89	124	54	80	20	7.7
DPE 40	4	6	9.63	4.5	5.75	2.63	3.75	3/4	30
	100	150	245	114	146	67	95	20	13.6
DPE 60	6	8	12.75	6.63	7.63	3	8	3/4	84
	150	200	324	168	194	80	200	20	38.1
DPE 80	8	10	16.5	7.5	8.63	4.13	10.75	1	151
	200	250	419	191	219	105	273	25	68.5

SAFETY & RELIEF VALVES

Multi-Purpose Safety Relief Valves

500 SERIES



Versatile safety relief valve available in bronze, carbon steel or all stainless steel construction, suitable for a wide range of steam, air, gas and liquid applications. High capacity full nozzle design is available with metal to metal, PCTFE or elastomer O-ring seating. Short tuned blowdown and backpressure tight body minimizes fugitive emissions and product losses in the event of valve operation.

ASME Section VIII Air, Steam, and Liquid service

Sizes 1/2" through 2" NPT

Factory set pressure range 5-1200 psig @ 800°F max.

(See press. / temp. limit chart below for specific ratings for each model).

APPLICATIONS:

- Pressure Vessels and Pressure Piping Systems
- Pumps, Tanks and Hydraulic Systems
- Thermal Relief of Liquid Filled Vessels
- Chemical, Process and other Industrial Plants.
- Power Plant Auxiliary Systems
- Cryogenic and Industrial Gases
- Air and Gas Compressors and Dryers
- Vacuum Relief



FEATURES:

- Wide Range of Materials and Options
- One Trim Design is Suitable for Steam, Air / Gas and Liquid Service
- High Capacity Full Nozzle Design
- Stainless Steel Springs
- Integral Lift Stop
- Self - Aligning Pivoting Disc
- API 527 Seat Tightness, standard for all models
- Tuned Blowdown - Short and Adjustable, reduces product losses.
- Backpressure Tight Design Minimizes Fugitive Emissions
- CSA B51 CRN OG8547.5C

OPTIONS:

- Screwed Cap (standard), Packed Lift Lever
- Test gags
- Elastomer or PCTFE Soft Seat for Exceptional Seat Tightness
- High Temperature Alloy Springs for 550°F - 800°F Service
- Special Cleaning Available
- European Pressure Equipment Directive compliant option (CE/PED)

HOW TO SELECT:

1. Determine the orifice letter that corresponds to your required flow rate from the capacity charts on pages 46-48.
2. Select the inlet x outlet connection options from the list of models available for that orifice from page 45.
3. Enter this base model number into the matrix below. Complete by specifying the Code, service and set pressure requirements.

500 SERIES MODEL NUMBERING SYSTEM

52	3	J	H	B	K	M	AA	0425	Q
SERIES BODY/ TRIM MATERIAL	CAP	ORIFICE LETTER	INLET SIZE	CONNECTION	SERVICE	SEAT	SPECIAL OPTIONS	SET PRESSURE	SUFFIX
51 = Bronze/Brass	1 = Screwed Cap	D	C = 1/2	B = MNPT x NPT	J = Sec VIII Liquid	M = Metal	Factory Issued	Set Pressure, PSIG	Q = Performance
52 = Bronze/Stainless	2 = Screwed + Gag	E	D = 3/4	D = 3/4 Outlet	K = Sec VIII Air/Gas	B = BUNA-N	Letters/Numbers for	(4 digits)	(Calibration)
53 = Carbon/Stainless	3 = Packed Lever	F	E = 1	(Model 510 &	L = Sec VIII Steam	E = EPR	Special Options or	Vacuum "HG"	Test Reports
54 = All Stainless	4 = Packed + Gag	G	F = 1-1/4	520 D Orifice Only)	M = Non Code Liquid	K = PCTFE	Features	Prefix + 2 digits	
		H	G = 1-1/2		N = Non Code Air	N = Neoprene	"AA" = Default Setting		
		J	H = 2		P = Non Code Steam	Z = Kalrez®	"CE" = CE/PED		
					Q = Vacuum	S = Silicone	"HT" = High Temp Spring		
						V = Viton	"OX" = Cleaned for Oxygen		

Notes:

1. The ASME Code Section VIII requires a lift lever for the following services: air, steam, or hot water over 140°F
2. Maximum back pressure is 50 psig.
3. High temperature stainless steel alloy spring is required above 550°F / 288°C. Specify option "HT" (Minimum pressure setting with HT option = 138 psig)
4. Contact factory for pricing and availability.



For additional information, submittal sheets and manuals, visit www.apollovalves.com

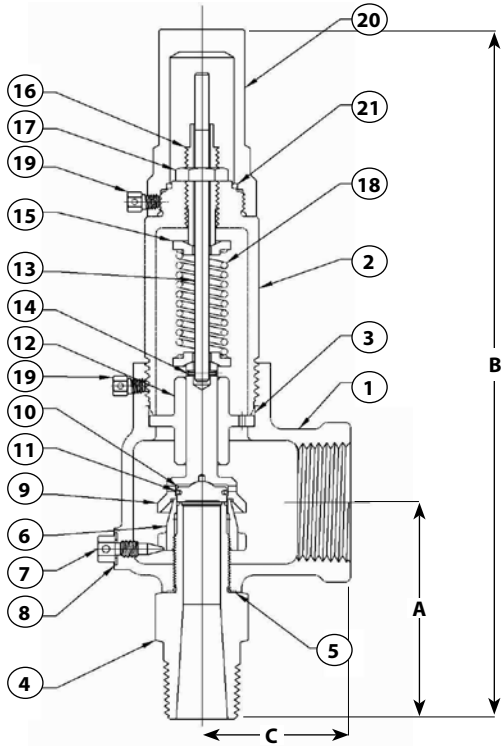
Customer Service (704) 841-6000

SAFETY & RELIEF VALVES

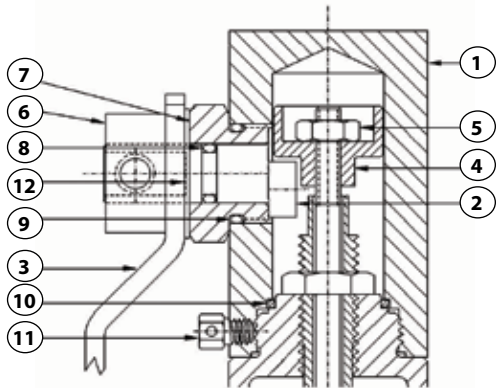
Multi-Purpose Safety Relief Valves

500 SERIES

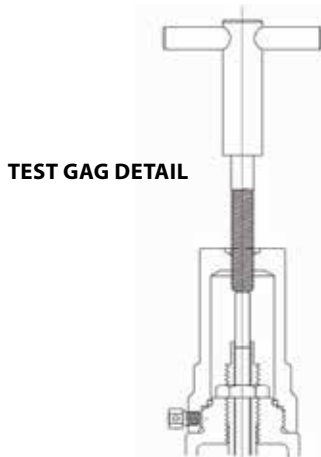
MATERIALS



500 ASSEMBLY W/SCREWED CAP



PACKED LEVER DETAIL



TEST GAG DETAIL

Item	Component	Material 510 Series	Material 520 Series	Material 530 Series	Material 540 Series
1	Body	Bronze B-584-C844	Bronze B-584-C844	Steel SA-216 WCB	SS SA-351-CF8M
2	Bonnet	Brass*	Brass*	Steel**	SS Type 316***
3	Bonnet Seal	PTFE	PTFE	PTFE	PTFE
4	Nozzle	Brass B-16	SS Type 316	SS Type 316	SS Type 316
5	Nozzle Seal	PTFE	PTFE	PTFE	PTFE
6	Nozzle Ring	SS Type 316	SS Type 316	SS Type 316	SS Type 316
7	Set Screw	Brass	Brass	SS Type 316	SS Type 316
8	Set Screw Seal	PTFE	PTFE	PTFE	PTFE
9	Disc Holder	Brass	SS Type 316	SS Type 316	SS Type 316
10	Disc	SS Type 316	SS type 316	SS Type 316	SS Type 316
11	Retaining Ring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
12	Disc Guide	Brass	Brass	SS Type 316	SS Type 316
13	Stem	Brass	Brass	SS Type 316	SS Type 316
14	Spring Pin	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
15	Spring Washer	Brass	Brass	SS Type 316	SS Type 316
16	Adjusting Bolt	Brass	Brass	SS Type 316	SS Type 316
17	Lock nut	Brass	Brass	SS Type 316	SS Type 316
18	Spring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Spring, High Temp.	Inconel	Inconel	Inconel	Inconel
19	Lock Screw	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
20	Cap, Screwed	Brass	Brass	Steel	SS Type 316
21	Seal, Cap	Viton	Viton	Viton	Viton
-	Nameplate	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
-	Drive Screw	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
-	Seal & Wire	Lead/SS	Lead/SS	Lead/SS	Lead/SS
-	Seal & Wire (CE)			Alum/SS	Alum/SS

Notes:

* Sizes G, H and J are Cast Bronze

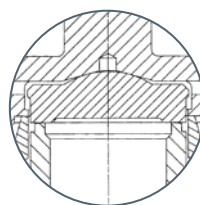
** Sizes H and J are Cast Steel

*** Sizes H and J are Cast Stainless Steel Type 316

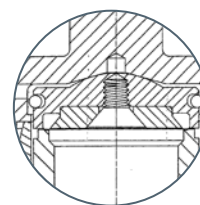
MATERIALS, LIFT LEVER OPTION

Item	Component	Material 513, 523 Series	Material 533 Series	Material 543 Series
1	Cap, Packed Lever	Brass	Steel	SS Type 316
2	Cam Bushing	Stainless Steel	Stainless Steel	Stainless Steel
3	Lever	Stainless Steel	Stainless Steel	Stainless Steel
4	Lift Washer	Stainless Steel	Stainless Steel	Stainless Steel
5	Locknut	Stainless Steel	Stainless Steel	Stainless Steel
6	Collar	Stainless Steel	Stainless Steel	Stainless Steel
7	Cam Bushing	Brass	Stainless Steel	Stainless Steel
8	Cam O-Ring	Viton	Viton	Viton
9	Bushing O-Ring	Viton	Viton	Viton
10	Seal, Cap	Viton	Viton	Viton
11	Set Screw	Stainless Steel	Stainless Steel	Stainless Steel
12	Washer	PTFE	PTFE	PTFE

500 SERIES SOFT SEAT DETAIL



PCTFE



O-RING