

# Safety relief valves for heating and hot water systems

**311-312-313-314 513-514  
527 EST series**



01253/17 GB  
replaces dp 01253/13 GB



## General

Safety relief valves 311, 312, 313, 314, 513, 514, 527 EST series are made by Caleffi S.p.A. in compliance with the essential safety requirements laid down by Directive 2014/68/EU of the European Parliament and the Council of the European Union for harmonisation of member States with regard to pressurised equipment.

## Function

Safety relief valves are typically used for controlling pressure on boilers in heating systems, on stored hot water cylinders in domestic hot water systems and in water systems generally.

When the calibrated pressure is reached, the valve opens, and, by means of the discharge to atmosphere, prevents the pressure of the system from reaching levels which would be dangerous for the boiler and the components in the system itself.

Valves 527 EST series are fail-safe devices, i.e. they are guaranteed to operate even in the case of wear or breakage of the diaphragm.



## Product range

311 series	Standard safety relief valve. F-F connections	_____	sizes 1/2" , 3/4"
312 series	Standard safety relief valve. M-F connections	_____	size 1/2"
313 series	Standard safety relief valve with pressure gauge or pressure gauge connection. F-F connections	_____	sizes 1/2", 3/4"
314 series	Standard safety relief valve with pressure gauge or pressure gauge connection. M-F connections	_____	size 1/2"
513 series	Standard safety relief valve. F-F connections	_____	sizes 1/2", 1"x1 1/4", 1 1/4"x 1 1/2"
514 series	Standard safety relief valve. M-F connections	_____	size 1/2"
527 EST series	Standard safety relief valve. F-F connections	_____	sizes 1/2"x3/4", 3/4"x1", 1"x1 1/4", 1 1/4"x 1 1/2"

## Technical specification

### Materials:

Body:	- 1/2"-3/4":	brass EN 12165 CW617N
	- 1"-1 1/4":	brass EN 1982 CB753S
Cover:	- 513-514 (1/2"):	brass EN 12165 CW617N PA6G30
Control spindle:		brass EN 12164 CW614N
Obturator seal:		EPDM
Diaphragm:		EPDM
Spring:		steel UNI 3823
Control knob:	- 311-312-313-314-513 (1/2")-514:	ABS
	- 513 (1" and 1 1/4")-527 EST:	PA6G20
Nominal pressure:		PN 10
Temperature range:		5-110°C

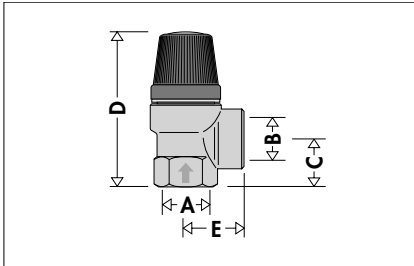
### Performance:

Max opening pressure:	527 EST; $P_{set} + 10\% \cdot P_{set}$ 311-312-313-314-513-514; $P_{set} + 20\% \cdot P_{set}$
Min closing differential:	$P_{set} - 20\% \cdot P_{set}$ water, air
PED Category:	IV

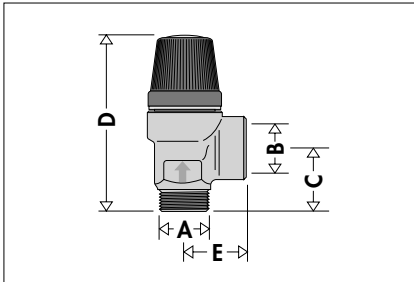
### Calibrations:

311 series	1,5-2-2,5-3-3,5-4-5-5,5-6-7-8-9 bar (1,5 bar only 1/2") (2-5,5-9 bar only 3/4")
312 series	1,8-2,5-3-3,5-4-5-6-7-8 bar
313 series	2,5-3-6-7-8 bar
314 series with pressure gauge	2,5-3-6-7-8 bar
313 series with pressure gauge connection	3 bar
314 series with pressure gauge connection	3-6 bar
513 series	1,5-2-2,5-3-3,5-4 - 5,5-6-7-8-9 bar (1,5-2 only 1/2" and 1")(4-5,5-9 only 1")
514 series	2-2,5-3-3,5-4-5-6-7-8 bar
527 EST series standard	2,25-2,5-2,7-3-3,5-4-4,5-5-5,4-6 bar
527 EST series special	1-1,5-2-7-8 bar

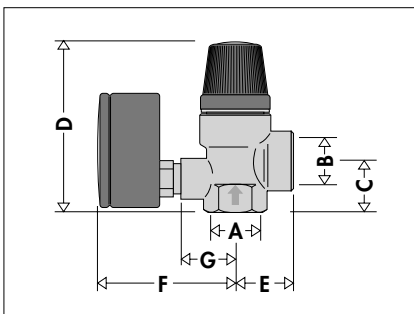
## Dimensions



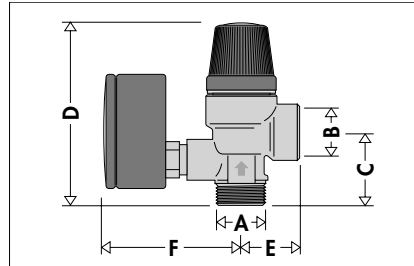
Code	A	B	C	D	E
3114..	1/2"	1/2"	19,5	65,5	25,5
3115..	3/4"	3/4"	24	74,5	27,5



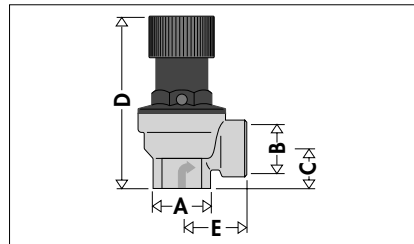
Code	A	B	C	D	E
3124..	1/2"	1/2"	23,5	69,5	25,5



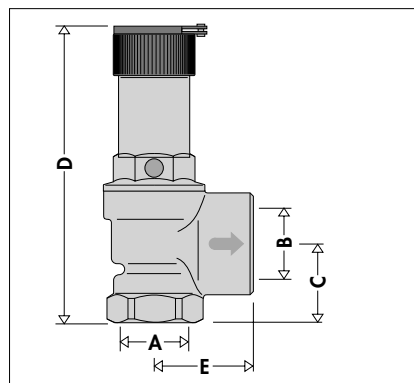
Code	A	B	C	D	E	F	G
3134..	1/2"	1/2"	21,5	72	25,5	61	24
3135..	3/4"	3/4"	24	74,5	27,5	61	24



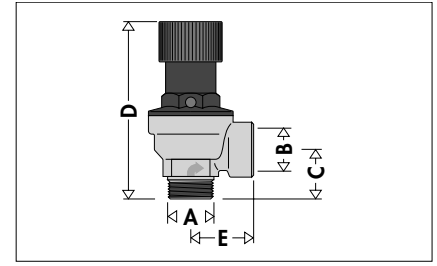
Code	A	B	C	D	E	F
3144..	1/2"	1/2"	32	78	25,5	61



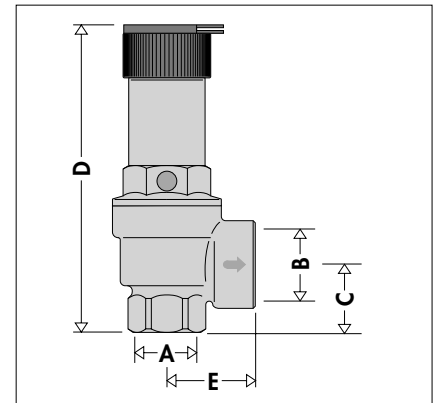
Code	A	B	C	D	E
5134..	1/2"	1/2"	19	78,5	29,5



Code	A	B	C	D	E
5136..	1"	1 1/4"	38	144	48
5137..	1 1/4"	1 1/2"	44	187	57,5



Code	A	B	C	D	E
5144..	1/2"	1/2"	23	81,5	29,5



Code	A	B	C	D	E
5274.. EST	1/2"	3/4"	26	93	33
5275.. EST	3/4"	1"	30	136	39,5
5276.. EST	1"	1 1/4"	39	166	48
5277.. EST	1 1/4"	1 1/2"	42,5	185	56

### • • Code completion

bar	• •	bar	• •	bar	• •
1	10	2,7	27	5,4	54
1,5	15	3	30	5,5	55
1,8	28	3,5	35	6	60
2	20	4	40	7	70
2,25	22	4,5	45	8	80
2,5	25	5	50	9	90

## Safety relief valves for heating systems, (527 EST series)

### Operating details

#### Discharge overpressure <10%

The full discharge capacity of the valve must be reached at pressure values  $P_s < 1,1 \cdot P_{set}$ . This characteristic, combined with the particular range of calibration values, enables the correct valve to be selected for the maximum working pressure value of the system or the boiler.

#### Closing differential <20%

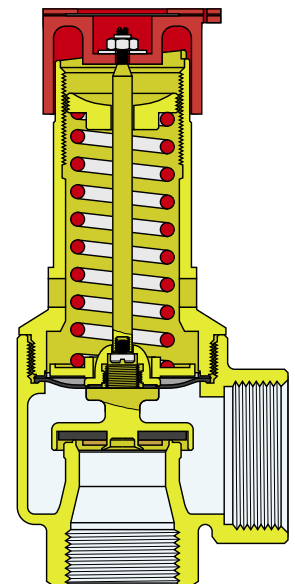
The valve must close again within pressure values  $P_r > 0,8 \cdot P_{set}$ . This characteristic makes it possible to limit the water loss from the system if the valve opens.

#### Fail-safe action

The performance of the valve is guaranteed even in the case of wear or breakage of the diaphragm.

#### Increased outlet diameter

This feature makes the reduction in the discharge capacity or the variation in behaviour on opening or closing negligible due to the fitting of discharge pipework.



# TECHNICAL DATA 527 EST SERIES

Size	Outl. Ø (mm)	Nett area (cm <sup>2</sup> )	Calibr. press. (bar)	Nom. disch. press. (bar)	Clos. press. (bar)	Outfl. coeff. K	Disch. flow rate W (kg/h)	Maximum boiler rating (kW)	Maximum boiler rating (kcal/h)
1/2"	15	1,767	1	1,10	0,80	0,79	140,38	81,6	70.100
1/2"	15	1,767	1,50	1,65	1,20	0,79	175,73	102,1	87.800
1/2"	15	1,767	2	2,20	1,60	0,79	211,17	122,7	105.500
1/2"	15	1,767	2,25	2,475	1,80	0,79	226,39	131,6	113.100
1/2"	15	1,767	2,50	2,75	2,00	0,79	246,36	143,2	123.100
1/2"	15	1,767	2,70	2,97	2,16	0,79	261,76	152,2	130.800
1/2"	15	1,767	3	3,30	2,40	0,79	282,35	164,1	141.100
1/2"	15	1,767	3,50	3,85	2,80	0,79	318,09	184,9	159.000
1/2"	15	1,767	4	4,40	3,20	0,79	353,93	205,8	176.900
1/2"	15	1,767	4,50	4,95	3,60	0,79	386,60	224,8	193.200
1/2"	15	1,767	5	5,50	4,00	0,79	425,91	247,6	212.900
1/2"	15	1,767	5,40	5,94	4,32	0,79	456,89	265,6	228.400
1/2"	15	1,767	6	6,60	4,80	0,79	483,25	281,0	241.600
1/2"	15	1,767	7	7,70	5,60	0,79	558,42	324,7	279.200
1/2"	15	1,767	8	8,80	6,40	0,79	628,22	365,3	314.100
3/4"	20	3,1416	1	1,10	0,80	0,67	211,66	123,0	105.800
3/4"	20	3,1416	1,50	1,65	1,20	0,67	264,95	154,0	132.400
3/4"	20	3,1416	2	2,20	1,60	0,67	318,38	185,1	159.100
3/4"	20	3,1416	2,25	2,475	1,80	0,67	341,33	198,4	170.600
3/4"	20	3,1416	2,50	2,75	2,00	0,67	371,45	215,9	185.700
3/4"	20	3,1416	2,70	2,97	2,16	0,67	394,66	229,4	197.300
3/4"	20	3,1416	3	3,30	2,40	0,67	425,70	247,5	212.800
3/4"	20	3,1416	3,50	3,85	2,80	0,67	479,59	278,8	239.700
3/4"	20	3,1416	4	4,40	3,20	0,67	533,63	310,3	266.800
3/4"	20	3,1416	4,50	4,95	3,60	0,67	582,89	338,9	291.400
3/4"	20	3,1416	5	5,50	4,00	0,67	642,16	373,4	321.000
3/4"	20	3,1416	5,40	5,94	4,32	0,67	688,87	400,5	344.400
3/4"	20	3,1416	6	6,60	4,80	0,67	728,61	423,6	364.300
3/4"	20	3,1416	7	7,70	5,60	0,67	841,95	489,5	420.900
3/4"	20	3,1416	8	8,80	6,40	0,67	947,19	550,7	473.500
1"	25	4,9087	1	1,10	0,80	0,88	434,38	252,5	217.100
1"	25	4,9087	1,50	1,65	1,20	0,88	543,74	316,1	271.800
1"	25	4,9087	2	2,20	1,60	0,88	653,40	379,9	326.600
1"	25	4,9087	2,25	2,475	1,80	0,88	700,49	407,3	350.200
1"	25	4,9087	2,50	2,75	2,00	0,88	762,30	443,2	381.100
1"	25	4,9087	2,70	2,97	2,16	0,88	809,94	470,9	404.900
1"	25	4,9087	3	3,30	2,40	0,88	873,65	508,0	436.800
1"	25	4,9087	3,50	3,85	2,80	0,88	984,23	572,3	492.100
1"	25	4,9087	4	4,40	3,20	0,88	1095,13	636,8	547.500
1"	25	4,9087	4,50	4,95	3,60	0,88	1196,22	695,6	598.100
1"	25	4,9087	5	5,50	4,00	0,88	1317,87	766,3	658.900
1"	25	4,9087	5,40	5,94	4,32	0,88	1413,72	822,0	706.800
1"	25	4,9087	6	6,60	4,80	0,88	1495,28	869,5	747.600
1"	25	4,9087	7	7,70	5,60	0,88	1727,88	1004,7	863.900
1"	25	4,9087	8	8,80	6,40	0,88	1943,86	1130,3	971.900
1 1/4"	32	8,0424	1	1,10	0,80	0,74	598,47	348,0	299.200
1 1/4"	32	8,0424	1,50	1,65	1,20	0,74	749,13	435,6	374.500
1 1/4"	32	8,0424	2	2,20	1,60	0,74	900,22	523,4	450.100
1 1/4"	32	8,0424	2,25	2,475	1,80	0,74	965,10	561,2	482.500
1 1/4"	32	8,0424	2,50	2,75	2,00	0,74	1050,25	610,7	525.100
1 1/4"	32	8,0424	2,70	2,97	2,16	0,74	1115,89	648,8	557.900
1 1/4"	32	8,0424	3	3,30	2,40	0,74	1203,66	699,9	601.800
1 1/4"	32	8,0424	3,50	3,85	2,80	0,74	1356,02	788,5	678.000
1 1/4"	32	8,0424	4	4,40	3,20	0,74	1508,81	877,3	754.400
1 1/4"	32	8,0424	4,50	4,95	3,60	0,74	1648,09	958,3	824.000
1 1/4"	32	8,0424	5	5,50	4,00	0,74	1815,69	1055,8	907.800
1 1/4"	32	8,0424	5,40	5,94	4,32	0,74	1947,74	1132,6	973.800
1 1/4"	32	8,0424	6	6,60	4,80	0,74	2060,11	1197,9	1.030.000
1 1/4"	32	8,0424	7	7,70	5,60	0,74	2380,57	1384,3	1.190.200
1 1/4"	32	8,0424	8	8,80	6,40	0,74	2678,14	1557,3	1.339.000

## Certification

### CE mark

Safety relief valves 527 EST series meet the requirements of Directive 2014/68/CE for pressurised equipment (also referred to as the PED). They are therefore classified in Category IV and granted the CE mark. Certificates and decisions issued by conformity assessment bodies under Directive 97/23/CE shall be valid under the Directive 2014/68/CE.



**CERTIFICATO DI ESAME CE DEL TIPO**  
**EC TYPE EXAMINATION CERTIFICATE**

N. PA56 - 97/23/CE - B Rev. 4

Consorzio PASCAL Srl è socio unico  
Organismo Notificato n. 1115  
Via A. Serravalle, 13 - 20151 Milano (Italy)  
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Consorzio PASCAL s.r.l. è socio unico, quale Organismo Notificato n. 1115  
Consorzio PASCAL s.r.l. è socio unico, acting as Notified Body n. 1115

**ATTESTA**  
**ATTESTS**

che il progetto presentato da  
*that the design submitted by*

**FABBRICANTE** CALEFFI S.p.A.  
**MANUFACTURER** S.R. 229 n. 25 - 28010 Foraneto D'Agogna (NO)

soddisfa le disposizioni dell'Allegato II, Modulo B della Direttiva 97/23/CE  
*satisfies the requirements of Annex II, Module B of the Pressure Equipment Directive 97/23/EC*

**ATTREZZATURA** VALVOLE DI SICUREZZA  
**EQUIPMENT**

Modelli coperti  
*Covered models*  
Fascicolo Tecnico  
*Technical File*  
Serie 513 (N°: 1", 1 1/4", 527 (N°: 4", 1", 1 1/4", 5270L (N°: 4031/14

L'elenco della documentazione tecnica rilevante è riportata in appendice A.  
*A list of the relevant technical documentation is summarized in appendix A.*

Codice Progetto  
*Design Code* Metodo sperimentale  
Rapporti di valutazione  
*Evaluation Reports* D48\_RED\_2014\_08\_05

**LIMITI ESSENZIALI AMMISSIBILI**  
**ESSENTIAL ALLOWABLE LIMITS**

PS (bar g) 15  
TS min/max (°C) +5 / +110  
Volume (L)/DN Vedere app. B  
Fluido Aria, acqua  
Gruppo del Fluido 2  
Fluid Group  
Categorie di Rischio N

**CONDIZIONI DI VALIDITA'**  
**VALIDITY TERMS AND CONDITIONS**

Tutte le modifiche al progetto approvato sono soggette ad ulteriore approvazione.  
Il presente certificato deve ritenersi nullo ed il fabbricante se ne assuma tutte le conseguenze dal suo inadempimento, in caso di modifiche che influenzano la conformità ai requisiti essenziali di sicurezza e, in generale, se il fabbricante non rispetta tutti e ciascuno degli obblighi a suo carico previsti dalla direttiva 97/23/CE, come recepita dalla legislazione nazionale vigente.  
*All the modifications to the approved design are subjected to further approval.  
This certificate shall be deemed to be void as the Manufacturer shall alone bear any consequences pursuant to its use, in case of modifications which affect conformity to the essential safety requirements, and generally, where the Manufacturer fails to comply with each and every of his obligations under directive 97/23/CE, as transposed in the applicable national laws.*

4	Aggiunta nuove pressioni taratura	Added new set pressures
3	Rinnovo	Renewed
1	Aggiunta nuovi modelli	Added new models
0	Aggiunta nuovi modelli	Added new models
Rev.	Descrizione	Description

*La presente revisione annulla e sostituisce le precedenti - This revision supersedes previous ones*

**ACCREDIA**

REG. N° 1388  
Ministero degli Interni - Ufficio Nazionale  
di Vigilanza e Controllo del Mercato  
Numero 1/2011 del 14/01/2011  
Decreto del Presidente del Consiglio dei Ministri  
del 12/01/2011

Prima Emissione  
*First issue* 14/05/2002

Emissione corrente  
*Current issue* 05/06/2014

Data di Scadenza  
*Expiring date* 13/05/2022



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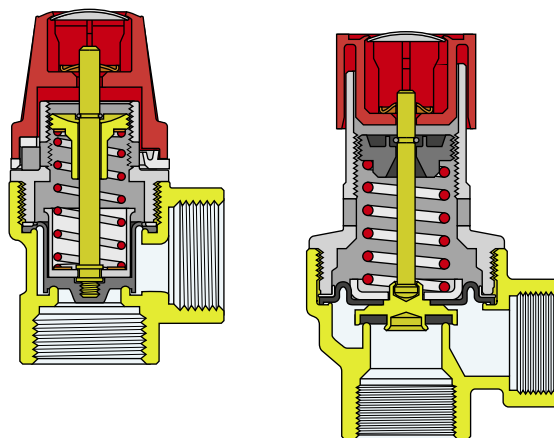
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## Standard safety relief valves

The 311, 312, 313, 314, 513 and 514 series standard safety relief valves are used in heating systems, domestic hot water systems protecting the hot water cylinder and in water systems generally.

### Heating systems

Standard safety relief valves, in compliance with Italian regulations, can be applied to heat generators of capacity below 35 kW.

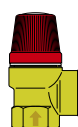


### TECHNICAL DATA 311-312-313-314 SERIES

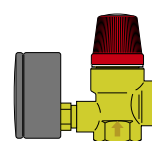
Size	Outl. Ø (mm)	Nett area (cm <sup>2</sup> )	Calibr. press. (bar)	Nom. disch. press. (bar)	Clos. press. (bar)	Outfl. coeff. K	Disch. flow rate W (kg/h)	Maximum boiler rating (kW)	Maximum boiler rating (kcal/h)
1/2"	13	1,327	1,5	1,80	1,2	0,5	88,49	51,3	44.200
1/2"	13	1,327	1,8	2,16	1,44	0,5	99,38	57,6	49.600
1/2"	13	1,327	2,50	3,00	2,00	0,5	124,44	72,3	62.200
1/2"	13	1,327	3	3,60	2,40	0,5	142,17	82,5	71.000
1/2"	13	1,327	3,50	4,20	2,80	0,5	161,39	93,6	80.600
1/2"	13	1,327	4	4,80	3,20	0,5	178,25	103,3	89.000
1/2"	13	1,327	5	6	4	0,5	213,32	123,7	106.400
1/2"	13	1,327	6	7,20	4,80	0,5	248,81	144,6	124.400
1/2"	13	1,327	7	8,40	5,60	0,5	284,35	165,2	142.100
1/2"	13	1,327	8	9,60	6,40	0,5	322,78	187,5	161.300
3/4"	13	1,327	2	2,40	1,60	0,5	106,63	61,8	53.300
3/4"	13	1,327	2,50	3,00	2,00	0,5	124,44	72,3	62.200
3/4"	13	1,327	3	3,60	2,40	0,5	142,17	82,5	71.000
3/4"	13	1,327	3,50	4,20	2,80	0,5	161,39	93,6	80.600
3/4"	13	1,327	4	4,80	3,20	0,5	178,25	103,3	89.000
3/4"	13	1,327	5	6,00	4,00	0,5	213,26	123,6	106.600
3/4"	13	1,327	5,5	6,60	4,4	0,5	234,23	135,9	116.900
3/4"	13	1,327	6	7,20	4,80	0,5	248,81	144,6	124.400
3/4"	13	1,327	7	8,40	5,60	0,5	284,35	165,2	142.100
3/4"	13	1,327	8	9,60	6,40	0,5	322,78	187,5	161.300
3/4"	13	1,327	9	10,80	7,2	0,5	364,20	211,2	181.700

### TECHNICAL DATA 513-514 SERIES

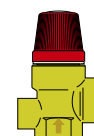
Size	Outl. Ø (mm)	Nett area (cm <sup>2</sup> )	Calibr. press. (bar)	Nom. disch. press. (bar)	Clos. press. (bar)	Outfl. coeff. K	Disch. flow rate W (kg/h)	Maximum boiler rating (kW)	Maximum boiler rating (kcal/h)
1/2"	15	1,767	1,50	1,80	1,20	0,5	117,80	68,3	58.900
1/2"	15	1,767	2	2,40	1,60	0,5	141,99	82,3	70.900
1/2"	15	1,767	2,50	3,00	2,00	0,5	165,65	96,2	82.800
1/2"	15	1,767	3	3,60	2,40	0,5	189,32	110,0	94.600
1/2"	15	1,767	3,50	4,20	2,80	0,5	214,90	124,6	107.400
1/2"	15	1,767	4	4,80	3,20	0,5	237,35	137,6	118.600
1/2"	15	1,767	5	6	4	0,5	284,01	164,7	141.700
1/2"	15	1,767	6	7,20	4,80	0,5	331,31	192,5	165.600
1/2"	15	1,767	7	8,40	5,60	0,5	378,64	220,1	189.300
1/2"	15	1,767	8	9,60	6,40	0,5	429,81	249,8	214.900



- 311415 1/2" 1,5 bar
- 311425 1/2" 2,5 bar
- 311430 1/2" 3 bar
- 311435 1/2" 3,5 bar
- 311440 1/2" 4 bar
- 311450 1/2" 5 bar
- 311460 1/2" 6 bar
- 311470 1/2" 7 bar
- 311480 1/2" 8 bar
- 311520 3/4" 2 bar
- 311525 3/4" 2,5 bar
- 311530 3/4" 3 bar
- 311535 3/4" 3,5 bar
- 311540 3/4" 4 bar
- 311550 3/4" 5 bar
- 311555 3/4" 5,5 bar
- 311560 3/4" 6 bar
- 311570 3/4" 7 bar
- 311580 3/4" 8 bar
- 311590 3/4" 9 bar



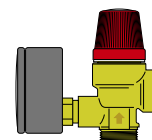
- 313425 1/2" 2,5 bar
- 313430 1/2" 3 bar
- 313460 1/2" 6 bar
- 313470 1/2" 7 bar
- 313480 1/2" 8 bar
- 313525 3/4" 2,5 bar
- 313530 3/4" 3 bar
- 313560 3/4" 6 bar
- 313570 3/4" 7 bar
- 313580 3/4" 8 bar



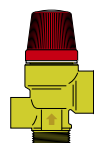
- 313432 1/2" 3 bar
- 313532 3/4" 3 bar



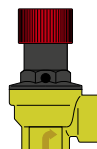
- 312428 1/2" 1,8 bar
- 312425 1/2" 2,5 bar
- 312430 1/2" 3 bar
- 312435 1/2" 3,5 bar
- 312440 1/2" 4 bar
- 312450 1/2" 5 bar
- 312460 1/2" 6 bar
- 312470 1/2" 7 bar
- 312480 1/2" 8 bar



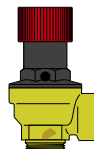
- 314425 1/2" 2,5 bar
- 314430 1/2" 3 bar
- 314460 1/2" 6 bar
- 314470 1/2" 7 bar
- 314480 1/2" 8 bar



- 314432 1/2" 3 bar
- 314462 1/2" 6 bar



- 513415 1/2" 1,5 bar
- 513420 1/2" 2 bar
- 513425 1/2" 2,5 bar
- 513430 1/2" 3 bar
- 513435 1/2" 3,5 bar
- 513460 1/2" 6 bar
- 513470 1/2" 7 bar
- 513480 1/2" 8 bar



- 514420 1/2" 2 bar
- 514425 1/2" 2,5 bar
- 514430 1/2" 3 bar
- 514435 1/2" 3,5 bar
- 514440 1/2" 4 bar
- 514450 1/2" 5 bar
- 514460 1/2" 6 bar
- 514470 1/2" 7 bar
- 514480 1/2" 8 bar

## Domestic hot water systems

513 and 514 series valves comply with the requirements of "Section R" for safety standards of equipment containing hot liquids under pressure (Italian standard):

"in the case of water heaters intended for domestic use, the expansion system protecting the vessel should consist of a vent valve, understood as a counter-weight or spring valve whose outlet

has a diameter, in mm, not less than

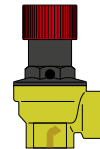
$$\sqrt{\frac{V}{5}}$$

where V is the volume of the heater in litres, with a minimum of 15 mm".

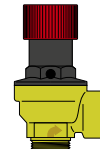
To illustrate the above, see the table with the hot water storage capacity limits for each type of valve.

### TECHNICAL DATA 513-514 SERIES

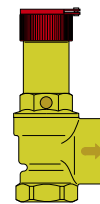
Size	Outl. Ø (mm)	Nett area (cm <sup>2</sup> )	Calibr. press. (bar)	Nom. disch. press. (bar)	Clos. press. (bar)	Capacity of heater (l)
1/2"	15	1,767	6	7,20	4,80	1.000
1/2"	15	1,767	7	8,40	5,60	1.000
1/2"	15	1,767	8	9,60	6,40	1.000
1"	25	4,9087	6	7,20	4,80	3.000
1"	25	4,9087	7	8,40	5,60	3.000
1"	25	4,9087	8	9,60	6,40	3.000
1"	25	4,9087	9	10,8	7,20	3.000
1 1/4"	32	8,0424	6	7,20	4,80	5.000
1 1/4"	32	8,0424	7	8,40	5,60	5.000
1 1/4"	32	8,0424	8	9,60	6,40	5.000



513460 1/2" 6 bar  
513470 1/2" 7 bar  
513480 1/2" 8 bar



514460 1/2" 6 bar  
514470 1/2" 7 bar  
514480 1/2" 8 bar



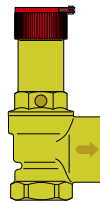
513660 1" 6 bar  
513670 1" 7 bar  
513680 1" 8 bar  
513690 1" 9 bar  
513760 1 1/4" 6 bar  
513770 1 1/4" 7 bar  
513780 1 1/4" 8 bar

## Water systems

These safety relief valves can also be used for discharging cold water; in this case, the discharge capacities indicated are the results of experimental testing, without the use or any conversion formula for fluids of different types.

### TECHNICAL DATA 513 SERIES

Size	Outl. Ø (mm)	Nett area (cm <sup>2</sup> )	Calibr. press. (bar)	Nom. disch. press. (bar)	Clos. press. (bar)	Capacity of heater (l)
1"	25	4,9087	1,5	1,80	1,20	7,6
1"	25	4,9087	2	2,40	1,60	8,0
1"	25	4,9087	2,50	3,00	2,00	8,3
1"	25	4,9087	3	3,60	2,40	8,7
1"	25	4,9087	3,50	4,20	2,80	9,1
1"	25	4,9087	4	4,80	3,20	9,4
1"	25	4,9087	5,5	6,60	4,40	10,4
1"	25	4,9087	6	7,20	4,80	10,5
1"	25	4,9087	7	8,40	5,60	11,5
1"	25	4,9087	8	9,60	6,40	12,3
1"	25	4,9087	9	10,80	7,20	12,9
1 1/4"	32	8,0424	2,50	3,00	2,00	13,2
1 1/4"	32	8,0424	3	3,60	2,40	13,8
1 1/4"	32	8,0424	3,50	4,20	2,80	14,1
1 1/4"	32	8,0424	6	7,20	4,80	17,5
1 1/4"	32	8,0424	7	8,40	5,60	18,6
1 1/4"	32	8,0424	8	9,60	6,40	19,4



513615 1" 1,5 bar  
513620 1" 2 bar  
513625 1" 2,5 bar  
513630 1" 3 bar  
513635 1" 3,5 bar  
513640 1" 4 bar  
513655 1" 5,5 bar  
513660 1" 6 bar  
513670 1" 7 bar  
513680 1" 8 bar  
513690 1" 9 bar  
513725 1 1/4" 2,5 bar  
513730 1 1/4" 3 bar  
513735 1 1/4" 3,5 bar  
513760 1 1/4" 6 bar  
513770 1 1/4" 7 bar  
513780 1 1/4" 8 bar

## Certification

### CE mark

311, 312, 313, 314, 513 and 514 series safety relief valves meet the requirements of Directive 2014/68/EU for pressurised equipment (also referred to as the PED). They are therefore classified in Category IV and granted the CE mark.



## Installation

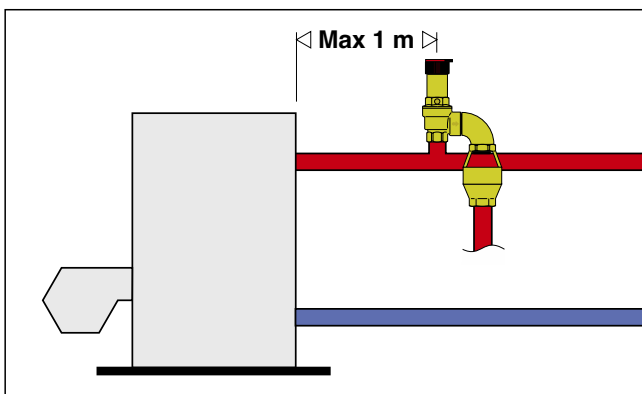
Before installing a safety relief valve, correct sizing must be carried out by specialist technical personnel in accordance with the current legislation governing the specific applications. It shall not be used other than for its stated purpose.

Safety relief valves must be installed by competent technical personnel qualified in accordance with current legislation.

The safety relief valve must be installed in line with the flow direction indicated by the arrow on the valve body.

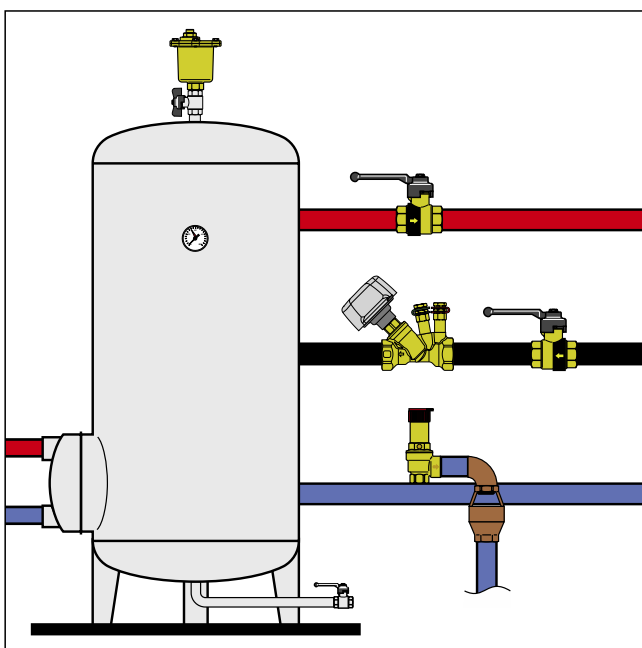
## Heating system

The safety relief valve must be installed on the top of the boiler or in the flow pipework at a distance of not more than one metre from the boiler (section R). The connecting pipework between the safety relief valve and the boiler must not be interrupted.



## Domestic hot water system

The safety relief valve must be installed close to the hot water storage, taking care not to fit any shut-off devices between the valve and the storage cylinder.

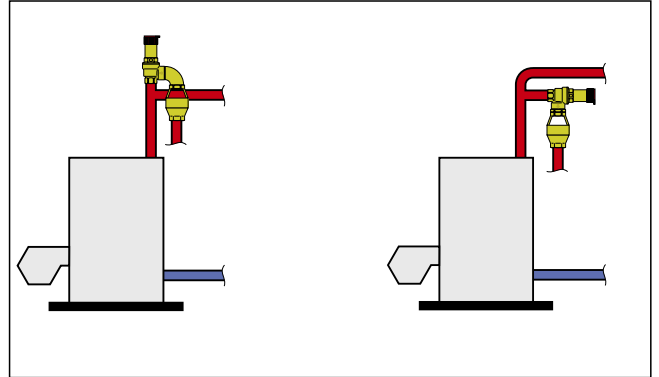


## Fitting

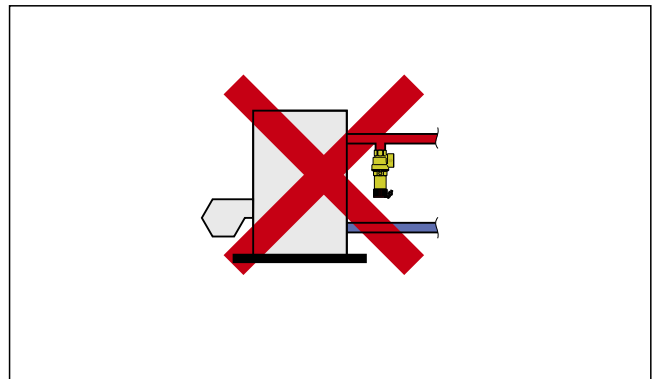
The safety relief valve can be fitted vertically or horizontally, but not upside down.

This prevents deposits of impurities from affecting correct functioning.

## Correct installations



## Incorrect installation



## Discharge pipework

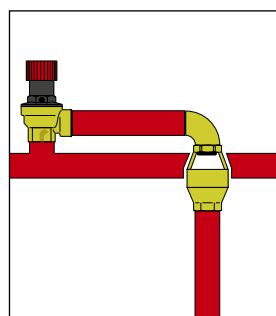
The discharge pipework from the safety relief valve must be fitted in such a way as not to prevent the correct operation of the valve and not to cause damage or injury.

In accordance with current legislation, the safety relief valve discharge must be visible and carried in suitable collection pipework.

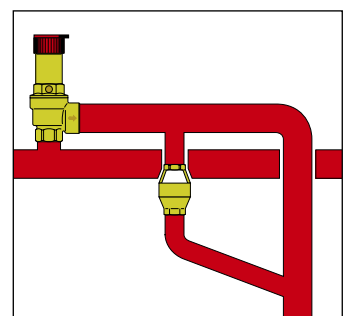
As shown in the diagrams, it is advisable to install a tundish directly in the discharge pipework for low capacity valves, as diagram 1.

In the case of larger capacities, proceed as shown in diagram 2.

## Diagram 1



## Diagram 2



## SPECIFICATION SUMMARIES

### 311 Series

Standard diaphragm safety relief valve. Bearing CE mark as per Directive 2014/68/EU. Threaded connections 1/2" F x 1/2" F (1/2"x1/2" and 3/4"x3/4"). Calibrations available: 1,5 - 2 - 2,5 - 3 - 3,5 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9, 1,5 bar only for 1/2", 2 - 5,5 - 9 bar only for 3/4". Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Control knob in ABS.

### 312 Series

Standard diaphragm safety relief valve. Bearing CE mark as per Directive 2014/68/EU. Threaded connections 1/2" M x 1/2" F. Calibrations available: 1,8 - 2,5 - 3 - 3,5 - 4 - 6 - 7 - 8. Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Control knob in ABS.

### 313 Series

Standard diaphragm safety relief valve with pressure gauge connection. Bearing CE mark as per Directive 2014/68/EU. Threaded connections 1/2" F x 1/2" F (1/2" and 3/4"). Calibration 3 bar. Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Control knob in ABS.

### 313 Series

Standard diaphragm safety relief valve with pressure gauge. Bearing CE mark as per Directive 2014/68/EU. Threaded connections 1/2" F x 1/2" F (1/2" and 3/4"). Calibrations available: 2,5 - 3 - 6 - 7 - 8. Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Control knob in ABS.

### 314 Series

Standard diaphragm safety relief valve with pressure gauge connection. Bearing CE mark as per Directive 2014/68/EU. Threaded connections 1/2" M x 1/2" F. Calibrations available 3 and 6. Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Control knob in ABS.

### 314 Series

Standard diaphragm safety relief valve with pressure gauge. Bearing CE mark as per Directive 2014/68/EU. Threaded connections 1/2" M x 1/2" F. Calibrations available: 2,5 - 3 - 6 - 7 - 8. Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Control knob in ABS.

### 513 Series

Standard diaphragm safety relief valve. Bearing CE mark as per Directive 2014/68/EU. Connections 1/2" M x 1/2" F. Calibrations available: 1,5 - 2 - 2,5 - 3 - 3,5 - 6 - 7 - 8. Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Cover and control knob in glass-fiber re-inforced nylon.

### 513 Series

Standard diaphragm safety relief valve. Bearing CE mark as per Directive 2014/68/EU. Connections 1" F x 1 1/4" F (1" x 1 1/4" and 1 1/4" x 1 1/2"). Calibrations available: 1,5 - 2 - 2,5 - 3 - 3,5 - 6 - 7 - 8 - 9 (1,5-2 only 1/2" and 1")(4-5,5-9 only 1"). Maximum temperature 110°C. Body and cover in brass. Diaphragm and seal in EPDM. Cover and control knob in glass-fiber re-inforced nylon.

### 514 Series

Standard diaphragm safety relief valve. Bearing CE mark as per Directive 2014/68/EU. Connections 1/2" M x 1/2" F. Calibrations available: 2 - 2,5 - 3 - 3,5 - 4 - 5 - 6 - 7 - 8. Maximum temperature 110°C. Brass body. Diaphragm and seal in EPDM. Cover in glass-fiber re-inforced nylon, control knob in ABS.

### 527 EST Series

Standard diaphragm safety relief valve. Bearing CE mark as per Directive 2014/68/EU. Connections 1/2" F x 3/4" F (available 1/2" x 3/4", 3/4" x 1", 1" x 1 1/4", 1 1/4" x 1 1/2"). Calibrations available: 1 - 1,5 - 2 - 2,25 - 2,5 - 2,7 - 3 - 3,5 - 4 - 4,5 - 5 - 5,4 - 6 - 7 - 8. Maximum temperature 110°C. Body and cover in brass. Diaphragm and seal in EPDM. Control knob in glass-fiber re-inforced nylon. Discharge overpressure 10%, closing differential 20%. Fail-safe. Accompanied by bench calibration report.

## Accessories



### 5521

Discharge tundish with rotating elbow, male-female.  
Sizes: 1/2", 3/4", 1", 1 1/4".



### 5520

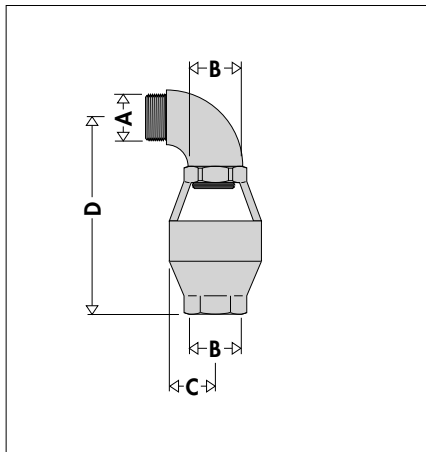
Straight discharge tundish, female-female.  
Sizes: 3/4" and 1 1/4".



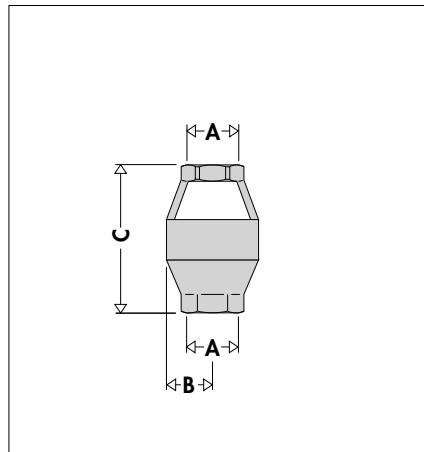
### 5520

Discharge collector. In coated sheet metal.  
Size: 1 1/2".

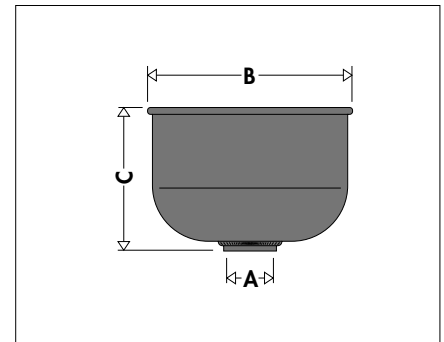
## Dimensions



Code	A	B	C	D
552140	1/2"	3/4"	25	125
552150	3/4"	1"	25	125
552160	1"	1 1/4"	40	180
552170	1 1/4"	1 1/2"	40	180



Code	A	B	C
552050	3/4"	25	96
552070	1 1/4"	40	134



Code	A	B	C
552080	1 1/2"	210	150

## SPECIFICATION SUMMARIES

### Series 5520

Straight discharge tundish. Connections 3/4" F x 3/4" F (3/4" x 3/4" and 1 1/4" x 1 1/4"). Body in die-cast aluminium. Visible discharge.

### Series 5520

Discharge collector. Connection 1 1/2" F. Body in coated sheet metal.

### Series 5521

Discharge tundish with rotating elbow. Connections 1/2" M x 1/2" F (from 1/2" to 1 1/4"). Body in die-cast aluminium. Visible discharge.

We reserve the right to make changes and improvements to the products and related data in this publication, at any time and without prior notice.