



INTRODUCTION

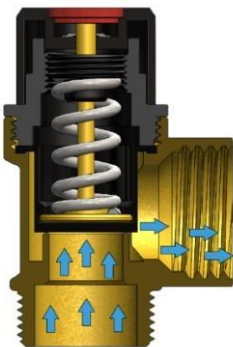


Safety valves are the mechanisms that are used to evacuate the pressure in closed circuit heating systems and limit to a predetermined value. Safety valves must be used to prevent damage to the system due to high pressure and to avoid dangerous situations that can occur.

Diaphragm safety valves are manufactured with fixed setting at certain pressures according to EN 4126-1 standard and users are not allowed to change the pressure setting. The relief pressure of the safety valve is written on the safety fuse on the cover.

Areas of Usage: It is used in closed circuit heating systems, boilers, solar energy systems, boiler installations, hydrophore installations, utility and fire water installations. It also helps to protect the equipment such as exchanger and pressure tanks.

OPERATING PRINCIPLE



The operating system of diaphragm safety valves is based on the balance of two opposing forces.

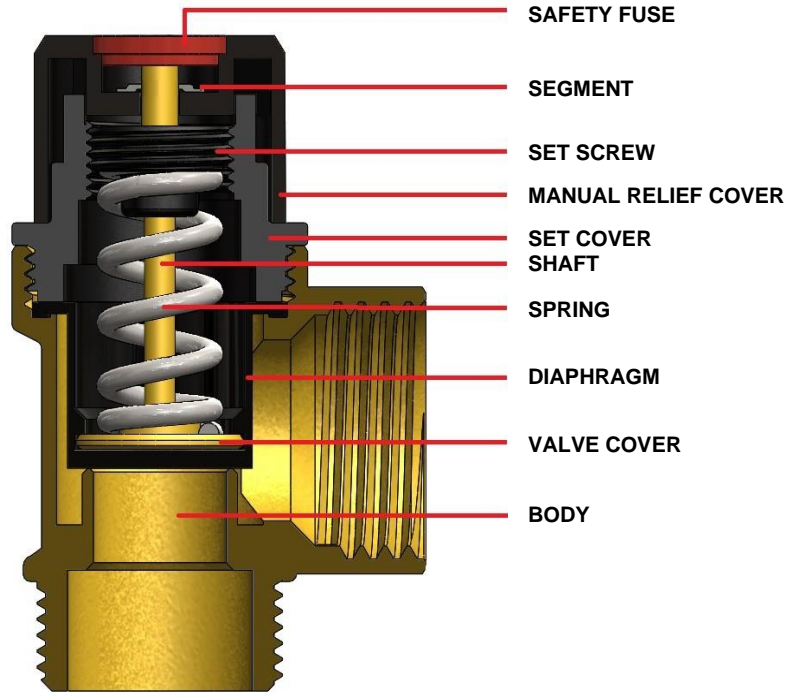
These forces are as follows:

- 1- The pressure force of the compressed spring
- 2- The force of the water-vapor pressure on the diaphragm

The fluid pressure force in the closed circuit system, the diaphragm is lifted as soon as it overcomes the pressure of the spring, and the water is allowed to pass between the ground and the diaphragm. Thus, the water discharge takes place and the pressure in the system is prevented from exceeding the pressure limit.

Operating Principle Video; <https://www.youtube.com/watch?v=hEET3eR7X8k>

MATERIAL LIST







Body	:	Brass CW 617N EN 12165
Valve Cover	:	Brass CW 614N EN 12164
Diaphragm	:	EPDM
Spring	:	STEEL 10270-1
Shaft	:	Brass CW 614N EN 12164
Set Cover	:	PA6 GFR30
Manual Relief Cover	:	PA6 GFR30
Set Screw	:	PA6 GFR30
Segment	:	CK67 Steel
Safety Fuse	:	PP

TECHNICAL SPECIFICATIONS




Operating Temperature	:	5 ÷ 110 °C
Nominal Pressure (P_N)	:	10 bar
Set Pressure (P_{set})	:	2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 bar
Watertightness Pressure (P_e)	:	$P_e \geq 0,95 P_{set}$
Max. Opening Pressure ($P_{o,max}$)	:	+ %10
Min. Closing Pressure ($P_{f,min}$)	:	- %20
Fluid to be used with	:	Water

First Opening Pressure	$P_{dc,water}$: When the pressure safety valve is opened for the first time after a storage period, the pressure of the first drop of water.
	$P_{dc,vapor}$: When the pressure safety valve is opened for the first time after a storage period, the pressure exerted when the vapor is first seen at the relief connection.
Opening Pressure	$P_{o,water}$: Pressure in the safety valve when water reaches 2.4 liter / h.
	$P_{o,vapor}$: When the safety valve is opened, the pressure exerted by the vapor at the discharge connection of the safety valve.

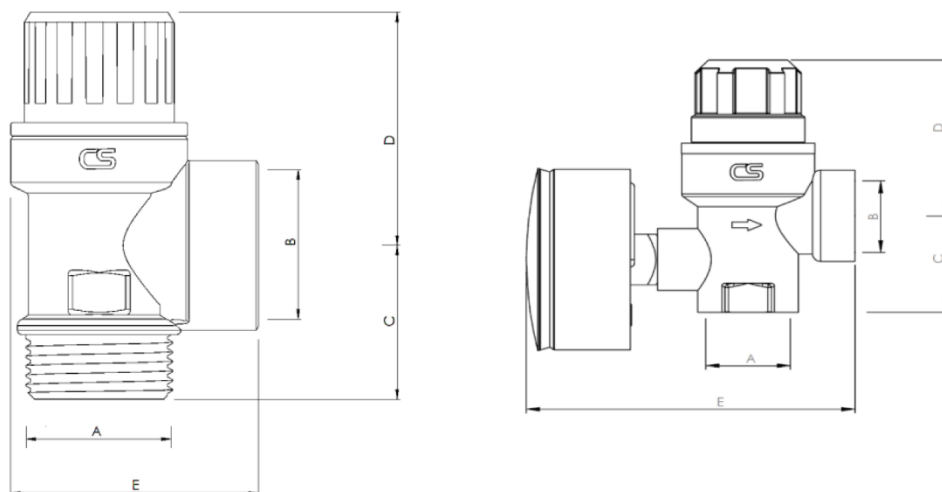
PRODUCT RANGE

Pressure [bar]				
	1/2" ET Product Code	1/2" IT Product Code	1/2" IT with Manometer Connection Product Code	1/2" IT with Manometer Product Code
2	07-1522	07-1521	26-1521	27-1521
2,5	07-15252	07-15251	26-15251	27-15251
3	07-1532	07-1531	26-1531	27-1531
4	07-1542	07-1541	26-1541	27-1541
5	07-1552	07-1551	26-1551	27-1551
6	07-1562	07-1561	26-1561	27-1561
7	07-1572	07-1571	26-1571	27-1571
8	07-1582	07-1581	26-1581	27-1581
9	07-1592	07-1591	26-1591	27-1591
10	07-15102	07-15101	26-15101	27-15101

Pressure [bar]				
	3/4" ET Product Code	3/4" IT Product Code	1" IT Product Code	1" IT Product Code
2	07-2022	07-2021	07-2522	07-2521
2,5	07-20252	07-20251	07-25252	07-25251
3	07-2032	07-2031	07-2532	07-2531
4	07-2042	07-2041	07-2542	07-2541
5	07-2052	07-2051	07-2552	07-2551
6	07-2062	07-2061	07-2562	07-2561
7	07-2072	07-2071	07-2572	07-2571
8	07-2082	07-2081	07-2582	07-2581
9	07-2092	07-2091	07-2592	07-2591
10	07-20102	07-20101	07-25102	07-25101

Pressure [bar]			
	1 ¼" IT Product Code	1 ½" IT Product Code	2" IT Product Code
2	07-3221	07-4021	07-5021
2,5	07-32251	07-40251	07-50251
3	07-3231	07-4031	07-5031
4	07-3241	07-4041	07-5041
5	07-3251	07-4051	07-5051
6	07-3261	07-4061	07-5061
7	07-3271	07-4071	07-5071
8	07-3281	07-4081	07-5081
9	07-3221	07-4021	07-5021
10	07-32251	07-40251	07-50251

DIMENSIONS



Installation Connection (A) [inch]	Discharge Connection (B) [inch]	C [mm]	D [mm]	E [mm]
1/2" ET	1/2" IT	24	42.5	35
1/2" IT	1/2" IT	23	42.5	35
1/2" IT with Manometer Connection	1/2" IT	26,5	42,5	49
1/2" IT with Manometer	1/2" IT	26,5	42,5	85
3/4" ET	3/4" IT	28	48	39
3/4" IT	3/4" IT	24	48	39
1" ET	1" IT	35	52.5	46
1" IT	1" IT	32.5	52.5	46
1 1/4" IT	1 1/2" IT	43	80	70
1 1/2" IT	2" IT	55	117	103
2" IT	2 1/2" IT	65.5	123.5	104.5

IT : INTERNAL THREADED

ET : EXTERNAL THREAD

SAFETY VALVE SELECTION TABLE

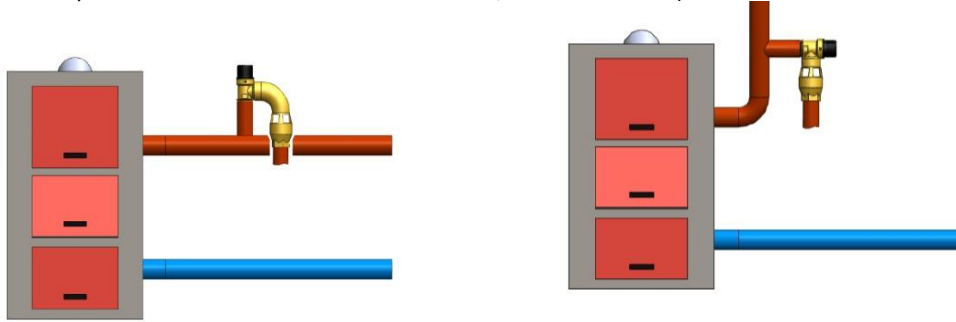
Opening Pressure (Bar)	Maximum Heating Power of the Boiler											
	kW	kcal/h	kW	kcal/h	kW	kcal/h	kW	kcal/h	kW	kcal/h	kW	kcal/h
1.5	36	30960	72	61920	144	123840	252	216720	433	372380	650	559000
2	43	36980	86	73960	172	147920	302	259720	518	445480	778	669080
2.5	50	43000	100	86000	200	172000	350	301000	600	516000	900	774000
3	56	48160	112	96320	224	192640	395	339700	678	583080	1017	874620
4	70	60200	140	120400	280	240800	490	421400	840	722400	1260	1083600
5	84	72240	168	144480	336	288960	588	505680	1008	866880	1512	1300320
6	98	84280	195	167700	390	335400	682	586520	1170	1002000	1755	1509300
Size	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"	

CONNECTION AND INSTALLATION

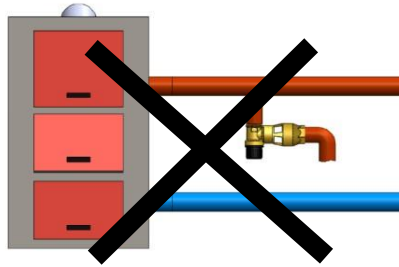
- It is important to select the correct size and correct pressure values before connecting the safety valves to the installation. Selection and installation of safety valve should be done by authorized technical personnel.
- It is recommended that the safety valve should be installed in the boiler room at an easily accessible location, at the top of the boiler or on the hot water supply line next to the boiler.
- In hot water boiler systems, a boiler safety valve (10 bar) must be fitted to the cold water inlet of the boiler. In these systems, the valve size is determined by the volume of the boiler.

Volume of Boiler [liter]	≤200	201-1000	1001-5000	≥5000
Size	DN 15	DN 20	DN 25	DN 32

- During the installation of the product, care must be taken to ensure that the water discharge flow is in the direction of the arrow on the product.
- The safety valve can be installed vertical and horizontal, but not installed upside down.

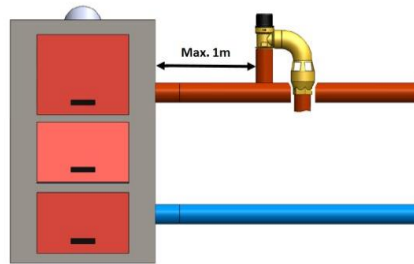


- Correct Connection -



- False Connection -

- Products with safety valves on the inlet side should not exceed 1 m, and safety valves such as shut-off valves, cross-section restrictor valves and strainer must not be installed.



- The discharge pipe diameter of the safety valve must be at least as large as the safety valve discharge nozzle diameter and should be mounted with a slight incline. In this case, the length of the discharge pipe can be up to 2 m and it can contain a maximum of 2 elbows. If the length of the discharge pipe has to be more than 2 m, the diameter of the discharge pipe should be increased. The length of the evacuation pipe is not more than 4 m and it is not allowed to have more than 3 elbows.

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