

## Safety valve INAIL compliant

Datasheet  
0427EN 01/2022

CE<sub>0100</sub>  
INAIL



The R140D safety valves are used in hot water thermal systems with a closed expansion tank, to ensure that the pressure of the fluid in the heat generator does not exceed the project limits.

The valves comply with Directive "PED" 2014/68/EU, and are calibrated and approved by INAIL (in accordance with "R" collection - Technical application specifications of Title II of Ministerial Decree 1.12.75 - Italy).



#### CONFORMITY DECLARATION

Frame the QR code with your smartphone or tablet to view the conformity declaration.

### ➤ Versions and product codes

PRODUCT CODE	CONNECTIONS	CALIBRATION PRESSURE [bar]	PRODUCT CODE	CONNECTIONS	CALIBRATION PRESSURE [bar]	PRODUCT CODE	CONNECTIONS	CALIBRATION PRESSURE [bar]	PRODUCT CODE	CONNECTIONS	CALIBRATION PRESSURE [bar]
R140DY104		2,25	R140DY124		2,25	R140DY144		2,25	R140DY164		2,25
R140DY105		2,5	R140DY125		2,5	R140DY145		2,5	R140DY165		2,5
R140DY106		2,7	R140DY126		2,7	R140DY146		2,7	R140DY166		2,7
R140DY107		3	R140DY127		3	R140DY147		3	R140DY167		3
R140DY109		3,5	R140DY129		3,5	R140DY149		3,5	R140DY169		3,5
R140DY110	G 1/2"F	4	R140DY130	G 3/4"F	4	R140DY150	G 1"F	4	R140DY170	G 1-1/4"F	4
R140DY111	x G 3/4"F	4,5	R140DY131	x G 1"F	4,5	R140DY151	x G 1-1/4"F	4,5	R140DY171	x G 1-1/2"F	4,5
R140DY112		5	R140DY132		5	R140DY152		5	R140DY172		5
R140DY113		5,4	R140DY133		5,4	R140DY153		5,4	R140DY173		5,4
R140DY115		6	R140DY135		6	R140DY155		6	R140DY175		6
R140DY117		7	R140DY137		7	R140DY157		7	R140DY177		7
R140DY119		8	R140DY139		8	R140DY159		8	R140DY179		8

#### ⚠ WARNING: PRODUCT INSTALLATION IN ELECTRICAL OR ELECTRONIC EQUIPMENT (EEE)

The product can be installed only if the EEE - Electrical and / or Electronic Equipment - is excluded or not falling within the scope of Directive 2011/65/EU according to the provisions at point e) of par. 4 of art. 2 of the Directive itself, as a product intended for large fixed installations.

## Technical data

### Performance

- Fluids: hot water, air
- Nominal pressure: 10 bar
- Temperature range: 5+110 °C
- Opening overpressure: 10 %
- Closure range: 20 %
- PED cat.: IV

### Materials

- Body: brass CW617N - UNI EN 12165
- Knob: ABS
- Spring: steel

PRODUCT CODE	CONNECTIONS	Ø ORIFICE [mm]	NET SECTION [mm <sup>2</sup> ]	CALIBRATION PRESSURE [bar]	HEATING - DOMESTIC HOT WATER		
					OUTFLOW COEFFICIENT $K_d$	DRAINAGE CAPACITY IN ACCORDANCE WITH "R" COLL. [kg/h]	MAX. GENERATOR POWER [kW]
R140DY104	G 1/2" F x G 3/4" F	15	176,71	2,25	0,736	210,91	122,3
R140DY105				2,5		229,52	133,1
R140DY106				2,7		243,86	141,4
R140DY107				3		263,04	152,6
R140DY109				3,5		296,34	171,9
R140DY110				4		329,73	191,2
R140DY111				4,5		360,16	208,9
R140DY112				5		396,79	230,1
R140DY113				5,4		425,65	246,9
R140DY115				6		450,2	261,1
R140DY117				7		520,23	301,7
R140DY119				8		585,26	339,5
R140DY124	G 3/4" F x G 1" F	20	314,16	2,25	0,771	392,78	227,8
R140DY125				2,5		427,44	247,9
R140DY126				2,7		454,16	263,4
R140DY127				3		489,88	284,1
R140DY129				3,5		551,89	320,1
R140DY130				4		614,07	356,2
R140DY131				4,5		670,76	389
R140DY132				5		738,97	428,6
R140DY133				5,4		792,71	459,8
R140DY135				6		838,44	486,3
R140DY137				7		968,87	561,9
R140DY139				8		1089,98	632,2

PRODUCT CODE	CONNECTIONS	Ø ORIFICE [mm]	NET SECTION [mm <sup>2</sup> ]	CALIBRATION PRESSURE [bar]	HEATING - DOMESTIC HOT WATER		
					OUTFLOW COEFFICIENT K <sub>d</sub>	DRAINAGE CAPACITY IN ACCORDANCE WITH "R" COLL. [kg/h]	MAX. GENERATOR POWER [kW]
R140DY144	G 1"F x G 1-1/4"F	25	490,87	2,25	0,736	585,86	339,8
R140DY145				2,5		637,55	369,8
R140DY146				2,7		677,4	392,9
R140DY147				3		730,68	423,8
R140DY149				3,5		823,17	477,4
R140DY150				4		915,92	531,2
R140DY151				4,5		1000,47	580,3
R140DY152				5		1102,21	639,3
R140DY153				5,4		1182,37	685,8
R140DY155				6		1250,59	725,3
R140DY157				7		1445,12	838,2
R140DY159				8		1625,76	942,9
R140DY164	G 1-1/4"F x G 1-1/2"F	32	804,24	2,25	0,723	1073,33	622,5
R140DY165				2,5		1168,04	677,5
R140DY166				2,7		1241,04	719,8
R140DY167				3		1338,65	776,4
R140DY169				3,5		1508,1	874,7
R140DY170				4		1678,03	973,3
R140DY171				4,5		1832,92	1063,1
R140DY172				5		2019,32	1171,2
R140DY173				5,4		2166,18	1256,4
R140DY175				6		2291,16	1328,9
R140DY177				7		2647,56	1535,6
R140DY179				8		2978,5	1727,5

## ➤ Operation

When the thrust of the pressurised fluid triggers a return spring on the disc, the valve discharges a specific amount of fluid to prevent the defined pressure level from being exceeded, and then re-closes within the permitted closure range.

## ➤ Installation

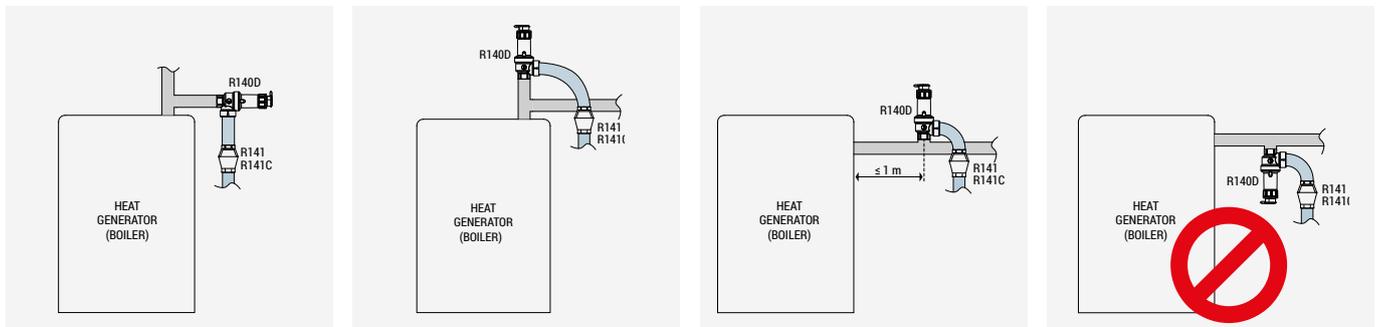
Before installing the R140D safety valves, the personnel in charge must size them correctly, in accordance with the current regulations ("R" collection, Ch. R.2.A., 2.3.1 - Italy).

The safety valves must be installed in the highest part of the heat generator, or on the delivery pipe, no more than 1 m distance from the generator.

They must be clearly visible and easy to check. The pipe connecting the safety valve to the generator must be free of any interception and with a diameter no less than that of the valve itself.

The safety valve drainage must be clearly visible and channelled into a pipe with a diameter no less than that of the valve itself, using a funnel (R141 or R141C) if necessary.

**⚠ WARNING.** The safety valves can be installed vertically or horizontally, but not upside down (to prevent system impurities from settling); respect the flow direction indicated by the arrow on the body.



## ➤ Maintenance

The valve must be checked at least once a year, by increasing the system pressure to induce drainage.

If this is not possible, it is possible to rotate the knob and check the drainage visually.

Any impurities that form on the housing can be removed by means of regular purging.

## ➤ Calibration

The R140D safety valves are factory calibrated.

Each valve is supplied with an original copy of the calibration report; this document contains not only the technical data of the valve, but also the serial number (also shown on the top of the handwheel fixed to the valve body).

The document is printed and validated by the INAIL technician who witnessed the calibration operation.

The user is responsible for maintaining the safety valve calibration, avoiding any type of intervention that could alter its correct functioning.

**🔗 NOTE.** The calibration report must be stored with care; copies cannot be issued if the original is lost.

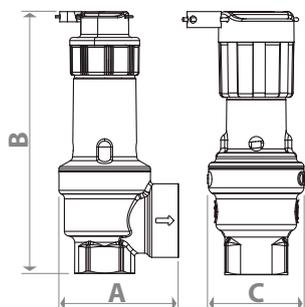
## Relief funnels

R141 SERIES	R141C SERIES	SAFETY VALVE DISCHARGE SIZE
		3/4"
R141Y014	R141CY004	3/4"
R141Y015	R141CY005	1"
R141Y016	R141CY006	1-1/4"
R141Y017	-	1-1/2"

It is appropriate to channel the fluids drained by the safety valves with the aid of a relief funnel R141 or R141C (to be ordered separately).

**NOTE.** The use of the R141 or R141C relief funnels (plus curved fittings R19 and R189 if necessary) prevents any fluid spray from reaching the electric components.

## Dimensions



PRODUCT CODE	CONNECTIONS	DIMENSIONS AxBxC [mm]	PRODUCT CODE	CONNECTIONS	DIMENSIONS AxBxC [mm]	PRODUCT CODE	CONNECTIONS	DIMENSIONS AxBxC [mm]	PRODUCT CODE	CONNECTIONS	DIMENSIONS AxBxC [mm]
R140DY104			R140DY124			R140DY144			R140DY164		
R140DY105			R140DY125			R140DY145			R140DY165		
R140DY106			R140DY126			R140DY146			R140DY166		
R140DY107			R140DY127			R140DY147			R140DY167		
R140DY109			R140DY129			R140DY149			R140DY169		
R140DY110	G 1/2"F x G 3/4"F	53 x 109 x 39	R140DY130	G 3/4"F x G 1"F	66 x 138 x 49	R140DY150	G 1"F x G 1-1/4"F	77 x 170 x 59	R140DY170	G 1-1/4"F x G 1-1/2"F	88 x 186 x 69
R140DY111			R140DY131			R140DY151			R140DY171		
R140DY112			R140DY132			R140DY152			R140DY172		
R140DY113			R140DY133			R140DY153			R140DY173		
R140DY115			R140DY135			R140DY155			R140DY175		
R140DY117			R140DY137			R140DY157			R140DY177		
R140DY119			R140DY139			R140DY159			R140DY179		

## Product specifications

### R140D

Safety valve - INAIL compliant (Italy). Female-female threaded connections: G 1/2"F x G 3/4"F, G 3/4"F x G 1", G 1"F x G 1-1/4"F, G 1-1/4"F x G 1-1/2"F. Fluids: hot water, air. Body in brass UNI EN 12165 CW617N. Knob in ABS. Spring in steel. Temperature range 5-110 °C. Nominal pressure 10 bar. Opening overpressure 10%. Closure range 20%. Compliance with Directive "PED" 2014/68/EU (cat.IV). Factory calibration: 2,25 - 2,5 - 2,7 - 3 - 3,5 - 4 - 4,5 - 5 - 5,4 - 6 - 7 - 8 bar.

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 **Safety Warning.** Installation, commissioning and periodical maintenance of the product must be carried out by qualified operators in compliance with national regulations and/or local standards. A qualified installer must take all required measures, including use of Individual Protection Devices, for his and others' safety. An improper installation may damage people, animals or objects towards which Giacomini S.p.A. may not be held liable.

 **Package Disposal.** Carton boxes: paper recycling. Plastic bags and bubble wrap: plastic recycling.

 **Additional information.** For more information, go to [giacomini.com](http://giacomini.com) or contact our technical assistance service. This document provides only general indications. Giacomini S.p.A. may change at any time, without notice and for technical or commercial reasons, the items included herewith. The information included in this technical sheet do not exempt the user from strictly complying with the rules and good practice standards in force.

 **Product Disposal.** Do not dispose of product as municipal waste at the end of its life cycle. Dispose of product at a special recycling platform managed by local authorities or at retailers providing this type of service.