

Data Sheet

# Flow Restrictors for One-Pipe Systems

Application



RTD-CB back-flow restrictor

The RTD-CB back-flow restrictor prevents radiator back-flow and heat transfer at the return pipe in a one-pipe system.

The back-flow restrictor is installed in the radiator return pipe with the bow pointing upwards.



RTD-BR bypass restrictor

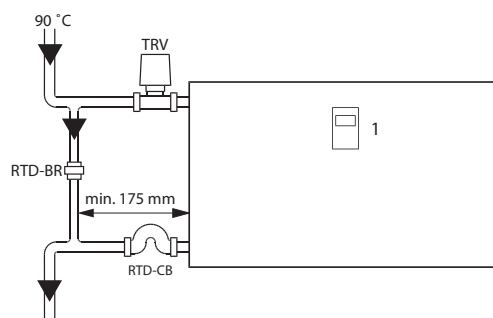
The RTD-BR bypass restrictor decreases flow through the bypass in a one-pipe system, thus forcing the correct amount of system water to pass through the radiator.

The bypass restrictor will decrease the bypass with one dimension ( e.g. DN 20 > DN 15).

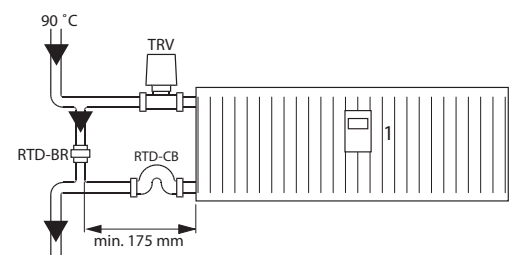
The bypass restrictor is installed in the bypass by the radiator.

Principle

Radiator



Convactor



1. Heat cost allocator (the heat cost allocator is placed according to the manufacturer's instructions.)

Heat Transfer

The RTD-CB back-flow restrictor reduces heat transfer from system pipes to radiator, when the TRV is closed.

With the bypass placed 175 mm from the radiator, a flow temperature of 90 °C and a room temperature of 20 °C, the max. detected temperature is:

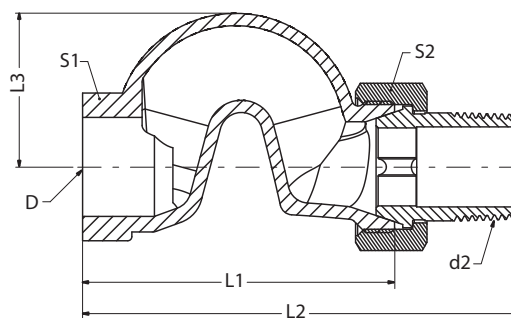
Heat cost allocators with a single sensor for radiator surface	28 °C
Heat cost allocators with two sensors for radiator surface / room temperature	room temp. + 5 °C

Data and Ordering

Type	Size	Connections		$K_{vs}$	Max. work. press.	Test press.	Max. work. temp.	Code no.
		Inlet	Outlet					
RTD-CB back-flow restrictor	DN 15	R 1/2	R <sub>p</sub> 1/2	4.54 m <sup>3</sup> /h	10 bar	16 bar	120 °C	013L1925
RTD-CB back-flow restrictor	DN 20	R 3/4	R <sub>p</sub> 3/4	8.06 m <sup>3</sup> /h	10 bar	16 bar	120 °C	013L1926
RTD-CB back-flow restrictor	DN 25	R 1	R <sub>p</sub> 1	17.0 m <sup>3</sup> /h	10 bar	16 bar	120 °C	013L1927
RTD-BR bypass restrictor	DN 15/10	G 1/2	G 1/2	6.80 m <sup>3</sup> /h	10 bar	16 bar	120 °C	013L1915
RTD-BR bypass restrictor	DN 20/15	G 3/4	G 3/4	15.1 m <sup>3</sup> /h	10 bar	16 bar	120 °C	013L1916

Dimensions

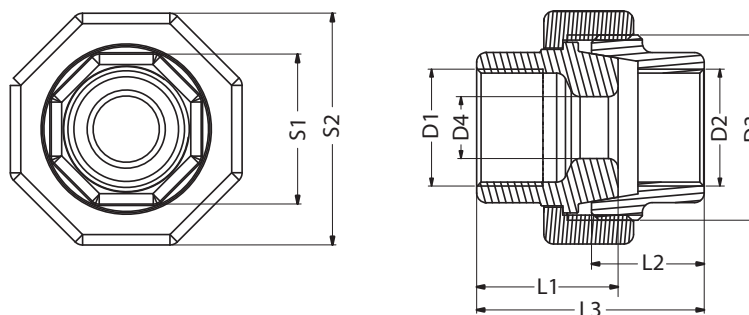
Back-flow restrictor  
RTD-CB



Material: Stainless steel, AISI 316

Type	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	D	d <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	Code no.
RTD-CB DN 15	69	96	32	R <sub>p</sub> 1/2	R 1/2	27	30	013L1925
RTD-CB DN 20	76	106	48	R <sub>p</sub> 3/4	R 3/4	32	37	013L1926
RTD-CB DN 25	90	126	48	R <sub>p</sub> 1	R 1	41	46	013L1927

Bypass restrictor  
RTD-BR



Material: Black steel, ASTM A 216 WCB

Type	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	S <sub>1</sub>	S <sub>2</sub>	Code no.
RTD-BR DN 15/10	27.3	24	47.5	G 1/2	G 1/2	G 1	Ø11	26	40	013L1915
RTD-BR DN 20/15	32	25.5	51.5	G 3/4	G 3/4	G 5/4	Ø16	32	50	013L1916



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