

## Hydro Separator

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## 548 Series



### Function

The hydronic separator is a device which makes the primary and secondary circuits connected to it independent, and can be used on hot or chilled water systems.

The separator is supplied with an air-vent and check valve assembly to permit automatic discharge of the air in the circuits, and a drain valve for removing any impurities deposited in the bottom of the unit.

### Product range

**Series 548** Sizes:

1", 1 1/4", 1 1/2", 2" NPT female with union  
1", 1 1/4" sweat union connections  
2" ÷ 4" flanged connections ANSI 150 CLASS

**Series NA548** Sizes: 2" ÷ 6" flanged connections ANSI 150 CLASS (ASME)  
8" ÷ 12" flanged connections ANSI 150 CLASS (ASME), with floor supports



### SAFETY INSTRUCTION

This safety alert symbol will be used in this manual to draw attention to safety related instructions. When used, the safety alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.**



**CAUTION:** All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of systems in accordance with all applicable codes and ordinances.



**CAUTION:** If the hydronic separator is not installed, commissioned and maintained properly, according to the instructions contained in this manual, it may not operate correctly and may endanger the user.



**CAUTION:** Make sure that all the connecting pipework is water tight.



**CAUTION:** When making the water connections, make sure that the hydronic separator connecting pipework is not mechanically over-stressed. Over time this could cause breakages, with consequent water losses which, in turn, could cause harm to property and/or people.



**CAUTION:** Water temperatures higher than 100°F (38°C) can be dangerous. During the installation, commissioning and maintenance of the hydronic separator, take the necessary precautions to ensure that such temperatures do not endanger people.

**Leave this manual for the user.**

## Technical specifications of hydronic separator

### Union connections

Separator:	1", 1 1/4", 1 1/2", 2" NPT Female with union 1", 1 1/4" sweat connections
Drain valve:	3/4" NPT Male
Materials:	- Separator body: Epoxy resin painted steel
	- Unions: Brass
	- Air vent body: Brass
	- Air vent hydraulic seal: EPDM
	- Air vent float: PP
	- Shut-off and drain valve body: Brass
Medium:	Water and non-hazardous glycol solutions up to 50%
Max operating pressure:	150 psi (10 bar)
Temperature range:	32÷250°F (0÷120°C)
Temperature gauge front connection:	1/2"

### Flanged connections

Separator:	2"÷4" ANSI 150 CLASS 2"÷12" ANSI 150 CLASS (ASME)
Air vent relief:	3/8" Female
Drain valve:	1 1/4" NPT Female
Materials:	- Separator body: Epoxy resin painted steel
	- Air vent body: Brass
	- Shut-off and drain valve body: Brass
	- Air vent seal: VITON
	- Air vent float: Stainless steel
Medium:	Water and non-hazardous glycol solutions up to 50%
Max operating pressure:	150 psi (10 bar)
Temperature range:	32÷250°F (0÷120°C)

## Technical specifications of insulation on union models

### Inner part

Material:	Closed-cell expanded PE-X
Thickness:	13/16" (20 mm)
Density: Inner part:	1,9 lb/ft <sup>3</sup> (30 kg/m <sup>3</sup> )
Outer part:	3,1 lb/ft <sup>3</sup> (50 kg/m <sup>3</sup> )
Conductivity (ISO 2581):	- at 32°F (0°C): .16 BTU/in (0.038 W/(m·K))
	- at 105°F (40°C): .26 BTU/in (0.045 W/(m·K))
Water vapour resistance coefficient (DIN 52615):	> 1.300
Temperature range:	0÷210°F (0÷100°C)
Fire resistance (DIN 4102):	Class B2

## Technical specifications of insulation on flanged models (only for 2" to 4" sizes)

### Inner part

Material:	rigid closed cell expanded polyurethane foam
Thickness:	2 3/8" (60 mm)
Density:	3 lb/ft <sup>3</sup> (45 kg/m <sup>3</sup> )
Conductivity (ISO 2581):	0.16 BTU/in (0.023 W/(m·K))
Temperature range:	32÷220°F (0÷105°C)

### Outer part

Material:	Embossed aluminium
Thickness:	7-mil (0.70 mm)
Fire resistance (DIN 4102):	Class 1

### Head covers

Heat formed material:	PS
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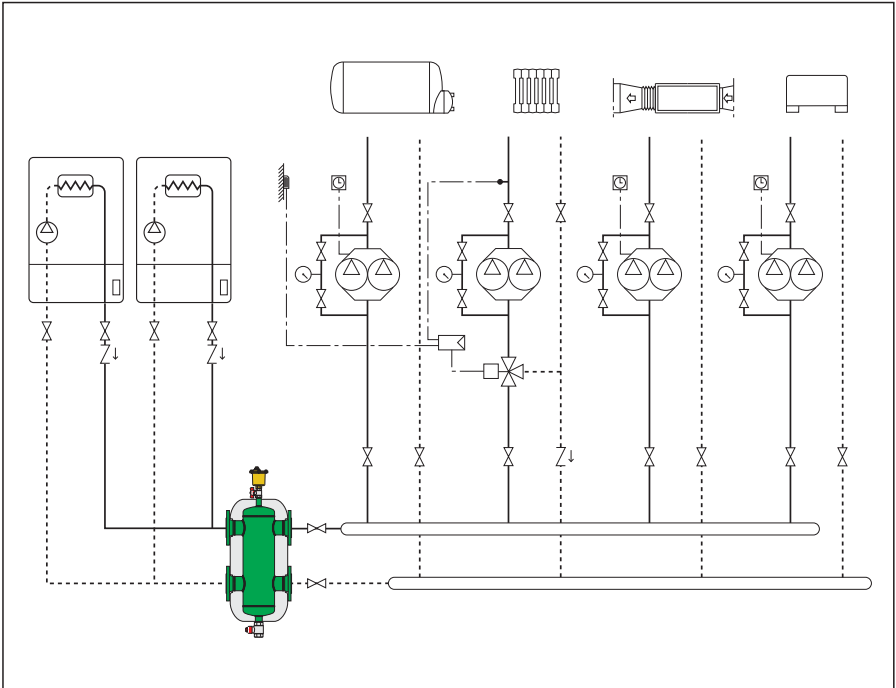
**Hydronic characteristics**

The hydronic separator should be sized according to the maximum flow rate value foreseen at the inlet. The selected value must be either that of the primary circuit or of the secondary, whichever is the greatest.

	UNION				FLANGED								
Size	1"	1 1/4"	1 1/2"	2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
gpm	11	18	26	31	40	80	124	247	330	485	792	1320	1850
m <sup>3</sup> /h	2.5	4	6	8.5	9	18	28	56	75	110	180	300	420

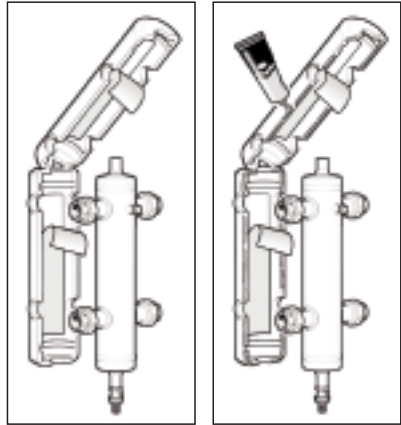
**Installation**

The installation of hydronic separator should only be carried out by qualified personnel in accordance with current legislation. The hydronic separator is installed between the primary and secondary circuits, always in a vertical position.



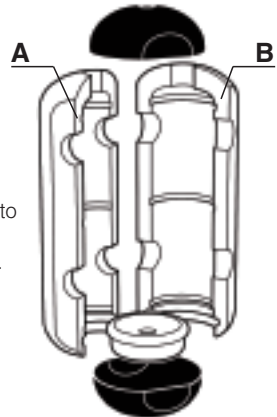
### Procedure for installation and insulation assembly on union models

1. Remove the protective strip from the adhesive surface. Re-close the insulation shells.
2. If the hydraulic separator is used with chilled water spread a thin layer of sealant on the edge of the insulation and wait until the solvent evaporates (10 minutes approx) and then close it again.



### Procedure for installation and insulation assembly (only for 2" to 4" sizes)

1. Remove the two black head covers at the ends.
2. Open the two side sections and the lower cap.
3. Install the separator in the system.
4. Spread a thin layer of sealant over surfaces A and B. Wait for the solvent to evaporate (approx. 10 minutes).
5. Reassemble the two side sections, fitting the lower cap into one of the two sections and then connecting the other.
6. Finish the assembly with the adhesive tape provided in the box.
7. Complete with the two black head covers.
8. Fit the automatic air vent and the drain valve.



**CAUTION:** Corrosion or leakage can cause damage or injury. Periodically inspect for signs of corrosion or leakage. If corrosion or leakage is noted, the vent must be replaced. Failure to follow these instructions could result in property damage and/or personal injury.

### Service Instructions

There is no service required for the hydronic separator.



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