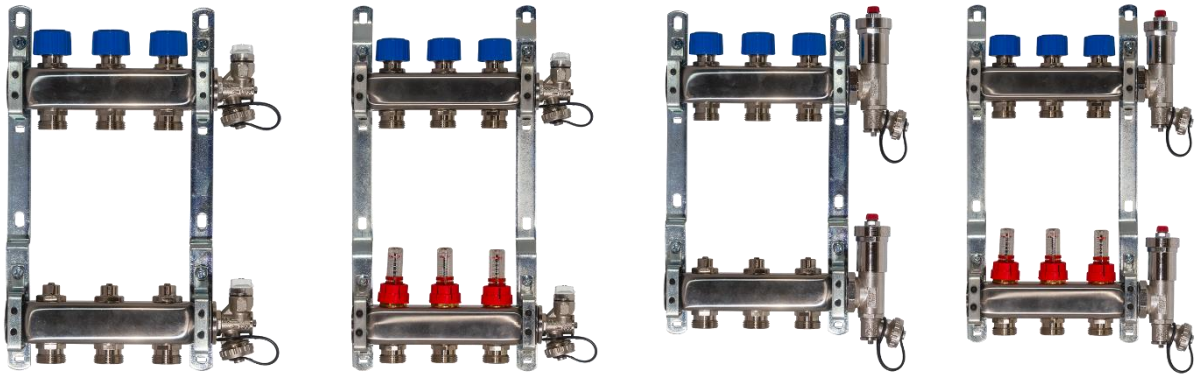
Stainless steel manifolds for underfloor heating systems

Art. 8042 – 8043 – 8044 – 8045 – 8046 – 8047



100% MADE IN ITALY

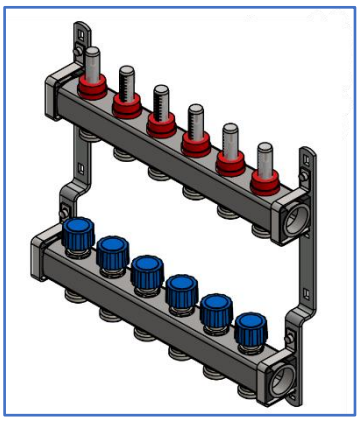
Function

Pintossi+C stainless steel distribution manifolds can be used both for underfloor **heating and cooling systems.** This kind of manifolds are mainly used in underfloor heating systems with radiant panels, radiators or fan coils.
The specific characteristics of the **stainless steel AISI 304** and in particular is **extreme strenght**, allows to use thinner surface compared to brass, granting a greater lightness. Besides stainless steel bar, unlike brass bar, does not have internal tensions, which may lead to breaks or cracks and then to water leakages, in particular if the brass bar is not heat treated.
The specific design of Pintossi+C manifolds grant, compared to standard brass bar or plastic manifolds, **higher flow rates**, getting up to 5 m³/h (1" manifolds).
Manifolds can be equipped with flowmeters for the regulation and control of the circuits flow or with lockshields. Each manifold is supplied pre-assembled with brackets for iron boxes or for wall installation. The end parts are equipped with drain valve and with manual or automatic air vents. Furthermore, it's available a straight or angle ball valves kit with thermometer to control the supply and return water temperature.
Both valves and end parts are equipped with **PTM system (Pintossi soft sealing)**, which allow a quick and safe installation, without the use of additional sealing materials, like hemp or PTFE ribbon.
Each manifold is singularly tested.
All the components are nickel plated.

PTM

Supply and return manifold

SUPPLY MANIFOLD



The supply manifold can be equipped with:

1. lockshield for the circuit balancing;
2. Flowmeters for the circuit balancing and for a quick and correct regulation without the use of diagrams, tables or measurements devices.

Flowmeters have a regulation scale 0-2,5 l/min and can be easily regulated removing the red plastic protection, using the appropriate flaps and rotating the regulation handle in the following way:

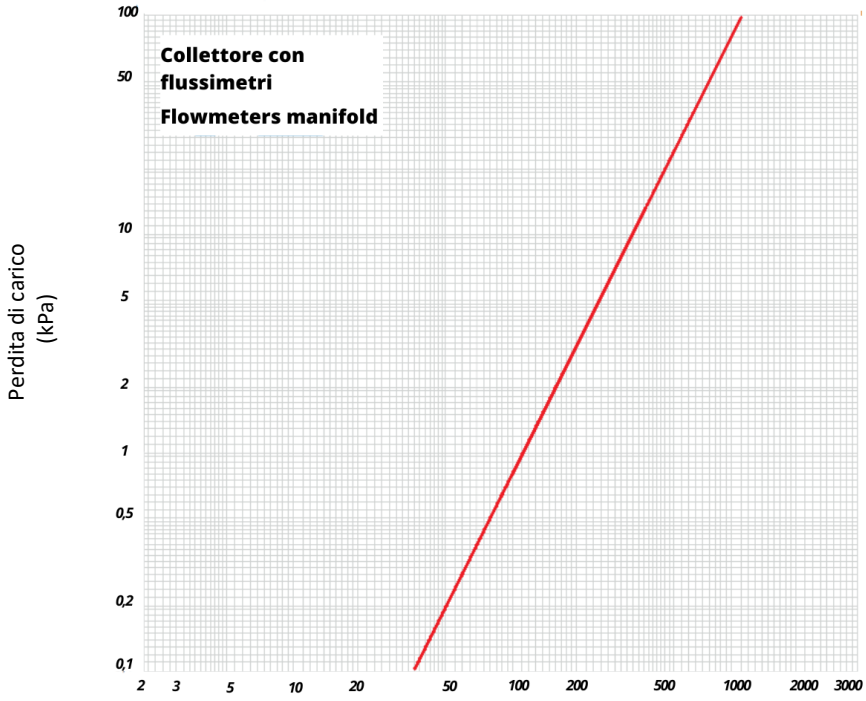
- in senso orario per diminuire la portata;
- in senso antiorario per aumentare la portata.
- -clockwise to reduce the flowrate;
- -counterclockwise to increase the flowrate.

Using the regulation handle it's possible to completely close the single circuit.

The correct and optimal balancing of the system is crucial to ensure an **optimal distribution of the thermal energy** produced and consequently money savings.

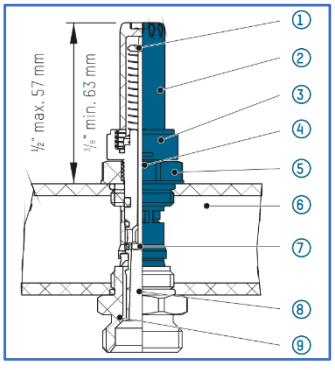
FLOW RATE DIAGRAM (flowmeter totally open)

KV = 1,1 m³/h

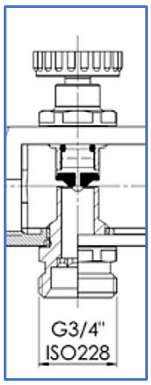


FLOWMETERS COMPONENTS

1	FLOWMETER BODY
2	GRADUATION SCALE METER
3	REGULATION RING
4	STEM
5	NIPPLE
6	MANIFOLD
7	FLOW BREAKER ITEM
8	MEASUREMENT CILINDER
9	BOTTOM FITTING

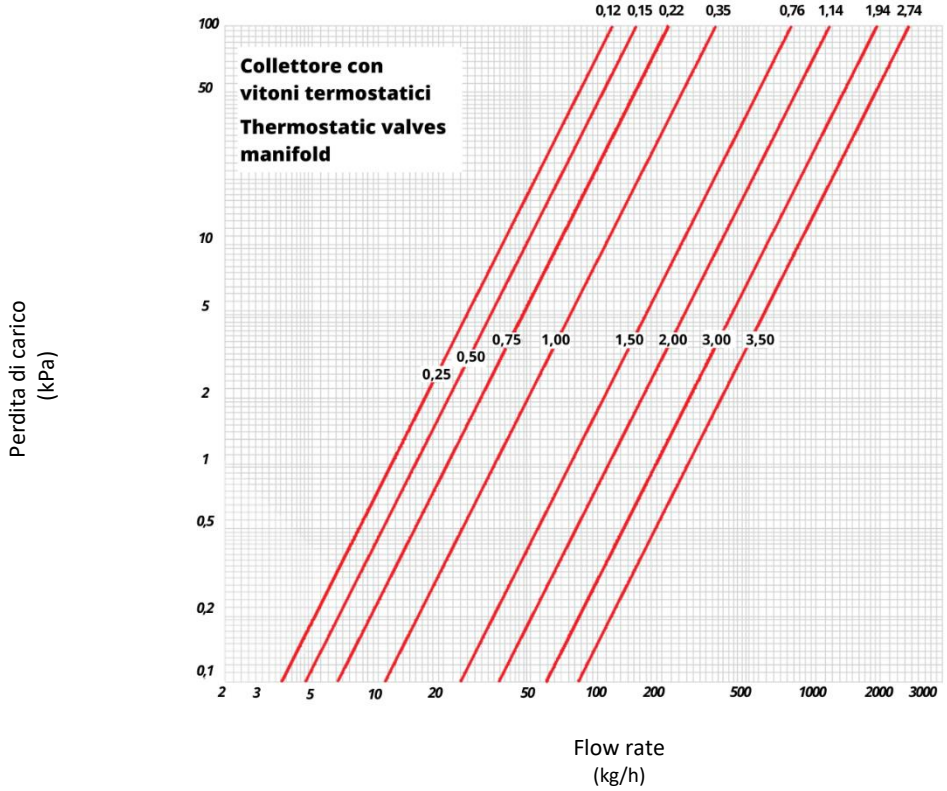


RETURN MANIFOLD



The return manifold is equipped with thermostatic screw with 30x1,5 connections where is possible to install actuators to manage automatically circuits opening and closing through a room thermostat.
The protection cap of the screw, besides having a thread protection purpose, can be used as shut-off valve.
Screw valves can be pre-set using the square (5mm) located on the top.
The potential removal of the internal component of the thermostatic screw does not lead to water spills, thanks to the internal protection system with double o-ring. For this reason, the component can be substitute even when the system is working. The screw regulation can be done using the square located on the drain valve plug

FLOW RATE DIAGRAM



THERMOSTATIC SCREW REGULATION

N° turns	KV (m³/h)
0,25	0,12
0,50	0,15
0,75	0,22
1,00	0,35
1,50	0,76
2,00	1,14
3,00	1,94
3,50	2,74

1. Remove the protection plastic cap on the thermostatic screw;
2. Close completely the thermostatic screw, supplied in a completely open position, using a key-square tool;
3. Adjust the flow rate of each circuit by rotating the screw valve anticlockwise, following the regulation table;
4. The pre-setting components must not be screw above the edge of its hexagonal seat. The removal of the component doesn't involve in any case any leakages, thanks to the automatic screw shut-off system;
5. Screw back the protection cap or install an electrothermal actuator.

Product range

Art. 8042	From 2 to 14 ways	With lockshields	
Art. 8043	From 2 to 14 ways	With flowmeters	
Art. 8044	From 2 to 14 ways	With lockshields	Drain valve and manual air discharge
Art. 8045	From 2 to 14 ways	With flowmeters	Drain valve and manual air discharge
Art. 8046	From 2 to 14 ways	With lockshields	Drain valve and automatic air discharge
Art. 8047	From 2 to 14 ways	With flowmeters	Drain valve and automatic air discharge

Technical specifications

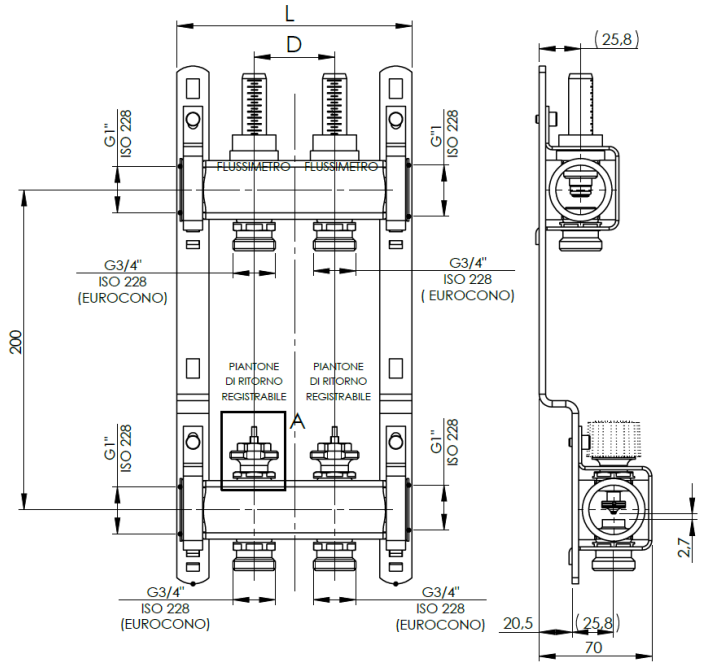
Fluids:	Water or glycol solutions
Glycol max:	30%
Max working temp.:	70°C (with flowmeters) – 90°C (with lockshields)
Max working pressure:	6 bar (with flowmeters) – 10 bar (with lockshields)
Flowmeter set range:	0 – 2,5l/min
Flowmeter precision:	+/- 10%
Max differential pressure:	1 bar

Materials

Body:	Stainless steel AISI 304
Flowmeters:	Brass CW614N – Thermoresistance plastc - Stainless steel
Screw:	Brass CW614N
Lockshield:	Brass CW614N
Gaskets:	EPDM
Screw cap:	Plastic ABS
End part:	Brass CW617N
Air vent:	Brass CW614N
Drain valve:	Brass CW617N
Ball valves:	Brass CW617N
Brackets:	Galvanized steel

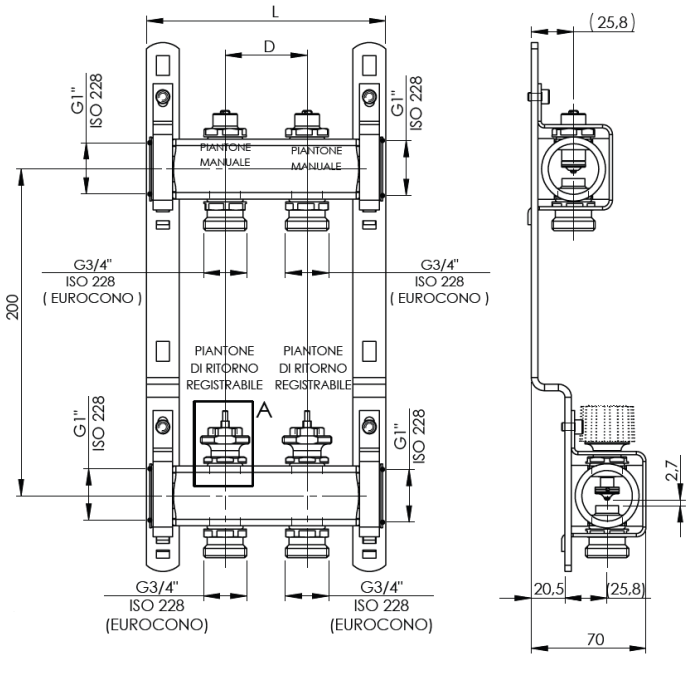
Dimensions

MANIFOLDS WITH FLOWMETERS



VIE	L	D
2	146	50
3	196	50
4	246	50
5	296	50
6	346	50
7	396	50
8	446	50
9	496	50
10	546	50
11	596	50
12	646	50
13	636	45
14	681	45

MANIFOLD WITH LOCKSHIELDS



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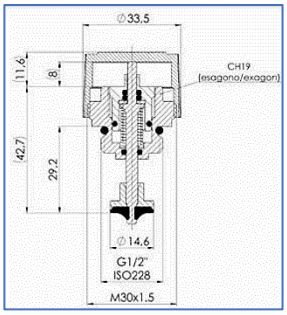
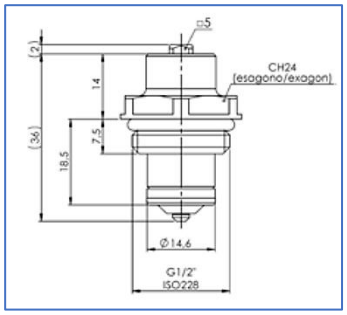
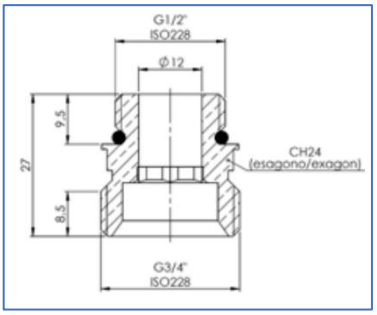
THERMOSTATIC SCREW AND LOCKSHIELD



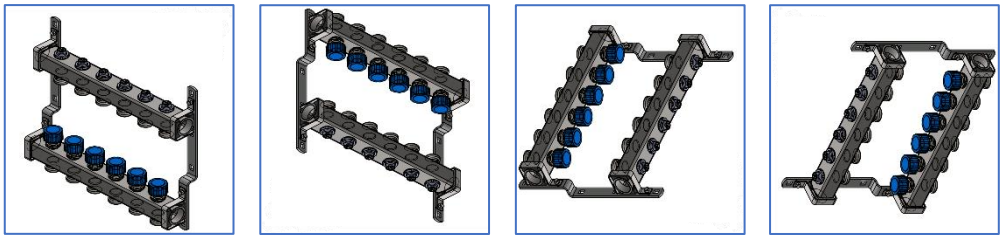


THERMOSTATIC SCREW FITTING



Installation

Manifolds can be installed in every position, except for the situation when automatic air vents are used, that must be positioned always in vertical position with the air discharge part at the top.



The manifolds can be installed in iron boxes Pintossi+C art. code 8061.

BOX SIZING

LARGHEZZA	COLLETTORI CON TERMINALI	COLLETTORI CON VALVOLE E TERMINALI	COLLETTORI CON UNITA' MISCELAZIONE E TERMINALI
400	2-3-4-5 VIE	2-3-4 VIE	
500	6-7 VIE	5-6 VIE	2-3-4 VIE
700	8-9-10-11 VIE	7-8-9-10 VIE	5-6-7-8 VIE
850	12-13-14 VIE	11-12-13 VIE	8-9-10-11 VIE
1000		14 VIE	12-13-14 VIE

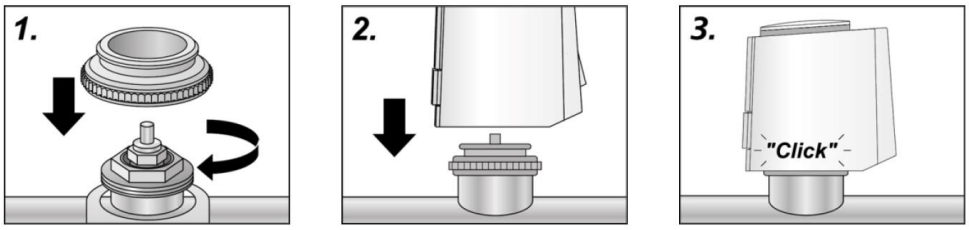
Components

ELECTROTHERMIC CONTROLS

On the return manifolds thermostatic screws can be installed electrothermic controls art.126 or art.127. These actuators allow to manage automatically the circuit opening and closing thanks to the signal sent from a room thermostat. The opening/closing mechanism is made by a sensitive wax element that with its compression and expansion, caused by the heat produced by operating voltage, produce the force to open and close the screw.
The actuators are Normally Closed. It means that without signal the actuator is in closing position.

To correctly install actuator art.126, follow these steps:

- Screw the adaptor on the screw valve where the actuator must be installed;
- Place the actuator vertically on the adaptor;
- The actuator frames easily on the adaptor with a "click", just using hands force.



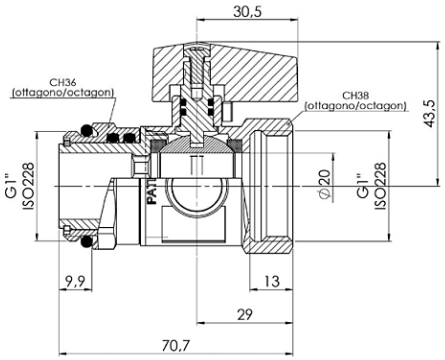
The installation of actuator art.127 happen just the simple installation of the threaded ring on the manifod thermostatic screw.

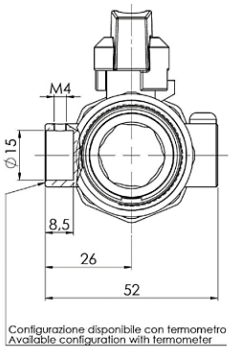
BALL VALVE WITH THERMOMETER

Shut-off ball valves are available in straight and angle version. The thermometer allows an accurate measurement of the inlet water temperature of the supply manifolds and of the outlet water temperature of the retun manifold. The **PTM system (Pintossi soft sealing)** allows a quick and safe installation of the valves, without the use of additional sealing materials, like hemp or PTFE ribbon, whereas the rotating ring allows to align them with the manifolds.

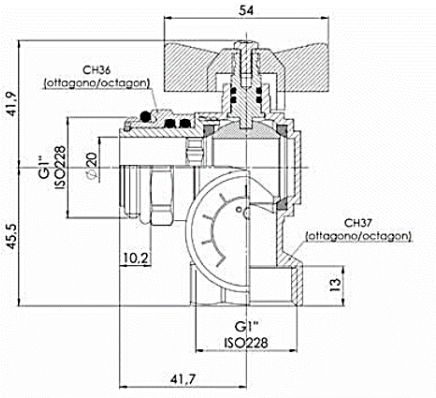
PTM

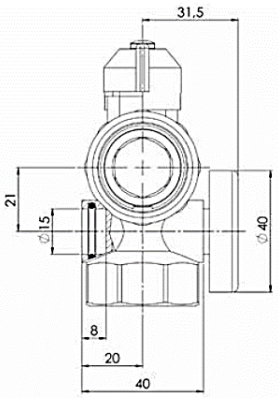
STRAIGHT VERSION





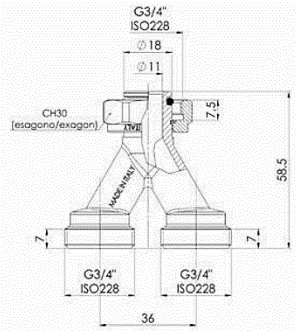
ANGLE VERSION





SPLITTER FITTING

In the event it's necessary to add an extra circuit when the manifold has been already installed, is possible to use splitter fitting art.426 which allows to double the connection. The fitting has a 3/4" euroconus connection with swivel nut, to make the installation easy and quick.

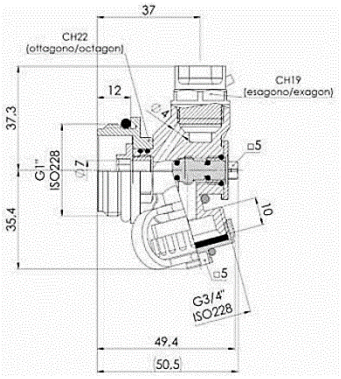


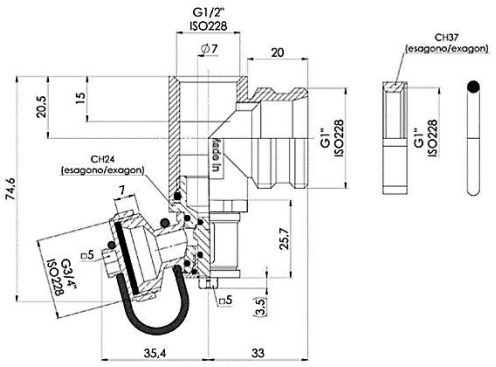
AUTOMATIC AND MANUAL AIR DISCHARGE

The manifold's closing happens with the use of a terminal part, composed by the following items:

1. Drain valve;
2. Manual or automatic air vent
3. Closing plug.

The drain valve can be open and close using the square positioned on the central part of the terminal. The square can be operated using the closing drain valve plug.
All the end parts are equipped with **PTM system (Pintossi soft sealing)** which allows a quick and safe installation of the valves, without the use of additional sealing materials, like hemp or PTFE ribbon. This system avoids the creation of mechanical internal tensions.





The end part with automatic air vent is supplied with Pintossi air vent art.507 which can be easily assembled using **PTM system**. In this version the drain valve can be moved in the preferred position.

Fluid characteristics

Reference standard for water treatments in heating systems is Norm UNI 8065:2019 which regulates the parameters that must be observed to avoid scale and corrosion phenomena.
In order to grant product warranty, the fluid characteristics must comply with the rules in force in the country of relevance or at least present features not less to the ones prescribed by the Norm UNI 8065:2019.
In particular, minimum standards necessary but not sufficient to control are the following:

Fluid aspect:	Limpid
PH:	Between 7 and 8
Iron (FE):	< 0,5 mg/kg (< 0,1 mg/kg for steam)
Copper (CU):	< 0,1 mg/kg (< 0,05 mg/kg for steam)
Antifreeze:	Passiveted Propylene Glycol
Conditioning:	as indicated by the producer

In any case when using antifreeze and conditioning solutions, is required to control and verify the correct compatibility between these substances and the construction materials stated in Pintossi+C technical datasheet.