



**ambiente®**

more than underfloor

# Installation Guide

**AmbiFloat 10**  
**AmbiFloat 20**

Customer:

Project:

Project Reference:

Date:

# AMBIFLOAT 10



**Typical heat output**  
80 watts/m<sup>2</sup>

- + Can be used in existing floor constructions
- + High density EPS panels
- + Thicknesses from 25mm to 100mm in 5mm increments
- + Rapid installation
- + Wide range of applications
- + Quick response time
- + Dry floor construction
- + Acoustic layers can be added below panels
- + Incorporates insulation layer within the UFH system

The AmbiFloat system can be used in existing floor constructions as well as new build applications. It requires a flat and level solid sub floor for the insulation to fully support the floor finish on top. The insulation is pre-grooved to take the underfloor heating pipework and overlaid with foil to assist the distribution of heat. The high density EPS panels are supplied in all thicknesses from 25mm to 100mm in 5mm increments.

The installation involves covering the complete floor area with insulation and where necessary using battens to provide extra support to door thresholds or perimeter edging. The pipework is then laid into the grooves as per the installation drawings and taken back to the manifold to complete the circuit. The installation terminates at the manifold assembly unit which is complete with the necessary valves and regulators at pre-arranged locations. To complete the installation, the manifold must be pressure tested and signed off by your installation engineer and witnessed by a site representative.

## Technical Data

**Pipe:** 17mm x 2mm EVOH five layer PE-RT pipe.

**Panel size:** 1200mm x 1200mm pre-grooved panels with bonded, heat reflective aluminium foil.

**Floor build up (excluding final floor finish):** Minimum 25mm - Maximum 100mm

AmbiFloat series			
	Flow and Return Water Temperatures °C		
Floor Finish	50/40	45/35	40/30
Ceramic Tile (0.0m <sup>2</sup> k/w)	100 w/m <sup>2</sup>	84	65
Wood (0.1m <sup>2</sup> k/w)*	70 w/m <sup>2</sup>	57	44
Carpet and Underlay (0.2m <sup>2</sup> k/w)*	55 w/m <sup>2</sup>	45	35

\* 18mm floor boards have been used to achieve these outputs. For 22mm deduct a further 6% output.

# AMBIFLOAT 20

- + Can be used in existing floor constructions
- + High density EPS panels
- + Thicknesses from 25mm to 100mm in 5mm increments
- + Wide range of applications
- + Quick response time
- + Dry floor construction
- + Acoustic layers can be added below panels
- + Incorporates insulation layer within the UFH system
- + Structural battens provide secure fixing method



The AmbiFloat 20 system provides a flexible and effective form of heating within battened floor buildups and can be used in both existing and new build applications with minimal effect to the overall floor build up. It can also be easily adapted to suit sprung sports floors, acoustic batten floors and over-battened floors.

Timber floor battens are fixed down to the subfloor in the normal way in preparation for the insulation to be installed in between. The insulation panels are grooved and foiled and cut to the exact widths required for each project. The underfloor heating pipework is then installed into the grooves within the insulation.

**Ambiente goes beyond just simply the supply of underfloor heating systems.**

At every stage in the project, we offer advice to all parties, in order to assist in the swift, safe and supportive implementation of your project.

From project initiation to final commissioning, Ambiente have every stage of underfloor heating covered.

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Visit us online at [ambienteufh.co.uk](http://ambienteufh.co.uk) for case studies, product resources and more information.

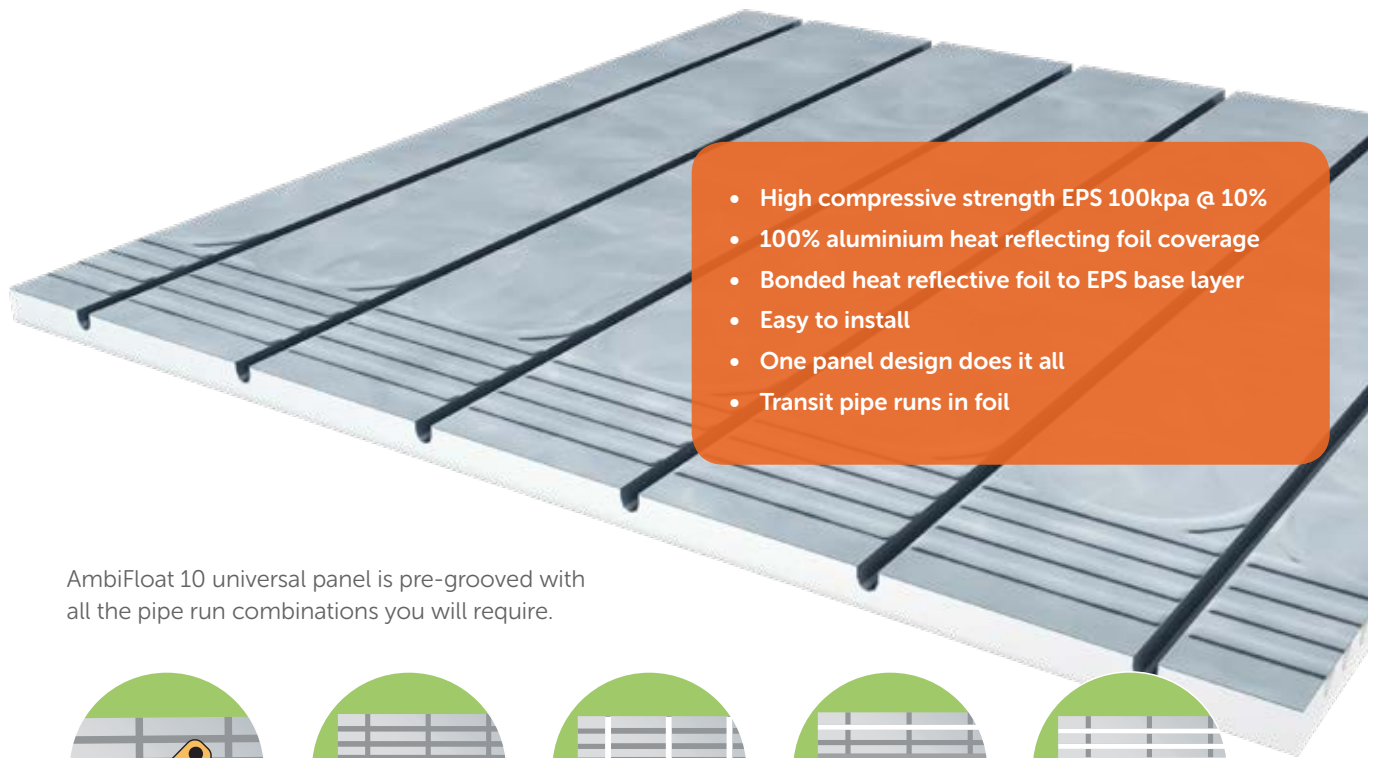


For any installation questions speak to our installation team today on **01707 649 118** or email [info@ambienteufh.co.uk](mailto:info@ambienteufh.co.uk).



For any information regarding our products and support call our highly trained sales team today on **01707 649 118**.

# AMBIFLOAT UNIVERSAL PANEL

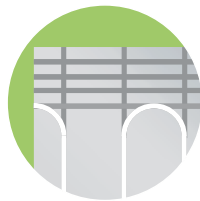


- High compressive strength EPS 100kpa @ 10%
- 100% aluminium heat reflecting foil coverage
- Bonded heat reflective foil to EPS base layer
- Easy to install
- One panel design does it all
- Transit pipe runs in foil

AmbiFloat 10 universal panel is pre-grooved with all the pipe run combinations you will require.



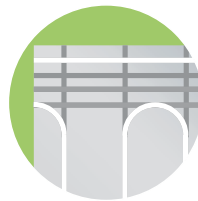
Pre-routed grooves with easy slit foil



Return only



Straight only



Return with single cross run for single loop



Return with multiple cross runs for two loops

Technical data			
Material		Top surface	Aluminium heat diffuser foil
		Base	EPS 100 panel with 17mm grooves
Thermal data		Thermal conductivity	0.035W/mk
		Thermal resistance	0.84W/mk
Size	AmbiFloat 10	Dimensions	1200mm x 1200mm
		Depth	25mm to 100mm (in 5mm increments)
	AmbiFloat 20	Dimensions	350mm x 1200mm
		Depth	25mm to 100mm (in 5mm increments)
Standards		ISO class 3465	
		CE approved product	
		BS EN 13163	
For use with		17mm pipe	
Data sheet		Data sheet 10004-66 A	



# INSTALLATION METHOD

- 1 Refer to the design plan drawings and prepare to lay the floor in accordance with the layout described.
- 2 AmbiFloat 10: Lay the DPM layer (if required) followed by the grooved insulation board. AmbiFloat 20: Lay the DPM layer (if required) followed by the timber battens using the pre-cut AmbiFloat 20 insulation panels to give you your batten spacing. Note: Typical batten is 50mm and insulation panel is 350mm wide.

Check the system plans for the number and length of each loop required.

Note: Ambiente pipe is marked every metre to help you calculate loop lengths.

- 3 Starting on the left side of the manifold, connect to the manifold flow bar.
- 4 Make a note of which zone the loop serves on the manifold tag supplied.
- 5 Lay the pipe out, navigating the most efficient route between the manifold and the zone. Lay the pipe into the pre-grooved insulation boards, as per the system designs.
- 6 On completion of the loop, follow the same route back to the manifold and connect to the return bar (bottom bar with blue caps), making a clear note of the actual loop length installed on the manifold tag.
- 7 Following the same procedure for all loops until the area is evenly covered with pipe, following your pipe layout design.
- 8 Once all loops are installed and connected to the manifold, pressure test the system.
- 9 Lay the final floor finish after the system has been successfully pressure tested.

**Overboarding must be scheduled immediately following installation of EPS panels.**



# MANIFOLD POSITIONING

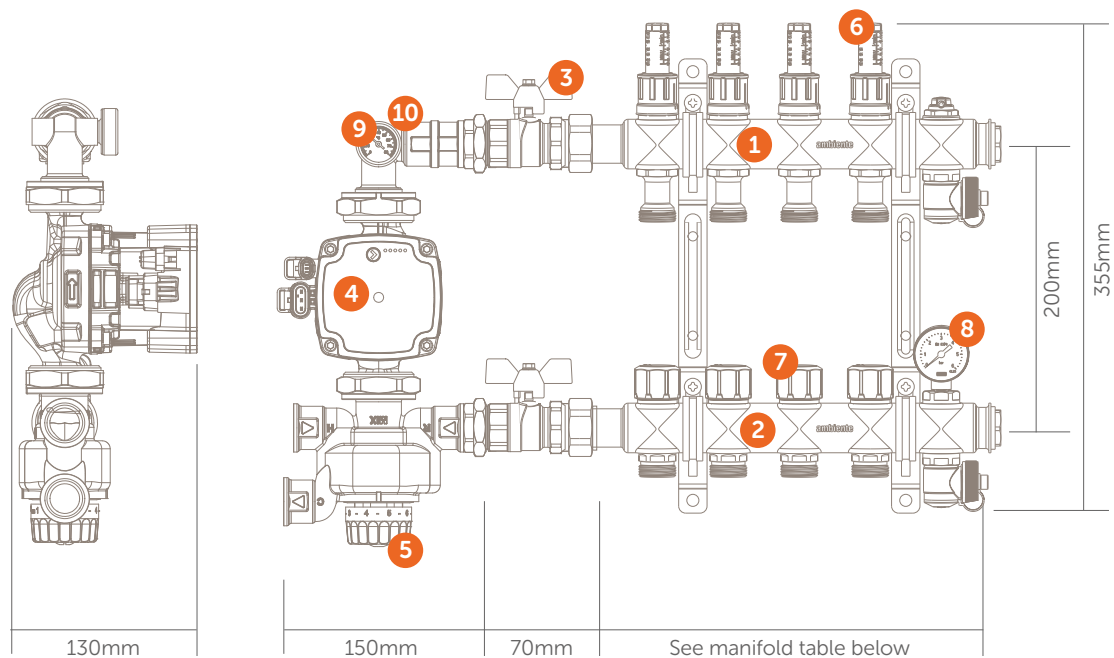
Ambiente manifolds are supplied ready assembled and simply need mounting on brackets prior to installation.

Note that the two manifold bars are offset so that the pipes can pass behind the lower bar for connection to the top bar – we recommend using the top bar as the flow and the bottom bar as the return.

The manifold comes left-handed as standard, but can be

changed, see opposite for ‘how to change the handing of Ambiente manifolds’.

Manifolds should be positioned where they are easily accessible to allow for future servicing and commissioning. We recommend allowing at least 200mm between the finished floor level and the bottom of the manifold, with 75mm clearance above and at least 50mm at either side.



- 1

Manifold flow bar
- 2

Manifold return bar
- 3

Isolating ball valves
- 4

CircoMax circulating pump
- 5

Blending valve (25-60°C)
- 6

Flow meter
- 7

Actuator head (shown with pre-install caps)
- 8

Pressure gauge
- 9

Temperature gauge
- 10

High temperature protection sensor (optional)

Number of ports	1	2	3	4	5	6	7
Manifold Length (mm)	150	192	242	292	342	392	442
Number of ports	8	9	10	11	12	13	14
Manifold Length (mm)	492	542	592	642	692	750	805

# COMMISSIONING THE SYSTEM

## STEP BY STEP CHECKLIST

### Filling and flushing the system

Sequence	Checklist	Completed
1	Close the isolating ball valves that are connected to the manifold on both bars.	<input type="checkbox"/>
2	Isolate all zones by screwing down the blue caps on the bottom (return) bar and the flow meters on the top (flow) bar.	<input type="checkbox"/>
3	Open the first flow meter (start furthest away from the filling valve) on the top (flow) bar (use the red collar to turn the black section fully anti-clockwise, do not use grips – hand tight only). Ensure that all other flow meters are closed, except the loop that you are flushing.	<input type="checkbox"/>
4	Remove the black plastic blanking cap from the filling valve on the top (flow) bar and fit the hose connection/hose which should be connected to the mains water supply. Open the filling valve using the key on the reverse of the drain valve cap.	<input type="checkbox"/>
5	Fix a suitable hose to the drain valve on the bottom bar.	<input type="checkbox"/>
6	Fully loosen the blue protection cap on the bottom bar on the first zone to be filled.	<input type="checkbox"/>
7	Open the tap on the mains water supply and open the drain valve on the bottom bar using the key on the reverse of the blanking cap.	<input type="checkbox"/>
8	Run water through the loop until air is removed from the system, closing down the blue caps on each loop as it is purged.	<input type="checkbox"/>
9	This can now be repeated for each zone by opening the next zone, closing the flushed zone and repeating steps 3-8.	<input type="checkbox"/>
10	At this point the system can be pressure tested if required by closing the drain valve and unscrewing all the blue protection caps – the pressure should rise slowly – allow it to rise to 4 bar and then close the filling valve and close off the mains water. This should be left for 24 hours to check for any significant drops in pressure.	<input type="checkbox"/>

### Pressure testing using an air compressor

Sequence	Checklist	Completed
1	Close the isolating ball valves that are connected to the manifold on both bars.	<input type="checkbox"/>
2	Open all zones by unscrewing the blue caps on the bottom (return) bar.	<input type="checkbox"/>
3	Open all flow meters on the top (flow) bar – use the red collar to turn the black section fully anti-clockwise.	<input type="checkbox"/>
4	Open the filling valve using the key on the front of the blanking cap and connect the compressor hose up to it. Make sure the drain valve is closed.	<input type="checkbox"/>
5	Turn on the air compressor and allow the pressure to rise to 4 bar. Once the desired level has been reached, close the filling valve using the key on the blanking cap. This should be left for 24hrs to check for any significant drops in pressure.	<input type="checkbox"/>

### Change the handing of Ambiente manifolds

Sequence	Checklist	Completed
1	Reverse the handing of the two manifold bars on their brackets.	<input type="checkbox"/>
2	Remove the mixing valve from the base of the pumpset by undoing the nut that connects the two together.	<input type="checkbox"/>
3	Unscrew the blanking cap from the base of the mixing valve. Note: this has a left-handed thread.	<input type="checkbox"/>
4	Then unscrew the pump connection from the top of the mixing valve. Again, this has a left-handed thread.	<input type="checkbox"/>
5	Rotate the mixing valve through 180 degrees and swap the blanking cap and pump connection around.	<input type="checkbox"/>
6	Remount the mixing valve onto the pumpset, making sure you use the rubber washers provided.	<input type="checkbox"/>

# RECORD AND REPORT

## Site details

Site name

Date

Address

Reference

Technician

Floor level

Pipe reference

Manifold reference

## Please tick the appropriate boxes

☐ Installation

☐ Re-pressurise

☐ Repair

Test method Hydraulic (Water)

☐

Period of test

Min 30 mins

☐

Test method Co<sup>2</sup> (air)

☐

Test pressure

Min 4 bar

☐

Sufficient room to attach pumpset (minimum 250mm required)

☐ Yes

☐ N/A

Has the manifold label been fitted?

☐

Description	Yes	No	Comments
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System left drained

☐

☐

System left full of water

☐

☐

System left under pressure

☐

☐

Signature of tester

Print name

Date

Signature of witness


Print name

Date



# FLOOR LAYERS AND COVERINGS

## Guidance on floor layers above AmbiFloat 10 systems

	Tiles and ceramic	Vinyl & Laminate	Engineered wood	Solid wood	Carpet/underlay
	Fixing Method		Direct	Direct	
	Floating - 18mm T+G Cement Board, with glued joints	Floating - 18mm T+G Cement Board, with glued joints	Can be fitted direct over UFH system - Floating, with glued joints	Can be fitted direct over UFH system - Floating, with glued joints	Floating - 18mm T+G Cement Board or chipboard, with glued joints
					22mm Chipboard

### Which carpet

Most contemporary 'open weave' carpets can be used with underfloor heating since they do not restrict the flow of heat to any great degree. However, carpet underlay and foam backed carpets do affect heat transfer and their tog values must be taken into account. Most contract carpets that are designed for offices/commercial premises which do not have separate underlays are suitable for underfloor heating but in all cases, confirmation from your supplier must be sought.

### Which underlay

We recommend that the tog rating for underlay should be no more than 2 tog. Felt underlay is the most insulating type and should never be used with underfloor heating. Lightweight (60-90 oz) sponge underlays generally have a low tog rating of 0.5, which makes them the most suitable. Avoid heavyweight (>100 oz) sponge, latex foam or crumb underlays with rating of 1 tog or more.

**Carpets and underlays are suitable for use with underfloor heating if the combined tog value does not exceed 2 tog. The thermal resistance of carpet and underlay is indicated by its tog value (1 tog = 0.1m<sup>2</sup> k/w).**

**The higher the tog value, the better the insulation but the less suitable for underfloor heating. Lower tog values allow more heat to transmit through the carpet.**



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Need more information or advice?  
Contact our team of highly trained experts today.

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