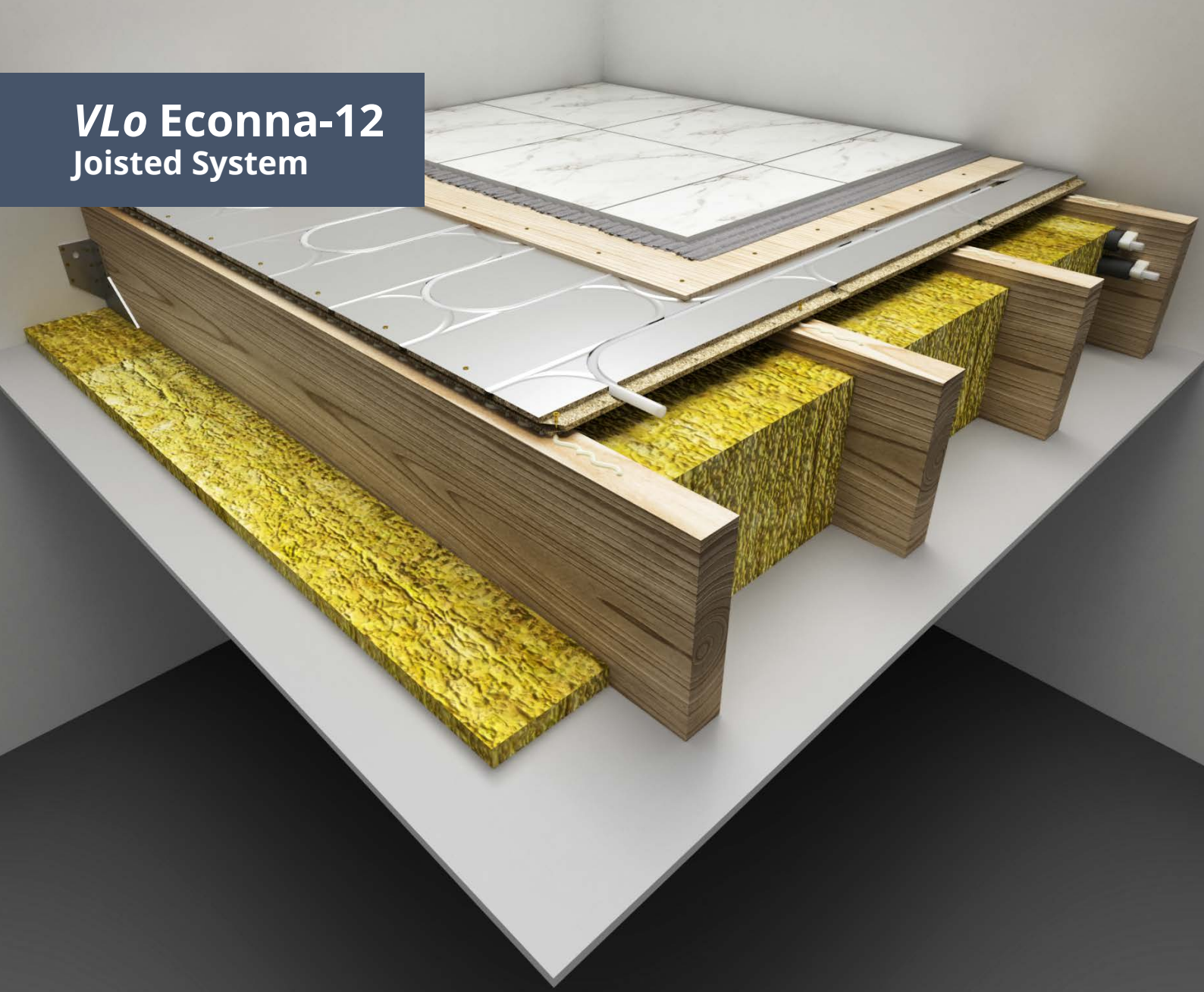
VLo Econna-12
Joisted System



Even heat distribution
Boards with built in foil diffuser layer for quick and easy installation that provides even heat distribuion across the entire floor.

Lower floor heights
Identical installation method and finished floor heights for all floor finishes.

For timber suspended & battened floors
Perfect for installation in refurbishment projects and retrofits - where services or other obstructions are already within the floor void.

Fluted grooves on all panel edges
"Fluted' exit on panel edges to ensure an easy transition into the neighbouring panel - for a quicker and simpler installation.

SAFETY Net™ Installation-Guarantee

LIFETIME WARRANTY Warmup

Overview

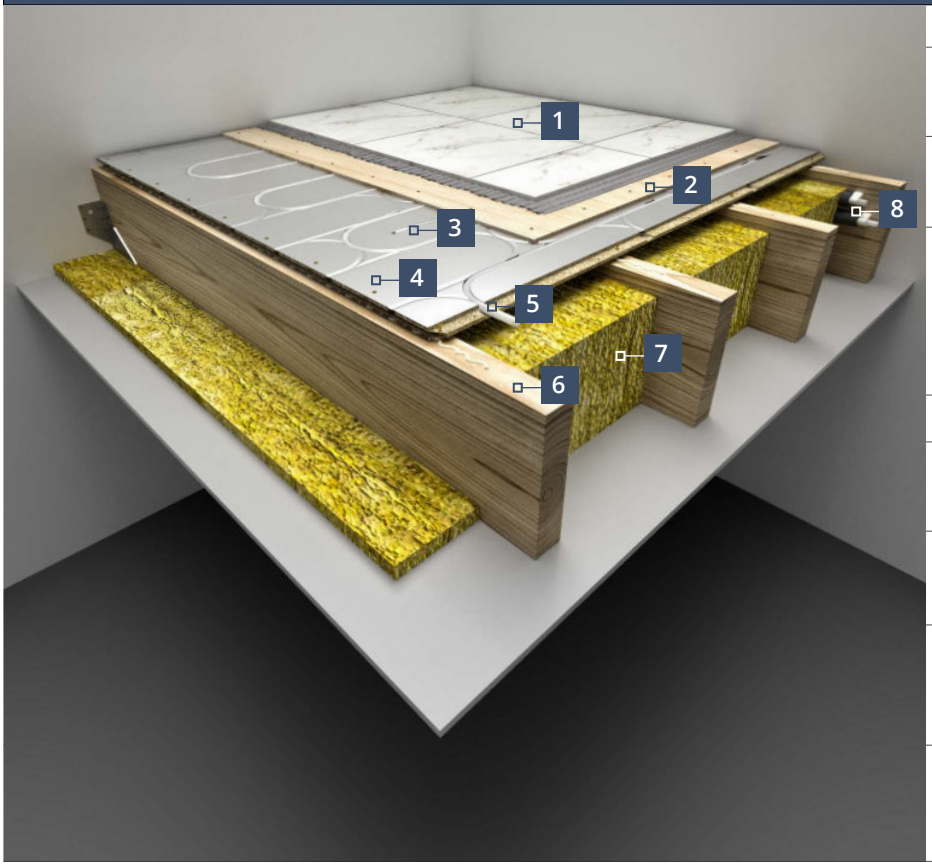
VLo Econna-12 is designed for use over both battened and joisted floors leaving the void between them free for other services. The profiled 22mm thick chipboard panels can be installed over battens or joists with spacings of up to 600mm centres.

The Econna-12 system is ideal for new and old floors alike but when planning to refurbish an existing floor it can be difficult to know what you will find without lifting the floor up first. The Econna-12 system is simply installed over the unknown in place of a standard floor deck rather than competing for space with the other services within the void beneath.

Warmup®

Typical Floor Build-Up

All floor finishes



1	**Floor finish**
2	**6 mm minimum plywood deck** *This layer must be screwed to complete the structural deck*
3	**Floor sensor** *Must be recessed into the Econna panel and taped in position.*
4	**Econna panels** *Panels secured together using a D4 adhesive on BOTH sides of the tongue and groove and fit together. Panels then glued and screwed to the joists.*
5	**Warmup 12 mm PE-RT pipe**
6	**Joists ≤ 600 mm centres** *Refer to tiling standards for maximum joist centres for floors to receive tiles*
7	**Insulation layer** *Thickness in line with building regulations*
8	**Flow and return pipes*** *Installed beneath the Econna panels, notched or through holes drilled in the joists in line with building regulations.*

** Service pipes must be insulated within the joist space and supported at 300 mm intervals on horizontal runs and 500 mm on vertical runs using pipe clips*

Technical Specifications

Product Code	EC-PANEL
Dimensions	2400 mm x 600 mm
Thickness	22 mm
Composition	Routed P5 grade chipboard with aluminium heat diffuser foil layer
Installation height	22mm (+ 6 mm plywood layer)
Pipe centres	150 mm
Weight with water and 6mm ply	Approx. 14 kg/m²
Thermal conductivity	0.12 W/mK
Soft body impact	**BS EN 12871** = Pass
Point load	**BS EN 12871, joists at 600mm centres** Ultimate Load, F_{max} (kN) = 7.01 Deflection at F_{max} (mm) = 28.25 Floor Stiffness, R (Nmm^{-1}) = 407.40 Deformation at 0.4 F_{max}, W_m (mm) = 7.99

System performance

k^H Value - W/m²K													
Resistance of Floor Covering, tog	**0.00**	**0.25**	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**	**1.75**	**2.00**	**2.25**	**2.50**	**2.75**	**3.00**
150mm Pipe Centres	3.41	3.11	2.86	2.64	2.46	2.30	2.16	2.04	1.93	1.83	1.74	1.66	1.58

q = Specific Heat Output, W/m²	**k_H = System Performance Factor, W/m²K**
T_{water} = Mean water Temperature	**T_{air} = Room Air Temperature**

Using the system k_H value to calculate the system heat output:

$q = k_H \times (T_{water} - T_{air})$

Example:
The heat output through an 18 mm thick, ≈ 1.25 tog timber floor, over Econna with 6 mm ply, fitted with pipe at 150 mm centres, in a 21°C room heated with 40°C water is;

$q = 2.30 \times (40 - 21) = 2.30 \times 19 = 43.7$ W/m²

Alternatively, using the system k_H value to calculate the required water temperature, knowing the required heat output:

$T_{water} = (q / k_H) + T_{air}$

Example:

The water temperature required to produce a heat output of 55W/m², through a 3 mm thick ≈ 0.25 tog LVT floor finish, over Econna panels with 6 mm ply, fitted with pipe at 150 mm centres, in a 22°C room is;

$T_{water} = (55 / 3.11) + 22 = 18.5 + 22 \approx 40.5$°C

Components

PE-RT Pipe - PERT-12 x XX
Warmup PE-RT (Polyethylene of Raised Temperature Resistance) pipe. The pipe guarantees leak free performance with a smooth internal structure for improved flow, reduced pressure loss and deposit formation.

Warmup 6iE - 6iE-01-OB-DC / 6iE-01-BP-LC
The world's first UFH thermostat with a smartphone touchscreen providing effortless control at your fingertips. Connected to the internet by WiFi, it can be controlled from a smart phone, tablet or computer as well as its own touchscreen interface. Working automatically; it learns your routines and location through background communication with your smartphone. Using this knowledge it suggests ways to save energy.

Warmup Element - RSW-01-WH-RG (ELM-01-WH-RG) / RSW-01-OB-DC (ELM-01-OB-DC)
Warmup's Element WiFi Thermostat has been designed with simplicity and stylish functionality in mind. It brings energy-efficient heating control to all Warmup floor heaters. Combining smart technology with simple, contemporary design, the Element WiFi Thermostat is the perfect all-rounder to control Warmup heating systems.

Pipe bend supports - WHS-P-BEND12
The bend support is used for supporting pipes to make a smooth 90-degree turn where needed & provides a rigid bend which changes the pipes direction without causing excessive bending

Pipe clips - UK-WUK-HY-ACC-PIPECLIPS12
The robust pipe clips feature a press in to secure and press in to release design making mounting of the pipe easy. They link together to form a single rail and secure pipes at 25mm centres, neatly aligning them to the manifold ports.

Contact

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