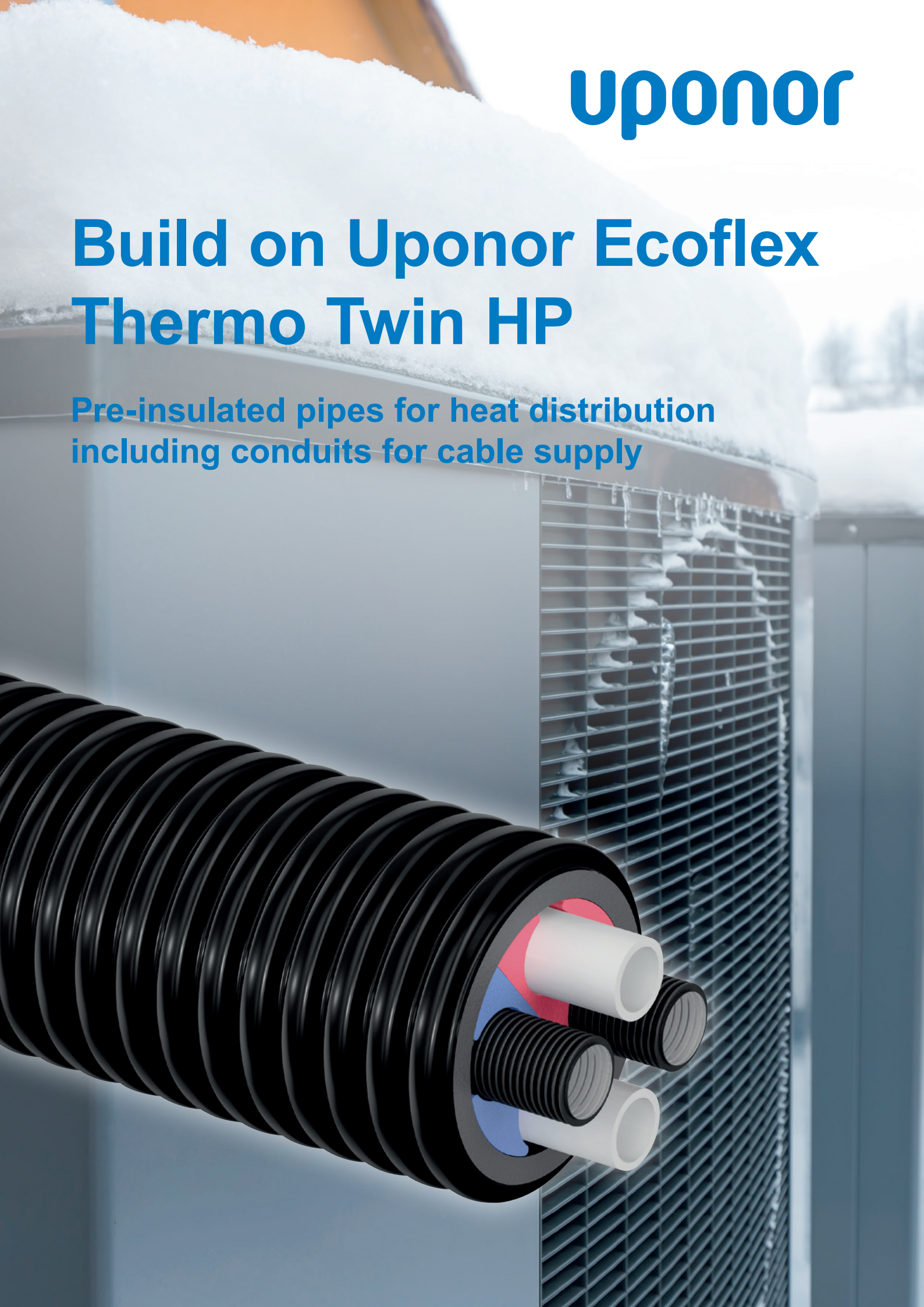
uponor

Build on Uponor Ecoflex Thermo Twin HP

Pre-insulated pipes for heat distribution including conduits for cable supply



Uponor Ecoflex Thermo Twin HP – The smart way to connect a heat pump

Heating service pipes and conduit pipes combined

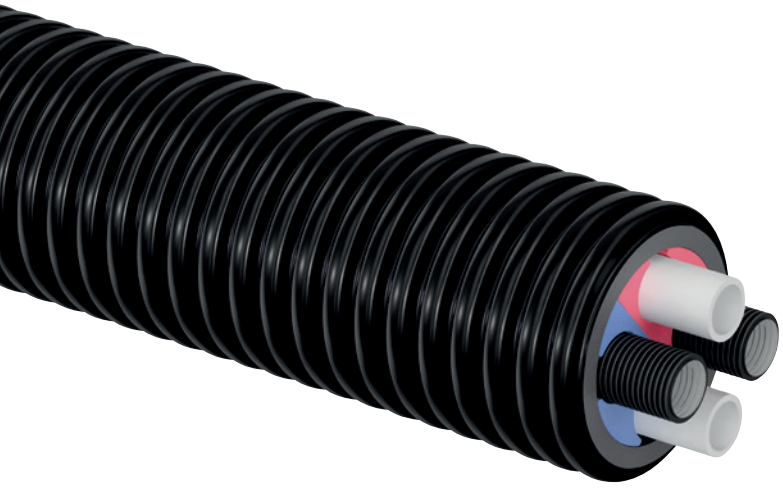
ALL-IN-ONE and extremely flexible

Customers' wish gets reality with the new Ecoflex Thermo Twin HP pipe with two conduits.

Ecoflex Thermo Twin HP pipes are developed especially for heat pump application to manage all connections in only one pipe including heating pipes and power and sensor cable. It can also be used to connect an external sauna, a winter garden house or a garage to name a few.

Ecoflex Thermo Twin HP provides full compatibility with all standard Ecoflex accessories.

Connection of Uponor Ecoflex Thermo Twin HP between an external heat pump and residential building



Your advantages:

- Just one installation step for flow and return pipeline plus cable conduits
- Less excavation and smaller trench
- Available with Uponors "Cut to measure" service

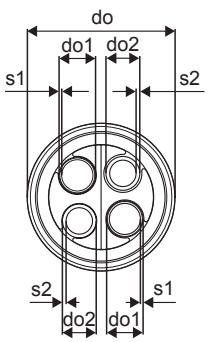
Key features:

- Geothermal, heating and cooling application
- Two medium pipe PE-Xa with oxygen barrier, SDR 11
- Max. load 6 bar / 95°C
- Two conduits for cable or sensor
- Coloured centre profil to avoid confusion of flow and return line
- PEX foam, 100% watertight HDPE casing

Technical data Uponor Ecoflex Thermo Twin HP

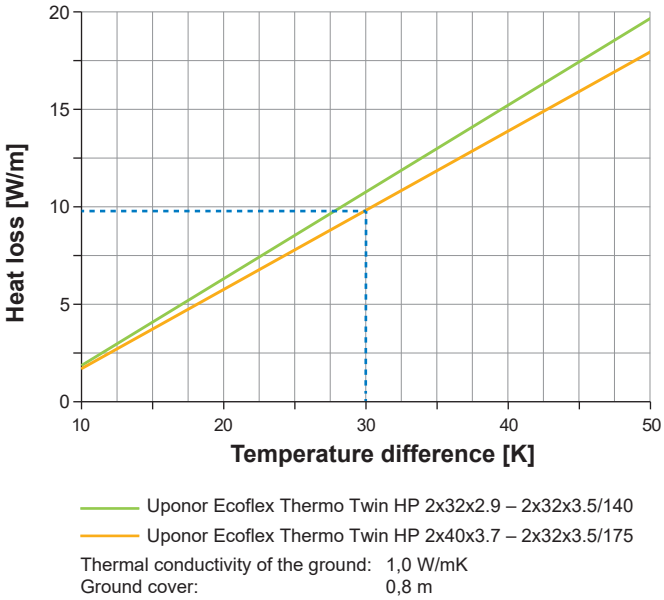
Item no.	Dimension	do [mm]	do1* [mm]	do2** [mm]	s1 [mm]	s2 [mm]	R*** [m]	Weight [kg]	Qty [m]
1093894	2x32x2.9-2x32x3.5/140	140	32	32	2,9	3,5	0,5	1,7	200
1093895	2x40x3.7-2x32x3.5/175	175	40	32	3,7	3,5	0,8	2,6	200

* *PE-X medium pipe*
** *Conduit pipe*
*** *Bending radius*



Design information

Heat loss Uponor Ecoflex Thermo Twin HP



Example for Uponor Thermo Twin HP 2 x 40/175

θ_V = Flow temperature
θ_R = Return temperature
θ_E = Ground temperatue
Δ_θ = Temperature difference [K]
$\Delta_\theta = (\theta_V + \theta_R)/ 2 - \theta_E$
θ_V = 40 °C
θ_R = 30 °C
θ_E = 5 °C
Δ_θ = (40 + 30)/2 - 5 = 30 K
Heat loss: 9,8 W/m

Maximum heat capacity and maximum flow rate

Item no.	Dimension	max. heat capacity* [kW]	max flow rate [l/h]
1093894	2x32x2.9-2x32x3.5/140	39	1692
1093895	2x40x3.7-2x32x3.5/175	65	2808

** ΔT = 20 K*
Note: Detailed pressure loss table in Ecoflex technical information brochure

Quick dimensioning table Ecoflex Thermo Twin HP (PN 6)

Temperature spread between flow and return							Mass flow rate [kg/h]	Pipe type Δp. v	Pipe type Δp. v	Pipe type Δp. v
Δθ = 10 K	Δθ = 15 K	Δθ = 20 K	Δθ = 25 K	Δθ = 30 K	Δθ = 35 K	Δθ = 40 K				
10 kW	15 kW	20 kW	25 kW	30 kW	35 kW	40 kW	860		32/26.2 0.0909 kPa/m 0.449 m/s	40/32.6 0.0319 kPa/m 0.290 m/s
20 kW	30 kW	40 kW	50 kW	60 kW	70 kW	80 kW	1720	32/26.2 0.3157 kPa/m 0.897 m/s	40/32.6 0.1106 kPa/m 0.579 m/s	
30 kW	45 kW	60 kW	75 kW	90 kW	105 kW	120 kW	2581	32/26.2 0.6553 kPa/m 1.346 m/s	40/32.6 0.2294 kPa/m 0.869 m/s	
40 kW	60 kW	80 kW	100 kW	120 kW	140 kW	160 kW	3441	40/32.6 0.3853 kPa/m 1.159 m/s		

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