

With thermal loss as primary parameter, ELGOCELL has developed the ELGOTHERM[®] system. By choosing a highly efficient and super-insulated distribution system operational costs of the network will be reduced.

The insulation is made of Expanded Polystyrene (EPS), class S200, with excellent insulation values, and the carrier pipes are PE-X(a) from REHAU.

The customized insulation results in a extremely low energy losses, creating savings both in CO₂ and operational costs, without increasing the capital cost.

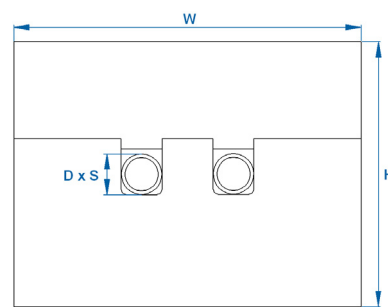
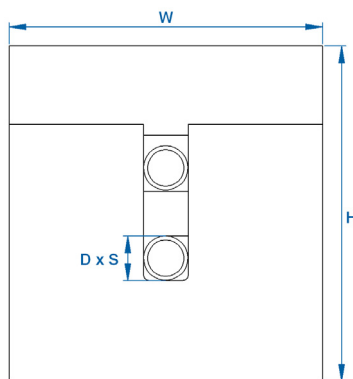
Main benefits of using the ELGOTHERM[®] solution;

- Lower capital cost
- Substantially lower operating costs
- CO₂ savings
- Flexible system
- Easy installation

Less Carbon Footprint 

ELGOTHERM[®] DISTRICT HEATING (PN6)

TYPE	PEX CARRIER PIPE [D x S MM]	INSULATION DIMENSIONS [W x H MM]	ANNUAL MEAN HEAT LOSS	PIPE POSITION
2x25	25 x 2.3	300 x 200	6 W/m	Side by side
2x32	32 x 2.9	300 x 200	6 W/m	Side by side
2x40	40 x 3.7	300 x 300	6 W/m	Stacked
2x50	50 x 4.6	300 x 300	7 W/m	Stacked
2x63	63 x 5.8	400 x 400	6 W/m	Stacked
2x75	75 x 6.8	400 x 400	7 W/m	Stacked
2x90	90 x 8.2	400 x 500	7 W/m	Stacked
2x110	110 x 10.0	400 x 500	9 W/m	Stacked
2x125	125 x 11.4	600 x 400	10 W/m	Side by side



The simulations are made with the software "COMSOL Multiphysics" that use The Finite Element Method for calculations.



TERMS FOR THE CALCULATION

Flow temperature:	60	[°C]	Convective heat transmission coefficient	
Return temperature:	30	[°C]	from air to ground:	14.6 [W/m ² K]
Surface air temperature:	10	[°C]	Heat transfer coefficient soil:	1.6 [W/mK]
Soil cover depth:	0.6	[m]	Heat transfer coefficient EPS (20°C)	0.034 [W/mK]
Size of non-infinite clod:	10x10	[m]	Heat transfer coefficient PEX:	0.38 [W/mK]