



**Blue Building Consulting Ltd.
Scotland**

**Flow Rate Tests
for the Blue EcoPower Project**

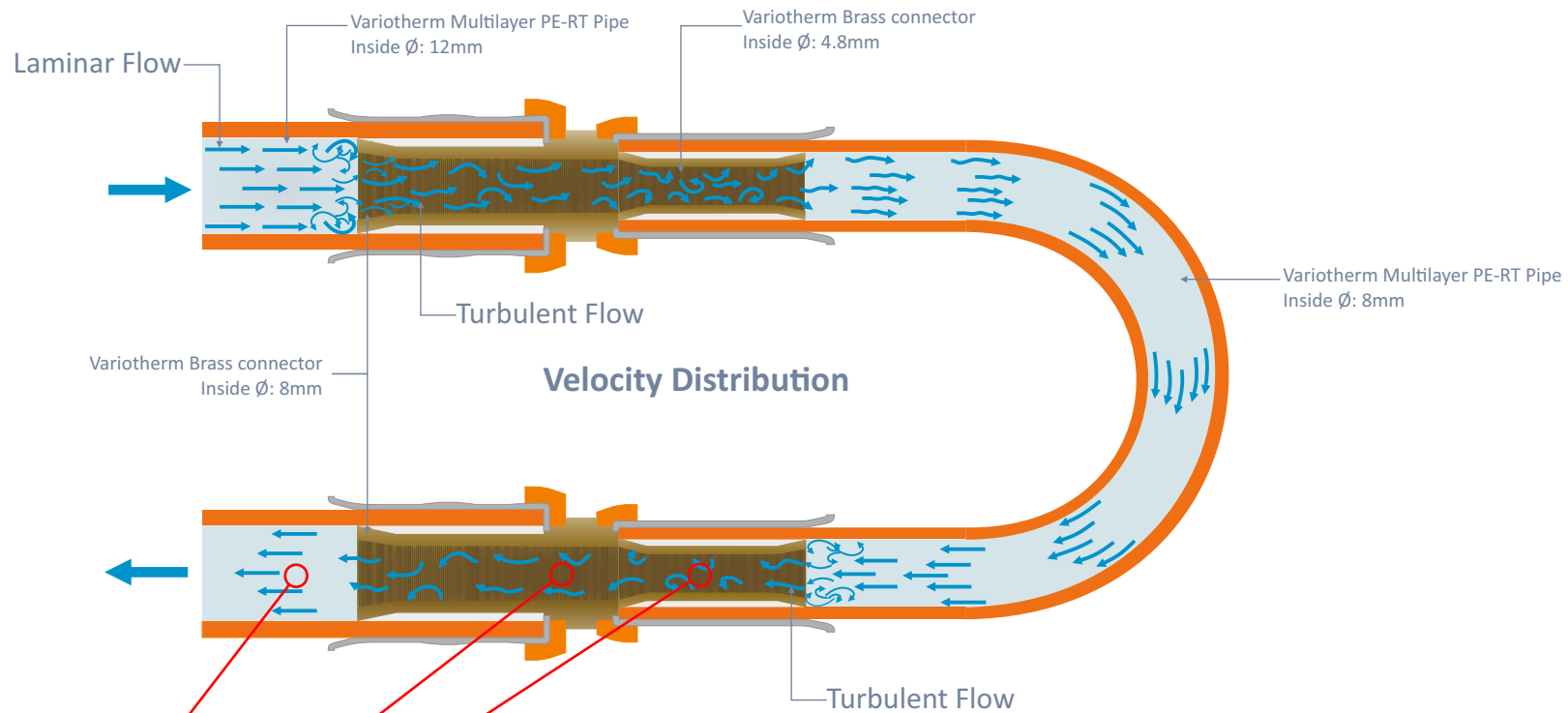
The following report shows a very small section of a test experiment that we carried out regarding “real” flow velocities of water in pipes. The theoretical data differed considerably from the actual flow velocities found in practice.

This also applies when calculating flow rates in a vacuum, taking into account different materials, the pipe friction coefficient etc. Depending on the temperature and pipe diameter, the pressure loss for the parameters we use with the Blue EcoPower, can be up to 44.0945 mbar. This already results in enormous losses in the flow velocity of the water-steam mixture. The working media of mechanical drive units are always directly or indirectly gases or vapours. According to the laws of thermodynamics, this has the advantage of converting large volumes, but also the disadvantage that they have a relatively low mass and the specific energy content (despite a large delta T) is unsatisfactory.

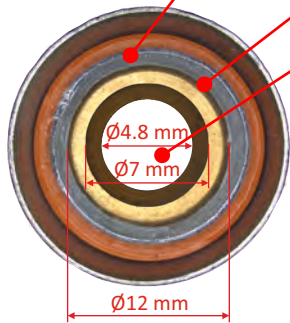
For this purpose, we have developed new technological insights. We already have revolutionary technologies, which contribute to the fact that large amounts of energy can be gained. It is not only the advantage that under vacuum in the evaporation process two thirds of energy are saved compared to the normal atmosphere, - this Blue Building process allows us to save up to 90% energy to heat water vapour in such a way that mechanical drive machines will run continuously. It will become really interesting when we will also implement a certain self-dynamics of the flow velocity through thermodynamic reactions in practice.


Performed by:

The-Environmentalist



Pipe reduction from \varnothing 12mm to \varnothing 7mm going down to \varnothing 4.8mm (all inside diameter)



Scale			 Blue Building[®] Consulting -Voice of environment-			Auchterarder PH3 1QE Scotland, UK P: +44 1764 680889 info@blue-building.org https://www.blue-building.org/ https://www.bluebuilding.uk/		
NTS						Project Velocity Distribution of Water		
Revision	Name	Date	Drawn by	Name	Date			
				MG	10.06.2020	Name		
			Designer	SN	10.06.2020			
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Multilayer PE-RT Pipe
 Outside Ø: 32 mm
 Inside Ø: 26 mm

262mm

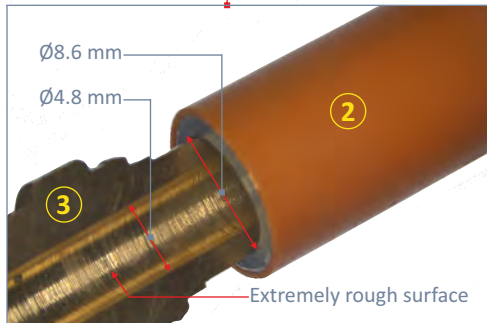
860mm

WILO High-Efficiency Pump
 Typ: Stratos PARA 25/1-7 T3 VI
 Max. Flow Rate: 3.2 m³/hr

Copper Pipe
 Outside Ø: 28 mm
 Inside Ø: 25.6 mm

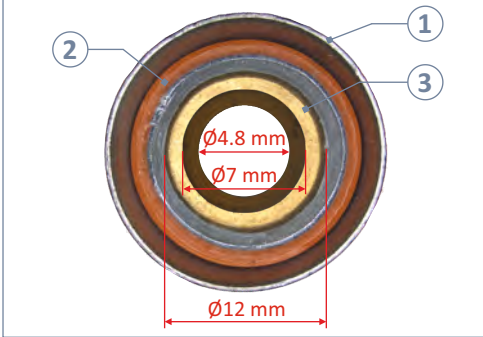
Variotherm Multilayer PE-RT Pipe
 Outside Ø: 11.6 mm
 Inside Ø: 8.6 mm
 Thickness: 1.5 mm
 Total Pipe length: 17.13 m

Flow Rate : 119 l/hr
Temperature: 19.3 °C




Variotherm Module Panels
 Size: 2m x 0.625 m
 Thickness: 18 mm thk.
 Thermal conductivity λ : 0.32 W/mK
 Total Area: 1.25 m²

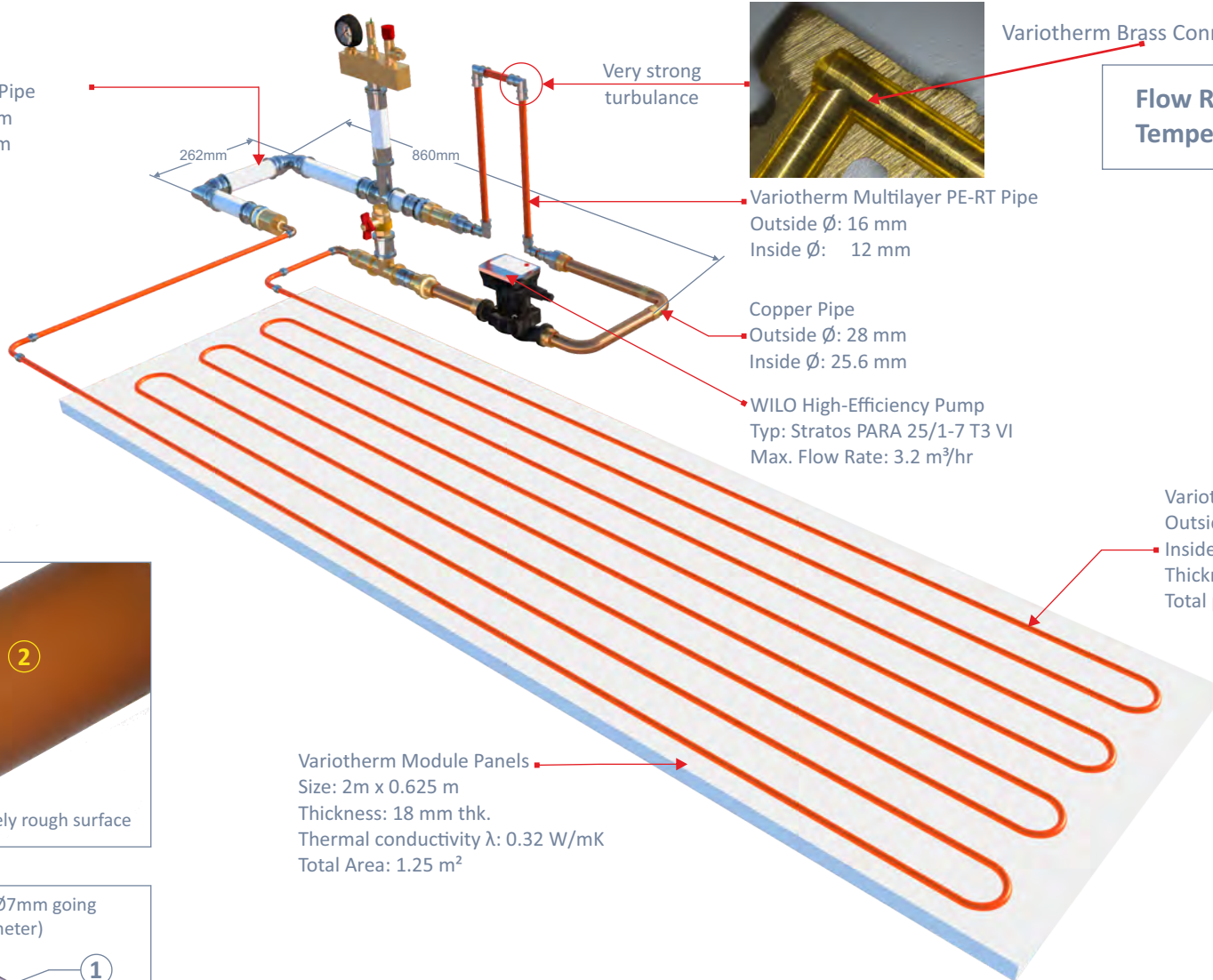
Pipe reduction from Ø12mm to Ø7mm going down to Ø4.8mm (all inside diameter)



- ① Pressing area
- ② Variotherm Multilayer PE-RT Pipe
- ③ Brass Connector

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Multilayer PE-RT Pipe
Outside Ø: 32 mm
Inside Ø: 26 mm



Variotherm Brass Connector

Flow Rate : 91.96 l/hr
Temperature: 19.3 °C

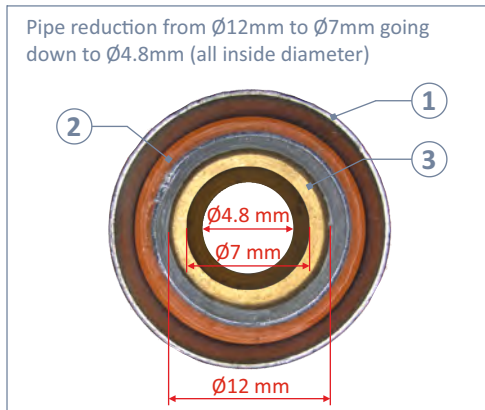
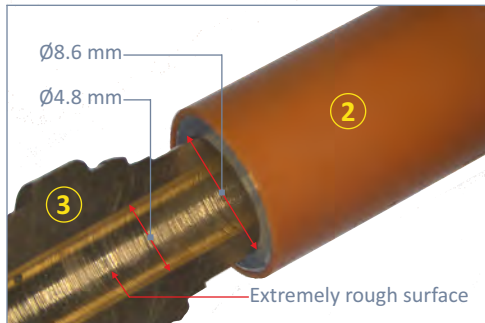
Variotherm Multilayer PE-RT Pipe
Outside Ø: 16 mm
Inside Ø: 12 mm

Copper Pipe
Outside Ø: 28 mm
Inside Ø: 25.6 mm

WILO High-Efficiency Pump
Typ: Stratos PARA 25/1-7 T3 VI
Max. Flow Rate: 3.2 m³/hr

Variotherm Multilayer PE-RT Pipe
Outside Ø: 11.6 mm
Inside Ø: 8.6 mm
Thickness: 1.5 mm
Total pipe length: 17.13 m

Variotherm Module Panels
Size: 2m x 0.625 m
Thickness: 18 mm thk.
Thermal conductivity λ : 0.32 W/mK
Total Area: 1.25 m²



- ① Pressing area
- ② Variotherm Multilayer PE-RT Pipe
- ③ Brass Connector

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Experimental Setup



without heat exchanger

Pos. +2432 m³
Flow 2993.9 l/h
 Vel. 0.733 m/s
 S = 752.754
 Q = 82 R



with heat exchanger

Pos. +2432 m³
Flow 66.316 l/h
 Vel. 0.0162 m/s
 S = 782.784
 Q = 96 R



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Experimental Setup



**Blue EcoPower means
to undertake responsibility
with the great opportunity,
changing sustainable the environment**



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Offering the possibility to create renewable energies in close touch with nature, is a gift of our earth and sun; and should be used with the highest priority.



To succeed, you must try to square the circle
To succeed, you must try to square the circle

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