JANSEN powerwave

Maximum performance. For sure.

JANSEN

Geothermal Energy: The Inexhaustible Source.

How can geothermal energy be used in an efficient, sustainable, and – above all – most cost-efficient manner? Jansen knows the answer to this question.

Ground soil is an excellent heat reservoir. Year by year it naturally absorbs large amounts of solar energy. Only two meters below the surface, the average temperature is already as high as 10°C. This renewable energy can be used for heating, cooling, and hot water production.

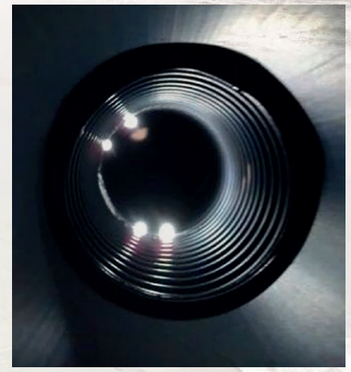
Geothermal energy has the reputation of being extremely efficient and environmentally friendly, of conserving resources, and of saving operating costs over the long term. At JANSEN we have set ourselves the target of offering innovative solutions to let you benefit from geothermal energy and at the same time reduce installation costs significantly. For this reason JANSEN has considered the topic from a new perspective.

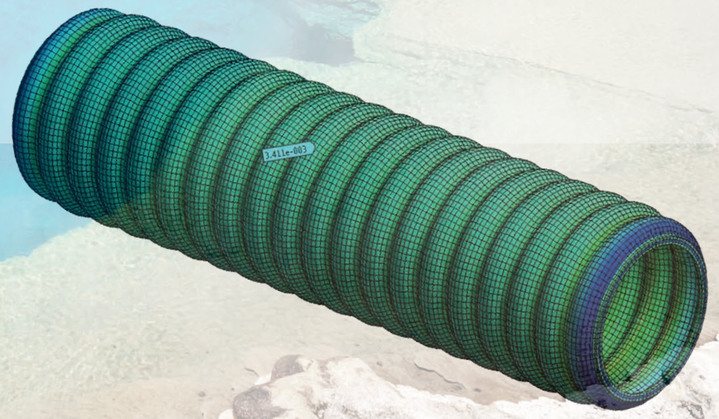
Intensive Research Leads to Innovative Corrugated Pipe Technology.

Jansen stands for uncompromising quality. With over 60 years of experience in plastic pipe production, the Swiss company promises reliability, high quality, and innovative solutions.

After intensive research and development work in collaboration with specialists and research facilities such as the University of Applied Sciences Rapperswil (IET, HSR), our engineers have designed an ideal plastic pipe, perfectly adapted for geo-exchange applications.

Several practical evaluations confirm: Geothermal systems involving the patented JANSEN powerwave corrugated pipe technology provide highest performance.

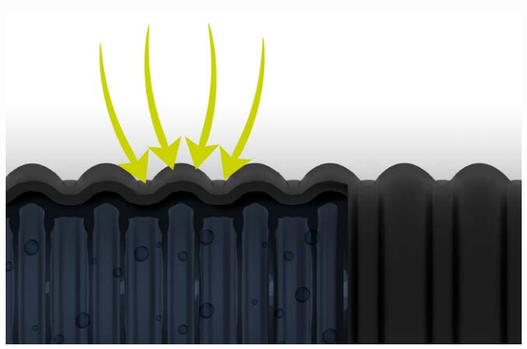




Design to the Best Advantage:
The Only True GeoExchange Pipe.

1 Enlarged heat exchange surface

The outer corrugation of the 63 mm pipe results in a larger surface (0.22 m²/m), which facilitates heat absorption significantly.



2 Turbulent flow

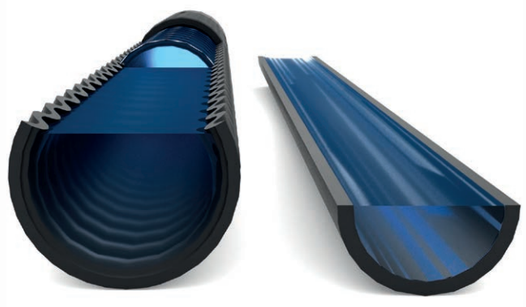
Additionally, the heat transfer from the pipe into the circulating fluid is enhanced as the inner corrugation causes specific turbulences at already low flow rates.

3 Large heat storage

Due to a larger brine volume (approx. 2.3 l/m) more energy can by buffered, resulting in an optimal heat exchange with the ground soil even during times of no circulation. Therefore, at peak periods as well as during intermittent operation, the heat pump works more efficiently.

Minor hydraulic resistance

The large pipe diameter effects minimal head loss. Therefore, the electric power consumption of the brine circulating pump is



4 High stability at maximum flexibility

Corrugation and perfect raw material allocation help to provide excellent bendability (bending radius 0.45 m) despite the relatively large pipe diameter. JANSEN powerwave is made from the latest generation of PE 100 RC and withstands extreme strain.

5 Simple installation

Extruded plain pipe segments every 100 cm allow easy sectioning and reconnecting with common methods (e.g. electrofusion fittings). This offers full flexibility and a variety of installation methods. Also regular decoilers can be used.

One Pipe.
Versatile Application.

With JANSEN powerwave a variety of different geothermal solutions can be realised, such as vertical probes, geo-exchange baskets, trench collectors, and slinky configurations. Here are some examples:

powerwave collect

powerwave coax

powerwave single-u

powerwave duo plus

JANSEN powerwave duo plus

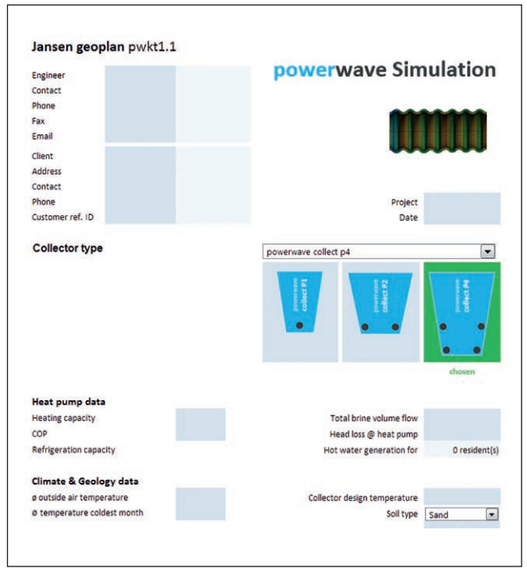
Our Know-How.
At Your Service.

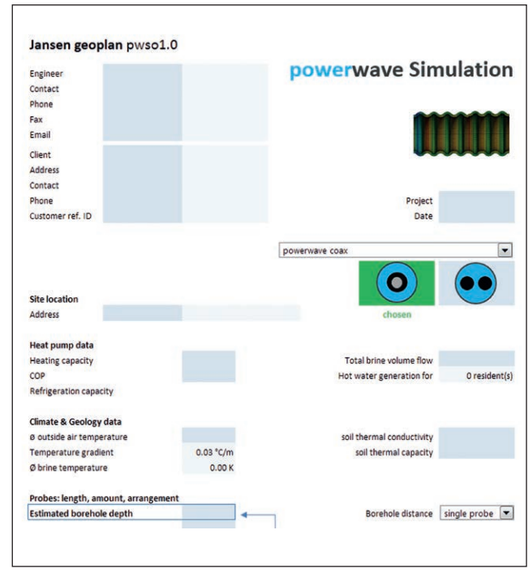
Professional training of our partners, overall support by our technical staff, comprehensive assistance, and advice from planning until realisation guarantee an effective system of high quality.

A well-functioning geo-exchange installation requires not only an excellent product and sophisticated system but professional planning and support as well.

Our sizing guidelines are based on the latest scientific findings. They are supported by simulation software and confirmed through practical field tests.

With our in-house tool «JANSEN geoplan» it is possible to size horizontal or vertical layouts with different design temperatures and other parameters.



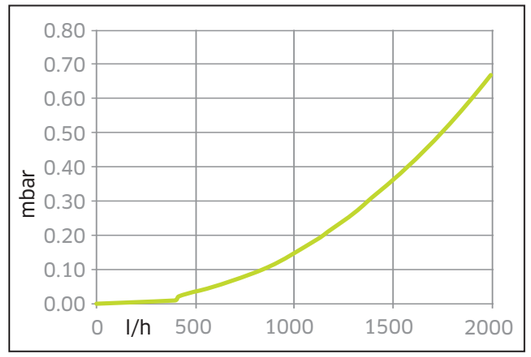


Our Quality.
Your Peace of Mind.

Technical data

Raw material	PE 100 RC (Polyethylene Resistant to Crack), PAS 1075
Operating temperature	-20°C to +40°C
Certification	SKZ A591
Outer diameter	63 mm
Wall thickness	2.9 mm (SDR 22)
Pressure rating	PN 7.4
Bursting pressure	24.1 bar (@ 20°C)
Buckling pressure	6 bar (@ 20°C)
Bending radius	0.45 m (@ 20°C)
Stiffness Number	SN 21
Filling volume per meter of pipe	2.27 l

JANSEN powerwave collect: head loss per meter of pipe (measured with water @ 15°C) in mbar



Thanks to latest manufacturing technologies and highly qualified staff, JANSEN provides long-lasting products of high performance. All products and manufacturing processes are certified according to the latest quality standards.

Additional components such as manifolds, fittings, connection piping, and special tools complete the JANSEN system with numerous extension possibilities.

For further information about available coil lengths and accessories, please see our current price list. If you have any questions about the JANSEN powerwave geo-exchange pipe and its applications please contact our technical staff.

Erdwärme Gemeinschaft Bayern e.V.

bwp Bundesverband Wärmepumpe e.V.

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