

Go Geothermal

The UK's Largest
Independent
Supplier of Heat
Pumps



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Introduction to Go Geothermal

The business evolved with the owners having a vision and belief that renewable energy (in particular ground source) has a place in the UK as a viable energy resource. Go Geothermal Ltd champions the technology believing in its contribution to CO² reduction and replacing expensive fossil fuels regardless of grants!

Go Geothermal are the true embodiment of the one stop shop for all things Ground Source and to complement our offering we also stock and distribute products for Air Source, Biomass, Under Floor Heating and many other renewable technologies

The entire offering from Go Geothermal has evolved from working closely with our customers. Owner operated, proudly independent and not bound by the red tape of large multi nationals allows us to hold significant stocks and manage product ranges as we see fit enabling us to provide a first class service.

With interest and demand in Ground Source growing fast it is imperative that Heat Pump manufacturers and installers alike have a dependable source for advice and specialist products. To this end we continually look for innovative and market leading products which is the cornerstone of our business.

All this but with a firm commitment to source within the UK wherever possible, but if not then Europe. In our years of trading we have never exceeded more than 2% of our spend out with this criteria. A clear practical demonstration of our values to ensure ethical sources & minimising our carbon footprint.

This brochure is merely a flavour of the range you can expect to find available at Go Geothermal. The online document will be updated weekly and as such we ask you to regularly visit our website.

The true test of the value of what we offer will always be judged by you the reader (customer) so we look forward to being of service to you.

**Go Geothermal –
The Source for Ground,
Water & Air Source**

Ground & Air Source Heat Pumps

At the heart of our offering Go Geothermal has both Ground and Air Source units from 3kW to 1MW demand. Having played a major part in the UK Heat Pump industry for more than 10 years we have chosen carefully the brands we have allied ourselves with.

Having been recommended the specialist distributor of Heat Pump components from the technical schools of OEM's, we are now pleased to have established an equally impressive reputation with the supply of Heat Pumps.

We have forged strong links with Stiebel Eltron, Vaillant & Mitsubishi, consistently in the top 3 brands in the UK & mainland Europe.

Whether you are considering the first install or have been installing for years, Go Geothermal has the full technical knowledge and brand support in heat pumps to ensure your business has a dependable "Best in Class" offering.



Pipe

Horizontal Collector Pipe



Manufactured from Virgin Grade Black PE100 High Performance Polyethylene (BS/EN12201)

Go Geothermal offer a “true” geothermal collector pipe:

- Pipe manufactured specifically for heat collection
- Available in coil sizes from 50m to 400 metres



Standard PE100 – Sand Required



PE100-RC Pipe – No Sand Required

Nominal Size O/D (mm)	SDR Rating	Maximum Operating Pressure	Wall Thickness (mm)	Approx Weight (kg/m)	Lengths Available (metres)
25mm	11	16 Bar	2.3	0.165	100m
32mm	11	16 Bar	2.9	0.274	100m – 200m
40mm	11	16 Bar	3.7	0.434	50m – 250m
40mm	17	10 Bar	2.4	0.282	300m – 400m

Horizontal Collector (PE100-RC)

PE100-RC – THE NEW GENERATION OF GROUND SOURCE PIPE MATERIAL

The improved mechanical properties of PE100-RC and the demand for higher quality products has seen many European countries switch from PE100 to PE100-RC as their ground source pipework of choice.

PE-100 RC stands for Polyethylene Resistant to Crack. It is defined as an advanced non-cross linked polyethylene, characterised by longer lateral chains compared to PE100. The major benefit of horizontal installations is that, thanks to the increased mechanical properties of the PE100-RC pipe in almost all soil conditions no sand bed is required for backfilling (unlike PE100). This can save material and installation costs with no sand being needed and no need to remove excavated material on site.

For the additional cost of PE100-RC pipe over our standard PE100 equivalent, the total installed cost can often be significantly cheaper than standard PE100 backfilled with a sand bedding.

Nominal Size O/D (mm)	SDR Rating	Maximum Operating Pressure	Wall Thickness (mm)	Approx Weight (kg/m)	Lengths Available (metres)
32mm	11	16 Bar	2.9	0.274	100m – 200m
40mm	11	16 Bar	3.7	0.434	100m – 300m

We are pleased to offer this product as yet another step in the improvement of the technical quality of Ground Source materials.

Pipe

Slinkies



We can also provide Slinkies in 32mm PE100 SDR11, lengths as follows:

- 30m (200m of 32mm) – i.e. requires a 30m trench
- 40m (250m of 32mm)
- 50m (300m of 32mm)

There must be a separation of at least 5 metres between each trench.

Header Pipe



Manufactured in the UK from Virgin Grade Black PE100 High Performance Polyethylene (BS/EN12201)

Typically installed in pipe sizes 40mm, 50mm & 63mm OD (available in 25m, 50m & 100m coils)

- Larger PE pipe sizes available on request.
- Also available in PE-Xa, please see page 8 for details.

Preinsulated Header Pipe



To avoid thermal interference and to maximise flow temperature from the ground collectors to the Heat Pump it is critical that the header pipes are insulated.

Preinsulated Polyethylene Header pipe for the transport of low temperature Glycol to and from the manifold in Ground Source applications.

- Available in 40mm, 50mm & 63mm (90mm, 125mm & 125mm OD respectively)
- Significantly reduces installation time on site
- Superior heat loss values versus other installation practices
- Manufactured in Virgin Grade Polyethylene with insulation and corrugated casing

Rauvitherm Cool



- Available in 40mm, 50mm & 63mm (70mm, 90mm & 90mm OD respectively)
- 25m & 50m Coils
- Manufactured in the UK

Pipe

Probes



Our European sourced Probes are manufactured from Virgin Grade Black PE100-RC High Performance Polyethylene. The pipe is manufactured and tested in accordance with EN12201 / PAS1075, with the Probe Tip and finished product audited and certified by and according to the guideline by SK-Z Würzburg HR 3.26 and complies with the VDI 4640 & VBS 2011 guidelines.

All Probes have metre markings and print line information in accordance with EN12201. A test certificate can be supplied with each individual Probe and unlike “others” our Probes are **individually factory pressure tested**.



Go Geothermal probes are designed to operate at a minimum of 25 years service life and as such the entire probe is accredited – **NOT just the pipe but the probe weld and foot**.

We also offer the only probe that comes with a CONSEQUENTIAL LOSS Guarantee for ultimate client peace of mind (see following page).

PE100-RC THE NEW GENERATION OF GROUND-SOURCE PIPE MATERIAL

- PE100-RC stands for Polyethylene Resistant to Crack
- The major benefit of PE100-RC probes is the increased point load resistance over PE100
- Point loads are a potential problem as the probe does not sink in a straight line
- PE100-RC lasts longer on ACT test than PE100 (Accelerated Creep Test which is an artificial pipe ageing method)
- Many European countries have switched from PE100 to PE100-RC as their ground source pipework of choice
- The UK GSHPA has already included PE100-RC as a pipe material in their Vertical Borehole Standards
- All our PE100-RC Probes have SKZ certification (independent test house)

Go Geothermal stock PE100-RC Probes which give superior crack resistance (5x) versus PE100 Probes giving peace of mind a huge technical benefit to the customer.

Nominal Size O/D (mm)	SDR Rating	Maximum Operating Pressure	Wall Thickness (mm)	Approx Weight (kg/m)	Maximum Probe Width (mm)	Lengths Available (metres)
32mm	11	16 Bar	2.9	0.274	83	50m – 150m
40mm	11	16 Bar	3.7	0.434	98	50m – 300m



Pilot Weights

We stock 15kg and 40kg Pilot Weights for our probes. The 15kg Weights can be daisy chained to create 30kg Weights if required.

Pipe

New: Generation II PE-Xa probe



- Has a roughened outer surface giving improved contact between Probe and Grout / backfill material.
- 32mm Probe (91mm Probe Tip Diameter)
- 40mm Probe (100mm Probe Tip Diameter)

The Rehau PE-Xa probes, where only the ultimate solution will suffice. Extremely tough and able to handle temperatures up to 95°C (perfect for excess heat storage such as solar – an increasingly required feature of new builds).

Such is the strength and durability of the PE-Xa probes we are able to offer a £10,000 consequential loss per PE-Xa probe installed. Contact us for more details.



Reauge PE-Xa Probe

Advantages of the Rauego PE-Xa Probe:

- PE-Xa material is not sensitive to notches and grooves
- Simple insertion even into the tightest boreholes
- Constant operating temperatures -40°C to 95°C
- Stable up to temperatures of 95°C, thus the RAUEGO PE-Xa probe can be used for heat storage purposes
- Extremely tight bending radii
- Can be connected by Electrofusion fittings or by REHAU Everloc joint system.
- Domestic or Commercial – Heating / Cooling or Ground Energy Storage
- Crack growth at FNCT (full notch creep test) – NO FAILURE
- Available in Probe lengths up to a staggering 800m
- £10,000 consequential loss cover per probe



PE-Xa Horizontal Collector / Header Pipes

Advantages PE-Xa collector pipe:

1. Resistant to puncture loads, notches and grooves – allowing the pipe to be backfilled with excavated material (PE 100 requires a sand bed), therefore reduction of installation time and costs
2. Better thermal efficiency from excavated material compared with a dry sand bed
3. Extremely tough and able to handle temperatures up to 95°C
4. Tight bending radii, therefore easier installation as less space and less joints are required
5. High operational reliability of PE-Xa pipe
6. Minimal pressure losses due to smooth pipe inner surface



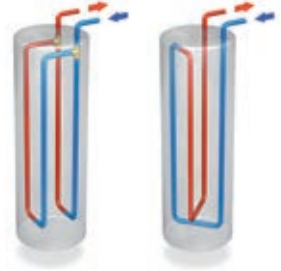
PE-Xa Pipe – No Sand Required

Pipe

RAUGEO Energy Piles

Energy piles provide a cost-effective alternative to probes if the building is already including foundation piles as no extra drilling needs to be carried out. Piles are typically between 10–20m deep, depending on site conditions. Ground-source pipework can simply be integrated into the pile with cable ties.

PE-Xa is ideal for energy piles as the tight bending radius of PE-Xa removes the need for joints in the pipe, therefore eliminating any potential leakages.



Vertical zig-zag pipe laying

U Pattern pipe laying

Pipe

Vertical Thermpipe – VTP



Installation by using a hollow auger drill

The efficiently smart solution for extracting heat at a restricted drilling depth. Ideal where a high water table exists.

Easy installation by using hollow auger drill or conventional drilling auger with a protection pipe.

- Ideal for restricted drilling depth
- Ideal for areas with groundwater flow
- **High degree of heat extraction (2.5kw from 6m stick - requires 5m³ groundwater flow per day)**
- Quick and easy installation
- Ready to use for direct installation
- Defined pipe distance of brine pipe
- Pipe connections using Electrofusion couplers
- Standard lengths of 6m and 12m, other dimensions and lengths on request
- No drilling rig required.
- Can be extended to a water well
- Can be used as drainage for rainwater



Easy connection with electrofusion-couplers



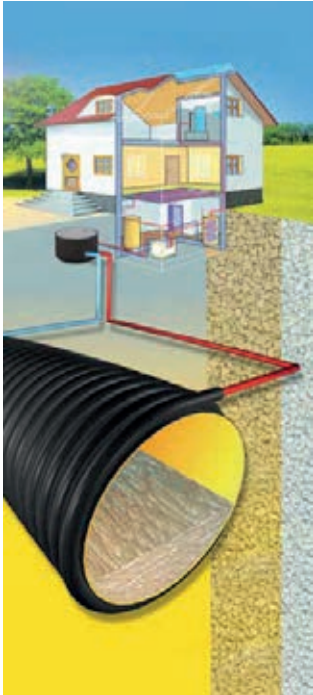
Return pipe inside of VTP

Technical data:

Outer diameter VTP:	360mm	260mm
Length VTP	6m / 12m	6m / 12m
Length of brine pipe:	60m / 120m	50m 100m
Brine pipe	d 32mm	d 25mm
Connections	Spigot PE 100, SDR 11	
Heat extraction:	Depending on kind of soil and groundwater flow	

Pipe

PKS - Thermpipe



Heat from soil and sewage

General

We are all responsible for using energy sensibly and efficiently, so that generations will benefit from our efforts. By using the PKS-Thermpipe®-System industrial and private buildings can be heated cost-effectively with energy from sewage and geothermal. The pipe system is manufactured from high quality and approved PE 100 material, thus guaranteeing the durability of the whole installation for many decades. PKS spiral pipes have already been used in public sewage systems for many years and proved their reliability in hundreds of projects.

Description

Besides offering a secure wastewater discharge, the PKS-Thermpipe®-System additionally provides potential customers the possibility of using thermal energy. As the output of thermal energy depends on various factors (volume and temperature of sewage), the PKS-Thermpipe®-System also uses the surrounding soil of the pipeline zone for the energy supply. The system is independent of daily hydrographs or irregular wastewater discharges. The system (both static and thermal) is designed project-related and orientates itself at the structural conditions as well as the existing energy potential (sewage, thermal energy) and energy supply of the buildings to be supported. The number of PKS-Thermpipes® depends on the amount of energy and the abstraction capacities to be realised from the subsystems "sewage" and "pipeline zone". The PKS-Thermpipes® welded together will be connected to the FRANK PKS manifold chamber with fittings made of PE 100. From there pipes lead to the heat pump in the building and to the energy transformation.

Geothermal energy? Well-known. Heat from sewage? You know that already. However, both combined for one technology? A novel plastic spiral pipes allows using the energy potential of soil and sewage simultaneously with one heat pump. Even moderate lengths of pipes can be sufficient to supply modern buildings with energy.

Reference values for extraction output by the PKS-THERMPIPE system

DN	Q [W/m]	DN	Q [W/m]
300	350	1100	1130
400	450	1200	1220
500	550	1300	1320
600	640	1400	1420
700	740	1500	1520
800	840	1600	1610
900	930	1800	1810
1000	1030	-	-

Pipe

PKS - Thermpipe

Planning with foresight for sustainable savings!

Plan the option of energy recovery when installing new sewage pipes and save up to 50% primary energy. Have you already opted for a PKS sewage pipe when installing a new sewage system? Then make the most of your advantage now and keep your options open for energy recovery if new extensions are pending. After all, the energy cost benefits of PKS-THERMPIPE pipes are unbeatable when it comes to new installations! At little extra expense, PKS pipes can be converted in the factory to highly-efficient PKS-THERMPIPE pipes. Larger buildings in the vicinity or still planned which reveal higher energy requirements can be heated or cooled using energy from waste water or geothermal heat in the future.

See for yourself: compare the extra financial expense associated with energy recovery with the costs of conventional PKS pipes in the chart provided.

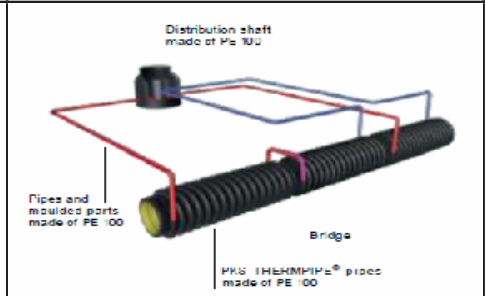
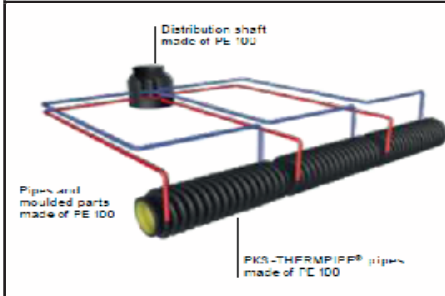
PKS-THERMPIPE pipes and their energy utilisation costs

DN [mm]	Costs [€/kW]
300	206
400	163
500	135
600	120
700	110
800	102
900	94
1000	86
1100	81
1200	77
1300	77
1400	74
1500	74
1600	72
1800	70

Higher energy efficiency thanks to variable installation

The individual 6-metre pipes are connected in parallel with the distribution shaft to achieved higher energy efficiency: low pressure losses are guaranteed; it is possible to connect and disconnect individual circuits.

Combinations of parallel and series switching are possible with small nominal widths: minimisation of installation costs owing to shorter mathematical constant and heat transfer pipelines.



Pipe

Probe/Ground Loop Feeder



Hydraulic loop feeder to assist with the safe and controlled installation of 40mm borehole probes (32mm made to order).

Comes with the following benefits:

- Allows the safe installation without operatives standing on the drilling rig or other platforms on site (working at height).
- Saves labour by reducing the need for additional operatives at the time of loop installation.
- Allows additional controlled pressure to be applied to probes when inserting into boreholes with a drilling fluid.
- Variable speed allows controlled insertion of probes where the weight of the probe wants to fall into an open borehole reducing probe tip damage.
- Can assist with the removal of a probe where the borehole collapsed at depth and the borehole will require re-drilling.
- Can also install and remove grout lines when using a liquid grout to backfill boreholes.

Pipe Decoilers/Dispensers



Our Spinning Jenni can accommodate most sizes and lengths of horizontal collector pipe and geothermal probes.

The adjustable frame enables the installer to easily dispense and recoil if necessary. Assembly takes approximately 5 minutes and will fit easily into a small van when being transported (when disassembled).

The advantages of our Decoiler are:

- Made from Steel – Gives superior strength
- Controlled dispensing of the pipe (reduced likelihood of kinking)
- Galvanised for long life
- Adjustable to be versatile
- Easy to assemble / transport

Manifolds

EXCLUSIVE
TO GO GEOTHERMAL

Modular Manifold Solutions



Complete 2 way manifold
(Flow and Return Leg shown)



3 Way Manifold (without isolation valves)

Endorsed by leading Heat Pump manufacturers including Stiebel Eltron, Vaillant & NIBE our modular reinforced plastic manifolds remain ever popular. Modular design, self-sealing and simple to install on site, these versatile modular manifolds are ideally suited for installation in Plant Rooms, utility rooms or in purpose built chambers.

Unlike other manifolds, ours are resistant to corrosion and freezing – hence they will not crack. To this end we are so confident in our modular manifolds we offer a 3 year guarantee (installed strictly according to our instructions available at time of order).

Basic unit consists of:

- Fill/Bleed Points (½")
- 40mm PE spigot for Header Pipe / Heat Pump connection
- Mounting brackets
- Isolation Valves (Flow & Return) or 40mm PE spigot outlet
- Each outlet comes complete with Flowmeters (Variable) 8 to 32L/min, Isolation valves
- 40mm PE Spigot suitable for Electrofusion and Compression Fittings (also suitable for 25mm and 32mm collector pipe)
- Flow rate of 7.7m³ per hour

Extras:

- Thermometer with immersion sleeve, -20°C to + 40°C
- Pressure Gauge, 0-6 bar

Modular Manifold for larger installations / Greater Flow Rates



Frank 3060 Modular Manifold

Modular Manifold complete with the following features:

- Fill/Bleed Points (1")
- 63mm spigot for Header Pipe / Heat Pump connection
- Mounting brackets
- Each outlet complete with Flowmeters (Variable) 5 to 42L/min, Isolation valves
- 40mm PE Spigot suitable for Electrofusion and Compression Fittings (also suitable for 25mm, 32mm and 50mm collector pipe)
- Flow rate of 16m³ per hour
- No special tools required to assemble the manifold

Extras:

- Thermometer with immersion sleeve, -20°C to + 40°C
- Pressure Gauge, 0-6 bar

Manifolds

Chamber Manifolds



7 – 12 way Circular Chamber Manifold



2 – 6 way Circular Chamber Manifold



Our Chamber Manifolds are available in 2 – 18 port configurations with larger configurations available on request.

As per VBS2011 GSHPA Standards, “All of our manifold chambers are supplied with a pressure test certificate from the OEM Manufacturer.” Does your current supplier offer this?

Circular Chamber Manifold

Space saving, chamber manifold, made from solid PE pipe offering the following features:

- Compact Design – reduced time excavating on site.
- Ball Valve on the Flow legs
- Integral flow meters on the Return legs (adjustable)
- Manifold header – OD 110mm c/w 1” filling and bleed valve
- All connections are welded to the chamber wall to ensure its water tight
- Able to handle light traffic loads of 600Kg (Tested to 1,500Kg) - 2 way to 12 way
- Anti Skid Cover – perfect for Residential & Public Sector installations
- Lockable cover
- Fully Pressure Tested (Test Certificate in each Chamber Manifold)
- 63mm Header Pipe connections
- 40mm flow & return ports (i.e. suitable for 25mm, 32mm & 40mm collector pipe)
- Watertight

Dimensions:

Circuits	Diameter (mm)	Height (mm)
2 – 6	400	650
7 – 12	600	800

For larger installations we have the following chamber manifolds available:

Factory-assembled chamber manifold:

- Manifold Header – OD 110 comes with 1” filling and bleed valve
- 63mm or 90mm Header Pipe Connections
- 40mm flow and return ports
- Ball valve on the flow legs
- Integral flow meters on the return legs (adjustable)
- Anti-Skid Cover – Perfect for residential / public sector installations
- Mechanical latch cover and weight bearing from 200kg – 40 tonnes
- Fully leak tested (test certificate on each chamber manifold)

Manifolds

Type L-520 Chamber



Our latest offering:

Square Chamber Manifold

Offering the following features:

- Compact Design – reduced time excavating on site.
- Ball Valve on the Flow legs
- Integral Flow Meters on the Return legs (adjustable)
- Manifold Header OD 63mm c/w 1" filling and bleed valve
- All connections are welded to the chamber wall to ensure its watertight
- Able to handle light traffic loads of 600Kg (Tested to 1,500 Kg)
- Anti Skid Cover – perfect for residential & public sector installations
- Lockable Cover
- Can be supplied with a telescopic section
- Fully Pressure Tested (Test Certificate in each Chamber)
- 63mm Header Pipe connections
- 40mm Flow & Return Ports

Dimensions:

Circuits	Diameter (mm)	Height (mm)
2 – 8	500/650	650



Manifolds

Bespoke Manifolds



These quality engineered bespoke manifolds come with all the features required as standard on a ground source application along with the quality of finish and approvals expected from Go Geothermal Ltd and Frank GmbH.

Please give us a call with your requirements.

- “Submarine” shaped manifold chambers manufactured from large diameter PE pipe (e.g 2.4m diameter as per picture)
- Simple connections to a large collector field (e.g. 400 circuits as per picture)
- Up to 40 Tonne loading possible.



**Bespoke Manifolds for plant rooms.
We can meet any requirement.**



Heat Transfer Fluid / Glycol

Kilfrost GEO



User Guidelines:

As per BSRIA guide BG29/2012 all pipework should be cleaned and sanitised to remove all physical debris and biological growth prior to the installation of a thermal fluid. For added protection, Kilfrost GEO is available pre-diluted with de-ionised water to the required level of freeze protection.

Monitoring:

We stock a Thermal Fluid Test Kit which is used to monitor the health of Kilfrost GEO as part of a routine maintenance schedule. In addition, we (via Kilfrost) offer a number of free comprehensive fluid health checks to our customers.

Dosage:

The dilution rate depends on the freeze point required by the system.

- Product concentrate should not be diluted below 25% v/v
- Product dilutions >30% v/v will give optimal corrosion and scale protection
- Kilfrost GEO should not be added to systems already containing heat transfer fluid

The only high efficiency, NON-TOXIC alternative to MEG for closed loop ground and water source heat pumps

Specifically engineered to improve the performance of closed loop ground and water heat pump collectors. Systems using our new GEO product will benefit from lower pressure drops, reduced pumping costs and higher overall efficiency.

When replacing more viscous fluids such as MPG (propylene glycol) or glycerine (refined vegetable extracts) based heat transfer fluids in existing systems with GEO, your customers will benefit from an immediate increase in pumping and heat transfer efficiency, leading to long term energy savings.

- Outperforms MEG, MPG & Ethanol based heat transfer fluids
- Leads to lower system pressure drops
- Lower pumping costs
- Higher Heat Transfer Efficiency than MEG, Ethanol or MPG
- Protects against corrosion and scaling
- Classified as non-hazardous according to CLP/REACH
- Superior environmental profile
- Free from nitrates, nitrites, borates, heavy metals and phosphates
- Created to Improve MIS 3005 Compliant Collector Design

Viscosity Comparison:

Kilfrost GEO has been engineered to reduce pressure drops, reduce pumping costs and increase the hydraulic efficiency of closed loop ground and water source heat pumps.

Supplied in 20 litre tubs or 1000L IBCs.

Freeze Protection		
Dilution % v/v	Freeze point / ° C	Refractive Index
25	-10	1.3632
30	-15	1.3679
40	-20	1.3794
50	-30	1.3905

Physical data		
Property	Unit of Measurement	Value
pH		8.5-9.5
Refractive Index	n/a	ca 1.4437
Boiling Point	° C	ca 105
German Water Hazard Classification	n/a	WGK1

Heat Transfer Fluid / Glycol

Sentinel R500C Ground Source Heat Transfer Fluid



Sentinel R500 is a blue glycol based liquid. It's specifically designed for use as a highly efficient heat transfer fluid providing frost protection in Ground Source Heat Pump equipment and Ground Loop circuits.

Offering superior stability, frost protection, exceptional thermal transfer, protection against corrosion and deposits, and resistance to degradation so providing extended fluid life. It also contains an effective biocide that will help to control the growth of bacteria in a sanitised system should it become contaminated after commissioning.

- Resistant to degradation
- Biodegradable
- Compatible with Sentinel R700
- Contains corrosion inhibitors for superior protection of system metals
- **Contains a biocide to prevent fouling**
- **Non-toxic**
- Supplied as concentrate in 20 Litre Tubs

Sentinel R600 Thermal Fluid for Air Source Heat Pumps



Sentinel R600 is a blue glycol based liquid. It's specifically designed for use as a highly efficient heat transfer fluid providing frost protection in Air Source Heat Pump systems.

As a multi-purpose inhibited thermal fluid concentrate it has the added benefits of preventing corrosion and scale in the Air Source Heat Pump system.

- Easy and quick to dose
- Resistant to degradation
- Biodegradable
- Compatible with heat pump materials
- Compatible with Sentinel R700
- Controls corrosion and scale
- **Non-toxic**
- Supplied as concentrate in 20 Litre Tubs

Heat Pump Pre-Commissioning & Maintenance Solutions

Kilfrostr SF20



Dosage:

- For use as a fast acting system sanitiser: 1 litre of SF20 to every 200 litres of system water.
- In systems to be left stagnant for any significant periods of time: 1 Litre SF20 to every 600 Litre of system water.

Contact Time:

For best results, it is recommended that Kilfrostr SF20 is circulated for a minimum of 12-24 hours within systems. As per the user guidelines, the system should first be cleaned of all physical debris before adding Kilfrostr SF20.

Test and monitoring:

A Kilfrostr SF20 Test Kit is available for an onsite evaluation of the biological content of the collector. It can also be used to ensure the correct dosage of SF20 is administered and maintained. keep out of reach of children.

Heat Pump Sanitiser and Biocide Solution

Kilfrostr SF20 is a stabilised, fast acting, sanitiser and biocide solution, especially formulated for use with Ground Source Heat Pump Systems. It can be used during pre-commissioning cleaning of pipework in heating and chilled water systems (as instructed in building regulations BSRIA BG 29/2012 and Building Regs Part L) or to clean and sanitise pre-installed systems already contaminated with biological fouling. The active ingredient in SF20 is a fast acting oxidising biocide which decomposes to environmentally benign substances. These active ingredients are effective against a wide range of microorganisms including legionella bacteria.

- Suitable for pre-commissioning chemical cleaning
- Suitable for clean in place (CIP) applications
- Stabilised fast acting oxidising sanitiser and biocide agent
- Effective against a wide range of microorganisms including Legionella
- Fully biodegradable decomposing into environmentally benign substances
- Supplied in 1 litre tubs

User Guidelines:

Kilfrostr recommends a 2 steps chemical cleaning and sanitising protocol:

1. **CLEANSING:** Kilfrostr SF10 Cleaning Fluid or SF11 Cleaning and Descaling fluid is circulated and flushed to lift soil and physical debris or scale. **ONLY REQUIRED WHEN CLEANING AN EXISTING SYSTEM**
2. **SANITISING:** After flushing the cleaning fluid, Kilfrostr SF20 should be added and circulated.

Safety:

Kilfrostr SF20 must not be mixed with other chemicals. Always handle biocides with care and keep out of reach of children.

Supplied in 1 litre tubs.



Heat Pump Pre-Commissioning & Maintenance Solutions

SF20 Test Kit



Content:

The SF20 Test Kit for Heat Pump Sanitiser and Biocide Solution contains:

- SF20 test strips (10 ea.)
- Dip slides (5 ea.) – 6 months shelf life
- Sample bottle
- Instructions

Test Kit For Heat Pump Sanitiser and Biocide Solution

The Kilfrostop SF20 Test Kit is an easy-to-use portable field test kit containing the essential test tools to be used by engineers for the correct dosing and monitoring of the SF20 Heat Pump Sanitiser and Biocide Solution on pre-commissioning ground source and air source heat pump systems.

Testing and monitoring:

The Kilfrostop SF20 Test Kit can be used to detect existing problems with biological growth and, in combination with the Kilfrostop SF20 Heat Pump Sanitiser and Biocide Solution, prevent future problems associated with biological fouling. The SF20 Test Kit enables the engineer to apply and maintain the correct dose of Kilfrostop SF20 Heat Pump Sanitiser and Biocide Solution in both ground and air source heat pumps. The SF20 test kit can also be used to check for biological activity prior to installation of the system heat transfer fluid antifreeze.

If SF20 solution is not dosed correctly or not used at all during pre-commissioning the risk of subsequent biological fouling of the thermal fluid or anti-freeze solution that is added will increase. Such fouling can lead to unpleasant smells and, in the worst cases, loss of system efficiency by thermal fluid degradation, microbial induced corrosion and extensive system damage.

Kilfrostop offers in depth analysis services.

Features and benefits:

- Easy-to-use portable field test kit
- Determines the level of active Kilfrostop SF20 content during pre-commission of heat pumps
- Determines the level of biological contamination during pre-commissioning of heat pumps and in the thermal fluid / anti-freeze solution

The Kilfrostop SF20 Test Kit allows engineers to test the following:

Test	Method	Readings
Kilfrostop SF20 active content	Test Strips	PPM Colour reading
Biological contamination	Dip slides	CFU/ml Visual check
Sampling	Sample bottle	Sample submission to Kilfrostop for analysis

Heat Pump Pre-Commissioning & Maintenance Solutions

Sentinel R700 Sanitiser & Biocide



Sanitiser & Biocide for Ground & Air Source Heat Pumps.

Typical fill is 1 litre bottle for 300L (new system)

3 in 1 advantages:

- Pre-treatment steriliser
- Ideal as a system protector if the collector pipes/vertical probes are to be commissioned at a later date to maintain a sterile environment
- Can be added to a system where there exists problems caused by the growth of organisms such as bacteria & fungi. Caused typically by the degradation of thermal fluids or blockages in the pipework system causing unpleasant smells and corrosion of heat exchangers & manifolds etc.

R700 test kit



The R700 Test Kit is designed to ensure the correct use of Sentinel R700 in Heat Pump Systems. Heat Pump Systems may suffer from problems caused by the growth of bacteria and fungi. Typically the efficient operation of a system will be disrupted by blockages, unpleasant smells and corrosion. The correct use of Sentinel R700 will eradicate these problems by removing existing contamination and by preventing its subsequent development.

The R700 Test Kit is supplied in a compact, durable plastic case and contains the following items:

- Sentinel R700 Test Strips
- Dipslides
- Sample Bottle

The R700 Test Kit is supplied with a CD that contains the user instructions, together with a printable System Service Log. Replacement Dipslides available to replenish test kits.

Sentinel R800



Sentinel R800 is a clear liquid, unique and specifically designed for use as a highly efficient cleaning and flushing fluid in Ground Source Heat Pump equipment and ground loop circuits.

Glycol-based thermal fluids commonly used in such circuits can degrade over time because of the stresses of cycling temperatures and is often accompanied by bacterial attack.

- Provides a clean system for refilling with R500C Thermal Fluid for Ground Source Heat Pump Systems
- Effective within 1 hour of circulation
- Supplied as concentrate in 20 Litre Tubs

Fluids for Commercial & Domestic Heating Systems / Biomass Systems

Cleansing & Protection

Sentinel X300



X300 System Cleaner is specifically designed for new central heating systems. It flushes out flux and installation debris from new indirect heating systems. X300 cleaner helps to maintain system efficiency and conserve fuel.

- Cleans new heating systems up to 6 months old
- Eliminates corrosive flux residues which could give rise to rapid pin-holing corrosion of radiators.
- Prevents harmful copper deposits being left in the system.
- An ideal preparation for X100 inhibitor.
- Supplied in 1L, 10L and 200 Litre Tubs

1 litre of **Sentinel X300** is sufficient to treat a typical domestic system of up to 10 radiators.

Sentinel X400



Specifically designed for existing systems Sentinel X400 is a non-acid treatment for cleaning older heating systems, restoring circulation to radiators and pipework. A ruthlessly efficient way to eliminate the build-up of magnetite sludge, X400 is the quick and easy way to eliminate cold spots and restore full heat emission. Helps to improve and maintain system efficiency and conserve fuel.

- Eliminates radiator cold spots • Can be used in all systems.
- Prepares existing systems for the installation of new boilers, pumps or panels.
- Does not cause pin-holing or leaks. • Supplied in 1L, 10L and 200 Litre Tubs

1 litre of **Sentinel X400** is sufficient to treat a typical domestic system of up to 10 radiators.

Sentinel X200



Sentinel X200 boiler noise reducer is a unique, life-long system treatment for the elimination boiler noise.

Safe to use in all types of indirect central heating systems, X200 noise reducer will quickly pay for itself in reduced fuel usage.

Supplied in 20 Litre Tubs.

Sentinel Senticlene 8500



A fast acting cleaner for commercial heating and closed cooling/chiller systems.

- Removes fouling particulate and sludge from commercial heating systems
- Restores full circulation and heat transfer to pipe work and radiators
- Ideal for systems requiring quick, immediate and UNPLANNED attention
- Can be used prior to a new boiler or chiller installation
- Ideal for pre-commission cleaning programmes
- Supplied in 20 litre tubs

Fluids for Commercial & Domestic Heating Systems / Biomass Systems

Cleansing & Protection – Sentinel Senticide 7500



A biocide for commercial heating and closed circuit cooling/chiller systems. Ideal for low temperature systems without natural pasteurisation.

- Effective biocide, algaecide and fungicide
- Effective over wide pH range
- Ideal for pre-commission cleaning programmes
- Long lasting protection against aerobic and anaerobic bacteria
- Low toxicity
- Supplied in 20 Litre Tubs
- Non-corrosive to system metals

Freeze Protection – Sentinel X500



Some Biomass boiler systems require protection against freezing as well as protection from scale formation and corrosion. X500 combines the market leading technologies available in X100 inhibitor with a non-toxic antifreeze in one simple to use product.

X500 provides protection against scale and corrosion in all types of indirect heating systems, including those containing aluminium components, whilst preventing freezing.

- Prevents freezing
- Enhanced scale & corrosion protection
- Protects all system metals
- Prevents pin-holing
- Supplied in 20 litre tubs

Sentinel X500 should be dosed at a minimum of 20% of total system volume to give frost protection of -8°C, a 30% solution will protect down to -13°C.

Central Heating Inhibitor – Sentinel X100

Formulated as a multipurpose treatment to inhibit corrosion, scale, boiler noise and hydrogen gassing in all types of indirect heating systems including those containing aluminium components. Sentinel X100 is suitable for use in all waters, both hard and soft. The formulation is completely non-toxic.

1 litre of **Sentinel X100** is sufficient to treat a typical domestic system of up to 10 radiators.

Features and Benefits:

- Effectively controls scale and corrosion
- Helps prevent the formation of hydrogen gas
- Suitable for all metals including aluminium
- Easy to handle – Non-toxic and biodegradable
- Concentration is easily checked with a Sentinel Test Kit or a conductivity meter
- Supplied in 1L, 10L and 20 Litre Tubs



We recommend regular use of the Sentinel X100 Test Kit for central heating systems containing Sentinel X100 Inhibitor as it is a versatile treatment intended to control the risk of corrosion and scaling. The Sentinel X100 Test Kit allows you to check that the dosage of Sentinel X100 inside the system is sufficient to provide protection.

Fluids for Commercial & Domestic Heating Systems / Biomass Systems

X100 System Check Kit



Sentinel SystemCheck is a water treatment analysis service which provides rapid confirmation to installers, engineers, homeowners and authorities that a central heating system has been correctly cleaned and then protected with Sentinel X100 Inhibitor. It can be used during the commissioning of a new system or an older system following the replacement of any components.

Normal boiler systems do not generally need to be sanitised with R700 because they operate at temperatures well above 60°C and therefore there is a general pasteurisation effect. However many commercial boilers do not run on a regular basis or they are so big that the temp in some parts of the system remains low, e.g. underfloor heating – If you think this is the case then using R700 to sanitise is a wise precaution... if in doubt add R700!

KaIGUARD



Scale on Heat Exchanger

Sentinel's Commercial Electrolytic Lime Scale Inhibitor for all Water Heaters.

KaIGUARD requires no salt to operate and is an environmentally friendly solution to prevent limescale deposits that saves money through greater energy efficiency, reduced maintenance and enhanced performance of water systems. The technology is listed in the Part L Building Regs Domestic Building Services Compliance Guide.

- Only ONE KaIGUARD is needed to protect the whole H&C system
- Independently proven water treatment chemistry
- KaIGUARD treatment does not decay with pumping or storage, it permanently protects against limescale
- WRAS approved
- Delivers value engineering when installed on rising main, CAPEX savings likely with no detriment in performance
- Cleaner taps, showers and valves means bacteria have less places to hide
- Keeps systems clean and protects capital investments
- Where it replaces a brine water softener, it can deliver an ROI in around 12 months.

KaIGUARD
permanent
treatment solution
is widely specified
& installed for major
commercial clients



Fluids for Commercial & Domestic Heating Systems / Biomass Systems

Filling and Flushing Station



Go Geothermal have worked closely with leading heat pump manufacturers for many years and one of the many advantages of this is awareness of common issues. One such example is the importance of flushing units up to the task of expelling enough air and the correct equipment being used.

One of the most common issues seen by installers is trapped air in collector systems – Our solution eradicates this problem.

Our solution not only complies with the MIS3005 document requirement it exceeds it. It also ensures correct mixing of heat transfer fluids another major issue with GSHP installs.

Can fill 500m of 40mm Ground Collector Pipe with Glycol in less than 30 minutes.

Application:

Filling, flushing and venting large scale solar collectors, ground collectors, probes and Underfloor heating systems.

Features:

- Dry self-priming impeller pump, working pressure max. 5 bar
- 2 x 3 m supply and return hose 1"
- Sturdy cart with pneumatic tyres
- 120 litre tank
- 90 L/min Flow Rate
- 2 multifunction valves
- Pressure relief valve
- Comes complete with a standard UK 3 Pin 240V Plug

Preinsulated Pipe

For district heating, heating, biomass and biogas systems.

The ideal solution for transporting hot water with minimal heat loss.

We now offer the superb Rauthermex & Rauvitherm Pre-Insulated pipe. Available in long lengths, depending on pipe size up to 400m.

Pre-Insulated Pipe solutions available in Single & Twin configurations:

Rauvitherm - Manufactured in the UK



Having our own Decoiler means we can cut to order and deliver direct from our stores on a 1–2 day Service (AM to most of the UK).

- Available in sizes 25mm, 32mm, 40mm, 50mm, 63mm, 75mm, 90mm, 110mm, 125mm, 140mm, 160mm.
- Ideal for transporting hot water with minimal heat loss
- Temperature range -15 °C to +95 °C
- Supplied cut to specific lengths
- No minimum order charge
- 5 Year Warranty
- WRAS Approved
- Rauvitherm manufactured in the UK
- Cut to order and delivered on a 1–2 day service (AM Service to most of the UK)

RAUVITHERM

- Pre-insulated pipe system for short heating distances, small to medium heating networks and heat distribution
- Optimum heat transport with low heat losses
- Application in tight spaces, on existing construction sites, equipment construction, for tightly branched heating networks
- Longitudinally watertight flexible pipe system with a robust outer sleeve
- Safe sleeve system without intricate screw connections and minimal shrinkage effort

CUT TO ORDER AND DELIVERED ON A 1–2 DAY SERVICE (AM Services to most parts of the UK)



Preinsulated Pipe

Rauthermex



Rauthermex – With a heat loss of just $\lambda < 0.024$, this product lends itself perfectly to large commercial projects where heat loss needs to be kept to a minimum.

- Available in sizes 20mm, 25mm, 32mm, 40mm, 50mm, 63mm, 75mm, 90mm, 110mm, 125mm, 160mm (DUO available up to and including 75mm)
- Ideal for transporting hot water with minimal heat loss
- Temperature range -15°C to $+95^{\circ}\text{C}$
- Supplied cut to specific lengths
- No minimum order charge
- 5 Year Warranty
- WRAS Approved



RAUTHERMEX

- Pre-insulated composite pipe system for large heating distances and distribution networks
- Optimum heat transport with the minimum loss of heat
- Longitudinal pipe system which does not change in length if the temperature fluctuates

REHAU Everloc



An extensive range of fittings are available to cover applications which include Preinsulated Pipe, Underfloor Heating, Plumbing & Heating Pipework. These include copper adapters, male/female threaded fittings, tees and elbows.

The Rehaul Everloc joint has been proven since the 1980's installed all over the world it has many advantages;

- Leak Proof
- Speed of installation
- Over $\frac{3}{4}$ billion joints already installed
- Simple tooling makes jointing simple and lends itself to jointing in poor weather conditions
- No bore reduction at joint
- Can be used on internal and external joints (versatile)
- Typical joint time 32mm and below (23 seconds)



Available up to and including 63mm from our warehouse.

Cylinders

Buffer Tanks/Hot Water Cylinders for Ground/Air Source/Biomass



We stock a range of Buffer Tanks and Hot Water Cylinders for Ground/Air Source/Biomass in various sizes and configurations. We also offer BESPOKE Buffer Tanks and Cylinders if you have certain requirements.



Hot Water Cylinders

Heat Pump Cylinders are designed to work seamlessly with Heat Pumps to provide an efficient and environmentally friendly way of supplying domestic hot water. Employing a large surface area heat exchanger (coil) to maximise the transfer of heat generated from renewable energy to the stored water, optimising heat pump efficiency and reducing running costs.

Unvented and with single or twin coils. From 120L to 1500L and beyond. Coil lengths can be configured to your Heat Pump Manufacturer's specification, DO NOT be caught out by the coil length being too short!! Multiple connections to connect Solar Thermal, Biomass etc can be supplied.

Instantaneous Hot Water Cylinders/Thermal Stores

These cylinders are buffer and instantaneous water heater cylinders in one. This enables the highly effective heat exchangers to improve the hygiene inside the cylinder, since only smaller amounts of DHW need to be kept hot to deliver hot water to the entire house. The internal indirect solar coil inside the cylinder allows an additional renewable source of energy to be easily integrated into the system. Sizes available 600 – 1500 Litres.

In addition to the above advantages, thermal stores allows pressurised hot water heated from solid fuel safely and fully compliant with current plumbing practices and standards.



Buffer Tanks

Buffer Cylinders are essentially cylinders that contains a volume of hot water. They are recommended by Heat Pump manufacturers to ensure efficient running of the Heat Pump. This is achieved by presenting the Heat Pump with a large volume of water to heat which reduces the amount of Heat Pump cycling which in turn extends the life of the Heat Pumps compressor and by reducing cycling time reduces running costs.

Direct Buffer Stores are heated by the main heat source only (i.e. the Heat Pump) whilst Indirect Buffer Stores enable connections to be made to an additional heat source such as oil or gas (but not solid fuel) as well as the Heat Pump. This is achieved by having a separate coil in the Buffer Store.

From 40L to 2000L and above. We can have any configuration made to your design, i.e. vertical/horizontal, wall mountable, multiple connection points, direct/indirect, coil lengths for indirect units etc.

Domestic Hot Water Cylinders and Buffer Cylinders must be considered carefully as part of the Heating and Hot Water system design. Choosing a Cylinder and a Tank that is specially designed to work with the Heat Pump/Biomass Boiler being installed is critical for system efficiency. If space is a premium please contact us to discuss our range of DHW Cylinders with integral Buffer Cylinders.



Underfloor Heating / Jaga Radiators

Underfloor Heating / Jaga Radiators



Utilising the latest software Go Geothermal can now offer a 24hr – 48hr turnaround on Underfloor project enquiries.

Full AutoCAD* design service, Commissioning Details, Zone Requirements plus all electrical documents and schematics – Free of Charge upon receipt of order. *DWG format plans must be provided.

Benefits of the system include:

- PERT, PE-X and MLCP Pipe systems available upon request
- Various pipe sizes ranging from 11mm up to 20mm diameter
- 10 Year Consequential Warranty
- Long Life - pressure stability across the temperature range gives a projected pipe life well in excess of 50 years (in accordance with BS7291)
- MLCP pipe pressure rating of 10 bar at 95°C for 50 years (in accordance with BS 7291)
- Low frictional resistance through pipe and fittings results in low noise transition
- WRC listed under the water fittings and bylaws scheme

Controls:

- A full range of 12V or 240V, both wired and wireless control options available.
- Ranging from dial to more advanced digital thermostats to suit customers' requirements.
- Controls with internet accessibility available.

Floor Constructions:

A range of solutions:

- Screed floors - Clip Rails or Tacker Staples
- Timber Suspended Floors - Heat Plates or Screed Infill
- Overlay Systems - Ideal for refurb of existing buildings



Underfloor Heating / Jaga Radiators

Heat Emitters



The Jaga DBE Radiator gives up to 300% higher heating output than standard radiators. Maximum Efficiency with Low Water Temperature Systems (i.e. Heat Pumps).

The unique combination of the copper-aluminium heat exchanger (standard in every Low-H₂O radiator) and the powerful DBE technology that has been specially developed for these low water temperatures, gives up to 3 times more heat output than a conventional radiator with the same dimensions.

DBE SAVES ENERGY

FASTER HEATING

Due to their high mass, traditional radiators and underfloor heating need a Lot of energy just to warm themselves up. Only when they have heated up sufficiently themselves do they begin to emit heat. Jaga Low-H₂O heat exchangers with DBE, limit this warm-up time to an absolute minimum. The heating time is much shorter making heat delivery fast and more efficient. This means that the night-time reduction periods can be extended, saving money and energy.

LESS EXCESS HEATING

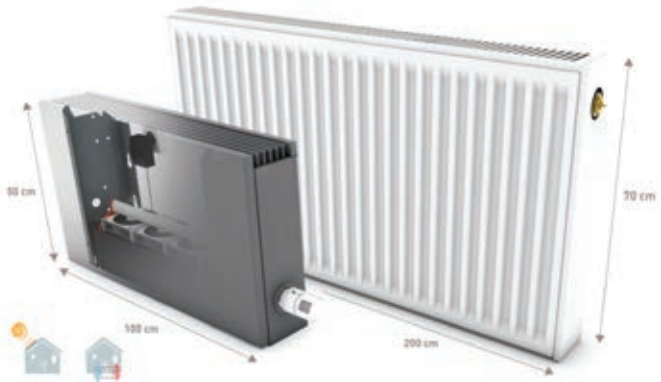
Is the room approaching the desired temperature? Is the sun suddenly shining in? Traditional radiators stubbornly keep on heating the room, wasting energy. A DBE will react much more quickly, and automatically reduce the he output at the right time. This means that the comfort temperature is under better control.

UP TO 30% MORE ECONOMICAL

The better temperature control and the shorter operating periods result in significant energy savings, making your heating system much more economical. With Jaga DBE you can easily switch to any new, environmentally friendly low water temperature system. It's a matter of preparing for the future!

Key Advantages of Jaga DBE Heating:

- Rapid response & Controllability
- Comfortable heating
- More constant room temperatures
- Safe surface temperatures
- Excellent temperature distribution
- Lower lifetime costs
- Ideal for use with Ground/Air Source Heat Pump Systems



Heat Meters

For Ground Source & Air Source Heat Pumps, Biomass & Solar applications



Mains Operated



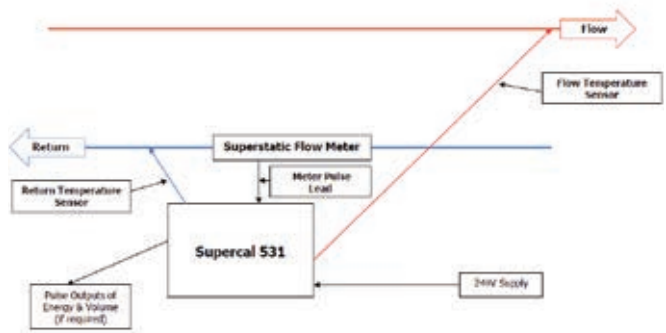
Mains & Battery Operated



Battery Operated

RHI Scheme Compliant – MID Approved

- RHI Scheme & MID Compliant Heat Meters
- Sensor Cable MID Approved & Tagged
- Certificate of Conformity Supplied with each Heat Meter
- Third Party Accredited "best in class"
- Same Meter for Heating and Cooling: -20°C $+130^{\circ}\text{C}$.
- Remote Measuring
- Can be Calibrated for use with Glycol – most others cannot
- Same meter for horizontal or vertical pipework
- Full range of flows – $Q_{p1.0}$ (130°C) to Q_{p400} (130°C)
- No reflection or misdirection of the signals
– as with ultrasonic sensors.
- Replaceable sensor head without removing from pipework



Typical Heat Meter Layout

Note: Temperature Sensor Leads **Must Not** be shortened



Water Source

Limnion – Underwater Heat Exchanger



Having exclusive access to Frank GmbH renewable products we are excited to be able to offer the Limnion here in the UK.

Whilst traditional coils and Pond Mats have been used successfully, this new solution answers many of the shortcomings of these traditional solutions. Particularly on larger builds or in challenging conditions the issues of silt build up and leak integrity are paramount in the design of the Limnion.

Heat Exchanger for Lakes, can be used for heating and cooling:

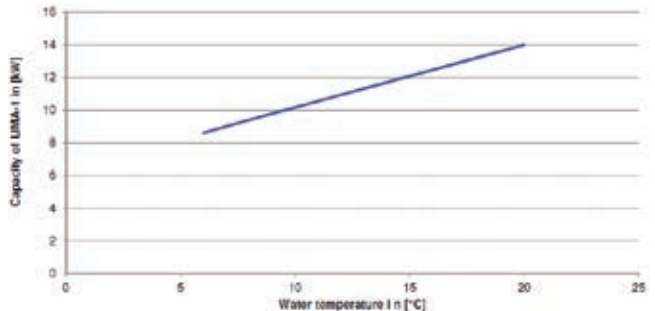
- Alternative to Pond Mats, Ground Source Probes and Horizontal Collector Systems
- Compact Heat Exchanger Unit for easy installation
- Extremely Efficient due to optimised flow
- No uncontrolled PE pipe
- Needs far less space than Pond Mats
- No encrustation of heat exchanger transfer surface
- Strong and stable housing for the protection of heat exchanger pipes
- No corrosion – 100% PE, no metal parts
- No moving parts
- Several successful projects across Europe



Technical Data:

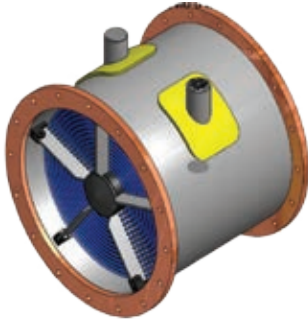
Capacity of LIMA-1 an example with 15 kW heat pump

(heat transfer medium: water-Glycol, specific heat 3,9 kJ/kg K)
by constant flow rate 3,4 m³/h)



Water Source

Lima F - Water Heat Exchanger for streaming water



Description:

The Lima F water heat exchanger has been designed specifically for heat recovery from streaming water. The compact, highly efficient water heat exchanger extracts the heating energy from the water. It can also be used for passive and active cooling.

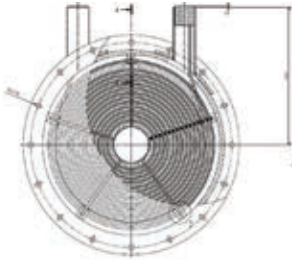
Installation:

The installation can be done with anchoring weights on the bottom of the body of water or on pile constructions, jetties or at the quay. A version with inlet grid is possible.

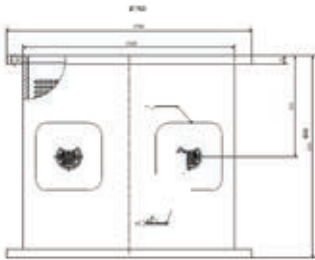
The heat exchanger and the protective housing are made of environment-friendly, high-quality polyethylene.

Features:

- Large heat exchanger surface
- All pipe connections welded
- Stable protection housing
- Safe connection to the Heat pump by welding with electrofusion fittings



Dimensions



Maximum Operating pressure	3,5 bar
Maximum test pressure	5,0 bar
Maximum permanent temperature range	-10°C bis +40°C
Diameter x length (without inlet grid)	630mm x 600mm
Connection supply/return	PE 100 Spigot d 40 x 3,7mm



Water Source

Lake Weights for Ground Source Collector Pipes

Go Geothermal Lake Weights:

Diameter: 40mm

Length: 1150mm

Weight: 2.5kg



*Our Lake Weights being deployed
(once the pipe is filled with
Glycol, the pipe will sink)*

Pond Mats

Corrosion resistant stainless steel frame complete with a 32mm x 250m Slinky. Easy installation and low cost solution that can be easily weighed down on site.



Mechanical Ventilation & Heat Recovery

MVHR



Working in partnership with the trusted manufacturer of renewable energy equipment Stiebel Eltron, Go Geothermal can offer full bespoke Mechanical Ventilation & Heat Recovery systems. Full designs are done in conjunction with our partners in Germany and with a range of units available virtually all applications can be catered for.

Why is ventilation so important?

For practical thermal insulation purposes, nowadays, modern homes are so airtight that virtually no energy is lost. Low energy houses in particular have an airtight building envelope primarily to prevent heat losses. This also prevents any natural air change and makes mechanical ventilation essential. However, ventilation is also an issue in older homes. As a result of subsequent thermal insulation measures, there is often no longer an adequate supply of outdoor air through gaps and other previously air permeable spots. This creates a conflict of interest between practical thermal insulation and the need for fresh air, which can be resolved with mechanical ventilation systems.

Ventilation

Sealed rooms require regular supplies of fresh air. The hourly minimum air change required is 0.4-times the room volume.

Energy Consumption

Ventilation results in the loss of approx. 50% of the heating energy through windows and infiltration. It is just like throwing money out of the window!

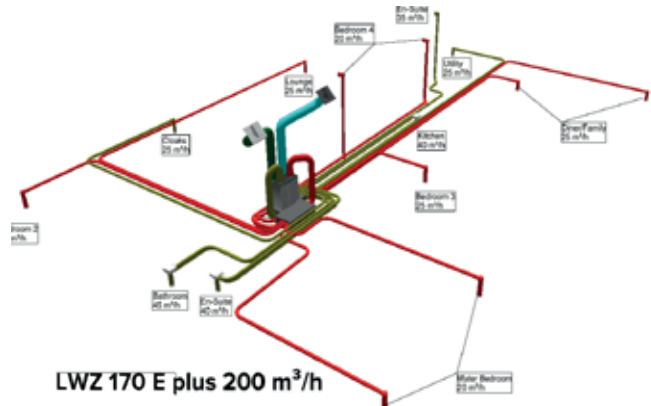
Air tight buildings

A tight building envelope and closely sealed windows reduce heating bills, but also greatly reduce air change rates.

Mould

Lack of ventilation increases the relative humidity indoors. The result is moisture damage and mould growth.

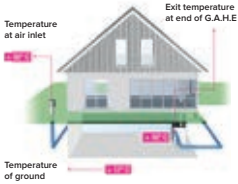
The increasing impermeability of new buildings and modernised residential dwellings in particular, calls for a continuous air change, for example, in order to avoid the growth of mould fungus and damage to the building. However, ventilation via windows is not very practicable as the sole means of ventilation. To ensure an energy efficient and hygienic minimum air change, ventilation via windows would have to occur four to six times a day for approx. 5 minutes each time. Heating would have to be turned off and windows fully open, making this virtually impossible. Mechanical ventilation systems reliably safeguard the necessary supply of



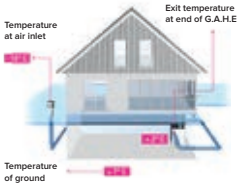
Rehau Awadukt

Ground-Air Heat Exchanger System for Controlled Ventilation

Summer Operation



Winter Operation



Ever improving insulation and air tight construction of buildings means that controlled ventilation is becoming ever more important. The ground-air heat exchanger makes a considerable contribution to this, especially when used in conjunction with a heat recovery unit.

As well as increasing the quality of life within the building, this also provides significant energy savings by using the embodied ground energy to pre-condition the incoming ventilation air. The ground-air heat exchanger takes advantage of the fact that the temperature of the ground, 1.5 to 2m deep, remains a relative constant temperature between 7°C – 12°C throughout the year. The incoming air passes through an underground pipe system to pre-heat it in winter and to pre-cool in summer. Experience shows that a ground-air heat exchanger makes it possible to raise the temperature of air taken in by up to 9°C in winter, and to reduce it by up to 14°C.

AWADUKT Thermo Features and Benefits:

- **Antimicrobial inner layer AWADUKT**
Thermo pipes feature an inner layer unique amongst ground-air heat exchanger pipes. This is achieved by a specialist process that incorporates silver particles into the inner layer of the base polymer. The result is that the fresh air inside the system is hygienic, containing virtually no germs.
- **Solid Wall Polypropylene (PP) pipe**
The optimised PP pipe with enhanced conductivity provides excellent heat transfer between the ground and the air, thereby ensuring a high degree of thermal efficiency.
- **Radon-Proof**
Radon is a natural, colourless, odourless radioactive inert gas encountered in rocks and in the ground. Radon diffuses through the ground, dissolves in water and escapes to the atmosphere at the ground surface.
- **High longitudinal rigidity**
The high longitudinal rigidity of AWADUKT Thermo pipes prevents sagging, so that condensation is safely discharged instead of forming puddles at the lowest points. Pipes with inadequate longitudinal rigidity are not to be recommended for ground-air heat exchangers.
- **Inlet Units**
Inlet units are also available, the air is passed into the ground-air heat exchanger through an air inlet tower. The air is filtered by a fine filter to BS EN 779, eliminating dust and pollen.



Rehau Awadukt

Domestic Applications



1 Air Inlet Tower

With a range of filters (G4 or F6) for hygienic, dust and pollen free air supply.

2 AWADUKT Thermo Pipe System

- Solid walled PP pipe for optimised heat conductivity
- Antimicrobial inner layer to prevent microbial growth
- High longitudinal rigidity for reliable condensation discharge
- Radon-proof by virtue of special sealing system
- Wide range of fittings.

3 Condensation discharge

This is installed towards the end of the system to remove any condensation formed during the heat transfer.

4 Mechanical Ventilation & Heat recovery unit

6 Extraction of warm, stale air

For a typical domestic application, a minimum of 40m of pipework is required. This is either with a loop around the building or by a meander pattern. The optimum pipe diameter for air flow rates of up to 300m³/h is 200mm. For air flow rates up to 450m³/h, DN250 pipe is used.

5 Distribution of fresh filtered air

7 Ring Seal



Commercial Applications

AWADUKT Thermo is also well suited to commercial applications, in particular in the health and education sectors. These buildings require a constant source of fresh, filtered air due to the high occupancy levels. Otherwise carbon dioxide build up can be a problem.

The cooling effects of the ground-air heat exchangers are of particular benefit to large buildings in summer. It is possible to achieve significant air conditioning energy savings and, in some cases, even remove the need for air-conditioning completely. A ground-air heat exchanger can in some cases supply 10% of a commercial building's energy demand from on-site renewable sources. Pre-heating the ventilation air also provides significant cost savings on the heat recovery unit.

A large open area is normally required for commercial applications (e.g. a sports pitch is ideal). However, sometimes it may be beneficial to put the pipes under the foundations. It must be noted that this method does not allow for solar gain, which favourably increases the temperature of the ground, but still provides an effective solution and saves costs.

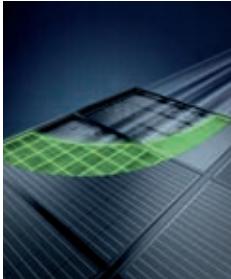
On commercial applications, it is usual to use a Tichelmann layout. This is a self-balancing system: whichever path the air flows, it travels the same distance, reducing the pressure losses.

Usually DN200-250 pipe is used for the heat transfer and DN 500, 800, 1000 or 1200 is used for the distribution pipe. The required air flow dictates the optimum pipe diameters.

Solar

Air-Volt Plus - Solar Aerovoltaic

The New Generation of PV Panels have arrived!



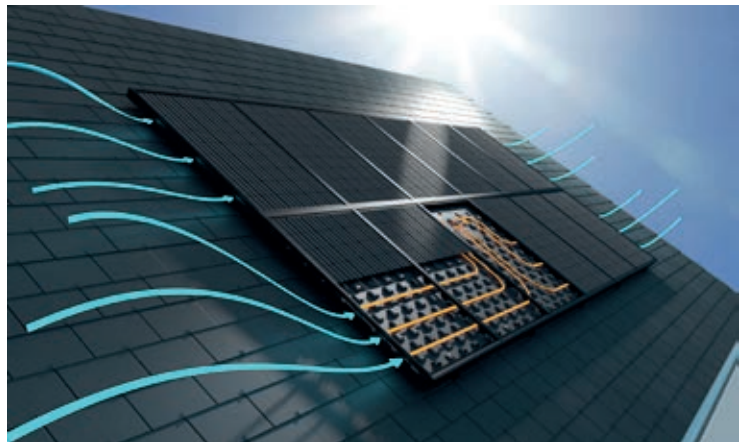
With its innovative double-sided effect and athermal boosters, AIR-VOLT PLUS is a true revolution in the world of renewable energy. The system offers an unparalleled experience in everyday life with even more comfort and savings!

When a photovoltaic panel produces electricity, it actually only uses 20% of the solar energy available to it. It abandons 60% of it, which is heat and the remaining 20% is lost through reflection. But thanks to its innovative air recovery, the R-VOLT PLUS aerovoltaic system uses the 60% of energy which is normally lost! This makes it the most powerful solar panel in the world, with unrivalled output of 900 W (250 Wp + 650 Wth)!

On the front, the panels convert the sun's rays into electricity in the same way conventional photovoltaic panels do. On the back the air is captured and heated between the panel and a well-insulated backing sheet before being aspirated, filtered and circulated around the home. This process can save home owners up to 50% on their heating bill on top of the benefits normally associated with solar panels (FIT, export and electricity savings).

Advantages

- Easy to install: Full kits supplied incl ducting, flashing, vents, etc...
- Easy to sell: Web or application based simulator for simple estimates
- Available in-roof (BIPV) or on roof
- Generates electricity, heating and 95% filtrated air
- Summer night time cooling
- 20 Year Panel product Guarantee
- Modules and mounting kit MCS accredited



Solar

Smart Air - Remote Control and Monitoring



The system can be controlled remotely for even more comfort and added efficiency. **SMART-AIR** is a smartphone, tablet and web application tool for managing and monitoring the performance of the Systovi Aerovoltaic solution.

Live data is captured and displayed for a detailed analysis of the production of heat and electricity as well as the energy consumption of the home. Settings are optimised thanks to the automatic connection to a local internet weather service. In many cases the existing heating system can also be controlled with SMART-AIR.

Advantages

- Maximise efficiency with remote controls via app or web interface
- View energy production and consumption in real time (electricity, heating, DHW, cooling)
- View historical data
- Compatible with many existing heating controls

Store-H - Solar Heat Battery



The STORE-H battery works in perfect synergy with AIR-VOLT PLUS solar panels. At the same time hot air is being blown into the home, part of the heat is channelled into storage, while the temperature is kept comfortably warm.

STORE-H is a hot air battery consisting of several plates encapsulating revolutionary Phase Change Material (PCM). This material's state alters according to the temperature. When it gets hot, the crystals contained in the aluminium plates melts and absorbs the solar thermal energy. The battery is charged. When the temperature cools, this same substance solidifies and progressively releases the stored heat.

Advantages

- Up to 5hrs heating after the panels 'switch off'
- Eco friendly materials, no harmful & dangerous chemicals
- Patented battery, 15 year guarantee, 30 year life expectancy
- Can easily be retrofitted to existing AIR-VOLT PLUS systems
- Charge status can be monitored with SMART-AIR

Solar

V-SYS Ultra - Aesthetic, Robust and Powerful BIPV



V-SYS Ultra represents all the excellence of a premium European designed and built system. It combines high-yield photovoltaic production with **the unique elegance of an ultra-integrated solar array**: the panels are connected edge to edge for an aesthetic rendering of a great homogeneity.

Thanks to **permanent ventilation of the modules**, panel performance is maximised with an **average of 5 % more production** compared to non-ventilated panels as well as a longer life span.

Advantages

- 100% metal solution: robustness and durability
- Permanent ventilation of the panels for up to 5% more electricity.
- Ultra-integrated design system
- Patented Technology for water tightness
- Available with smaller 54 cell 1.5m² modules
- 20 Year Panel product Guarantee

Air-Sun - Solar Assisted Positive Input Ventilation



By intelligent use of air and solar energy 24/7, AIR-SUN substantially improves comfort levels in the home whilst making real savings. The living space is heated and the humidity regulated thanks to the sun.

AIR-SUN is not just a ventilation system. Before being blown in to the house **the air is heated** by the unique patented solar collectors.

As little as 4 panels could be enough to heat an average size house for the months of April to September. Combined with the flow rate and humidity management, a low-consumption resistor ensures that a **suitable heat level is maintained 24/7**. AIR-SUN will substantially improve the air quality as well as generate real savings on heating costs.

Advantages

- Renewed and cleaned air at the ideal humidity level, 24/7
- Slight pressurisation acts as a barrier against moist and cold air
- Helps eradicate health issues linked to poor ventilation
- Web interface for remote control and monitoring of the system
- 20 years solar collector guarantee



Solar

PVT Panels



Solar PVT panels combine PV and Solar Thermal in to one unit. The Solar Thermal element not only heats your customer's hot water and/or buffer tank but will actively cool the PV module. By cooling the PV module the overall annual output of the module will be improved by as much as 20%!

PVT Panels can be extremely effective in increasing the Seasonal Performance Factor of Ground Source or Air Source Heat Pumps. The solar thermal element of the PVT panels can be used to provide hot water for the Hot Water Cylinder, and then once there is no further gain to be had the supply can be switched to increase the temperature of the buffer tank. Finally any further heat can be dumped into the ground to help recharge the earth temperature around the ground collectors. All of the above contribute to improving the SPF of the heat pump.

*Solar PVT + Heat Pump
= Increased SPF*

Solar Thermal



Solar Thermal Panels

We offer the finest quality European Made Solar Thermal Panels in either Tube form or Flat Plate.

Vacuum Tube

The tubes have the benefit of a 10-year guarantee against loss of vacuum. Collectors can be connected together and up to 12 collectors can be connected in series, using black ionised roof brackets providing a neat and attractive installation.

Flat Plate

Toughened 3.2mm thick glass for improved durability, and special anti-reflex coated glass for excellent solar transmission. The collector consists of a laser welded copper / aluminium grid with a high selective absorber coating and 40mm rear insulation.

Available in 2 models that can be connected in series in horizontal or vertical orientation.

All our Solar Thermal Panels are E Solar Keymark approved – the quality label for solar thermal products in Europe.

Solar

Sentinel R100 Heat Transfer Fluid for Solar Heating Systems



Features and Benefits:

- Ready to use concentration – no need for dilution
- Effective frost protection down to minus 25°C
- Resistant to degradation.
- Provides effective corrosion protection for system metals.
- Non-toxic and biodegradable
- Improved cost of operation of the solar system
- Supplied in 20 litre tubs

Sentinel R200 – Solar Cleaning Solution



Features and Benefits:

- Ready to use – no need for dilution
- Removes sludge and deposits from degraded thermal fluid
- Cleans with only 20 minutes circulation
- Effective at low or room temperature
- Can be used with flushing machine
- None foaming and easy disposal
- Compatible with the construction materials of the solar system
- Supplied in 20 litre tubs



For our Solar/Heat Transfer Fluid Filling Stations please see page 29.

Please note all of our Heat Transfer Fluids and Sanitiser/Biocides are made in the UK.

Thermally Enhanced Bentonite – HeatSeal

Thermally Enhanced Bentonite – HeatSeal



Offering 2.15 w/mk performance!

Totally UK sourced & manufactured product

Product verified by an independent UK based test house

A blend of quality assured raw materials used in conventional Civil Engineering applications, specifically formulated for use in Geothermal Heat Pump Grouting Technologies. Offers ease of mixing, combined with low shrinkage and excellent sealing.

Once mixed with water it remains slightly soft and non-setting, thus insuring continued flexibility to cope with any ground movement and maintain contact between the ground and probes.

Performance

The mixed product offers good pumpable qualities, good flow characteristics, and is designed to provide a high Thermal Conductivity Performance having been independently tested to provide a 2.15 w/mk performance and provides the following attributes :-

- Quality assured manufacture
- UK produced – low carbon footprint
- Non setting
- Single bag product eliminates on site blending
- Easy to mix
- Consistent/easy pumping performance and flow
- High thermal conductivity
- Low permeability – 3.5×10^{-11} m/sec
- Supplied in 25kg bags

The product is supplied in a dry powder form. We provide you with a single bag solution ensuring accuracy in material usage with each bag requiring only the addition of water.

Used by leading edge companies this Thermally Enhanced Grout provides excellent Thermal Conductivity specifically engineered for Ground Source and gives excellent pumpability.

Some people favour geothermal grouts with cement content. We avoid this because of the risk that future ground movement or drying out of a rigid pile of grout could lead to the double-whammy of:

- a) Loss of contact between the ground formation and the grout and or the grout and the loops and hence total break of conductivity.
- b) Contaminated surface water running down the gap between the formation and the rigid pile.

Proven Quality

For a copy of an independent 3rd Party Thermal Conductivity Test on our HeatSeal product please give us a call.



Energy Monitoring

Power Distribution Monitors

The MeasureMyEnergy range of Power Distribution Monitors enables monitoring and analysis of power consumption from incoming supply right down to individual circuits in a distribution board.

Individual components can be monitored such as the heat pump(s) power consumption right down to the power being used by the Glycol Pump, Immersion(s), Heat Pump Controller, Secondary return, Solar Thermal Pumps etc.

Using a range of fixed, split and flexible current transformers the PDM (Power Distribution Monitor) provides a cost-effective way to record demand data and consumption data without the need for disruptive re-wiring or equipment replacement.

Installation time is just a few hours and can normally be completed without business disruption. The PDM utilises the local data network to stream data quickly and securely to our cloud platform without the need for local IT infrastructure, servers or desktop software.

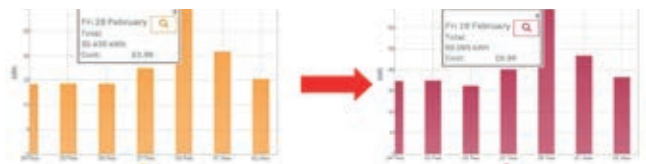
All functions are managed remotely to ensure a quick and painless deployment by electrical contractors.

The PDM can differentiate between electrical generation and may be used to monitor multiple PV arrays and energy import and export.



Directly compare the cost of electricity used with the value of heat generated
Proving the efficiency of your heat pump

Be alerted immediately - in real time - if your heat pump needs attention. For any reason.



Monitor the electrical consumption and costs of your heat pump in real time

Cooling Systems

REHAU Coolboard



Chilled ceiling systems offer the opportunity to cool offices, or other occupied spaces, efficiently and effectively.

REHAU CoolBoard consists of a double thickness gypsum board with routed grooves to carry 10mm RAUTHERM S PE-Xa pipe work. The panels are supplied pre-assembled with the pipe, along with an extensive range of fittings to secure the boards to the suspended ceiling hardware.

Pipe tails from the boards are connected into a manifold system to the supply of the chilled water. The complete system can be supplied using high quality RAUTHERM S PE-Xa pipework and REHAU EVERLOC™ fittings, ensuring no leaks - ever.

Where high performance cooling is required, special high performance panels are available, with improved thermal conductivity properties.

Unlike chilled beams and other ceiling systems, REHAU CoolBoard fits seamlessly with standard Gypsum ceiling panels in any suspended ceiling application. Although you may not be able to see the chilled ceiling panels from the standard panels, you will feel their effect.

The cold feed can be provided by a small chiller unit.



REHAU Coolboard

Pipe Fittings

Fittings

We stock a large range of Black Electrofusion, Compression and Transition fittings (i.e. PE to copper etc.). Electrofusion fittings manufactured in accordance with EN12201 / EN1555 and have a standard UK spec. 4.7mm pin suitable for any standard Electrofusion control box.



Sizes held in stock are 25mm, 32mm, 40mm, 50mm, 63mm, 90mm, 110mm and 125mm.
Other sizes can be obtained within 24 hours.

Geothermal Specific Fittings – Y-Piece



Y-Piece

We offer some very unique fittings including Y-Pieces. Please call with your requirements, if we don't stock it we can normally ship these 'unusual' items next day.

Designed with a Double Probe in mind, but also offers the installer a neat space saving and flow optimised method of combining 1 larger bore pipe into 2 smaller bore pipes. e.g. 50mm -> 40mm.

Pipe Fittings

Rehau Everloc Joints



An extensive range of fittings are available to cover applications which include Underfloor Heating, Plumbing & Heating and Pre-insulated Pipework. These include copper adapters, male/female threaded fittings, tees and elbows.

The Rehau Everloc joint has been proven since the 1980's installed all over the world it has many advantages;

- Leak Proof
- Speed of installation
- Over ¾ billion leak free joints already installed
- Simple tooling makes jointing simple and lends itself to jointing in poor weather conditions
- No bore reduction at joint
- Can be used on internal and external joints (versatile)
- Typical joint time for 32mm and below (23 seconds)

Available up to and including 63mm from our warehouse.



Site Tents



Ideal for keeping pipe and fittings dry during the Electrofusion process, whilst also providing a means to elevate the ambient air temperature during extreme winter weather reducing the risk of failed joints. The PVC Translucent roof Allows maximum NATURAL light into tent work area.

Translucent 550gms PVC roof for natural light ingress

- Green 450gms PVC reinforced Flame Retardant cover material (BS7837)
- Waterproof
- Hardened Aluminium frame or Fibre-glass (Non Conductive)
- Erect in Minutes
- Zipped doors both ends
- Collapsible with Storage bag
- Supplied with 4 guy lines

We offer multiple sizes, such as 1.8m x 1.8m x 2.3m (which when folded is just 1.8m x 0.3m x 0,3m).

Ancillaries



Magnetic System Filters

Many untreated or improperly treated heating systems suffer from an accumulation of debris, collectively referred to as sludge deposits. Made up of corrosion products, water hardness flakes and installation or maintenance debris, this sludge can cause premature equipment failure or block/restrict system flow – directly reducing system life, efficiency and effectiveness.

The SpiroTrap MB3 is an extremely effective and powerful dirt separator for removing both magnetic and non-magnetic dirt particles from central heating systems.

- Detachable powerful magnet • 20 Year Guarantee
- Rotating connector to enabling the unit to be installed on horizontal, vertical and even diagonal pipes

Servicing takes just 30 seconds (emptying of deposits). The removal of parts is NOT required.



Air Eliminators

Air – in other words Oxygen – once present in a heating system, can cause blocks in radiators and pipe work due to the forming of large air pockets. The presence of oxygen can also cause corrosion of system components.

The SpiroVent RV2 automatically deaerates the system water and vents air as it circulates the heating system, leaving the system totally air free.

- Removes circulating air and micro bubbles effectively • 20 Year Guarantee
- Rotating connector to enabling the unit to be installed on horizontal, vertical and even diagonal pipes



Flow Limiters/Meters

Brass balancing valve c/w multi-turn valve for accurate flow setting and shut-off. The flow meter is made from impact resistant and temperature stable plastic, has a rotatable flow meter permanently indicating the actual flow rate.

Available in sizes (Female BSP):

1" FBSP – 5-50 lpm

1.5" FBSP – 15-120 lpm

2" FBSP – 25-200 lpm

Please note this item should not be used as an external manifold replacement as their use in this way is not endorsed by the leading heat pump manufacturers.



Ball Valves

Double Spigot and Compression Ball Valves.

Available in various sizes, please call for more details.

Ancillaries

Underground Warning Tape



Our Underground Warning Tape comes in two varieties, detectable and non detectable.

The detectable tape is 100m long and 200mm wide, manufactured from high strength coloured rot resistant homopolymer polypropylene plastic mesh incorporating a traceable stainless steel wire.

The non detectable warning tape is 365m long and 150mm wide, made from high quality plastic which is free from PVC and is Acid/Alkali resistant.

In line with best practice, GSHP guidelines state Marker Tape must be used in every ground source installation – FOR MINIMAL COST HUGE REPAIR BILLS CAN BE AVOIDED.

Pipe insulation



Class O rated, it can reduce energy losses by up to 87%. It also prevents condensation and has built-in Anti-Microbial Protection which reduces mould and bacteria growth.

Excellent for insulating flow and return pipes when in close proximity, and for use where collector pipes are less than 1m below the surface. Also for use in plant rooms.

A large range of sizes are kept in stock.

- Closed cell structure provides built-in condensation control.
- Reduces energy losses by up to 87% • Water vapour resistance $\mu \geq 7,000$
- Self Seal – Comes with adhesive tape already applied
– Just peel off the strips and press together
- Class O Fire Protection • Thermal conductivity $\lambda_o \text{ } ^\circ\text{C} \leq 0.034 \text{ W/(m.K)}$
- Built-in Microban® antimicrobial protection reduces mould and bacteria growth

Refractometer



Special features make measurement easy and reliable.

- Anti-roll supports
- High precision, clear scale
- Zero adjust with lock
- Push on prism flap
- Serial numbered
- Certificate of Conformity & Calibrated
- Manufactured in the UK.



Ancillaries

22mm Electrolytic Scale Inhibitor (SESI)



Electrolytic Scale Inhibitor for protecting Hot Water Systems

Key Features

- Protects against limescale encrustation
- WRAS approved
- 5 year guarantee
- Available in 22mm from Stock
- Recommended by the Compliance Guide to Part L1 of the Building Regulations
- Takes just a few minutes to install

Electrofusion Control Units / Ancillaries

Electrofusion Control Units



It will display fault finding and calibration information from the menu options to allow errors to be quickly diagnosed. Programmable service intervals can be set to make sure the control unit remains in good working order.

Our British Manufactured Electrofusion Control Unit is manual or fully automatic and designed to fuse bar coded PE and PP pressure fittings in the range of 8v to 48v and pipe sizes up to 400mm.

With a data log memory in excess of 2000 welds and the ability to download to a USB it has been designed with simplicity of use in mind. Its fast user interface allows fittings to be welded quickly and reliably.

Designed for universal use it does not limit the user by "brand specific fittings" (units particularly from Scandinavia are chipped to only work with a sole make of fitting) Our Electrofusion Control Unit is compatible with all leading brands of UK and European fittings offering peace of mind when sourcing electrofusion product.

The unit is built in a strong lightweight metal housing to protect it from damage and the compact design makes it easy to transport. It is fully sealed and waterproof to IP65 and is suitable for use with portable generators and is electrically protected to Class 1.

It has a simple button pad that allows quick navigation through the operating menus. Information is shown on a bright four line display that can easily be read in all lighting conditions.

An additional feature is that the lead adaptors have been designed to accept both 4.7mm UK and 4mm European pins.



Electrofusion Tooling



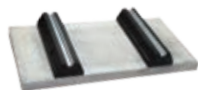
- Electrofusion Weld Wipes to clean pipe ends
- Pipe Cutters (25mm – 63mm) to cut pipe ends square
- Pipe Scraper – to remove oxidized layer from the pipe
- Alignment Clamp (25mm – 63mm) to secure pipe and fittings during the welding process

Not having these basic tools may result in electrofusion joint failures.

Air Source Heat Pump Ancillaries

Mounting and Hydraulic Components for Air Source Heat Pumps

Floor Mounting



Anti Vibration Rubber Mounting Feet for ASHP. Can also be supplied with a light weight mounting base.

Description:

600mm Wide x 100mm High Rubber Mounting Feet

600mm Wide x 100mm High Rubber Mounting Feet c/w Base

Flexible Hoses



Stainless Steel Flexible Hoses for connection to the ASHP

- 1 1/4" FBSP Brass Right Angled Connection to the Heat Pump
- 28mm Copper Compression Fitting
- Protected with 20mm Weatherproof High Grade Insulation
- 750mm Long

Motorised Diverter Valve

28mm CU 3 Port Motorized Diverter Valve. Fitted on the flow side is used to divert the output from the Heat Pump to either Hot Water or Space Heating.



Air Eliminator

The SpiroVent RV2 automatically deaerates the system water and vents air as it circulates the heating system, leaving the system totally air free. (See Ancillaries for more details)



Wall Mounted Brackets

Wall mounted ASHP Brackets.



System Strainer

28mm CU Brass "Y" Strainer. Fits on the return side after the isolation valves removing impurities from the system.



Expansion Vessel Sealed System Kit

Fitted on the return side and required on each system the 8 litre should be sufficient size for most designs.



System Filter

22mm/28mm CU Magnetic Filter System. Fitted on the return side and is installed to remove any impurities from the system. (See Ancillaries for more details).



ASHP Cages

Protect ASHPs from accidental damage or vandalism with our ASHP Cages. They can be wall or floor mounted.



Services

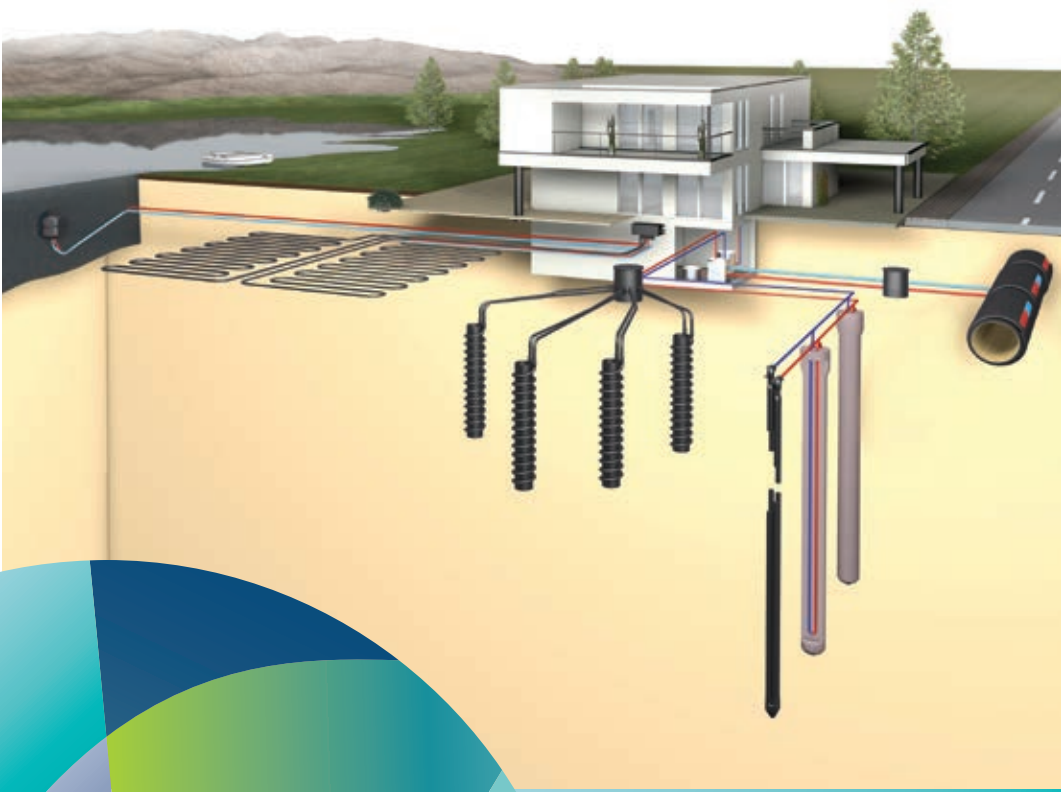
In addition to our products here at Go Geothermal Ltd we are able to offer a carefully vetted list of partners built up over the years that can support your project in areas such as:

- Microgeneration Certification Scheme (MCS) Accreditation Courses
- Consultation Services
- Borehole Drilling
- Complete Design and Installation Services (Critical to the success of any project)
- Thermal Response Testing
- Horizontal Collector and Borefield Field Design
- On site welding to City & Guilds Standard
- Accredited Heat Loss Reports

Please contact us and we'll be glad to put you in touch with our partners.

Call us on 01388 720228
or email sales@gogeothermal.co.uk







The UK's Largest Independent Supplier of Heat Pumps

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