

DRILLING DOWN
THE COST PER METRE



THE GTD
**EMERALD
DRILLING
PACKAGE**

DRILLING DOWN THE COST PER METRE

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➤ GROWTH OPPORTUNITIES IN GROUND SOURCE DRILLING

LOOKING TO IMPROVE, EXPAND OR SET UP A NEW GROUND SOURCE DRILLING OPERATION?

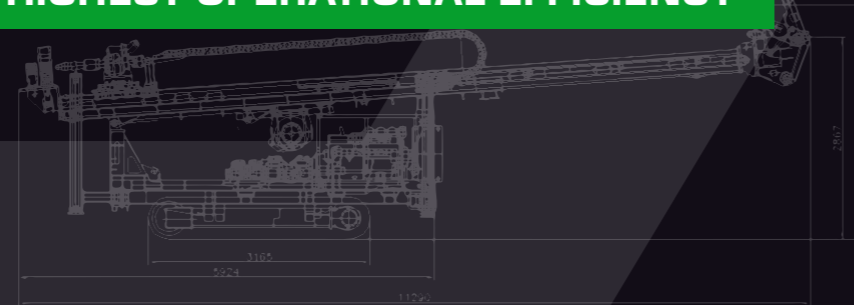
The demand for Ground Source Heating and Cooling (GSHC) drilling specialists is growing exponentially. Sources indicate that the sector is currently operating at under 1% of the potential market share.

Local and International Government Net Zero Carbon targets, combined with significant legislation changes, are creating expansion opportunities and accelerating demand way beyond the capacity of the current number of operational rigs.



GTD'S EQUIPMENT IS DESIGNED SPECIFICALLY FOR THE GROUND SOURCE DRILLING INDUSTRY ALLOWING THE HIGHEST OPERATIONAL EFFICIENCY

There is a seismic shift in the climate conscience of the public, planners and politicians. Ground Source drilling is on the right side of the argument and will continue to grow traction as the cleanest, greenest and most sustainable energy source for 'Climate Control' in every sense of the word! (Greta you can borrow that line if you fancy!)



➤ ABOUT GTD AND THE EMERALD DRILLING PACKAGE

Projects are getting bigger and boreholes are getting deeper, with this in mind each component in the GTD Emerald package has been carefully considered, designed and developed to reduce strain on your equipment and your personnel.

One of the most significant barriers to ground source systems has historically been the cost of installation. Let's be honest; it still is - but doesn't have to be! GTD can drill down the cost per metre for ground source operations, improving profits, scalability and competitive opportunities.

Whether you are an established business wanting to expand your capabilities, capacity and productivity or looking to explore the prospect of a new start-up operation, GTD is here to help you with access to a complete ecosystem of equipment, supplies and support.

WHY BUY A GTD PACKAGE?

The GTD Emerald package is designed & engineered by geothermal ground source drillers and engineers specifically for the industry.

Each individual component has been specified to work together as a complete balanced drilling system, fine-tuned for optimum drilling potential - after all productivity is king.

GTD can help you achieve the most metres possible in every hour of the 256 working days we have in the UK.

WHO ARE GTD?

GTD are unique as we are dedicated manufacturers & suppliers of ground source drilling equipment, but also operators who have a vast experience in UK & European ground source drilling as well as more recent operations in North America, Africa & Asia. We understand the balance required between cost and capability, to ensure that you have the right equipment ...at the right price ...right now.

GTD PROVIDE:

- Complete turn key drilling packages
- Training and development
- Operating procedures and operational assistance
- Access to large scale contracts
- Access to loan equipment pool (compressors etc.)
- Supervision and management support
- Service and maintenance
- National and regional advertising & promotion

GTD EMERALD PACKAGE:

- GTD6500R Geothermal Drill Rig
- Large Mud Recycling system - shaker & hydrocyclones
- 40 x 6.0m BR50 thread drill rods
- GTD LR1 Double wheel loop reeler
- PFT Grouser
- Ifor Williams trailer
- Pramac GBW22P Generator
- Starter pack of drill bits and tooling
- Extensive spares and consumables package



➔ GTD EMERALD PACKAGE ➔ GTD6500R DRILL RIG

WHY GTD DRILLING RIG?

The answer is simple... productivity!

Quite literally, our rigs drill down your cost per metre, both in purchase price and increased productivity. How? By outperforming other manufactures currently used in the ground source industry. A bold statement, but one that is backed up by fact and experience.

These rigs hold the record for the most metres drilled, in the UK and Europe, both on a single day and over the course of a year. The long rod length, automated handling system and powerful engine means they are fast and capable. It is purposefully designed to simplify its operation, maintenance and fixes. The net result is less downtime and higher productivity.

AN EFFICIENT DRILLING OPERATION IS NOT JUST ABOUT THE RIG...

This is why we have put together the package of equipment to enable the rig and crew to put in the metres.



- 292 BHP (TIER 4)
- 16 TON PULL BACK
- 6 TON PUSH DOWN
- TRIPLE CLAMPS
- 40 X 6.0M RODS
- AUTOMATED ROD HANDLING
- DUAL MUD PUMP
- TRIPLEX PISTON MIST PUMP
- WIRELESS REMOTE CONTROL
- WINCH
- WIRELINE
- BREAKOUT CHAIN WRENCH
- HYDRAULIC ROD SPANNER
- SAFETY CAGE
- WELDER / 7.5KW GENERATOR

➔ GTD EMERALD PACKAGE ➔ GTD6500R DRILL RIG

GTD6500R DRILL RIG

The GTD6500R has been designed and engineered specifically for geothermal drilling & complex geology. Suitable for both domestic and commercial drilling. It can drill beyond 400m and can perform mud, air and hammer drilling.

The unique built-in rod rack and automated handling system performs safely and efficiently, increasing productivity whilst reducing manual handling and risk of injury. It comes complete with 240m rods (BR50 thread, 6m long with 10mm wall thickness and extra-long tool joints). The increased rod length and internal diameter vastly reduce wear and tear on the rig and ancillaries whilst increasing productivity.

It is fitted with the powerful, world-renowned Doosan DL08 engine, producing a 292 BHP! This is one powerful rig, and is capable of supplying the mud pump and auxiliary pit pump without compromising the drilling capability.

It comes complete with a triplex piston pump & dual Caprari centrifugal mud pump capable of drilling down beyond 200m, lifting heavy London clays with ease. (Optional duplex piston pump for drilling beyond 200m)



DIMENSIONS & WEIGHT	
Length-transport	12.5M
Width	2.5M
Height-transport	3.1M
Weight	18.5 ton
ENGINE	
Model	Doosan DL08 - Tier4
Rated power	292HP
Fuel capacity	300L
DRILL HEAD & ROTATION	
Rotary head with side shift	
Swivel & Shock Absorber (Φ60mm)	
Two motors - Series and Parallel Flow	
High speed low torque	1 ST : 0~180rpm
Low speed high torque	2 ND : 0~90rpm
FEED SYSTEM	
Head travel	7.5M
Pull-up capacity	16 ton
Pull-down capacity	6 ton

WORKING TABLE & HYDRAULIC CLAMP	
Triple Clamps - one roating	
Max. diameter	320mm
Hydraulic rod spanner	89mm
Hydraulic breakout chain wrench	
DRILL PIPE & CASING	
Drill pipe length	Φ89mm X 6.0M
Max. diameter	304mm
HYDRAULIC JACKS & OUTRIGGERS	
Ground clearance	600mm
Width	3000mm
Load pads	
CRAWLER BASE	
Crawler model	Doosan Solar 75
Crawler type	Steel with rubber pads
Crawler speed	2.5 km/h
AUTOMATED ROD RACK & HANDLING SYSTEM	
89mm x 6.0m x 40 (BR50 thread, 250mm tool joints) 240m capacity	
ANCILLARIES	
Winch	20M / 5 ton (12mm)
Wireline	300m x 6mm

➤ GTD EMERALD PACKAGE ➤ GTD SC2300 MUD RECYCLING SYSTEM

IMPROVE EFFICIENCY OF YOUR DRILLING

Proper Mud Recycling equipment is essential to the drilling operation and a key part in increased productivity. We have designed and engineered the GTD SC2300 system to work perfectly with the GTD6500R geothermal rig.

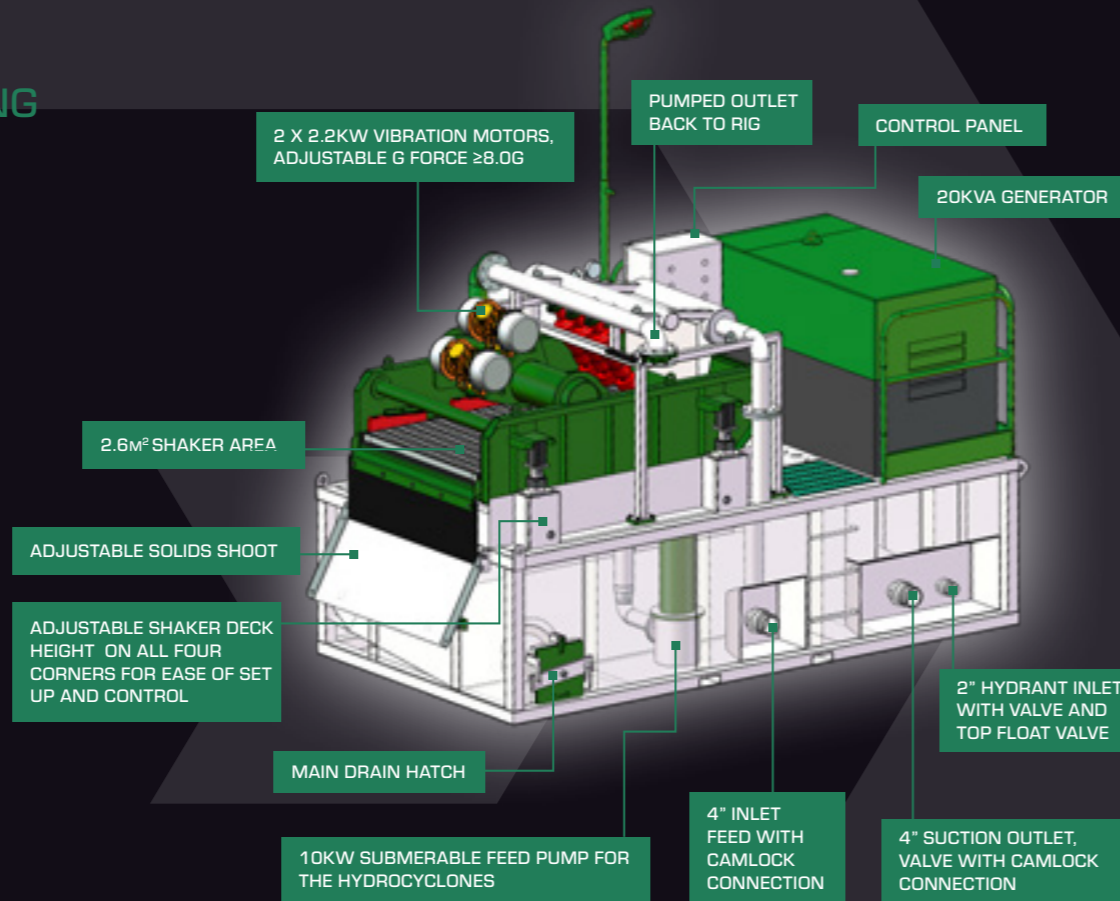
KEY BENEFITS

- Removes low gravity solids for greater drilling efficiency
- Reduces water, mud, transportation and mud disposal costs
- Increases water storage capacity
- Reduces site footprint, site remediation and environmental management costs
- Improves on-site health and safety, reducing slips and hazards due to mess, mud and water
- Easy to transport "single unit" package

Quickly and effectively remove solids from the mud as you drill. This enables your pumps to work more efficiently, reducing wear & increasing lifespan of equipment.

It also increases the up flow velocity, meaning you clear the hole quicker, reducing the risk of collars whilst increasing penetration rate.

The improved penetration rate not only increases productivity but also reduces the need for additives in your fluids, enabling you to drill with just water. This saves time and money.



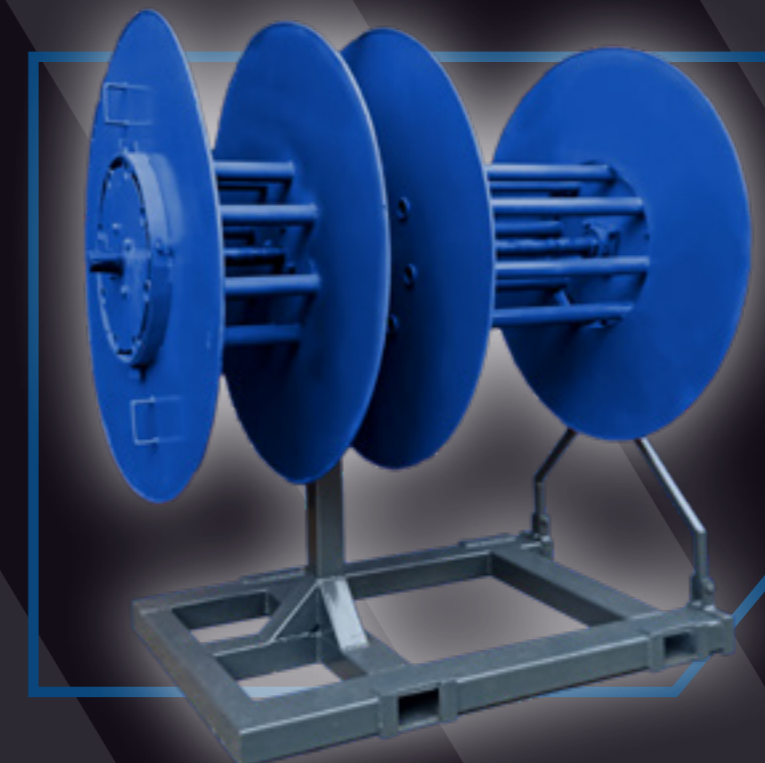
GTD SC2300 SYSTEM

- 2300 Lpm Capacity
- High G force Shale Shaker
- 3 x Hydrocyclone desilters
- Submersible feed pump
- 2 x Tank agitators
- 6000 Litre tank
- <20kw power
- Dimensions: 3620(l) x 1980(w)mm
- Weight: 2136kg + 545kg (generator)
- Trailer Mountable: 3500kg gross

➤ GTD EMERALD PACKAGE ➤ GTD LR1 LOOP REELER

A LOOP REELER CAN OFTEN BE OVERLOOKED...

...But it is an important part of an efficient operation. It is a false economy to make do without one if you are truly committed to drilling down your cost per metre.



Friction is a huge source of frustration and is a drag on manpower, efficiency and safety. A loop reeler can be the make or-break element of whether the install goes to depth.

A proper smooth running reeler can reduce the amount of weight required to counter act the buoyancy of the loop, saving money. Smooth consistent unreeling of the loop means the risk of damage and stoppage is reduced. Quick, controlled unreeling saves time and manpower energy. Allowing you to move onto the next hole and set up for the next days drilling.

The Emerald package loop reeler is built to last. Its robust design means it will put up with the every day strains of a drill site. Reinforced fork holes on all 4 sides enables lifting from any angle and easy positioning over the borehole.

Ball bearings on the drums ensure super smooth unreeling and the solid sides ensure the loop is contained and eliminates the risk of getting limbs caught in the rotating parts or loops popping out the side and kinking.

➔ GTD EMERALD PACKAGE ➔ GROUTER

MAKE LIFE EASY WITH A GEOTHERMAL GROUTER

This grouter is a continuously operating mixing pump for ready-mixed dry grout. There is no need to mix sand, bentonite and water. Simply add dry bags of premix, either 25kg or 1000kg bulk bags, straight into the hopper, and the G4 does the rest!

Easy, quick and efficient. At the push of a button, ready-mixed dry grout is automatically fed into the mixing pump, minimising dust too. It is then mixed with water and pumped down the borehole.

It's compact, easy-to-transport and offers a high delivery rate and large delivery range. The low filling height is ideally suited for filling by hand or bulk bags hung above.

Powered electrically, it can be run off the generator included in the package.



Length: 1050mm
Width: 720mm
Height: 1550mm
Weight: 259kg

➔ GTD EMERALD PACKAGE ➔ TRAILER & GENERATOR

TRAILER – IFOR WILLIAMS LM126T

A trailer is an essential part of the drilling operation, so we have included the very best.

The Ifor William flat bed is ultra-strong, robust and versatile. It has been picked specifically to work in conjunction with the Mud Recycling unit.

The system, including the generator, can be transported on the trailer and remains under the 3500kg limit. Additional stabilisation legs/supports have been added to all four corners, to allow the system to be used whilst mounted on the trailer.



IFOR WILLIAMS LM126T TRAILER

Model:	LM126T (tri-axle)	Internal Length:	3.62m
Tyres:	195/60R12C	Internal Width:	1.98m
Gross Weight:	3500kg	Overall Length:	5.00m
Unladen Weight:	785kg	Overall Width:	2.10m

GENERATOR – PARAMAC GBW22

20 kVA THREE PHASE SILENT DIESEL GENERATOR

Standby: 22 kVA / 17.6 kW
Prime: 20 kVA / 16 kW
Engine: UK Built
Perkins 40AD-22G
Alternator: Mecc Alte
ECP28-M4 C
Voltage: 400V
Frequency: 50Hz
Amps Per Phase: 31.7
Control Panel: ComAp



Having your own power supply on-site has huge advantages regarding self-sufficiency. This reduces the risk of delays, potentially waiting on others, and helps productivity!

The generator is designed to be mounted on the skid of the mud recycling unit, powering its systems. It also has an additional connection points for powering other on-site equipment such as sump pumps, etc.

➔ GTD EMERALD PACKAGE ➔ STARTER PACK & SPARES

WE'LL GET YOU DRILLING AND KEEP YOU DRILLING

So that downtime is kept to a minimum and productivity is at the maximum, we provide a HUGE spares parts package to go with the set-up.

We also supply a starter pack of tooling, which includes a large selection of drill bits, subs & saver subs.

GTD EMERALD - TOOLING STARTER PACK		
ITEM	UNITS	PART DESCRIPTION
1	2	5 1/8" - 4 WING STEPPED PDC
2	2	5 5/8" - 4 WING STEPPED PDC
3	2	5 1/8" - 3 WING ROUNDED PDC
4	2	5 5/8" - 3 WING ROUNDED PDC
5	1	5 1/8" - ROCK ROLLER
6	1	SUB 3 1/2" IF BOX - BR50 PIN
7	2	SUB BR50 BOX - BR50 PIN
8	2	SUB BR50 BOX - BR50 BOX



GTD ALSO STOCKS AN EXTENSIVE RANGE OF OUR EXCLUSIVE PINK PENETRATOR DRILL BITS AND A COMPLETE ECOSYSTEM OF CONSUMABLES



THE GTD EMERALD SPARES PACKAGE ENSURES YOU HAVE WHAT YOU NEED TO KEEP DRILLING

GTD EMERALD - SPARE PARTS		
ITEM	UNITS	PART DESCRIPTION
1	5	AIR CLEANER OUTER FILTER
2	5	AIR CLEANER INNER FILTER
3	5	FUEL FILTER ; DL08
4	5	ENGINE OIL FILTER ; DL08
5	5	HYD. OIL FILTER / DOOSAN
6	2	HYD. OIL FILTER - 2 1/2" SUCTION
7	2	HYD. OIL FILTER - 3" SUCTION
8	2	IN-LINE FILTER
9	2	FILTER ; FUEL STRAINER
10	2	SEAL KIT FOR GEAR BOX
11	1	SWIVEL ASS'Y
12	2	SEAL KIT FOR SWIVEL
13	1	SPRING (SWIVEL)
14	1	SPACER (SWIVEL)
15	2	SWIVEL PIPE Ø 75
16	1	INNER PIPE
17	1	LOW PIPE (SHOCK ABSORBER) Ø 75
18	1	ADAPTOR (3-1/2 IF BOX - NO THREAD PIN)
19	16	JAWS (V-TYPE) FOR CLAMP
20	1	JAWS (89MM) FOR ROD HANDLER
21	1	JAWS (114MM) FOR ROD HANDLER
22	1	JAWS (152MM) FOR ROD HANDLER
23	1	FAN BELT ; DL08
24	1	CHAIN SPANNER
25	1	RELIEF VALVE
26	1	PRESSURE GAUGE
27	1	PRIORITY VALVE
29	1	CENTRALIZER (89MM)
30	1	WATER HOSE FOR WATER INJECTION PUMP
31	2	MC COVER (BY-PASS BLOCK)
32	1	ANGLE SUPPORT
33	2	FULL THREADED BOLT
34	1	RESERVE TANK (PLASTIC)
35	1	PCB ; DL08
36	1	DEF HOSE SET ; DL08
37	1	RADIATOR & INTERCOOLER HOSE - UPPER & LOWER
38	1	MUFFLER CLAMP & GASKET
39	1	DRAIN HOSE
40	1	TOOL FOR SWIVEL PIPE
41	1	CLAMP SOLENOID VALVE

TALK TO US

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BECAUSE BROCHURES MAKE TERRIBLE LISTENERS!

GTD HAS TURNKEY PACKAGES WITH EVERYTHING YOU NEED TO DRILL DOWN THE COST PER METRE OF GROUND SOURCE GEOTHERMAL INSTALLATIONS.

OUR GTD EMERALD PACKAGE INCLUDES GTD6500R RIG, SHAKER & HYDROCYCLONES MUD RECYCLING SYSTEM, MUD PUMP, 40X RODS, GENERATOR, DOUBLE LOOP REELER, GROUTER, IFOR WILLIAMS TRAILER, DRILL BITS AND SPARES PACKAGE!

PLUS GET DISCOUNTED ACCESS TO THE GTD ECOSYSTEM OF LOOP WEIGHTS, GROUT AND OUR PINK PENETRATOR DRILL BITS!

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