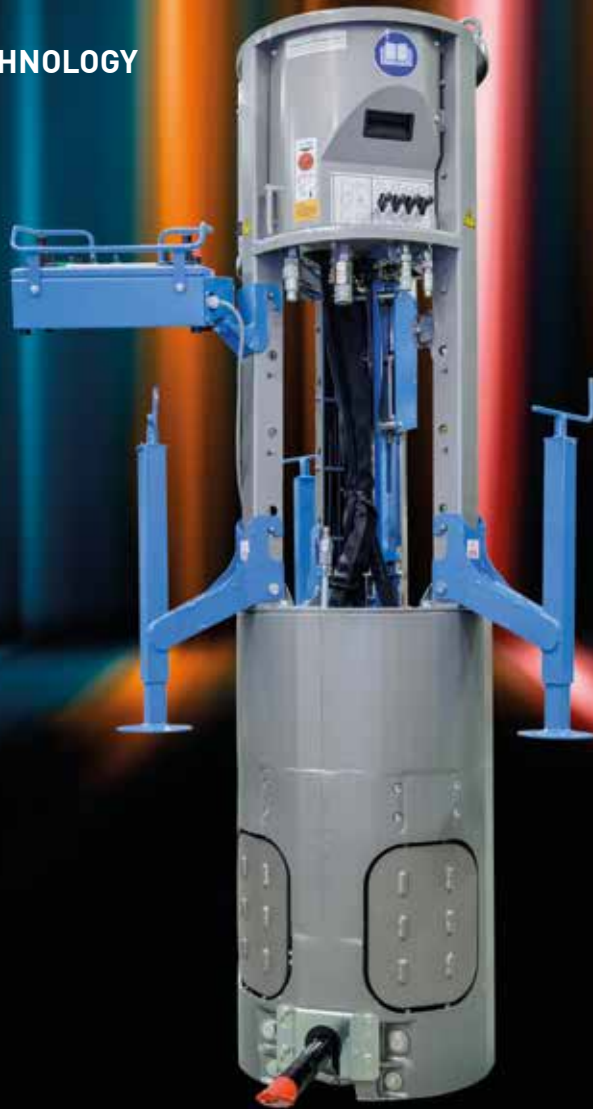


INSPIRING TRENCHLESS TECHNOLOGY



TRACTO-TECHNIK



# KEYHOLE MINIMALLY INVASIVE

■ MADE  
■ IN  
■ GERMANY

GRUNDOPIT<sup>KS50</sup>

Fluid-assisted mini drill rig



# THROUGH THE KEYHOLE

To the property service connection



With the “keyhole bore technique”, gas, water, power and FTTH service connections are installed, leading from the main line in the road through the smallest possible round working pit (keyhole with Ø 65 cm) directly into the house or a small assembly pit in front of the house.

- **PROPERTY SERVICE CONNECTIONS**

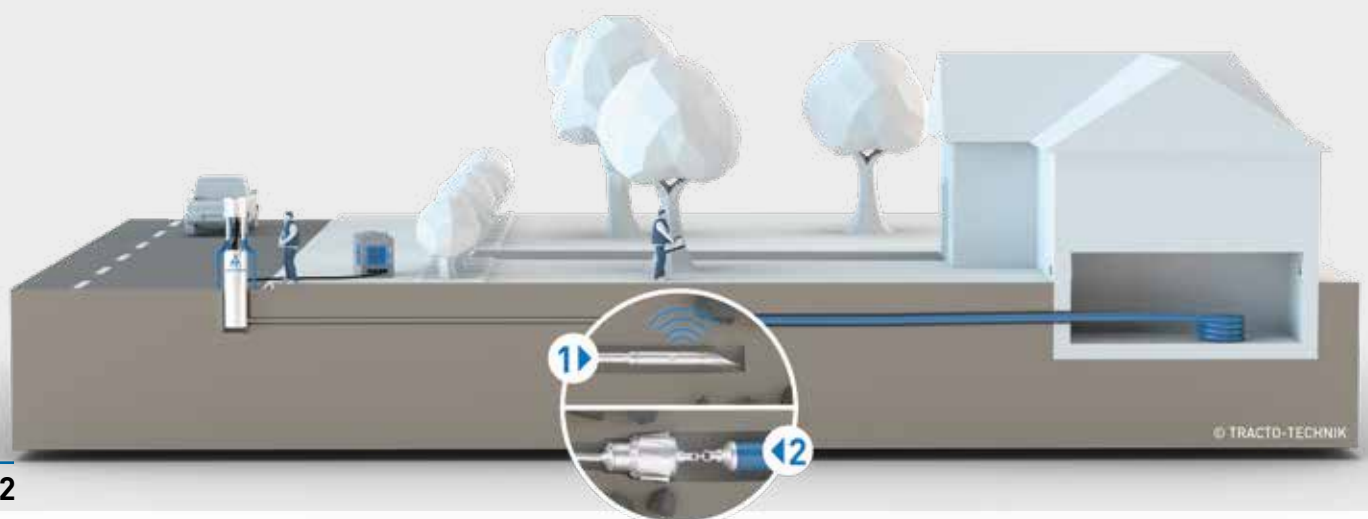
For gas, water, power and data lines

- **UNDERCROSSINGS**

Directional drilling beneath roads, railway tracks and buildings

- **PARALLEL INSTALLATIONS**

Besides undercrossings, linear bore holes parallel to roads, bodies of water and buildings are some of the conventional applications.

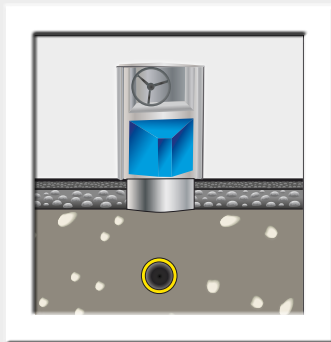


# MINIMAL INTERVENTION

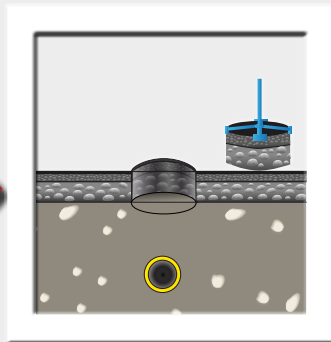
## Maximum effect

- Drilling from out of the smallest round work pit, keyhole Ø 65 cm
- Directional drilling with continuous detection
- Simple operation via control panel with colour display
- No pits on private properties, the bore hole can be drilled directly into the basement
- Minimum excavating works – the job cannot be done with less
- Only very small work area required, minor affect on traffic
- Eco-friendly and gentle installation method
- Minimal drilling fluid requirements
- No elaborate asphalting necessary for restoring the keyhole
- All connection works are carried out from the surface
- Bore lengths up to 50 m
- Pipe diameter up to 90 mm

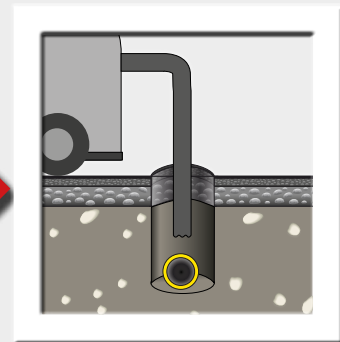
## Procedure



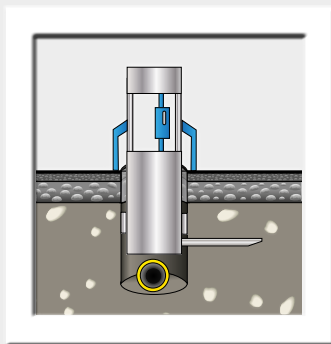
Creating the core bore with core drill unit by TRACTO-TECHNIK



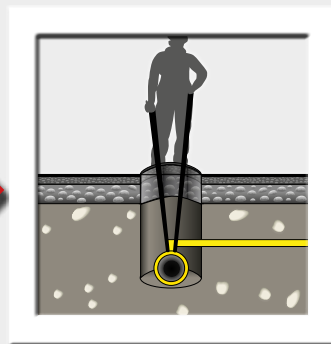
Removing the core



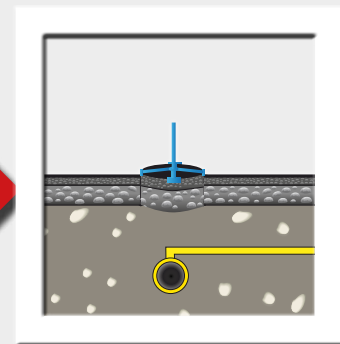
Extracting the keyhole



HDD drilling and pipe pulling with GRUNDOPIT<sup>KS50</sup> from TRACTO-TECHNIK



Installation work with Long Handled Toolings (LHT) by TRACTO-TECHNIK



Reinstatement

If you would like to find out more about our core drills and our Long Handled Toolings (LHT), simply contact us.



# KEYHOLE

## Mini drilling technology

Integrated machine control –  
**fully automatic drilling**

Minimally invasive  
drilling from out of the  
**smallest possible**  
**working pits**  
Ø 650 mm "Keyhole"

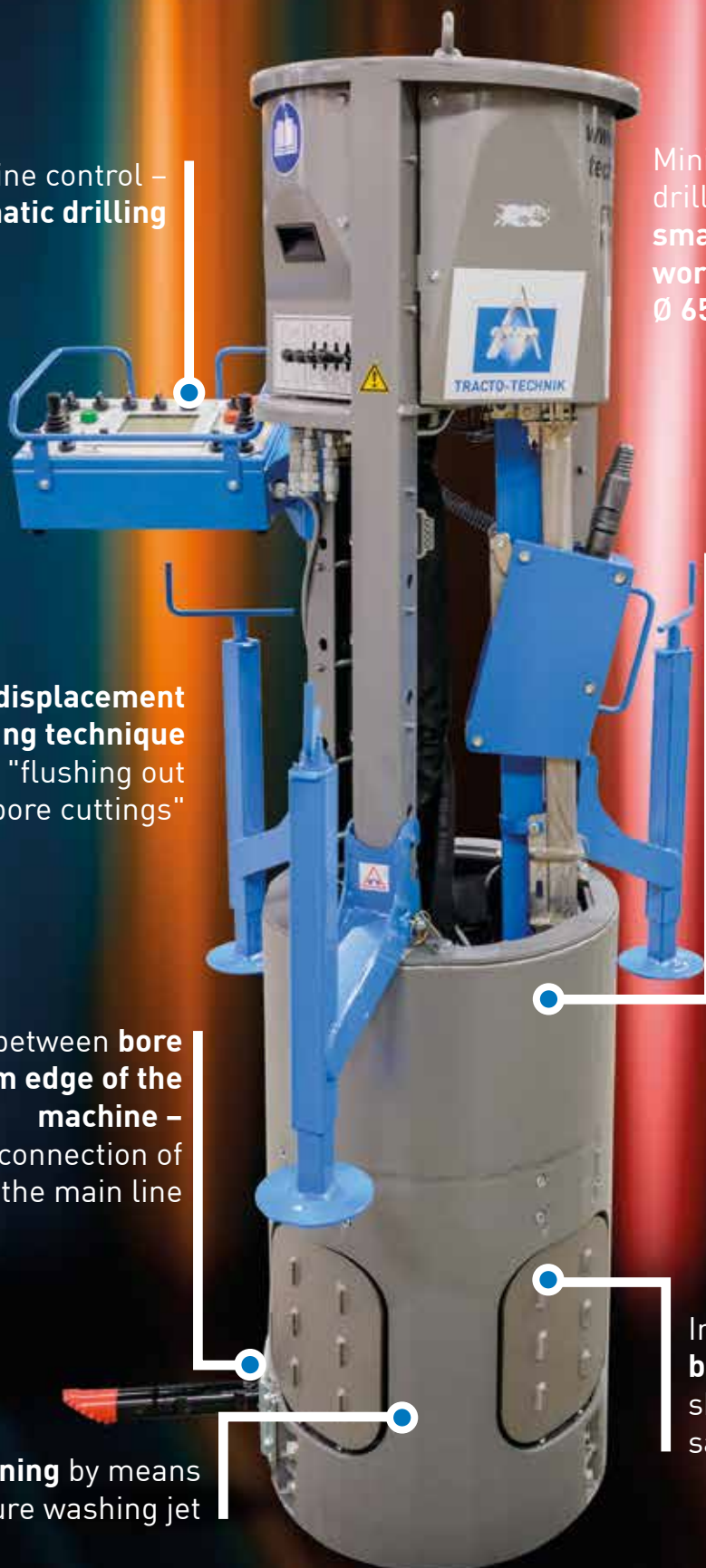
**Fluid-assisted displacement  
drilling technique**  
No "flushing out  
of the bore cuttings"

**Closed round frame  
design** – stable,  
flexibly directional  
(machine can rotate  
freely inside the  
keyhole)

**Small space** between **bore  
axis** and **bottom edge of the  
machine** –  
direct connection of  
service pipe to the main line

Integrated **rod cleaning** by means  
of high-pressure washing jet

Integrated **hydraulic  
bracing system** –  
short set-up times,  
safe installation







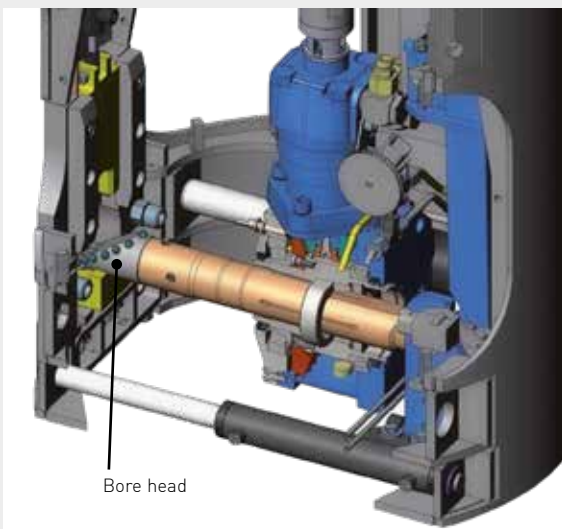
### CONTROL PANEL

- Operation from the surface
- Ergonomic mode of operation according to the latest standards
- Directional detectable bore
- High safety for the operator
- Clearly arranged colour display with icons
- Adjustment of the optimal bore parameters:  
Display of machine interior on colour display using integrated camera  
infinitely variable adjustment of torque, rotational speed and thrust force/speed



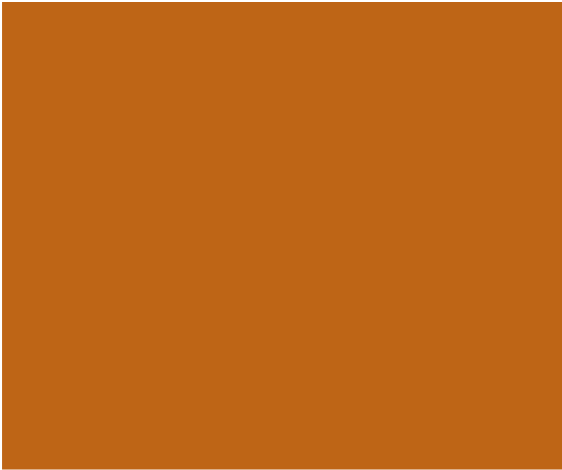
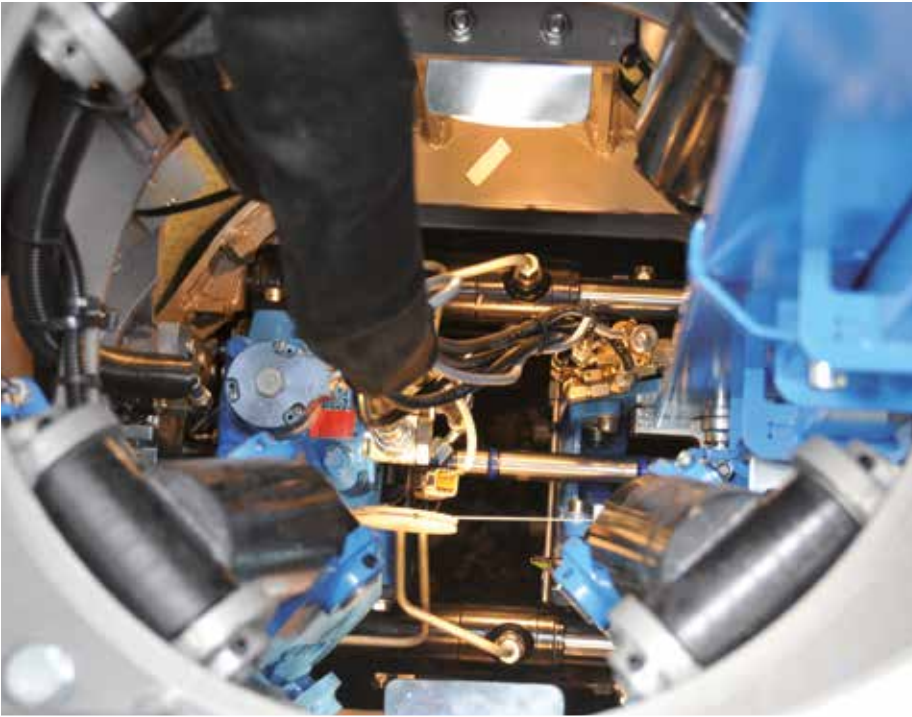
### ROD CHANGE

- Fully automatic rod handling
- Ergonomic
- Quick
- Safe



### ROTARY DRIVE

- Rotary drive with hollow shaft – maximum rod length for the smallest installation space
- Positive-fitting rod link – soiling-resistant, material-friendly
- Torque-dependent thrust regulation – optimal utilisation of the machine output



BORE CORE



CONNECTION







MINIMALLY INVASIVE



TRANSPORT



KEYHOLE





# ACCESSORIES

For all applications

**RODS WITH BOX**

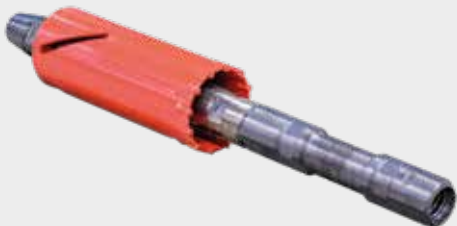


Very light, resistant thread

**BORE HEAD**



**CORE HOLE DRILL**



For wall duct

**UPSIZING TOOLS**



For installing short pipes

**PIPE PULLERS**



For installing long pipes

**TRANSMITTER SYSTEM**



With detection unit

**RETRIEVAL TOOL**



For upsizing

**LONG HANDLED TOOLINGS (LHT)**



For installation work in the keyhole



HYDRAULIC POWER UNIT TT HP-031

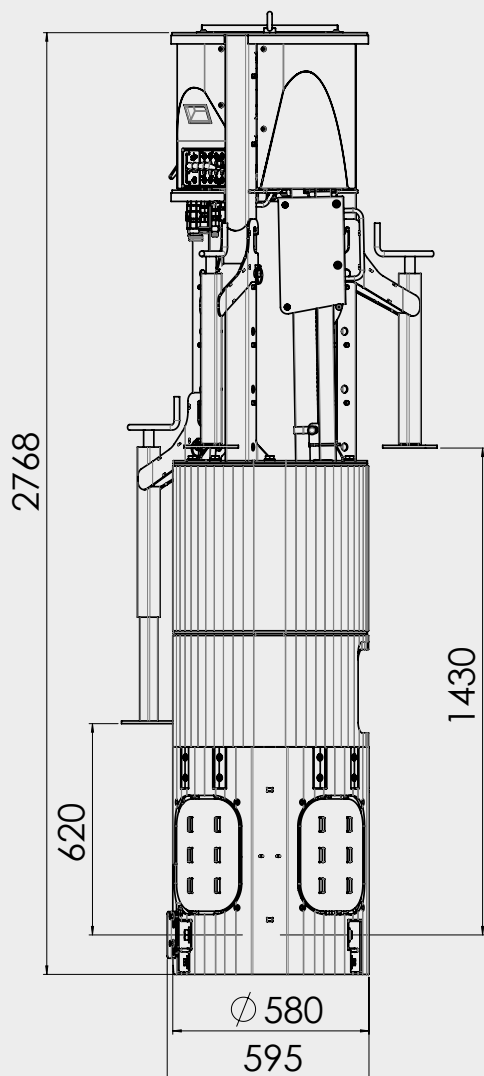


TRUCK PLATFORM (COMPLETE SYSTEM SOLUTION)

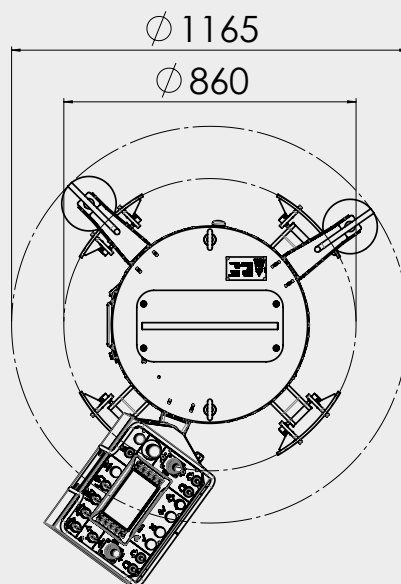
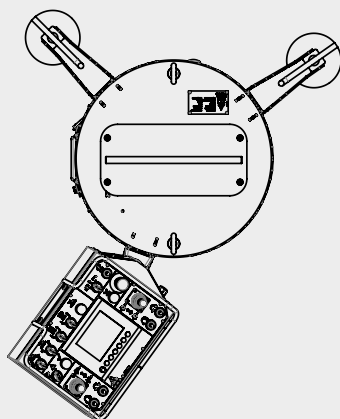
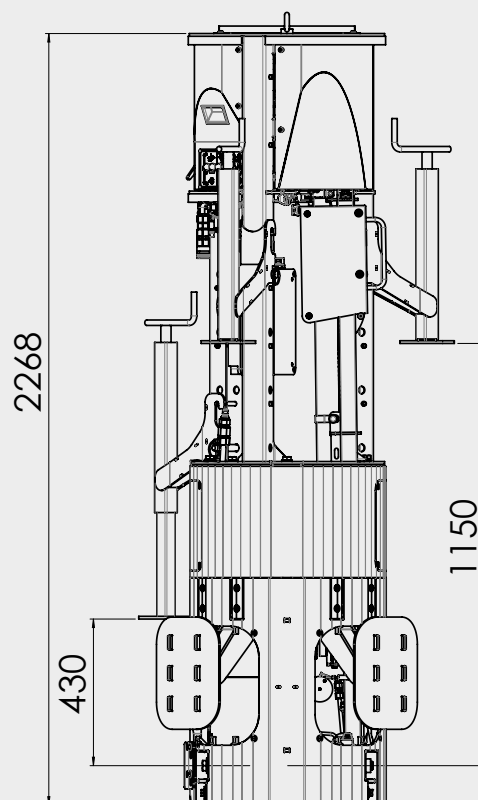


# TECHNICAL DATA OF GRUNDOPIT<sup>KS50</sup>

SUPPORTS EXTENDED



SUPPORTS UP AND DRAWN IN





## TECHNICAL DATA



### Model

GRUNDOPIT<sup>KS50</sup>

### Basic equipment

- Drilling out of the smallest possible working pits, "Keyhole" Ø 650 mm
- Integrated machine control with fully automatic drilling operation (except steering movements)
- Infinitely variable adjustment of the drilling parameters
- Fully automatic rod handling
- Closed round frame design
- Clearly arranged colour display with icons
- Rotary drive with hollow shaft
- Torque-dependent thrust regulation
- Integrated rod cleaning system
- Integrated hydraulic bracing system

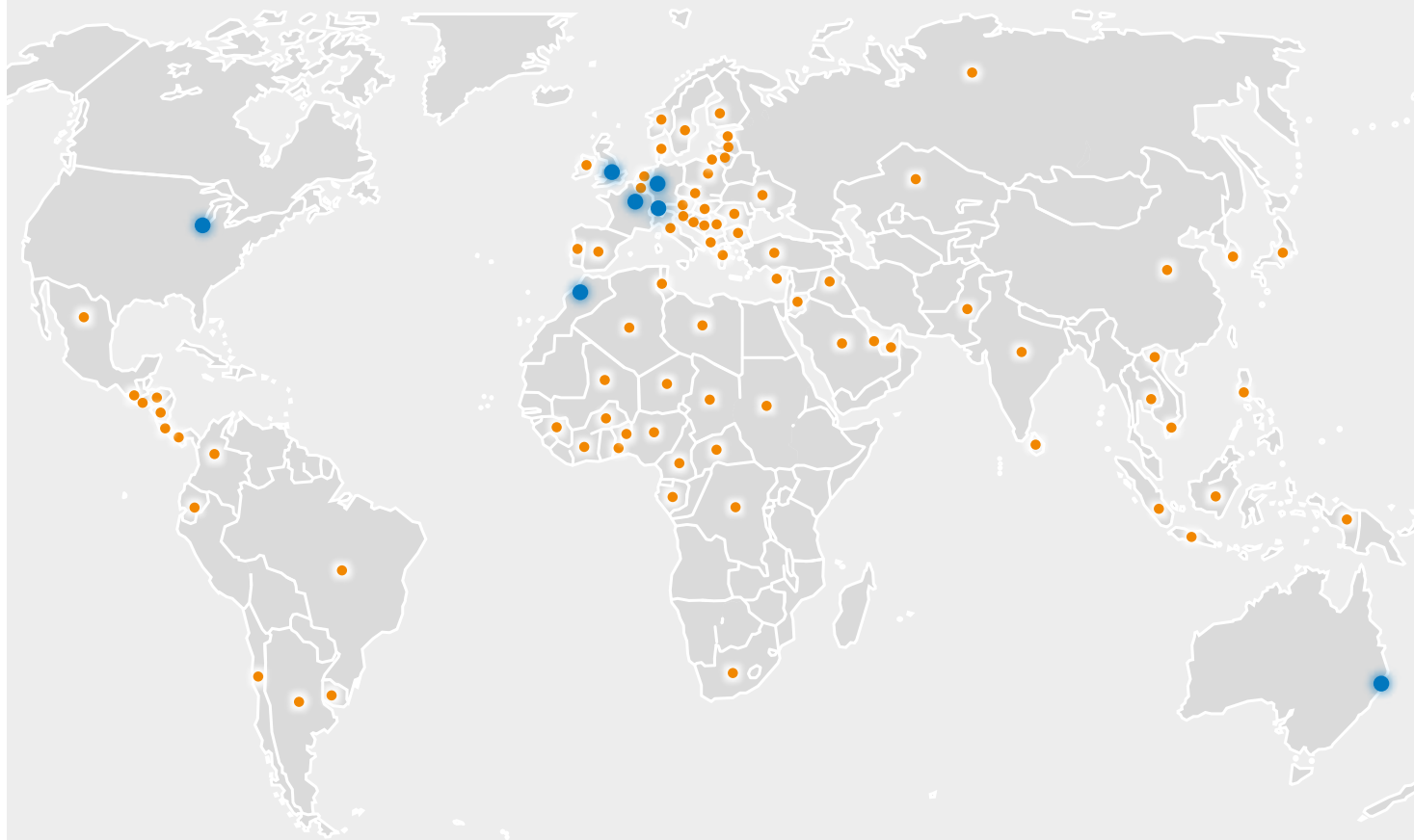
### Performance data

|                               |   |
|-------------------------------|---|
| Height; diameter [mm]         | short version: H = 2,350; Ø = 590<br>long version: H = 2,850; Ø = 590 |
| Weight [kg]                   | short version: approx. 630; long version: approx. 685                 |
| Content of rod box [m]        | 25  |
| Thrust and pulling force [kN] | 50  |
| Max. torque [Nm]              | 1200  |
| Max. spindle speed [rpm]      | 60  |
| Pilot bore Ø [mm]             | 58  |
| Drill rod Ø [mm]              | 50  |
| Effective rod length [mm]     | 250   |
| Rod weight [kg]               | 2.4   |
| Upsizing Ø [mm]               | 110   |
| Pipe OD* [mm]                 | 90  |
| Drilling length* [m]          | 50  |
| Min. bore radius [m]          | 50  |

\*depending on soil

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