

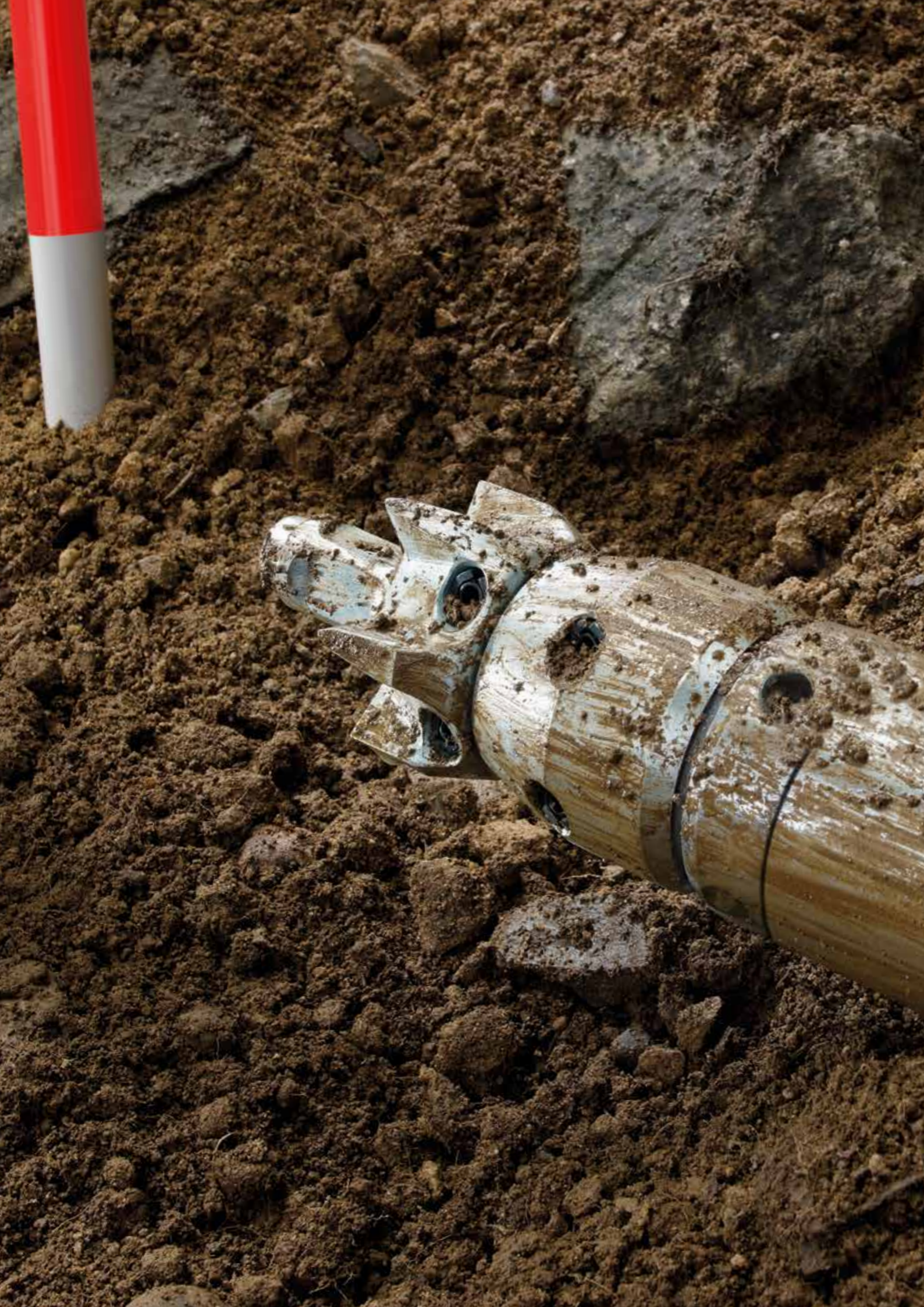
GRUNDOMAT

THE NEW GENERATION

GRUNDOMAT SOIL DISPLACEMENT HAMMERS



trenchless technology – simple & easy



RELIABILITY REDEFINED

STRIKINGLY SMART

For more than five decades, the GRUNDOMAT soil displacement hammers stand for on-target underground pipe installation. Our “moles” owe their special longevity and high accuracy to the intelligent construction, uncompromising quality and consistent further development based on the requirements of the users and the trends in pipeline construction. To enable you to solve your tasks faster and easier, we have now made the complex technology even more durable, more reliable and simpler to use. That's what we call “simple & easy”.

OPTIMISED CONSTRUCTION

The new generation of GRUNDOMAT soil displacement hammers corresponds exactly to this principle. The optimised construction combines all the benefits of previous series with new technical solutions. Proven concepts have been kept – such as the two-stroke principle and the crowned head for maximum on-target precision and high percussive impact. Improvable features have been optimised. A new solution, for instance, is the non-detachable front machine part for improved durability and reduced service effort. The soil displacement hammer's versatility of use has also been preserved, while new options such as the servo control for small machine versions ease handling. For you as a user this means maximum productivity and profitability in pipe installation.

OPTIMISED FOR HEAVY-DUTY WORK



The construction of the new GRUNDOMAT generation is the result of a thorough development process focussing on the reliability of the technology. Well thought-out down to the last detail, it impresses with unique features that guarantee maximum power and on-target impact in various conditions. The clever and durable construction also considerably reduces the service and repair effort.

- **TWO-PART, NITRIDED AND PHOSPHATED PISTON**
The piston possesses high creep resistance even when exposed to maximum strain. Optimum energy transmission ensures high penetration force and powerful thrust.
- **REPLACEABLE SLIP BELTS AND SEALING RINGS**
protect valuable machine components from wear and tear and ensure optimum and safe running behaviour of the piston with maximum power. Replacement is fast and inexpensive.

SIMPLE SWITCH-OVER

between forward and reverse gear permits a fast reaction to obstacles or dangers without the soil displacement hammer following up. For optimum adaptation to the respective soil



■ THRUST CONTROL

With the reliable thrust control, you can easily switch over from forward into reverse gear under operating pressure via a 1/4 anti-clockwise turn of the hose.

- **WEAR SLEEVE FOR THE CHISEL BEARING**
protects the front housing from wear and tear and substantially increases the chisel's service life. The wear sleeve can be easily replaced when worn.
- **FORCE- AND FORM-FIT FIXATION OF THE HEAD**
Optimum power transfer for maximum penetration force. The simple elastic fastener is heavy-duty and easy to detach even when extremely worn.
- **CLOSED HEAD SEAL**
prevents dirt from entering and ensures that the two-stroke cycle works reliably.

conditions the hammer can be optionally equipped with two forward gears. You can choose between thrust and servo control:



■ SERVO CONTROL

With the easy to handle servo control, you switch over from forward into reverse gear and vice-versa under operating pressure by simply throwing the lever.



- 01 The **crowned head with two-stroke cycle** displaces the soil in three steps with **maximum accuracy and high running stability**.
- 02 The **concentration of impact energy** in thrust direction onto the sharp cutting edges guarantees a **high penetration force**.
- 03 **No front machine seal** – enormous longevity and optimal energy transfer. All disassembly and service works are easily carried out via the rear opening.

- 04 The **wear parts** (crown and cone) of the two-part bore head **can be exchanged separately** in order to reduce the repair effort.
- 05 The **inner and outer chrome-plated housing**, which is honed on the inside, is **low-wear and low-maintenance**, highly durable and ensures sustained maximum performance.
- 06 The smooth outer housing has an **easy-to-read wear indicator**.
- 07 **Various mounting options** for a **variety of applications** beyond the standard, e.g. pile foundations or driving out steel pipes.



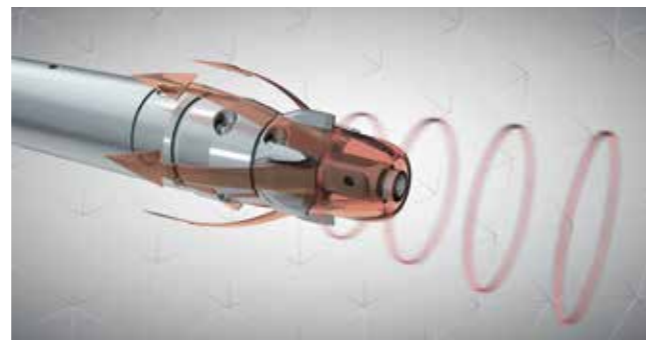
SHREWD HEADS CROWNED OR STEPPED

For optimum adaptation to various soil conditions, the GRUNDOMAT can be equipped with crowned or stepped

head. Both versions operate with equal precision, stability and efficiency, each in their own way.

WORKING PRINCIPLE CROWNED HEAD

The crowned head unlocks its full potential in loose, stony and densely packed soils. The crowned head widens the pilot hole directly to the full bore diameter with the tip of the cutter starting a preliminary pilot bore and the crown cutting the soil. The crushed soil is relocated to the ducts, directed to the rear and displaced outwards. Due to this working principle the crowned head features highest precision and penetrating power, even if the ground is hard and stony. The pressure cone generated in front of the crowned head is bundled and targeted.



WORKING PRINCIPLE STEPPED HEAD

The stepped head is universally applicable all displaceable soils. The tip of the cutter bit starts a preliminary pilot bore and then the soil is gradually displaced to the outside. The steps of the head first shatter the obstacles and then discharge them, so high running stability is guaranteed, a strong, wide pressure cone generated in front of the stepped head.

ALWAYS ON THE STROKE THE TWO-STROKE PRINCIPLE

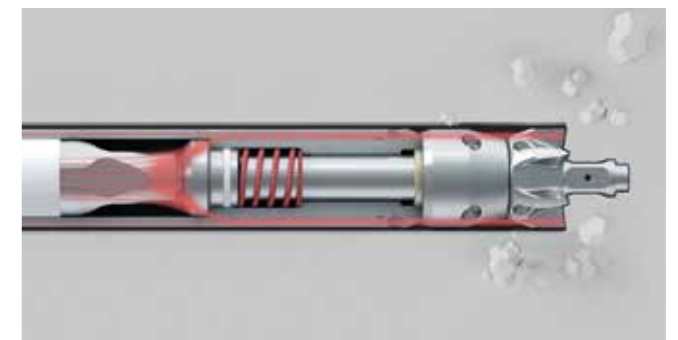
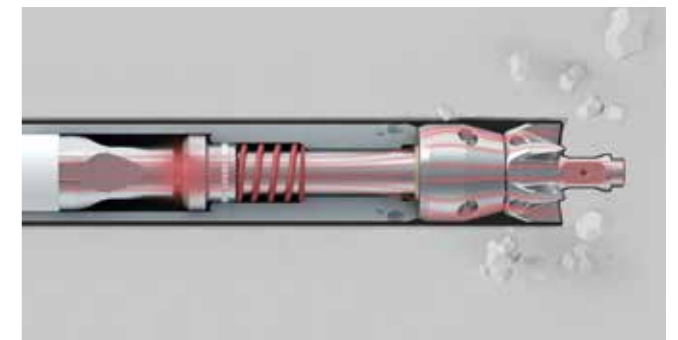
The two-stroke principle helps to overcome peak resistance and surface friction so the highest possible directional stability is achieved. This way the GRUNDOMAT soil displacement hammer achieves its almost legendary precision, also in difficult soils.

STROKE ONE

During the first stroke, the piston strikes the cutter so that the head cuts the borehole and crushes and removes any obstacles. The impact energy of the piston is concentrated on the cutter and the bore head.

STROKE TWO

In the second stroke, the bore head moves freely in the borehole and the full impact energy of the piston is transferred to the housing. The entire machine follows up, with a pipe attached as the case may be.



FLEXIBLE ALL-ROUNDER CAN HANDLE ALMOST ANYTHING

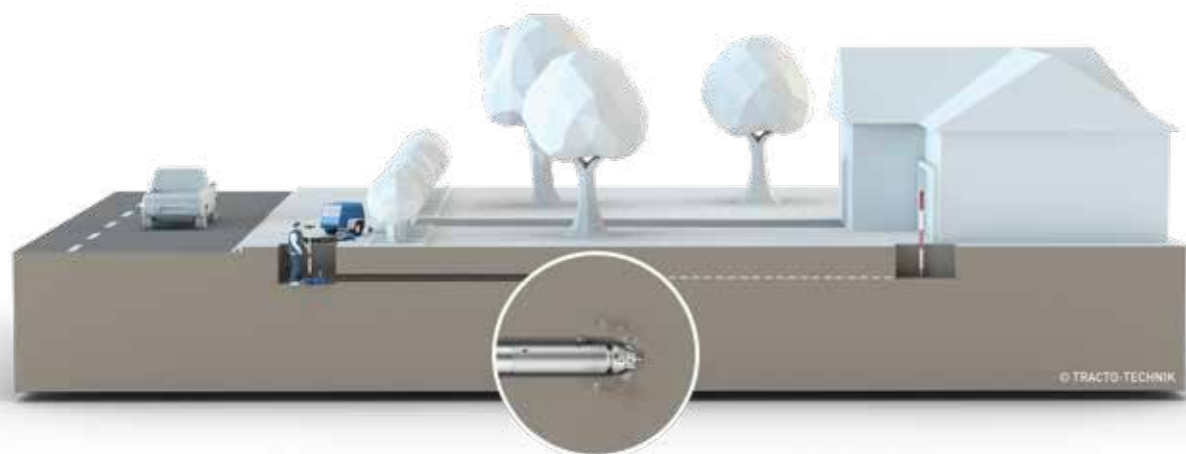
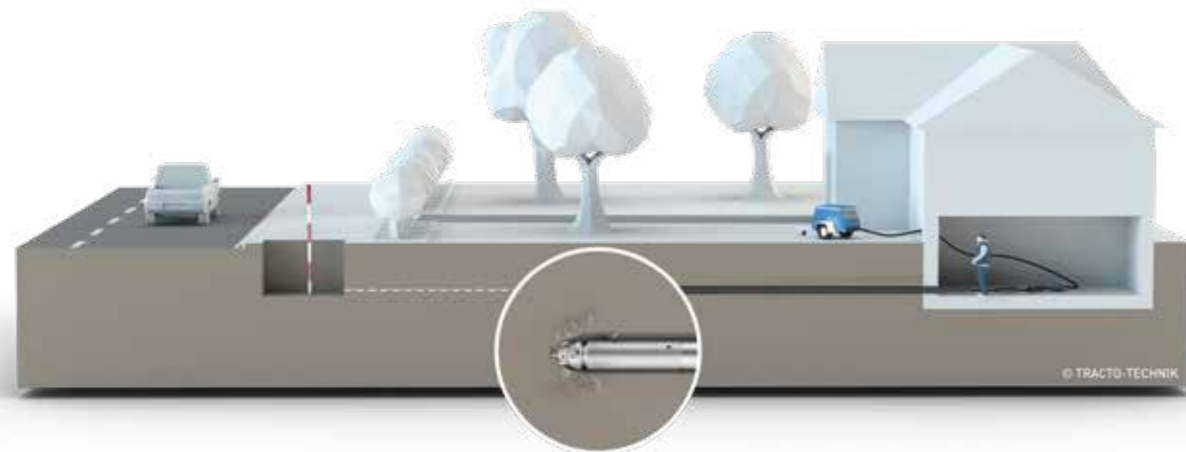
The versatility of the GRUNDOMAT soil displacement hammers is impressive. The spectrum ranges from the classic application for undercrossings and service connections

to steel pipe installation through to pipe renewal. The GRUNDOMAT also impresses in vertical use with high penetration force and utmost precision.

SERVICE CONNECTIONS

Whether from the pit into the house or from the basement into the pit or keyhole, for fibre optics (FTTH), gas, water, wastewater or electricity: the GRUNDOMAT is the multi-purpose

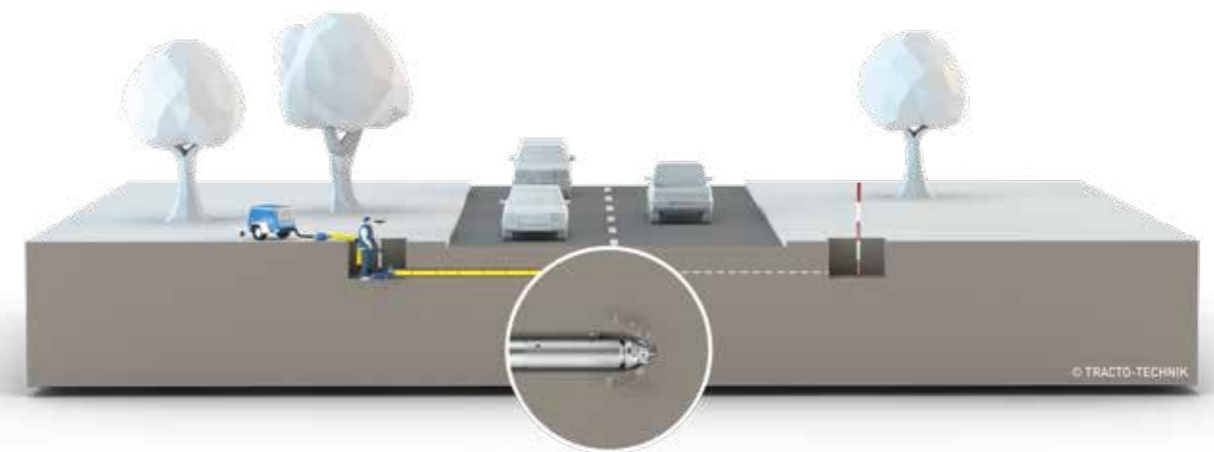
machine for fast, safe and economical production of all types of service connections. And when starting directly out of the house, not even a head access hole is required.



UNDERCROSSINGS

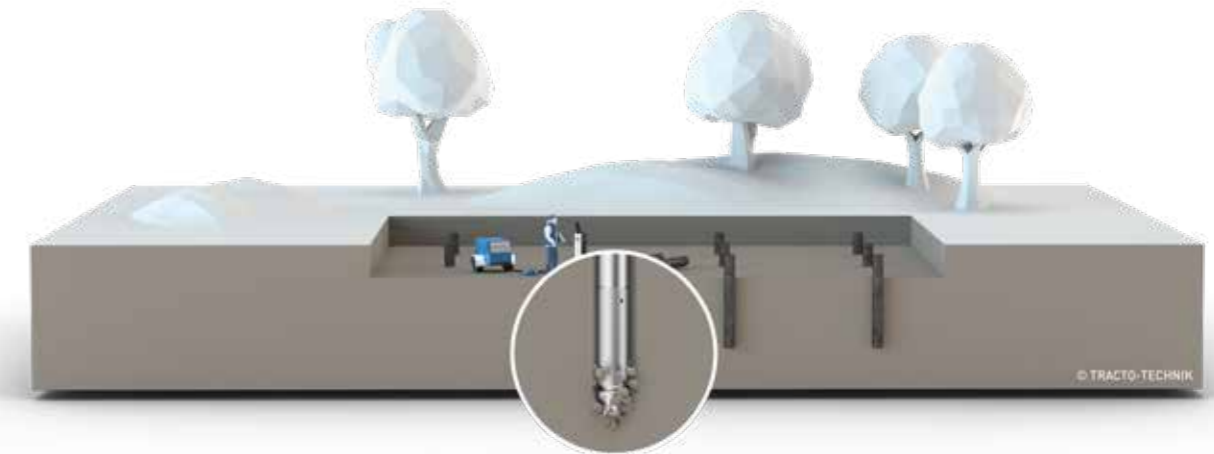
For undercrossings beneath roads, railway tracks, gardens, buildings and other valuable surfaces over short distances,

the GRUNDOMAT is unbeatably fast, precise and reliable.



PILE FOUNDATIONS

Applied vertically the GRUNDOMAT can be used to easily and safely make foundations, e.g. for placing piles and shields.



FURTHER APPLICATIONS

- Pipe ramming from type 130 on for driving steel pipes by attaching different ramming cones.
- Pipe renewal from type 95 on with modified soil displacement hammers using the dynamic pipe bursting method (cracking).
- Driving out steel pipes with attachment mandrel for simultaneous pulling-in of new pipes.



FOR ALL APPLICATIONS

ACCESSORIES FOR THE GRUNDOMAT

GRUNDOSCOPE

Telescopic aiming frame
GRUNDOSCOPE 1.5-2 m with
telescopic sight

Compressed air hose

Vertically and laterally
adjustable starting cradle

3.3 l lubricator

Earth stake

Rolled hose

UNITHERM



Unitherm compressed
air heater. Protects the
machine from freezing up

DRIVING OUT STEEL PIPES



Attachment mandrel for driving
out old steel lines up to DN 50 and
simultaneously pulling in new pipes

PIPE RENEWAL (CRACKING)



From type 95, in the dynamic
pipe bursting method with towing
eye and expansion

STEEL PIPE DRIVING



Up to DN 400 with
attachment ramming cone

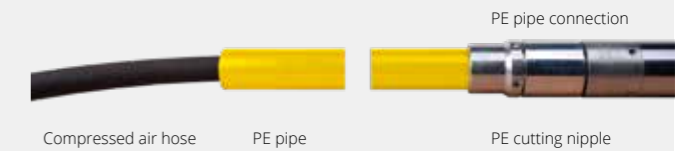
A large selection of jobsite compatible accessories for different tasks make the GRUNDOMAT versatily applica- ble and ensures high capacity utilisation. Our original accessories make the application as simple and safe as possible for the operator.

VARIABLE PULLING IN OF PIPES

IMMEDIATE INSTALLATION OF SHORT PVC PIPES



IMMEDIATE INSTALLATION OF LONG PE PIPES



SUBSEQUENT INSTALLATION OF LONG PE PIPES WITH COMPRESSED AIR HOSE



REVERSE PULLING IN VIA PULLING ADAPTER





TECHNICAL SPECIFICATIONS

GRUNDOMAT STANDARD VERSION

All machine types can be equipped either with a crowned head or stepped head.



GRUNDOMAT TYPE	Ø [mm]	Length [mm]	Weight [kg]	Air consumption [m³/min]	Impact rate [min ⁻¹]		Servo control [min ⁻¹]	Max. pipe Ø [mm]
					1st gear	2nd gear		
GRUNDOMAT 45	45	979	9	0,35	530	615	-	40
GRUNDOMAT 55	55	1.108	14,4	0,4	470	565	-	45
GRUNDOMAT 65	65	1.328	25	0,7	450	550	460	50
GRUNDOMAT 75	75	1.465	34	1,0	385	480	400	63
GRUNDOMAT 95	95	1.732	65	1,5	325	425	325	85
GRUNDOMAT 110	110	1.751	96	1,6	320	380	320	90
GRUNDOMAT 130	130	1.740	117	2,6	320	400	320	110

Subject to change.

GRUNDOMAT SHORT VERSION

The short soil displacement hammers are ideal for use in confined spaces.



GRUNDOMAT TYPE	Ø [mm]	Length [mm]	Weight [kg]	Air consumption [m³/min]	Impact rate [min ⁻¹]		Servo control [min ⁻¹]	Max. pipe Ø [mm]
					1st gear	2nd gear		
GRUNDOMAT S45	45	894	8	0,35	580	-	-	40
GRUNDOMAT S65	65	1.097	18	0,65	570	-	640	50
GRUNDOMAT S75	75	1.295	28	0,8	490	-	460	63
GRUNDOMAT S95	95	1.532	56	1,3	370	-	370	85
GRUNDOMAT S110	110	1.548	86	1,4	370	-	370	90
GRUNDOMAT S130	130	1.604	107	2,4	370	-	370	110

Subject to change.



SERVICES ALL AROUND TRENCHLESS TECHNOLOGY INTELLIGENT SOLUTIONS WITH ADDED VALUE

Be it before the purchase or after, in person or online – we are always at hand with help and advice for you. We offer you comprehensive services and consultation that are specially tailored to the requirements in trenchless pipeline construction. Our services are as diverse as our range of products so you can concentrate fully on your business.

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DIGITAL SOLUTIONS

On our website, you can find all of the main information about our company, our products and their use in digital form. You can view the contents that interest you quickly and easily via the user-friendly, clearly structured navigation. Links to our social media channels can also be found there. For ordering accessories and spare parts for our NODIG technology there is our **eShop**. You can order merchandising items with the 'mole label' there as well.

Our cloud-based solutions for the HDD drilling technology combine planning, execution, billing, documentation and service in a central way. With the **Cockpit**, you always have all key machine data in view irrespective of place and time. With the **QuickPath**, you can plan the shortest and safest bore path in next to no time. That way, you can apply the machine technology even more efficiently and profitably, simply via PC, smartphone or tablet.

FINANCING & WARRANTY

We offer attractive financing solutions for new and used machines to our customers and sales partners through TRACTO-TECHNIK Finance GmbH. Be it financing, hire purchase, various types of leasing or insurance: we provide extensive expert advice in order to find the tailored solution for you. Discretion goes without saying.

USED EQUIPMENT

Your used equipment is in good hands with us. Be it our own or third-party products, be it with new purchase or not – you can rely completely on our full service. We assess the equipment on-site, advise you on purchase or trade-in and carry out the professional repair. With the "Certified Used Equipment" seal of approval, we achieve the best price for you via our use machine website with access to one of the world's largest construction machinery platforms.

AFTER SALES

Via our worldwide service network, we are always there for you, even after the purchase. Alongside the headquarters in Lennestadt, a total of seven TRACTO-TECHNIK customer centres in Germany as well as our worldwide sister companies and sales partners guarantee fast supply of spare parts and immediate availability. Our competent service staff offer fast assistance to make sure that you do not lose any valuable in case of emergency – wherever you may be.

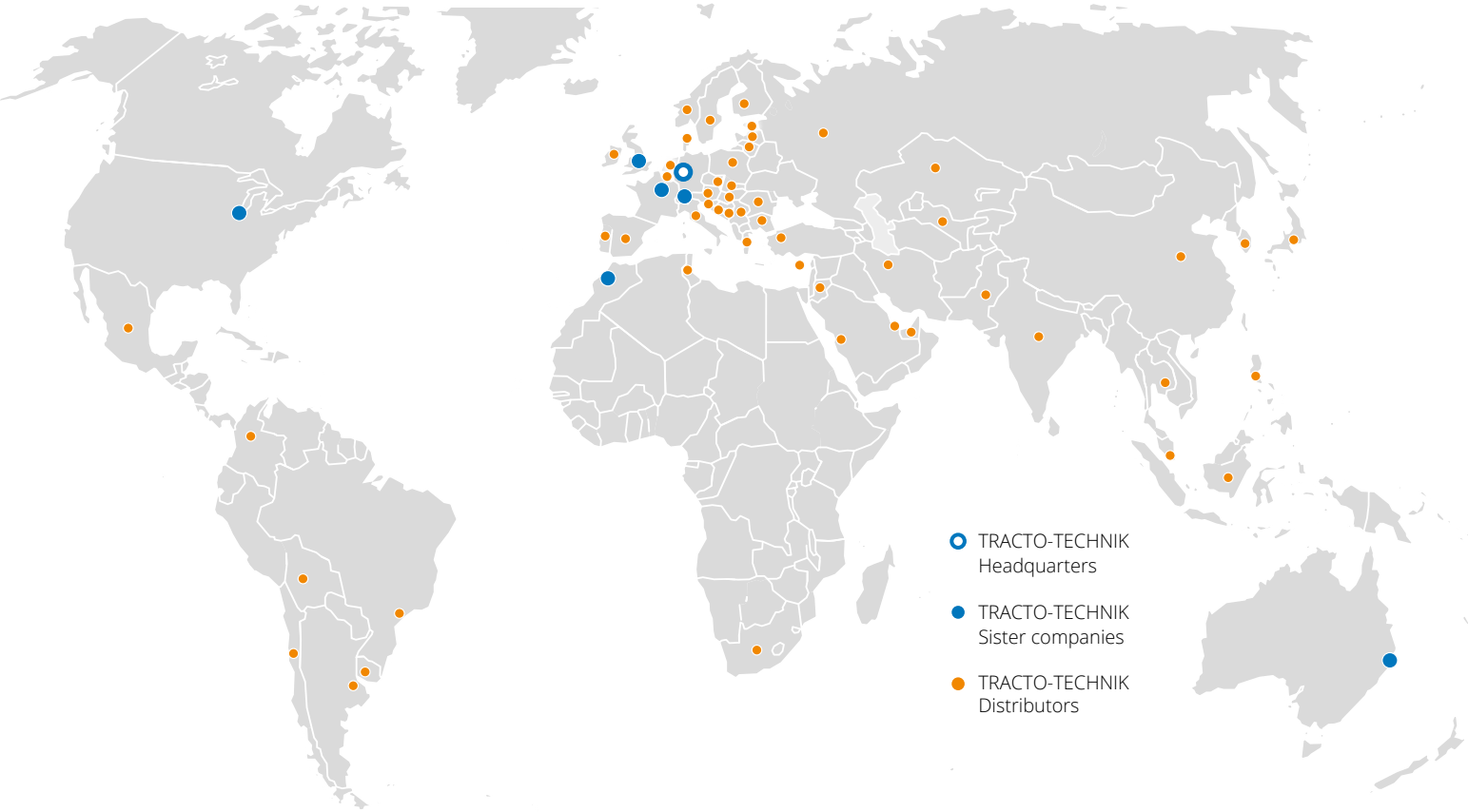
TRAININGS

Qualified trainings in theory and practice are a central concern for us to enable users and partners to achieve the greatest possible success with our products. The broad course range does not only address users, machine operators and service technicians but equally specialists and managers as well as planners and contractors who would like to learn more about the versatile applications of the various NODIG systems. Our tailor-made trainings are held at our company locations or individually at your end by certified trainers. Contents, dates and registration on our website.

GEOSERVICE

In Germany, our Geoservice provides far-reaching geological expertise to support your projects. We offer advice on planning and drilling, for example in the courses of planned bore paths or by submitting queries about building ground. Furthermore, we write geological assessments, review construction documents to determine the potential for supplements and draw up corresponding statements.

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