

TRACTO

Further information
on GRUNDODRILL

TRACTO.COM/GRUNDODRILL-XCS



GRUNDODRILL
JCS130 / ACS130
FLUID-ASSISTED HDD RIGS &
ROCK DRILLING HDD RIGS
ALWAYS ONE
TURN AHEAD



ADVANCED TRENCHLESS TECHNOLOGY

GRUNDODRILL JCS130 / ACS130

THE NEW GENERATION

Horizontal Directional Drilling is a complex process, which places equally diverse demands on machine technology. The intensive examination of these requirements from the user's point of view led to a unique development process in which we questioned every detail and rethought every component. The result is the new GRUNDODRILL generation with a ground-breaking concept,

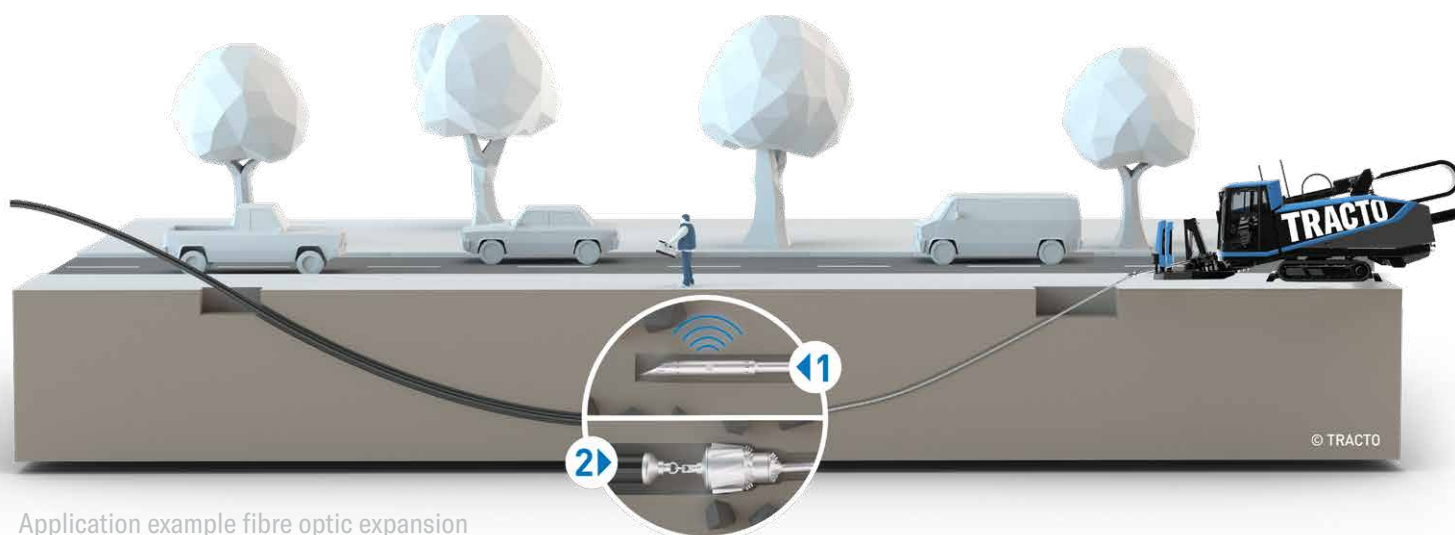
allowing for utmost flexibility and maximum productivity in steerable trenchless pipe installations. Thanks to the trend-setting combination of innovative technology and maximum digitisation, this is easier than you may think. The new GRUNDODRILL JCS130 / ACS130 is the first in its product range to offer all these possibilities.

GRUNDODRILL
Application
video at



TRACTO.COM/
APPLICATIONS

APPLICATION

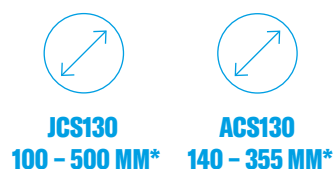


Application example fibre optic expansion

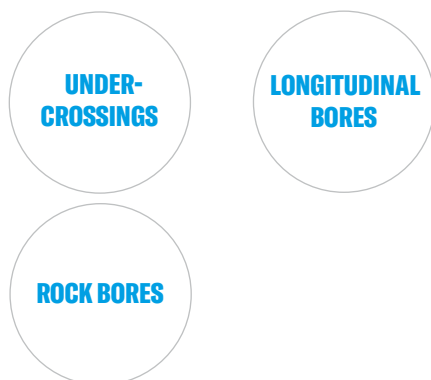
INSTALLATION METHOD



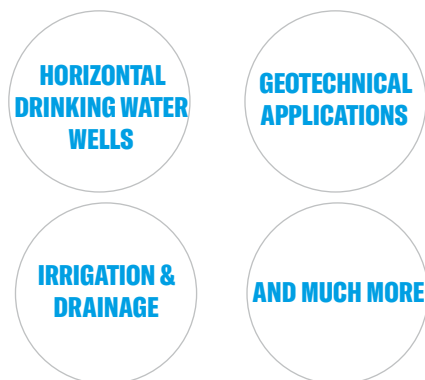
BORE DIAMETER



MAIN APPLICATIONS

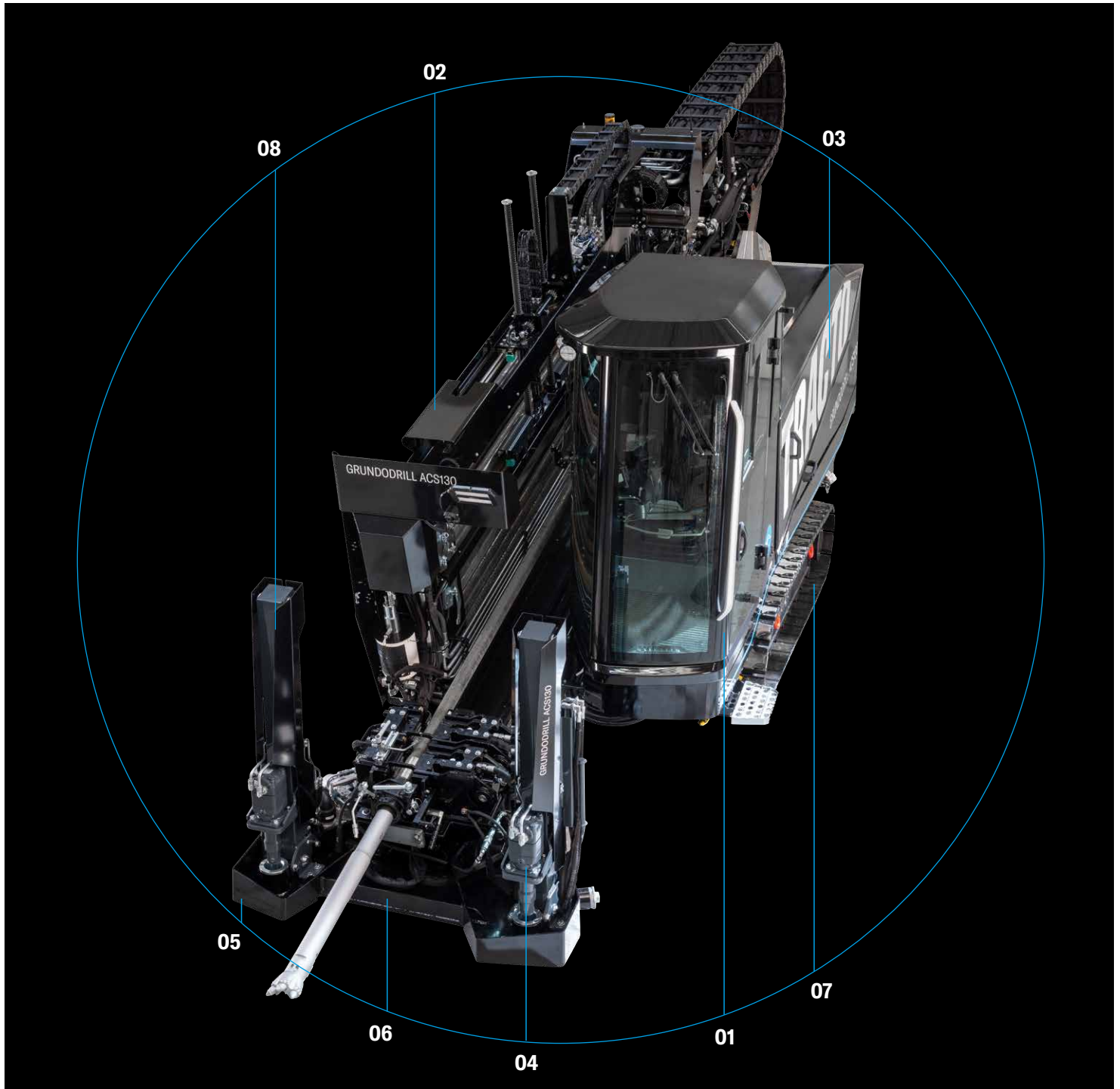


SPECIAL APPLICATIONS



* depending on soil conditions

OVERVIEW



01 Suspension Cabin with various equipment possibilities, such as automatic climate control, various operator seats, an electrical swivel mechanism

02 Optimal drill rod handling with crane and fully automatic drill rod loading system for Jetbore and twin-rods. Quick connection of an additional drill rod box with automatic retrieval via the drill rod crane

03 Significantly increased rotation and flushing capacities in combination with a matched high drive power enable considerable productivity increases in any geology

04 Optional anchor bore system for perfect anchoring of the bore rig at the jobsite

05 Anchor plate as drip pan for drilling fluid contributes to a clean jobsite

06 Stabilisers for perfect alignment and positioning of the bore rig at the jobsite

07 Undercarriage options with a choice of rubber, steel or rubberised steel tracks

08 Hydraulic loading crane for self-sufficient handling of additional drill rod boxes, drill rods and drilling accessories

REVOLUTIONARY IN ALL PERFORMANCE CLASSES

Innovation down to the last detail

The well thought-out construction of the new GRUNDODRILL generation combines numerous innovative individual solutions into a future-oriented and unique overall concept. All future models in the range have the same outstanding features that ensure maximum power for thrust, rotation and drilling fluid is always available.

An intelligent control concept makes sure that the overall power is optimally transferred onto the individual components as required. This makes the new GRUNDODRILL generation the most efficient and productive drilling rig in its class on the market.

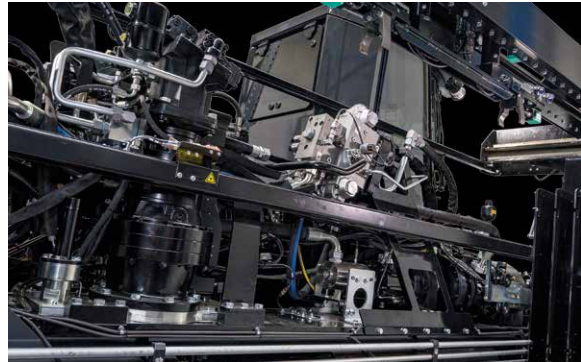
Maximum drilling fluid output

- Depending on the performance class, different pump options are available, each providing the maximum drilling fluid volume at highest possible pressure at the same time.
- This particularly high drilling fluid performance guarantees fast drilling progress and maximum clearing capacity.



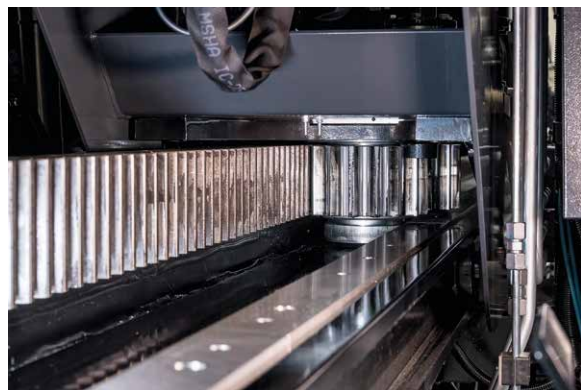
Powerful rotary drive

- A variable torque adjustment considerably increases the productivity of the drilling rigs. Torque and rotational speed can be optimally adapted to the respective geology and drilling tools.
- Compared to conventional drilling rigs, the new concept leads to a considerably higher power output over the entire speed range.



Effective thrust

- The Rack & Pinion drive with significantly increased idle stroke speeds ensures shorter cycle times in push mode and when exchanging the rods.
- The infinitely variable thrust and pulling force limitation and an anti-stall-valve guarantee safe, fatigue-free and material-friendly working.



A FLEXIBLE MODULAR SYSTEM: THE CHOICE IS YOURS

Due to the modular construction of the new GRUNDODRILL generation, it is possible to configure each drilling rig individually. A selection of almost forty options allows the user to flexibly equip his drilling rig according to its application range and the desired comfort.

The illustrations show examples of the options for different control stands and anchoring plates.

In addition, numerous other options are available, such as central lubrication, camera surveillance, high-pressure cleaners. Our sales staff will be happy to advise you on the configuration of your drilling rig.

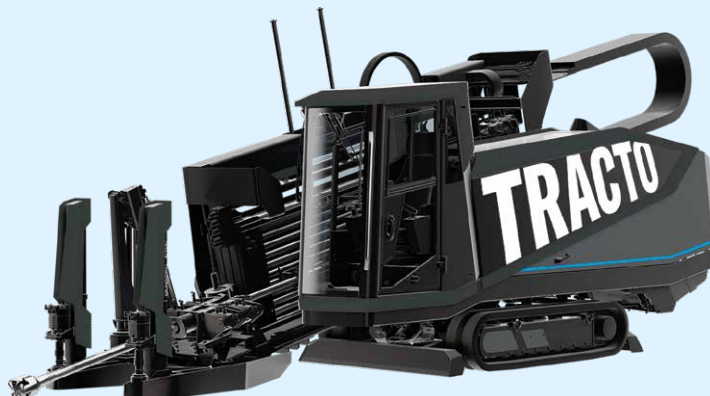
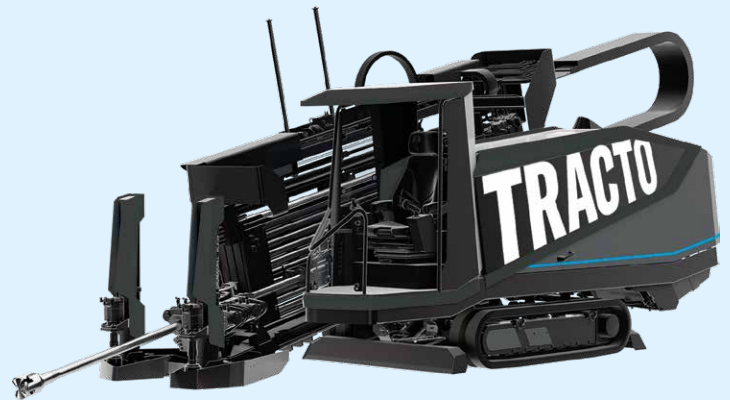
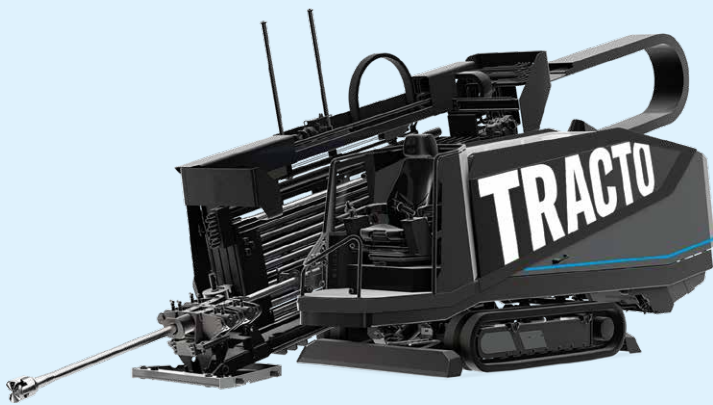


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MOBILE COMMAND CENTRE

Innovation down to the last detail

The unique and innovative operating concept of the new GRUNDODRILL generation is the result of a thorough, in-depth development process in close cooperation with drill masters and experts in ergonomics and biomechanics. By combining state-of-the-art control technology with intelligent software and a high degree of automation, the operator can concentrate more than ever on his most important activity: drilling.

Simple Operation

- The entire operating concept is self-explanatory and intuitive – comparable to modern smartphones or tablets.
- The automation of all processes and work steps leads to an increase in productivity and to a relief of the operator.
- All central functions of the drilling rig can also be controlled manually as an alternative.

Total overview

- An integrated camera concept automatically provides the operator with an optimum overview of all relevant areas of the drilling rig at all times.

This modern and intuitive operating concept makes a central contribution to increasing productivity in the HDD and considerably facilitates the training of new drill masters.

Comfort operator cabin – the perfect workplace

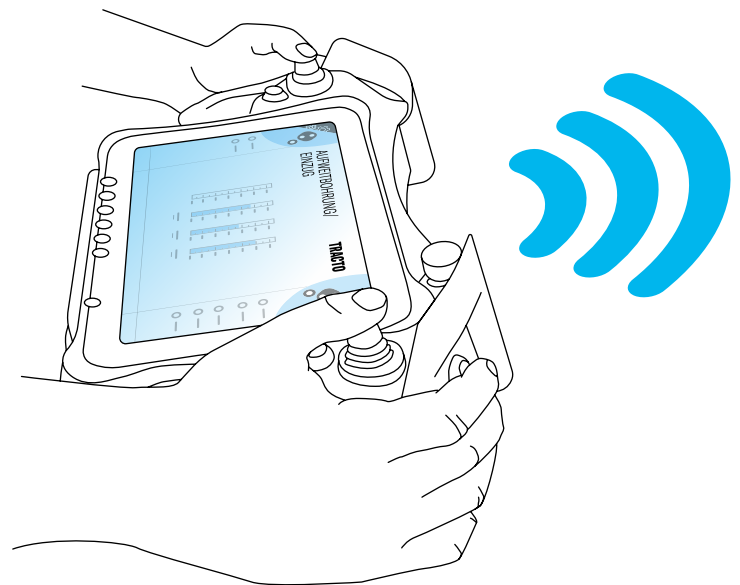
The design and equipment of the comfort operator's cabin have been consistently adapted to the needs of the operator. In combination with the camera concept, large panoramic windows offer an optimum all-round view. The significantly enlarged cabin, in combination with an optimised cabin suspension and an ergonomic and optionally air-suspended seat, becomes the perfect workplace.

Further features

- Central locking, electronic immobiliser, numerous shelves and charging sockets, bottle cooler, radio with Bluetooth hands-free kit
- Optional: air conditioning or automatic climate control, pivoting mechanism



Innovative, detachable remote control for remote-controlled drilling





NEW PERSPECTIVES

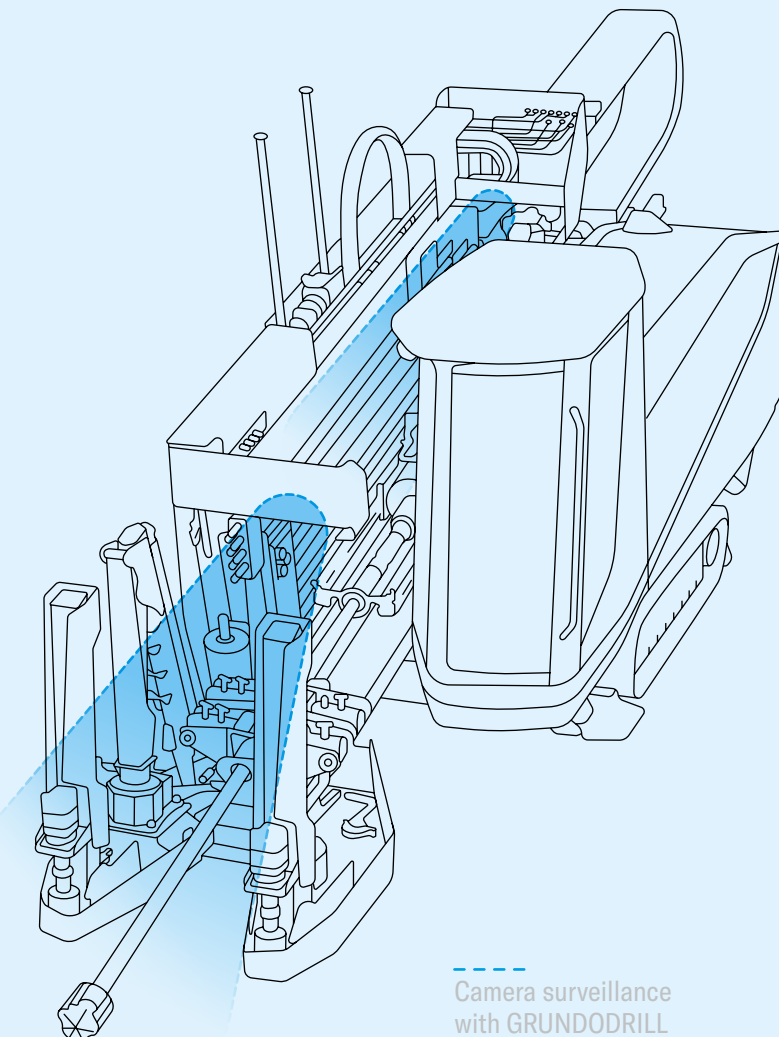
Remote controlled drilling

The drilling rigs of the new GRUNDODRILL generation can be operated completely by remote control even in drilling mode. Due to the intelligent operating concept, all functions of the drilling rig can be conveniently controlled and monitored from outside the operator's cabin using a specially designed remote control unit. This particularly hard-wearing device, which is suitable for construction sites, combines the same operating elements that are located in the cabin with an outdoor tablet, which is used as the central operating unit of the machine control system.

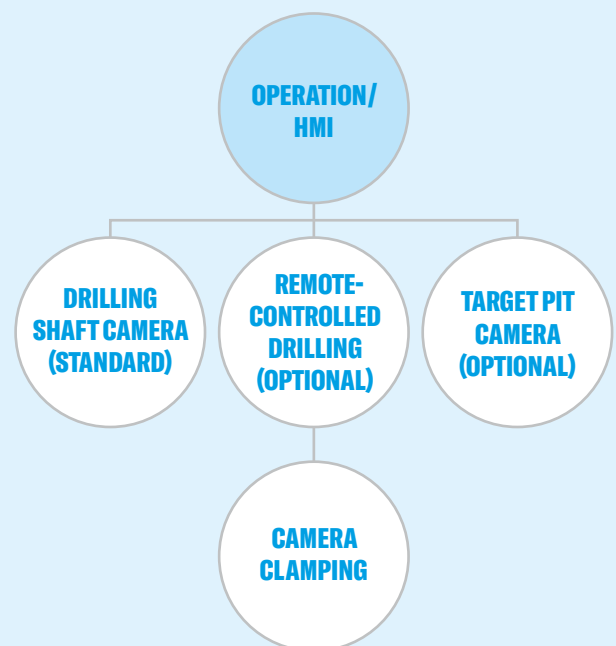
- All functions of the bore rig can be steered via the remote control.
- In combination with the new camera and sensor concept, full control of the entire drilling rig is always guaranteed, even when operating with the remote control.

- Reduced downtimes on the construction site due to increased flexibility. Short-term personnel bottlenecks – e.g. when mixing fresh drilling fluid – can be bridged by the equipment operator operating the drilling rig and the locating technology simultaneously.
- New perspectives for the operator – for example: Monitoring of the drilling fluid backflow or the pipe pulling process in the target pit, optical control when bypassing existing pipes and obstacles etc.

The GRUNDODRILL remote control unit increases safety and flexibility in daily use on the job site and the efficiency when drilling. As simple as possible.



--- Camera surveillance with GRUNDODRILL



PERFECT MATCH



Integrated location solution

The integration of the DCI location display into the control concept of the new GRUNDODRILL generation is a unique feature that sets new standards in the HDD market. By merging drilling equipment and locating technology into a single unit, all relevant data is brought together centrally to further simplify the drilling process.

Trend-setting partnership

Reliable and precise locating technology is required for the safe and precise control of the drill head. As the manufacturer of the first detection systems to capture the inclination and roll of the drill head, Digital Control has been setting the standards in this field worldwide for decades. This continuous innovative strength makes DCI the perfect partner for developing the sophisticated location feature.

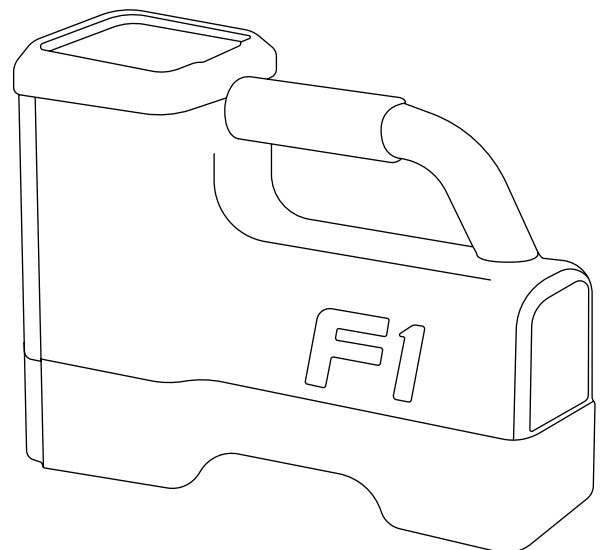
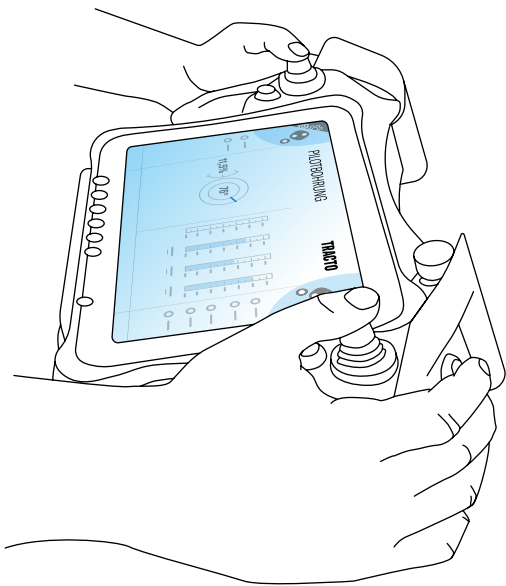
The result of the cooperation is as ingenious in its conception as it is easy to use. A hardware module developed by DCI (AIM –

Aurora Interface Module) and an interface jointly developed by DCI and TRACTO are fully compatible with all locating systems of the current DCI F series.

- One central screen for machine data and location information – even with remote drilling.
- Compatible with DCI locating systems F1, F2, F5 and Falcon F1, Falcon F2, Falcon F5.
- The integration of all DCI settings and the adaptation of the look & feel to the TRACTO environment simplifies the introduction and training of new operators.
- Contributes decisively to the fast and more sustainable training of new specialists – drill masters and locating technicians can follow the drill head together.

Safe and target precise steering of the bore head

The location system from DCI transfers all relevant data to the TRACTO operating panel



Innovative, detachable remote control from TRACTO

Location system from DCI



FAST LOADERS WITH GROWTH POTENTIAL

The new GRUNDODRILL generation's rod magazine combines a large magazine capacity with an innovative and flexible reloading concept. This clever solution guarantees very short cycle times when changing drill rods and minimum effort when reloading or removing drill rods for particularly long bores.

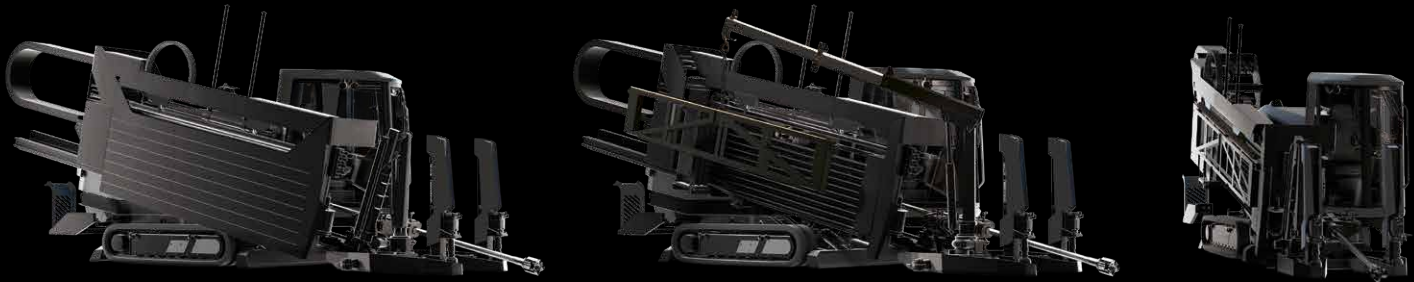


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Intelligent stock keeping

The magazine concept significantly increases flexibility and productivity when using the drilling rig.

- Operates space-saving, in very tight site conditions - the drilling rig is fully operational in the specified transport width.
- Optional reloading boxes make reloading additional drill rods a child's play.
- A telescopic crane, also available as an option, ensures self-sufficient, ergonomic and safe handling of the reloading boxes.

- Different reloading options are available:

- Individual drill rods can be fed manually from the side and are then loaded fully automatically into the drill rod box.
- Automated working directly from the reloading box - the rods are removed directly from the reloading box and transported to the drilling axis.
- Fully automatic loading or unloading of the rod box from the reloading box.
- Automation allows all reloading options to be used without an operator in the cabin.

Reliable and fast through all geologies

A new generation of drill rods, which is precisely matched to the GRUNDODRILL rigs, enables significantly lower bending radii with higher performance and maximum drilling fluid output even over long drilling distances.

- A newly designed polygon plug-in connection for the inner rods of the twin-tube rods ensures reliable torque transmission in the tightest of spaces. This ensures high drilling fluid output and productivity, even when using the twin-tube rods. (1)
- One-piece forged drill rods with ELICON threads and bearing mounted inner rods ensure reliability and long service life. (2)





SMART LINKING

Cockpit, QuickPlanner3D & eShop



360° Digital Solutions

360° stands for integrated digital solutions, which allow you to master your complex tasks more easily and quickly due to intelligent linking. Our cloud-based software solutions for HDD technology centrally link planning, execution, billing, documentation and service. That way you can use the machine technology even more efficiently and profitably – conveniently via PC, smartphone or tablet.

Access via the modular platform is quick and easy, use intuitive. The first modules of this 360° experience are the Cockpit and QuickPlanner3D for HDD technology and a tailor-made eShop for ordering accessories and spare parts.

Everything in view with the COCKPIT

With the Cockpit all relevant performance and consumption data of your GRUNDODRILL rigs are centrally recorded and can be retrieved quickly at any time. Maximum data transparency allows you to individually control and increase the productivity of your drilling equipment.

- Efficient HDD fleet management
- Faster planning, monitoring and coordination of HDD construction sites
- Determination of saving potentials through data comparison
- Value retention of the HDD device due to optimised service

Target planning with the QuickPlanner3D

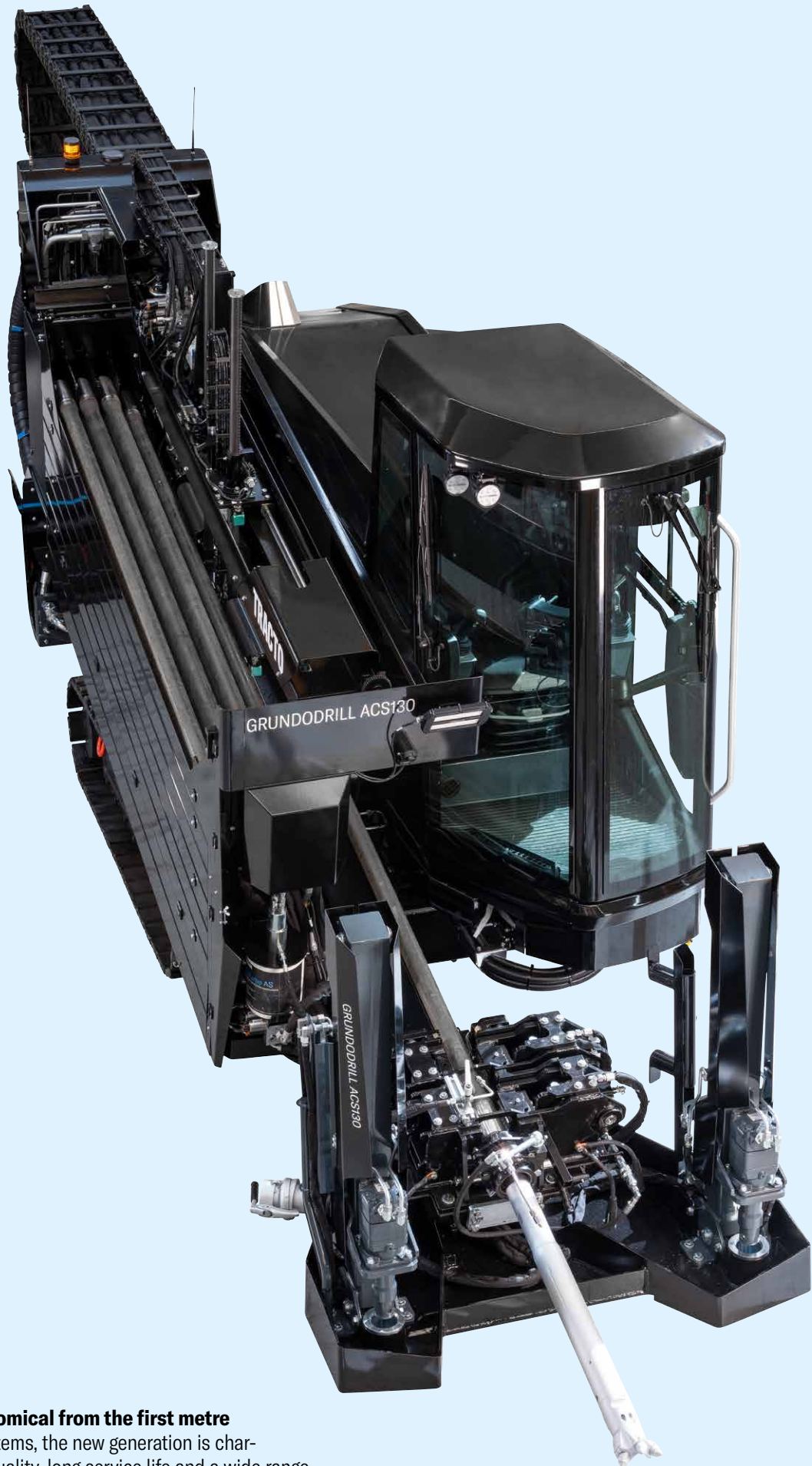
With the QuickPlanner3D you plan the optimal bore path automatically and quickly. The intelligent software is a self-optimizing bore planner that calculates the shortest bore path while reliably taking constraint points and limiting parameters into account.

- Efficient planning and quick feasibility study of a drilling route
- Calculation of the optimal bore path using intelligent algorithms
- Realistic results due to unique three-dimensional calculation and planning

Remote Service

Due to the optimised possibilities to analyse and evaluate data from the bore rig, we are able to offer you an improved remote service and also react quickly to your requirements.

FUNCTION | ADVANTAGES



Full performance - economical from the first metre

Like all GRUNDODRILL systems, the new generation is characterised by outstanding quality, long service life and a wide range of applications. Thanks to the flexible concept, the new series works even more productively with any type of application.

VARIANTS

Maximum
productivity
in all perfor-
mance classes

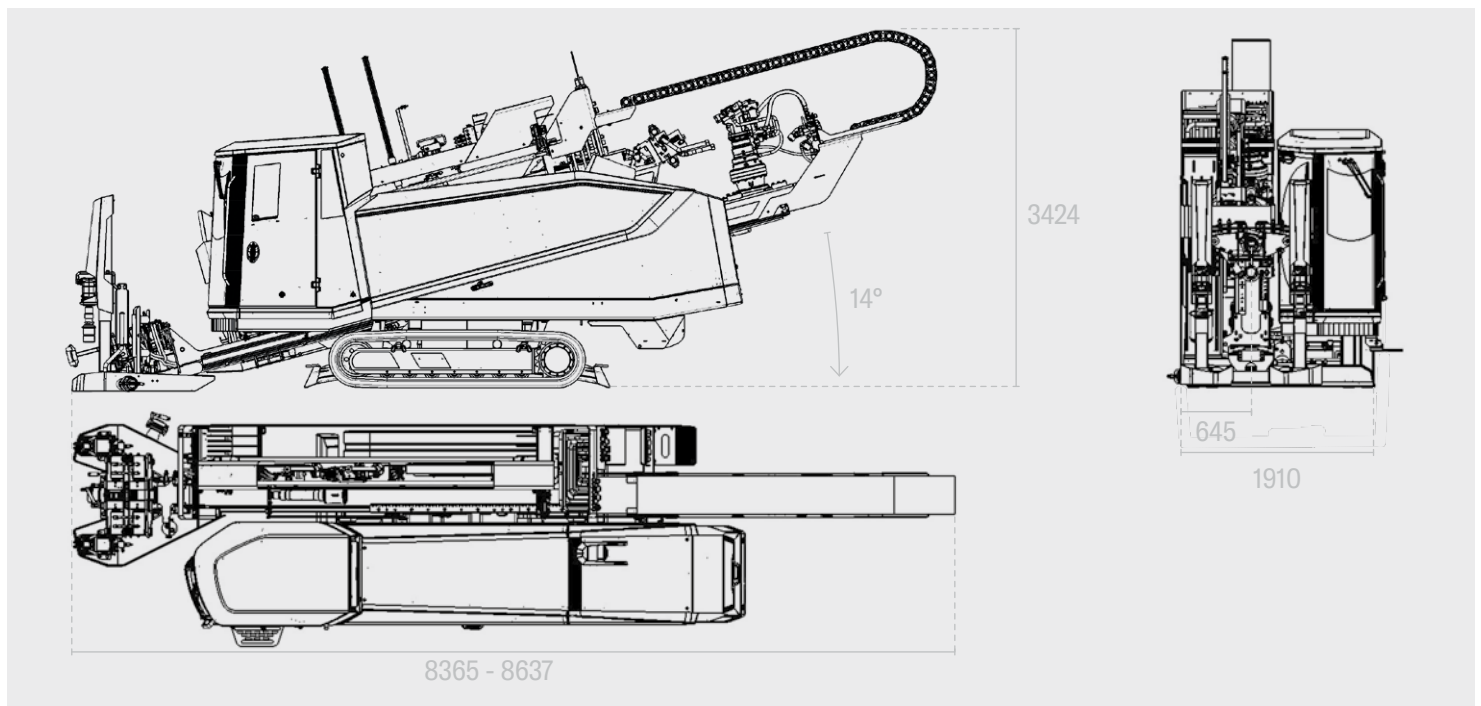


GRUNDODRILL JCS130 THE NEW GENERATION

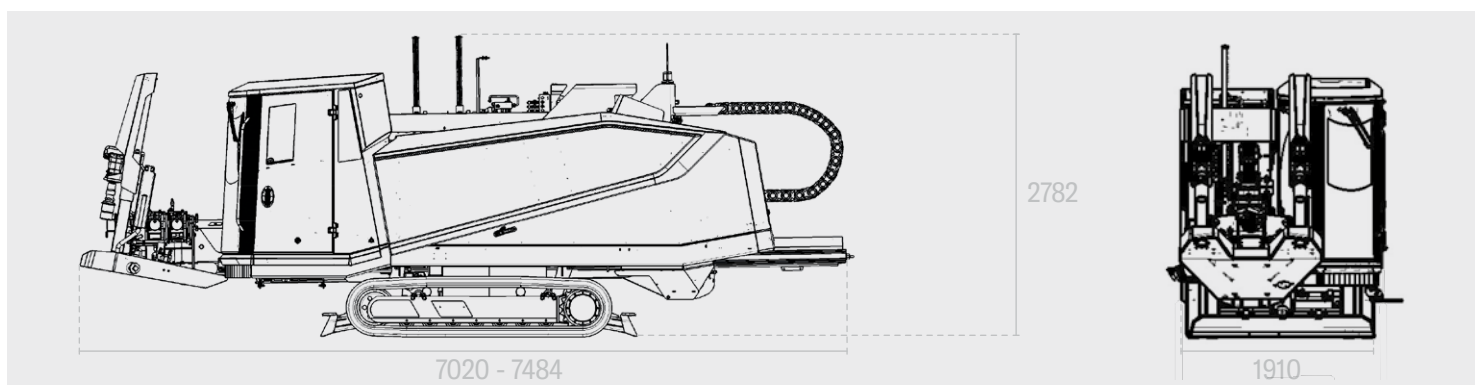
FEATURES

- JCS - JET CONDITION SYSTEM - for drilling in loose rock
- Cummins engine Stage V, 115 kW
- Variable torque and speed adjustment for maximum rotational performance and maximum productivity at any speed
- Fully automatic drilling operation incl. drill rod exchange and all other secondary activities
- Comfort operator's cabin¹ incl. Grammer comfort seat (with air suspension¹), central locking, electronic immobiliser, heating, air conditioning¹ or automatic climate control¹, radio, hands-free equipment, bottle cooler
- Powerful bentonite HD pumps on board - full flow at maximum pressure for highest productivity
- Innovative and intuitive operating concept, radio remote control for remote-controlled drilling¹
- Compatible with all digital solutions by TRACTO
- Numerous other options available

WORKING POSITION



TRANSPORT POSITION



VARIANTS



TECHNICAL DATA

DRILL ROD TYPE EL-D67

Thrust and pullback force	130 kN
Max. feed rate (without load)	70 m/min
Max. torque EL-D67	4.500 Nm
Max. spindle speed EL-D67	185 U/min
HP bentonite pump P62 P72	190 l/min 320 l/min
Bentonite pressure P62 P72	85 bar 75 bar
Rod magazine contents EL-D67	168 m
Effective rod length Number of rods	3.000 mm 56 pcs
Pilot bore Ø EL-D67	100 mm
Min. bore radius EL-D67	32 m
Lx W x H (transport position)* ²	7.020 - 7484 x 1.910 x 2.782 mm
Lx W x H (Working position 14° with cabin swivelled in)* ²	8.365 - 8.637 x 1.910 x 3.424 mm
Lx W x H (Working position 14° with cabin swivelled out)* ²	8.365 - 8.637 x 2.577 x 3.424 mm
Lx W x H (Working position 30° with cabin swivelled in)* ²	7.175 - 7.537 x 1.910 x 4.652 mm
Lx W x H (Working position 30° with cabin swivelled out)* ²	7.175 - 7.537 x 2.577 x 4.652 mm
Max. weight* ²	11.830 kg
Engine manufacturer	Cummins
Engine type	F3.8
Emissions standard	Stage V
Max. engine output	115 kW
Diesel tank capacity	134 l
AdBlue tank capacity	18,9 l
Fresh water tank capacity	120 l
Inclination angle	0–30 °
Sound pressure level L_{PA} Sound power level L_{WA}	68 dB 102 dB
Upsizing Ø* ≤ Outer pipe Ø*	500/400 mm
Bore length* ≤	300 m

* depending on soil | ¹ Option | ² depending on configuration | Data subject to change

VARIANTS

Maximum
productivity
in all perfor-
mance classes



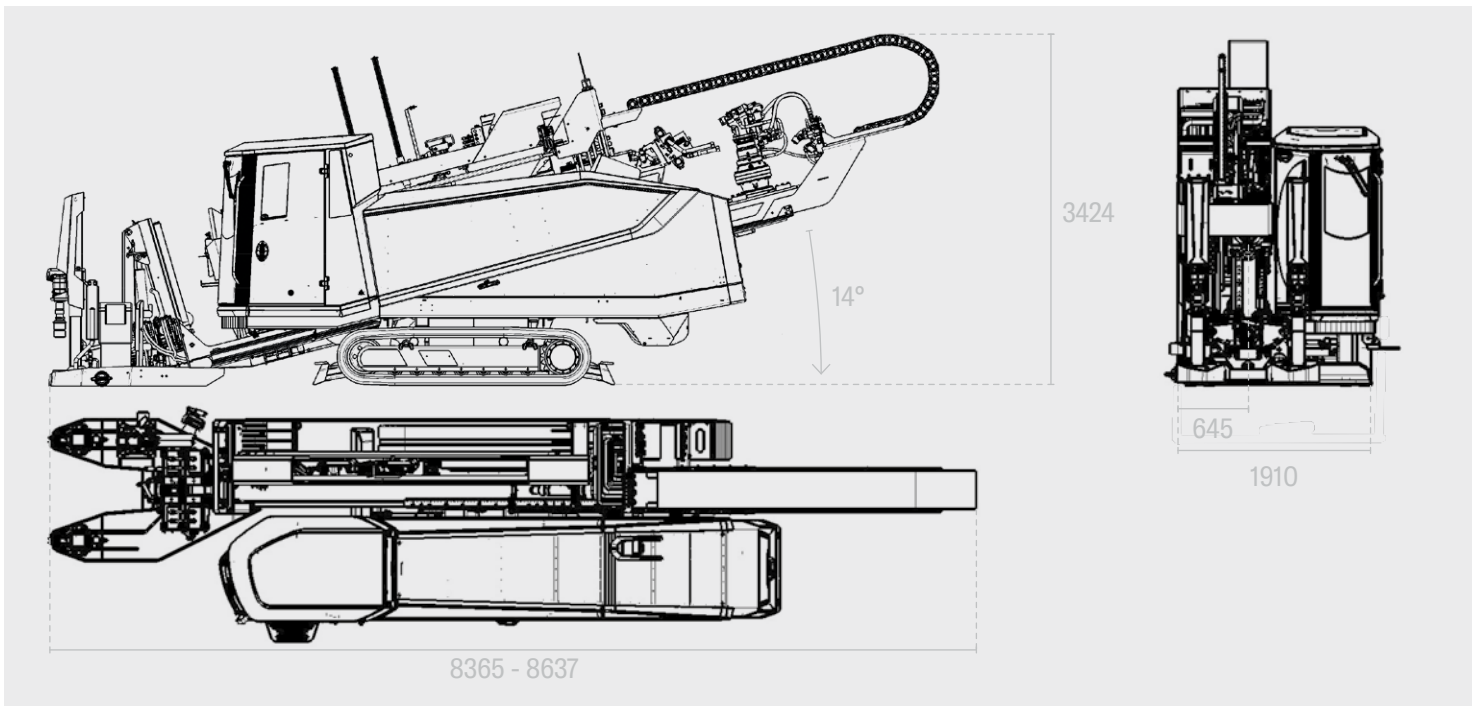
GRUNDODRILL ACS130 THE NEW GENERATION

FEATURES

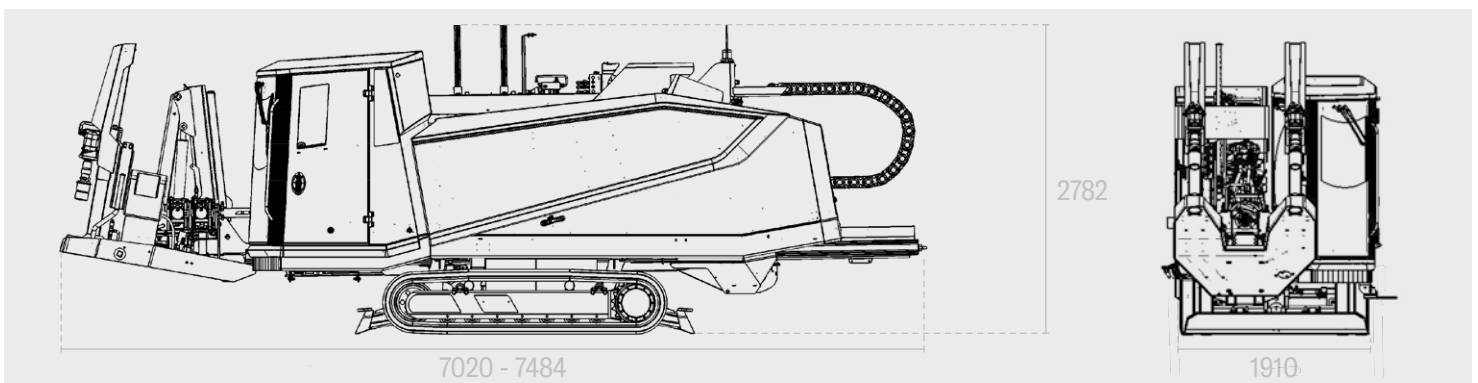
- ACS - ALL CONDITION SYSTEM - for drilling in all geologies incl. solid rock/rock
- Cummins engine Tier 5, 115 kW
- Can optionally be used with EL-D80 twin-tube rods or EL D67 JET rods
- Variable torque and speed adjustment for maximum rotational performance and maximum productivity at any speed
- Fully automatic drilling operation incl. drill rod exchange and all other secondary activities

- Comfort operator's cabin¹ incl. Grammer comfort seat (with air suspension¹), central locking, electronic immobiliser, heating, air conditioning¹ or automatic climate control¹, radio, hands-free equipment, bottle cooler
- Powerful bentonite HD pumps on board - full flow at maximum pressure for highest productivity
- Innovative and intuitive operating concept, radio remote control for remote-controlled drilling¹
- Compatible with all digital solutions by TRACTO
- Numerous other options available

WORKING POSITION



TRANSPORT POSITION



VARIANTS



TECHNICAL DATA

DRILL ROD TYPE EL-D80 / EL-D67

Thrust and pullback force	130 kN	
Max. feed rate (without load)	70 m/min	
Max. torque	EL-D80/EL-D67 4.500 Nm	EL-D80 (inner rod) 1.200 Nm
Max. spindle speed	EL-D80/EL-D67 230 U/min	EL-D80 (inner rod) 400 U/min
HP bentonite pump P62 P72	190 l/min 320 l/min	
Bentonite pressure P62 P72	85 bar 75 bar	
Rod magazine contents EL-D80 EL-D67	132 168 m	
Effective rod length Number of rods	3.000 mm	
Number of rods	EL-D80 44 pcs	EL-D67 56 pcs
Pilot bore Ø EL-D80 EL-D67	140 100 mm	
Min. bore radius EL-D80 EL-D67	35 32 m	
L x W x H (transport position)* ²	7.020 - 7484 x 1.910 x 2.782 mm	
L x W x H (working position 14° with cabin swivelled in)* ²	8.365 - 8.637 x 1.910 x 3.424 mm	
L x W x H (working position 14° with cabin swivelled out)* ²	8.365 - 8.637 x 2.577 x 3.424 mm	
L x W x H (working position 14° with cabin swivelled in)* ²	7.175 - 7.537 x 1.910 x 4.652 mm	
L x W x H (working position 30° with cabin swivelled out)* ²	7.175 - 7.537 x 2.577 x 4.652 mm	
Max. weight*	12.760 kg	
Engine manufacturer	Cummins	
Engine type	F3.8	
Emissions standard	Stage V	
Max. engine output	115 kW	
Diesel tank capacity	134 l	
AdBlue tank capacity	18,9 l	
Fresh water tank capacity	120 l	
Inclination angle	0–30 °	
Sound pressure level L_{PA} Sound power level L_{WA}	68 dB 100 dB	
Upsizing $\emptyset^* \leq$ Outer pipe $\emptyset^* \leq$	JET mode 500/400 mm	ROCK mode 355/250 mm
Bore length* \leq	JET mode 300 m	ROCK mode 200 m

* depending on soil | ¹ Option | ² depending on configuration | Data subject to change



WELL EQUIPPED IS HALF WAY THERE

Drilling tools, perfectly adapted to the drilling rig, guarantee optimal drilling progress through every type of soil. Robustness and durability of all parts are guaranteed.

STANDARD EQUIPMENT

Transmitter housing with bore head



Medium Soil Reamer



Cone Reamer

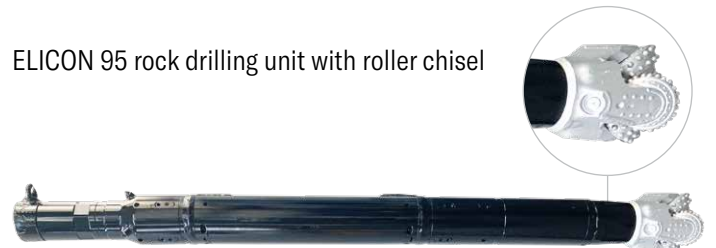


GRUNDREAM

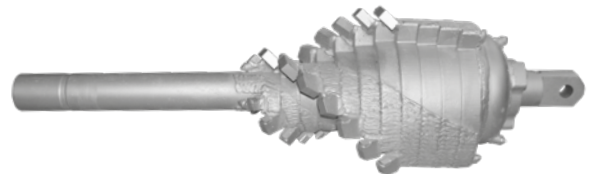


ROCK DRILLING EQUIPMENT

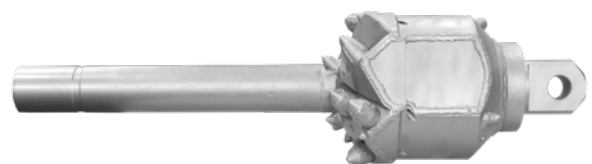
ELICON 95 rock drilling unit with roller chisel



Hard Soil Reamer



Hard Soil Rockreamer



Holeopener



MIXING SYSTEMS

A first-class drilling fluid technique is an important component for successful drilling. In combination with the BORE rig and drilling tools, the drilling fluid technique of TT provides a coherent package for an efficient job completion – even in complex and alternating soils.

Powerful mixing systems and pumps guarantee high drilling fluid performance. Professional measuring units and drilling

fluid additives are available to ensure a drilling fluid quality, which is well adapted to the soil.

Learn more about this topic in our in-house training courses or ask us for additional information on mixing systems and truck platforms.



MIXING SYSTEM MA07



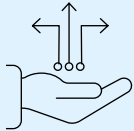
MIXING SYSTEM MA010

TRANSPORT

We are happy to provide assistance with the configuration and choice of your truck including trailer. For details, please contact your local sales representative.

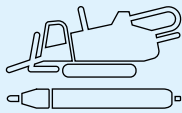
FULL SERVICE FOR TRENCHLESS TECHNOLOGY

Whether its before, during or after the purchase, whether in person or online – we are always at your side with advice and support. Our wide-ranged service is specially tailored to the requirements of trenchless pipe installations, so you can concentrate fully on your core business.



Digital Solutions

Our website offers you the whole world of trenchless technology in digital form. Find out more about our company, our products and their applications. Discover the digital tools for the HDD drilling technology and many other intelligent solutions. Always stay up to date by using the links to our social media channels. Or you can order machines, accessories and spare parts in our eSHOP – easy and conveniently via PC, smartphone or tablet.



Nodig Product Specialists

You can truly rely on our product specialists for all technical questions regarding the function and application of our steerable and non-steerable NODIG-systems. With comprehensive knowledge in each of their special fields, you can be sure they will find the best solution for your trenchless projects and advise you competently on setting up your jobsite.



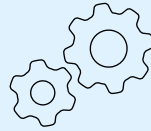
Financing

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



Training

Qualified training enables you to apply trenchless technology even more effectively and profitably. Our wide range of training courses for machine operators, construction professionals as well as planners and clients cover all aspects of NODIG technology, including special topics. Certified trainers also instruct you, in theory and practice according to your individual requirements, either at one of our numerous company locations, or directly on your own premises or online, independent of time and place.



Specialised Civil Engineering Service (Application Technology)

The specialised civil engineering service for application technology provides support for all your trenchless construction sites. Our experts demonstrate the steerable and non-steerable NODIG technology live in practical use, show your drilling teams how to use it or actively assist with special projects.



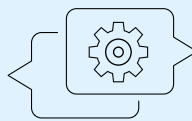
Geoservice

Precise knowledge of the soil is the key to successful trenchless projects. Our Geoservice team provides you with this professional knowledge. Our expertise puts you in a position to master every type of soil. Based on geoscientific maps and existing construction files, we supply information on the soil, which will help you with calculations or supplements.



Used Equipment

If you want to sell a used machine at an attractive price or are looking for the right equipment for your tasks, our full service for used NODIG machines will take the workload off your hands – from appraisal and price determination to professional repair and certification, through to achieving the best price for you via our used 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. A total of five TRACTO plants and seven 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 ensure you don't lose any time.



**Discover all
Services**



[TRACTO.COM/
SERVICES](https://tracto.com/services)

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