

HORIZONTAL DIRECTIONAL DRILLING

Horizontal Directional Drilling (HDD) is one of the most advanced and increasingly popular methods for installing new pipeline and cable infrastructure.

HDD enables drilling beneath obstacles such as urban areas, roads, hills, rivers, and environmentally protected zones — without disturbing their surface or natural condition.

BEARING SYSTEMS FOR DRILL BITS

Non-sealed roller bearing



Used for bits of 2-3/8" - 42"

A cost-optimized solution designed to deliver stable drilling parameters and full control over operational costs.

Perfect for shorter hole sections where mechanical efficiency and tool cost-effectiveness are key to maximizing performance and profitability.



Sealed roller bearing



Used for bits of 5-7/8" - 28"

A specialized sealing and lubrication system with pressure compensation extends operating life by effectively protecting the bearings from drilling fluid contamination and debris.

This ensures smooth operation, reduced maintenance, and longer tool service intervals.



Sealed journal bearing



Used for bits of 3-7/8"-17-1/2"

Sealed drills engineered for the toughest drilling conditions, combining exceptional wear resistance with a compensation-based lubrication system to ensure long-lasting, reliable performance even in the most demanding environments.



Nozzle dimensions

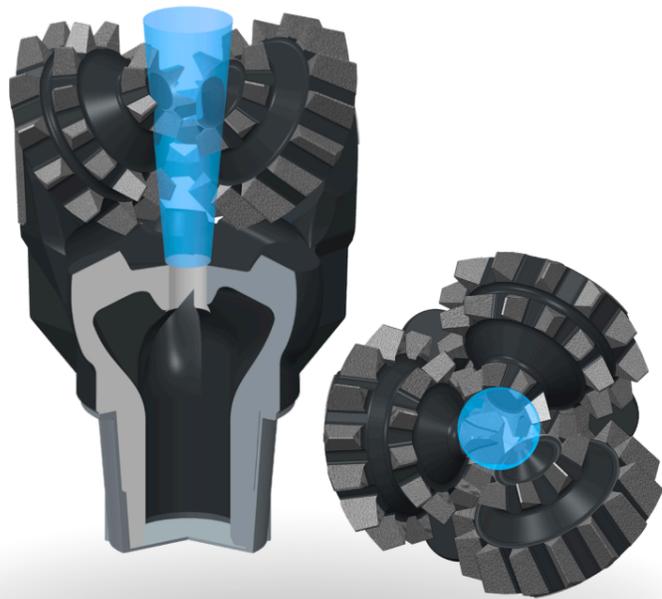
Size of the drill bit		D	h	d	
mm	inch	mm	mm	mm	inch
139,7 ÷ 187,3	5-1/2" ÷ 7-3/8"	20	15,1	4,0; 4,8; 6,4; 7,9; 8,9; 9,5; 11,1; 12,7; 14,3	5; 6; 8; 10; 11; 12; 14; 16; 18
190 ÷ 1066,8	7-1/2" ÷ 42"	33	27	11,1; 11,9; 12,7; 14,3; 15,9; 17,5; 19,0; 20,6; 22,2; 23,8; 25,4	14; 15; 16; 18; 20; 22; 24; 26; 28; 30; 32

HYDRAULIC SYSTEMS FOR DRILL BITS

Center hydraulics

Used for bits of 2-3/8" - 42"

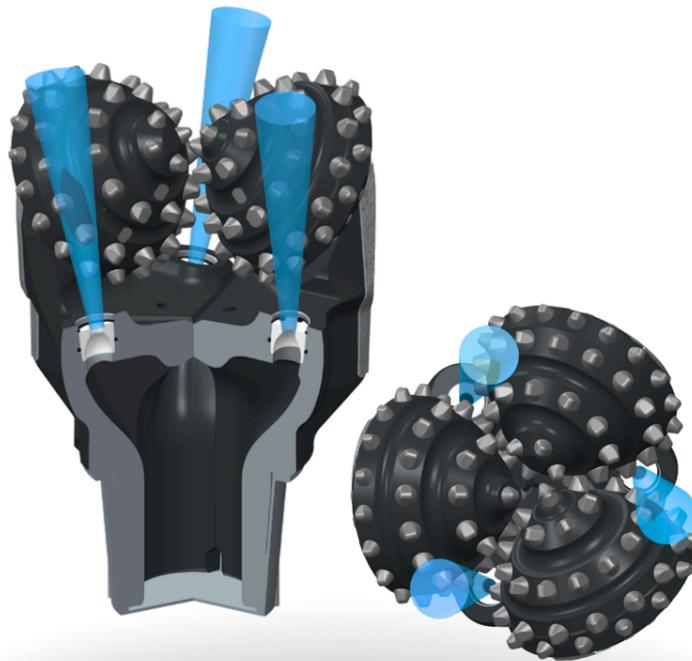
Central hydraulics are utilized in bits designed for hydrogeological and geoenvironmental drilling applications. In reverse circulation operations, the bit features a central hole with the largest possible diameter for the given threaded connection, ensuring optimal fluid flow, efficient cuttings removal, and maximum drilling performance.



3-nozzle hydraulics

Used for bits of 3-7/8" - 36"

An optimized nozzle layout and hydraulic flow provide efficient cleaning of both the cutting structure and borehole bottom, ensuring uninterrupted operation and maximum drilling progress.



Multi-nozzle hydraulics

Used for bits of 8-1/2"-42"

An advanced hydraulic system featuring additional nozzles—beyond the standard 3-jet design—delivers superior cleaning of the cutting structure and borehole bottom. This ensures consistent removal of cuttings, stable operating parameters, and sustained high drilling performance.





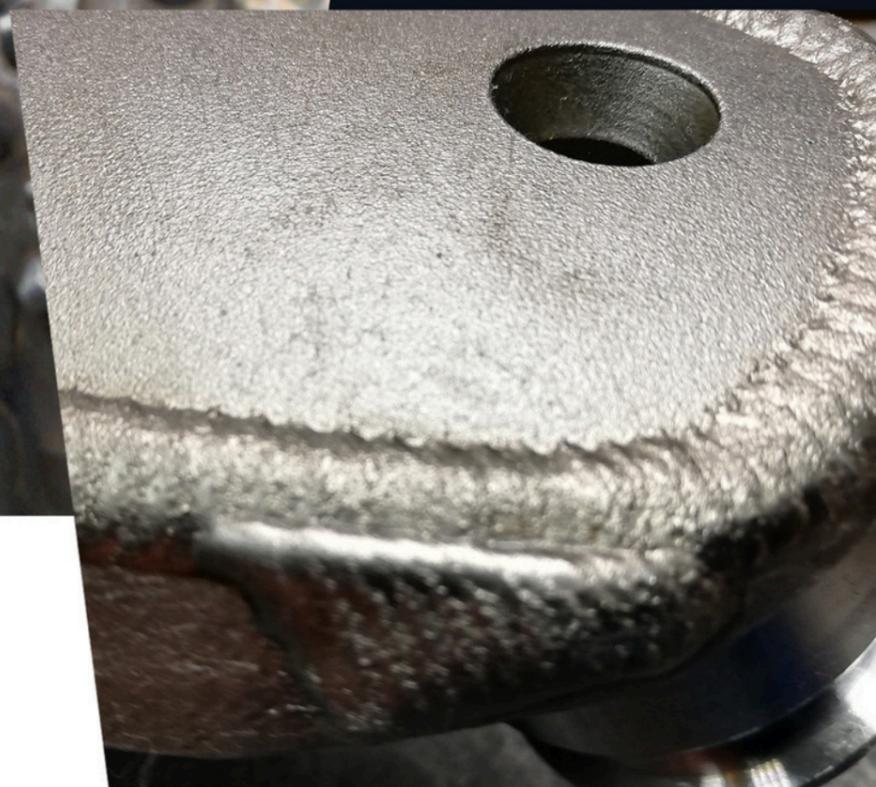
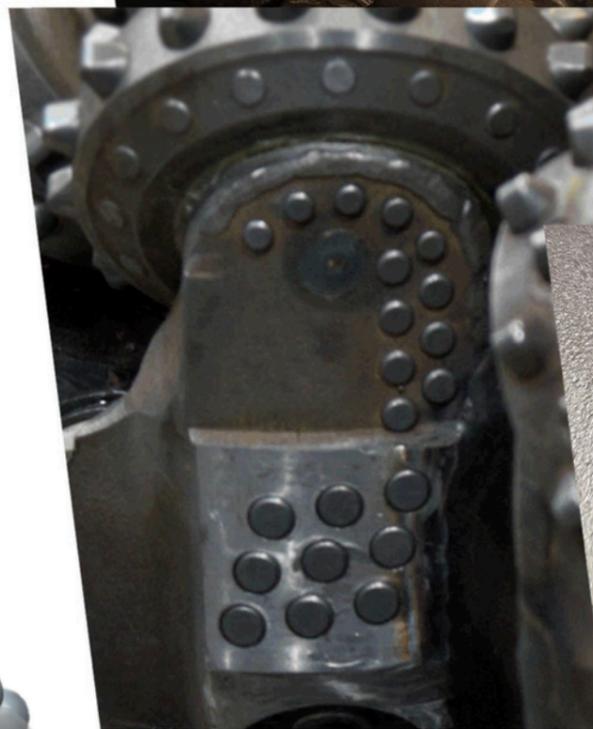
The patented compensation system continuously supplies grease to every bearing component, maintaining constant internal pressure for smooth, efficient, and reliable drill bearing performance throughout the entire drilling process.

Precisely engineered lubrication channels distribute grease to every rolling component, ensuring optimal bearing performance, while a high-quality seal prevents drilling fluid intrusion—protecting the bearings and eliminating the risk of bit seizure.



Drill bits are protected with materials of the highest abrasion resistance, applied using methods precisely matched to each surface to ensure maximum durability and extended tool life, even in the most demanding drilling conditions.

Plasma Transferred Arc Welding (PTAW) technology ensures consistent, high-quality bonding and exceptional wear resistance for extended tool life.



PROTECTION OF DIAMETER AND CUTTING STRUCTURE

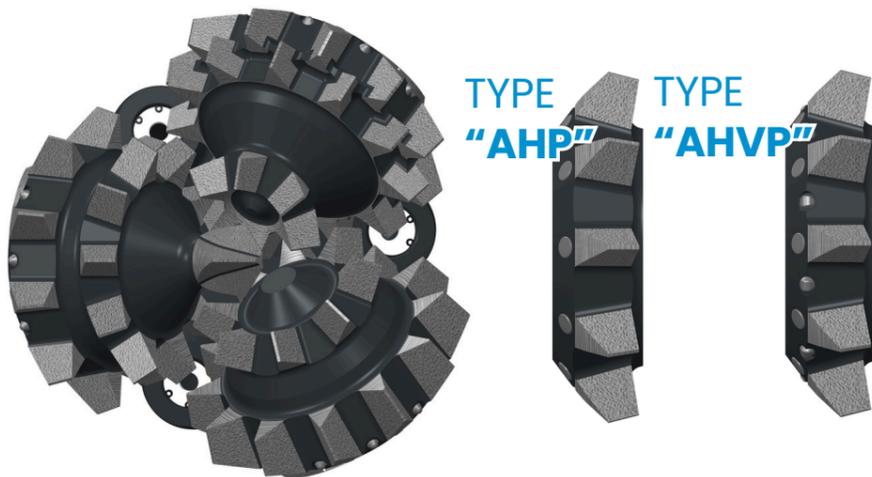
SOFT FORMATION SAMPLE DRILL BITS



12-1/4"
IADC 115

CUTTING STRUCTURE

Optimized tooth and cone design, developed through 3D simulation, ensures efficient cutting and drilling stability. Tungsten carbide hardfacing protects the teeth from wear during horizontal drilling, while carbide inserts on the bit face prevent diameter loss. Optimized nozzle placement improves cleaning and maximizes rate of penetration (ROP). Compatible with mud motors for faster drilling performance.



 Bits customisation available

LEG BACK PROTECTION TYPES

Glinik leg back type "6" design for extended tool life, and reliable performance in horizontal drilling.

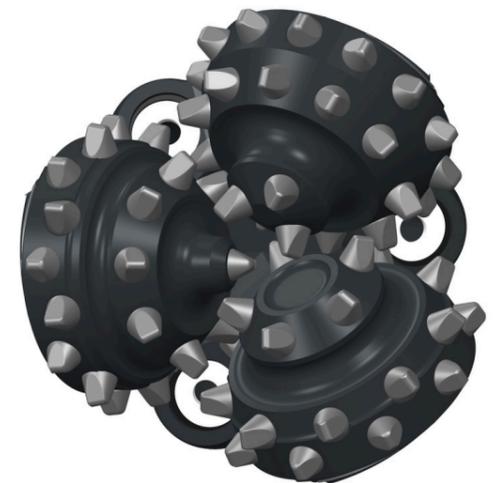


 wide range of diameters 5-1/2" (139,7mm) to 17-1/2" (444,5 mm)

TYPE
"GH"



TYPE
"GHV"



8-1/2"
IADC 435

CUTTING STRUCTURE

Tall prismatic inserts ensure efficient cutting and extended bit life. The optimized insert placement and precise cone positioning enable the bit to drill long intervals in a relatively short time. A wide selection of insert types allows for tailoring the cutting structure to achieve maximum drilling efficiency under various formation conditions.

 Tools consultation available

MEDIUM FORMATION SAMPLE DRILL BITS



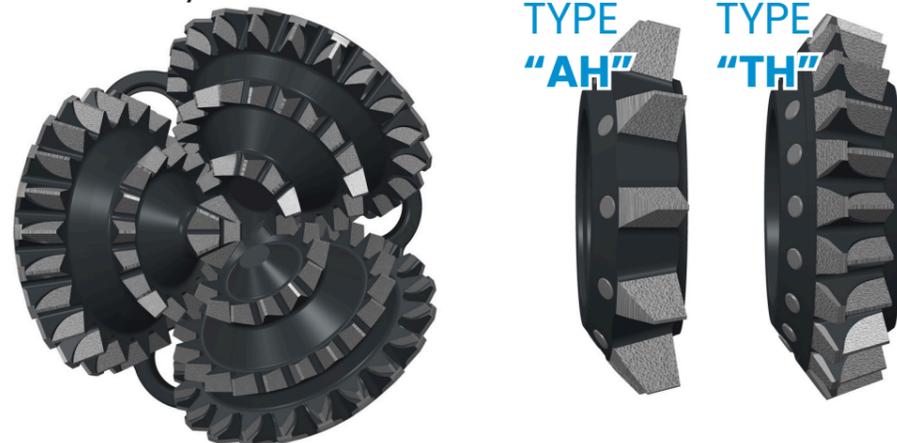
8-1/2"
IADC 235

CUTTING STRUCTURE:

A higher number of teeth combined with an increased blade angle delivers improved performance in variable medium to medium-hard formations.

The cone surface row is reinforced with carbide inserts, protecting the bit from diameter loss and extending its service life.

Additionally, the optimized nozzle placement and drilling fluid flow direction ensure faster cleaning of both the cutting structure and borehole bottom, enabling maximum drilling speed and efficiency.



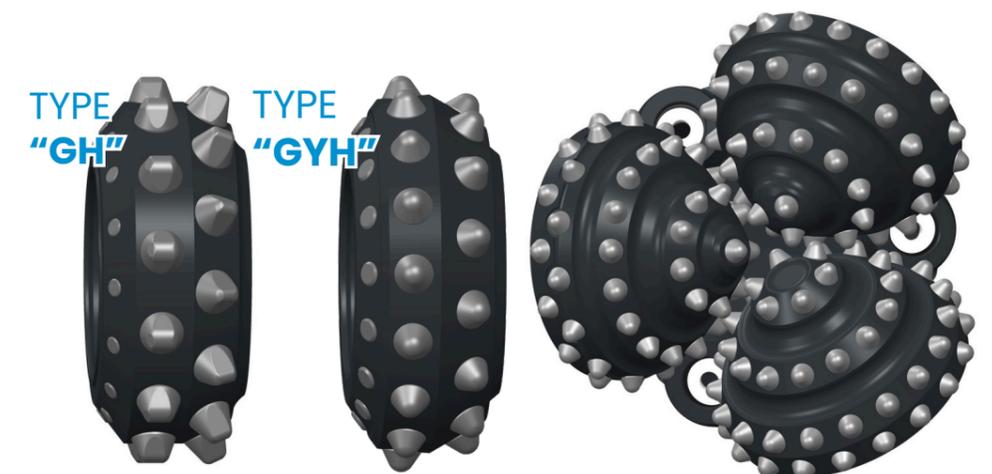
 Bits customisation available

12-1/4"
IADC 637



CUTTING STRUCTURE

High prismatic inserts with increased height and diameter, combined with relatively large offset between the cone axis and the bit axis, ensure high mechanical rate of penetration. The large sharpening angle of cutting edges protects the inserts from chipping and provides maximum resistance to wear and secures outer diameter.



 Tools consultation available

LEG BACK PROTECTION TYPES

Glinik leg back type "6" design for extended tool life, and reliable performance in horizontal drilling.



 wide range of diameters 5-1/2" (139,7mm) to 17-1/2" (444,5 mm)

HARD FORMATION SAMPLE DRILL BITS



12-1/4"
IADC 315

CUTTING STRUCTURE:

Short teeth with a wide sharpening angle and narrow spacing ensure efficient rock cutting. The border flange teeth feature calibration surfaces and are reinforced with tungsten carbide inserts, providing high durability and protecting the bit from diameter loss when drilling in hard formations.

LEG BACK PROTECTION TYPES

Glinik leg back type "6" design for extended tool life, and reliable performance in horizontal drilling.



wide range of diameters 5-1/2" (139,7mm) to 17-1/2" (444,5 mm)

12-1/4"
IADC 735



CUTTING STRUCTURE:

A large number of inserts with reduced height and wide sharpening angles, combined with narrow spacing, ensure optimal performance in hard rock drilling. The minimal offset between cone axis and bit axis protects inserts from breakage, while the reinforced cone face with multiple carbide inserts maintains bit's full diameter throughout its entire service life.



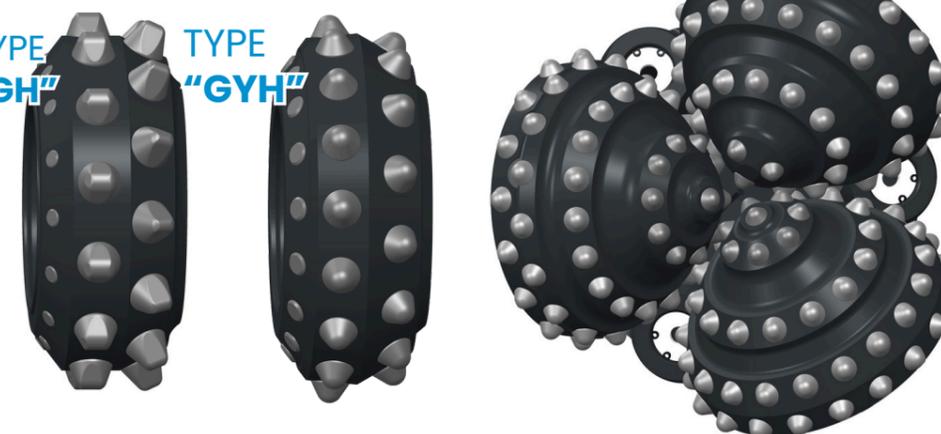
TYPE "AHP"

TYPE "TH"



TYPE "GH"

TYPE "GYH"



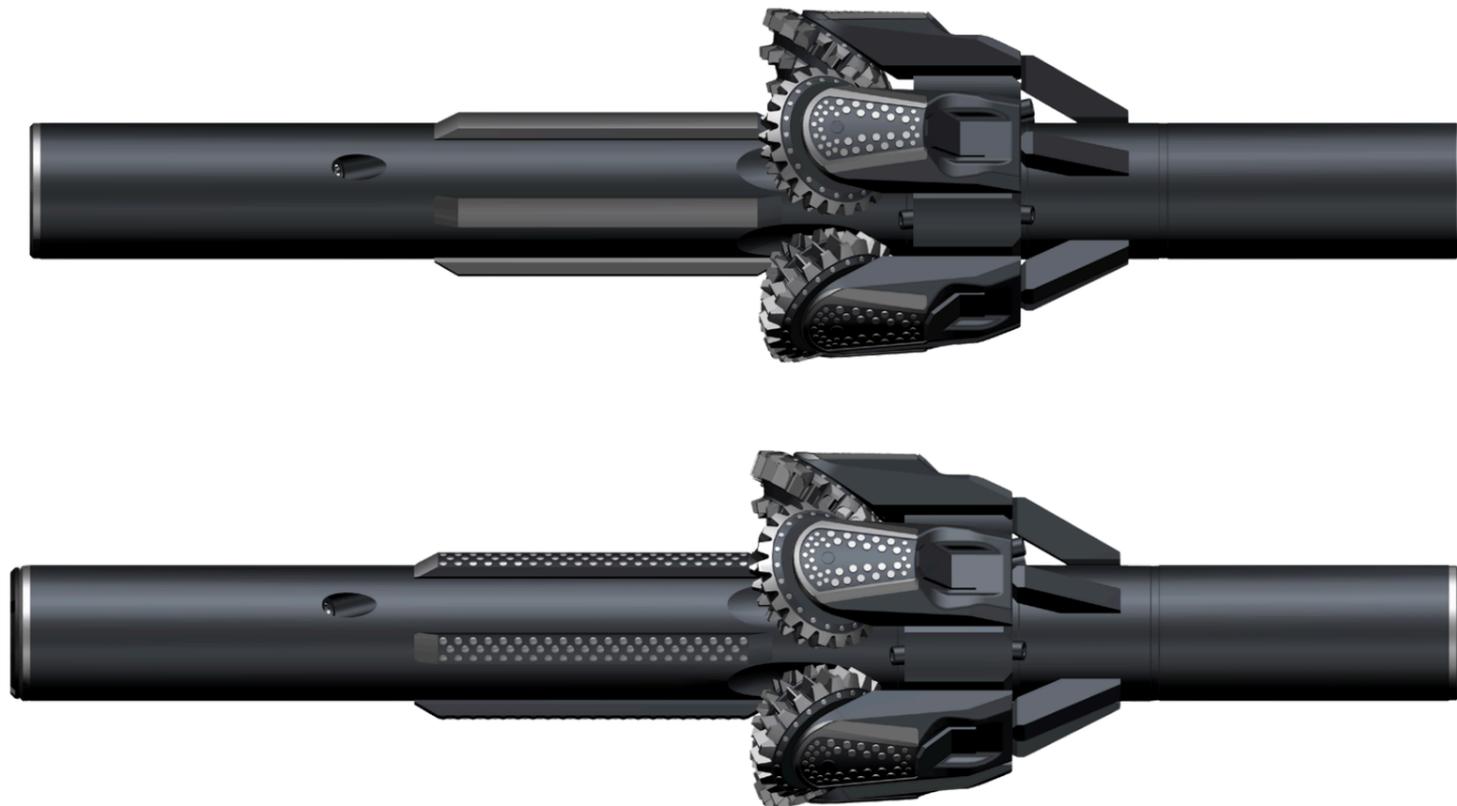
Bits customisation available



Tools consultation available

HOLE OPENERS

X-ENLARGE TYPE "S"



PILOT SIZE

9-7/8", 12-1/4"

**CUTTING
STRUCTURE**

MT & TCI

OPENING SIZE

24" - 26"



Design Highlights

Engineered for strength and precision – the heavy-duty welded arm design with stabilizing blades ensures perfect hole centralization, even in the most demanding ground conditions.

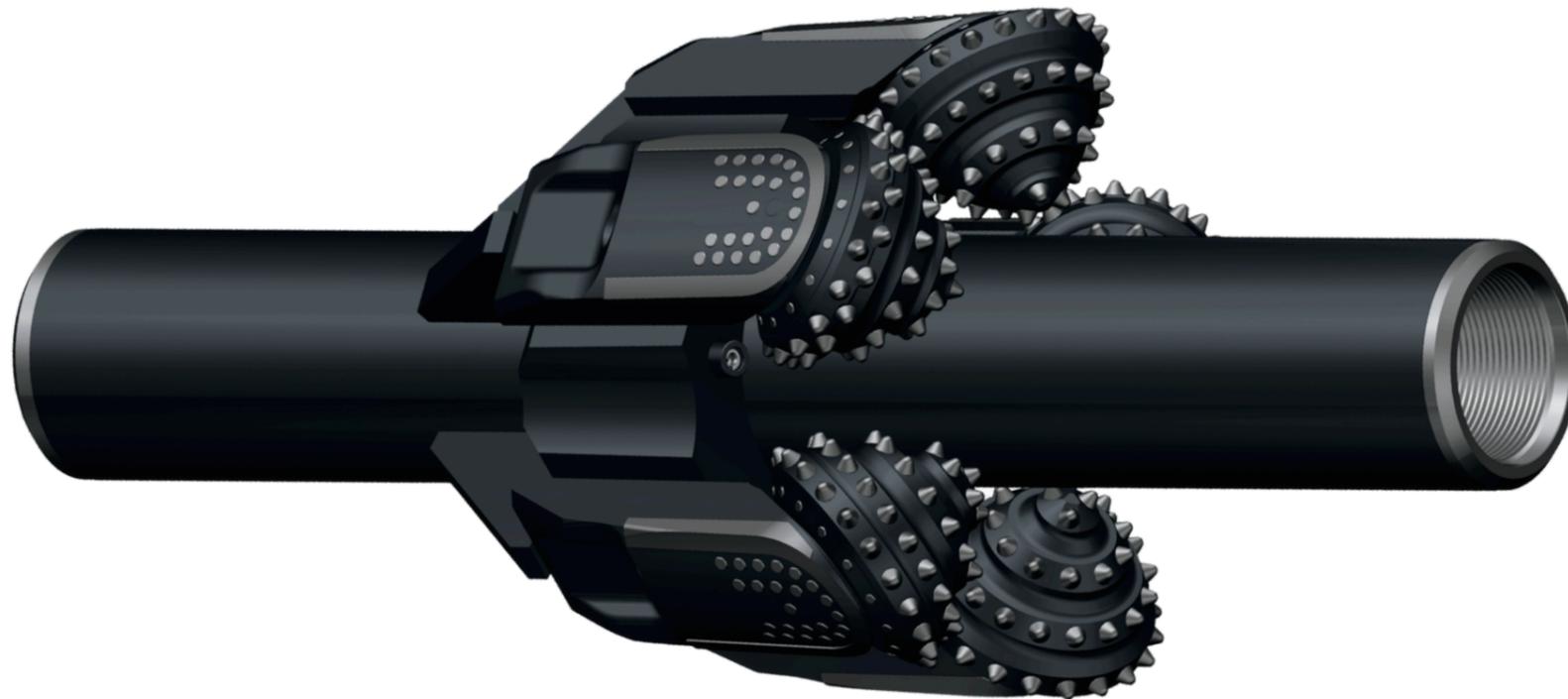
The next-generation flushing system provides optimal cutting efficiency, improved debris removal, and extended tool life.

Available with FH, REG, and NC connections for full compatibility with industry-standard drilling equipment.

Fast turnaround: 5–6 weeks for standard designs, and from 10 weeks for fully customized solutions.

HOLE OPENERS

X-ENLARGE TYPE "C"



PILOT SIZE

9-7/8", 12-1/4"

**CUTTING
STRUCTURE**

MT & TCI

OPENING SIZE

24" - 26"



Design Highlights

Built for strength and performance – the heavy-duty welded arm design ensures maximum durability and stability, even in the most demanding drilling conditions.

The technologically advanced flushing system delivers superior debris removal, optimal cutting efficiency, and extended tool life.

Available with FH, REG, and NC threads for full compatibility with industry-standard equipment.

Fast turnaround: 5–6 weeks for standard designs, and from 10 weeks for fully customized solutions.

HOLE OPENERS

X-ENLARGE TYPE "J"



PILOT SIZE

9-7/8", 12-1/4"

CUTTING STRUCTURE

MT & TCI

OPENING SIZE

24" - 26"



Design Highlights

Built for strength and precision, the heavy-duty welded arm design ensures exceptional durability and drilling stability, even in the most demanding ground conditions.

The advanced flushing system delivers superior debris removal, optimized cutting performance, and extended tool life.

Compatible with FH, REG, and NC threads, providing full integration with industry-standard equipment.

Fast delivery: 5-6 weeks for standard models and from 10 weeks for fully customized solutions.

G-Reamer GR4



BODY

Body	Min pilot hole	Connection	No of rollers
GR4	4-1/2"	2-7/8" IF BxB	3

ROLLER CUTTERS OPENING RANGE

Body	AAA	BBB	CCC
GR4	8-1/2"	10"	12"

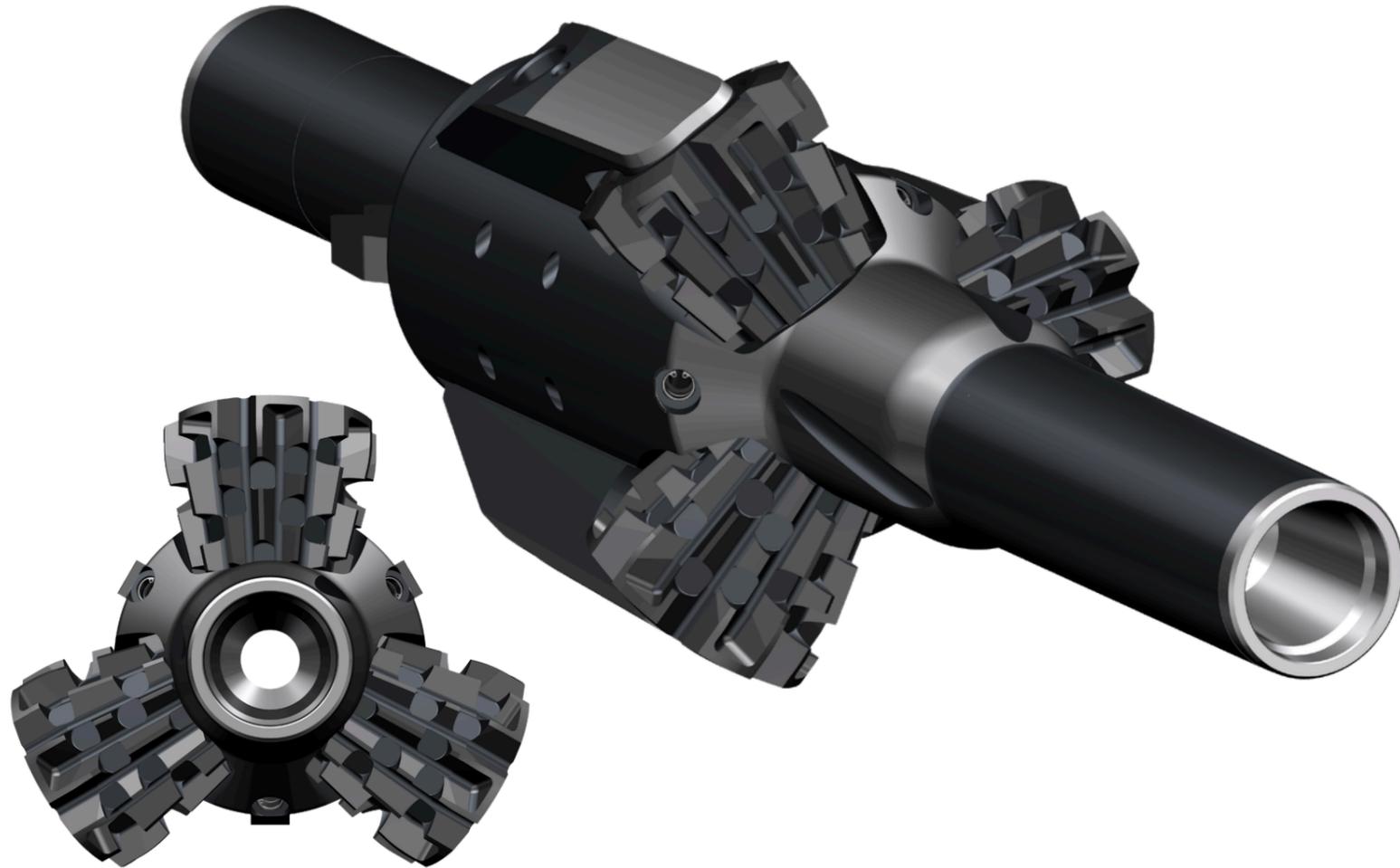
Our MT and TCI roller cutters ensure long service life, reliable performance, and high operational efficiency. Improved hydraulics through 6 nozzles helping to clean the tool and borehole optimally.

Available from stock, offered for both purchase and rental. G-Reamer provides flexibility with field exchangeable cutters and arms. Reliable greasing system ensures longevity of bearings and tool performance.



AAA — size — DDD

G-Reamer GR6



Our MT and TCI roller cutters ensure long service life, reliable performance, and high operational efficiency. Improved hydraulics through 6 nozzles helping to clean the tool and borehole optimally.

Available from stock, offered for both purchase and rental. G-Reamer provides flexibility with field exchangeable cutters and arms. Reliable greasing system ensures longevity of bearings and tool performance.



AA — size — DD

BODY

Body	Min pilot hole	Connection	No of rollers
GR6	6-1/2"	3-1/2" IF BxB	3

ROLLER CUTTERS OPENING RANGE

Body	AA	BB	CC	DD
GR6	12"	14"	16"	18"

G-Reamer GR8, GR10, GR17

BODY

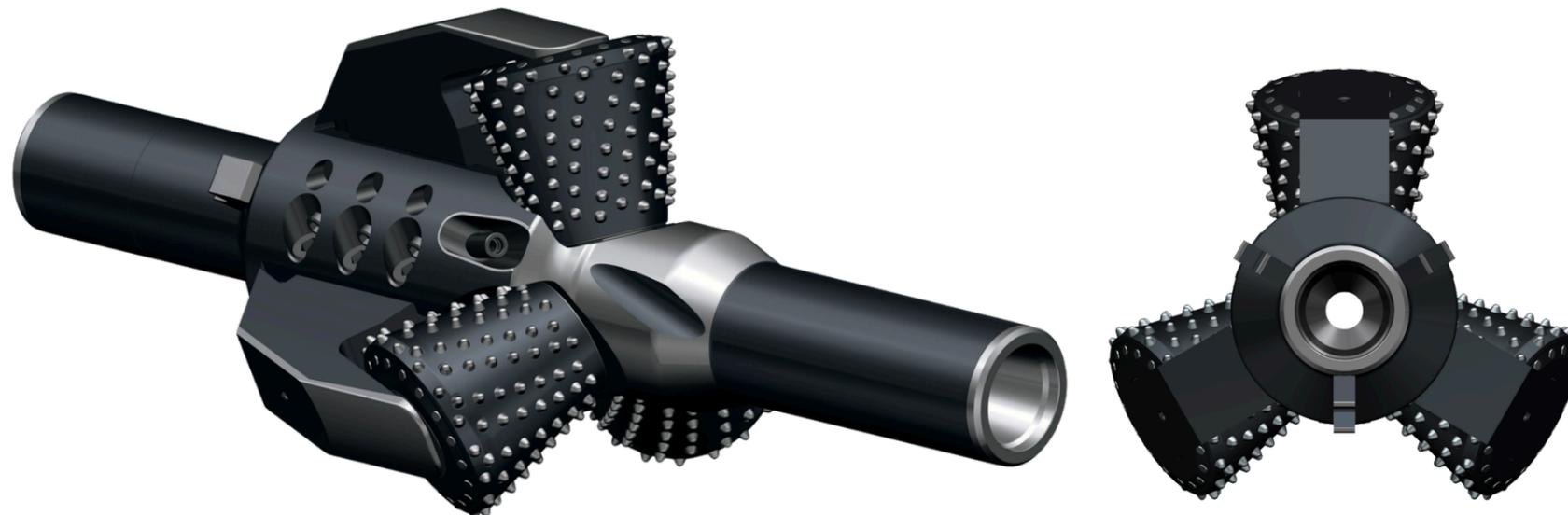
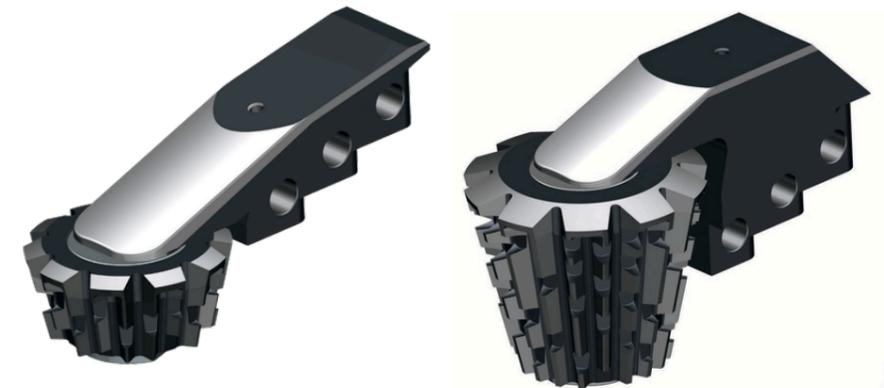
Body	Min pilot hole	Connection	No of rollers
GR8	9-7/8"	4-1/2" IF BxB	3
GR10	12-1/4"	6-5/8" FH BxB	3
GR17	17-1/2"	6-5/8" FH BxB	3

ROLLER CUTTERS OPENING RANGE

Body	A	B	C	D	E	F
GR8	16"	18"	20"	22"	24"	26"
GR10	18"	20"	22"	24"	26"	28"
GR17	24"	26"	28"	30"	32"	34"

Our MT and TCI roller cutters ensure long service life, reliable performance, and high operational efficiency. Improved hydraulics through 6 nozzles helping to clean the tool and borehole optimally.

Available from stock, offered for both purchase and rental. G-Reamer provides flexibility with field exchangeable cutters and arms. Reliable greasing system ensures longevity of bearings and tool performance.

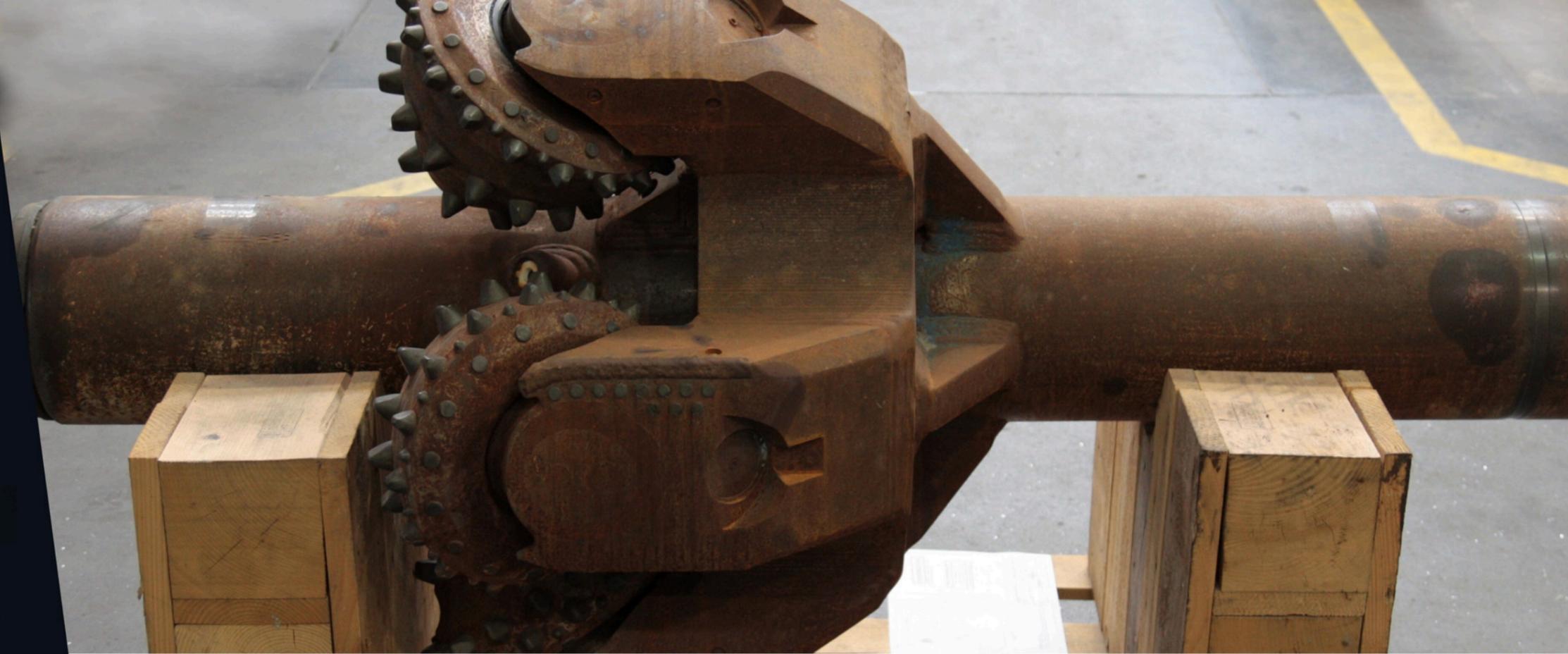




REFURBISHMENT OF HOLE OPENERS

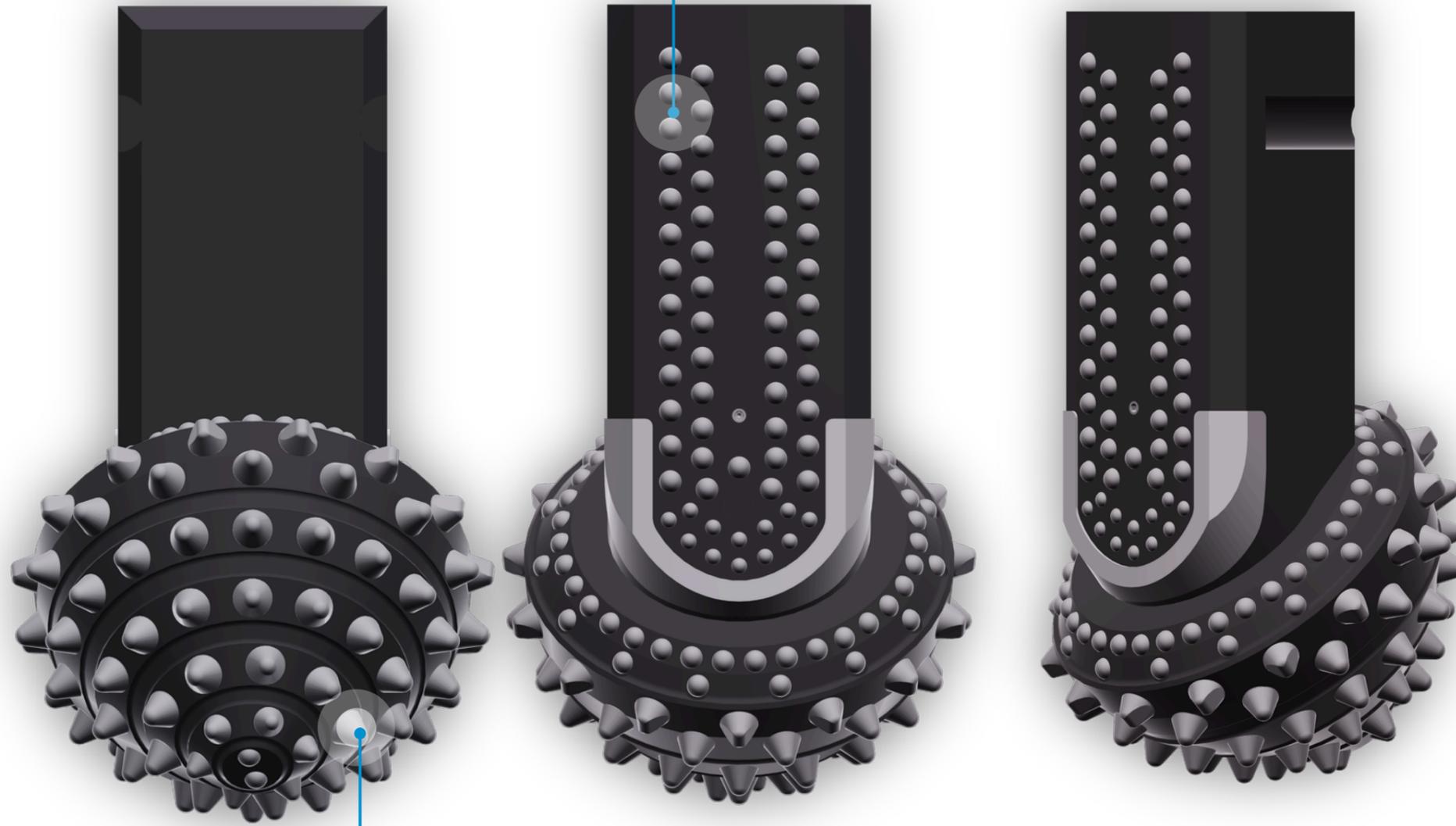
Glinik offers professional regeneration and repair services for drilling tools to reduce the overall cost of customer operations.

- Detailed assessment of technical condition incl. micro cracks examination.
- Confirmation of scope, cost and leadtime of refurbishment.



SPARE CUTTERS FOR HOLE OPENERS REFURBISHMENT

extended leg back protections for optimal abrasion resistance in horizontal drilling



densely spaced inserts for enhanced performance



Spare TCI cutters for hole openers' refurbishment available in various sizes.

SECOND LIFE FOR YOUR HOLE OPENER

We are ready to repair drilling tools manufactured by Glinik, as well as those of other manufacturers.

Each tool delivered for regeneration is verified for hidden defects. It is subject to a detailed technical condition assessment. Based on this assessment, the scope of repair work is determined. After extensive analysis, the customer is contacted with full information about the scope, cost and timeline of the regeneration work.

Hole opener regeneration is a cost-effective and environmentally friendly approach that offers financial saving and promotes environmental sustainability.

Glinik offers professional regeneration and repair services for drilling tools to reduce the overall cost of customer operations.

BEFORE



AFTER

HORIZONTAL DRILLING PROJECT

HOLE OPENER 9-7/8"-16" IADC 537

DATE May 2024

LOCATION Switzerland

TYPE OF WELL Horizontal

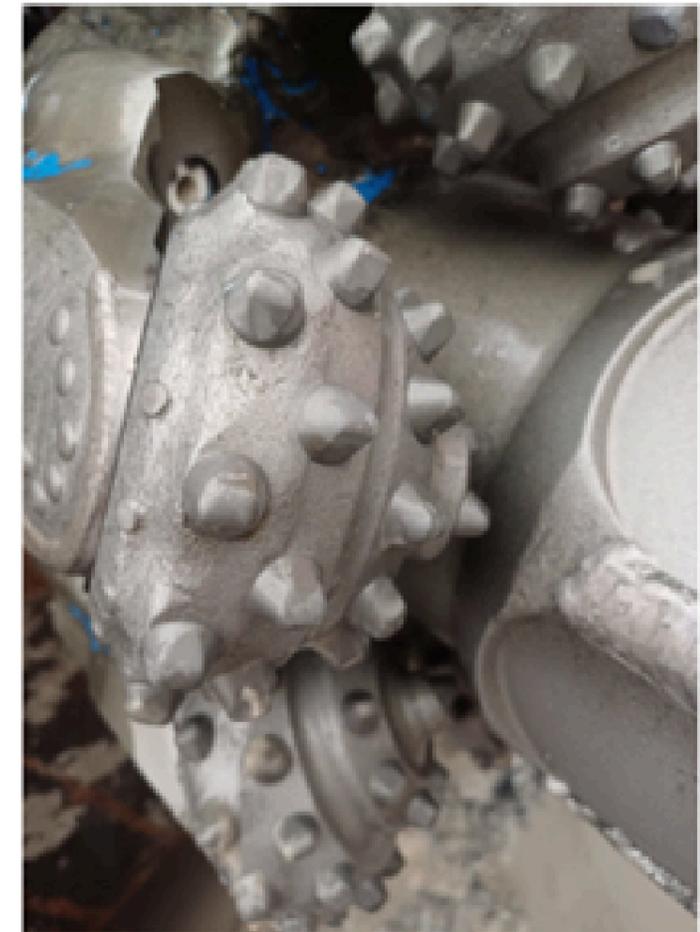
RPMS 20-25

ROP 12 m/h

CONNECTION PIN & BOX
6-5/8" API Reg.

TOTAL METERS DRILLED 751 m

Swiss Alps Titlis mountain station rebuilding has planned the 800 m borehole connecting the sky view point Ice Flyer with 3.028 m Klein Titlis station. Since the supply pipes were finished, they will direct fresh and sewage water, as well as electricity and data cables to and from mountain station. After finishing of 12-1/4 GLINIK pilot drilling, our hole opener 9-7/8"-16" IADC 537 has perfectly done the opening job, with minor wear in abrasive formations.



HORIZONTAL DIRECTIONAL DRILLING PROJECT

G-REAMER

DATE SEPTEMBER 2025

LOCATION GERMANY

TYPE OF WELL HORIZONTAL

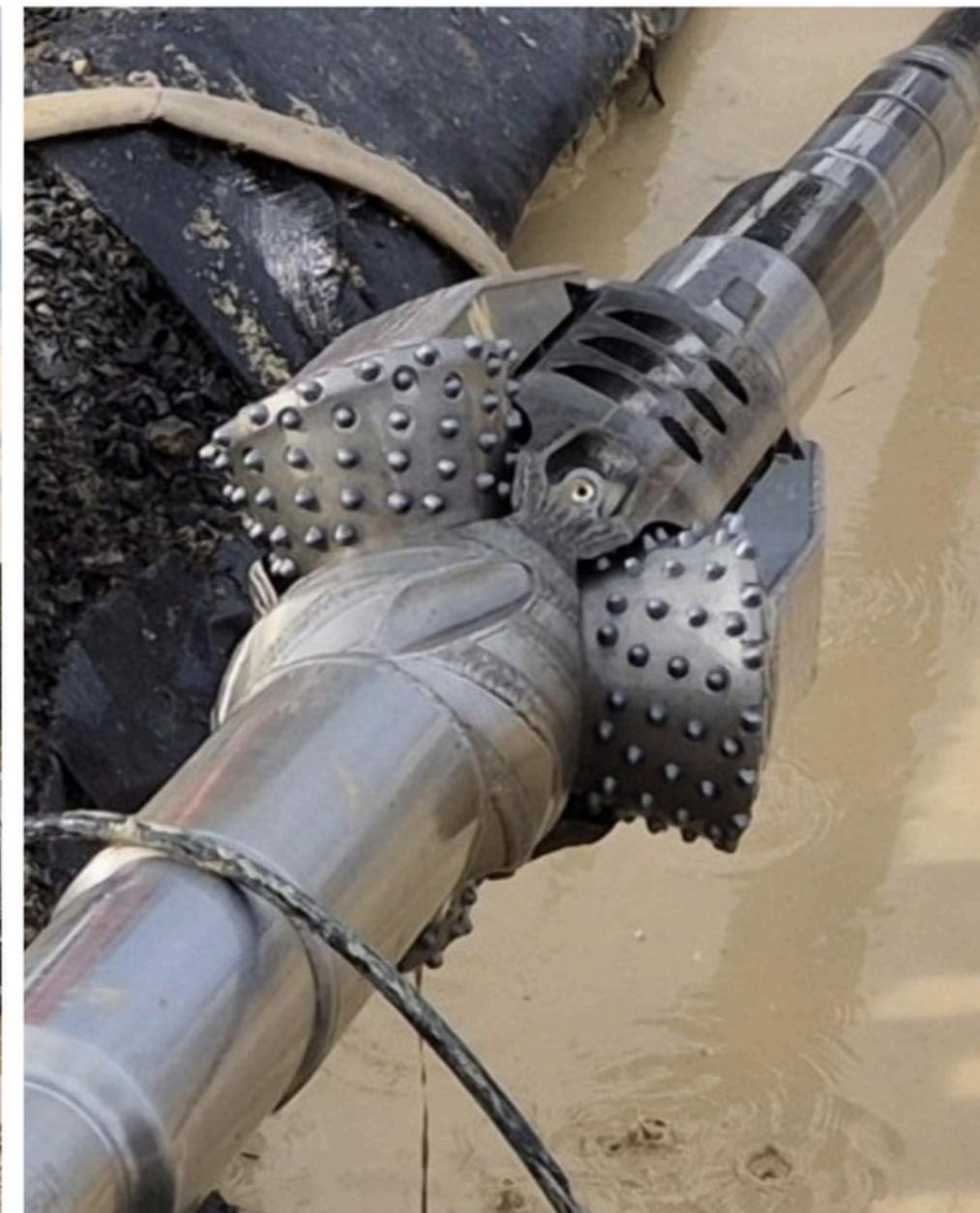
RPMS 42-45

ROP 13 m/h

CONNECTION B X B NC50

TOTAL METERS DRILLED 325

On the section no. 8 of the strategic German infrastructure project called SuedLink, which links and secures renewable high-voltage network, the GLINIK RR8 rock reamer showed good performance offering average of 13 m/h rate of penetration with no sign of wear-off. Second-stage of reaming pass by pulling the string was done from 12" to 18". There were no issues from the part of the reaming tool and consequently the RR8 reamer body and all replaceable parts remain in perfect condition for further activities.





Narzędzia i Urządzenia
Wiertnicze Glinik Sp. z o.o.



niuw@glinik.com.pl

Sales Department



sales@glinik.com.pl



+48 18 35 49 706
+48 18 35 49 704



www.glinik.com.pl