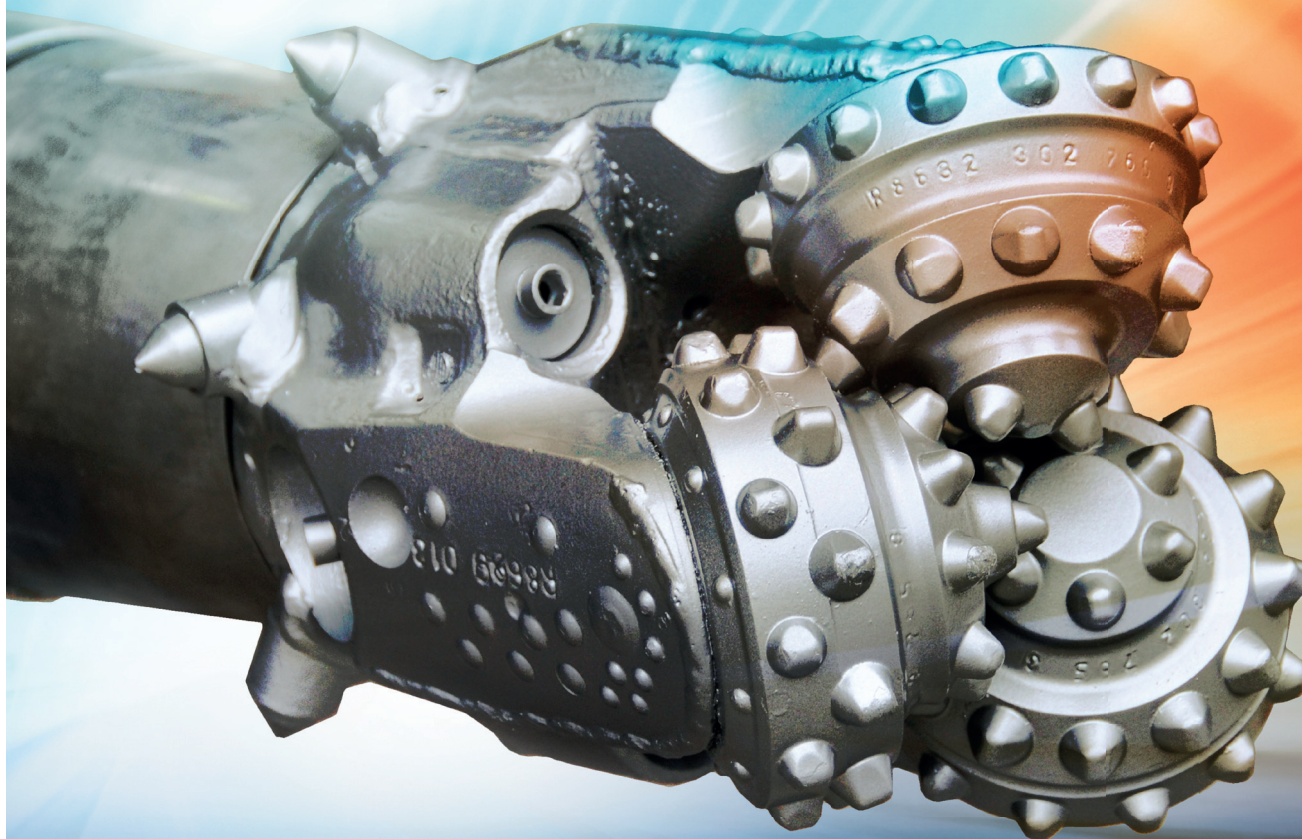


INSPIRING TRENCHLESS TECHNOLOGIES



AN EXCELLENT CHOICE

HDD Accessories for the
GRUNDODRILL family



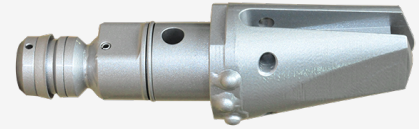
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Pilot bore heads

for clay, silt, loam, marl
Soft Drill Head (SDH)

- for non-cohesive soils
- in case of wear only the steering plate is exchange
- easy exit of the bore channel
- different steering plates available
- durable and robust construction
- optimal reflux of the bore spoils



Soft Drill Head 4X / TD 48 / TD 61 - Ø 80/66 mm

Part No.: DRI 4790

Soft Drill Head for TD 73 - Ø 110/85 mm, for standard sonde housing

Part No.: DRI 144780.1

Soft Drill Head für TD 82 - Ø 120/99 mm

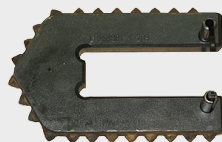
Part No.: DRI 4800

Pilot bore heads

Steering plates for SDH Soft Drill Head

Due to the different steering plate geometries the SDH bore head can be adapted to different types of soil.

Steering plate type Standard for TD 82 L 200 mm
with hard metal pins
length 200 mm



Part No.: DRI 4801

Steering plate type Standard for TD 82 L 240 mm
with hard metal pins
length 240 mm

Part No.: DRI 4802

Steering plate type Standard for TD 48, TD 61, Rd 49 L 135 mm
with hard metal pins
length 135 mm

Part No.: DRI 4791

Steering plate type Standard for TD 48, TD 61, Rd 49 L 175 mm
with hard metal pins
length 175 mm

Part No.: DRI 4792

Steering plate type Standard for TD 48, TD 61, Rd 49
with hard metal pins
Length 205 mm

Part No.: DRI 4793

Steering plate type Standard for TD 48, TD 61, TD 73, Rd 49 L 175
x W 110
with hard metal pins
length 175 mm x width 110 mm

Part No.: DRI 4794

Steering plate type Triangle for TD 61, TD 73, Rd 49
with hard metal pins, for larger freecutting of the drill rod
length 135 mm x width 125 mm

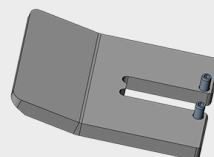


Part No.: DRI 4796

Steering plate type Triangle for TD 82
with hard metal pins, for larger freecutting of the drill rod
length 200 mm x width 160 mm

Part No.: DRI 4803

Steering plate for TD 61, TD 73, Rd 49
for very soft soils
B 150 mm

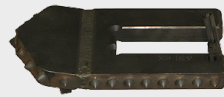


Part No.: DRI 4797.2

Pilot bore heads

Steering plate, bent for TD 61, TD 73, Rd 49

for better steering performance
length 200 mm x width 135 mm



Part No.: DRI 4797

Steering plate, bent for TD 82

for better steering performance
length 260 mm x width 150 mm

Part No.: DRI 4806

Steering plate with weld-on teeth for TD 61, TD 73, Rd 49

for hard, compact, sandy and gravelly soils
length 180 mm x width 130 mm



Part No.: DRI 4798

Steering plate with weld-on teeth for TD 82

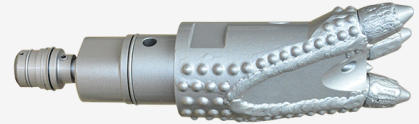
for hard, compact, sandy and gravelly soils
length 260 mm x width 180 mm

Part No.: DRI 4807

Pilot bore heads

for fine sand up to medium gravel soils
Medium Drill Head (MDH) Type 1

- with exchangeable round-framed chisels
- preferably for cohesive soils
- optimal reflux of the bore spoils
- chisel geometry adapted to the percussive hammer (exchangeable blades)
- very easy to steer, low friction on the drill rod
- easy exit of the bore channel



Medium Drill Head Type 1 for 4X - Ø 80 mm

Part No.: PIT 4713

Medium Drill Head Type 1 for TD 61 - Ø 100 mm

Part No.: DRI 4820

Medium Drill Head Type 1 for TD 73 - Ø 115 mm, for standard
sonde housing

Part No.: DRI 144781.1

Medium Drill Head Type 1 for TD 82 - Ø 150 mm

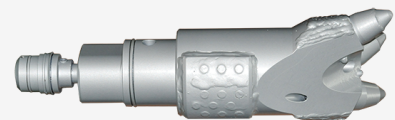
Part No.: DRI 4826

Medium Drill Head Type 1 for TD 82 / EL 95 - Ø 190 mm

Part No.: DRI 4827

for fine sand up to medium gravel soils
Medium Drill Head (MDH) Type 2

- with slanted round-framed chisels
- universally applicable
 - for densely layered, difficult to penetrate soils



Medium Drill Head Type 2 for TD 61 - Ø 115 mm

Part No.: DRI 4820.1

Medium Drill Head Type 2 for TD 73 - Ø 135 mm

Part No.: DRI 144785.1

Medium Drill Head Type 2 for TD 82 - Ø 150 mm

Part No.: DRI 4822

Pilot bore heads

for fine sand up to medium gravel soils
Medium Drill Head (MDH) Type 3

- for hard, compact, sandy and gravelly soils
- rigid construction
- excellent steering characteristics



Medium Drill Head Type 3 for TD 61 - Ø 120 mm

Part No.: DRI 4790.5

Medium Drill Head Type 3 for TD 73 - Ø 135 mm, for standard
sonde housing

Part No.: DRI 4799

Medium Drill Head Type 3 for TD 82 - Ø 170 mm

Part No.: DRI 4823

Pilot bore heads

for coarse gravel mixed soils, debris, hard and aggressive soils
Hard Drill Head (HDH) Type 1

- for non-homogeneous soils
- preferably for rubble
- very easy to steer
- easy exit of bore channel
- high wear protection



Hard Drill Head Typ 1 - Ø 85 mm, für Sendergehäuse Ø 65 mm

Part No.: DRI 4790.9

Hard Drill Head Type 1 for TD 61 - Ø 95 mm

Part No.: DRI 4790.6

Hard Drill Head Type 1 for TD 61 - Ø 115 mm

Part No.: DRI 4790.7

Hard Drill Head Type 1 for TD 73 - Ø 115 mm, for standard sonde housing

Part No.: DRI 144784.1

Hard Drill Head Type 1 for TD 82 - Ø 130 mm

Part No.: DRI 4825.3

Hard Drill Head Type 1 for TD 82 / EL 95 - Ø 155 mm

Part No.: DRI 4825.4

for coarse gravel mixed soils, debris, hard and aggressive soils
Hard Drill Head (HDH) Type 2

- for medium heavy to heavy homogeneous, fissured and loose soils,
- also for hard, non-displaceable soils,
- extremely high wear protection due to hard metal armouring,
- very good return flow of exiting spoils



Hard Drill Head Typ 2 für TD 48 / TD 61 - Ø 80 mm, nur für Sendergehäuse Ø 65 mm

Part No.: DRI 4735

Hard Drill Head Type 2 for TD 61 - Ø 95 mm, for sonde housing Ø 70 mm

Part No.: DRI 4790.2

Hard Drill Head Type 2 for TD 73 - Ø 115 mm, for standard sonde housing

Part No.: DRI 144782.1

Hard Drill Head Type 2 for TD 82 - Ø 120 mm

Part No.: DRI 4810.2

Pilot bore heads

for hard, compact, non-displaceable soils
Hard Drill Head (HDH) 4-finger

- for all mixed soils
- Debris, hard and aggressive soils
- high wear protection



Hard Drill Head (HDH) 4-finger for TD 73 - Ø 130 mm

- for all mixed soils
- Debris, hard and aggressive soils
- high wear protection

Part No.: DRI 144787

Hard Drill Head (HDH) 4-finger for TD 82 - Ø 155 mm

- for all mixed soils
- Debris, hard and aggressive soils
- high wear protection

Part No.: DRI 4811

Pilot bore heads

Round-framed chisel

Round-framed chisels are made of high-strength steel and can easily be exchanged on site with MDH pilot bore heads Type 1 2

exchangeable round-framed chisel for 4X (MDH Type 1)



Part No.: YY 246536

exchangeable round-framed chisel for TD 61 (MDH Type 2)

exchangeable round-framed chisel for TD 61 / TD 73 (MDH Type 1)



Part No.: YY 294481

exchangeable round-framed chisel for TD 73 (MDH Type 2)



Part No.: YY 246741

exchangeable round-framed chisel for TD 82 (MDH Type 1 and 2)

Part No.: YY 246736

exchangeable round-framed chisel for TD 82 / EL 95 (MDH Type 1)

Part No.: YY 246870

Pilot bore heads

Round-framed chisels with hardened layer

Round-framed chisels are made of high-strength steel and coated with Wolframcarbid.
They can easily be exchanged on site with MDH pilot bore heads Type 1 2

exchangeable round-framed chisels with hardened layer for TD 61 (MDH Type 2)



Part No.: YY 246744.1

exchangeable round-framed chisel with hardened layer for TD 61 / TD 73 (MDH Type 1)



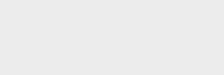
Part No.: YY 294481.1

exchangeable round-framed chisels with hardened layer for TD 73 (MDH Type 2)



Part No.: YY 246741.1

exchangeable round-framed chisels with hardened layer for TD 82



Part No.: YY 246736.2

exchangeable round-framed chisels with hardened layer for TD 82 / EL 95 (MDH Type 1)



Part No.: YY 246870.1

Sonde housings

Sonde housings Version B with plastic inner sleeve – reinforced model. for sealing the sonde before rinsing the bore. Rigid construction made of high-quality material for quick bore head assembly on site.



Sonde housing 4X - Ø 65 mm, for standard sondes without buffer



Part No.: DRI 094020

Sonde housing TR 34 /HIT - Ø 65 mm

Part No.: DRI 4013.5

Sonde housing RD 49 - Ø 70 mm

Part No.: MJET 4013.7

Sonde housing TD 48 - Ø 65 mm

Part No.: DRI 094010

Sonde housing TD 61 - Ø 75 mm, for standard sondes (15XP)

Part No.: DRI 074010.7

Sonde housing TD 61 - Ø 75 mm, for Eclipse cable sondes + EXL sondes, long version (15XP)

Part No.: DRI 074010.9

Sonde housings TD 73 - Ø 85 mm, for standard sonde housings

Part No.: DRI 144023

Sonde housings TD 73 - Ø 85 mm, short cable sondes

Part No.: DRI 144025

Sonde housing TD 73 -- Ø 85 mm, for Eclipse cable sondes + EXL sondes, long version

Part No.: DRI 144024

Sonde housing TD 82, for Eclipse cable sondes + EXL sondes, long version

Part No.: DRI 064018

Sonde housing TD 82, incl. facility for cable-guided bores

Part No.: DRI 064015

Side loader Sonde housing TD 73 -- Ø 85 mm, for standard (15") sondes

Side loader sonde housing with plug-in connection for the drill head. The drill head does not have to be dismantled to remove the locating sonde.



Part No.: DRI 144028

Side loader Sonde housing TD 82 -- Ø 100 mm, for standard (15") sondes

Side loader sonde housing with plug-in connection for the drill head. The drill head does not have to be dismantled to remove the locating sonde.

Part No.: DRI 064056

Side loader Sonde housing TD 82 - Ø 100 mm, for long (19") sondes

Side loader sonde housing with plug-in connection for the drill head. The drill head does not have to be dismantled to remove the locating sonde.

Part No.: DRI 064057

Quick-Connector

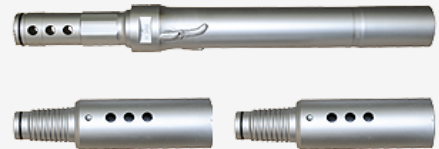
For quick and easy connection/loosening of the drilling tool to/from the drill rod.
A return valve which prevents infiltration of soil particles, is built as a standard.

Quick-Connector

Quick coupling-plug connection with return valve (which prevents soil particles entering during the drill rod exchange)

- For quick and easy connection/loosening of the bore tool from drill rod (even in the tightest jobsite pits)
- time consuming loosening process with heavy pipe clamps is not necessary

Incl. 2 tool adapters, 1 drill rod adapter plus 1 x 10 heavy duty lock pins



Quick Connector TD 61 - complete
without tools

Part No.: DRI 249175

Quick Connector TD 73 - complete
without tools

Part No.: DRI 249176

Quick Connector TD 82 - complete
without tools

Part No.: DRI 249177

Quick Connector EL 95 - complete
without tools

Part No.: DRI 249997

Quick Connector 4X - complete
without tools

Part No.: DRI 249293

Loosening tool



Loosening tool TD 61

Part No.: YY 298570

Loosening tool TD 73

Part No.: YY 298672

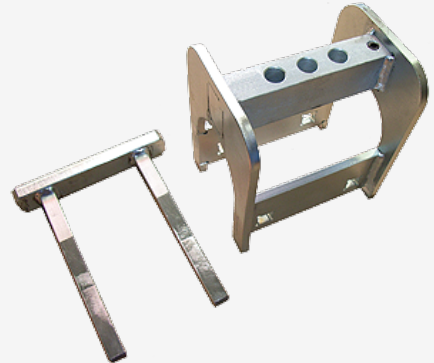
Loosening tool TD 82 / EL 95

Part No.: YY 298566

Quick-Connector

Pin puncher tool

for easy removal of the lock pins



Pin puncher tool TD 61

Part No.: YY 298718

Pin puncher tool TD 73

Part No.: YY 298729

Pin puncher tool TD 82 / EL 95

Part No.: YY 298733

Tool adapter, single



Tool adapter, TD 61

Part No.: YY 249022

Tool adapter, TD 73

Part No.: YY 249084

Tool adapter, TD 82 / EL 95

Part No.: YY 249017

Tool adapter 4X

Part No.: YY 309501

Quick-Connector

Drill rod adapter, single



Drill rod adapter, TD 61

Part No.: YY 249170

Drill rod adapter, TD 73

Part No.: YY 249172

Drill rod adapter, TD 82

Part No.: YY 249174

Drill rod adapter EL 95

Part No.: YY 249960

Drill rod adapter 4X

Part No.: YY 249292

Spare lock pins, pack with 10 pins

Spare lock pins TD 61

Part No.: YY 249244

Spare lock pins pack TD 73

Part No.: YY 249245

Spare lock pins TD 82 / EL 95

Part No.: YY 249246

Ersatz-Schwerspannstifte 4X

Part No.: YY 249311

Drill rods

The only drill rod permitted for GRUNDODRILL

- made of high quality, flexible special steel
- soft, flowing blending into the swaged pipe end
- L 3.000 mm (effective length)
- swaged and friction welded connections
- higher resistance, higher wear reserves, longer service life than comparable drill rods
- improved clamping jaw rest (longer clamping area)
- based on many years of experience
- up to 40% lower loosening period, less sensitive to dirt



Drill rods for GRUNDODRILL 4X

Drill rods 1,525 m (5 ft.)

Part No.: DRI 249117

Drill rods for GRUNDODRILL 7X

TwinDrive Drill rods TD 48

Part No.: DRI 294113

Drill rods for GRUNDODRILL 7Xplus, 10S, 13/15X, 12/15GS, 10XP/15XP

TwinDrive Drill rods TD 61

Part No.: DRI 249006

Drill rods for GRUNDODRILL 10S, 13/15X, 12/15GS

Drill rods RD 49

Part No.: DRI 249010

Drill rods for GRUNDODRILL 15X, 15S, 15GS

TwinDrive Drill rods TD 61 strengthened

Part No.: DRI 249005

Drill rods for GRUNDODRILL 15N

TwinDrive Drill rods TD 73

Part No.: DRI 249055

Twin-tube drill rods for GRUNDODRILL 18ACS

Twin-tube drill rods EL 95



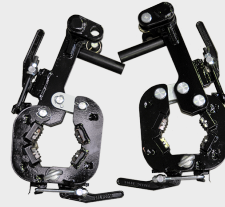
Part No.: DRI 232843

Drill rods for GRUNDODRILL 20S / 25N / 28Nplus

TwinDrive Drill rods TD 82

Part No.: DRI 249007

Loosening device for sonde housing - Drill rods TD 82
for disconnecting the sonde housing from the TD 82 drill rod



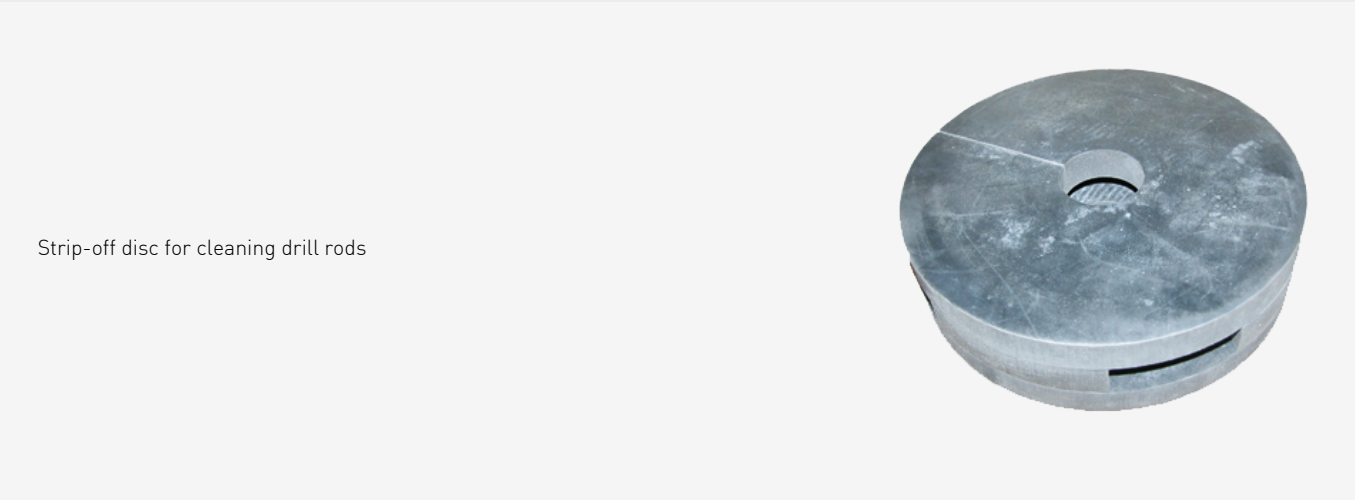
Part No.: DRI 249610

Loosening device for TD 82 drill rods
for disconnecting the TD 82 drill rods from each other

Part No.: DRI 249608

Drill rods

Strip-off disc



Strip-off disc for cleaning drill rods

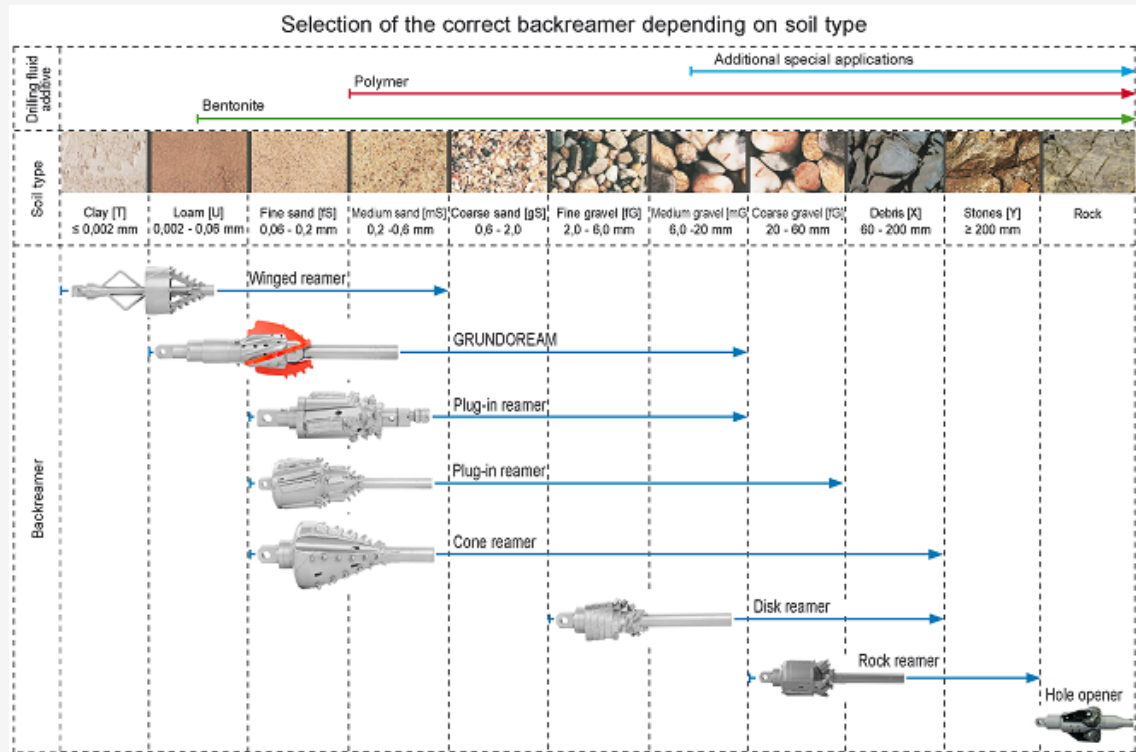
Strip-off disc for TD 48	Part No.: YY 298322
Strip-off disc for TD 61	Part No.: YY 298319
Strip-off disc for TD 73	Part No.: YY 298320
Strip-off disc for TD 82	Part No.: YY 298321
Strip-off disc for EL 95	Part No.: YY 298323

Backreamers

Tools for expanding the pilot bore

Due to the variety of soils there is a wide range of backreamers available to ensure the best possible bore progress.

Thus TT offers various backreamers to be perfectly equipped even for rock bores. We also construct custom-made backreamers. Please contact us.

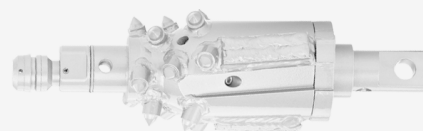


Backreamers

Medium-Soil-Reamer (MSR) for fine sand to medium gravel soils
Plug-in Reamer

- very fast and easy tool exchange, detach bore head, attach reamer (plug-in system)
- time saving especially with small pipe diameters Ø 40 to 110 mm and in confined construction pits
- applicable only with reinforced sonde housing
- different bits available
- with integrated swivel

Further Ø available upon request



Plug-in Reamer Ø 120 mm, Burls, for sonde housing Ø 65-75 mm

Part No.: DRI 4BAAS1B

Plug-in Reamer Ø 130 mm, Sharkbit, for sonde housing Ø 65-75 mm

Part No.: DRI 4BAAS1E

Plug-in Reamer Ø 165 mm, Sharkbit, for sonde housing Ø 65-75 mm

Part No.: DRI 4BBAS1E

Plug-in Reamer Ø 125 mm, Burls, for sonde housing Ø 85 mm

Part No.: DRI 4BAAS2B

Plug-in Reamer Ø 165 mm, Weld-on claw, for sonde housing Ø 85 mm

Part No.: DRI 4BBAS2F

Plug-in Reamer Ø 140 mm, Weld-on claw, for sonde housing Ø 100 mm

Part No.: DRI 4BAAS3F

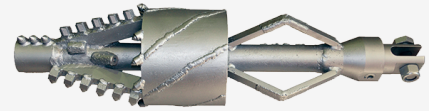
Plug-in Reamer Ø 165 mm, Weld-on claw, for sonde housing Ø 100 mm

Part No.: DRI 4BBAS3F

Backreamers

Soft-Soil-Reamer (SSR) for clay, loam, silt, marl
Winged Reamer / Flycutter

Cutter and pre-cutter - ideal for easy to cut and hardly displaceable soils (e.g. clay and loam) as well as for bores with little coverage, requires only little torque, optimum fragmentation of the spoil due to rear paddle. Starting drill rod upon choice (e.g. API, Ditch Witch, Vermeer, TRACTO-TECHNIK)



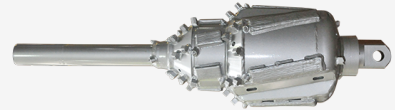
Part No.: siehe Tabelle

DB	S	B	02	03	350
not variable		not variable			
					Cutting diameter
					250
					300
					350 ←
					400
					450
					500
					550
					600
					03= Lock pin stud retainer ←
					14= Swivel 5 t welded on
					17= Swivel 15 t welded on
					16= Swivel 30 t welded on
					13= Swivel 12 t for lock pin stud
					07= Tr34 Pit
					13= TPV 4X
					02= TD61 ←
					09= TD73
					03= TD82
					15= EL95
					16= 2 3/8"API.IF. Box
					17= 2 7/8"API.IF. Box
					18= 2 7/8"API.Reg. Box
					19= 3 1/2"API.Reg. Box
					20= EL51 Pit 6V
					22= 8-kt. Nippel für Elicon 51
					C= exchangeable round-framed chisel
					E= Sharkbit Sharkbit (weld-on tooth round)
					S= Weld-on claw "Standard" ←
Order example: SSR Winged reamer Ø 350 with weld-on claw, lock pin stud retainer and drill rod connection TD61					
					DB SB0203350

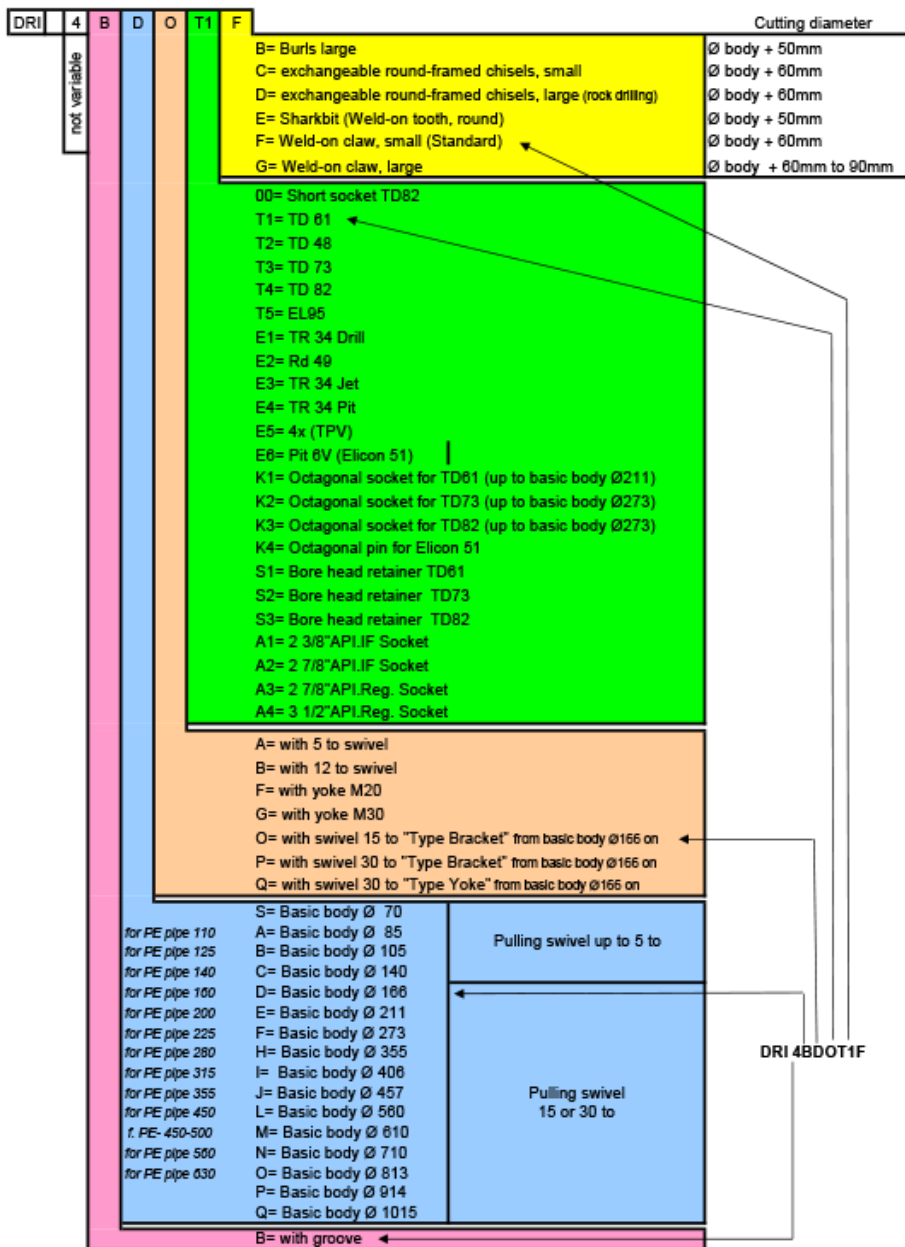
Backreamers

Medium-Soil-Reamer (MSR) for fine sand to medium gravel soils
Stepped Reamer

- 2-stage construction (from basic body Ø 273) for very easy and centred run and optimum smoothing of the bore channel
- Optimum jet nozzle geometry for loosening and transporting the bore spoil
- Suitable for almost all types of soil
- extremely durable, robust and low-wear construction
- Also available with integrated swivel
- Due to the two-stage construction a certain degree of centring is achieved in the upsized bore hole
- Due to the long cylindrical part at the rear of the backreamer the bore channel is well smoothed; in case of a reaming operation for cleaning the backreamer won't leave the bore channel due to this stabilizing part
- Conveyor nut for optimum transport of the bore spoil
- Starting drill rod upon choice (e.g. API, Ditch Witch, Vermeer, TRACTO-TECHNIK)



Part No.: siehe Tabelle



Order example: Backreamer Ø225 with weld-on claw, groove and internal swivel, rods TD81

Backreamers

Medium-Soil-Reamer (MSR) for fine sand up to medium gravel soils
Cone Reamer

- conical backreamer with conveyor groove
- available with internal swivelh
- optimum jet nozzle position
- applicable in mixed soils up to debris, stabilizing effect due to design
- Starting drill rod upon choice (e.g. API, Ditch Witch, Vermeer, TRACTO-TECHNIK)



Part No.: siehe Tabelle

DB	S	D	02	13	325
not variable	for cone reamer				
					Cutting diameter
					(170) 220 (Swivel 30 t possible)
					(219) 270 (Swivel 30 t possible)
					(273) 325 (Swivel 30 t possible)
					(355) 405 (Swivel 30 t possible)
					(406) 455 (Swivel 30 t possible)
					(450) 500 (Swivel 30 t possible)
					(550) 600 (Swivel 30 t possible)
					(650) 700 - 750 (Swivel 30 t possible)
					(750) 800 - 850 (Swivel 30 t possible)
					14= Swivel 5 t
					17= Swivel 15 t
					16= Swivel 30 t
					13= 4X TPV
					02= TD61
					09= TD73
					03= TD82
					08= 8-kt. Box for TD61
					15= EL95
					16= 2 3/8"API.IF. Box
					17= 2 7/8"API.IF. Box
					18= 2 7/8"API.Reg. Box
					19= 3 1/2"API.Reg. Box
					20= EL51 Pit 6V
					22= 8-kt. Nippel for Elicon 51
					E= Sharkbit (Weld-on tooth, round)
					S= Weld-on claw with hard metal plate

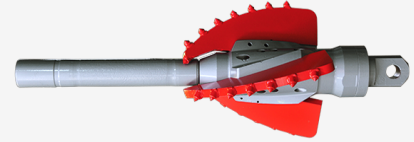
Order example: Cone reamer Ø325 with Sharkbit, swivel 15 to, drill rod connection TD61

DB ED0217325

Backreamers

Medium-Soil-Reamer (MSR) for fine sand up to medium gravel soils
Grundoream

- Backreamer body with exchangeable cutting blades for varying the upsizing diameter
- distinctively reduced torque due to optimum blade geometry
- excellent cutting effect with high spoil discharge
- hardly any wear at the basic body
- optimum jet nozzle geometry for good back flow prevents conglomerating of the blades
- Starting drill rod upon choice (e.g. API, Ditch Witch, Vermeer, TRACTO-TECHNIK)



Part No.: nach Tabelle

DB	05	07	11
not variable	01= Yoke M20 02= Yoke M30 05= Swivel 12 t, attached (only with Ø 100) 10= Integrated swivel 12 to (only with Ø 190) 11= Integrated swivel 30 to (only with Ø 190)		
	01= TD48 02= TD61 03= TD82 04= Rd49 07= TD73 08=without pulling rod 09= 2 3/8" API.IF Box 10= 2 7/8" API.IF Box 11= 2 7/8" API.Reg. Box 12= 3 1/2" API.Reg. Box 13= EL51 Pit 6V 14= 8-kt. Nippel für Elicon 51		
	04= Grundoream 1, Ø100 for bores Ø150 - Ø250mm 05= Grundoream 2, Ø190 for bores Ø200 - Ø550mm		

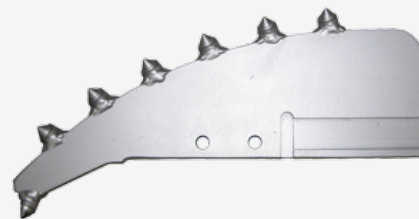
Order example: Grundoream 2, drill rod connection TD73, swivel 30 tons

DB 050711

Backreamers

Sharkbit Blade set

Blade set for sandy, clay soils up to mixed corn soils
Blade set consisting of 3 blades



Sharkbit Ø 150 mm (Basic body I)	Part No.: DB 01M150B01
Sharkbit Ø 200 mm (Basic body I)	Part No.: DB 01M200B01
Sharkbit Ø 250 mm (Basic body I)	Part No.: DB 01M250B01
Sharkbit Ø 200 mm (Basic body II)	Part No.: DB 02M200B01
Sharkbit Ø 250 mm (Basic body II)	Part No.: DB 02M250B01
Sharkbit Ø 300 mm (Basic body II)	Part No.: DB 02M300B01
Sharkbit Ø 350 mm (Basic body II)	Part No.: DB 02M350B01
Sharkbit Ø 400 mm (Basic body II)	Part No.: DB 02M400B01
Sharkbit Ø 450 mm (Basic body II)	Part No.: DB 02M450B01
Sharkbit Ø 500 mm (Basic body II)	Part No.: DB 02M500B01
Sharkbit Ø 550 mm (Basic body II)	Part No.: DB 02M550B01
Claw cutter Ø 350 mm (Basic body II)	Part No.: DB 02M350F01
Claw cutter Ø 400 mm (Basic body II)	Part No.: DB 02M400F01
Claw cutter Ø 450 mm (Basic body II)	Part No.: DB 02M450F01
Claw cutter Ø 500 mm (Basic body II)	Part No.: DB 02M500F01

Backreamers

Hard-Soil-Reamer (HSR) for coarse gravel mixed soils, debris, hard and aggressive soils
Disc Reamer

Aggressive backreamer for very compact and hard soils

- for weathered rock
- extremely wear-resistant
- good mixing of the spoil with the drilling fluid
- available with internal swivel
- Diameter slightly larger than the given inch measure. That way it is possible to build the hole opener into the upsized bore
- Starting drill rod upon choice (e.g. API, Ditch Witch, Vermeer, TRACTO-TECHNIK)

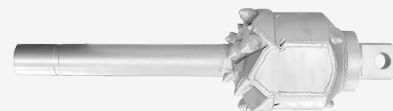


8 " - TD61 with swivel 15 tons	Part No.: DB SH0213203
10" - TD61 with swivel 15 tons	Part No.: DB SH0217255
12" - TD61 with swivel 15 tons	Part No.: DB SH0217305
14" - TD61 with swivel 15 tons	Part No.: DB SH0217355
16" - TD61 with swivel 15 tons	Part No.: DB SH0217405
18" - TD61 with swivel 15 tons	Part No.: DB SH0217460
8 " - TD73 with swivel 15 tons	Part No.: DB SH0913203
10" - TD73 with swivel 30 tons	Part No.: DB SH0916255
12" - TD73 with swivel 30 tons	Part No.: DB SH0916305
14" - TD73 with swivel 30 tons	Part No.: DB SH0916355
16 " - TD73 with swivel 30 tons	Part No.: DB SH0916405
18 " - TD73 with swivel 30 tons	Part No.: DB SH0916460
8 " - TD82 with swivel 15 tons	Part No.: DB SH0313203
10 " TD82 with swivel 30 tons	Part No.: DB SH0316255
12 " - TD82 with swivel 30 tons	Part No.: DB SH0316305
14 " - TD82 with swivel 30 tons	Part No.: DB SH0316355
16 " - TD82 with swivel 30 tons	Part No.: DB SH0316405
18 " - TD82 with swivel 30 tons	Part No.: DB SH0316460

Backreamers

Hard-Soil-Reamer (HSR) for coarse gravel mixed soils, debris, hard and aggressive soils
Rock Reamer

- Chisels can be stroke out from behind
- for very fast bore progress
- for rock up to 60 MPa
- also applicable in mixed soils and debris
- with internal swivel
- Starting drill rod upon choice (e.g. API, Ditch Witch, Vermeer, TRACTO-TECHNIK)



8 " (Ø 215 mm) - TD 61 with swivel 15 tons	Part No.: DRI 243508
8 " (Ø 215 mm) - TD 73 with swivel 30 tons	Part No.: DRI 243518
8 " (Ø 215 mm) - TD 82 with swivel 30 tons	Part No.: DRI 244947
10 " (Ø 260 mm) - TD 61 with swivel 15 tons	Part No.: DRI 243510
10 " (Ø 260 mm) - TD 73 with swivel 30 tons	Part No.: DRI 243511
10 " (Ø 260 mm) - TD 82 with swivel 30 tons	Part No.: DRI 244960
12 " (Ø 320 mm) - TD 61 with swivel 15 tons	Part No.: DRI 243512
12 " (Ø 320 mm) - TD 73 with swivel 30 tons	Part No.: DRI 243513
12 " (Ø 320 mm) - TD 82 with swivel 30 tons	Part No.: DRI 243662
14 " (Ø 370 mm) - TD 61 with swivel 15 tons	Part No.: DRI 243514
14 " (Ø 370 mm) - TD 73 with swivel 30 tons	Part No.: DRI 243515
14 " (Ø 370 mm) - TD 82 with swivel 30 tons	Part No.: DRI 243663
16 " (Ø 430 mm) - TD 61 with swivel 15 tons	Part No.: DRI 243539
16 " (Ø 430 mm) - TD 73 with swivel 30 tons	Part No.: DRI 243540
16 " (Ø 430 mm) - TD 82 with swivel 30 tons	Part No.: DRI 243541
18 " (Ø 457 mm) - TD 82 with swivel 30 tons	Part No.: DRI 243579
20 " (Ø 525 mm) - TD 82 with swivel 30 tons	Part No.: DRI 248002

Backreamers

Backreamer Accessories

Sharkbit, Height: 25 mm - Width: 20 mm

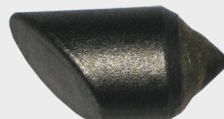
Applied in firmly layered non-cohesive soils



Part No.: 220910863

Sharkbit, Height: 31 mm - Width: 25 mm

Applied in firmly layered non-cohesive soils



Part No.: 229800188

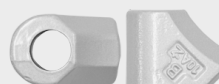
Round-framed chisel, 14 mm

Standard fitting for cohesive, non-cohesive and standard layered soils.
Applied when increasing the free-cutting size. Shaft diameter: 14 mm



Part No.: 229800214

Chisel retainer for shaft diameter 14 mm



Part No.: 229800214.01

Round-framed chisel, 20 mm

Standard fitting for cohesive, non-cohesive and standard layered soils.
Applied when increasing the free-cutting size. Shaft diameter: 20 mm



Part No.: 229800189

Chisel retainer for shaft diameter 20 mm



Part No.: 229800190

Backreamers

Round-framed chisel, 25 mm

Standard fitting for cohesive, non-cohesive and standard layered soils. Applied when increasing the free-cutting size. Shaft diameter: 25 mm



Part No.: 229800257

Chisel retainer for shaft diameter 25 mm



Part No.: 229800193

Weld-on claw, Height: 27 mm - Width: 20 mm

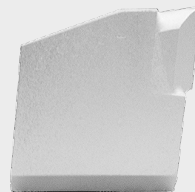
Application in firmly layered up to sandy soils. Good protection of the shaft due to especially stable hard metal plate
Height: 27 mm, Width: 20 mm



Part No.: YY 284629

Weld-on claw, Height: 45 mm - Width: 20 mm

Application in cohesive up to non-cohesive soils and in standard layered soils with increased sand content. Applied for increasing the free-cutting size.
Height: 45 mm, Width: 20 mm



Part No.: 220960301

Weld-on claw, Height: 65 mm - Width: 20 mm

Application in cohesive up to non-cohesive soils and in standard layered soils with increased sand content. Applied for increasing the free-cutting size.
Height: 65 mm, Width: 20 mm



Part No.: 220910868

Guiding sleeve with weld-on burls

as a wear and tear protection for the basic body, displacing tool



Part No.: Auf Anfrage

Spare chisel for Rock Reamer 8" and 10"



Part No.: YY 246736

Replacement-chisel for Rock Reamer 12", 14" and 16"



Part No.: 229800184

Swivels

The swivel connects the backreamer to the pipe to be pulled in.

All swivels have an integrated thrust bearing which enables pushing back of the backreamer..

Swivel (5t) Weld-on version

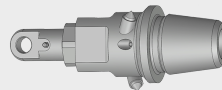


Part No.: YY 294797

Drehwirbel - 5t mit 3 ½ API.Reg. Gewinde

Zum Anschrauben an die Felsbohrereinheit

Mit Rückschneide und Spülbohrung.



Part No.: YY 247825

Swivel Type I (5t)

For assembly between backreamer and pulling head (pipe puller)

Bracket on both sides



Part No.: JET 4210

Swivels

Swivel Type II (12t)



Swivel Type II (12t) Latchet on both sides



Part No.: DRI 014210

Swivel Type II (12t) Built-in version Standard Reamer



Part No.: MJET 288060

Swivel Type II (12t) Latchet - Lock pin stud



Part No.: DRI 064211

Swivel (30t)



Swivel (30t) Weld-in version

Part No.: DRI 064206

Push heads

For simple insertion into the bore channel after intermediate reaming.

Thrust/Push head (light-weight build)

- for simple pushing into the bore channel after intermediate reaming
- no need for screwing and pulling of drill rods
- no canting inside the bore channel



Thrust/Push head 4X - Ø 114 mm

Part No.: YY 246828

Thrust/Push head RD 49 - Ø 140 mm

Part No.: YY 246689

Thrust/Push head TD 48 - Ø 140 mm

Part No.: YY 246690

Thrust/Push head TD 61 - Ø 140 mm

Part No.: YY 246764

Thrust/Push head TD 73 - Ø 120 mm

Part No.: YY 246849

Thrust/Push head TD 73 - Ø 170 mm

Part No.: YY 246694

Thrust/Push head TD 82 - Ø 170 mm

Part No.: YY 246695

Thrust/Push head with steering surface

- direct connection to sonde housing
- steerable in case of a collapsing bore tunnel



Thrust/Push head with steering surface TD 61 - Ø 140 mm

Part No.: YY 246658

Thrust/Push head with steering surface TD 73 - Ø 140 mm

Part No.: YY 246746

Thrust/Push head with steering surface TD 82 - Ø 170 mm

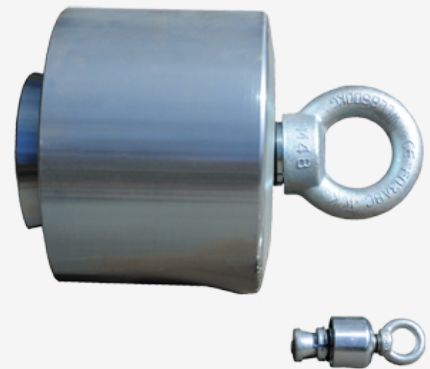
Part No.: YY 246769

Pipe pullers

Pipe pullers and cutting nipples for the stable connection between swivel and PE product pipe.

Pipe pullers

Pipe pullers connect swivel and the PE product pipe to be installed. Pipe-pullers are used for pulling in pipes. TT-pipe pullers adapt automatically to the standard pressure steps of the relevant pipe. For all conventional HDPE/PP pipes from OD 25 mm on, extremely tight and optionally available with rear seal and yoke (upon request) PE reducing adapter available upon request.



	Part No.: GMO 2380R
Pipe puller Ø 32 mm	Part No.: GMO 2390R
Pipe puller Ø 40 mm	Part No.: GMO 2400R
Pipe puller Ø 50 mm	Part No.: GMO 2410R
Pipe puller Ø 63 mm	Part No.: GMO 2420R
Pipe puller Ø 75 mm	Part No.: GMO 2430R
Pipe puller Ø 90 mm	Part No.: GMO 2440R
Pipe puller Ø 110 mm	Part No.: GMO 2450R
Pipe puller Ø 125 mm	Part No.: GMO 2460R
Pipe puller Ø 140 mm	Part No.: GMO 2470R
Pipe puller Ø 160 mm	Part No.: GMO 2480R
Pipe puller Ø 180 mm	Part No.: GMO 2490R
Pipe puller Ø 200 mm	Part No.: GMO 2710R
Pipe puller Ø 225 mm	Part No.: GMO 2720R
Pipe puller Ø 250 mm	Part No.: GMO 2730R
Pipe puller Ø 280 mm	Part No.: GMO 2760R
Pipe puller Ø 315 mm	Part No.: GMO 2740R

Pipe puller Ø 355 mm

Part No.: GMO 2750R

Pipe puller Ø 400 mm

Part No.: GMO 2770R

Pipe puller Ø 450 mm

Part No.: GMO 2780R

Pipe puller Ø 500 mm

Part No.: GMO 2790R

Dichtungssätze für Spreiznippel

Ringspreiznippel Art.-Nr.	Rohrdrn. mm	Dichtringsatz Art.-Nr.
GMO 2380R	25	DRI 243238
GMO 2390R	32	DRI 243219
GMO 2400R	40	DRI 243220
GMO 2410R	50	DRI 243221
GMO 2420R	63	DRI 243222
GMO 2430R	75	DRI 243223
GMO 2440R	90	DRI 243224
GMO 2450R	110	DRI 243225
GMO 2460R	125	DRI 243226
GMO 2470R	140	DRI 243227
GMO 2480R	160	DRI 243228
GMO 2490R	180	DRI 243229
GMO 2710R	200	DRI 243230
GMO 2720R	225	DRI 243231
GMO 2730R	250	DRI 243232
GMO 2760R	280	DRI 243233
GMO 2740R	315	DRI 243234
GMO 2750R	355	DRI 243235
GMO 2770R	400	DRI 243236
GMO 2780R	450	DRI 243236
GMO 2790R	500	DRI 243237

Part No.: siehe Tabelle

Required connecting elements between pipe puller with ring nut and swivel					
	Part No.	fitting shackle for pipe puller with ring nut			
		Swivel I	Swivel II und 12t new	Swivel II PLUS	Swivel III und 30t new
ø 40	GMO 2400	1515016001 + 1599000040 or 2 x 1515016001	1515016001 + 1515010002	1515016001 + 1515010002	2 x 1515016001 + YY 294966
ø 50	GMO 2410				
ø 63	GMO 2420				
ø 75	GMO 2430				
ø 90	GMO 2440				
ø 110	GMO 2450	1515016001			1515016001 + YY 294966
ø 125	GMO 2460				1515010002 + YY 294966
ø 160	GMO 2480	not possible	1515010002		1515114001
ø 180	GMO 2490				
ø 200	GMO 2710				
ø 250	GMO 2730				
ø 280	GMO 2760				
ø 315	GMO 2740				
ø 355	GMO 2750				
ø 400	GMO 2770				
ø 450	GMO 2780				
ø 500	GMO 2790				

Part No.
1599000040

Designation
Connecting link 2 t, nominal size 8-8



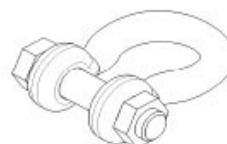
1515016001

Shackle 5 t (forged shape)



1515010002
1515114001

High-strength cambered shackle 1", 8.5 t / 6-fold security
High-strength cambered shackle 1 1/4", 12 t / 6-fold security



YY 294966

Universal joint for swivel type III

Part No.: siehe Tabelle

Pipe pullers

Cutting nipples (incl. rear seal)

Pipe pullers connect swivel and the PE product pipe to be installed.
Cutting nipples are screwed into the pipe.



Cutting nipple Ø 32 - 40 mm OD

Part No.: PIT 4202.1

Cutting nipple Ø 50 mm OD

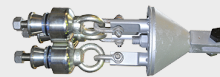
Part No.: PIT 4202.2

Cutting nipple Ø 63 mm OD

Part No.: PIT 4202.3

Multi-pulling device

...depending on task, also with chain members.



Part No.: auf Anfrage

Pipe pullers

Pulling Eyes

Special adapter for pulling in drill rods during intermediate reamings for all TT threadings



Pulling eye Socket TR 34 Pit



Part No.: PIT 294038

Pulling eye Socket TR 34 Hit

Part No.: DRI 260972

Pulling eye Socket RD 49

Part No.: MJET 288053

Pulling eye Socket TD 61

Part No.: DRI 294656

Pulling eye Socket TD 73

Part No.: DRI 249074

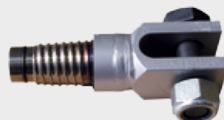
Pulling eye Socket TD 82

Part No.: DRI 294101

Pulling eye Socket Elicon 95

Part No.: DRI 249964

Pulling eye Nipple TR 34 Pit



Part No.: PIT 294040

Pulling eye Nipple TR 34 Hit

Part No.: DRI 260974

Pulling eye Nipple RD 49

Part No.: MJET 288055

Pulling eye Nipple 4X

Part No.: DRI 249038

Pulling eye Nipple TD 61

Part No.: DRI 294658

Pulling eye Nipple TD 73

Part No.: DRI 249075

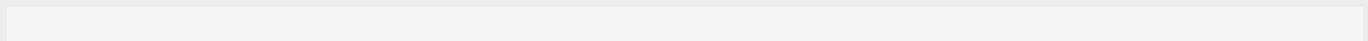
Pulling eye Nipple TD 82

Part No.: DRI 294100

Pulling eye Nipple Elicon 95

Part No.: DRI 249966

PE Welding head



for pulling in PE pipes



PE Welding head DA 63	Part No.: DRI 243261
PE Welding head DA 75	Part No.: DRI 243262
PE Welding head DA 90	Part No.: DRI 243263
PE Welding head DA 110	Part No.: DRI 243264
PE Welding head DA 125	Part No.: DRI 243265
PE Welding head DA 140	Part No.: DRI 243266
PE Welding head DA 160	Part No.: DRI 243267
PE Welding head DA 180	Part No.: DRI 243268
PE Welding head DA 200	Part No.: DRI 243269
PE Welding head DA 225	Part No.: DRI 243270
PE Welding head DA 250	Part No.: DRI 243271
PE Welding head DA 280	Part No.: DRI 243272
PE Welding head DA 315	Part No.: DRI 243273
PE Welding head DA 355	Part No.: DRI 243274
PE Welding head DA 400	Part No.: DRI 243275
PE Welding head DA 450	Part No.: DRI 243276
PE Welding head DA 500	Part No.: DRI 243277
PE Welding head DA 560	Part No.: BUR S204210

Rock drilling technique

Special drilling tools for penetrating rock

Grundorock

Mud motors for rock drilling.

Special sonde housing with thread adapters for various drill rod types are available.

The mud motors can be hired out.

Contact: René Schrinner at+ 49 2723 9155-429



[Fact sheet rock drilling](#)

Grundorock 2 7/8 "

Available with bending 1,75° and 2,0°

Part No.: auf Anfrage

Grundorock 3 3/4 "

Available with bending 1,75°, 2,0° and 2,25°

Part No.: auf Anfrage

Sonde housings for Grundorock

Rock drilling sonde housings 2 7/8 " Mud-Motor, TD 82 - Ø 83
mm, for standard sondes

Part No.: DRI 064097

Rock drilling sonde housings for 2 7/8 " Mud Motor, TD 82 - Ø 83
mm, for long sondes

Part No.: DRI 064105

Rock drilling sonde housings for 3 3/4 " Mud-Motor, TD 82 - Ø
95 mm, for standard sondes

Part No.: DRI 064046

Rock drilling sonde housings for 3 3/4 " Mud-Motor, TD 82 - Ø
95 mm, for long sondes

Part No.: DRI 064106

Rock drilling technique

Rock drilling unit for twin-tube rods

- integrated sonde housing
- 3 1/2" API REG retainer for roller and PDC chisel
- further angles up to max. 2,5° upon request



Rock drilling unit with bending 2,25°

For Digi Trac and Radiodetection sondes

Part No.: DRI 232810

Rock drilling unit with bending 2,5°

For Digi Trac and Radiodetection sondes

Part No.: DRI 232959

Rock drilling unit with bending 2,5°

For Subsite sondes of 86B serie

Part No.: DRI 232928

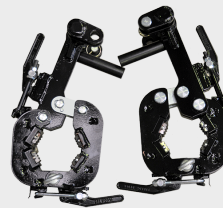
Rock drilling unit with bending 2,25°

for cable-guided bores

Part No.: DRI 232883

Loosening device for drill rods EL 9-6 D95

also for detaching the rock drilling unit from the drill rod



Part No.: DRI 249607

Loosening device for roller chisel

for detaching 6 1/2" and 6 3/4" roller chisels from the rock drilling unit



Part No.: DRI 232677

Hand pump set

for the loosening devices



Part No.: DRI 249609

Rock drilling technique

Chisel for Grundorock 2 7/8 "

Roller chisel 4 1/4 " TCI

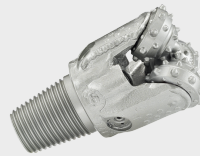
Thread connection: 2 3/8" API.Reg.

IADC-Code: 517

WOB (pressure) [kg]: -5000

Recommended rpm [1/min]: -300

Max. rock strength [Mpa]: 190



Part No.: 229800148

Rock drilling chisel 4 1/4 "

Thread connection: 2 3/8" API.Reg.

WOB (pressure) in kg: -5000

Recommended rpm [1/min]: -250

Max. rock strength [Mpa]: 60



Part No.: GRO 246725

Winged chisel 4 1/4 "

Thread connection: 2 3/8" API.Reg.

WOB (pressure) [kg]: -3000

Recommended rpm [1/min]: -250

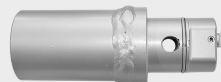
Max. rock strength [Mpa]: 20



Part No.: 229800123

Adapter for transmitter housing

The adapter allows you to mount cutter bits for the Grundorock 2 7/8" onto transmitter housings of $\varnothing 65$ to $\varnothing 75$ mm. The combination with these cutter bits enables loosening of incrustations etc. in old lines or short bores through bedrock without steering.



Part No.: DRI 299211

Rock drilling technique

Chisel for Grundorock 3 3/4 "

PDC drill cutter bit 4 3/4"

Thread connection: 2 7/8" API.Reg.

Formations: soft to medium-hard rock

All PDC drill heads have small injectors.

Application range: Soft to medium hard rock The drill head shall not be used to drill through rubble. If you have any questions concerning application, please contact René Schrinner, telephone number 0171 4707380.

Advantages: double to triple heading rate in comparison to roller bits. Because the PDC drill cutter bits take a cutting action, they make better use of the steering mechanism and do not slip away as easily as roller bits while starting to drill into rock horizons at a flat angle. Damaged diamond cutting plates can be replaced.



Part No.: 229800254

Roller chisel 4 3/4 " TCI

Thread connection: 2 7/8" API.Reg.

IADC-Code: 547

WOB (pressure) [kg]: -10000

Recommended rpm [1/min]: -300

Max. rock strength [Mpa]: 190



Part No.: 229800144

Roller chisel 4 3/4 " Milled Tooth

Thread connection: 2 7/8" API.Reg.

IADC-Code: 117

WOB (pressure) [kg]: -10000

Recommended rpm [1/min]: -300

Max. rock strength [Mpa]: -65



Part No.: 229800198

Rock drilling chisel 4 3/4 "

Thread connection: 2 7/8" API.Reg.

WOB (pressure) [kg]: -8000

Recommended rpm [1/min]: -250

Max. rock strength [Mpa]: 60



Part No.: GRO 246789

Winged chisel 4 3/4 "

Thread connection: 2 3/8" API.Reg.

WOB (pressure) [kg]: -4000

Recommended rpm [1/min]: -250

Max. rock strength [Mpa]: 20



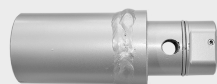
Part No.: 229800161

Adapter for winged chisel 4 3/4 "

Part No.: 229800162

Adapter for transmitter housing

The adapter allows you to mount cutter bits for the Grundorock 2 7/8" onto transmitter housings of ø65 to ø75mm. The combination with these cutter bits enables loosening of incrustations etc. in old lines or short bores through bedrock without steering.



Part No.: YY 249198

Rock drilling technique

Chisel for GRUNDODRILL 18ACS

Roller chisel 6 1/2 " Milled Tooth (IADC 117)

Thread connection: 3 1/2" API.Reg.

IADC-Code: 117

WOB (pressure) [kg]: -10000

Recommended rpm [1/min]: 70-150



Part No.: DRI ZM612117

Roller chisel 6 1/2 " Milled Tooth (IADC 217)

Thread connection: 3 1/2" API.Reg.

IADC-Code: 217

WOB (pressure) [kg]: -16000

Recommended rpm [1/min]: 70-150

Max. rock strength [Mpa]: 65



Part No.: DRI ZM612217

Roller chisel 6 1/2 " TCI (IADC 517)

Thread connection: 3 1/2" API.Reg.

IADC-Code: 517

WOB (pressure) [kg]: -16000

Recommended rpm [1/min]: 40-140

Max. rock strength [Mpa]: 190



Part No.: DRI WM612517

Roller chisel 6 1/2 " TCI (IADC 547)

Thread connection: 3 1/2" API.Reg.

IADC-Code: 547

WOB (pressure) [kg]: -16000

Recommended rpm [1/min]: 40-140

Max. rock strength [Mpa]: 190



Part No.: DRI WM612547

Roller chisel 6 1/2 " TCI (IADC 637)

Thread connection: 3 1/2" API.Reg.

IADC-Code: 637

WOB (pressure) [kg]: -16000

Recommended rpm [1/min]: 40-140

Max. rock strength [Mpa]: 290



Part No.: DRI WM612637

Roller chisel 6 1/2 " TCI (IADC 837)

Thread connection: 3 1/2" API.Reg.

IADC-Code: 837

WOB (pressure) [kg]: -16000

Recommended rpm [1/min]: 40-140

Max. rock strength [Mpa]: 345 and higher



Part No.: DRI WM612837

Winged chisel 6 1/2 "

Thread connection: 3 1/2" API.Reg.

WOB (pressure) [kg]: -6000

Recommended rpm [1/min]: -200

Max. rock strength [Mpa]: 20



Part No.: DRI SM612000

Rock drilling chisel 6 1/2 " with hard metal plates

Thread connection: 3 1/2" API.Reg.

WOB (pressure) [kg]: -10000

Recommended rpm [1/min]: -150

Max. rock strength [Mpa]: 60



Part No.: GRO 246802

Rock drilling chisel 6 1/2 " 6 1/2 " with round-framed chisels

Thread connection: 3 1/2" API.Reg.

WOB (pressure) [kg]: -12000

Recommended rpm [1/min]: -150

Max. rock strength [Mpa]: 80



Part No.: GRO 246807

Rock drilling technique

PDC drilling chisel Ø 6 1/2 " with 4 wings

Thread connection 3 1/2"API.Reg.

Max. pressure 40 KN

Rotation speed: 150 - 250 min. -1

Formation: Soft rock

Alle PDC bore heads are equipped with small jet nozzles.

Application range:

- Soft to medium hard rock
- The bore head should not be used in debris
- In case of questions on the application contact René Schrinner by phone at +49 171 4707380

Advantages

- Double up to triple installation speed compared to a roller chisel
- As the PDC drilling chisel cuts through the soil, it can be steered more precisely and the danger of slipping off when drilling in a flat angle into rock horizons is reduced, as opposed to roller chisels.
- Defective diamond cutting plates can be replaced.



Part No.: DRI P612443

PDC drilling chisel Ø 6 1/2 " with 5 wings

Thread connection 3 1/2"API.Reg.

Max. pressure 60 KN

Rotation speed: 150 - 250 min. -1

Formation: Soft to medium hard rock

Alle PDC bore heads are equipped with small jet nozzles.

Application range:

- Soft to medium hard rock
- The bore head should not be used in debris
- In case of questions on the application contact René Schrinner by phone at +49 171 4707380

Advantages

- Double up to triple installation speed compared to a roller chisel
- As the PDC drilling chisel cuts through the soil, it can be steered more precisely and the danger of slipping off when drilling in a flat angle into rock horizons is reduced, as opposed to roller chisels.
- Defective diamond cutting plates can be replaced.



Part No.: DRI P612543

Rock drilling technique

PDC drilling chisel Ø 6 1/2 " with 6 wings

Thread connection 3 1/2"API.Reg.

Max. pressure 60 KN

Rotation speed: 150 - 250 min. -1

Formation: Soft to medium hard rock

Alle PDC bore heads are equipped with small jet nozzles.

Application range:

- Soft to medium hard rock
- The bore head should not be used in debris
- In case of questions on the application contact René Schrinner by phone at +49 171 4707380

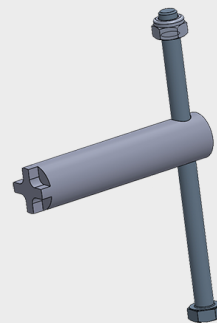
Advantages

- Double up to triple installation speed compared to a roller chisel
- As the PDC drilling chisel cuts through the soil, it can be steered more precisely and the danger of slipping off when drilling in a flat angle into rock horizons is reduced, as opposed to roller chisels.
- Defective diamond cutting plates can be replaced.



Part No.: DRI P612643

Mounting wrench for jet nozzles of PDC drilling chisel



Part No.: YY 246892

Rock drilling technique

HSR HoleOpener 2,5 "

Standard connection TD 61



HSR HoleOpener 2,5 " (basic body)
incl. 5 tons swivel and jet nozzles

Part No.: YY 299335

6" TCI Cutter set (152,4 mm)

Part No.: YY 299268

Counter support set 6"

Part No.: YY 299269

Pulling rod for TD 48

Part No.: YY 294184

Pulling rod for TR 34 GRUNDODRILL

Part No.: YY 294136

Pulling rod for RD 49

Part No.: YY 294140

Adapter for TR 34

Part No.: YY 249054

Adapter for EL 51

Part No.: YY 309557

Adapter for Quick Connect EL 51

Part No.: YY 249303

Rock drilling technique

HSR Hole Opener 4 "



HSR HoleOpener 4 " (basic body)

incl. 30 tons swivel and jet nozzles

Part No.: YY 299107

8" TCI Cutter set (203.2 mm)

Counter support set for cutter is required
up to 220 MPa

Part No.: YY 299327

10" TCI Cutter set (245 mm)

Counter support set for cutter is required
up to 220 MPa

Part No.: YY 299325

10" TCI Cutter set (245 mm)

Counter support set for cutter is required
up to 280 MPa

Part No.: YY 299143

Counter support set 6"

Part No.: YY 299260

Counter support set 10"

Part No.: YY 299261

Pulling rod for TD 61

Part No.: YY 294144.1

Pulling rod for RD 49

Part No.: YY 294080.1

Pulling rod for TD 73

Part No.: YY 245316.1

Pulling rod for TD 82

Part No.: YY 299273

Pulling rod for 2 3/8 " API IF Box

Part No.: YY 242825

Assembly tool

Part No.: YY 299206

Loosening wrench

Part No.: YY 299208

Adapter TD 82 nipple EL 95 sleeve

Part No.: YY 232608

Rock drilling technique

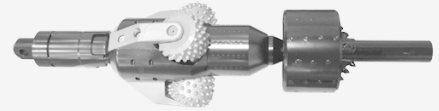
HSR Hole Opener 6 "



HSR HoleOpener 6 " (basic body) incl. 30 tons swivel and jet nozzles	Part No.: YY 299381
12 " TCI Cutter-Satz (305 mm) up to 220 MPa	Part No.: YY 299328
12 " TCI Cutter-Satz (305 mm) up to 280 MPa	Part No.: YY 299161
14" TCI Cutter set (356 mm) up to 220 MPa	Part No.: YY 299329
16" TCI Cutter set (406 mm) up to 220 MPa	Part No.: YY 299326
16" TCI Cutter set (406 mm) up to 280 MPa	Part No.: YY 299150
Counter support set 12"	Part No.: YY 299254
Counter support set 14"	Part No.: YY 299255
Counter support set 16"	Part No.: YY 299256
Pulling rod for RD 49	Part No.: YY 245167.1
Pulling rod for TD 61	Part No.: YY 245063.1
Pulling rod for TD 73	Part No.: YY 245317.1
Pulling rod for TD 82	Part No.: YY 245058.1
Pulling rod for 2 3/8 " API IF Box	Part No.: YY 242827
Pulling rod for 2 7/8 " API IF Box	Part No.: YY 242842
Assembly tool	Part No.: YY 299212
Loosening wrench	Part No.: YY 299208

Rock drilling technique

Grundo-Rock-Ream 8 "



HSR HoleOpener 8 " (basic body)

inkl. 30 to Wirbel und Düsen

Part No.: YY 299396

12" TCI Cutter set = 14" Reamer Ø

Part No.: YY 299328

14" TCI Cutter set = 16 " Reamer Ø

Part No.: YY 299329

16" TCI Cutter-Set = 18 " Reamer Ø

Part No.: YY 299326

Counter support set 14 " (3 pieces)

Part No.: YY 299254

Counter support set 16 " (3 pieces)

Part No.: YY 299255

Counter support set 18 " (3 pieces)

Part No.: YY 299256

Pulling rod for RD 49

Part No.: YY 245167.1

Pulling rod for TD 61

Part No.: YY 245063.1

Pulling rod for TD 73

Part No.: YY 245317.1

Pulling rod for TD 82

Part No.: YY 245058.1

Rock drilling technique

HSR Hole Opener 10 "



HSR Hole Opener 10 " (Basic body)
incl. 30 tons swivel and jet nozzles

Part No.: YY 299367

18 " TCI Cutter set

Part No.: YY 299368

20 " TCI Cutter set

Part No.: YY 299369

Counter support set 18 " (4 pieces)

Part No.: YY 299370

Counter support set 20 " (4 pieces)

Part No.: YY 299371

Pulling rod for RD 49

Part No.: YY 245167.1

Pulling rod for TD 61

Part No.: YY 245063.1

Pulling rod for TD 73

Part No.: YY 245317.1

Pulling rod for TD 82

Part No.: YY 245058.1

Assembly tools

Part No.: YY 299212

Loosening wrench

Part No.: YY 299208

Rock drilling technique

Centralizer

The CENTRALIZER is a guiding pipe which is attached to the front of the Hole Opener. Its is chosen according to the diameter of the bore and centers the Hole Opener inside the bore with the next upsizing step.
It guarantees that the Hole Opener is pulled straight along the bore hole bottom and the cutters are strained evenly.



Centralizer for bore hole Ø 10 "

Thread connection: TD82M x TD118N

Ø of the guiding pipe with hardened layer: 230 mm (9 ")

Part No.: DB HF0311230

Centralizer for bore hole Ø 12 "

Thread connection: TD82M x TD118N

Ø of the guiding pipe with hardened layer: 275 mm (10,8")

Part No.: DB HF0311299

Centralizer for bore hole Ø 14 "

Thread connection: TD82M x TD118N

Ø of the guiding pipe with hardened layer: 325 mm (12,8")

Part No.: DB HF0311330

Centralizer for bore hole Ø 16 "

Thread connection: TD82M x TD118N

Ø of the guiding pipe with hardened layer: 375 mm (14,75")

Part No.: DB HF0311368

Further rock drilling tools

Roller chisel 5 1/2 " TCI (IADC 547)

Thread connection 2 7/8" API.Reg.

IADC-Code: 547

WOB (pressure) [kg]: -16000

Recommended rpm [1/min]: 40-140

Max. rock strength [Mpa]: 190



Part No.: 229800237

PDC drill cutter bit 5 1/2"

Thread connection: 2 7/8" API.Reg.

Formations: soft to medium-hard rock

All PDC drill heads have small injectors.

Application range: Soft to medium hard rock The drill head shall not be used to drill through rubble. If you have any questions concerning application, please contact René Schrinner, telephone number 0171 4707380.

Advantages: double to triple heading rate in comparison to roller bits. Because the PDC drill cutter bits take a cutting action, they make better use of the steering mechanism and do not slip away as easily as roller bits while starting to drill into rock horizons at a flat angle. Damaged diamond cutting plates can be replaced.



Part No.: DRI P512542

Detection technique

Different systems for the constant detection of the bore head during the pilot bore.

DigiTrak Falcon F1®

The Falcon F1™ replaces DCI's popular DigiTrak® SE® and introduces Falcon technology to customers who typically perform short and shallow bores. DCI's Falcon technology minimizes the effect of active interference on jobsites, resulting in increased uptime for HDD crews. The Falcon F1 is a single-band receiver that uses the same frequency optimization technology as other Falcon receivers.

- Falcon frequency optimizer helps minimize the impact of active interference
- The Falcon F1™ single-band transmitter supports frequencies from 9.0 kHz to 13.5 kHz
- Infrared pairing of receiver and transmitter
- 0.1% precision pitch for completing critical grade bores
- Max mode noise filtering boosts fringe data and stabilizes depth readings
- 12-position roll clock with roll offset
- Compatible with DigiTrak Aurora™ touchscreen display



DigiTrak Falcon F1® (no display)



Part No.: SEN 0581.4

DigiTrak Falcon F1® (Falcon Compact Display)



Part No.: SEN 0581.2

DigiTrak Falcon F1® (with AF8 display)



Part No.: SEN 0581.6

DigiTrak Falcon F1® (with AF10 display)



Part No.: SEN 0581.3

FT1 Sonde 9-13,5 kHz

Transmitting frequencies: 9-13,5 kHz

Pitch resolution: $\pm 0,1$ %

Depth range: 15,2 m

Data range, Max Mode: 19,8 m

Battery life: up to 20/70 h Alkaline/SuperCell



für Standard-Sendergehäuse

Part No.: SEN 0078A

for sonde housing 4X

Part No.: SEN 0263

for GRUNDODRILL 18ACS

Part No.: 98CFT1

FT1S Transmitter 9-13,5 kHz

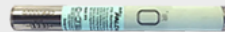
Transmitting frequencies: 9-13,5 kHz

Pitch resolution: $\pm 0,1$ %

Depth range: 7,6 m

Data range, Max Mode: 9,1 m

Battery life: up to 12 h Lithium 123 3V



Part No.: SEN 0078B

Detection technique

DigiTrak Falcon F2®

The classic DigiTrak F2 locating system has earned a reputation as a workhorse that provides customers with dependable locating capabilities. With the introduction of Falcon frequency optimization technology, the DigiTrak Falcon F2 is a more powerful locating system that addresses active interference using a single wideband transmitter.

- Falcon frequency optimizer analyzes and overcomes active interference at different jobsites
- One Falcon F2 wideband transmitter supports multiple frequencies from 4.5 kHz to 45 kHz
- Infrared pairing of receiver and transmitter
- 0.1% precision pitch for completing critical grade bores
- Max mode noise filtering boosts data range and stabilizes depth readings
- Increased power in a 15 in. transmitter for industry-best 24 m depth and 33 m data range
- Supports Roll Offset and Target Steering features
- Compatible with DigiTrak Aurora™ touchscreen display



DigiTrak Falcon F2® (no display)



Part No.: SEN 0579.2

DigiTrak Falcon F2® (Falcon Compact Display)



Part No.: SEN 0579.4

DigiTrak Falcon F2® (with AF8 display)



Part No.: SEN 0579.6

DigiTrak Falcon F2® (with AF10 display)



Part No.: SEN 0579.3

FT2 Sonde 4,5-45 kHz

Transmitting frequencies: 4,5–45,0 kHz

Pitch resolution: $\pm 0,1$ %

Depth range: 24,3 m

Data range: 33,5 m

Battery life: up to 20/70 h Alkali/SuperCell



for Standard sonde housing

Part No.: SEN 0075

for sonde housing 4X

Part No.: SEN 0211

for GRUNDODRILL 18ACS

Part No.: 98CFTW

FT2S Sonde 9-13,5 kHz

Transmitting frequencies: 9-13,5 kHz

Pitch resolution: $\pm 0,1$ %

Depth range: 7,6 m

Data range: 9,1 m

Battery life: up to 12 h Lithium 123 3V



for mini sonde housing

Part No.: SEN 0075B

Detection technique

DigiTrak Falcon F5®

The Falcon F5® is an extension of the classic F5 locating system. DCI's revolutionary Falcon technology minimizes the effects of active interference (noise) on the jobsite with a single wideband transmitter. The Falcon F5 combines this new technology with everything a professional contractor values in DCI's flagship F5 locating platform, including superior ease of use, updated DataLog software, and fluid pressure monitoring.

- Falcon frequency optimizer helps overcome active interference
- One Falcon F5 wideband transmitter supports multiple frequencies from 4.5 kHz to 45 kHz
- Infrared pairing of receiver and transmitter
- 0.1% precision pitch for completing critical grade bores
- 24-position roll clock with roll offset
- Max mode noise filtering boosts fringe data and stabilizes depth readings
- Increased power in a 19 in. transmitter for industry-best 38.1 m depth and 45.7 m data range
- Supports DataLog, Log-While-Drilling, and Target Steering features
- Compatible with DigiTrak Aurora touchscreen display



DigiTrak Falcon F5® (no display)



Part No.: SEN 0574.4

DigiTrak Falcon F5® incl. GPS module (no display)

Part No.: SEN 0590

DigiTrak Falcon F5® (Falcon Compact Display)



Part No.: SEN 0574.2

DigiTrak Falcon F5® incl. GPS module (Falcon Compact Display)

Part No.: SEN 0591

Detection technique

DigiTrak Falcon F5® (with AF8 display)



Part No.: SEN 0574.6

DigiTrak Falcon F5® incl. GPS module (with AF8 display)

Part No.: SEN 0592

DigiTrak Falcon F5® (with AF10 display)



Part No.: SEN 0574.3

DigiTrak Falcon F5® incl. GPS module (with AF10 display)

Part No.: SEN 0593

FT5Lp Sonde 4,5-45 kHz

Transmitting frequencies: 4,5-45,0 kHz

Pitch resolution: $\pm 0,1$ %

Depth range: 38,1 m

Data range, Max Mode: 45,7 m

Battery life: up to 40 h SuperCell



for long sonde housing

Part No.: SEN 0076B

for GRUNDODRILL 18ACS

Part No.: 98CFT5LP

FT5p Sonde 4,5-45 kHz

Transmitting frequencies: 4,5-45,0 kHz

Pitch resolution: $\pm 0,1$ %

Depth range: 30,5 m

Data range, Max Mode: 38,1 m

Battery life: up to 20/70 h Alkali/SuperCell



for Standard sonde housing

Part No.: SEN 0076

for sonde housing 4X

Part No.: SEN 0212

for GRUNDODRILL 18ACS

Part No.: 98CFT5P

Tensile load measuring

For logging and controlling the tensile loads with a measuring precision of 0,1 %

Grundolog Type III (self-sustaining or wireless)

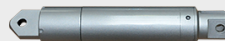
Grundolog is a measuring system for documenting and controlling the tensile loads affecting the new pipe during installation. These tensile loads are recorded at a measuring precision of 0,1 % from the nominal value. The light weight and the short structural shape allow simple assembly and easy handling. The measuring bodies are battery-driven. The system includes battery charger, cable and software. The connection to swivel and pipe puller is designed for the max. pulling force.

With wireless version the tensile loads are logged and transferred online through the soil to the operator. With GRUNDODRILL N, XP, XPT and 18ACS the data are indicated at the operator panel, thus providing the possibility to influence the pulling process.



Grundolog 150 kN self-sustaining, for swivel Type II

Grundolog is a measuring system for documenting and controlling the tensile loads affecting the new pipe during installation. These tensile loads are recorded at a measuring precision of 0,1 % from the nominal value. The light weight and the short structural shape allow simple assembly and easy handling. The measuring bodies are battery-driven. The system includes battery charger, cable and software. The connection to swivel and pipe puller is designed for the max. pulling force.



Part No.: DRI K1E1AA



Part No.: DRI K3B1BB

Grundolog 400 kN self-sustaining, for swivel Type III

Grundolog is a measuring system for documenting and controlling the tensile loads affecting the new pipe during installation. These tensile loads are recorded at a measuring precision of 0,1 % from the nominal value. The light weight and the short structural shape allow simple assembly and easy handling. The measuring bodies are battery-driven. The system includes battery charger, cable and software. The connection to swivel and pipe puller is designed for the max. pulling force.



Part No.: DRI K3B1CC

Tensile load measuring

Grundolog 150 kN wireless, for GRUNDODRILL N-series



Part No.: DRI K3E1N15

Grundolog 150 kN wireless, for GRUNDODRILL X-series

Part No.: DRI K3E1X15

Grundolog 400 kN wireless, for GRUNDODRILL N-series



Part No.: DRI K3B4N40

Tensile load measuring

Grundolog 400 kN wireless, for GRUNDODRILL X-series

Part No.: DRI K3B4X40

Hinged hook wrench for fastening the protection sleeve



Part No.: 220470247

Trenchless cable exchange

Wash-over head Type 1

Energy suppliers are increasingly obliged to replace unused or damaged ground cables with new ones. The wash-over-technique by TRACTO-TECHNIK is a simple and economic method for the trenchless exchange of cables using a GRUNDODRILL HDD system. To do so, the drill rod is connected to the patented wash-over head and guided parallel over the old cable.

The old cable acts as a compelled guidance for the wash-over-head which cuts and flushes the adhesive soil surrounding the old cable and existing roots creating a small annular space. At the target the old cable can easily be extracted with a pulling device. Due to the compelled guidance a detection system is not necessary. Yet additional monitoring of the bore path is recommended to be able to correct deviations from the given bore path immediately. When pulling back the drill rods, the new cable attached is pulled in simultaneously.

With connection for sonde housing TD61.

For cables, PE pipes, stuck drill rods, etc.



Wash-over head with flex piece ID 45 mm

Part No.: YY 246638

Wash-over head with flex piece ID 72 mm

Part No.: YY 246578

Wash-over head with flex piece ID 98 mm

Part No.: YY 246591

Wash-over head with flex piece ID 115 mm

Part No.: YY 246622

Wash-over head with flex piece ID 135 mm

Part No.: YY 246600

Trenchless cable exchange

Wash-over head Type 2

This wash-over head is especially suitable for wash-over bores with cables lying close below covers. The cutting geometry optimises the guidance on the pipe to be washed-over without getting hooked inside the surface cover overhead.

With connection for sonde housing TD61.
For cables, PEpipes etc.



Wash-over head with flex piece ID 72 mm	Part No.: YY 246708
Wash-over head with flex piece ID 98 mm	Part No.: YY 246657
Wash-over head with flex piece ID 115 mm	Part No.: YY 246650
Wash-over head with flex piece ID 135 mm	Part No.: YY 246693
Adapter for TD73 sonde housing	Part No.: YY 246787
Adapter for TD82 sonde housing	Part No.: YY 246838

Software for planning, executing and calculating horizontal bores.

Grundo Bore Planner - Demo version

Software for planning /executing HDD bores

The demo version has the full functionality of the full version but is limited by the number of possible program starts.

Your top marks

- Better planning and preparation of the jobsite
- Suitable for data log acc.to latest standards,
- Documentation: graphic display indicates set and actual bore path
- Simple and logical operation
- works similar to CAD,
- Software based on extensive specialist know-how
- Guided programme operation
- Minimised risk of miscalculations
- Increased safety and efficiency for bore planning

Part No.: DRI-S 0013

TT-Software

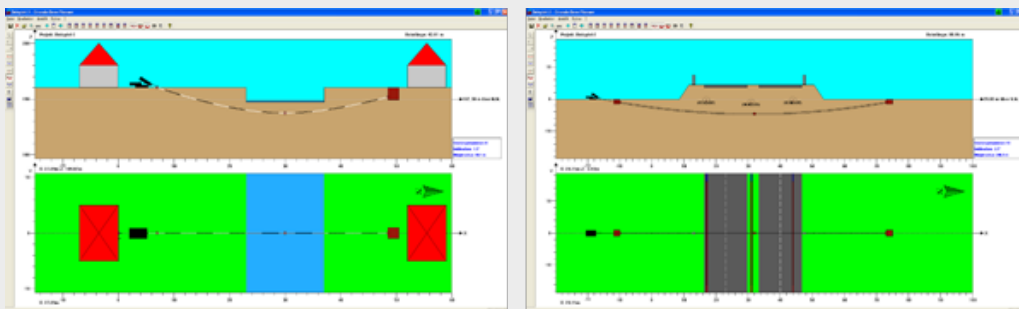
Grundo Bore Planner - Full version

Software for planning /executing HDD bores

Your top marks

- Better planning and preparation of the jobsite
- Suitable for data log acc. to latest standards
- Documentation: graphic display indicates set and actual bore path
- Simple and logical operation
- works similar to CAD
- Software based on extensive specialist know-how
- Guided programme operation
- Minimised risk of miscalculations
- Increased safety and efficiency for bore planning

Part No.: DRI-S 0012



TT-Software

Grundo Cost-Finder - Demo version

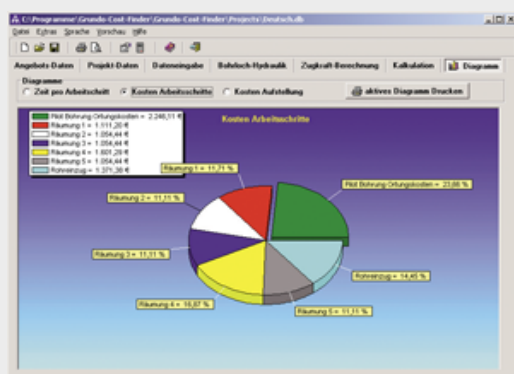
Software for calculating and managing HDD bores

The demo version has the full functionality of the full version but is limited by the number of possible program starts.

Your top marks

- Better planning and preparation of the jobsite
- Documentation: Graphical display of the cost schedule
- Simple and logical operation
- works similar to CAD,
- Software based on extensive specialist know-how
- Guided programme operation
- Minimised risk of miscalculations
- Increased safety and efficiency for bore planning
- with WIN BAU construction machine calculation

Part No.: DRI-S 0017



TT-Software

Grundo Cost-Finder - Full version

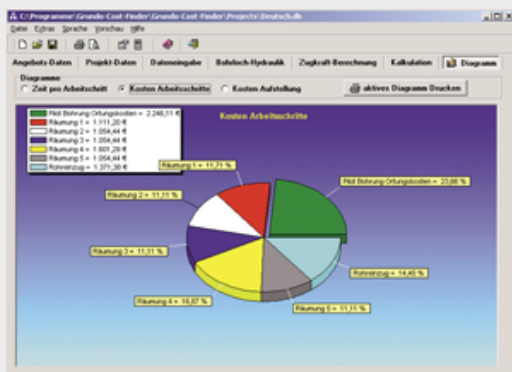
Software for calculating and managing HDD boress

Your top marks

with WIN BAU construction machine calculation

- Better planning and preparation of the jobsite
- Documentation: Graphical display of the cost schedule
- Simple and logical operation
- works similar to CAD
- Software based on extensive specialist know-how
- Guided programme operation
- Minimised risk of miscalculations
- Increased safety and efficiency for bore planning

Part No.: DRI-S 0015



TT-Software

HDD QUICK-PLANNER - Demoversion

Der HDD QUICK-PLANNER ist eine neue leistungsstarke Software, mit der sehr schnell auf alle Bohreinflüsse reagiert werden kann. Der HDD QUICK-PLANNER ist weit mehr als eine Software. Mit ihr macht die Planung Spaß, denn jede Eingabeänderung zeigt sofort die Wechselwirkung mit anderen Parametern an.

Alle Einflussgrößen, wie zum Beispiel Bodenart, Oberflächenangaben, Geländemarken, Anbindungspunkte, Fremdleitungen, Sicherheitsabstände, Mindestüberdeckungen, Biegeradien und vieles andere mehr lassen sich aus hinterlegten Berechnungsfunktionen auswählen oder nach Wunsch ändern. Die Daten fließen in die Berechnung der optimalen Trasse ein. Ebenso können alle Bohrparameter für die Bohrspülungskalkulation aus der Datenbank abgerufen werden.

Auf der einprogrammierten Datenbasis werden z. B. die Anzahl der Aufweitvorgänge, Vorschubgeschwindigkeit, Zugkräfte oder auch Berechnungen von Ballastierungen beim Rohrauftrieb angezeigt.

Die Software ist u. a. bei der Auswahl entsprechender Bohrwerkzeuge behilflich. Der HDD QUICK-PLANNER ist deutsch- und englischsprachig auf metrischer Basis erhältlich.

Voraussetzung für die Nutzung sind ein PC oder Laptop mit Windows- Betriebssystem sowie Excel ab Version 2007.

Hinweis: Diese Demoversion lässt sich innerhalb von 30 Tagen 100 mal öffnen bevor eine Lizenz gekauft werden muss.

Part No.: DRI-S 0023



TT-Software

HDD QUICK-PLANNER - Vollversion

Der HDD QUICK-PLANNER ist eine neue leistungsstarke Software, mit der sehr schnell auf alle Bohreinflüsse reagiert werden kann. Der HDD QUICK-PLANNER ist weit mehr als eine Software. Mit ihr macht die Planung Spaß, denn jede Eingabeänderung zeigt sofort die Wechselwirkung mit anderen Parametern an.

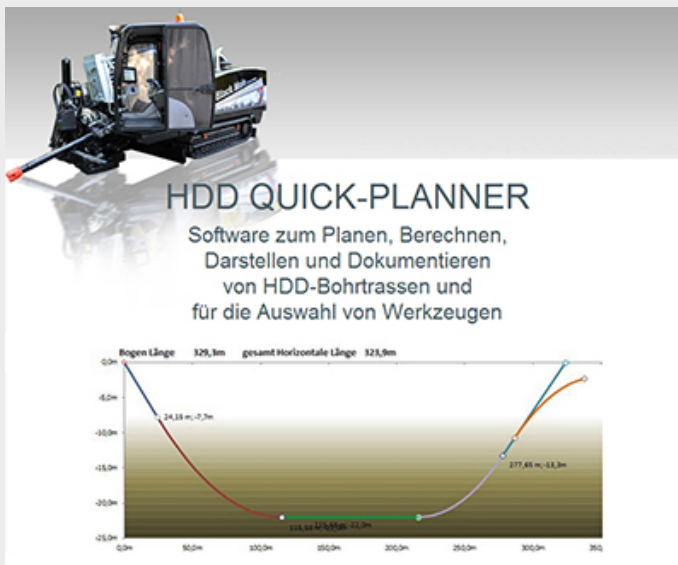
Alle Einflussgrößen, wie zum Beispiel Bodenart, Oberflächenangaben, Geländemarken, Anbindungspunkte, Fremdleitungen, Sicherheitsabstände, Mindestüberdeckungen, Biegeradien und vieles andere mehr lassen sich aus hinterlegten Berechnungsfunktionen auswählen oder nach Wunsch ändern. Die Daten fließen in die Berechnung der optimalen Trasse ein. Ebenso können alle Bohrparameter für die Bohrspülungskalkulation aus der Datenbank abgerufen werden.

Auf der einprogrammierten Datenbasis werden z. B. die Anzahl der Aufweitvorgänge, Vorschubgeschwindigkeit, Zugkräfte oder auch Berechnungen von Ballastierungen beim Rohrauftrieb angezeigt.

Die Software ist u. a. bei der Auswahl entsprechender Bohrwerkzeuge behilflich. Der HDD QUICK-PLANNER ist deutsch- und englischsprachig auf metrischer Basis erhältlich.

Voraussetzung für die Nutzung sind ein PC oder Laptop mit Windows- Betriebssystem sowie Excel ab Version 2007.

Part No.: DRI-S 0022.1



Retrieval tools

Tools for retrieving stuck drill rods, backreamer with swivel and pulling head.

Pipe Cutter

Pipe cutters are applied to detach stuck PE pipes from the pulling head (pipe puller) in order to be able to recover at least drill rods, backreamer and swivel.

Pipe Cutter TD 61 socket, Ø 110 mm	Part No.: YY 298775
Pipe Cutter TD 61 socket, Ø 125 mm	Part No.: YY 298784
Pipe Cutter TD 61 socket Ø 140 mm	Part No.: YY 298786
Pipe Cutter TD 82 socket, Ø 160 mm	Part No.: YY 298762
Pipe Cutter TD 82 socket, Ø 180 mm	Part No.: YY 298763
Pipe Cutter TD 82 socket, Ø 225 - Ø 250 mm	Part No.: YY 298767
Pipe Cutter TD 82 socket, Ø 280 mm	Part No.: YY 299711
Pipe Cutter TD 82 socket, Ø 315 mm	Part No.: YY 299770
Pipe Cutter TD 82 socket, Ø 355 mm	Part No.: YY 249605
Pipe Cutter TD 82 socket, Ø 450 mm	Part No.: YY 298799

Drilling fluid additives

Additives and measuring devices for the drilling fluid

Bentonite testing set

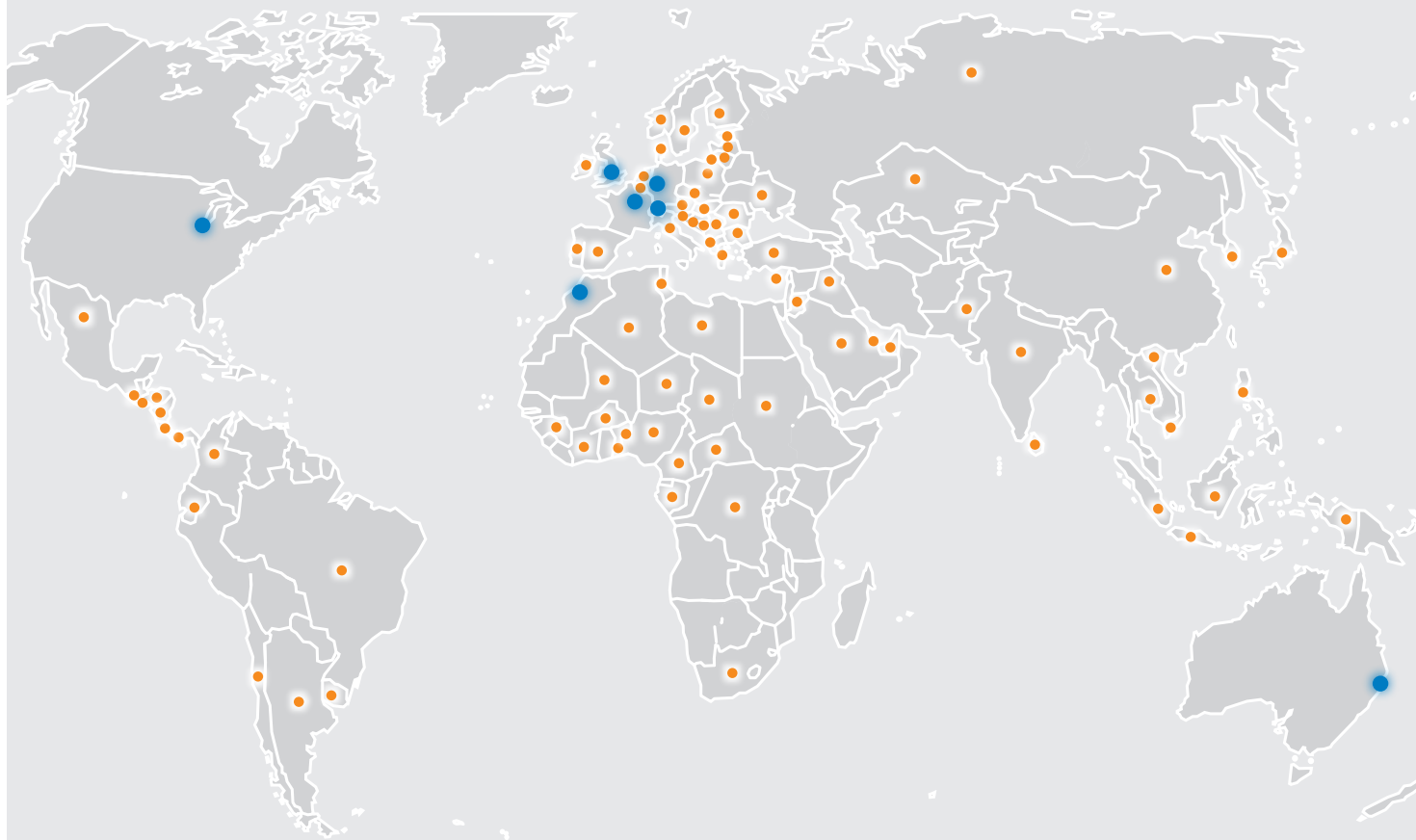
Case with measuring devices
for determining the compactness, viscosity and sand content of the drilling
fluid and ph-value of the water.



Part No.: DRI 9080

TRACTO-TECHNIK

worldwide



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