



*EMDE
Tool-Systems*



Pile Drilling



EMDE supports all drilling-technics an extensive tools program for you with short delivery time and effective service. All system parts from kelly bar up to cutting shoe have an effective geometry and robust design.

EMDE Tool–Systems For Pile Drilling

- ▶ **Kelly bars**
- ▶ **Augers**
- ▶ **Drilling Buckets**
- ▶ **Core Barrels**
- ▶ **Belling Buckets**
- ▶ **Casings**
- ▶ **Casing Drive Adaptors**
- ▶ **Cardanic Joints**
- ▶ **Pile and Auger Guides**
- ▶ **Rig Attachments**
- ▶ **Auger Cleaner**
- ▶ **Wearing Parts**
- ▶ **Service**

Drilling Diameter: 500 – 2,500 mm and up

Drilling Depth: up to 100 m

Torque: up to 450 kNm

Drilling Operations: Kelly drilling
CFA
FOW

Range of Application: Foundation
Soil Improvement

EMDE continous flight auger (CFA)



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Hydraulic pile guide



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Pile drilling rig



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Tremie pipes ESR 230



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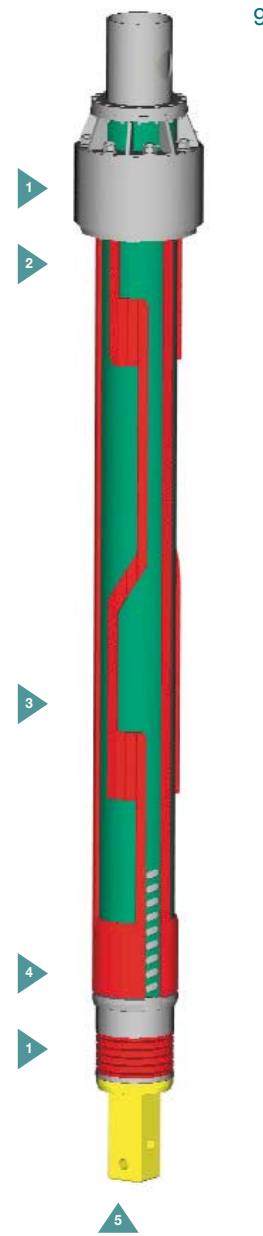


EMDE interlocking kelly bars transfer rotation and pull-down movement from the rotary head of the drill rig to the drilling tools. The kelly bars are telescopic 2 to 5 times. The geometry of EMDE kelly bars is optimized by FEM and is designed for high forces. This reduces the wear and guarantees long serving life.

Kelly Bars

- ▶ **Effective shock absorbers**
- ▶ **Compatible to all available rotary heads**
- ▶ **High-tensile, wear-resistant cams and guides**
- ▶ **Exchangeable inside keys**
- ▶ **Full torque-capacity even for the inner section**

Torque:	100 – 400 kNm
Drilling Depth:	10 – 100 m
Number of Sections:	2 to 5
Type:	Interlocking type Friction type



EMDE Friction type kelly bar MD 15/3/54

Interlocking type kelly bar MD 40/4/48

Kelly bar MD 25/3/36

Shock absorber





The augers are particularly suitable for drilling in cohesive soils, gravel and soft rock. EMDE offers a wide assortment with optimized cutting edges and flights protected against wear for all kinds of applications.

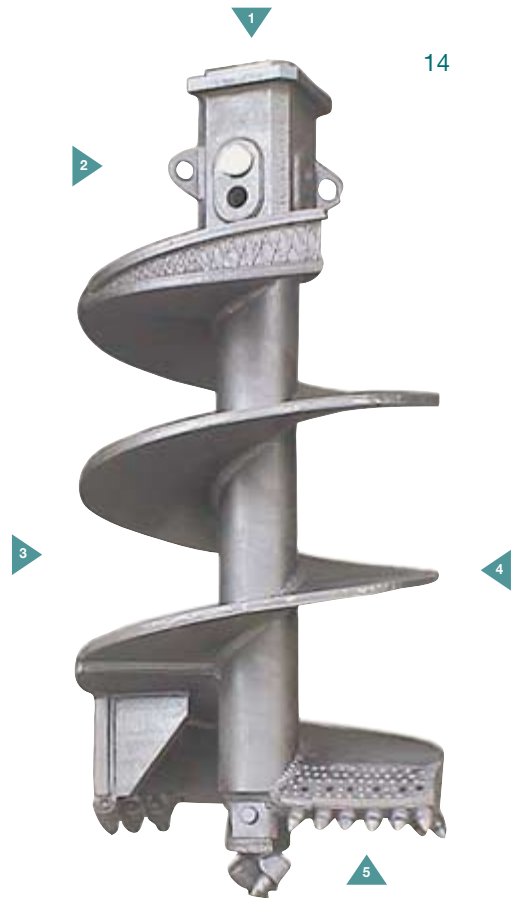
Augers

Rated Drilling Diameter: 500 – 2,500 mm and up

Kelly box: 110 – 200 mm

Trimming: Round shank bits
Flat teeth

Types: Standard for soft soils
Heavy duty for soils up to moderate hard rock
single start
double starts
progressive
tapered rock augers
with and without pilot
with and without calibration collar



- 1 **robust welded construction**
- 2 **strong kelly box**
- 3 **favourable pitch, partially reinforced**
- 4 **auger flights protected against wear**
- 5 **optimized cutting geometry**

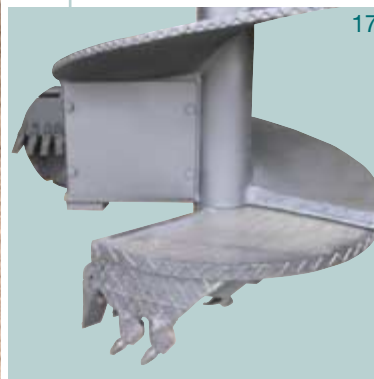
Double start auger for soft soil
type BSZN-FM 2200



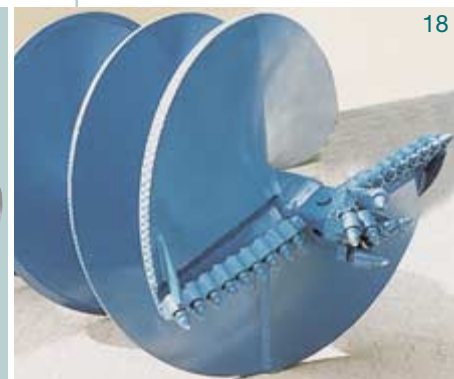
EMDE rock auger
BSZN-RM 650



Auger with swivelled bottom gate
type BSEN-DB 1000



Double start auger
BSZN-RM 1650





EMDE supplies drilling buckets for rotary-drilling. Good drilling progress and a long life of the EMDE drilling buckets are given by the effective cutting-edges geometry and robust construction.

Drilling Buckets

Rated Drilling Diameter:	500 – 2,500 mm and up
Kelly box:	110 – 200 mm
Edging:	Round shank bits Flat teeth Reamer
Types:	Standard for soft soils Heavy duty for soils up to moderate hard rock single start double starts with and without pilot with and without calibration collar



- 1 **robust welded construction**
- 2 **automatic and manual release of hinged bottom with „spiral-head system“ or „hook system“**
- 3 **ventilation tubes, to avoid vacuum during bucket extracting**
- 4 **lower section of the bucket protected against wear**
- 5 **revolving bottom with replaceable sleeves**
- 6 **optimized cutting geometry**

Rock type drilling bucket with calibration collar type BEES-K 1060

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Welding an EMDE drilling bucket

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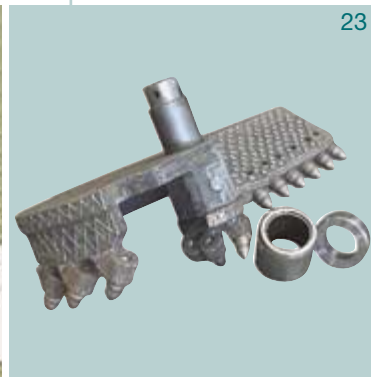
Swivelled bottom gate of an EMDE drilling bucket

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Swivelled bottom with replaceable sleeves

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Gravel, rock and boulders can be drilled by EMDE core barrels. According to the application the cutting edge is fitted with round shank bits, welded teeth or roller bits.

Core Barrel

Rated Drilling Diameter: 500 – 2,500 mm and up

Kelly box: 110 – 200 mm

Trimming: Round shank bits
Welded teeth



- 1 **strong kelly box**
- 2 **barrel with wear protection**
- 3 **low friction by cutter-clearance**

Cutter-clearance

EMDE core barrel type KEHD 1500

The load-carrying capacity of a pile can be raised particularly in harder ground or in brittle rock by an extension of the foot considerably. EMDE offers bellling buckets for the safe and economic production of such extensions.

Belling Buckets

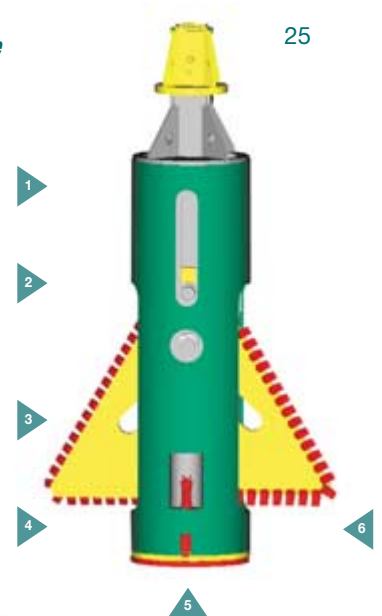
Rated Drilling Diameter: 500 – 2,000 mm and up

Rated Extention of the Foot: 800 – 3,500 mm and up

Kelly box: 130 – 200 mm

Trimming of the Cutting Arms: Round shank bits
Flat teeth

- 1 **robust mechanism of the cutting arms**
- 2 **effective kinematic**
- 3 **big enlargement**
- 4 **integrated drilling bucket with hinged bottom**
- 5 **flat bottom with roller bearing**
- 6 **alternativ rotary bottom with reamer**



Belling bucket

Cutting arm with flat teeth



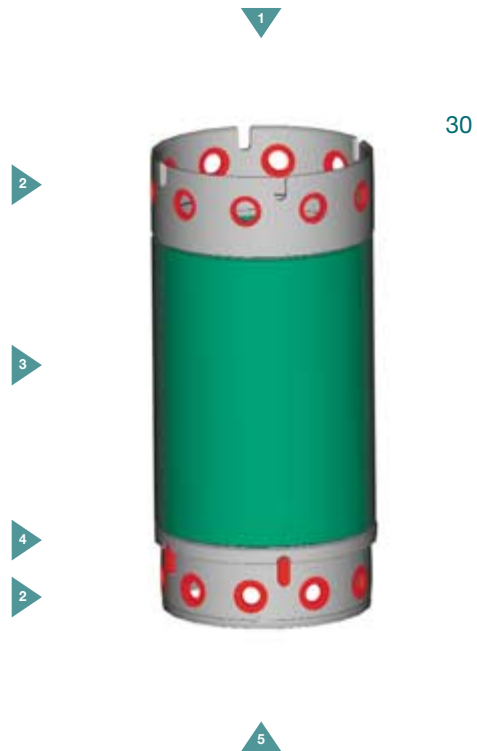


When drilling into overburden the drill hole must be supported by casings. EMDE offers casings in all usual diameters and lengths. The connectors of the casings are manufactured fitting to all usual market systems.

Casings

- 1 *smooth inside passage*
- 2 *high-tensile, precisely machined joints made of heat treated steel*
- 3 *exactly cylindrical tubes*
- 4 *different usable length available*
- 5 *replaceable conical screw connections*

Rated Drilling Diameter:	500 – 2,500 mm and up
Usable Length:	500 – 12,000 mm
Connector System:	Compatible to all existing types
Types:	Single walled Double walled CFA



Manufacturing casings



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Detail: machined joint



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Casings Ø 640



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EMDE casing drive adapter and cardanic joint



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EMDE offers extensive pile drilling accessories by reasonable prices. Our fast delivery reduces your spare parts stock.

Accessories

- Casing drive adapters and cardanic joints
- Cutting shoes and rings
- Concrete tremies
- Round shank bits and flat teeth
- Conical screwings
- Pilots
- Wearing Parts
- Pile and Auger Guides
- Auger Cleaner

The utilizability of your drill rig and the drilling progress dependent directly on the condition of the drilling tools. Therefore, we offer fast and reasonable service for repair and maintenance of your drilling tools. In some cases a modernization of existing tools is also meaningful.

Service

For short term applications we offer the possibility to rent drilling tools and drilling equipments. Please, call our experts.

The complete Program for Drilling



Exploration Drilling

- Single core barrels
- Double core barrels
- Wire-line core barrels
- Drive core barrels
- Accessories



High pressure jet-grouting

- Drilling rods (1-, 2- and 3-fluid system)
- Flushing heads (swivel)
- Nozzle holder
- Bits with integrated jet-nozzle holder
- Jet nozzles



Anchor drilling

- Percussion bits
- Ring bits
- Lost bits
- Tubes and drill rods
- Flushing heads
- Shank adapters
- Sealing systems
- Injection systems



Pile Drilling

- Kelly bars
- Augers
- Drilling buckets
- Core barrels
- Belling buckets
- Casings
- Accessories



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