COMACCHIO

DRILLING HI-TECH

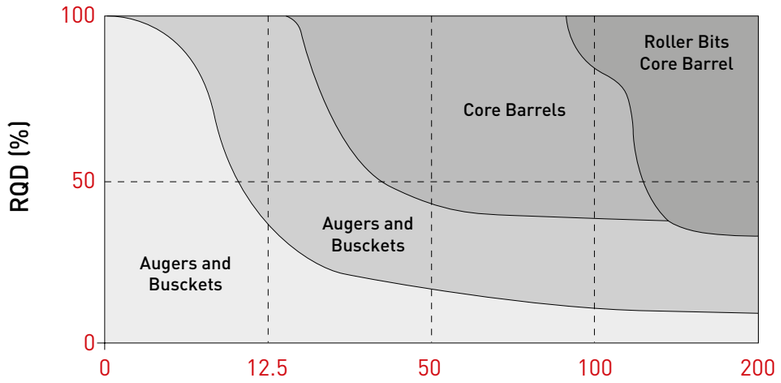
Drilling Tools

Drilling Tools

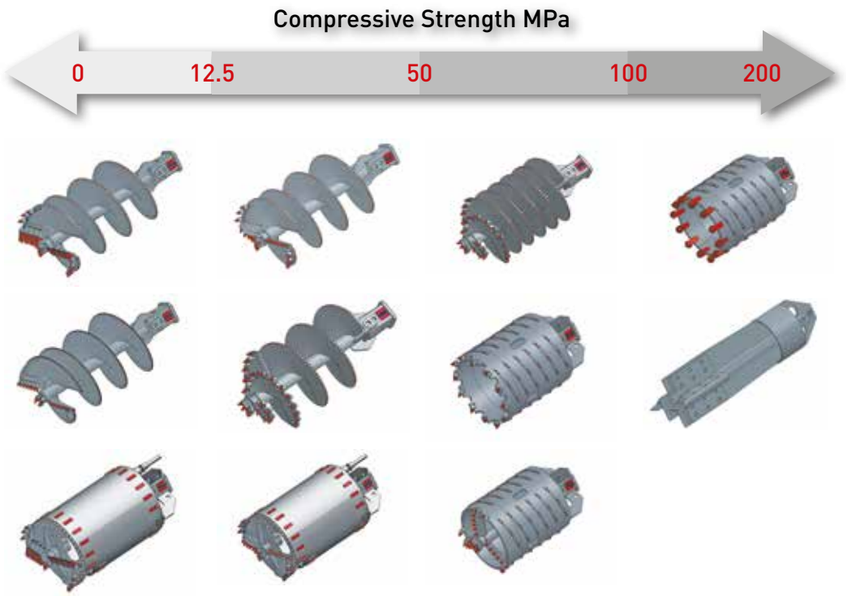
Comacchio drilling tools are tested and performed in different soil conditions from soft to extreme hard.
Each drilling tool is studied to get the highest productivity and durability.
Comacchio provides the most suitable drilling tools for any soil and rock type:

- **Kelly Bar**
- **Augers**
- **Bucket**
- **Core barrels**
- **Casing**
- **Tremie Pipes**
- **Parts for rotary**

Rotary Drilling Tools Pattern



Rotary Drilling Tools Suitability



Rotary Drilling Tools Pattern

UCS (ASTM D-2487) Soil Description					
Coarse Grained Soils	Gravels >50% of coarse fraction retained on n°4 sleve	Clean Gravels	**GW**	33° - 45° 0 KPa	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	33° - 45° 0 KPa	Well-graded gravels and gravel-sand mixtures, little or no fines
		Gravel with Fines	**GM**	30° - 40° 0 KPa	Silty gravels, gravel-sand-silt mixtures> 12% fines
			GC	30° - 40° 0 KPa	Clayey gravels, gravel-sand-claymixtures> 12% fines
	Sands >= 50% of coarse fraction retained on n°4 sieve	Clean Sands	**SW**	30° - 40° 0 KPa	Well grade sand, fine to coase sand
			SP	30° - 40° 0 KPa	Poorly-graded sand
		Sands with Fines	**SM**	28° - 35° 0 KPa	Silty sand, sand-sit mixtures
			SC	28° - 35° 0 KPa	Clayey sands, sand-day mixtures
Fine Grained Soils			**ML**	0-200 KPa	Inorganic silts, very fine sands,rock flour, silty or clayey fine sands
	Slits and Clays liquid limit (LL)<50		**CL**	0-300 KPa	Inorganic clays of low to medium plasticity, gravelly / sandy / siltyl / eand days
			OL	0-200 KPa	Organic silts and organic silty clays of low plasticity
	Slits and Clays liquid limit (LL)>=50		**MH**	0-20 KPa	Silt of high plasticity, elastic silt
			CH	0-10 KPa	Clay of high plasticity, fat clay
			OH	0-10 KPa	Organic day, organic slit
	Highly Organic Soils		**PT**	0-10 KPa	Peat muck and other highly organics soils

Prefix	
	G= Gravel
	S= Sand
	M= Silt
	C= Clay
	O= Organic

Suffix	
	W= Well
	P= Poorly Graded
	M= Silty
	L= Clay, LL < 50%
	H= Clay, LL< 50%02

Description

Rock Class	Rock Type	Uniaxial compressive strenght - MPa	Description
Igneous rock	Andesite	70 to 175	Strong
	Basalt	100 to 300	Very strong
	Diorite	150 to 300	Very strong
	Dolorite	100 to 350	Extremely strong
	Gabbro	150 to 300	Very strong
	Granite	100 to 250	Very strong
Sedimentary rock	Breccia	35 to 105	Moderately strong
	Conglomerates	35 to 105	Moderately strong
	Dolomite	30 to 250	Moderately strong
	Limestone	35 to 250	Moderately strong
	Sandstone	20 to 170	Weak
	Siltstone	5 to 100	Weak
	Shale	5 to 100	Weak
Metamorphic rock	Gneiss	50 to 200	Strong
	Marble	84 to 250	Strong
	Quarztite	150 to 300	Very strong
	Schist	35 to 105	Moderately strong

Kelly Bar

Kelly Bar

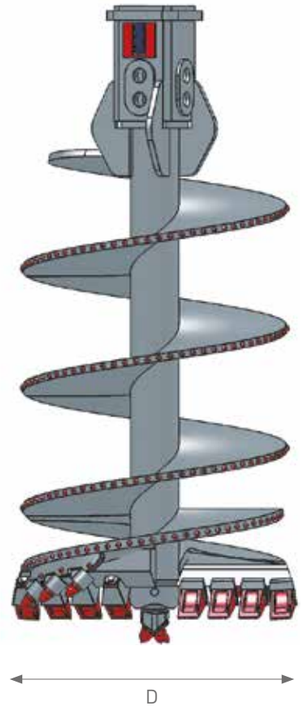
Kelly bars are key tools for the execution of bored piles by hydraulic rotary drilling rigs of the CH series.
The bars are meant for transferring the torque and/or the crowd pressure to the drilling tools and two types are available: friction or mechanical locking.
The **Kelly bar** is made of 2-5 telescopic tubular sections with a system of 6 drive keys on each section and lock recesses.
The tubular Kelly sections are made of high-tensile steel to ensure minimum weight to appropriate strength.

Main Features:

- **Kelly bars** are available in a fully lockable, partially lockable or non-lockable version (standard version is fully lockable):
  - fully lockable: Locking mechanism between each bar and between outer bar and rotary drive;
  - partially lockable: locking mechanism between each bar but not between outer bar and rotary drive;
  - friction: no locking mechanism between bars and outer section to rotary drive.
- Length and Kelly stub may be available upon request
- Maximum length of Kelly bar and drilling depth is subject to the type of drilling rig, capacity of winch and type of drilling tool.
- **Kelly bars** can be supplied with a sound damping system upon request.

Soil Auger

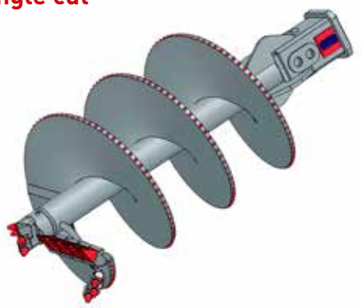
Technical data



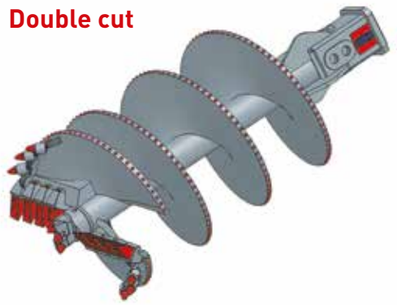
Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	550	620/540	520	550
600	590	700/620	600	590
700	710	750/670	650	650
800	810	800/720	700	710
900	970	880/800	780	780
1000	1100	900/820	800	810
1100	1150	1000/920	900	970
1200	1210	1100/1020	980	1100
1300	1395	1180/1100	1060	1120
1400	1685	1200/1120	1080	1150
1500	1820	1300/1220	1180	1210
1600	1915	1320/1240	1200	1240
1700	2230	1500/1400	1350	1550
1800	2450	1650/1550	1500	1820
1900	2680	1800/1700	1650	2010
2000	2860	1950/1850	1800	2450
2100	3060	2000/1880	1830	2500
2200	3405	2170/2050	2000	2860
2300	3950	2200/2080	2030	2950
2400	4325	2500/2380	2320	3950
2500	4700	2680/2560	2500	4700

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Single cut



Double cut



Application

Stiff to hard silt and clay, medium dense to dense sand, gravel (< 12.5 Mpa).

Double cut is recommended in uncased bores or for bigger diameters and for secant pile walls.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins

Auger flight thickness of 30 mm

Betek TungStuds wear protection at the auger body

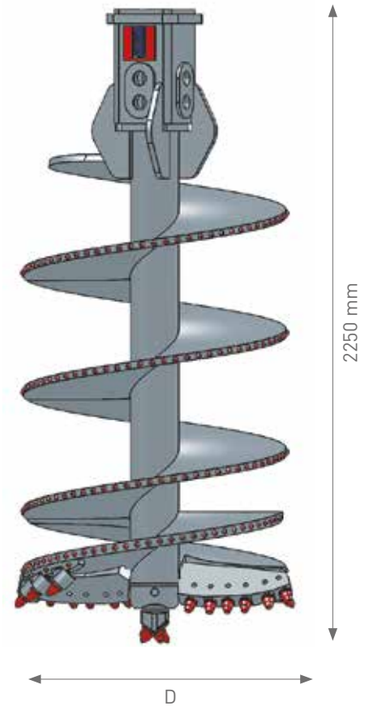
Single cut up to a diameter of 1200 mm

Fitted with Betek teeth and interchangeable bit

Collar plates for calibrating the cutting diameter

Flat Rock Auger

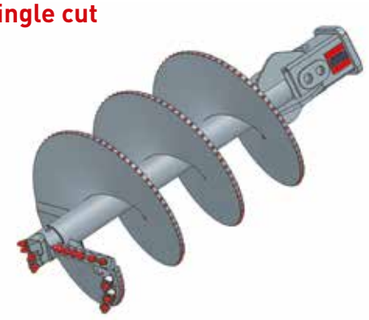
Technical data



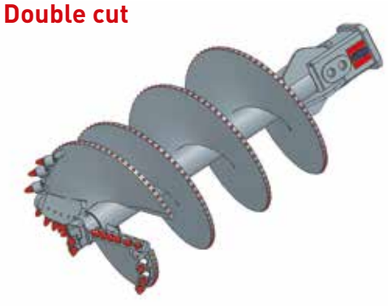
Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	550	620/540	520	550
600	590	700/620	600	590
700	710	750/670	650	650
800	810	800/720	700	710
900	970	880/800	780	780
1000	1100	900/820	800	810
1100	1150	1000/920	900	970
1200	1210	1100/1020	980	1100
1300	1395	1180/1100	1060	1120
1400	1685	1200/1120	1080	1150
1500	1820	1300/1220	1180	1210
1600	1915	1320/1240	1200	1240
1700	2230	1500/1400	1350	1550
1800	2450	1650/1550	1500	1820
1900	2680	1800/1700	1650	2010
2000	2860	1950/1850	1800	2450
2100	3060	2000/1880	1830	2500
2200	3405	2170/2050	2000	2860
2300	3950	2200/2080	2030	2950
2400	4325	2500/2380	2320	3950
2500	4700	2680/2560	2500	4700

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Single cut



Double cut



Application

Very dense sand and gravel, weak rock (< 12.5 Mpa)

Double cut is recommended in uncased bores or for bigger diameters and secant pile walls

Features

200 mm kelly box made of heat-treated cast steel with two looking pins

Auger flight thickness of 30 mm

Betek TungStuds wear protection at the auger body

Single cut up to a diameter of 1200 mm

Fitted with Betek chisels and interchangeable bit

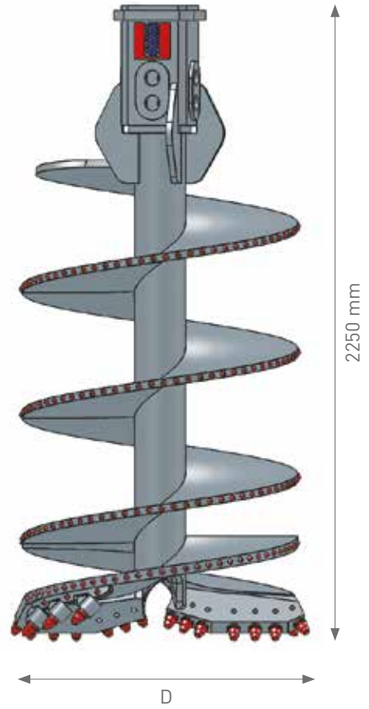
Collar plates for calibrating the cutting diameter

Blades in Hardox HB 500 with holes for mounting Betek chisels

Without pilot bit

Flat Rock Auger

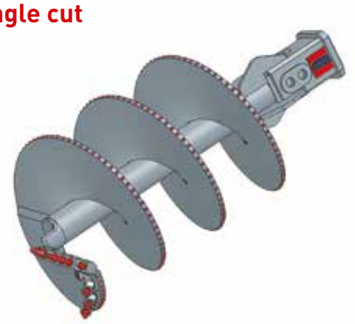
Technical data



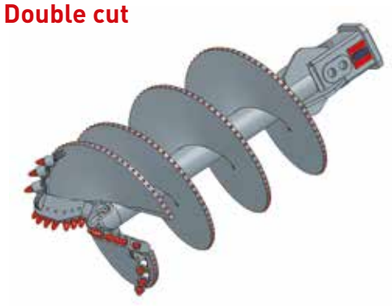
Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	550	620/540	520	550
600	590	700/620	600	590
700	710	750/670	650	650
800	810	800/720	700	710
900	970	880/800	780	780
1000	1100	900/820	800	810
1100	1150	1000/920	900	970
1200	1210	1100/1020	980	1100
1300	1395	1180/1100	1060	1120
1400	1685	1200/1120	1080	1150
1500	1820	1300/1220	1180	1210
1600	1915	1320/1240	1200	1240
1700	2230	1500/1400	1350	1550
1800	2450	1650/1550	1500	1820
1900	2680	1800/1700	1650	2010
2000	2860	1950/1850	1800	2450
2100	3060	2000/1880	1830	2500
2200	3405	2170/2050	2000	2860
2300	3950	2200/2080	2030	2950
2400	4325	2500/2380	2320	3950
2500	4700	2680/2560	2500	4700

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Single cut



Double cut



Application

moderately weak to moderately strong rock
(12.5 - 50 Mpa)

Very suitable in fractured rock.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

Auger flight thickness of 30 mm.

Betek TungStuds wear protection at the auger body.

Single cut up to a diameter of 1200 mm.

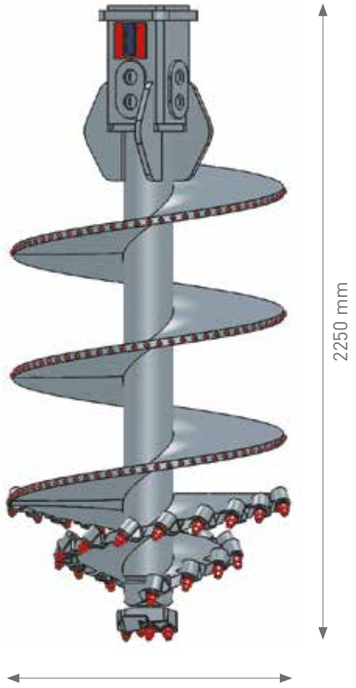
Fitted with Betek chisels and interchangeable bit.

Collar plates for calibrating the cutting diameter.

Blades in Hardox HB 500 with holes for mounting Betek chisels.

Conical Rock Auger

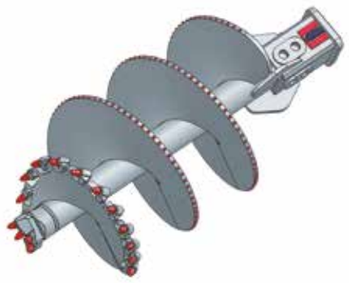
Technical data



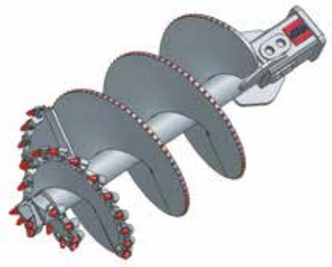
Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	500	620/540	520	500
600	530	700/620	600	530
700	580	750/670	650	560
800	670	800/720	700	580
900	750	880/800	780	620
1000	960	900/820	800	670
1100	1050	1000/920	900	750
1200	1100	1100/1020	980	900
1300	1260	1180/1100	1060	1020
1400	1530	1200/1120	1080	1050
1500	1700	1300/1220	1180	1100
1600	1840	1320/1240	1200	1160
1700	2120	1500/1400	1350	1360
1800	2260	1650/1550	1500	1700
1900	2475	1800/1700	1650	1980
2000	2650	1950/1850	1800	2260
2100	2920	2000/1880	1830	2300
2200	3230	2170/2050	2000	2650
2300	3680	2200/2080	2030	2780
2400	4015	2500/2380	2320	3680
2500	4350	2680/2560	2500	4350

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Single cut



Double cut



Application

Moderately strong to strong rock (12.5 – 50 MPa).

Double cut is recommended in uncased bores or for bigger diameters.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins

Auger flight thickness of 30 mm

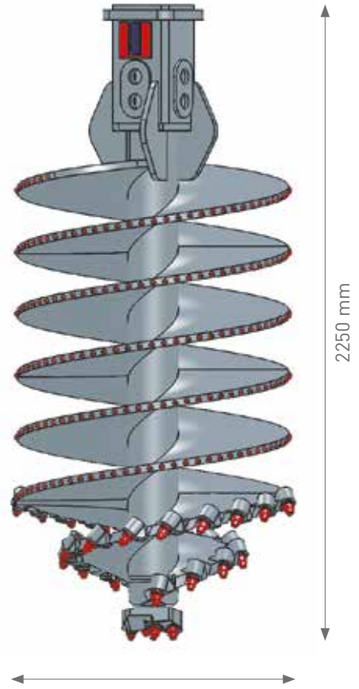
Betek TungStuds wear protection at the auger body

Single cut up to a diameter of 1200 mm

Fitted with Betek chisels and interchangeable bit

Conical Rock Auger

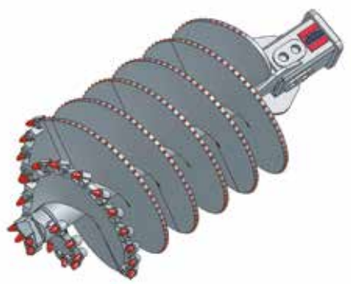
Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	660	620/540	520	660
600	760	700/620	600	760
700	940	750/670	650	800
800	990	800/720	700	940
900	1100	880/800	780	970
1000	1300	900/820	800	990
1100	1450	1000/920	900	1100
1200	1720	1100/1020	980	1300
1300	1960	1180/1100	1060	1400
1400	2375	1200/1120	1080	1450
1500	2550	1300/1220	1180	1650
1600	2700	1320/1240	1200	1720
1700	3235	1500/1400	1350	2200
1800	3620	1650/1550	1500	2550
1900	3975	1800/1700	1650	2850
2000	4250	1950/1850	1800	3620
2100	4630	2000/1880	1830	3700
2200	5140	2170/2050	2000	4250
2300	5900	2200/2080	2030	4380
2400	6425	2500/2380	2320	5900
2500	6950	2680/2560	2500	6950

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Double pitch



Application

Strong rock (50 - 100 MPa).

Features

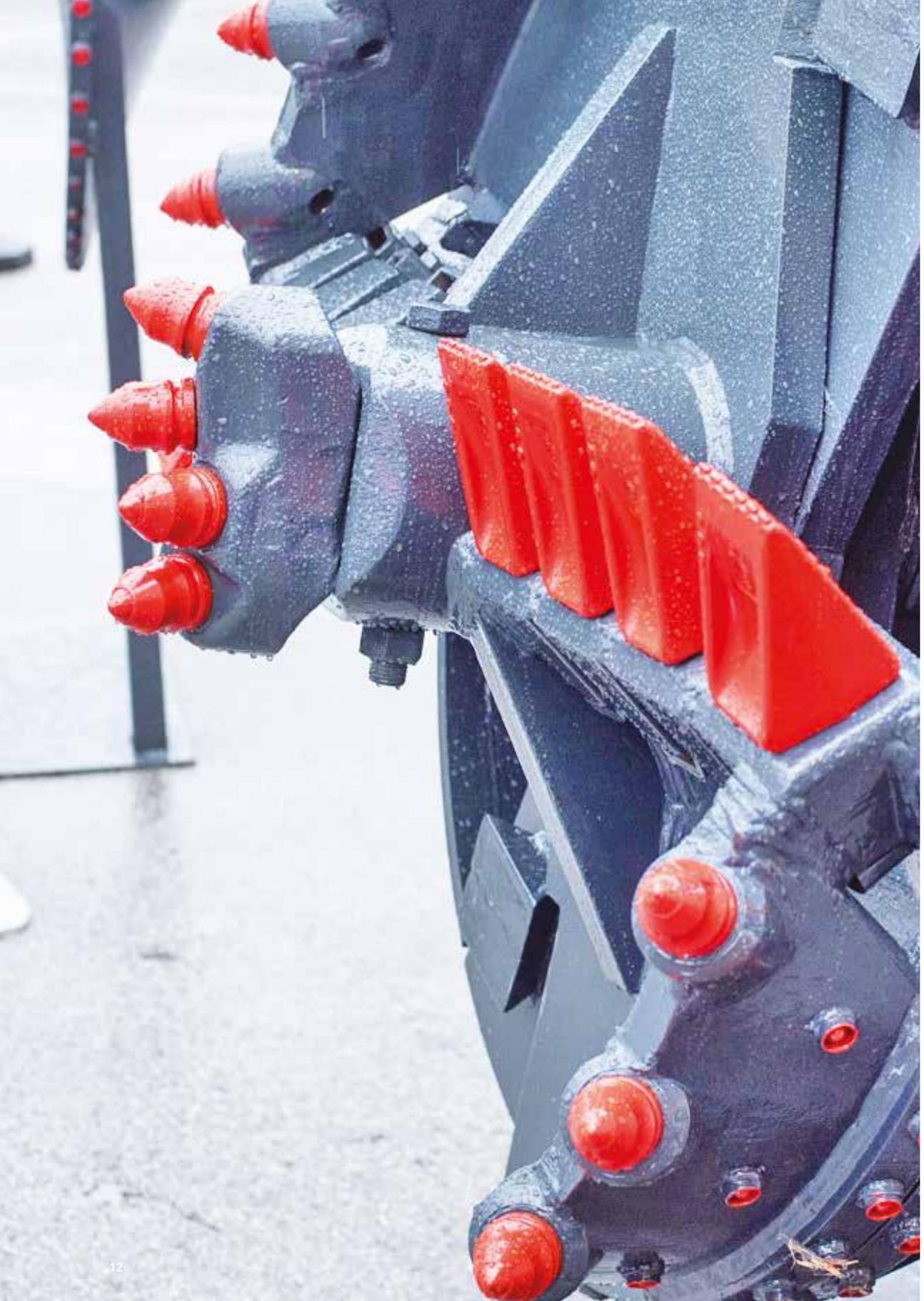
200 mm kelly box made of heat-treated cast steel with two looking pins.

Auger flight thickness of 30 mm.

Betek TungStuds wear protection at the auger body.

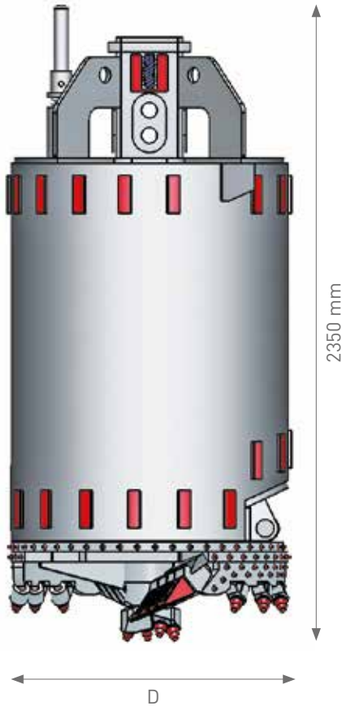
Double pitch for all length.

Fitted with Betek chisels and interchangeable bit.



Soil Bucket

Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	660	620/540	520	660
600	760	700/620	600	760
700	880	750/670	650	820
800	1040	800/720	700	880
900	1150	880/800	780	1020
1000	1280	900/820	800	1040
1100	1430	1000/920	900	1150
1200	1580	1100/1020	980	1280
1300	1740	1180/1100	1060	1380
1400	1990	1200/1120	1080	1430
1500	2150	1300/1220	1180	1580
1600	2275	1320/1240	1200	1650
1700	2575	1500/1400	1350	1830
1800	2750	1650/1550	1500	2150
1900	3050	1800/1700	1650	2400
2000	3150	1950/1850	1800	2750
2100	3375	2000/1880	1830	2950
2200	3600	2170/2050	2000	3150
2300	3950	2200/2080	2030	3250
2400	4150	2500/2380	2320	3950
2500	4350	2680/2560	2500	4350

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Single Opening

Double Opening

Application

Soft to hard silt and clay, loose to dense sand and gravel (0 - 12.5 MPa).

Single cut up to coarse gravel.

Double cut is recommended in uncased bores or for bigger diameters and for secant pile walls.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

Betek TungStuds wear protection at the bottoms.

Single cut up to a diameter of 1200 mm.

Fitted with Betek teeth and interchangeable bit.

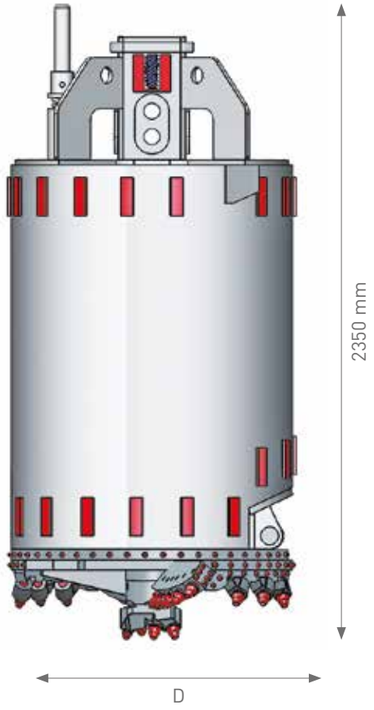
Rotating bottom in Hardox HB 500.

The bottom gate can be opened manually or mechanically via a spring loaded pin.

A ventilation pipe revents the development of a vacuum during extraction.

Rock Bucket

Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	660	620/540	520	660
600	760	700/620	600	760
700	880	750/670	650	820
800	1040	800/720	700	880
900	1150	880/800	780	1020
1000	1280	900/820	800	1040
1100	1430	1000/920	900	1150
1200	1580	1100/1020	980	1280
1300	1740	1180/1100	1060	1380
1400	1990	1200/1120	1080	1430
1500	2150	1300/1220	1180	1580
1600	2275	1320/1240	1200	1650
1700	2575	1500/1400	1350	1830
1800	2750	1650/1550	1500	2150
1900	3050	1800/1700	1650	2400
2000	3150	1950/1850	1800	2750
2100	3375	2000/1880	1830	2950
2200	3600	2170/2050	2000	3150
2300	3950	2200/2080	2030	3250
2400	4150	2500/2380	2320	3950
2500	4350	2680/2560	2500	4350

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Single Opening

Double Opening

Application

Very dense sand and gravel, weak rock (12.5 – 50 Ma).

Single cut up to coarse gravel.

Double cut is recommended in uncased bores or for bigger diameters and for secant pile walls.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

Betek TungStuds wear protection at the bottoms.

Single cut up to a diameter of 1200 mm.

Fitted with Betek chisels and interchangeable bit.

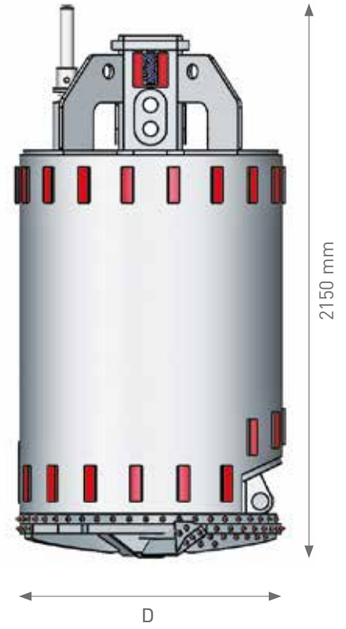
Rotating bottom in Hardox HB 500.

The bottom gate can be opened manually or mechanically via a spring loaded pin.

A ventilation pipe revents the development of a vacuum during extraction.

Cleaning Bucket

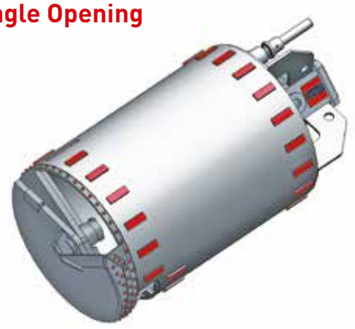
Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	540	620/540	520	540
600	640	700/620	600	640
700	770	750/670	650	720
800	850	800/720	700	770
900	950	880/800	780	790
1000	1120	900/820	800	850
1100	1220	1000/920	900	950
1200	1320	1100/1020	980	1120
1300	1500	1180/1100	1060	1220
1400	1750	1200/1120	1080	1250
1500	1900	1300/1220	1180	1320
1600	2040	1320/1240	1200	1400
1700	2280	1500/1400	1350	1600
1800	2380	1650/1550	1500	1900
1900	2700	1800/1700	1650	2180
2000	2850	1950/1850	1800	2380
2100	2925	2000/1880	1830	2550
2200	3100	2170/2050	2000	2850
2300	3300	2200/2080	2030	2900
2400	3475	2500/2380	2320	3300
2500	3650	2680/2560	2500	3650

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Single Opening



Double Opening

Application

Cleaning the bottom of the borehole.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

Betek TungStuds wear protection at the bottoms.

Single cut up to a diameter of 1200 mm.

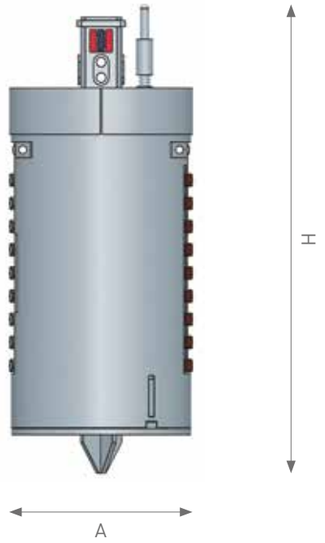
Blades in hardox Hb 500

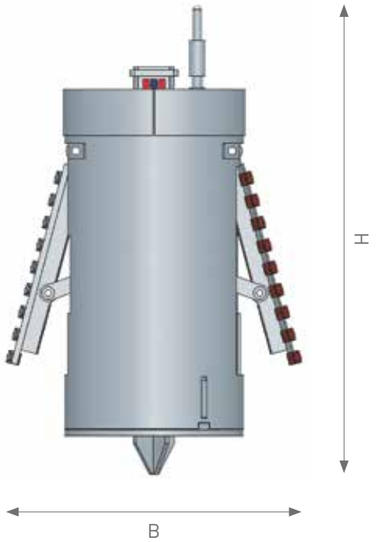
The bottom gate can be opened manually or mechanically via a spring loaded pin.

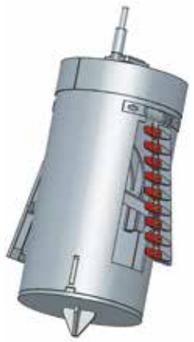
A ventilation pipe revents the development of a vacuum during extraction.

Belling Bucket

Technical data







Closed Reamer A (mm)	Open Reamer B (mm)	Tool Height (H)	Weight (kg)
500	1000	1800	1300
600	1200	2000	1400
700	1400	2200	1500
800	1600	2400	1700
900	1800	2600	2100
1000	2000	2800	2500
1100	2200	3000	2800
1200	2400	3200	3000
1300	2600	3400	3500
1400	2800	3600	4000
1500	3000	3800	4500

Other cutting dimensions and effective lengths available on request

Application

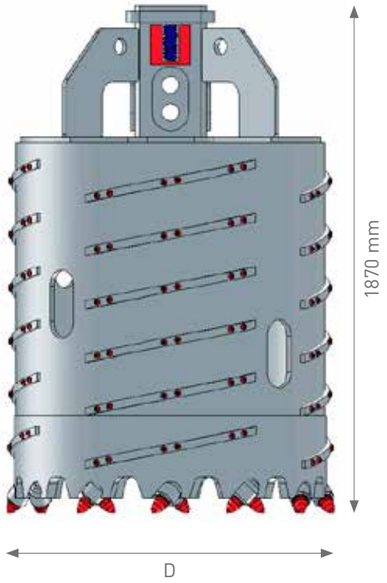
A belling bucket is used for enlarging the pile base in stable (mainly cohesive) soil conditions. The cutting arms are gradually opened by applying vertical crowd force on a push rod and a leverage system. The spoil falls into the open shell of the bucket. When extracting the tool from the borehole, the upward movement of the kelly bar transmits the pull onto the push rod and the cutting arms are closed. The maximum opening angle of the bell is about 60° and the standard increase of diameter is about 2 - 3 times the shaft diameter.

Features

- 200 mm kelly box made of heat-treated cast steel with two looking pins.
- Blades in hardox Hb 500
- The bottom gate can be opened manually or mechanically via a spring loaded pin
- Mobile carriage in Hardox HB500
- Fitted with Betek teeth or chisels

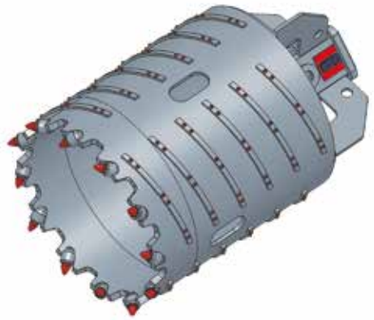
Core Barrel

Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	540	620/540	520	540
600	640	700/620	600	640
700	770	750/670	650	720
800	850	800/720	700	770
900	950	880/800	780	790
1000	1120	900/820	800	850
1100	1220	1000/920	900	950
1200	1320	1100/1020	980	1120
1300	1500	1180/1100	1060	1220
1400	1750	1200/1120	1080	1250
1500	1900	1300/1220	1180	1320
1600	2040	1320/1240	1200	1400
1700	2280	1500/1400	1350	1600
1800	2380	1650/1550	1500	1900
1900	2700	1800/1700	1650	2180
2000	2850	1950/1850	1800	2380
2100	2925	2000/1880	1830	2550
2200	3100	2170/2050	2000	2850
2300	3300	2200/2080	2030	2900
2400	3475	2500/2380	2320	3300
2500	3650	2680/2560	2500	3650

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.



Application

Up to strong rock (50 - 100 MPa) suitable for cutting through fissured rock.

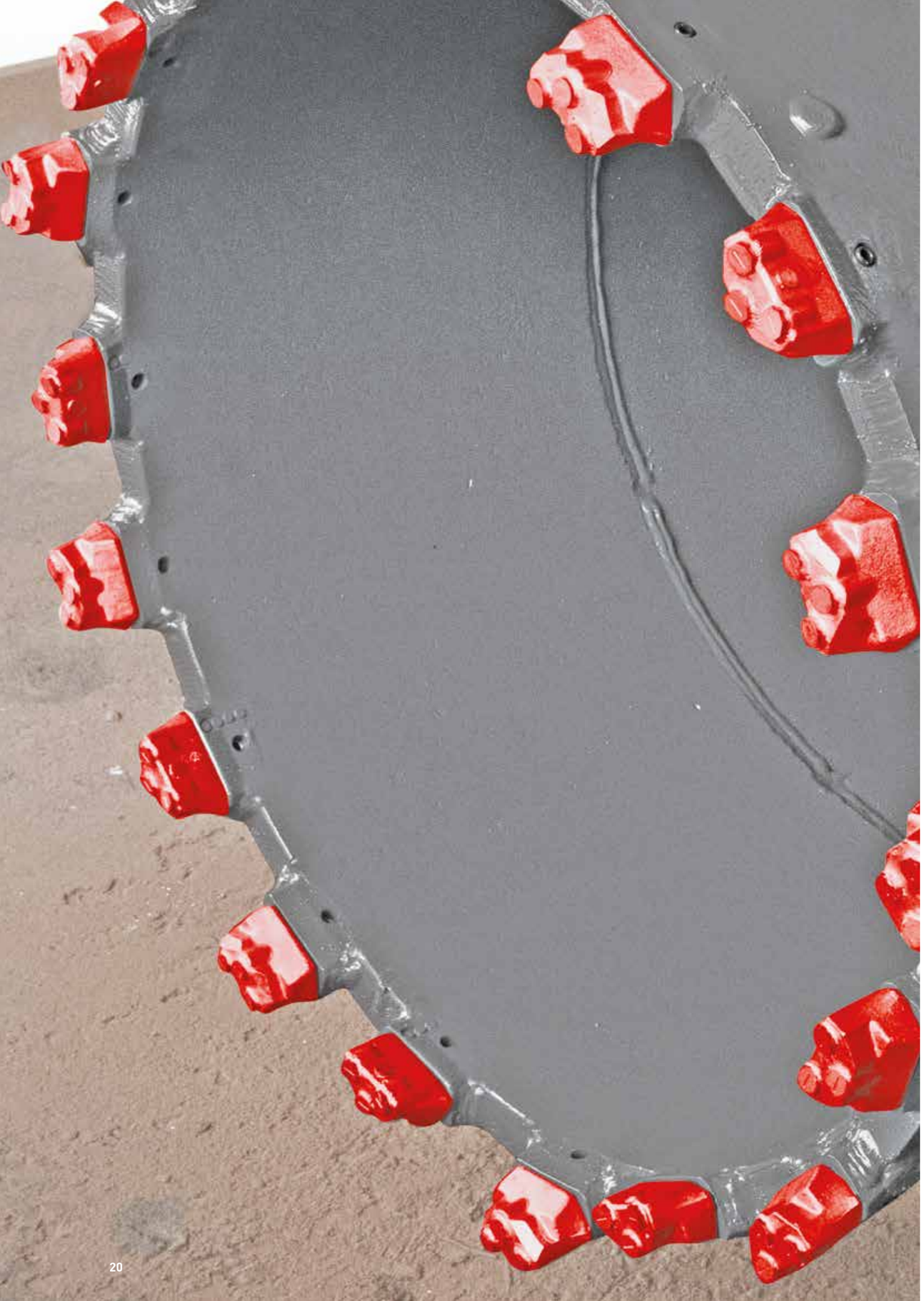
Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

Betek TungStuds wear protection at the barrel body.

Fitted with Betek chisel.

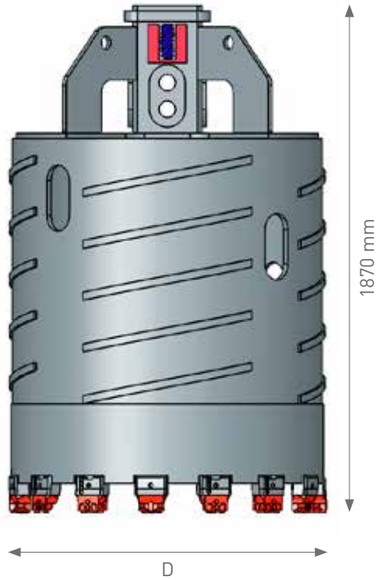
Bottom ring in Hardox HB 500.



With Quick Change Bars

Core Barrel

Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	530	620/540	520	530
600	650	700/620	600	650
700	780	750/670	650	700
800	930	800/720	700	780
900	1070	880/800	780	900
1000	1220	900/820	800	930
1100	1340	1000/920	900	1070
1200	1450	1100/1020	980	1220
1300	1610	1180/1100	1060	1290
1400	1840	1200/1120	1080	1340
1500	1960	1300/1220	1180	1450
1600	2080	1320/1240	1200	1500
1700	2315	1500/1400	1350	1720
1800	2430	1650/1550	1500	1960
1900	2640	1800/1700	1650	2200
2000	2750	1950/1850	1800	2430
2100	2960	2000/1880	1830	2530
2200	3120	2170/2050	2000	2750
2300	3350	2200/2080	2030	2890
2400	3475	2500/2380	2320	3350
2500	3600	2680/2560	2500	3600

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Application

Up to strong rock (50 - 100 MPa) suitable for cutting through fissured rock.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

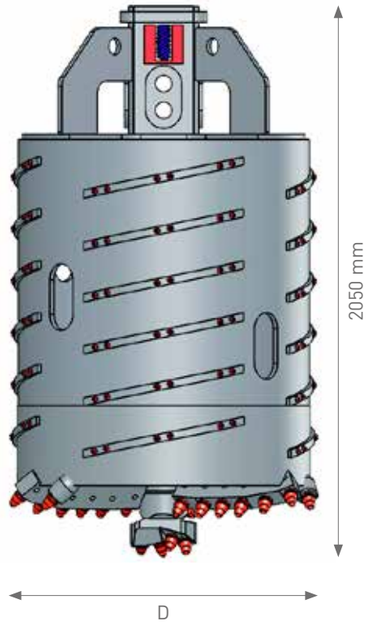
Betek TungStuds wear protection at the barrel body.

Fitted with Betek quick change bars.

Bottom ring in Hardox HB 500.

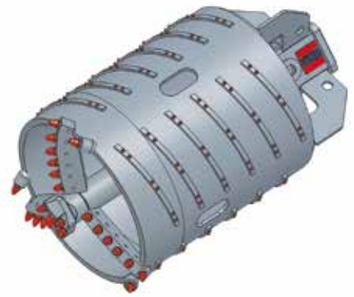
Cross Cutter Core Barrel

Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	730	620/540	520	730
600	860	700/620	600	860
700	1000	750/670	650	920
800	1100	800/720	700	1000
900	1310	880/800	780	1100
1000	1470	900/820	800	1150
1100	1650	1000/920	900	1310
1200	1750	1100/1020	980	1470
1300	1915	1180/1100	1060	1580
1400	2140	1200/1120	1080	1650
1500	2250	1300/1220	1180	1750
1600	2350	1320/1240	1200	1800
1700	2615	1500/1400	1350	2030
1800	2780	1650/1550	1500	2250
1900	3035	1800/1700	1650	2450
2000	3120	1950/1850	1800	2780
2100	3300	2000/1880	1830	2950
2200	3450	2170/2050	2000	3120
2300	3650	2200/2080	2030	3250
2400	3800	2500/2380	2320	3650
2500	3950	2680/2560	2500	3950

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.



Application

A Cross-Cutter is used to break rock cores (50 - 100 MPa) which remain in the borehole after using a core barrel. The core is broken with round shank chisels. The cuttings are then removed with buckets.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

Betek TungStuds wear protection at the barrel body.

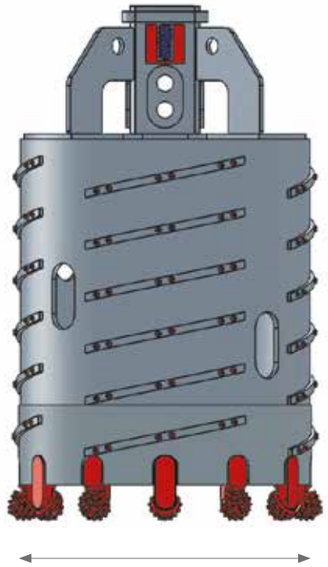
Blades in Hardox HB500.

Fitted with Betek chisels.

Bottom ring in Hardox HB 500.

Roller Cone Core Barrel

Technical data



Tool diameter D (mm)	Weight (kg)	Φ Casing OD/ID (mm)	Cased Tool diameter D (mm)	Weight (kg)
500	570	620/540	520	570
600	690	700/620	600	690
700	840	750/670	650	780
800	980	800/720	700	840
900	1150	880/800	780	930
1000	1290	900/820	800	980
1100	1390	1000/920	900	1150
1200	1590	1100/1020	980	1290
1300	1758	1180/1100	1060	1390
1400	1935	1200/1120	1080	1450
1500	2090	1300/1220	1180	1590
1600	2175	1320/1240	1200	1660
1700	2450	1500/1400	1350	1780
1800	2580	1650/1550	1500	2090
1900	2825	1800/1700	1650	2260
2000	2950	1950/1850	1800	2580
2100	3200	2000/1880	1830	2700
2200	3325	2170/2050	2000	2950
2300	3450	2200/2080	2030	3200
2400	3625	2500/2380	2320	3450
2500	3800	2680/2560	2500	3800

Transport length and weight are guiding values, which can change with the design.
Other cutting dimensions and effective lengths available on request.

Application

Roller bit core barrel is used in very strong rock formations (compressive strength > 100 MPa).
It uses rock roller bits for cutting the annular groove with a width of 220 or 320 mm.
The core barrel is extracted from the bore after coring a length of about 1 m.

Features

200 mm kelly box made of heat-treated cast steel with two looking pins.

Betek TungStuds wear protection at the barrel body.

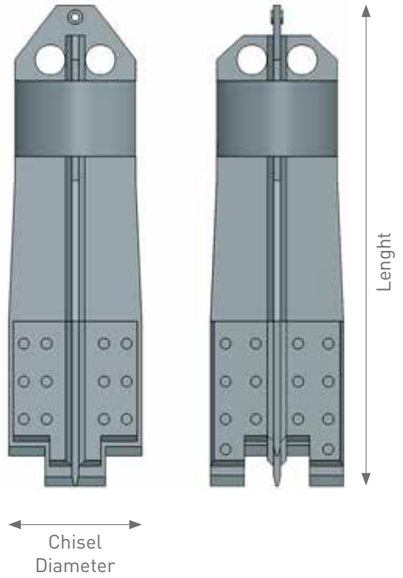
Blades in Hardox HB500.

Fitted with brand new roller bits.

Bottom ring in Hardox HB 500.

Drop Chisel

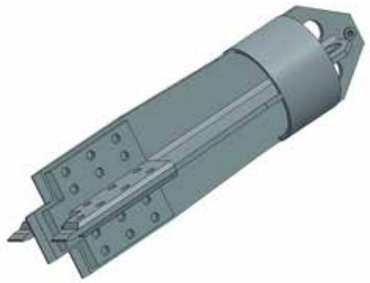
Technical data



Nominal Diameter (mm)	Chisel Diameter (mm)	Length (mm)	Weight (kg)
500	400	3000	1300
600	500	3000	1400
700	600	3000	1500
800	680	3000	1800
900	780	3000	2200
1000	850	3000	2500
1200	1050	3500	3000
1300	1150	3500	3200
1500	1300	3500	3500
1800	1600	3500	4500
2000	1800	3500	5000

Other cutting dimensions and effective lengths available on request

Drop Chisel



Application

The chisel is usually used in combination with grabs to pound and fracture stratification with hardness > of 100 MPa

Features

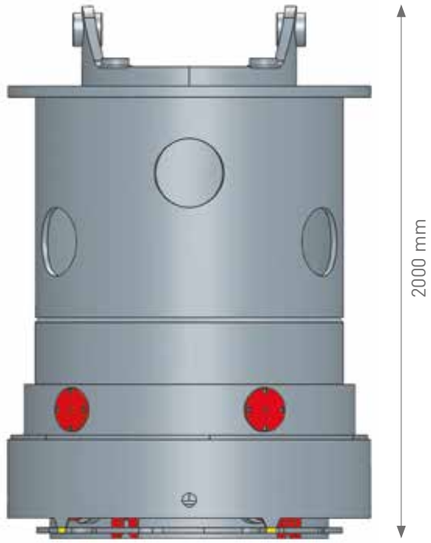
Betek TungStuds wear protection at the chisel body.

Blades in Hardox HB500.

On upper ring which reinforces the whole structure and guides the chisel without damaging the casing during the excavation.

A swivel eye, fitted to the chisel body which assures long rope life.

Automatic Mechanical Casing Drivers



Technical data

Φ Casings (mm)	Weight (kg)
620/540	1722
750/670	2100
880/800	2450
1000/920	2660
1080/1000	2870
1180/1100	3080
1300/1220	3290
1500/1400	4200
1800/1700	5485
2000/1880	6410

Other cutting dimensions and effective lengths available on request

Application

The automatic mechanical casing adapter serves to connect/disconnect casings directly from the operator into rig cabin. It increases safety and productivity in the execution of lining piles, eliminating danger and waste of time due to the manual phase of coupling the casings. The adapter plate constitutes the connecting part between rotary drive and casing.

Features

The casing adaters consist of an adapter plate and the extension pipe with inspection part.

Adapter plate for rotary drive with cardan joint.

The automatic mechanical casing drive is a new development of the company Comacchio.

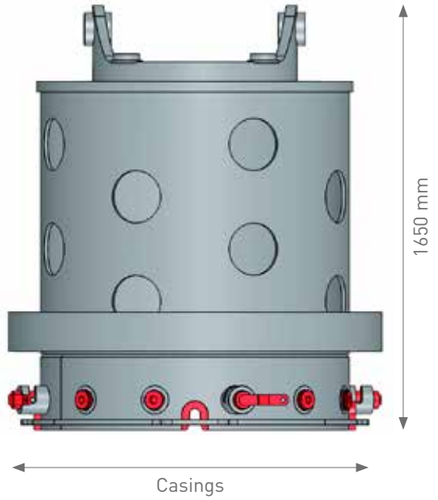
This system replaces the manual coupling of the casing tubes.

It is a brilliant system, easy to operate.

Highest safety and productivity are guaranteed.

With adapter Plate

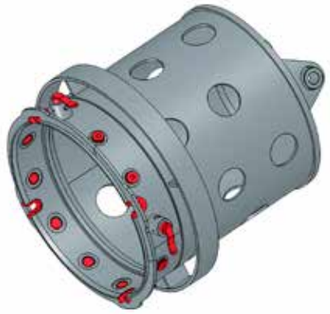
Casing Drivers



Technical data

Φ Casings (mm)	Weight (kg)
620/540	860
750/670	920
880/800	1020
1000/920	1200
1080/1000	1270
1180/1100	1330
1300/1220	1530
1500/1400	1960
1800/1700	2550
2000/1880	2980

Other cutting dimensions and effective lengths available on request



Application

The powerful rotary drives of the Comacchio series are able to drill casings into the ground completely or partially and extract them again without casing oscillator

The adapter plate constitutes the connecting part between rotary drive and casing

Features

The casing adaters consist of an adapter late and the extension pipe with inspection part.

Adapter late for rotary drive with cardan joiny.

Reinforcedfemale part with manual locking pins.

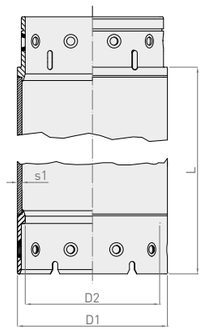

Casing Drivers

Technical data

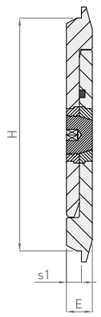
Effective lenght									
D1 / D2 (mm)	1m (kg)	2m (kg)	3m (kg)	4m (kg)	5m (kg)	6m (kg)	S1 (mm)	E (mm)	Bolt (Num.)
620/540	360	510	660	810	960	1110	12/15	40	8
750/670	435	615	795	975	1155	1335	12/15	40	10
880/800	500	710	930	1250	1570	1890	15	40	10
1000/920	570	935	1300	1685	2030	2380	15	40	10
1180/1100	735	1320	1900	2490	3075	3660	15/20	40	12
1300/1220	845	1475	2105	2735	3365	3995	15/20	40	12
1500/1400	1310	2220	3130	4040	4950	5860	15/25	50	12
1800/1700	1580	2675	3770	4865	5960	7055	20/25	50	16
2000/1880	2140	3355	4570	5785	7000	8515	25	60	12
2200/2080	2350	3690	58030	6370	7710	9050	25	60	12
2500/2380	2575	4100	5625	7150	8675	10200	25	60	16

Other cutting dimensions and effective lengths available on request

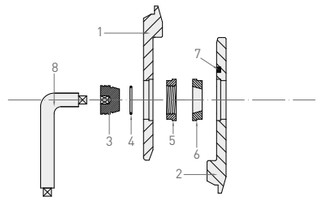
SINGLE-WALL CASING



CASING JOINTS for single-wall casing



DETAILS



1 - Female part
2 - Male part
3 - Conical bolt
4 - O-ring
5 - Thread ring
6 - Conical ring
7 - Sealing
8 - Wrench

Application

Single-walled casings can be used for applications where weight reduction is important

Features

The casing are made of single-wall pipes.

Casing connections on both sides with female and/or male part and conical and/or threaded rings with O-ring.

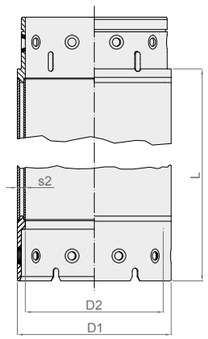
Betek screw connections.

Technical data

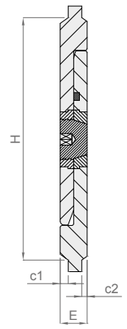
Effective lenght										
D1 / D2 (mm)	1m (kg)	2m (kg)	3m (kg)	4m (kg)	5m (kg)	6m (kg)	C1 (mm)	C2 (mm)	S2=E (mm)	Bolt (Num.)
620/540	403	739	1074	1411	1747	2081	12	8	40	8
750/670	492	902	1211	1722	2131	2540	12	8	40	10
880/800	585	1069	1552	2036	2520	3005	12	8	40	10
1000/920	669	1221	1773	2326	2877	3429	12	8	40	10
1180/1100	844	1580	2316	3052	3787	4522	16	8	40	12
1200/1120	872	1620	2370	3120	3870	4620	16	8	40	12
1300/1200	933	1746	2558	3372	4184	4995	16	8	40	12
1500/1400	1433	2625	3817	5009	6201	7393	20	10	50	12
1800/1700	1730	3166	4302	6038	7474	8910	20	10	50	16
2000/1880	2450	4280	6110	7940	9770	11600	20	15	60	12
2200/2080	2700	4720	6740	8760	10780	12800	20	15	60	12
2500/2380	2960	5240	7520	9800	12080	14360	20	15	60	16

Other cutting dimensions and effective lengths available on request

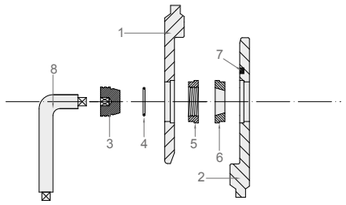
DOUBLE-WALL CASING



CASING JOINTS for double-wall casing



DETAILS



1 - Female part
2 - Male part
3 - Conical bolt
4 - O-ring
5 - Thread ring
6 - Conical ring
7 - Sealing
8 - Wrench

Application

Double-walled casings can be used universally, as they are designed especially for transmitting high rotational and vertical forces as created by the rotary drives and oscillators.
The use of double-walled casings ensures a flush drill string.

Features

The casing are made of double-wall pipes.

Casing connections on both sides with female and/or male part and conical and/or threaded rings with O-ring.

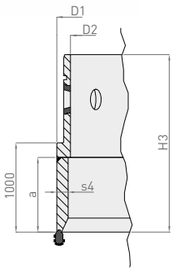
Betek screw connections.

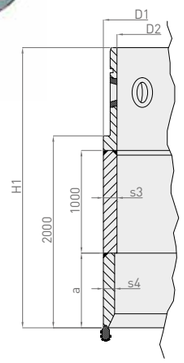
Casings Cutting Shoe

Technical data

Effective lenght	LONG VERSION (lenght = 2 m)				SHORT VERSION (lenght = 1 m)		
D1 / D2 (mm)	H1 (mm)	S3/S4 (mm(	Weight (kg)	Teeth (Nos.)	H3 (mm)	a (mm)	Weight (kg)
620/540	2232	40/35	1300	16	1232	948	716
750/670	2232	40/35	1594	16	1232	948	880
880/800	2232	40/35	1882	18	1232	948	1037
1000/920	2232	40/35	2150	18	1232	948	1184
1180/1100	2232	40/35	2550	20	1232	948	1405
1200/1120	2232	40/35	2596	20	1232	948	1430
1300/1220	2232	40/35	2820	24	1232	948	1552
1500/1400	2352	50/45	4312	30	1352	933	2490
1800/1700	2352	50/45	5203	36	1352	933	3005
2000/1880	2400	60/55	7024	36	1400	900	4100
2200/2080	2400	60/55	7736	40	1400	900	4510
2500/2380	2400	60/55	8728	46	1400	900	5050

Other cutting dimensions and effective lengths available on request





Casings

Application

Cutting shoe can be fitted with different Betek bars

Welded bars suitable for heavy oscillator work in hard soil, gravel, rock, concrete in secant pile wall.

Quick change bars suitable for rotary drilling in sand, cohesive soil, marl, soft rock like, claystone and formation of rock sockets and the construction of bored pile walls.

Features

Optimum shape for milling of soil, for cutting and reaming

Round milling front with hard metal inserts allows variable tooth inclination.

Hard metal tips on the outside of the inclined shoulder.

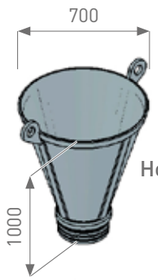
Eases extraction of casing.

Aggressive cutting behaviour.

Tremie Pipes and Accessories

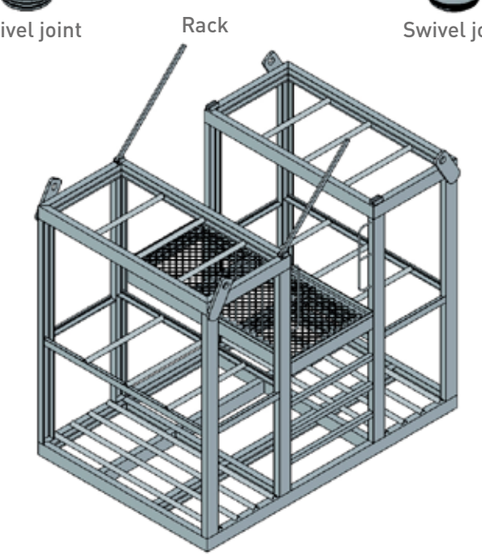
Technical data

With wire cables



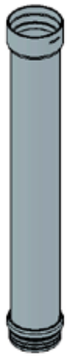
Hopper

Swivel joint



Rack

Swivel joint

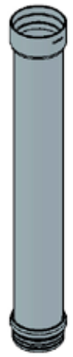


Wire cables

Cable release fork

Double O-Ring

	A (mm)	B (mm)	C (mm)	Weight (kg)
Rack 12	1.160	2.265	2.100	530
Rack 16	1.530	2.265	2.100	620
Rack 20	1.900	2.265	2.100	660
Rack 24	1.530	2.870	2.100	700

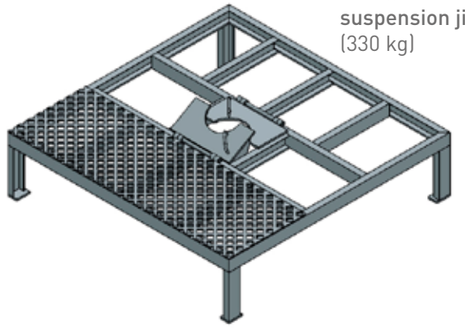


Tremie pipe with wire cables

Male joint

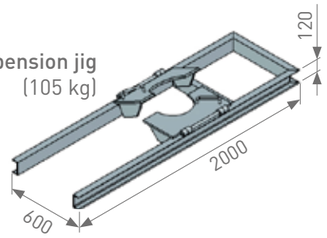
Female joint

Pipe shoe



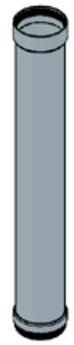
Platform suspension jig (330 kg)

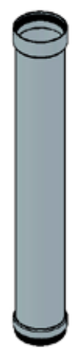
Suspension jig (105 kg)



Threaded

Hopper

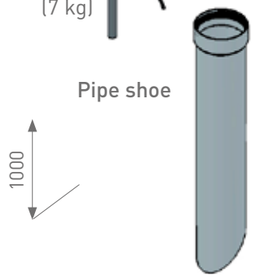




Threaded tremie pipe

Male joint

Chain Key (7 kg)

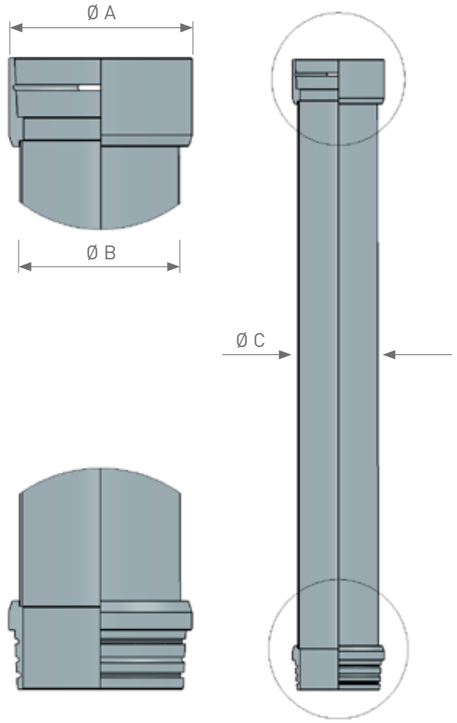


Pipe shoe

Tremie Pipes

Tremie pipes

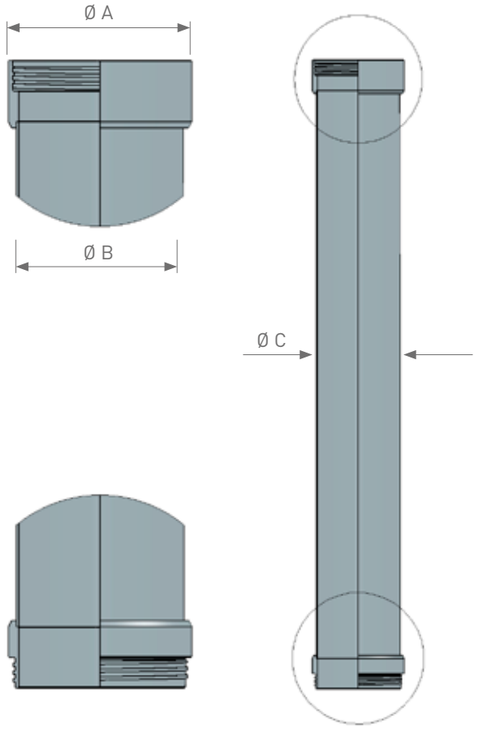
Tremie pipes with wire cables



Tremie Joint Ø A (mm)	Concrete Passage Ø B (mm)	Tremie Pipe Ø C (mm)
254	219	204
298.5	250	242.5
310	273	260
Other dimensions are available on request!		

Ø A (mm)	Weight for L = 1m (kg)	Weight for additional meter (kg)
254	40	22
298.5	48	25
310	65	35

Threaded tremie pipes

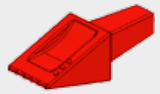
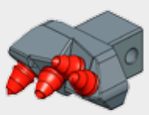


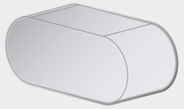
Tremie Joint Ø A (mm)	Concrete Passage Ø B (mm)	Tremie Pipe Ø C (mm)
219	193.7	187
244.5	219	212.5
273	250	244.6
Other dimensions are available on request!		

Ø A (mm)	Weight for L = 1m (kg)	Weight for additional meter (kg)
219	32	17
244.5	40	22
273	55	35

Designation

Drilling tools wear parts

	Flat tooth
	Holder for flat tooth
	Round shank chisel
	Holder for round shank chisel
	Holder Repair device
	Roller bit
	Welding bars
	Quich change bars
	Pilot bit
	Kelly box
	Kelly adaptor

	Casing threaded ring
	Casing conical ring
	Casing screw connection
	Casing key
	O-ring for casing male joint
	O-ring for tremie male joint
	Wire cables for tremie joints connection

Additional wear parts available on request.

notes

notes

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