

# PERCUSSION DRILLING SETS

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Because of the mobility of the percussion drilling equipment and its ready capacity to solve problems, percussion drilling equipment has earned its place beside standard hand drilling equipment.

If drilling has to be executed in hard soils, possible containing layers of rubble and/or stones usually percussion drilling is applied.

In case of percussion drilling the percussion gouges, fitted with a hardened cutting head, are driven into the soil using a percussion hammer.

By executing this procedure step-wise the introduction and extraction of the gouges is simplified and contamination is avoided as much as possible.

Samples taken applying percussion drilling suffer minimal disturbance.

A dense sample grid is possible in relatively short time due to fast and simple sampling. Ergonomic operation is improved as 1.0 m extension rods as well as 0.5 m extension rods are available.

The percussion gouge also penetrates rubble and thus can be deployed on dump sites or in urban areas. The percussion gouges can be used above as well as under the groundwater level.

The percussion gouge can also be used for manual bailer boring drilling in order to penetrate a rubble layer.

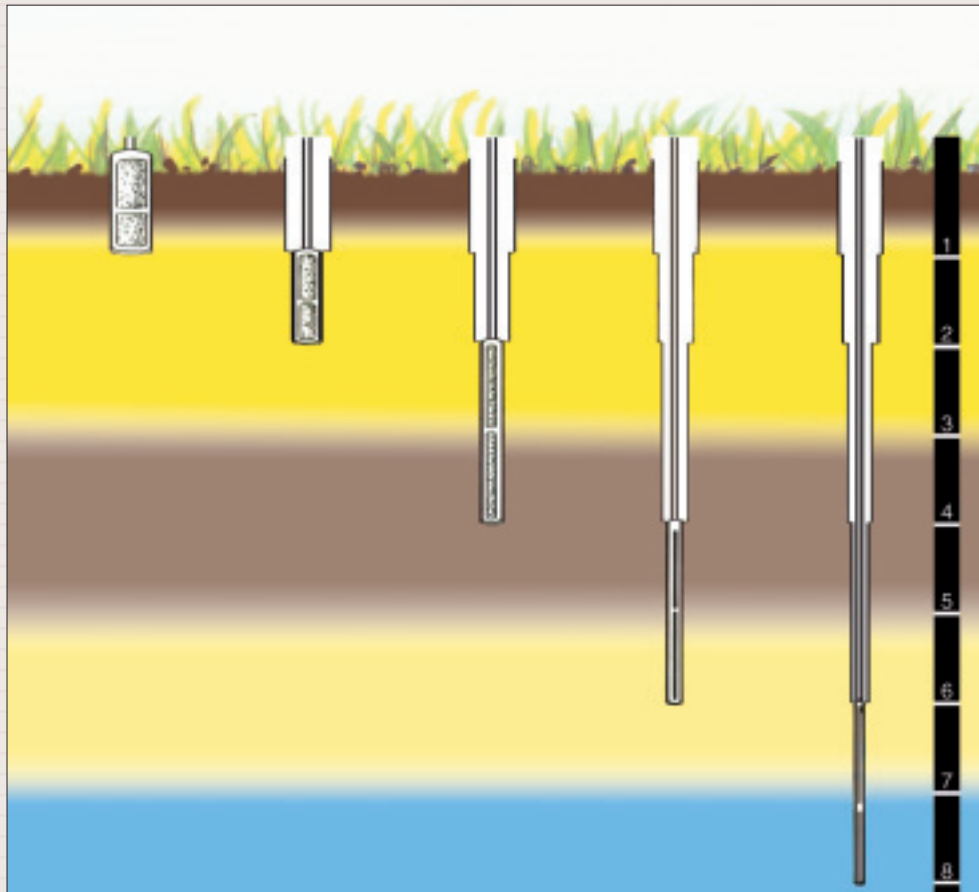
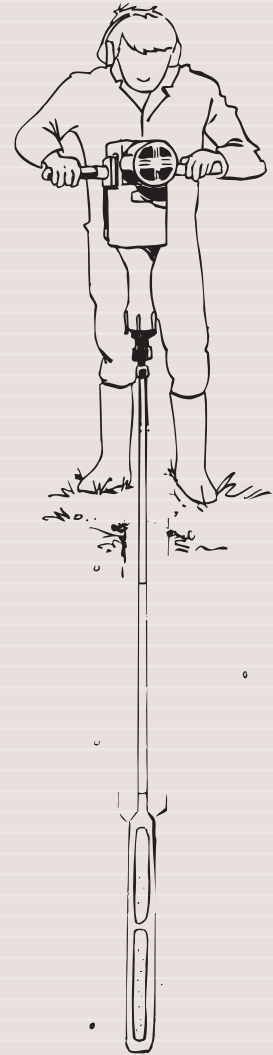
Percussion drilling for instance is applied for research on soil pollution, grain size distribution, general soil classification, profile descriptions, etc.

A percussion drilling installation is a complete and many sided sampling system for sampling up to a depth of between 5 to 10 meter in almost all (not too) hard types of soil.

In concrete or road decks and slabs holes are normally drilled by a diamond saw company prior to percussion drilling.

P1.21

**By hammering the percussion gouges step-wise into the soil, contamination is avoided and extraction is simplified.**



Step-wise sampling by using percussion gouges with various diameters

## BENEFITS Percussion drilling set

- Ideal for soil with bricks, large or many stones
- The solution for city centres / industrial sites
- Beautiful clean samples, no lubricants used
- Extremely sturdy rods and gouges
- Diameters allow efficient, rapid and light work
- Can be combined with liner or foil sampling



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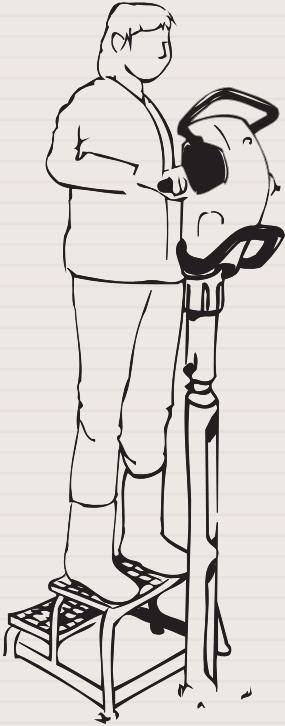


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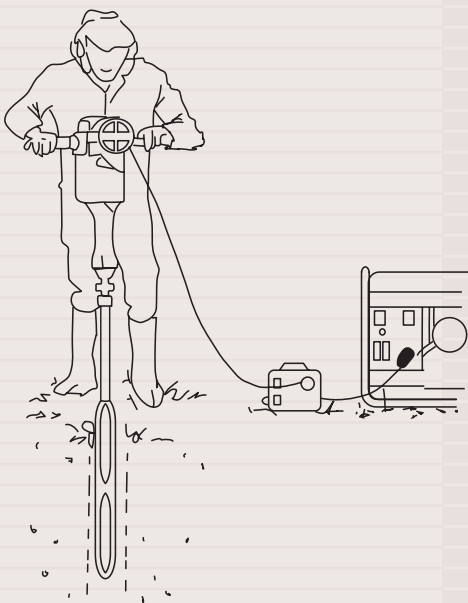
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Using stairs for more ergonomical sound field work.



A percussion gouge is hammered into the soil with a electrical percussion hammer.



## Percussion drilling sets

04.19.SC Percussion drilling set for heterogeneous soils with gasoline powered percussion hammer Cobra TT

The standard set is equipped for drilling to a depth of up to 5 meter. The complete set contains: a gasoline driven percussion hammer with accessories and wooden transport box, various extension rods, coupling sleeves, percussion gouges (combination type for various types of soil) in various diameters and lengths, a core sampler for pvc sample tubes and foil liners, a mechanical rod puller, an universal casing and rod puller clamp, a rod puller extension for the extraction of the first gouge, a crow bar, accessories to empty and clean the gouge, a lifting jack with lever and chain, an utility probe for safe cable finding, stairs for use with the percussion hammer in the field, etc., and aluminium transport cases.

04.19.SD Percussion drilling set for heterogeneous soils with light electrical percussion hammer

04.19.SE Idem, with heavy hammer

Using these sets the percussion gouges are hammered into the soil using an electrically driven percussion hammer with resp. 33.7 and 36.4 Joule beating power. The advantages of these hammers are: no petrol vapors and exhaust gasses directly over the sample. The sets contain: an electrically driven percussion hammer with accessories, an aggregate (continuous power 3300 W), an insulation guard, various extension rods, coupling sleeves, percussion gouges (combination type) in various diameters and lengths, a core sampler for pvc sample tubes and foil liners, a mechanical rod puller, an universal casing and rod puller clamp, a rod puller extension, accessories to empty and clean the gouge, a lifting jack with lever and chain, an utility probe for safe cable finding, stairs, etc. and aluminium transport cases.



Percussion drilling set with gasoline powered percussion hammer (04.19.SC)

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## Percussion gouges

Percussion gouges can be used to take reasonably undisturbed samples from depth to about 10 metres, without the use of drilling liquid (sample suitable for chemical analysis). The percussion gouges of Eijkelkamp Agrisearch Equipment are very strong due to the choice of the used material and production method (special welding techniques and hardening) and the special design. Thanks to this special design the beating power of the percussion hammer is passed on in an optimal way to the percussion gouges, resulting in a higher drilling speed. The design also enables easy emptying and cleaning. Depending on the soil type, drilling depth and desired quantity of sample one of various gouge types is chosen.

Percussion gouges are supplied in two designs:

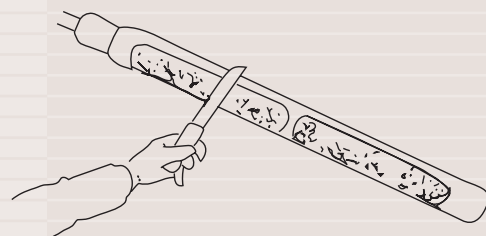
- A combination type for use in all kinds of soils.
- A sand type with core catcher for loose sandier soils.

The combination type percussion gouge is available in various diameters 40, 50, 60, 75 and 100 mm and with a length of 50, 100 and 200 cm (the longest only for the smaller diameters). The sand type percussion gouge is only available with a length of 200 cm and a diameter of 50 mm. All percussion gouges have a hardened steel cutting head.

## RD32-connection

With the RD32-connection (where RD32 represents 32 mm Ronde Draad or Round Thread) extension rods and percussion gouges are screwed together using a coupling sleeve. The RD32-connection takes very little time to attach and take off. The RD32-rods connect together by means of a coupling sleeve, which means that the massive extension rods have the same diameter along the entire length, which makes them very strong. Generally speaking, the RD32-connection can be pulled out with the use of standard extraction equipment.

The sample is leveled off.

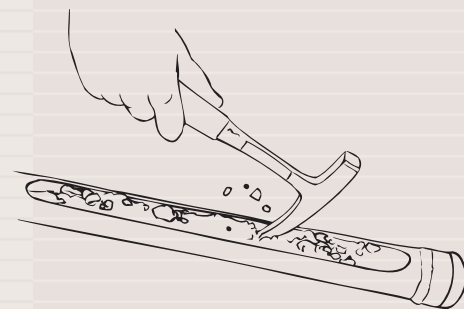


Percussion gouges in various diameters



RD32-connection

Using the hammer for geologists to empty the gouge.



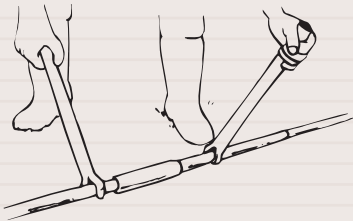


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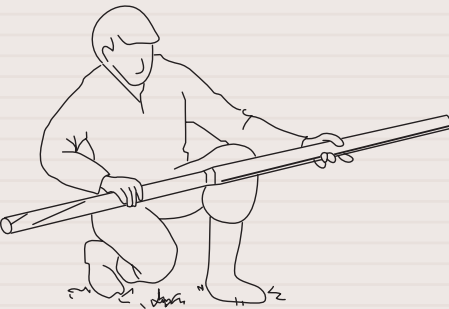
# PERCUSSION DRILLING SETS

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Connecting the extension rods with RD32-connection by means of the coupling sleeve.



The transparent sampling tube is fitted in the core sampler.



### Core sampler

In addition to ordinary percussion gouges it is possible to apply a core sampler with a synthetic sampling tube or foil liners. These are transparent to facilitate immediate visual inspection in the field. The special cutting head has been fitted with an exchangeable core catcher in order to avoid loss of sample or sample contamination. The undisturbed sample can be sealed for transport to a laboratory. Limitations: gouges will not penetrate wood, roots, soft rock, large stones or sound concrete.

### Foil insertion kit for core sampler

A set with which you can use the core sampler of the percussion drilling set with a thin PE foil liner. Over the years there were some remarks/complaints about the fact that it was a very difficult and elaborate job to get the sample out of the tube. It was only possible either by cutting or sawing to get to the sample. With the new system this transparent synthetic sampling tube is replaced by a long plastic foil. The advantages are evident; much lighter

material, easy to remove foil, same results and not at least, it is much cheaper. The foil insertion kit can only be used in combination with the left hand threaded core sampler 63 mm in combination with RD32 couplings.

### Transport

For easy and ergonomic sound transportation of all kinds of field equipment Eijkelkamp Agrisearch Equipment has included some means of transport in the product range.

### 99.14 Fieldcart

You are also fully-mobile in the field with the collapsible fieldcart. The sturdy aluminium construction makes the fieldcart (with inflatable tires) very suitable for carrying all kinds of equipment in the field to a maximum loading weight of 150 kg. The cart is suited to transport packages with dimensions 120 x 56 cm. The cart, when folded (107 x 27 x 58 cm), takes up very little room, weighs only 15 kg and can be easily transported in a station car.



Core sampler with sample tube



Foil insertion kit for core sampler

## BENEFITS

### Core sampler

- \* The cheapest way to get a sample in a liner.
- \* No hassle to remove sample from liner; no extra tools needed.
- \* Simple to use
- \* No compaction of sample
- \* Hygienic / ergonomic / safe
- \* Core sampler can also be used with normal liners and core catcher.



Sampler, cutting head and core catcher



Fieldcart folded and un-folded



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## Extraction systems

Without too much effort the gouges can be extracted from the soil by using rod pullers, which can be provided in different designs.

The first gouge can easily be extracted using a rod puller fitted with a rod puller extension system. If the gouge still is partially stuck in the top soil, then it can be removed using a lifting jack with lever and chain (see P1.09).

In case of the other (deeper) gouges, the mechanical rod puller can be placed directly on the surface of the soil. The mechanical rod puller can be supplied in a 1- or a 2-man operated version.

The 1-man operated mechanical rod puller has a pull-up force of 20 kN and a usefull length of about 70 cm. The 2-man operated version has a pull-up force of 40 kN. Crow bars with a length of 1.9 m are supplied separately. Once the gouge has been freed it can be pulled from the bore hole using a ball clamp diameter

32-36 mm, with hand grips and a maximum pulling force of 40 kN.

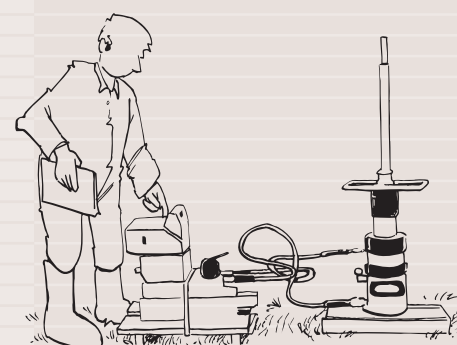
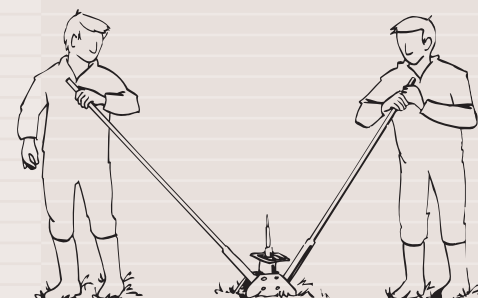
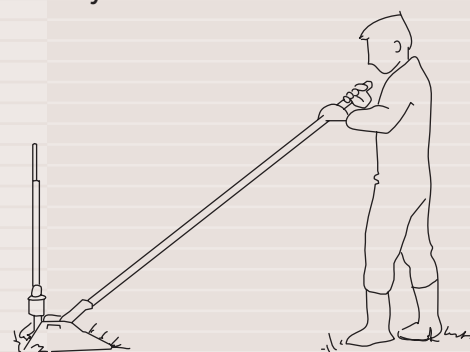
The universal casing and rod puller clamp for use with clamping jaws has a diameter of 22-80 mm. To clamp rods or casings various clamping jaws can be used in it with a diameter of 32-45 mm and 50-54 mm. By using a filling ring the casing and rod puller clamp can be used in the mechanical rod puller.

For extremely heavy circumstances a manually operated hydraulic extraction system is available. The hydraulic extractor, with a pulling force of 80 kN, is supplied with extracting cylinder (diameter 65 mm) and a hydraulic aggregate with electric hydraulic extractor tube set. The extracting cylinder automatically switches off. Also needed to extract gouges and rods are a bottom plate with handle and rod puller clamp with clamping jaw.

Maximum operating pressure of the hydraulic pump is 700 bar. Total weight of hydraulic pump and extracting cylinder is 75 kg.

Extracting the percussion gouges from the soil using:

- a. 1-man operated extractor
- b. 2-man operated extractor
- c. hydraulic extractor



Rod puller extension for the first gouge



Pulling devices (rod pullers)



Pulling device with clamping jaw



Hydraulic extraction system



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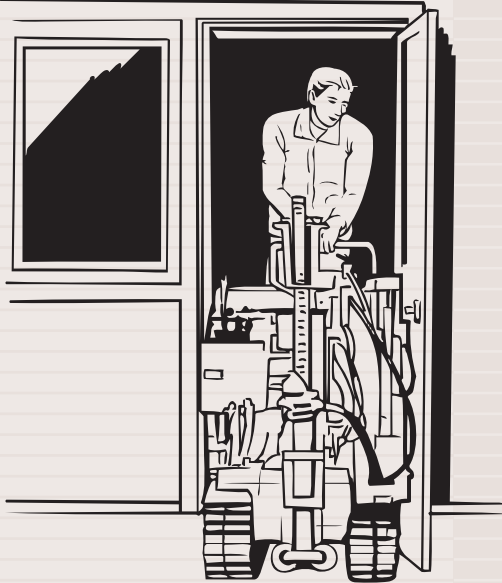
## 04.19.60 Fully hydraulic percussion drilling rig with all terrain caterpillar tracks

### Advantages

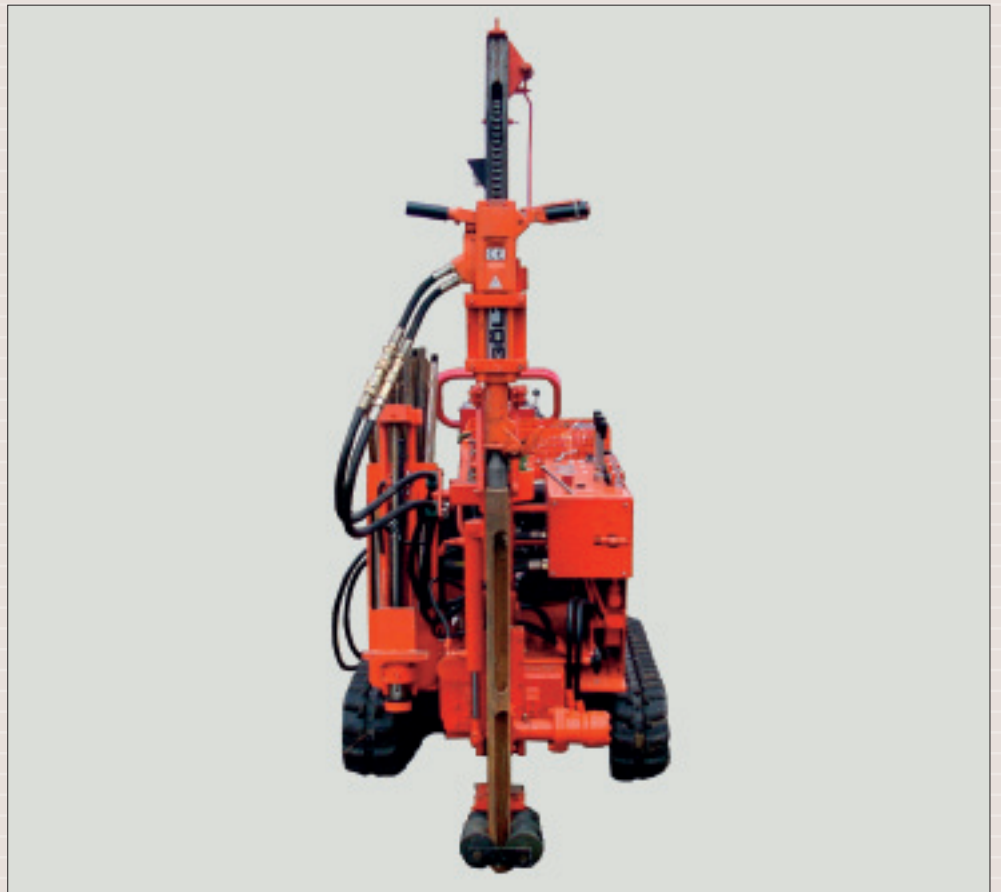
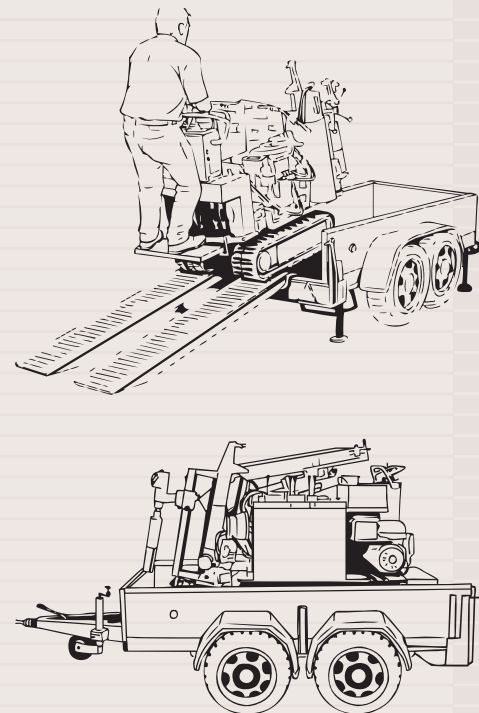
- For percussion drilling and (optional) dynamic sounding
- Suitable for all terrains
- Easy to transport (standard trailer or in the back of a van)
- Storage cases for tools
- Fully operational unit
- Easy to control
- Supplied complete with hammer and jack
- Tracks adjustable from 750 - 1050 mm

With the all terrain adjustable (750 - 1050 mm) caterpillar tracks this drilling rig is especially suitable and extremely flexible for use in difficult terrain. A Honda GX 390 - 15 HP petrol driven engine drives all hydraulic functions (incl. transport). The machine is supplied with a hydraulic percussion hammer (simply pushed onto the mast) and a hydraulic jack (12 ton pulling capacity). The standard rig can be used in combination with our standard percussion gouges, and optionally for dynamic sounding tests / standard penetration tests (SPT). According to EN (European Norm) and ASTM.

The compact drilling rig can reach almost every drilling spot.



The rig can be transported on a standard trailer.



Fully hydraulic percussion drilling rig

# PARTS LIST



Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
<b>P1.21</b>	<b>Percussion drilling sets</b>		**04.19.20.09	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 200 cm, with detachable RD32	1
	<b>Dependent on the circumstances in the field you may choose for equipment with a gasoline powered or electrical powered percussion hammer (in light or heavy design).</b>		**04.19.13	Rod catcher for extension rods with RD32 connection (sl.w. 27) and percussion gouges (with hole).	1
<b>04.19.SC</b>	<b>Percussion drilling set for heterogeneous soils with a gasoline powered percussion hammer Cobra TT. Standard set for augerings to a depth of 5 m. With RD32 connection.</b>		**04.19.20.20	Pointed chisel (410 mm) with RD32 connection for crushing stones at greater depths	1
			**04.19.43	Core sampler, Ø 63 mm, with left hand threaded RD32 connections, for pvc sample tubes and foil liners, with screwable cutting shoe and exchangeable core catcher, sample length 100 cm	1
**04.19.01	Percussion hammer Cobra TT, gasoline powered, with hexagon insert end 32 mm. Beating power 40 Joule at 1620 beats per min. Noise 96 DB(A) acc. PN8NTC2. Vibration 2.3 A m/s2 acc. EN 28662	1	**04.19.43.01	Foil insertion kit for core sampler, left design with left hand rectangular threaded connection.	1
**04.19.0101	Transport box, wood for gasoline powered percussion hammer Cobra TT	1	**04.19.43.02	Thin walled PE foil liner for core sampler, sample Ø 50 mm, length 100 cm. Set of 40 pieces.	2
**04.19.02	Concrete wrecking chisel with hexagon 32 mm insert end. Length 400 mm, width 38 mm	1	**04.18.41	Pvc sample tube, Ø 50x46 mm, length 100 cm, excl. 2 protective caps	5
**04.19.05	Striking pen for gasoline percussion hammer Cobra TT (04.19.01) with hexagon 32 mm insert end for RD32 connection	1	**04.18.41.01	Protective cap, PE, Ø 50 mm, for pvc sample tube	10
**04.19.14	Coupling sleeve for RD32 extension rods (04.19.12). Length 200 mm, Ø 45 mm	7	**04.18.40.02	Core catcher for core sampler Ø 63 m	2
**04.19.12	Extension rod for percussion gouge with RD32 connection, length 1 m, Ø 32 mm, excl. coupling sleeve	5	**04.18.50	Mechanical rod puller, 2-man operated, pull-up force 40 kN, useful length of stroke about 70 mm, excl. 2 crow bars	1
**04.19.20.01	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 50 cm, with detachable RD32 connection	1	**04.18.07.01.01	Crow bar, length 1.9 m, for rod pullers 20 and 40 kN	2
**04.19.20.02	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 100 cm, with detachable RD32 connection	1	**04.18.55	Casing and rod puller clamp, universal, for use of clamping jaw, Ø 22-80 mm, excl. clamping jaw	1
**04.19.20.03	Percussion gouge, bottom part, combination type, Ø 75 mm, operational length 100 cm, with detachable RD32 connection	1	**04.18.55.05	Clamping jaw, Ø 32- 45 mm, for RD32	1
**04.19.20.04	Percussion gouge, bottom part, combination type, Ø 60 mm, operational length 100 cm, with detachable RD32 connection	1	**04.18.07.05	Rod puller extension for pulling first gouge, height 85 cm	1
**04.19.20.05	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 100 cm, with detachable RD32 connection	1	**04.18.56	Filling ring for use of casing and rod puller clamp (04.18.55) in mechanical rod puller (04.18.50)	1
**04.19.20.06	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 100 cm, with detachable RD32 connection	1	**99.16	Stairs, aluminium, height 40 cm	1
**04.19.20.07	Percussion gouge, bottom part, combination type, Ø 60 mm, operational length 200 cm, with detachable RD32 connection	1	**04.18.08	Open ended spanner 27 mm, impact type	1
**04.19.20.08	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 200 cm, with detachable RD32 connection	1	**10.80.90.02	Pipe wrench, Swedish design, till Ø 76 mm, length 58 cm	1
			**04.18.63	Pounding bar with head and flat chisel, length 150 cm	1
			**04.18.18	Ripping bar for emptying gouges	1
			**04.18.12	Rotation rod, Ø 15 mm, length 40 cm	1
			**04.05.01.20	Bent spatula, breadth 20 mm	1
			**99.07.01	Hammer for geologists, with point	1
			**99.07.02	Hammer for geologists, with blade	1
			**05.07.03	Steel lifting jack	1
			**05.07.14	Lever with chain, length 100 cm	1
			**01.11.04	Field data registration set	1
			**01.15.01	Utility probe with cone Ø 19 mm, fibre glass, length 105 cm, Ø shaft 12.5 mm. For safely	1



## PARTS LIST

Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
**01.11.02	checking the sub-stratum for cables, tubes and pipes	1	**04.19.20.05	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 100 cm, with detachable RD32 connection	1
**01.12.08	Aluminium transport case, dim. 108x23x14 cm (outside)	1	**04.19.20.06	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 100 cm, with detachable RD32 connection	1
**01.11.02.01	Aluminium transport case, dim. 112x39x32 cm (outside)	2	**04.19.20.07	Percussion gouge, bottom part, combination type, Ø 60 mm, operational length 200 cm, with detachable RD32 connection	1
**01.11.03	Padlock	5	**04.19.20.08	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 200 cm, with detachable RD32 connection	1
	Work gloves, pair, oil- and grease resistant, sturdy, with short sleeve		**04.19.20.09	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 200 cm, with detachable RD32 connection	1
<b>04.19.SD</b>	<b>Percussion drilling set for heterogeneous soils with light electrical percussion hammer Makita HM1400. Standard set for augerings to a depth of 5 m. With RD32 connection</b>		**04.19.13	Rod catcher for extension rods with RD32 connection (sl.w. 27) and percussion gouges (with hole).	1
**04.18.80	Percussion hammer (HM 1400), electric, 220 V, beating power 33.7 Joule, incl. Chisel 410 mm	1	**04.19.20.20	Pointed chisel (410 mm) with RD32 connection for crushing stones at greater depths	1
**99.13	Generator, max. power 3700 W, continuous power: 3300 W, 230 V 50 Hz, tank capacity 17 l, run duration 8.8 hrs. Dimensions 580x477x.508 mm. Incl. oil level guard	1	**04.19.43	Core sampler, Ø 63 mm, with left hand threaded RD32 connections, for pvc sample tubes and foil liners, with screwable cutting shoe and exchangeable core catcher, sample length 100 cm	1
**99.13.03	Collector box, synthetic, to place generator when working in the field (to prevent petrol- and oil leakage). Dimensions: 80x60x12 cm	1	**04.19.43.01	Foil insertion kit for core sampler, left design with left hand rectangular threaded connection.	1
**99.13.01	Insulation guard to protect electrical apparatus which are connected to a generator. Obligated acc. to NEN1010 for generator 2000 VA or more. Not suitable for mains voltage with rim earthing. Incl. adapter cable with euro-plug (DIN49441/CEE7)	1	**04.19.43.02	Thin walled PE foil liner for core sampler, sample Ø 50 mm, length 100 cm. Set of 40 pieces.	2
**04.19.06	Striking pen for electric percussion hammer Makita HM1400 (04.18.80) with hexagon 30 mm insert end for RD32 connection	3	**04.18.41	Pvc sample tube, Ø 50x46 mm, length 100 cm, excl. 2 protective caps	5
**99.51.30	Ring-nut spanner 30 mm	1	**04.18.41.01	Protective cap, PE, Ø 50 mm, for pvc sample tube	10
**04.19.12	Extension rod for percussion gouge with RD32 connection, length 1 m, Ø 32 mm, excl. coupling sleeve	5	**04.18.40.02	Core catcher for core sampler Ø 63 mm	2
**04.19.14	Coupling sleeve for RD32 extension rods (04.19.12). Length 200 mm, Ø 45 mm	7	**04.18.50	Mechanical rod puller, 2-man operated, pull-up force 40 kN, useful length of stroke about 70 mm, excl. 2 crow bars	1
**04.19.20.01	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 50 cm, with detachable RD32 connection	3	**04.18.07.01.01	Crow bar, length 1.9 m, for rod pullers 20 and 40 kN	2
**04.19.20.02	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 100 cm, with detachable RD32 connection	3	**04.18.55	Casing and rod puller clamp, universal, for use of clamping jaw, Ø 22-80 mm, excl. clamping jaw	1
**04.19.20.03	Percussion gouge, bottom part, combination type, Ø 75 mm, operational length 100 cm, with detachable RD32 connection	1	**04.18.55.05	Clamping jaw, Ø 32- 45 mm, for RD32	1
**04.19.20.04	Percussion gouge, bottom part, combination type, Ø 60 mm, with detachable RD32 connection	1	**04.18.07.05	Rod puller extension for pulling first gouge, height 85 cm	1
			**04.18.56	Filling ring for use of casing and rod puller clamp (04.18.55) in mechanical rod puller (04.18.50)	1
			**99.16	Stairs, aluminium, height 40 cm	1
			**04.18.08	Open ended spanner 27 mm, impact type	1
			**10.80.90.02	Pipe wrench, Swedish design, till Ø 76 mm, length 58 cm	1
			**04.18.63	Pounding bar with head and flat chisel, length 150 cm	1
			**04.18.18	Ripping bar for emptying gouges	1



# PARTS LIST



Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
**04.18.12	Rotation rod, Ø 15 mm, length 40 cm	1	**04.19.20.02	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 100 cm, with detachable RD32 connection	1
**04.05.01.20	Bent spatula, breadth 20 mm	1	**04.19.20.03	Percussion gouge, bottom part, combination type, Ø 75 mm, operational length 100 cm, with detachable RD32 connection	1
**99.07.01	Hammer for geologists, with point	1	**04.19.20.04	Percussion gouge, bottom part, combination type, Ø 60 mm, operational length 100 cm, with detachable RD32 connection	1
**99.07.02	Hammer for geologists, with blade	1	**04.19.20.05	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 100 cm, with detachable RD32 connection	1
**05.07.03	Steel lifting jack	1	**04.19.20.06	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 100 cm, with detachable RD32 connection	1
**05.07.14	Lever with chain, length 100 cm	1	**04.19.20.07	Percussion gouge, bottom part, combination type, Ø 60 mm, operational length 200 cm, with detachable RD32 connection	1
**01.11.04	Field data registration set	1	**04.19.20.08	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 200 cm, with detachable RD32 connection	1
**01.15.01	Utility probe with cone Ø 19 mm, fibre glass, length 105 cm, Ø shaft 12.5 mm. For safely checking the sub-stratum for cables, tubes and pipes	1	**04.19.20.09	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 200 cm, with detachable RD32 connection	1
**01.11.02	Aluminium transport case, dim. 108x23x14 cm (outside)	1	**04.19.13	Rod catcher for extension rods with RD32 connection (sl.w. 27) and percussion gouges (with hole).	1
**01.12.08	Aluminium transport case, dim. 112x39x32 cm (outside)	1	**04.19.20.20	Pointed chisel (410 mm) with RD32 connection for crushing stones at greater depths	1
**01.11.02.01	Padlock	2	**04.19.43	Core sampler, Ø 63 mm, with left hand threaded RD32 connections, for pvc sample tubes and foil liners, with screwable cutting shoe and exchangeable core catcher, sample length 100 cm	1
**01.11.03	Work gloves, pair, oil- and grease resistant, sturdy, with short sleeve	5	**04.19.43.01	Foil insertion kit for core sampler, left design with left hand rectangular threaded connection.	1
<b>04.19.SE</b>	<b>Percussion drilling set for heterogeneous soils with heavy electrical percussion hammer Makita HM1800. Standard set for augerings to a depth of 5 m. With RD32 connection</b>		**04.19.43.02	Thin walled PE foil liner for core sampler, sample Ø 50 mm, length 100 cm. Set of 40 pieces.	2
**04.18.81	Percussion hammer (HM 1800), electric, 220 V, beating power 36.4 Joule, inclusive chisel 400 mm	1	**04.18.41	Pvc sample tube, Ø 50x46 mm, length 100 cm, excl. 2 protective caps	5
**99.13	Generator, max. power 3700 W, continuous power: 3300 W, 230V 50 Hz, tank capacity 17 l, run duration 8.8 hrs. Dimensions 580x477x508 mm. Incl. oil level guard	1	**04.18.41.01	Protective cap, PE, Ø 50 mm, for pvc sample tube	10
**99.13.03	Collector box, synthetic, to place generator when working in the field (to prevent petrol- and oil leakage). Dimensions: 80x60x12 cm	1	**04.18.40.02	Core catcher for core sampler Ø 63 mm	2
**99.13.01	Insulation guard to protect electrical apparatus which are connected to a generator. Obligated acc. to NEN1010 for generator 2000 VA or more. Not suitable for mains voltage with rim earthing. Incl. adapter cable with euro-plug (DIN49441/CEE7)	1	**04.18.50	Mechanical rod puller, 2-man operated, pull-up force 40 kN, useful length of stroke about 70 mm, excl. 2 crow bars	1
**04.19.07	Striking pen for electric percussion hammer Makita HM1800 (04.18.81) with hexagon 28.6 mm insert end for RD32 connection	3	**04.18.07.01.01	Crow bar, length 1.9 m, for rod pullers 20 and 40 kN	2
**04.19.12	Extension rod for percussion gouge with RD32 connection, length 1 m, Ø 32 mm, excl. coupling sleeve	5	**04.18.55	Casing and rod puller clamp, universal, for use of clamping jaw, Ø 22-80 mm, excl. clamping jaw	1
**04.19.14	Coupling sleeve for RD32 extension rods (04.19.12). Length 200 mm, Ø 45 mm	7	**04.18.55.05	Clamping jaw, Ø 32- 45 mm, for RD32	1
**04.19.20.01	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 50 cm, with detachable RD32 connection	1	**04.18.07.05	Rod puller extension for pulling first gouge, height 85 cm	1
			**04.18.56	Filling ring for use of casing and rod puller clamp (04.18.55)	1



## PARTS LIST

Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
**99.16	in mechanical rod puller (04.18.50) Stairs, aluminium, height 40 cm	1	04.19.07	36.4 Joule, inclusive chisel 400 mm Striking pen for electric percussion hammer Makita HM1800 (04.18.81) with hexagon 28.6 mm insert end for RD32 connection	
**04.18.08	Open ended spanner 27 mm, impact type	1			
**10.80.90.02	Pipe wrench, Swedish design, till Ø 76 mm, length 58 cm	1			
**04.18.63	Pounding bar with head and flat chisel, length 150 cm	1		<b>Electrical powered hammers need a generator:</b>	
**04.18.18	Ripping bar for emptying gouges	1	99.13	Generator, max. power 3700 W, continuous power: 3300 W, 230V 50 Hz, tank capacity 17 l, run duration 8.8 hrs. Dimensions 580x477x508 mm. Incl. oil level guard	
**04.18.12	Rotation rod, Ø 15 mm, length 40 cm	1			
**04.05.01.20	Bent spatula, breadth 20 mm	1			
**99.07.01	Hammer for geologists, with point	1	99.13.01	Insulation guard to protect electrical apparatus which are connected to a generator. Obligated acc. to NEN1010 for generator 2000 VA or more. Not suitable for mains voltage with rim earthing. Incl. adapter cable with euro-plug (DIN49441/CEE7)	
**99.07.02	Hammer for geologists, with blade	1			
**05.07.03	Steel lifting jack	1			
**05.07.14	Lever with chain, length 100 cm	1			
**01.11.04	Field data registration set	1			
**01.15.01	Utility probe with cone Ø 19 mm, fibre glass, length 105 cm, Ø shaft 12.5 mm. For safely checking the substratum for cables, tubes and pipes	1	99.13.03	Collector box, synthetic, to place generator when working in the field (to prevent petrol- and oil leakage). Dimensions: 80x60x12 cm	
**01.11.02	Aluminium transport case, dim. 108x23x14 cm (outside)	1			
**01.12.08	Aluminium transport case, dim. 112x39x32 cm (outside)	1			
**01.11.02.01	Padlock	2		<b>Gouges and core samplers</b>	
**01.11.03	Work gloves, pair, oil- and grease resistant, sturdy, with short sleeve	5		<b>Gouges with RD 32 connection (length 50 cm, 100 cm and 200 cm):</b>	
	<b>Percussion hammers: Three types of percussion hammers are supplied. One type of gasoline powered hammer (Cobra TT) and Two types of electrical powered hammers (HM1400 and HM1800):</b>		04.19.20.01	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 50 cm, with detachable RD32 connection	
04.19.01	Percussion hammer Cobra TT, gasoline powered, with hexagon insert end 32 mm. Beating power 40 Joule at 1620 beats per min. Noise 96 DB(A) acc. PN8NTC2. Vibration 2.3 A m/s2 acc. EN 28662		04.19.20.02	Percussion gouge, bottom part, combination type, Ø 100 mm, operational length 100 cm, with detachable RD32 connection	
04.19.01.01	Transport box, wood for gasoline powered percussion hammer Cobra TT		04.19.20.03	Percussion gouge, bottom part, combination type, Ø 75 mm, operational length 100 cm, with detachable RD32 connection	
04.19.02	Concrete wrecking chisel with hexagon 32 mm insert end. Length 400 mm, width 38 mm		04.19.20.04	Percussion gouge, bottom part, combination type, Ø 60 mm, operational length 100 cm, with detachable RD32 connection	
04.19.05	Striking pen for gasoline percussion hammer Cobra TT (04.19.01) with hexagon 32 mm insert end for RD32 connection		04.19.20.05	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 100 cm, with detachable RD32 connection	
04.18.80	Percussion hammer (HM 1400), electric, 220 V, beating power 33.7 Joule, incl. Chisel 410 mm		04.19.20.06	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 100 cm, with detachable RD32 connection	
04.18.80.05	Pointed chisel for electric percussion hammer (04.18.80)		04.19.20.07	Percussion gouge, bottom part, combination type, Ø 60 mm, operational length 200 cm, with detachable RD32 connection	
04.19.06	Striking pen for electric percussion hammer Makita HM1400 (04.18.80) with hexagon 30 mm insert end for RD32 connection		04.19.20.08	Percussion gouge, bottom part, combination type, Ø 50 mm, operational length 200 cm, with detachable RD32 connection	
04.18.81	Percussion hammer (HM 1800), electric, 220 V, beating power		04.19.20.09	Percussion gouge, bottom part, combination type, Ø 40 mm, operational length 200 cm, with detachable RD32 connection	
				<b>Core samplers with RD 32 screw thread connection for</b>	



Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
04.19.43	<b>foil liners and/or sample tubes (two lengths 100 and 50 cm):</b> Core sampler, Ø 63 mm, with left hand threaded RD32 connections, for pvc sample tubes and foil liners, with screwable cutting shoe and exchangeable core catcher, sample length 100 cm		04.18.55.05	Ø 22-80mm, excl. clamping jaw Clamping jaw, Ø 32- 45 mm, for RD32	
04.19.45	Core sampler, Ø 63 mm, with left hand threaded connections, for pvc sample tubes and foil liners, with screwable cutting shoe and exchangeable core catcher, total length 50 cm, with RD32 connection		04.18.57	Filling ring for use of casing and rod puller clamp (04.18.55) in mechanical rod puller 20 kN (04.18.07.01)	
04.19.43.01	Foil insertion kit for core sampler, left design with left hand rectangular threaded connection.		04.18.07.05	Rod puller extension for pulling first gouge, height 85 cm	
04.19.43.02	Thin walled PE foil liner for core sampler, sample Ø 50 mm, length 100 cm. Set of 40 pieces.			<b>Two person operated set:</b>	
04.18.41	Pvc sample tube, Ø 50x46 mm, length 100 cm, excl. 2 protective caps		04.18.50	Mechanical rod puller, 2-man operated, pull-up force 40 kN, useful length of stroke about 70 mm, excl. 2 crow bars	
04.18.41.01	Protective cap, PE, Ø 50 mm, for pvc sample tube		04.18.07.01.01	Crow bar, length 1.9 m, for rod pullers 20 and 40 kN	
04.18.40.02	Core catcher for core sampler Ø 63 mm		04.18.55	Casing and rod puller clamp, universal, for use of clamping jaw, Ø 22-80 mm, excl. clamping jaw	
	<b>Spare parts for gouges:</b>		04.18.55.05	Clamping jaw, Ø 32- 45 mm, for RD32	
04.18.72.40	Cutting shoe for percussion gouge, Ø 40 mm		04.18.56	Filling ring for use of casing and rod puller clamp (04.18.55) in mechanical rod puller (04.18.50)	
04.18.72.50	Cutting shoe for percussion gouge, Ø 50 mm		04.18.07.05	Rod puller extension for pulling first gouge, height 85 cm	
04.18.72.60	Cutting shoe for percussion gouge, Ø 60 mm			<b>Hydraulic operated set:</b>	
04.18.72.75	Cutting shoe for percussion gouge, Ø 75 mm		04.18.68	Hydraulic extractor, pulling force 80 kN. Complete set with extracting cylinder (Ø 65 mm), hydraulic aggregate with electric hydraulic extractor tube set. Automatic switching of extracting cylinder (excl. ball clamp and excl. bottom plate 04186801)	
04.18.72.99	Cutting shoe for percussion gouge, Ø 100 mm		04.18.68.01	Bottom plate with handle for hydraulic extractionsystem.	
	<b>Extension rods and accessories for RD 32 screw thread connection:</b>		04.18.55	Casing and rod puller clamp, universal, for use of clamping jaw, Ø 22-80mm, excl. clamping jaw	
04.19.12	Extension rod for percussion gouge with RD32 connection, length 1 m, Ø 32 mm, excl. coupling sleeve		04.18.55.05	Clamping jaw, Ø 32- 45 mm, for RD32	
04.19.14	Coupling sleeve for RD32 extension rods (04.19.12). Length 200 mm, Ø 45 mm			<b>Fully hydraulic percussion drilling rig</b>	
04.18.08	Open ended spanner 27 mm, impact type			<b>The percussion hammers are rather heavy to be operated by hand. To make work easier we offer a fully hydraulic drilling rig.</b>	
10.80.90.02	Pipe wrench, Swedish design, till Ø 76mm, length 58cm		04.19.60	<b>Fully hydraulic percussion drilling rig with all terrain caterpillar tracks and Honda motor. Incl. hydraulic hammer (86 Joule) and hydraulic jack system (12 t) with puller clamp and set of 3 clamping jaws (range 50-70 mm totally).</b>	
	<b>Extraction systems</b>				
	<b>One person operated set:</b>				
04.18.07.01	Mechanical rod puller, 1-man operated, pull-up force 20 kN, useful length of about 70 mm, excl. crow bar		04.19.61	Striking pen for hydraulic percussion drilling rig and RD32 percussion gouges.	
04.18.07.01.01	Crow bar, length 1.9 m, for rod pullers 20 and 40 kN			<b>Accessories for transport in the field</b>	
04.18.55	Casing and rod puller clamp, universal, for use of clamping jaw,				



## PARTS LIST

Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
99.14	Fieldcart, aluminium, collapsible, package measurements 120x56 cm, collapsed dimensions 107x27x58 cm, max. loading weight 150 kg, weight 15 kg				