

KEMROC[®]

revolution of cutting



English



**SPECIAL
ROCK CUTTERS**

An innovative, German engineering company developing revolutionary excavator attachments – focused on product development, quality engineering and reliability.



We can call on more than 15 years experience in design and manufacture of cutting attachments and auger drive units for excavators and backhoe loaders. Our attachments are robust and strong with all major components manufactured in Germany to the highest quality. Our international team of product specialists will be pleased to provide support for our products.

In this catalogue you will find a large range of special cutter attachments for excavators and backhoes that have been developed in cooperation with customers. Practical experience from job sites around the world is used in our continuous product development process.

▼ Precision in manufacturing and assembling guarantees highest quality and reliability of our products.

▼ Excellent Service. We support you with our team to install your KEMROC machine and provide trainings for your operators.



Modern production facilities ►

revolution of cutting

SPECIAL ROCK CUTTERS CONTENT

	Page
SPECIAL ROCK CUTTERS	
Attachments for all trench sizes	4
Cutting technology	5
APPLICATIONS	
Trenching	6
Demolition, renovation	10
Foundation work	14
Drilling	18
Road building	20
Tunnelling	24
Rock extraction	26
Forestry	28
Cleaning metal surfaces	28
EK RANGE	
Chain cutters – Patented cutting attachment; reduces wear & tear on the excavator swing gear and saves energy	30
DMW RANGE	
Cutter wheels with double motor for rock up to 120 Mpa	32
EX RANGE	
Patch planers for milling asphalt and concrete with accurate depth control	34
ES RANGE	
Universal cutters for asphalt, concrete and rock	36
ETR RANGE	
Chain trenchers for narrow trenches	38
SMW RANGE	
Cutter wheels for small trenches in soft and medium hard material	40

	Page
KSI RANGE	
SCHÖKEM injection attachment for permeating cohesive soils with a cement suspension	42
EBA RANGE	
Auger drive attachment for excavators, backhoes and skid-steer loaders	44
KST RANGE	
Grinding attachments for wood and removal of tree stumps	46
KDS RANGE	
Diamond cutter wheels for use on steel, rock and concrete	46
ETS RANGE	
Trenching attachments for soils and soft rock	48
EXRUST RANGE	
Surface cleaners for use on flat metallic surfaces	48
STANDARD TOOLS	
Round attack picks, pick boxes, retainers, wood cutting tools	50



KEMROC®

SPECIAL ROCK CUTTERS FEATURES

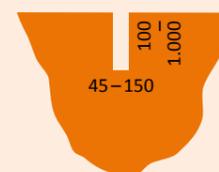
SPECIAL ROCK CUTTERS FEATURES



ATTACHMENTS FOR ALL TRENCH SIZES

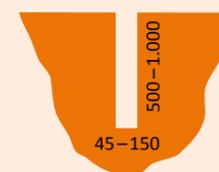
Trenching attachments from KEMROC provide options for trench widths from 4 centimeters.

ES RANGE



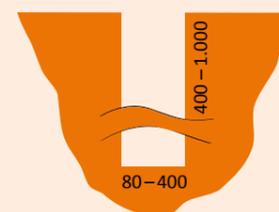
1-40 t
Max.
60 MPa

SMW RANGE



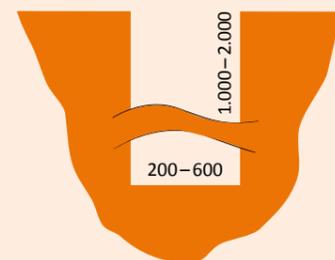
10-25 t
Max.
80 MPa

DMW RANGE



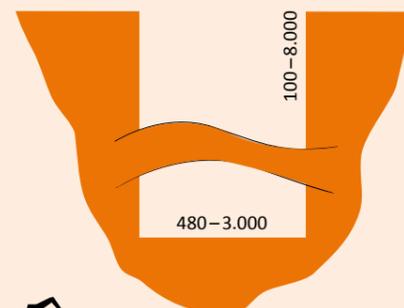
14-60 t
Max.
120 MPa

ETR RANGE



15-60 t
Max.
90 MPa

EK RANGE



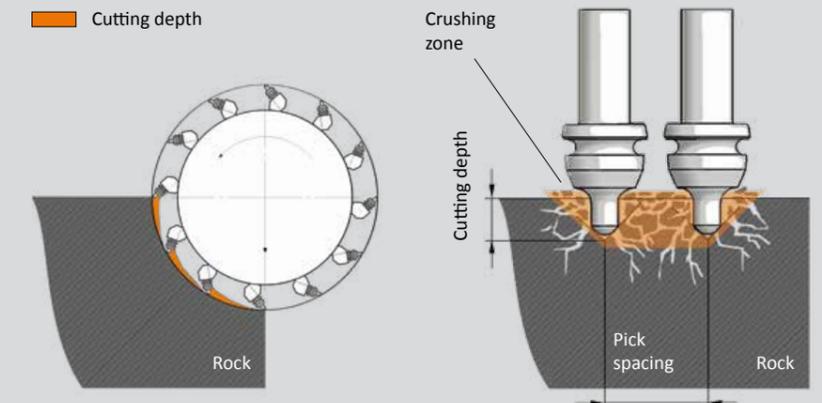
2-50 t
Max.
100 MPa

Dimensions trench width and trench depth in mm.

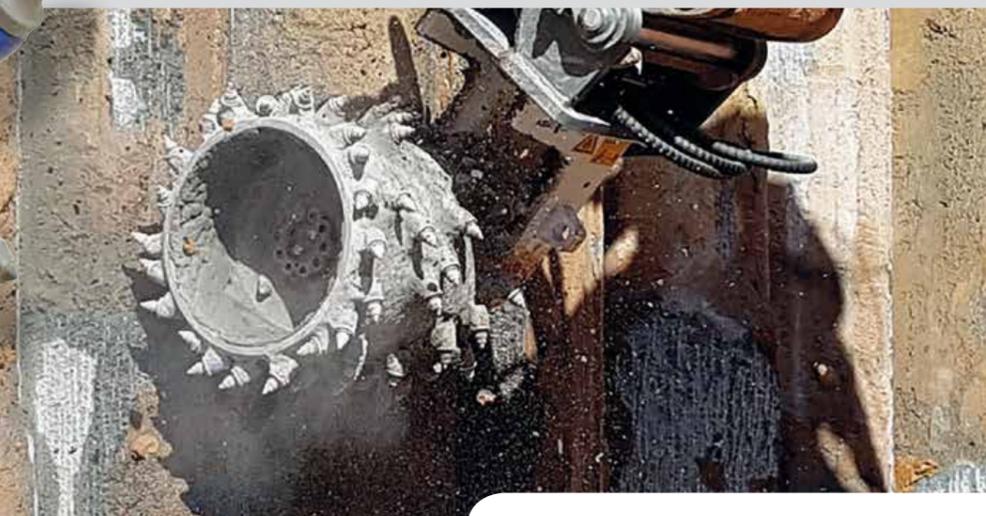


CUTTING TECHNOLOGY

When grinding with round attack picks, each tool penetrates into the rock along parallel paths and breaks material out from the space between the paths. The cutting rate depends to a large degree on the uniaxial compressive strength of the rock being cut. Other significant factors affecting production rates include the hydraulic pressure and flow that the excavator is able to supply to the attachment, as well as the stability and weight of the excavator.



The experience gained from many years of cutting rock has gone into the design of the cutter wheels, drums and chains. They are designed to give maximum cutting performance with minimum wear costs. The selection of picks and boxes, as well as the design of the pick pattern, are part of our continuous product improvement.



KEMROC

APPLICATIONS
TRENCHING



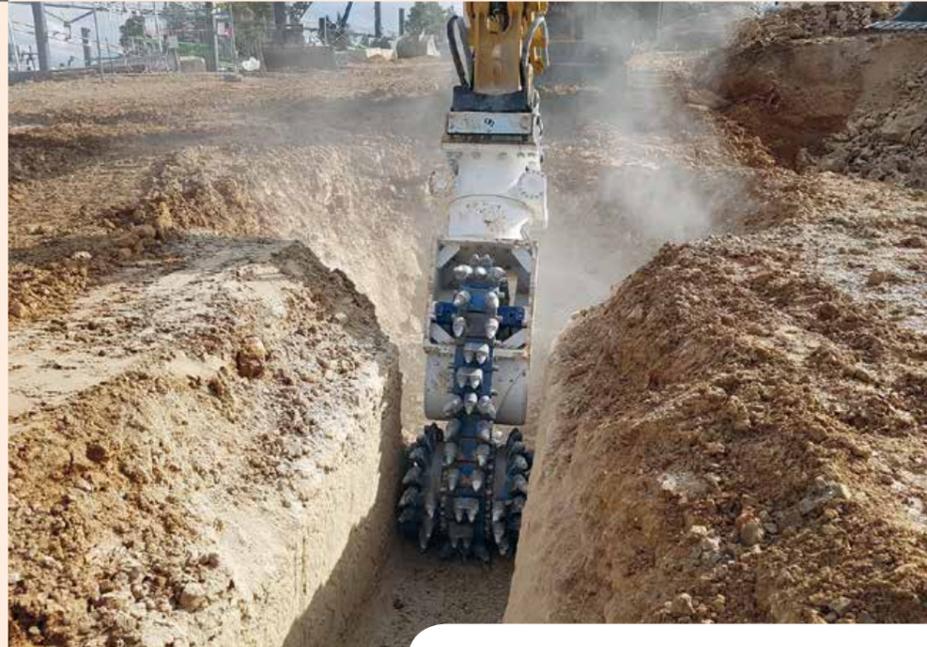
▲ This **ETR3** trencher excavates a 60 cm wide trench with variable depth in a soft limestone with a uniaxial compressive strength of 60 MPa. The trench was cut to the side of the excavator tracks and the cutting speed was 50 m/h.

▼ An **EK140** with an 90 cm wide cutter head was the ideal tool to excavate an 1.5 m deep trench for the installation of a summer toboggan run. In rock with a hardness from 50 to 60 MPa, the cutter excavated between 15 to 20 cubic meters per hour (approx. 11 to 15 linear m/h).



▲ This **EK100** chain cutter excavates a 70 cm wide by 1.2 m deep trench in shale with ease.

◀ A **DMW130** mounted on a CAT 329 excavates a trench at a speed of 5 linear m/min. The trench is 13 cm wide and 40 cm deep.



APPLICATIONS TRENCHING



▲ In Iceland, this **DMW 220** cut a 70 cm deep by 15 cm wide slot for cables in lava rock. The production rate was around 30 meters per hour.



▲ This **EK 140** was used to excavate drainage channels at the foot of an embankment close to an ICE train line.

▼ A 4 m deep by 4 m wide trench is being excavated. An **EK 140** with 800 mm wide cutter head was used to cut medium hard sandstone with a compressive strength of 30 to 50 MPa at a rate of 15 to 20 cubic meters per hour. The cutter was mounted on a Volvo EC 380.



▲ Impressive productivity in narrow trenching. An **EK 100** chain cutter with 700 mm wide cutter head excavates almost 15 m/h of trench. With a central cutter chain, it works effectively without having to swing sideways. This saves energy which can be used for productivity and is kind to the excavator.

▲ An **EK 100** chain cutter excavating manholes in abrasive sandstone mud. The cutter was mounted on a 23 t CAT 323 D and the production rate in the 30 to 50 MPa sandstone was between 7 to 10 cubic meters per hour.

▼ This **ES 45 HD** ground through a layer of asphalt 21 cm thick before trenching could start in the bedrock below. Mounted on a Liebherr A900 wheeled excavator, the cutting rate was 4 m/min.



DEMOLITION/ RENOVATION



▲ A **DMW220** cutter wheel being used to cut through a 900 mm thick concrete floor containing 30 mm diameter rebar laid in a tight pattern.

KEMROC milling attachments are leading edge technology; used where conventional methods are not capable or not cost effective.

DEMOLITION/RENOVATION



▲ Demolition of a bunker using an **EK140** chain cutter. The bunker is attached to another building and a low vibration method must be used to demolish it.



▲ At an old barracks building, a contaminated layer, 50 mm deep, had to be removed before the remaining building could be demolished. The maximum operating height was 25 m and the production rate for the **EX60HD** was 5 min for 12.5 m².

▼ The powerful **DMW220** cutter wheel slices through vertical concrete walls containing 16 mm to 30 mm diameter re-enforcement. The cutter wheel was mounted on a 40 t Volvo EC 380. The concrete walls were cut into sections and then pushed over using a 100 t excavator.



DEMOLITION/RENOVATION



▲ A **DMW220** cuts through 60 cm thick concrete slabs at a rate of 1.5 m/min. The concrete contained re-forcement with diameters from 16 mm to 25 mm. The wheel cut through all of the steel bars without any problems.

▲ This **EX30HD** removes the weathered surface of a lock wall before a new layer is applied to seal the surface of the concrete wall.

▼ During the demolition of a bridge, a **DMW220** was used to cut reinforced concrete into segments. Demolition was faster and more efficient using the cutter wheel compared with conventional demolition methods.



DEMOLITION/RENOVATION



▲ A low vibration **DMW130** cutter wheel used to demolish part of a wall. Part of the wall could be demolished without damaging the rest of the wall or the historical building that it was attached to.

▼ Patch planer type **EX20HD** with dust collector being used on a Husqvarna demolition robot.

▼ A **DMW130** cuts a row of 60 cm deep stress relieving slots so that compact ground, similar to concrete, could be broken easily.



FOUNDATION WORK



▲ The surface layer of concrete drill piled wall are profiled to a high degree of accuracy using an **ES60HD** fitted with a cutter drum.

▼ This **EK100** with a 600 mm wide cutting head removes excess concrete from HPI piles. Production rate is approx. 60 m²/h.

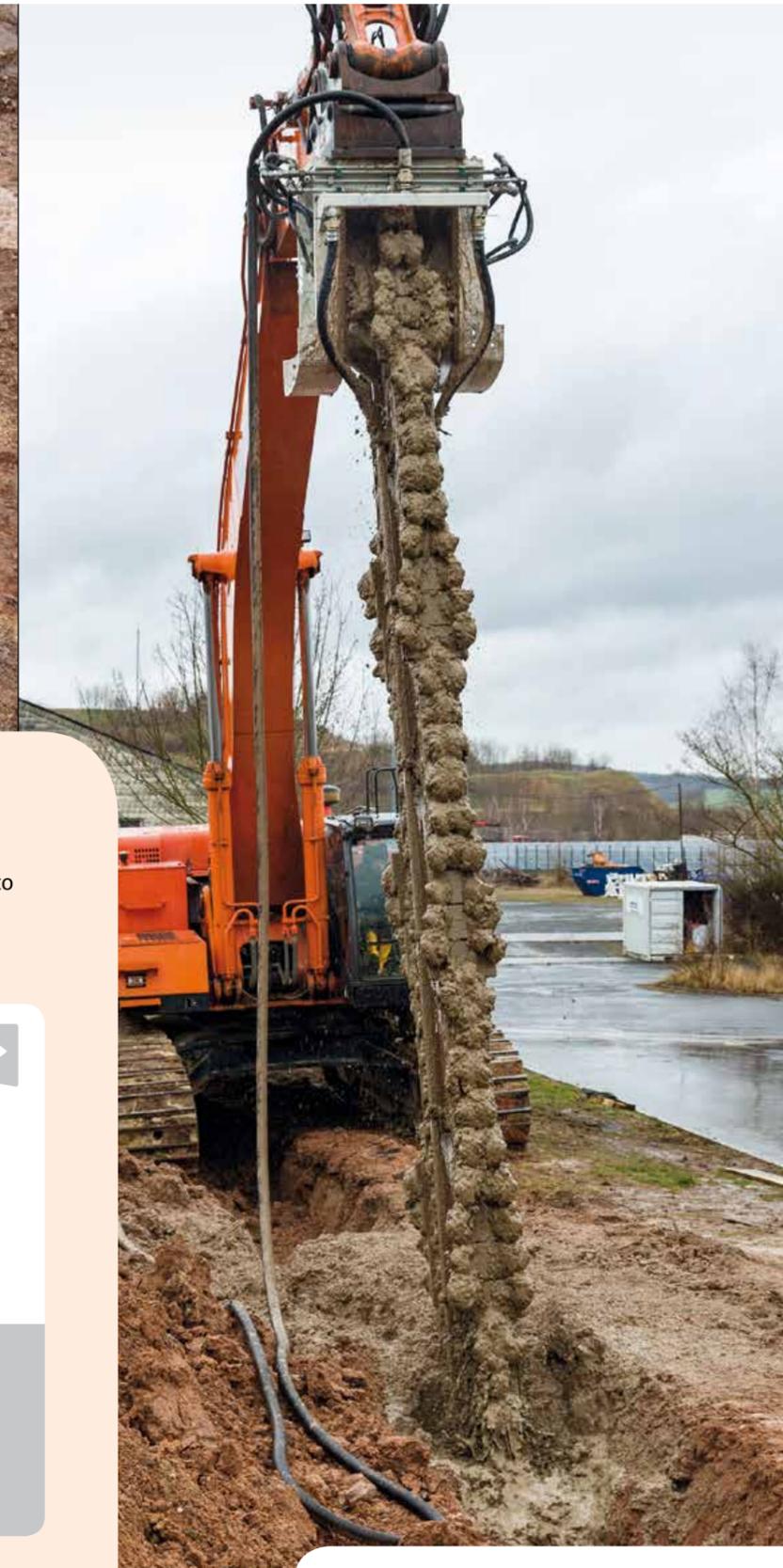
▼ An **ES30HD** used in Munich to profile a bored pile wall. Productivity ranged from 20 to 30 cubic meters per hour. Without the need to swing the grinder from side to side, the work was completed to a great level of accuracy.



▲ An ideal tool for profiling work; this **ES80HD**, fitted with an 80 cm wide cylindrical cutter drum, is grinding a sandstone embankment.

▶ At this project an **EK140** chain cutter with rotation module was used so that the attachment could be correctly positioned for the removal of rock adjacent to the bore piled wall.





SCHÖKEM GROUND STABILISATION

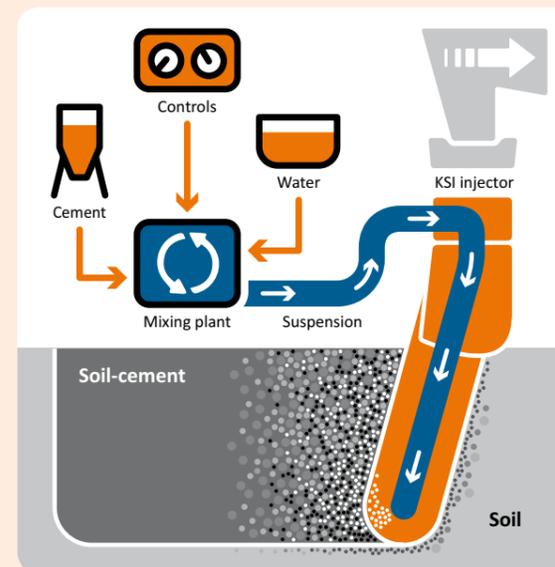
An excavator attachment designed specifically for ground stabilisation developed in partnership with a German civil engineering company specialising in foundation work. This economical and advanced ground improvement technology treats soil in-situ, eliminating the need to remove large volumes of earth. The frost resistance and water-impermeable properties of the homogenous, crack-free soil cement panels that are created can be altered according to the mixture of components in the cement slurry used as a binder.

Modifying the composition of the binder material to achieve properties required makes this technology suitable for many applications. It is possible to meet requirements for very high levels of stability and water impermeability. As required for flood protection, foundations and other applications, piles with high load bearing capabilities can be produced when combined with reinforcement and steel girders.

- + Cost savings due to elimination of mass transportation
- + Very low vibration method
- + Self-contained operation requiring no additional construction
- + Can work in conjunction with railway operating timetables
- + Mineral and organic soil stabilisation
- + No internal approval required
- + Unrestricted working due to minimal space requirement
- + Dam embankments stabilisation meeting environmental requirements
- + Low set up times
- + Deep soil consolidation
- + Extreme resistance to forces of nature and chemical attack
- + Accurate profiling method

- ▲ A completed soil cement structure exposed for inspection and testing.
- ▶ A **KSI 10000** injection attachment designed for a mixing depth of 10 m ready to go to work.

SCHÖKEM Process schematic





◀ An **EBA2300-D** drilling holes to 6m depth in medium hard ground to loosen it up and make the ramming of piles easier.

▼ Loosening hard ground in a sand quarry with an **EBA 2300-D**.



▲ An **EBA2300-D** drilling 5 m deep holes for the installation of steel piles that will be required for the construction of a retaining wall.

▼ Mounted on an Atlas 180 W, this **EBA2300-D** drilling 6 m deep holes with a diameter of 50 cm. The drill speed is 2 m/min.



ROAD BUILDING



▲ Mounted on a Takeuchi TB 235, this **EX20HD** is removing a 3 cm deep layer of asphalt. The production rate is 25 m²/h. KEMROC patch planers produce clean, smooth cut edges.



▼ An **EX45HD** with rotation module grinds the hard shoulder of a road. The patch planer milled a strip 45 cm wide by 15 cm deep at a rate of 10 m per minute.

▼ An **EX60HD** planing an asphalt surface. The production rate was 70 m² per hour with a cutting width of 60 cm and a cutting depth of 19 cm.

▲ This **EX30HD** is removing a 4 cm deep layer of asphalt. Production rate is between 50 and 60 m²/h.

▼ The **ES45HD** is used to cut 20 cm deep by 5 cm wide slots in asphalt. Cutting speed is 4 m/min.

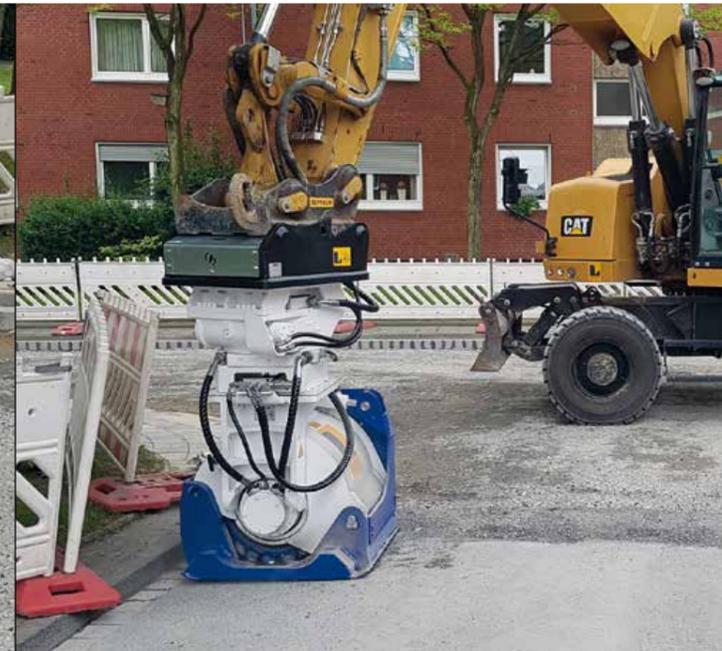


ROAD BUILDING



◀ An **EX45HD** planing a 4 cm deep strip from an asphalt surface. The rotation module allows the planer to work in a direction at an angle to the axis of the excavator.

▼ An **ES45HD** removes a layer of weathered concrete 15 cm deep. A production rate of 90 m²/h was achieved.



▲ This **EX60HD** with rotation unit is cutting asphalt to a depth of 4 cm. Mounted on a CAT M 320, it achieves 140 m²/h and thanks to the rotation unit, it can cover a very large area without the excavator having to change position.



▶ An **ES60HD** with rotation unit mounted on a Liebherr A 900 wheeled excavator cuts through a 30 cm thick asphalt layer. The cutting speed is 2 m/min.

ROAD BUILDING



▲ An **EX45HD** planer with tiltrotator removing a 12 cm deep layer from the brick lining in a tunnel. A plastic damp proof layer will be applied to the accurately profiled surface afterwards.



▼ An **EK140** chain cutter lowering a tunnel floor in fine grained gneiss.



▼ Cutting 60 cm deep de-stressing slots with a **DMW130** cutter wheel so that the concrete segments can be broken out with a ripper tooth at a later stage.



▲ A **DMW130** mounted on a Liebherr tunnelling excavator profiling a tunnel at predetermined intervals for the installation of water drainage piping and support arches.

◀ A Brokk 60 demolition robot with an **EX30** being used to remove tiles in the historical Elb Tunnel in Hamburg. Just below the tiles was a layer containing rebar so the cutting depth had to be very accurate.



ROCK EXTRACTION



▲ Powerful and efficient gypsum mining with an **EK 140** with 900 mm cutter width mounted on a Liebherr 946. Production rate was approx. 110 tons per hour.

▼ An **ES 60 HD** being used to accurately profile marble blocks to the required dimensions while also removing unwanted contaminants.



ROCK EXTRACTION



CUT & BREAK METHOD

Rock extraction using a cutter wheel and breaking tool

- ◀ **Step 1**
Cut a minimum of three slots with a DMW cutter wheel in the quarry wall. The height of the wall should not be more than 8 m. The spacing and depth of the slots depend on the nature of the stone. Through trial and error, the best combination can be found to give the ideal size of end product.
- ◀ **Step 2**
Cutting slots with the DMW cutter wheel de-stresses the rock. The C&B breaker tool is pressed down into the top of the middle slot by the excavator. Round attack picks located on the side of the breaker tool grind a groove into the rock creating a line of weakness along which the rock will crack. Due to the wedge shape of the breaker tool, continuing to push the breaker tool into the slot eventually results in the rock cracking along the line of weakness and falling over.



C&B breaking tool

APPLICATIONS FORESTRY



◀ An **ES45HD** cuts quickly and efficiently through large wooden beams.

▶ A **KST20** grinding tree stumps.



APPLICATIONS FORESTRY

APPLICATIONS CLEANING METAL SURFACES



◀ An **EXRUST60** used to remove paint from walls inside the hold of a ship. Approximately 300 m² of wall were cleaned per hour!

▶ An **EXRUST60** used to remove a silicon mortar formed on the surface of steel baths used in aluminium smelting at a rate of 150 m²/h. At this location the KEMROC cleaning attachment was used on a CAT M 322 wheeled excavator.



APPLICATIONS CLEANING METAL SURFACES

KEMROC

Patented cutting attachment;
reduces wear & tear on the excava-
tor swing gear and saves energy

CHAIN CUTTERS



Available from 2020

The EK range of chain cutters are the first of their type on the market. Designed for use on excavators from 2 to 50 tons, they are ideal for cutting stone with an uniaxial compressive strength up to 100 Mpa. They are efficient, vibration-free attachments for the excavation of deep narrow trenches with the optimal trench profile. Trench width starts from 480 mm. Another application is mining of medium hard minerals with compressive strength from 15 to 60 MPa, where drill and blast is not possible.

KEMROC chain cutters excavate trenches no wider than absolutely necessary. The continuous chain, driven by the cutter drums, removes the material automatically from the space between the cutter drums. With standard drum cutters, the need to remove this material on technical grounds always results in trenches wider than the cutter. Keeping trenches to the minimum width possible saves unnecessary transport costs for removal of cut material and fill material becomes cheaper. The material produced by the chain cutter is fine grained and is ideal for use as fill.

EK chain cutters reduce wear and tear on the excavator swing gear. In addition, they give a 40% energy saving for equivalent production rates compared to conventional rotary drum cutters without the central chain.

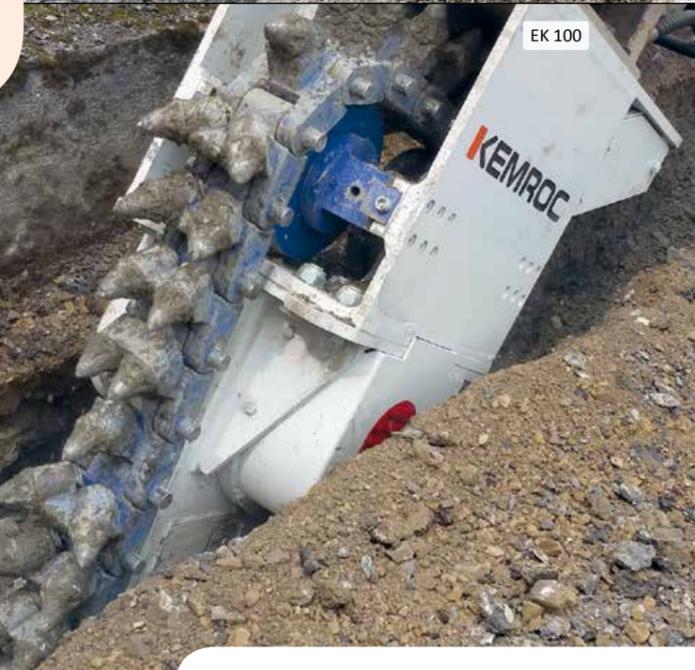
- + Range of cutting widths available
- + Fine grained cut material
- + Excavator friendly and energy saving
- + Low noise and vibration levels
- + Works underwater without needing any modifications



EK 140



EK 150



EK 100

		EK 20	EK 40	EK 60	EK 100
Recommended excavator weight	t	2–4	5–10	10–17	18–30
Rated power	kW	22	44	60	100
Drum cutter length (A)	mm	700	1,500	1,900	1,900
Cutter head width (B)	mm	480	500	500	600 700 800
Cutter drum diameter standard (C)	mm	260	600	800	800
Width of gearbox (D)	mm	480	450	450	550
Recommended rotation speed	rpm	170	90	70	70
Recommended oil flow at 150 bar	l/min	20–40	50–90	130–200	180–250
Maximum oil flow	l/min	50	120	220	260
Maximum operating hydraulic pressure	bar	300	380	380	380
Maximum torque at max. hydraulic pressure	Nm	1,000	3,700	11,000	18,300
Maximum cutting force at max. hydraulic pressure	N	7,692	12,333	27,500	45,750
Maximum uniaxial compressive strength	MPa	25	30	50	80
Weight	kg	170	900	1,300	2,400–2,600
Number of picks in cutter drums	Pcs	44	56	56	28 44 52
Number of picks in the cutter chain	Pcs	27	55	55	54
Standard pick ¹⁾	Type	ER 16/29/25/14 H	ER 19/48/32/20 H	ER 19/48/32/20 H	ER 17/75/70/30 Q

	EK 110	EK 140	EK 150
Recommended excavator weight	25–32	30–45	35–50
Rated power	110	140	150
Drum cutter length (A)	1900	2,050	2,050
Cutter head width (B)	600 700 800	800 900 1,000	800 900 1,000
Cutter drum diameter standard (C)	800	850	850
Width of gearbox (D)	550	700	700
Recommended rotation speed	70	70	70
Recommended oil flow at 150 bar	240–300	250–400	280–420
Maximum oil flow	300	420	450
Maximum operating hydraulic pressure	380	380	380
Maximum torque at max. hydraulic pressure	24,500	26,000	30,000
Maximum cutting force at max. hydraulic pressure	61,250	62,000	71,000
Maximum uniaxial compressive strength	80	100	100
Weight	2,400–2,600	3,600–3,800	3,600–3,800
Number of picks in cutter drums	28 44 52	44 48 56	44 48 56
Number of picks in the cutter chain	54	63	63
Standard pick ¹⁾	ER 17/75/70/30 Q	ER 17/75/70/30 Q	ER 17/75/70/30 Q

¹⁾ An overview of standard picks can be found on page 50. Cutter drums can be supplied with picks for special applications as required. The EK range is protected under patent numbers DE 10 2008 041 982 B4 and EP 2324158. Models EK 20 and EK 40 are KEMROC traded products.



Cutter wheels in the DMW range were designed in cooperation with customers for attachment to hydraulic excavators. Two high torque, lateral hydraulic motors guarantee high production rates and maximum cutting forces. As a result, even in hard rock with a uniaxial compressive strength of 120 MPa as well as reinforced concrete, very high productivity rates can be achieved. KEMROC produces these robust attachments in 4 sizes for excavators from 14 to 60 tons.

To meet the demands of many applications, KEMROC have developed cutter wheel variations for cutting depths to 1,000 millimeters. A choice of wheels with different tooling configurations and a range of widths up to 400 mm are available. Wheels with non-standard width and cutting depth are available on demand.

The DMW range is designed to work under water to depths of 30 meters, making the cutter wheels ideal for trenching and underwater demolition projects.

- + Rigid, manoeuvrable mounting frame
- + Two high torque hydraulic motors
- + Smooth and regular cutting action
- + Cutter wheels for various cutting depths and widths
- + High performance due to proven pick types and pattern
- + Supports for vibration free cutting
- + Optional – water nozzles for dust suppression
- + Operational to 30 meters underwater
- + Ideally suited for concrete demolition ¹⁾

		DMW 90		DMW 130		
		Wheel 400	Wheel 600	Wheel 400	Wheel 600	Wheel 800
Recommended excavator weight	t	14–25	14–25	18–35	18–35	18–35
Rated power	kW	90	90	130	130	130
Cutting width (A)	mm	80 130 200	80 130 200	80 130 200	80 130 200	80 130 200
Cutting depth (B)	mm	400	600	400	600	800
Cutting depth with shoe	mm	300	500	300	500	700
Cutter wheel diameter	mm	1,210	1,610	1,210	1,610	2,010
Torque at 350 bar	Nm	10,400	10,400	21,000	21,000	21,000
Cutting force at 350 bar	N	17,190	12,919	34,711	26,087	20,896
Recommended oil flow according to wheel diameter	l/min	120–170	120–170	230–300	230–300	230–300
Maximum oil flow at 50 bar	l/min	200	200	340	340	340
Maximum operating hydraulic pressure	bar	380	380	380	380	380
Maximum rebar diameter in re-enforced concrete ¹⁾	mm	16	12	20	20	16
Maximum uniaxial compressive strength	MPa	60	40	100	80	60
Weight of cutter wheel, approx. ²⁾	kg	400	800	400	800	1,250
Weight of drive unit, approx.	kg	1,100	1,100	1,150	1,150	1,150
Weight of dipping device, approx.	kg	250	250	300	300	300
Weight of protection cover, approx.	kg	55	55	55	55	55

	DMW 220			DMW 220 HD		
	Wheel 600	Wheel 800	Wheel 1000	Wheel 600	Wheel 800	Wheel 1000
Recommended excavator weight	35–50	40–50	40–50	35–60	40–60	40–60
Rated power	220	220	220	220	220	220
Cutting width (A)	130 200 400	130 200 400	130 200 400	130 200 400	130 200 400	130 200 400
Cutting depth (B)	550	750	1,000	550	750	1,000
Cutting depth with shoe	450	650	900	450	650	900
Cutter wheel diameter	1,610	2,010	2,500	1,610	2,010	2,500
Torque at 350 bar	47,000	47,000	47,000	56,000	56,000	56,000
Cutting force at 350 bar	58,385	46,766	37,600	69,565	55,721	44,800
Recommended oil flow according to wheel diameter	300–550	300–550	300–550	350–600	350–600	350–600
Maximum oil flow at 50 bar	600	600	600	600	600	600
Maximum operating hydraulic pressure	380	380	380	380	380	380
Maximum rebar diameter in re-enforced concrete ¹⁾	30	30	30	30	30	30
Maximum uniaxial compressive strength	120	120	100	120	120	100
Weight of cutter wheel, approx. ²⁾	800	1,250	2,250	800	1,250	2,250
Weight of drive unit, approx.	2,750	2,750	2,750	2,750	2,750	2,750
Weight of dipping device, approx.	920	920	920	920	920	920
Weight of protection cover, approx.	180	180	180	180	180	180

¹⁾ To maintain the warranty, check with the manufacturer before use in re-enforced concrete containing larger diameter rebar.
²⁾ Cutter wheel weight depends on diameter and width.

KEMROC can supply wheels to order for various cutting widths and depths. Within technical boundaries, cutter wheels can be made to order.

PATCH PLANERS



EX 20 HD

Patch planers in the EX range are ideally suited for the repair of asphalt surfaces, removal of contaminated concrete or milling layers of screed. Mechanical or hydraulic depth control makes milling to very accurate depth possible, to a maximum of 19 centimeters.

KEMROC patch planers are available in 5 different sizes with a model suitable for use on any excavator or alternative carrier in the operating weight range of 1 to 23 tons.

Regardless of whether horizontal, vertical or inclined – the EX range can be used on any surface orientation. KEMROC planers can even be used on overhead surfaces, as can be found for example, in some tunnelling applications. Patch planers produce clean, smooth cut edges (pre-cutting is not necessary) and a fine grained cut material that can be used in other applications.

Depending on the material to be milled, cutter drums can be fitted with different tooling variations. In addition, non-standard drum types and widths can be supplied to meet unusual working conditions and ensure the best performance possible.

- + A rigid support frame with wear resistant slides
- + High torque, modifiable, hydraulic motor
- + Robust housing, low vibration
- + Accurate depth control (mechanical or hydraulic)
- + Smooth cut edges and fine grained cut material
- + Integrated water jets for dust control (connections for vacuum dust extraction optional)



EX 30 HD



EX 45 HD

		EX 20	EX 20 HD	EX 30 HD	EX 45 HD	EX 60 HD
Recommended excavator weight	t	1–3	2–4	5–10	10–16	15–23
Rated power	kW	22	22	30	65	80
Cutting width, standard (A)	mm	200	200	300	450	600
Cutting depth, adjustable (B)	mm	0–70	0–70	0–120	0–150	0–190
Recommended rotation speed	rpm	80–200	80–200	80–125	70–110	70–95
Recommended oil flow at 100 bar	l/min	20–50	25–65	60–95	110–170	150–200
Minimum oil flow	l/min	20	25	60	100	150
Maximum oil flow	l/min	70	90	110	180	210
Maximum hydraulic pressure	bar	310	310	380	380	380
Torque at 350 bar	Nm	660 @ 205 bar	1,000 @ 205 bar	4,100	8,700	9,300
Cutting force at 350 bar	kN	4 @ 205 bar	6 @ 205 bar	16	30	28
Operating weight	kg	165	170	400	730	1,230
Number of picks	Pcs	42	42	35	49	69
Standard pick ¹⁾	Type	ER 16/28/26/14 H	ER 16/28/26/14 H	ER 16/48/32/20 H	ER 16/48/32/20 H	ER 19/48/32/20 H

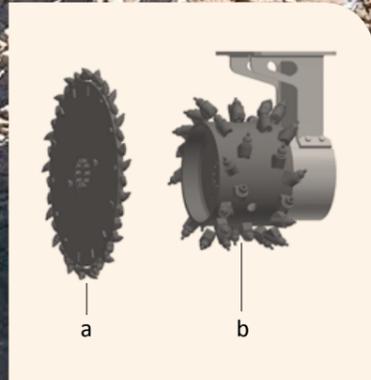
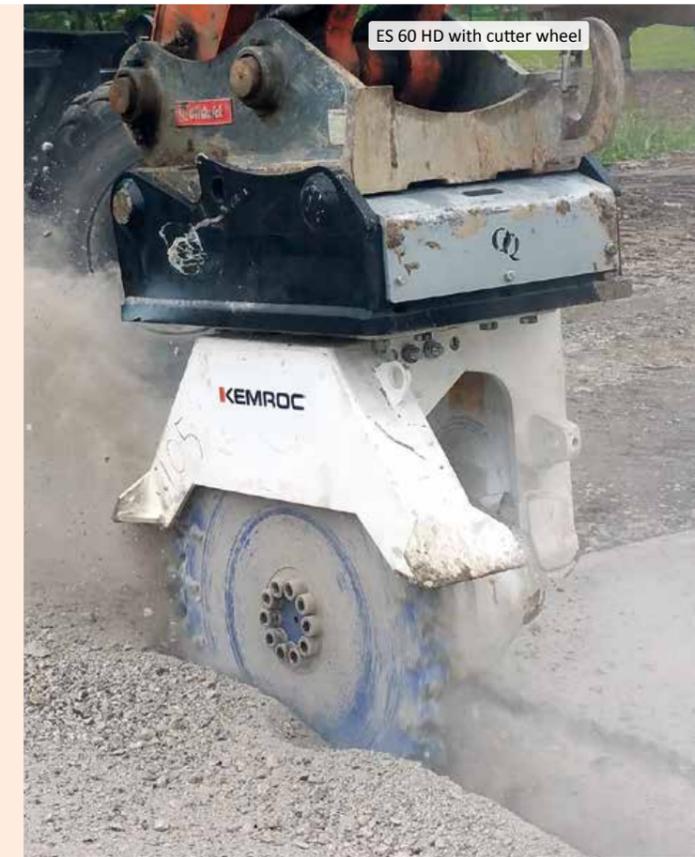
EX WITH ROTATION		EXR 20	EXR 20 HD	EXR 30 HD	EXR 45 HD	EXR 60 HD
Recommended excavator weight	t	1–3	2–4	6–10	12–16	16–23
Operating weight	kg	250	255	585	1,010	1,700



EX 60 HD

¹⁾ An overview of standard picks can be found on page 50. Cutter drums can be supplied with picks for special applications as required.

UNIVERSAL CUTTERS

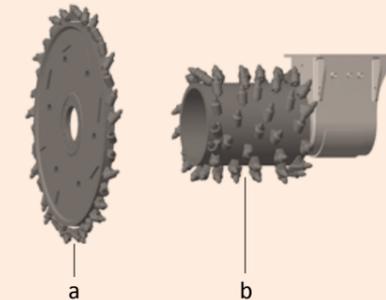


The ES range of universal cutters are true all-rounder attachments, as effective in cutting slots in asphalt or concrete as they are for accurately profiling horizontal or vertical surfaces. There are 7 model sizes available for mounting on excavators from 1 to a maximum 40 ton operating weight.

Universal cutters fitted with disks or drums for use in asphalt, concrete or rock can be mounted on carrier vehicles that also power the attachment.

- + Tool carrier with high torque hydraulic motor
- + Multi-purpose, with slotting disc or cutter drum
- + An integrated rotation unit, providing continuous stepless rotation, is available as an option

- a) **Cutter wheel**
Slot cutter for concrete, asphalt and rock
- b) **Cutter drum**
Cutter drums are used for the accurate profiling of horizontal or vertical surfaces

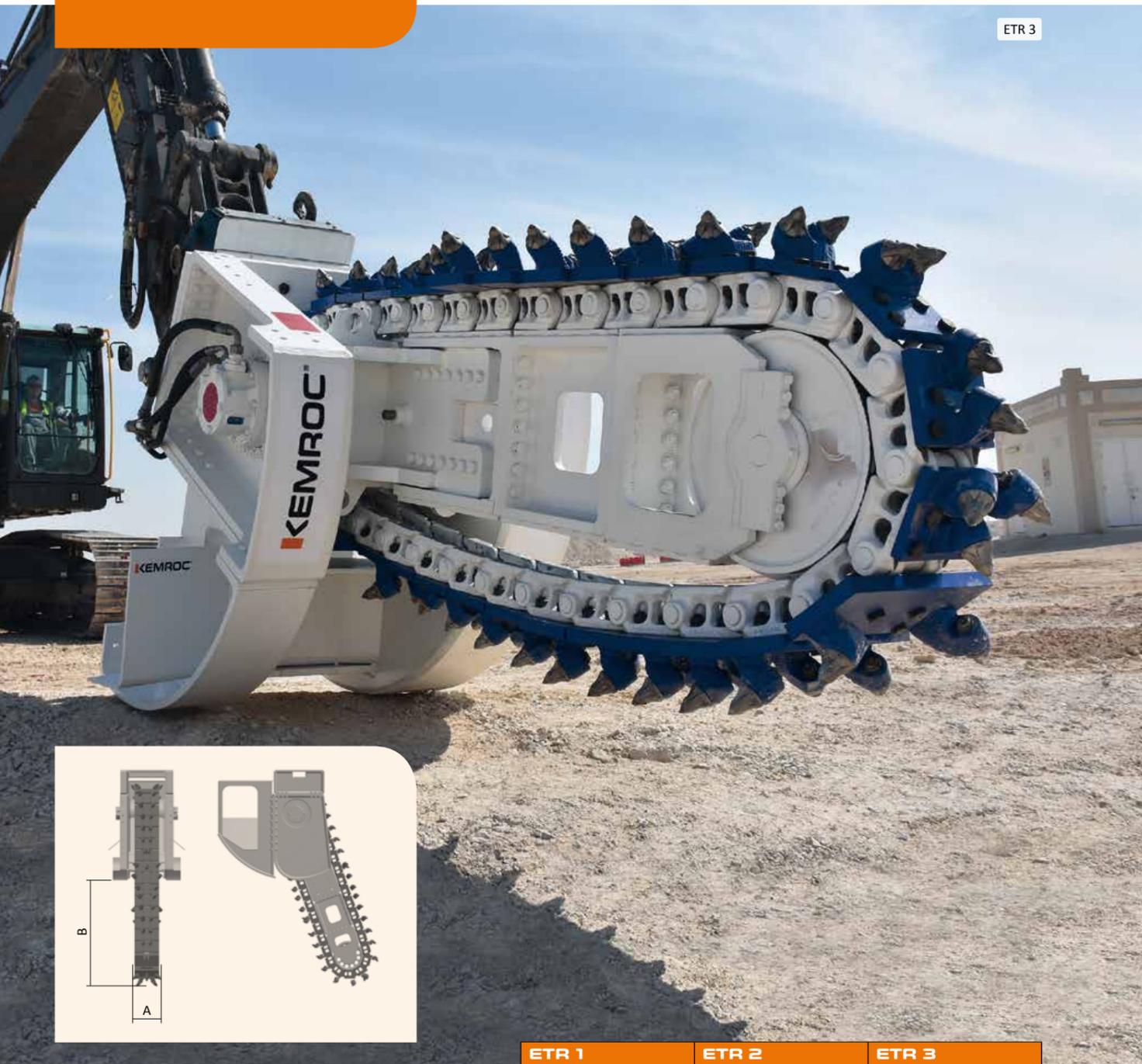


		ES 20	ES 20 HD	ES 30 HD	ES 45 HD	ES 60 HD	ES 80 HD	ES 110 HD
Recommended excavator weight	t	1-3	2-4	5-10	10-16	15-23	15-25	25-40
Rated power	kW	22	22	30	65	80	80	110
Minimum oil flow	l/min	20	25	60	100	150	150	210
Maximum oil flow	l/min	70	90	110	180	210	210	350
Maximum operating hydraulic pressure	bar	310	310	380	380	380	380	380
Torque at 350 bar	Nm	1,127	1,710	4,100	8,700	11,700	15,200	27,800
Cutter wheel (a)								
Maximum cutting depth	mm	150	150	200	300	300	600	1,000
Maximum cutting width	mm	70	70	70	80	100	200	400
Minimum cutting width	mm	45	45	45	45	50	45	80
Cutter drum (b)								
Diameter of cutter drum	mm	360	360	520	580	670	825	785
Width of cutter drum	mm	200	200	300	450	600	600 800	600 800 1,000
Cutting depth	mm	85	85	110	110	190	150	105 150
Number of picks	Pcs	42	42	35	49	69	69 (800 mm)	44 (600 mm)
Standard pick ¹⁾	Type	ER 16/28/26/14 H	ER 16/28/26/14 H	ER 16/48/32/20 H	ER 16/48/32/20 H	ER 16/48/32/20 H	ER 17/75/70/30 Q	ER 19/75/70/30 Q

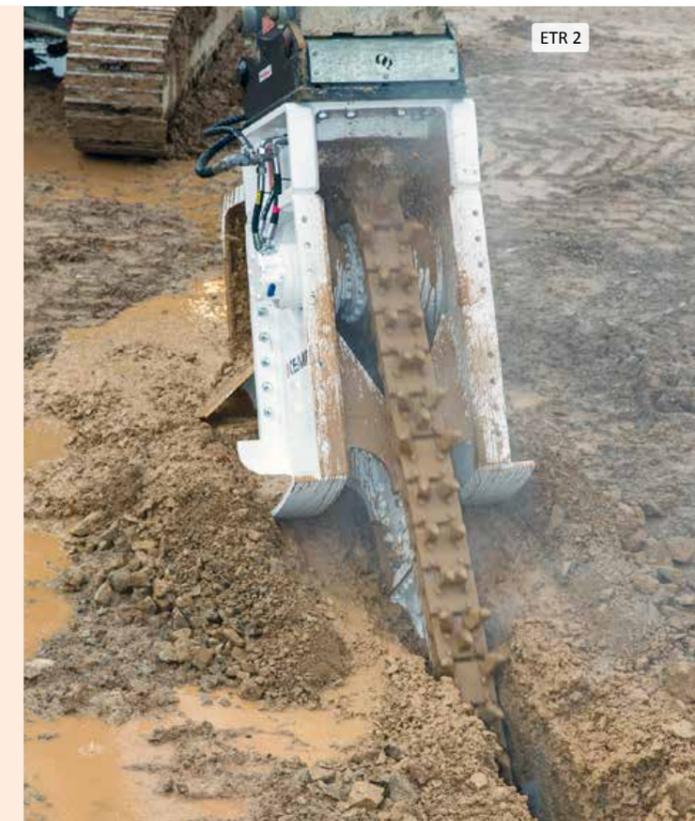
¹⁾ An overview of standard picks can be found on page 50. Cutter drums can be supplied with picks for special applications as required.

All universal cutters in the ES range can be supplied with a rotation module as an option.

CHAIN TRENCHERS



ETR 3



ETR 2

The ETR range of chain saw trenchers opens up a completely new range of opportunities for excavators. For the first time, a trenching attachment for excavators that is not limited to working in soils but can work in rock with a compressive strength of up to 90 MPa.

The ETR trencher can produce trenches with perfect profiles in widths from 20 to 60 centimeters to a maximum depth of 2 meters.

Chose from a range of cutting chain widths, each fitted with wear resistant picks. When starting the trench, the ETR is supported while sumping down to the desired cutting depth. When the trencher has reached the required depth, the excavator is driven backwards or the trencher is pulled forward with the excavator arm. The housing has a spoil discharger to deposit spoil to the side of the trench.

- + Cutter chain fitted with wear resistant picks to achieve maximum performance with minimum wear costs
- + Driven by two high torque hydraulic motors to obtain maximum cutting force
- + Housing with spoil discharger and sumping aid
- + Heavy duty chain guides
- + Maintenance free cutter chain with high operating life
- + Adjustable length cutter chain
- + Rigid and maintenance free chain transmission
- + Conversion for dust extractor available as an optional extra.



ETR 3



ETR 2

		ETR 1	ETR 2	ETR 3
Recommended excavator weight	t	18–25	25–35	35–60
Rated power	kW	90	130	220
Cutting width, standard (A)	mm	200–450	200–450	300–600
Cutting depth (B)	mm	1,000–1,500	1,000–1,500	1,500–2,000
Recommended oil flow at 150 bar	l/min	170–200	250–350	350–500
Maximum oil flow	l/min	220	350	600
Maximum uniaxial compressive strength	MPa	40	50	90
Weight	kg	2,800	3,000	6,000
Standard pick ¹⁾	Type	ER 12/45/38/22 HC	ER 12/45/38/22 HC	ER 17/75/70/30 Q

¹⁾ An overview of standard picks can be found on page 50. Cutter chains can be supplied with picks for special applications as required.



The SMW range is designed for use as an excavator slot cutting attachment. It can cut narrow trenches, especially for laying cables, quickly and efficiently. The reinforced mounting for the cutter wheel provides the strength required for cutting depths down to 1,000 millimeters.

When starting the cut, the weight of the attachment is supported by the sumping bracket and the wheel is gradually pressed down to the required depth. When the required depth has been reached, the wheel is then pulled along the cutting direction either by movement of the excavator arm or by driving the excavator slowly backwards. The cut material is guided out to the side of the trench.

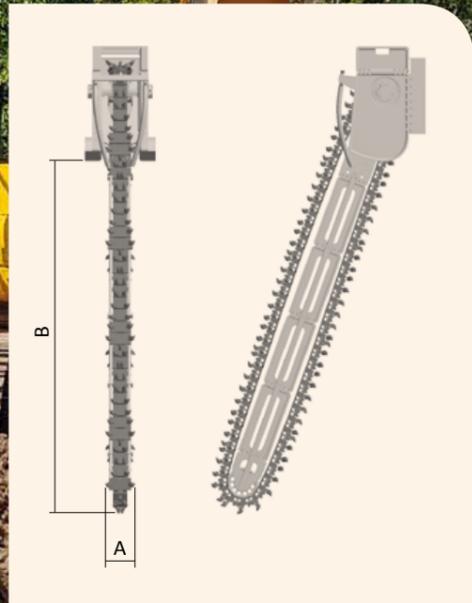
- + Specially designed wheel for slots and narrow trenches to a depth of 1,000 millimeters
- + High torque hydraulic motor
- + High performance cutter wheel with optimum pick pattern
- + Cutter wheel mounted on extra strong bearings
- + Robust fastening of cutter wheel
- + Housing with integrated guide to send cut material to the side of the trench
- + Trench cleaner
- + Can be used underwater to depths of 30 meters



		SMW 50		SMW 80			SMW 110			
		Wheel 400	Wheel 600	Wheel 400	Wheel 600	Wheel 800	Wheel 400	Wheel 600	Wheel 800	Wheel 1000
Recommended excavator weight	t	10-15	10-15	15-25	15-25	20-30	20-40	20-40	25-40	30-40
Rated power	kW	50	50	80	80	80	110	110	110	110
Cutting width (A)	mm	45-130	45-130	45-130	45-130	45-130	80-150	80-150	80-150	80-150
Cutting depth (B)	mm	400	600	400	600	800	400	600	800	1,000
Cutter wheel diameter	mm	1,260	1,660	1,260	1,660	2,060	1,260	1,660	2,060	2,540
Weight of drive unit, approx.	kg	1,100	1,250	1,100	1,250	1,400	1,600	1,760	1,940	2,050
Weight of cutter wheel, approx.	kg	500	700	500	700	1,100	500	700	1,100	1,400
Torque at 380 bar	Nm	12,700	12,700	15,200	15,200	15,200	27,800	27,800	27,800	27,800
Cutting force at 380 bar	N	20,159	15,301	24,127	18,313	14,757	44,127	33,494	26,990	21,890
Recommended rotation speed	rpm	60	60	60	60	60	60	60	40	30
Recommended oil flow	l/min	125	125	150	150	150	300	300	300	300
Maximum oil flow at 50 bar	l/min	210	210	210	210	210	350	350	350	350
Maximum hydraulic pressure	bar	380	380	380	380	380	380	380	380	380
Maximum rebar diameter in re-enforced concrete	mm	not allowed	not allowed	16	16	12	16	16	12	12

Cutter wheels can be supplied with different picks to suit various applications and KEMROC have a range of picks available to suit. The weight of the cutter wheel depends on the diameter which determines the maximum cutting depth. The width of the cutter wheel does not have a major impact on the weight of the attachment. Quotations for wheels for different cutting depths can be supplied on request.

INJECTION ATTACHMENT



The KSI range of injection attachments were developed in cooperation with a german specialist ground engineering company and are at the core of their SCHÖKEM process.

The SCHÖKEM process is a system of soil stabilisation using an excavator attachment to inject and mix a defined concrete suspension in non-load bearing soils (KSI) that, when left to harden, create a homogenous, impermeable and frost resistant soil-cement structure. Depending on soil conditions and desired load bearing requirements, various concentrations of cement and binder fluid are used.

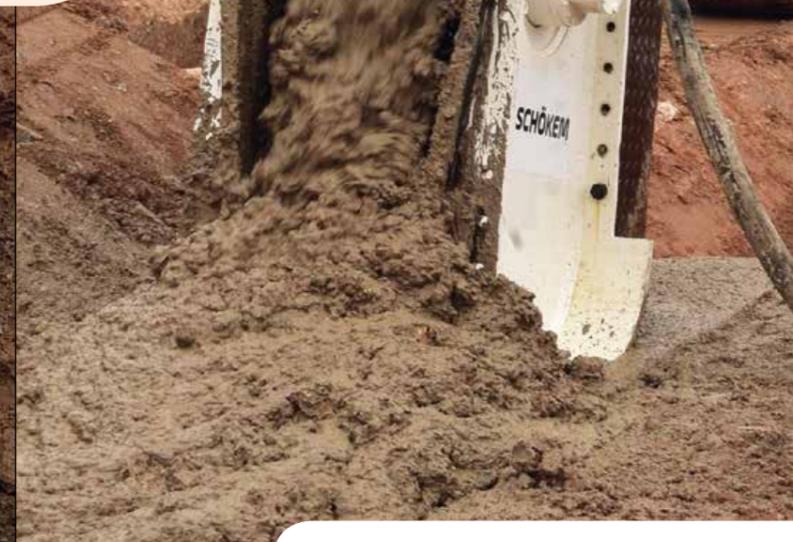
► More information on the innovative SCHÖKEM process can be found on pages 18 to 19.

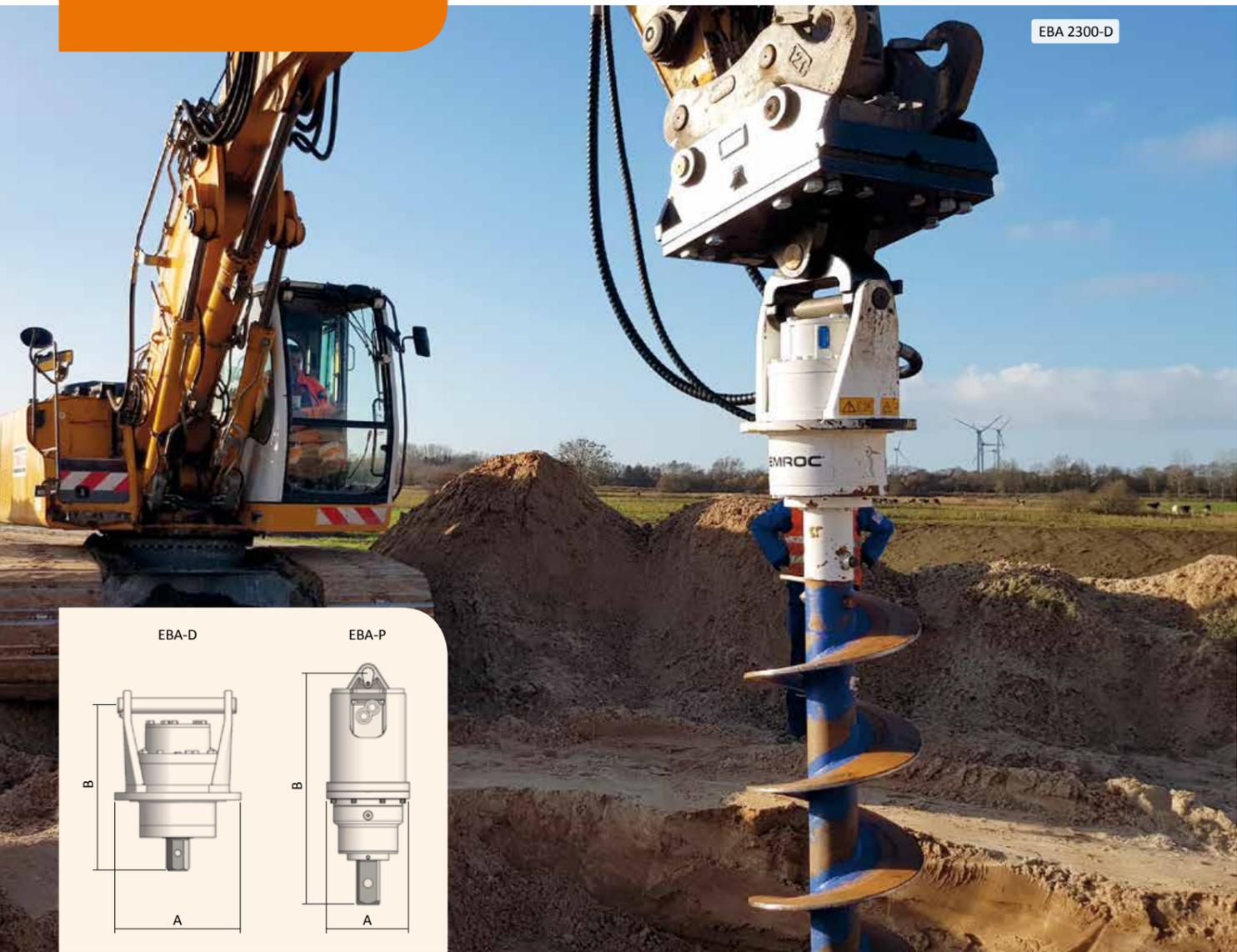
The new SCHÖKEM injection attachments are available in two sizes for mounting on excavators between 35 and 80 ton operating weight and can be supplied with a range of blade lengths. The drive unit for the KSI 5000 can work with blades for 3, 4 and 5 m mixing depths and the larger KSI 10000 with blades for mixing depths of 6, 8 or 10 m. Both models can be supplied with a rotation module as an optional extra.

- + Mixing blade extendable to 10 m
- + The attachment can be mounted on standard excavators
- + Optimal pattern of tungsten carbide tipped tools for the mixing process
- + High torque drive motors provide enough power to mix heavy soils
- + Simple, heavy-duty construction
- + Hydraulic tensioning of the mixing chain is possible

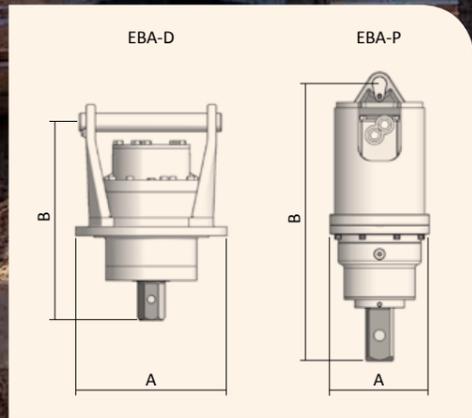


		KSI 5000	KSI 10000
Recommended excavator weight	t	35–50	50–80
Rated power	kW	130	220
Mixing width (A)	mm	400–500	500–600
Mixing depth (B)	mm	1,000–5,000	1,500–10,000
Recommended oil flow	l/min	300–350	350–500
Maximum oil flow	l/min	350	600
Maximum uniaxial compressive strength	MPa	10	10
Standard mixing tool	Type	12/45/38/22 HC	ER 17/75/70/30 Q
Weight			
... with 3 m long blade	kg	5,000	–
... with 4 m long blade	kg	5,500	–
... with 5 m long blade	kg	6,000	–
... with 6 m long blade	kg	–	9,500
... with 8 m long blade	kg	–	11,000
... with 10 m long blade	kg	–	12,500
For each additional meter in length	kg	500	750





EBA 2300-D



EBA 150-P



Alignment monitor



EBA 2300-D

The EBA range of auger drive units allows you to quickly convert your excavator, backhoe or skid-steer loader into a drill rig by simply changing the attachment.

These auger drive units are ideal for drilling shallow holes in soft to compact soils, cobbles and in soft rock with compressive strengths up to 40 MPa. For use in harder rock, KEMROC have developed special drilling tools to ensure higher drilling speeds.

EBA-D range:

Direct drive, short and heavy duty construction, hexagonal drive shaft

EBA-P range:

Planetary gear drive, high torque in a compact size, square drive shaft

- + High torque hydraulic motor
- + Robust and rigid bracket
- + Heavy duty bearings
- + Wear resistant augers
- + Auger drives for tough applications
- + Alignment monitor to guarantee vertical drilling



Notes for drilling with KEMROC auger drive units:

When mounted on an excavator arm, the augers are not supported in a feeder. Due to the natural curve of the excavator arm, augers can be bent during drilling. Therefore, special care must be taken to ensure that the augers are always working vertically. Only by keeping the auger in the vertical position can you guarantee a straight bore hole. Take great care to avoid bending the augers. Excessive bending of the auger can result in the hex drive breaking and damage to the auger drive. Select the auger rotation speed that corresponds to the auger diameter and material being drilled. Generally, rotation speeds should be lower for larger diameter augers or when drilling in harder material.

		EBA 150-P	EBA 300-P	EBA 700-P	EBA 500-D	EBA 1000-D	EBA 2300-D	EBA 2800-D	EBA 3500-P	EBA 6500-P
Recommended excavator weight	t	1–2	2–4	5–7	7–13	14–17	18–35	25–40	25–45	25–50
Adaptable to skid-steer loaders	yes/no	yes	yes	yes	no	no	no	no	no	no
Maximum drill diameter	mm	400	600	900	800	1,000	1,200	1,500	1,500	2,400
Minimum drill diameter	mm	100	100	150	200	200	300	300	300	300
Maximum drilling depth at maximum drill diameter	mm	1,200	1,800	2,500	2,000	3,000	4,000	4,000	5,000	4,000
Maximum drilling depth at minimum drill diameter	mm	2,000	3,000	5,000	5,000	5,000	8,000	8,000	8,000	8,000
Diameter of drive unit (A)	mm	200	244	269	390	390	500	500	406	406
Length of drive unit (B)	mm	585	665	780	600	600	980	980	1,400	1,400
Maximum torque	Nm	1,500	3,000	7,000	5,200	10,400	23,400	28,000	35,000	65,000
Recommended oil flow	l/min	15–30	25–50	40–70	50–70	80–150	150–250	180–280	180–280	220–300
Maximum oil flow	l/min	45	85	135	85	150	300	300	225	280
Maximum operating hydraulic pressure	bar	205	240	260	380	380	380	380	310	310
Maximum rotation speed	rpm	98	85	80	90	80	75	75	30	25
Auger connection	Type	R 65	R 65	S 75	H 80	H 80	H 80	H 80	S 110	S 110
Weight excl. hydraulic hoses and mounting plate	kg	38	73	112	160	180	360	360	442	472

Models in the EBA-P range are KEMROC traded products.

RANGE
KST

Grinding attachments
for wood and removal of
tree stumps

KST RANGE

TREE STUMP GRINDERS



KST 20

		KST 20	KST 30	KST 40	KST 50
Recommended excavator weight	t	2-4	5-10	10-16	15-25
Rated power	kW	55	80	130	135
Maximum torque at 350 bar	Nm	140	311	600	721
Recommended rotation speed	rpm	1,000	1,100	1,100	1,100
Maximum rotation speed	rpm	1,200	2,000	2,000	2,000
Recommended oil flow at 150 bar	l/min	25	60	120	140
Maximum oil flow	l/min	30	140	270	330
Maximum operating hydraulic pressure	bar	350	350	350	350
Weight of the base drive unit	kg	70	210	350	490
Cutter disc					
Weight with protection cover	kg	70	120	175	225
Number of cutting tools	Pcs	20	30	36	42
Standard cutting tool	Type	Wood cutting tool set			

You have disturbing, unsightly tree stumps on your property? We can remove them efficiently, cleanly and quickly. The newly developed KST range of tree stump grinders are designed specifically for the quick and effective removal of tree stumps.

Models, available for use on excavators from 2 to 25 ton operating weight as well as backhoe and skid steer loaders, can operate with rotation speeds up to 2,000 rpm. Due to the design of the cutter disk, hard wood can be ground very effectively as well as soft woods. All of our cutter disks are fitted with tungsten carbide tipped teeth.

As an optional extra, KST grinders can be supplied with one of the rotation modules from the KRM range.

- + Expensive excavation of tree stumps, earth works and recycling are no longer necessary
- + Wood shavings mix with soil and earth to fill the hole left by the tree stump
- + Roots left in the ground will rot away over time



KST 20

RANGE
KDS

Diamond cutter wheels
for use on steel, rock and
concrete

KDS RANGE

DIAMOND WHEELS



KDS 30

		KDS 20	KDS 30	KDS 40	KDS 50
Recommended excavator weight	t	2-4	5-10	10-16	15-25
Rated power	kW	55	80	130	135
Maximum cutter wheel diameter	mm	700	1,500	1,800	2,000
Maximum torque at 350 bar	Nm	140	311	600	721
Recommended rotation speed	rpm	1,000	1,100	1,100	1,100
Maximum rotation speed	rpm	1,200	2,000	2,000	2,000
Recommended oil flow at 150 bar	l/min	25	60	120	140
Maximum oil flow	l/min	30	140	270	330
Maximum operating hydraulic pressure	bar	350	350	350	350
Weight of the base drive unit	kg	85	330	514	720

The KDS range of diamond cutting wheels are designed for use on concrete, steel, reinforced concrete, rock and glass fibre enforced plastics (as used in wind turbine blades). High rotation speeds and a large variety of cutter wheels ensure high performance in a wide range of applications.

- + Large product range for excavators from 2 to 25 tons
- + Designed for use with cutter wheel diameters up to 2,000 mm
- + High rotation speed up to 2,000 rpm
- + Drive motors with heavy-duty bearings
- + Efficient water cooling for diamond cutter wheel
- + Sideways extendable protective covers for all cutter wheel diameters



KDS 30

KEMROC

RANGE
ETS

Trenching attachments
for soils and soft rock



		ETS 10	ETS 20	ETS 30	ETS 40	ETS 50
Recommended excavator weight	t	2.5–4.5	3.0–5.0	5.0–7.5	5.0–7.5	5–10
Adaptable to skid steer loaders	yes/no	yes	yes	yes	yes	yes
Trench cleaner available	yes/no	yes	yes	yes	yes	yes
Cutting width	mm	100–300	100–300	150–350	150–300	150–200
Cutting depth	mm	300–600	600–900	600–900	800–1,200	1,000–1,500
Recommended oil flow at 150 bar	l/min	35–65	45–80	60–95	70–115	80–135
Maximum hydraulic oil pressure	bar	240	240	240	240	240
Maximum oil flow	l/min	65	80	95	115	135
Maximum uniaxial compressive strength	MPa	15	15	20	20	20

The ETS range of trenchers can be used for producing clean, correctly profiled trenches quickly in cohesive soils as well as in soft rocks with uniaxial compressive strengths up to a maximum of 20 Mpa.

The cutter chain can be fitted with tungsten carbide tipped tools for soft rock or with tools designed for use in soils. In mixed ground, cutter chains with mixed tooling have given good results.¹⁾

Trenchers are designed for use on excavators from 2.5 to 10 tons and can be mounted on skid steer loaders with a suitable adaptor bracket.

- + Accurate, clean trenches to depths of 1.5 m
- + Easy to alter cutting width by changing cutter teeth
- + Cutting depths vary according to model
- + Transporting auger to clean soil out of trench
- + Trench cleaner to suit all trench widths
- + Mountable on skid steer loaders



¹⁾ An overview of cutter tools can be found on page 50.

RANGE
EXRUST

Surface cleaners for use
on flat metallic surfaces



		EXRUST 60
Recommended excavator weight	t	8–15
Rated power	kW	45
Cleaning width, standard	mm	600
Recommended rotation speed	rpm	750–820
Recommended oil flow at 100 bar	l/min	75–90
Minimum oil flow	l/min	75
Maximum oil flow	l/min	95
Maximum operating hydraulic pressure	bar	350
Operating weight	kg	780

The EXRUST range of cleaning head attachments were developed by KEMROC to clean flat metal surfaces such as those found in the holds of cargo ships. The drums rotate at a speed of 800 rpm. During operation, a specially made chain removes paint or other materials from the metal surface.

Hearing protection must be worn while working with the EXRUST cleaning heads.



EXRUST RANGE
CLEANING HEADS

STANDARD TOOLS



STANDARD PICK	RETAINER	STANDARD PICK BOX
Round attack pick ER 12/45/38/22 HC Art. No. 12 45 38 23	Retaining clip ES 450 Art. No. 99 99 99 96	Pick box PH 450 UA Art. No. 72 10 25 UA
Round attack pick ER 17/64/60/25 Q Art. No. 17 64 60 26	QuickSnap QS 600 Art. No. 99 25 00 25	Pick box PH 600 Art. No. 76 10 25 UA
Round attack pick ER 17/75/70/30 Q Art. No. 17 75 70 35	QuickSnap QS 5000 Art. No. 99 50 00 30	Pick box PH 1500 Art. No. 71 10 22
Round attack pick ER 19/75/70/30 Q Art. No. 19 75 70 35 E	QuickSnap QS 5000 Art. No. 99 50 00 30	Pick box PH 1500 Art. No. 71 10 22
Round attack pick ER 22/75/70/30 Q Art. No. 22 75 70 30	QuickSnap QS 5000 Art. No. 99 50 00 30	Pick box PH 1500 Art. No. 71 10 22
Round attack pick ER 16/28/26/14 H Art. No. 16 28 26 14	—	Pick box PH 80 Art. No. 71 12 22
Round attack pick ER 16/29/25/14 C Art. No. 16 29 25 14	Retaining clip ES 70 Art. No. 99 99 99 76	Pick box PH 70 Art. No. 71 10 32
Round attack pick ER 19/33/30/15 S Art. No. 19 33 30 15	Circlip SG 100 Art. No. 99 99 99 90	Pick box PH 100-N Art. No. 79 10 04 E
Round attack pick ER 16/48/32/20 H Art. No. 16 48 32 20	—	Pick box PH 250 Art. No. 72 10 24
Round attack pick ER 19/48/36/20 H Art. No. 19 48 36 20	—	Pick box PH 250 Art. No. 72 10 24

STANDARD TOOLS FOR ETS TRENCHERS	
Tungsten carbide tipped tools for ETS 20 and ETS 30	
	Left side cutter pick Art. No. 44-2001
	Straight cutter pick Art. No. 44-2002
	Right side cutter pick Art. No. 44-2003
Soil tooth for ETS 20 and ETS 30	
	Left side blade Art. No. 44-2002
	Right side blade Art. No. 44-2011
Tungsten carbide tipped tools for ETS 30, ETS 40 and ETS 50	
	Left side cutter pick Art. No. 44-3003
	Straight cutter pick Art. No. 44-3004
	Right side cutter pick Art. No. 44-3005
Soil tooth for ETS 30, ETS 40 and ETS 50	
	Left side blade Art. No. 44-3001
	Right side blade Art. No. 44-3002



Your local dealer



This catalogue is used to describe our products and the accessories. The information contained in it does not imply any certified properties or indicate any suitability for certain or assumed purposes. Technical changes are reserved without prior announcement. We disclaim any liability arising from the illustrations and information in the catalogue and from all our representatives.

2019-079

www.kemroc.de

KEMROC Spezialmaschinen GmbH
Jeremiasstr. 4
36433 Leimbach
Germany

KEMROC Spezialmaschinen GmbH
Production and Service
Ahornstr. 6
36469 Hämbach
Germany

Phone +49 3695 850 2550
Fax +49 3695 850 2579
E-Mail info@kemroc.de
www.kemroc.de

KEMROC®