

BAUER BG 45

Drilling Rig Base Carrier BS 95



The BAUER drilling rig stand for multifunction equipment for a variety of foundation construction systems. The selection between two model ranges allows an optimum choice for differing project or transportation requirements.

Specific highlights of the drilling rigs are:

- High safety standards
- Environmental sustainability, economic efficiency and performance
- Easy to transport and short rigging time
- High quality standard
- Long lifetime and excellent resale value



Kelly drilling



Cased Kelly drilling
Casing Installation with BTM



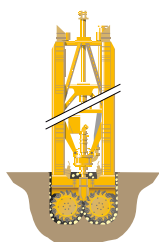
Cased Kelly Drilling
Installation with
Oscillator



FDP
Full Displacement Piling
(Standard or Lost Bit)



CFA
Continuous Flight Auger
Drilling

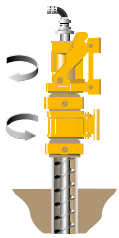


BC
Trench Cutter



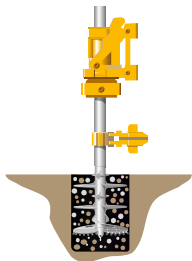
The Drilling Rig BG 45 (BS 95)

Max. drilling diameter:	3,700 mm
Max. drilling depth:	100.0 m
Torque (nominal):	461 kNm
Max. height:	42.0 m
Engine:	CAT C 15 / 433 kW



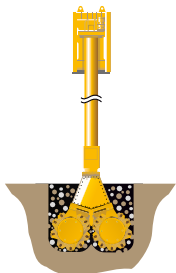
CCFA

Cased CFA system
with KDK+ BTM / Double
Rotary System



SCM

Single Column Mixing



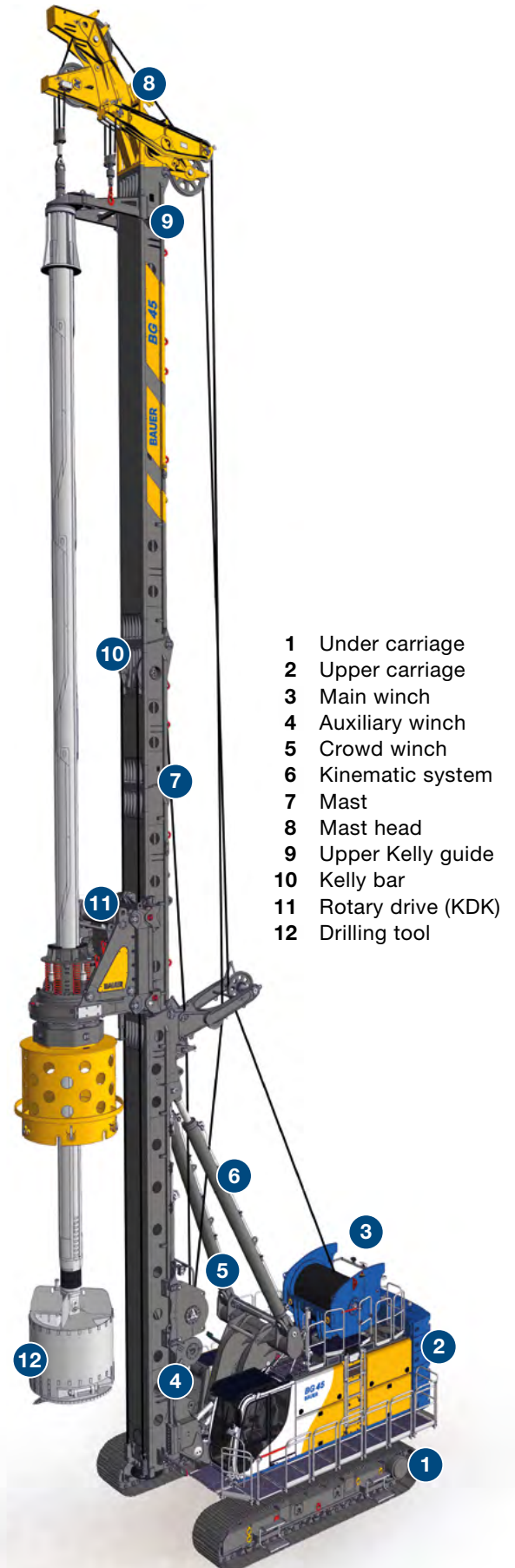
CSM

Cutter Soil Mixing



TR

Vibrator



Modern, ergonomic operator's cab

- FOPS compliant with additional protective roof guard
- Premium operator seat, air-sprung, heatable and air-conditioned
- Joystick controls with high functionality
- B-Drive combines adjustable potentiometer values on one display

**Powerful CAT engine**

- CAT C 15 433 kW (UN ECE R96* or Stage V / Tier 4 final)
- Diesel particulate filter in Exhaust Emission Standard Stage V / Tier 4 final
- Low noise emission
- Worldwide CAT service partners

Main winch (on upper carriage)

- Single layer winch for minimized rope wear
- Constant line pull
- Service-friendly winch position
- Swing down mechanism for transport

**Safety equipment**

- Guardrails on upper level (foldable for transport)
- Walking platform with handrail (foldable for transport)
- Upward folding service doors
- Closed circuit cameras for rear area and main winch surveillance with display on integrated screen in operator's cab

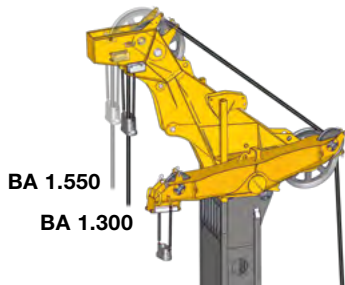


**Energy-Efficient
Power**

- Reduction of fuel consumption by up to 30%
- Increased productivity through improved efficiency
- Significantly reduced noise levels
- Tried and proven suitability for practical application
- Optimized parallel operation of main and auxiliary consumers

* equivalent to Tier 3 and EU-Stage 3a

Vario-Mast head



Drill axis extension



Flexible mast concept

- Vario-mast head
 - Mast head for drill axis distance 1,300 / 1,550 mm, expandable to 1,700 / 2,000 mm
 - Increased stroke for Kelly bars when using an upper Kelly guide
- Vario-crowd winch system
 - Transport possible with built-in crowd ropes (Kelly method)
 - Reduced headroom version, min. rig height of 16.6 m possible by means of integrated Vario-mast section
- Mast extension 3 m or 5 m
 - Mast erection without auxiliary crane
 - Mast extensions can be combined with all drill axes
- Mast extension 5 + 5 m and 5 + 5 + 3 m for CFA, FDP drilling as well as SCM mixing

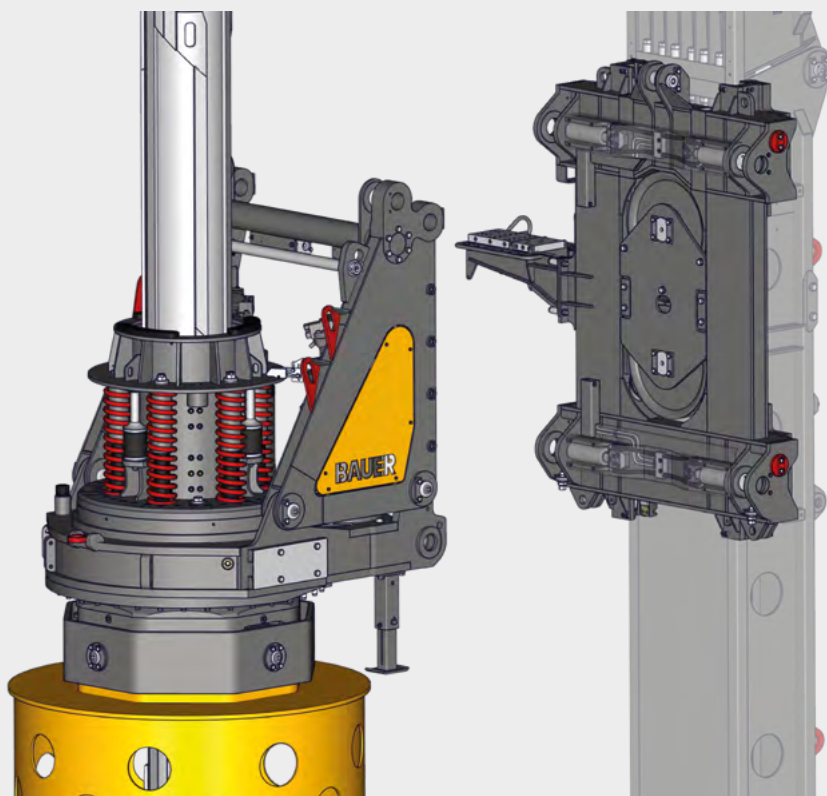
Safe and easy transport

- Mobilization kit with hydraulically operated pin connection for fast and save demounting of lower mast section
- Hydraulic locking of support trestle
- Activated by remote control multi
- Quick-release hose package on mast



Remote control for rigging the machine

- The remote control can be used to perform numerous rigging functions outside the danger zone, such as moving the drilling rig, telescoping the under carriage, etc.
 - Operation within sight of the controlled rigging functions
 - Rugged and compact wireless remote control Multi with LCD screen
 - Lockable storage box for the remote control can be accessed from the ground

**Kelly set-up**

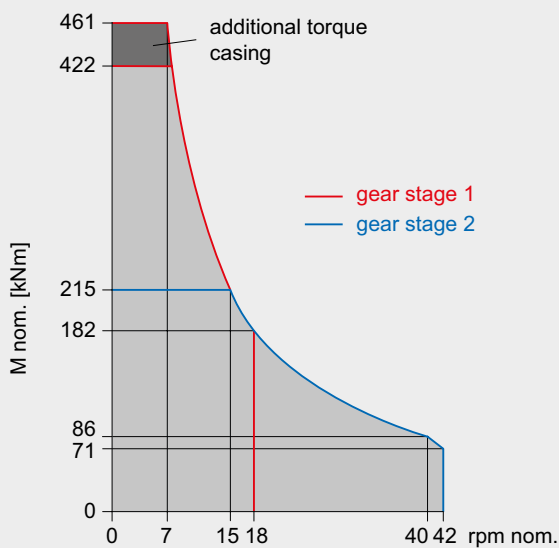
- Long Kelly guide
- Integrated shock absorbing spring system
- Kelly visualization (see page 11)
- Enhanced drilling performance
- High operation comfort
- Reduction of wear on Kelly bars and drive keys

Rotary Drive

- Optional single-gear or multi-gear drive
- Max. torque 461 kNm
- Max. speed 42 rpm
- Various modes of operation, partially selectable speed and torque

Hydraulically operated pin connection on crowd sledge

- Pin connection controlled via remote control
- Simple and secure attachment of the rotary drive, no unsecured working at heights

KDK 460 S

* not to scale

Base carrier BS 95

Standard

- Removable counterweight elements
- Removable crawler side frames with quick-release hydraulic couplers
- Platforms with handrail (on both sides and at the cabin)
- Guardrails upper level (foldable for transport)
- Cameras for rear area and main winch surveillance
- Hydraulic system with quick-release hydraulic couplers (socket bank)
- Remote control basic

Optional

- Counterweight variably adjustable
- Walking platform with handrail (continuous on both sides, at cabin level, optional foldable for transport)
- Compressor 1,000 l/min
- Electric generator 12,1 kVA
- Bio-degradable hydraulic oil
- Arctic kit / Arctic kit plus
- Remote control multi
- Premium operator seat "climate"

Drilling rig attachment

Standard

- Main winch with hydraulically operated freewheeling
- Swivel for main rope
- Pivoted anchor points for main and auxiliary rope
- Hydraulic locking for support trestle
- Flexible mast concept (Vario-mast, Vario-mast head)
- Reduced headroom version possible by means of Vario-mast section

Optional

- Extension of drill axis to 1,550 / 1,700 / 2,000 mm
- Mast support unit
- Mast extension 3 m / 5 m (Kelly method)
- Mast extension 5 + 5 m / 5 + 5 + 3 m (CFA, FDP, SCM method)
- Attachment of casing oscillator (up to BV 2000)
- Attachment of casing oscillator possible up to 2,500 mm drilling diameter
- Mobilization kit
- Hydraulically operated pin connection on the crowd sledge
- Quick-release hose package on mast

Rotary drive

Standard

- Rotary drive KDK 460 S (multi-gear)
- Kelly equipment for outer Kelly tube 470 mm
- Integrated Kelly damping system
- Quick-release hydraulic couplers

Optional

- Kelly equipment for outer Kelly tube 559 mm
- Torque multiplier BTM 720 K
 - Torque 600 kNm

Measuring and control system

Standard

- Automatic mast alignment with memory recall
- Crowd stroke monitoring

Optional

- Electronic load sensing for auxiliary winch
- Recording of concrete pressure and volume for Single-Pass processes
- Software modules for further applications
- Adaptive Kelly speed assistant
- Automatic drilling and extraction
- BAUER Enhanced CAN Interface (BECI)
- Crowd Plus

Stability Plus

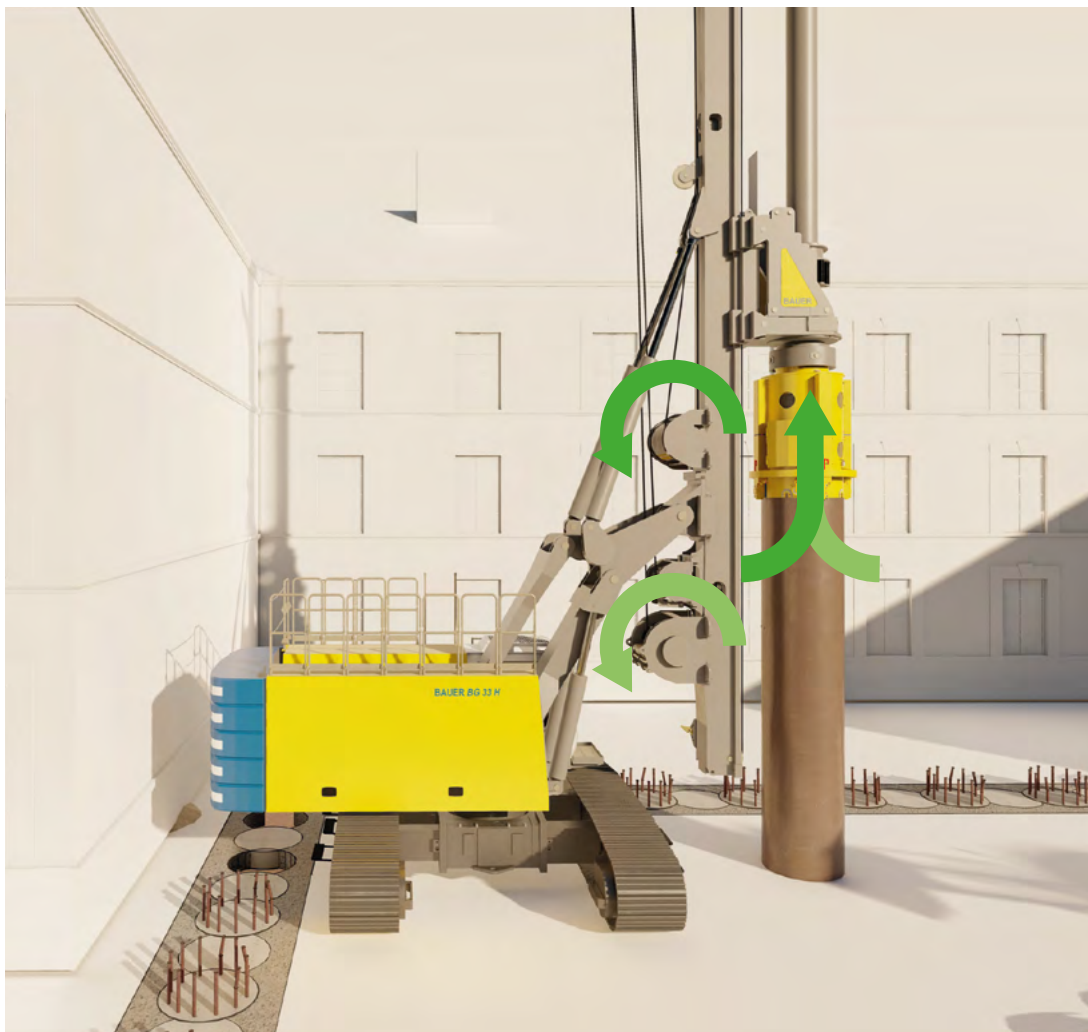
- Safe work even in the extended range of outreach (safety sensors monitor swinging speed and rotary drive position)
- The usual agility of the drilling rig during Kelly drilling with up to 3 rpm is fully maintained
- Enhanced performance thanks to extended outreach during drilling (light green area)
- Laborious relocation to reach drilling locations, particularly in corners, is avoided. This enables simplified handling on tight sites
- The strain on the equipment operator is reduced
- Display of permitted equipment parameters on the B-Tronic in real time
- Easy data transfer of stability values to B-Tronic
- All stability values calculated for the equipment are saved in B-Tronic and can be selected and activated quickly and easily



Only for reference to show working principle

Crowd Plus

- Increased retraction force for extracting casing pipes by coupling the main and crowd winch
- Control via a single joystick
- Single-line pulling with the main winch possible
- Function only permitted when using a suitable pulling plate (pulling plate not included)
- Full single-line main winch pulling force can only be activated when using the mast support (reduced pulling force without mast support)
- Effective extension for cased kelly drilling



Only for reference to show working principle

B-Tronic

The BAUER B-Tronic system allows completion of construction tasks in a reliable and accurate manner, even under extreme operating conditions

- The high-resolution touchscreen display ensures excellent user-friendliness
- The display can be optimally adapted to the operating situation and the amount of light present by changing the brightness level, the color scheme and the day/night mode
- The main parameters such as pump pressure, torque and drilling depths can be viewed at a glance



B-Drive

The B-Drive is a central operating and visualization system

- B-Drive combines adjustable potentiometer values on one display
- Ergonomic positioning of the display on the right column of the operator's cab

Tablet

The tablet is the multi-functional tool for the BAUER machine

- Online access to the customer portal, handbooks, equipment management systems and much more
- Standard internet connection via the DTR module, which is located in the machine
- The operator's screen can be mirrored live on the tablet to track the operating process



Device networking

DTR module

- The DTR module allows equipment and production data to be made available to a wide variety of users

WEB-BGM

- WEB-BGM is a software used to retrieve equipment data and establish the locations of various machines, even if you are not on site

B-Report

- Standardized reports for the documentation of drilling progress and verification of performance and quality

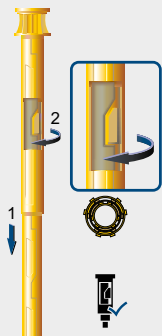


Adaptive Kelly speed assistant

The assistant raises and lowers the Kelly bar safely and quickly and allows an easy operation.

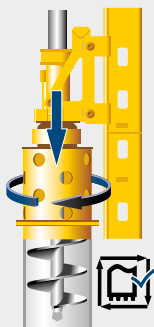
The automatic control of the speed of the main winch reduces the speed at the transition points of the Kelly sections.

This provides maximum safety with minimum wear. The permanent monitoring of the parameters prevents a locked Kelly bar from being raised or lowered accidentally and thus causing damage.



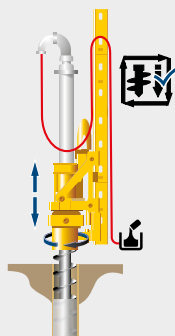
Kelly visualization

Display of the locking recesses, as well as representation of the controlled extension and retraction of the Kelly bar on the B-Tronic system. The rapid approach of the locking position results in a considerably enhanced drilling performance. In addition, the level of wear that the Kelly bar and drive keys are subject to is significantly reduced.



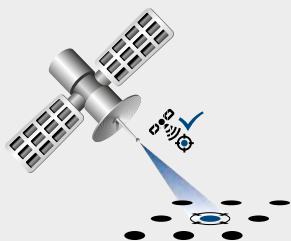
Kelly drilling assistant

Saves the current crowd speed and the speed of the rotary drive. It enhances drilling performance with simultaneous hands-free operation. Drilling parameters can be adjusted during the automated drilling procedure.



Automatic drilling and extraction control for Single-Pass processes

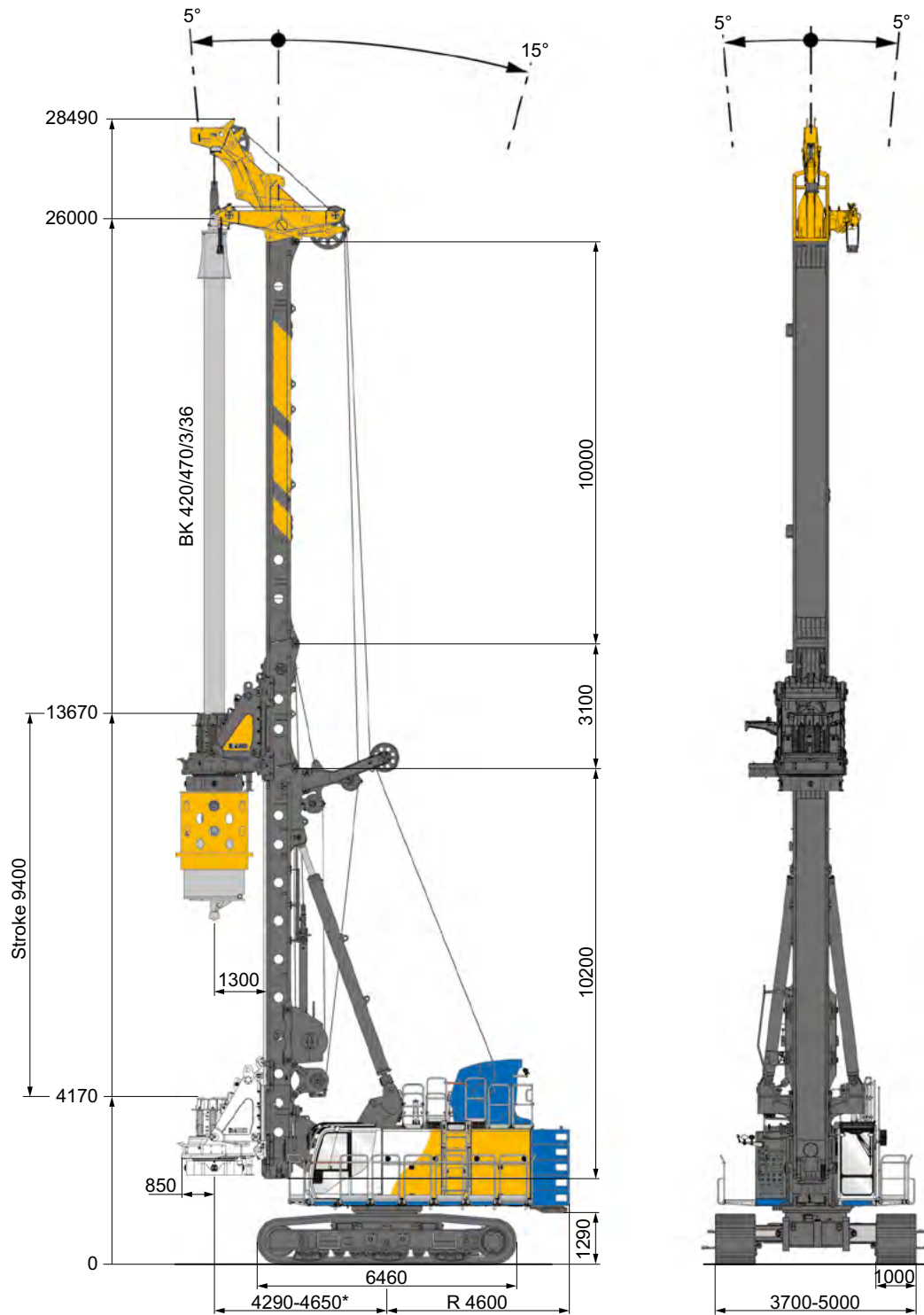
The system controls the drilling and/or extraction speed of the crowd system and enables hands-free operation. This ensures the production of a high-quality pile while simultaneously minimizing the amount of concrete.



Satellite-based positioning

The BAUER Assistant Positioning System (B-APS) allows the position of a bored pile to be located extremely accurately. Documentation is provided for the nominal and actual coordinates, as well as the corresponding accuracy of each bored pile. Manual marking of the piles is no longer required.

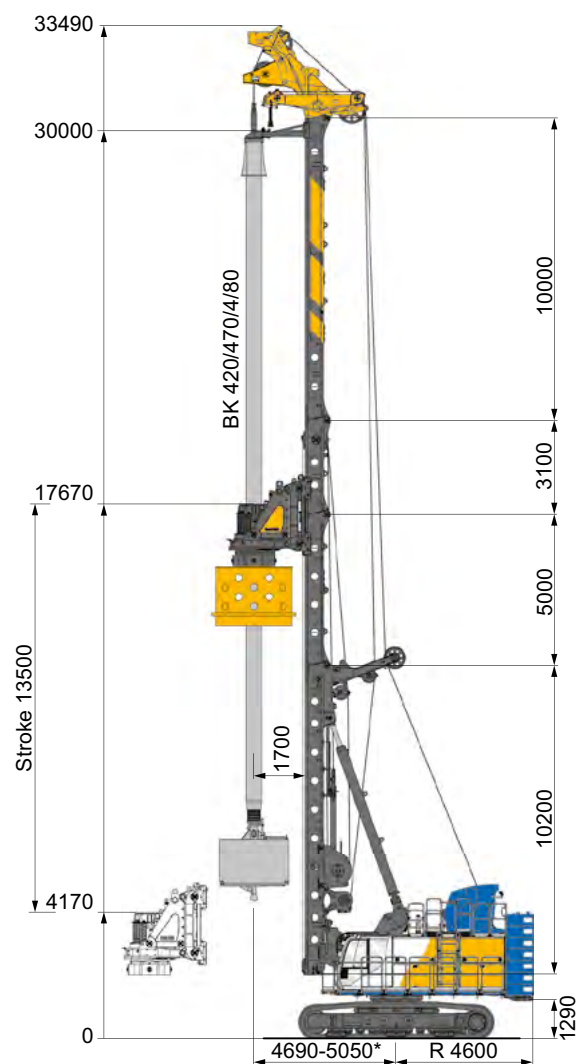
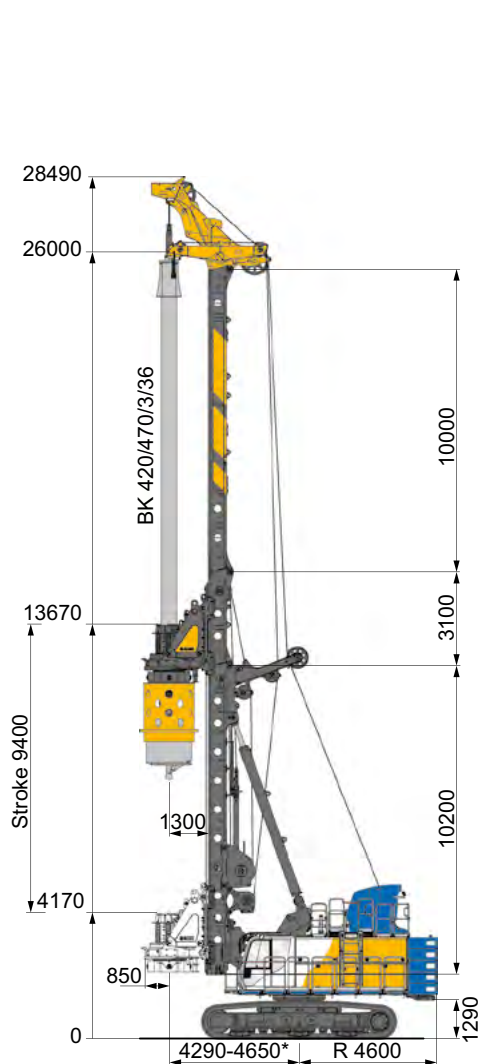
Numerous other assistance systems are available in our portfolio.



Operating weight 150 t
(as shown)

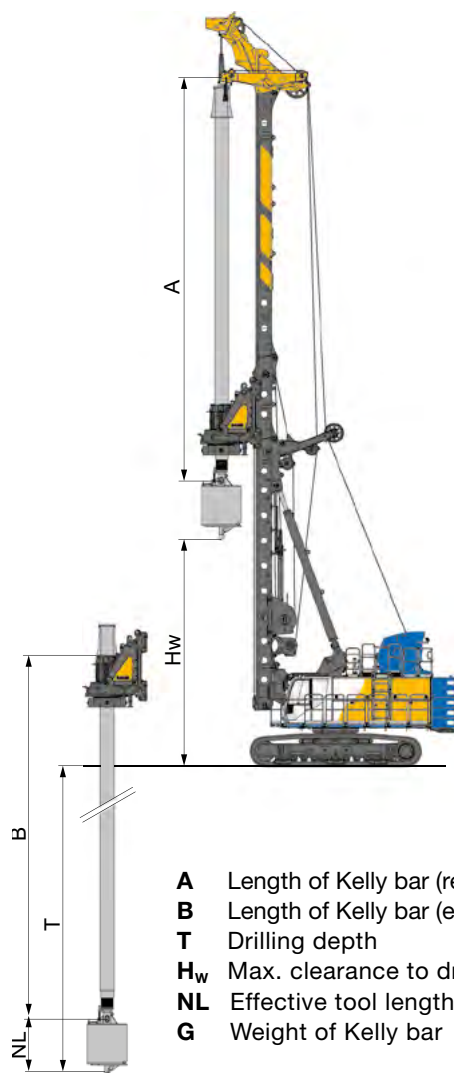
* depending on equipment

Rotary drive		KDK 460 S	
Torque casing (nominal) at 350 bar		461 kNm	
Torque drilling (nominal) at 350 bar		422 kNm	
Speed of rotation (max.)		42 rpm	
Crowd winch system			
Max. stroke of sledge		32,400 mm	
Max. stroke of Kelly		13,500 mm	
Crowded force push effective / nominal		464 / 595 kN	
Crowded force pull effective / nominal		464 / 595 kN	
Extraction force Crowd Plus effective / nominal with Mast support unit		844 / 1.082 kN	
without Mast support unit		768 / 984 kN	
Rope diameter		28 mm	
Speed (down/up)		12.0 m/min	
Fast speed (down/up)		35.0 m/min	
Main winch		single-layer	
Winch classification		M6 / L3 / T5	
Line pull (1st layer) effective / nominal		380 / 480 kN	
Rope diameter		40 mm	
Line speed (max.)		63 m/min	
Auxiliary winch (selectable)			
Winch classification		M6 / L3 / T5	
Line pull (1st layer) effective / nominal	100 / 127 kN	140 / 177 kN	
Rope diameter	20 mm	22 mm	
Line speed (max.)		55 m/min	
Base carrier (EEP)		BS 95	
Engine		CAT C 15	
Rated output ISO 3046-1		433 kW @ 1,850 rpm	
Exhaust Emission Standard acc. to	UN ECD R96*	EU Stage V EPA/CARB Tier 4 final	
Diesel tank capacity / AdBlue tank	1,000 / – l	840 / 35 l	
Sound pressure level in cabin (EN 16228, Annex B)		L _{PA} 80 dB(A)	
Sound power level (2000/14/EC and EN 16228, Annex B)		L _{WA} 110 dB(A)	
Hydraulic pressure		350 bar	
Hydraulic oil tank capacity		1,000 l	
Flow rates		2 x 430 + 1 x 565 + 1 x 215 l/min	
Under carriage		UW 130	
Crawler type		B8B	
Traction force effective / nominal		880 / 1,030 kN	



	Basic version		Upgraded version	
Mast extension	without		5 m	
Upper Kelly guide	without		with	
Drilling axis	1,300 mm	1,550 mm	1,700 mm	2,000 mm
Max. drilling diameter uncased	2,300 mm	2,800 mm	3,100 mm	3,700 mm
Max. drilling diameter cased	2,000 mm	2,500 mm	2,800 mm	3,400 mm
Operating weight approx. with Kelly BK 420/470/...	150 t	180 t	180 t	190 t
Casing drive adapter with bucket	Ø 1,650 mm	Ø 2,000 mm	Ø 2,500 mm	Ø 3,500 mm
with counterweight*	19.7 t	29.4 t	29.4 t	34.3 t

* depending on equipment



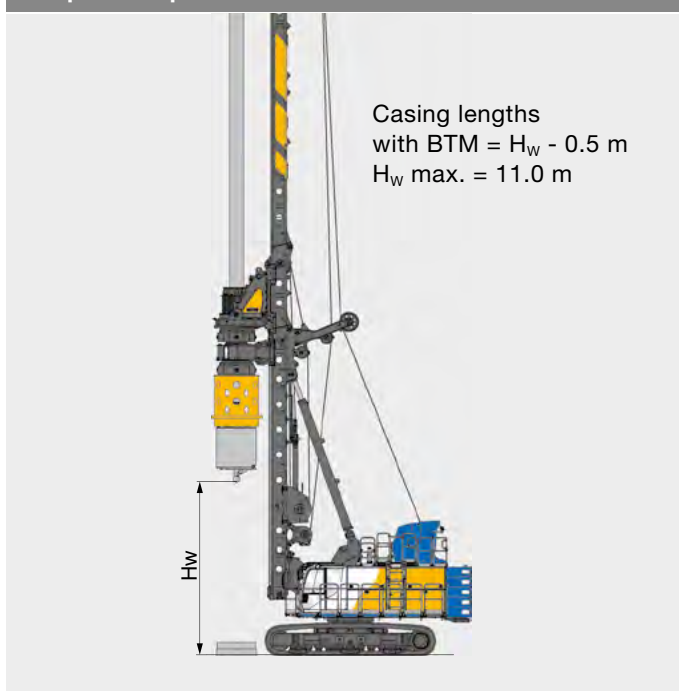
Drilling depth – uncased Kelly drilling

				Basic version BA 1,300 mm		Upgraded version BA 1,550 mm	
3-part Kelly bar	A (m)	B (m)	G (kg)	H _w (m)	T (m)	H _w (m)	T (m)
BK420/470/3/36	15.2	38.2	9,400	8.5	35.9	12.7	35.9
BK420/470/3/42	17.2	44.2	10,500	6.5	41.9	11.5	41.9
BK420/470/3/48	19.2	50.2	11,600	4.5	47.9	9.5	47.9
BK420/470/3/52	20.6	54.2	12,300	3.1	51.9	8.2	51.9
4-part Kelly bar							
BK420/470/4/56	17.2	57.8	14,400	6.5	55.5	11.5	55.5
BK420/470/4/64	19.2	65.8	16,000	4.5	63.5	9.5	63.5
BK420/470/4/72	21.2	73.8	17,600	2.5	71.5	7.5	71.5
BK420/470/4/80	23.2	81.8	19,200	–	–	5.5	79.5
BK420/470/4/84	24.2	85.8	20,000	–	–	4.5	83.5
BK420/470/4/88	25.2	89.8	20,800	–	–	3.5	87.5
BK420/470/4/92	26.2	93.8	21,600	–	–	2.5	91.5
BK420/470/4/94	26.7	95.8	22,100	–	–	2.2	93.5
5-part Kelly bar*							
BK210/470/5/80	19.0	82.6	15,300	4.8	80.3	10.0	80.3
BK210/470/5/90	21.0	92.6	16,800	2.8	90.3	8.0	90.3
BK210/470/5/95	22.0	97.6	17,600	–	–	7.0	95.3

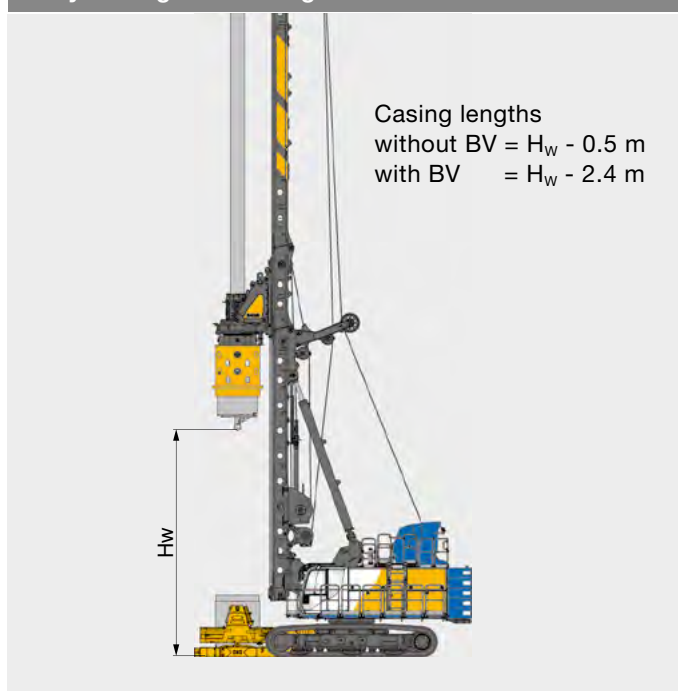
Drilling data as shown are based on tool length NL = 1.9 m, minimum horizontal mast reach and using Bauer attachment. Drilling depth is increased by 0.39 m when using maximum horizontal mast reach.

Further drilling depths, diameters and other Kelly types on request.

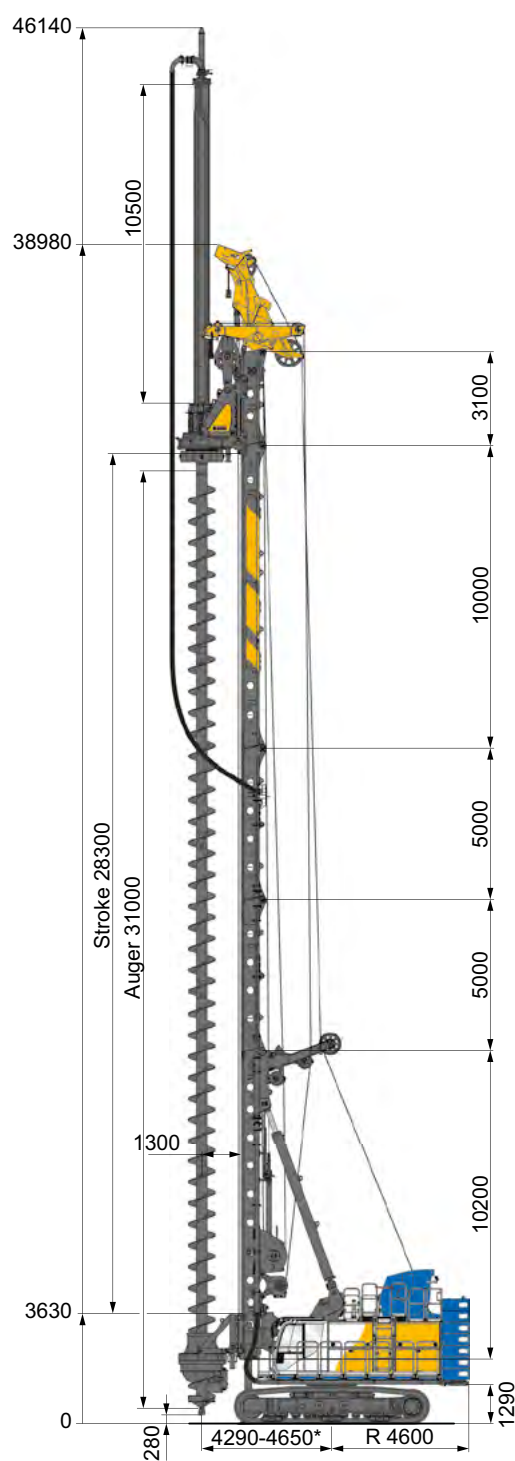
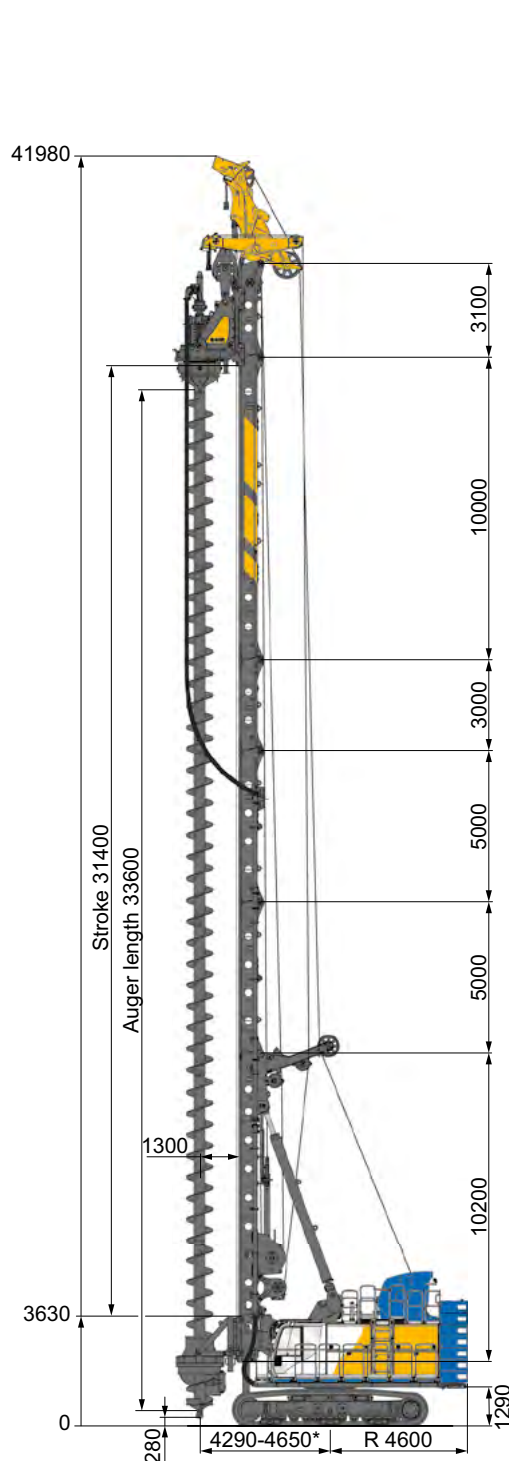
Torque multiplier BTM 720 K



Kelly drilling with casing oscillator BV 2000

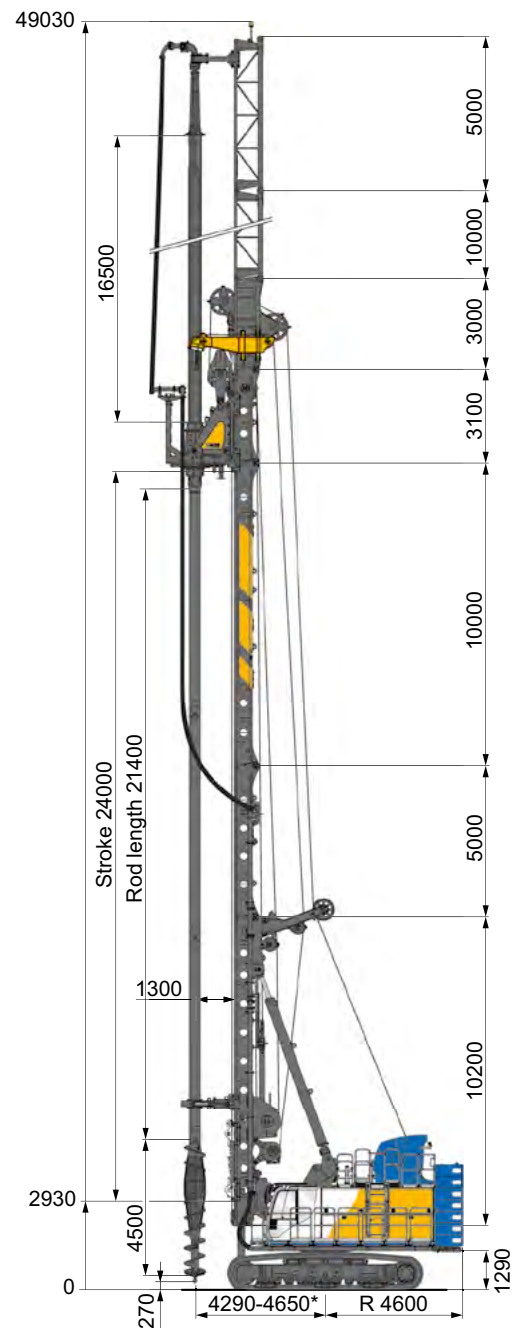
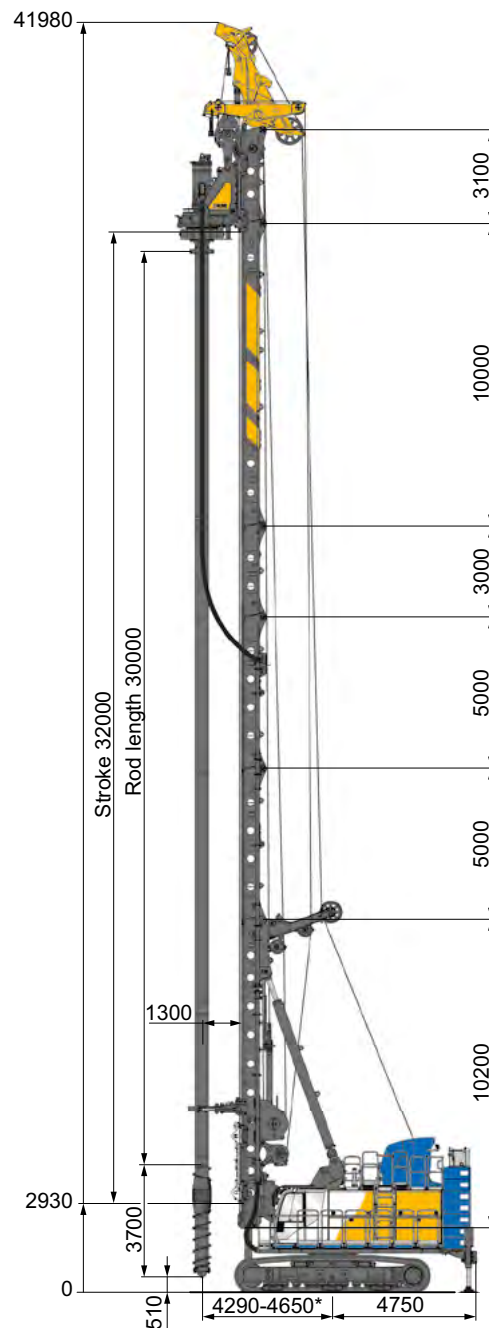


* Reduction of torque to 210 kNm for Kelly type BK 210



	without kelly extension	with kelly extension
Mast extension	without	5 + 5 m
Kelly extension	without	10.5 m
Max. drilling diameter	1,200 mm	1,200 mm
Max. drilling depth (with auger cleaner)	31.0 m	38.5 m
Max. extraction force with main and crowd winch (effective)	1,160 kN	1,160 kN
with counterweight*	34.3 t	34.3 t

* depending on equipment

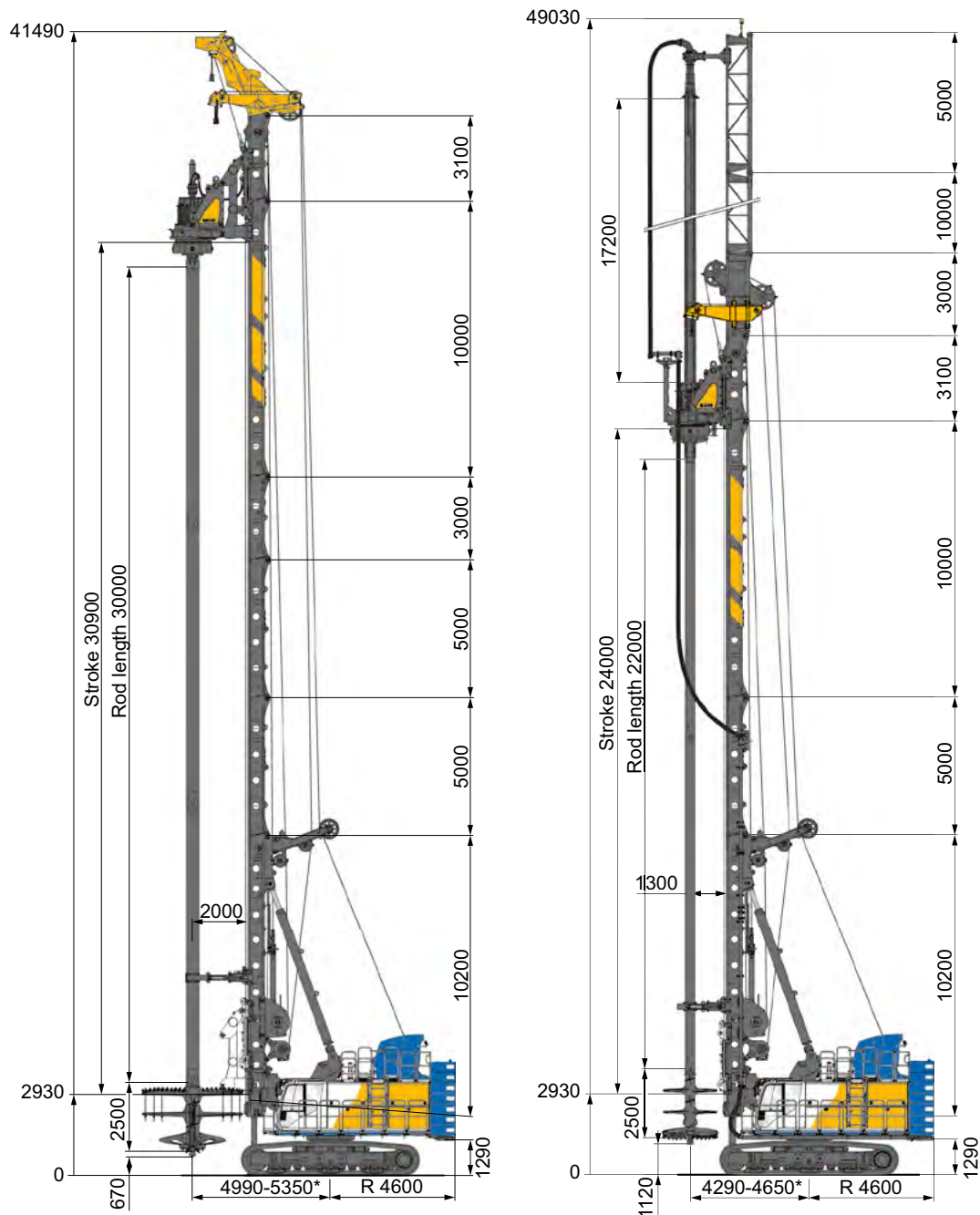


	FDP Lost-Bit***	FDP with lattice mast extension
Mast extension	5 + 5 + 3 m	5 m
Kelly extension	not applicable	16.5 m
Max. drilling diameter	710 mm	710 mm
Max. drilling depth	31.0 m	39.0 m**
Max. extraction force with main and crowd winch (effective)	1,160 kN	1,160 kN
with counterweight*	34.3 t	34.3 t

* depending on equipment

** up to 44.0 m, with an additional 5 m mast extension available upon request

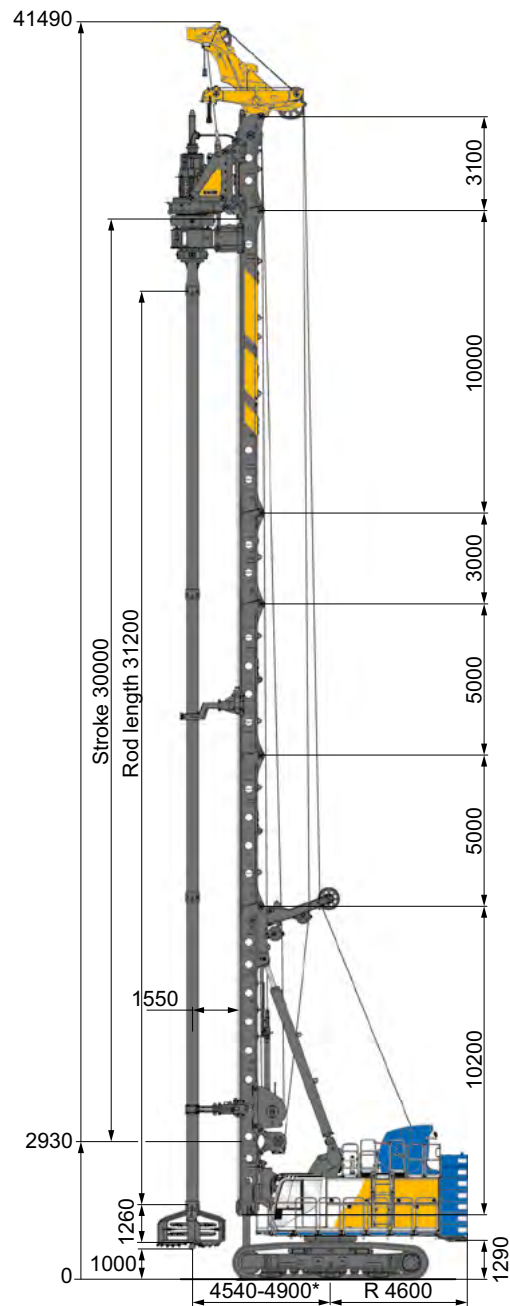
*** optional: Rear support unit, high-pressure cleaner with water tank



	without lattice mast extension	with lattice mast extension
Mast extension	5 + 5 + 3 m	5 m
Kelly extension	without	17.2 m
Drill axis	2,000 mm	1,300 mm
Max. mixing diameter	3,650 mm	2,000 mm
Max. mixing depth with pipe guidance	30.0 m	39.0 m**
Max. extraction force with main and crowd winch (effective)	814 kN	814 kN
with counterweight*	34.3 t	34.3 t

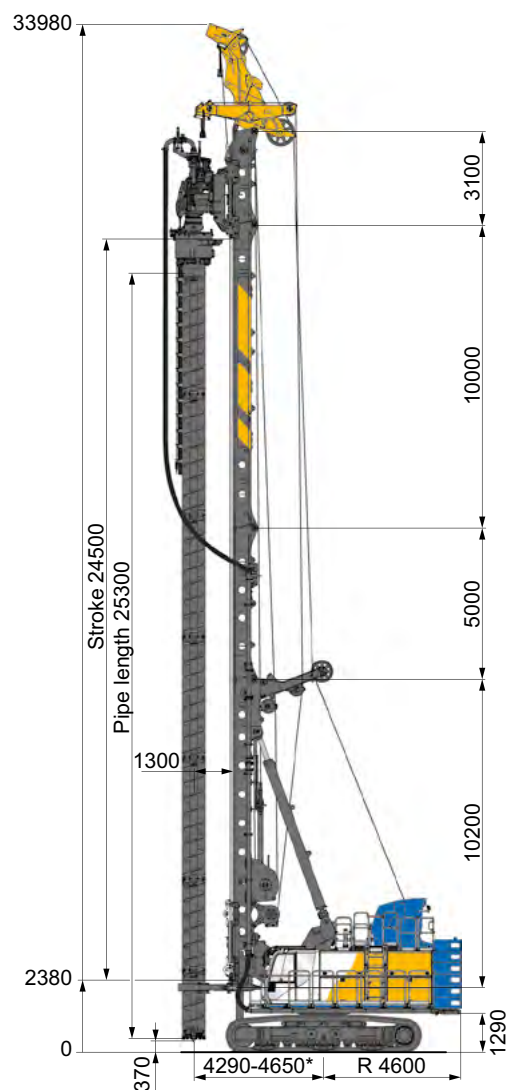
* depending on equipment

** up to 44.0 m, with an additional 5 m mast extension available upon request



Mast extension	5 + 5 + 3 m
Kelly extension	without
Drill axis	1,550 mm
Max. mixing diameter	2,400 mm
Max. mixing depth with casing guidance	28.8 m
Max. pulling force with crowd winch and main winch (effective)	530 kN
with counterweight*	34.3 t

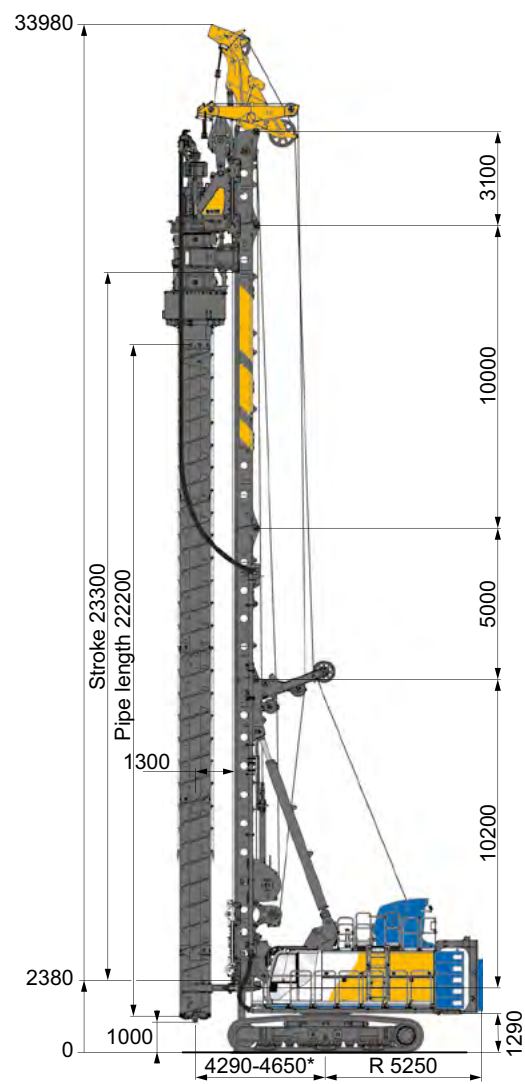
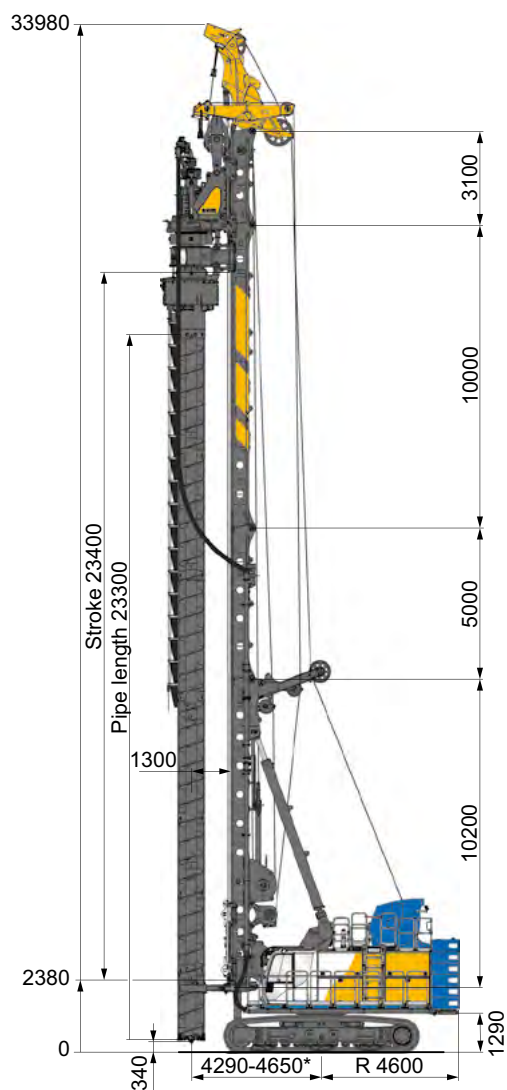
* depending on equipment



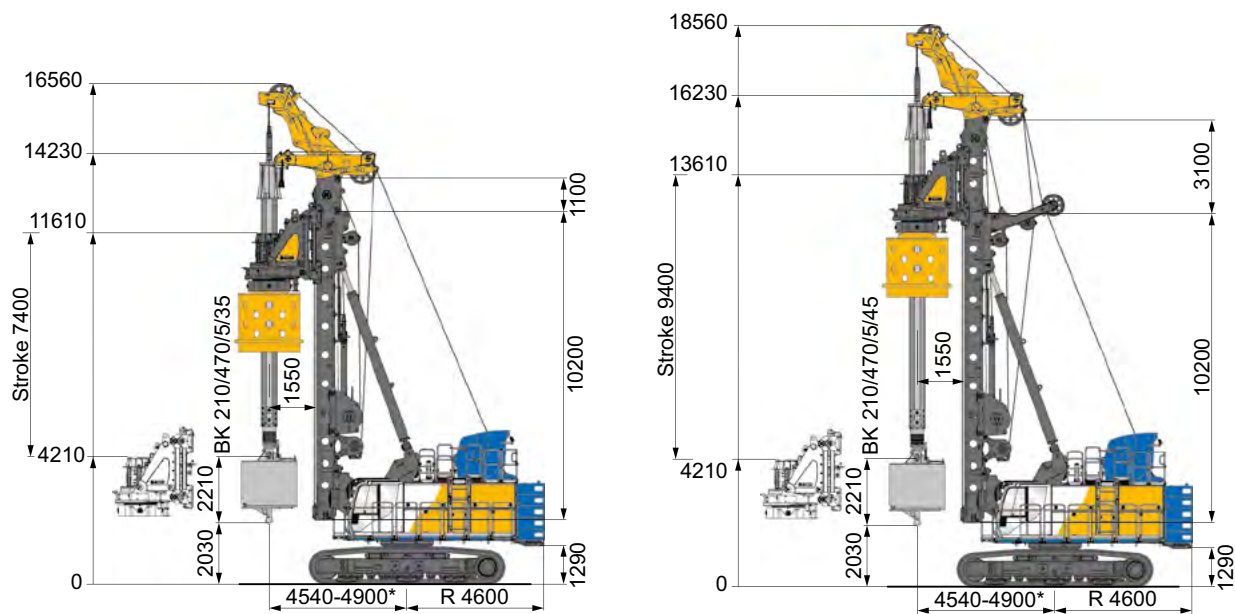
with DKS 100/200

Mast extension	5 + 5 m	5 m
Max. mixing diameter	750 mm	880 mm
Max. drilling depth	28.0 m	23.0 m
Max. extraction force with main and crowd winch (effective)	530 kN	
Spoil discharge system	Standard	
Max. torque:		
Auger (right-hand rotation)	200 kNm	
Casing (left-hand rotation)	400 kNm	
with counterweight*	34.3 t	

* depending on equipment

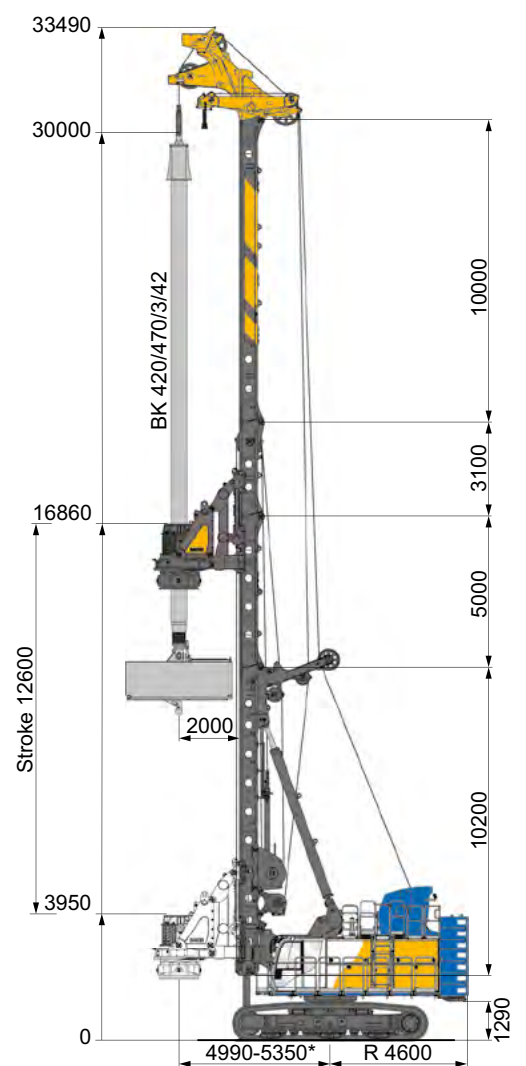
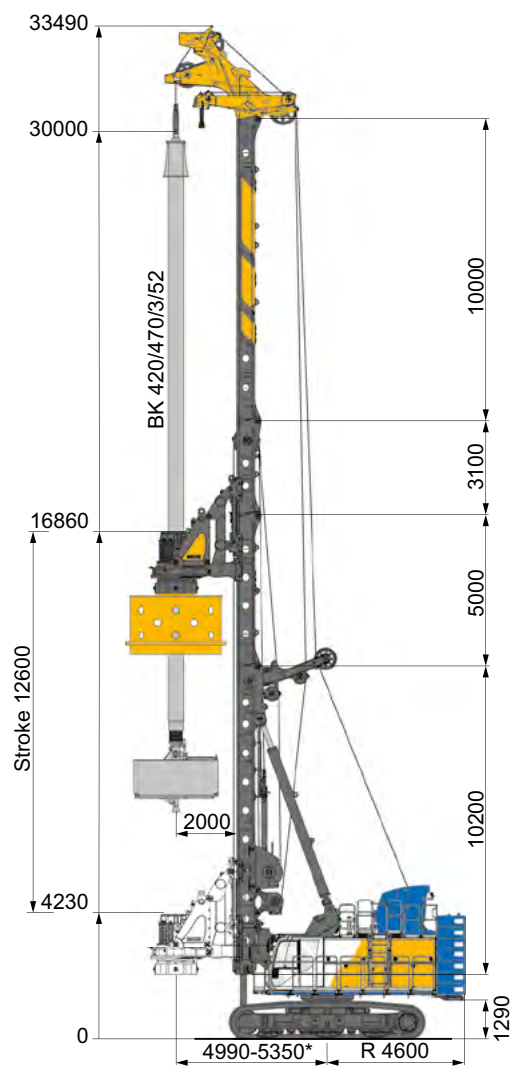


	with KDK / BTM 600			with KDK / BTM 400		
Mast extension	5 + 5 m	5 + 3 m	5 m	5 + 5 m	5 + 3 m	5 m
Max. mixing diameter	750 mm	880 mm	1,000 mm	750 mm	880 mm	1,000 mm
Max. drilling depth	28.0 m	25.0 m	23.0 m	27.5 m	24.5 m	23.0 m
Max. extraction force with main and crowd winch (effective)	1,160 kN			1,160 kN		
Spoil discharge system	Standard			Standard		
Max. torque:						
Auger (right-hand rotation)	240 kNm			240 kNm		
Casing (left-hand rotation)	600 kNm			600 kNm		
with counterweight*	36.6 t			36.6 t		



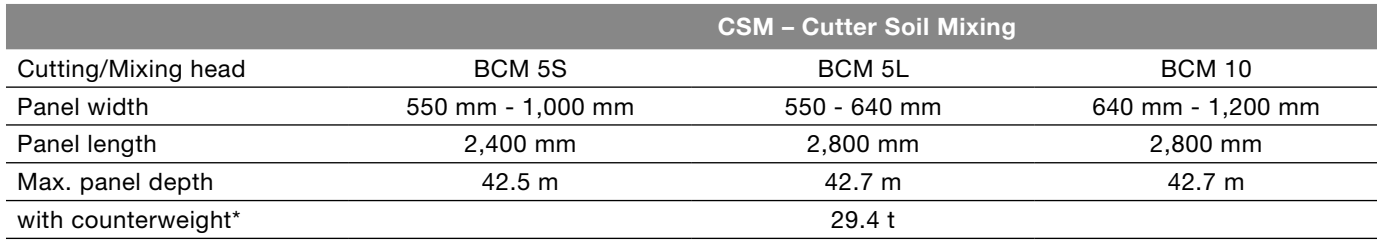
Reduced Headroom System

Vario mast segment	1,100 mm / 3,100 m			
Drill axis	1,300 mm	1,550 mm	1,700 mm	2,000 mm
Max. drilling diameter uncased	2,300 mm	2,800 mm	3,200 mm	3,700 mm
Max. drilling diameter cased	2,000 mm	2,500 mm	2,800 mm	3,400 mm
Max. drilling depth	35.0 m / 45.0 m	35.0 m / 45.0 m	30.0 m / 40.0 m	30.0 m / 40.0 m



	Uncased	Slurry-supported
Mast extension	5 m	5 m
Upper Kelly guide	without	without
Drill axis	2,000 mm	2,000 mm
Max. drilling diameter uncased	-	3,500 mm
cased	3,000 mm	-
Operating weight approx. with Kelly with casing drive adapter with bucket with Counterweight*	183 t .../3/52 Ø 3,000 mm Ø 2,800 mm 34.3 t	183 t .../3/42 - Ø 3,500 mm 34.3 t

* depending on equipment





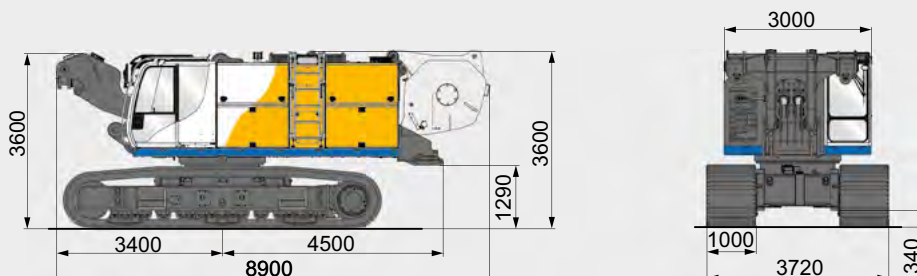
Trench Cutter System		
Trench cutter	BC 35	BC 48
Panel width	640 mm - 1,200 mm	800 mm - 1,200 mm
Panel length	2,800 mm	2,800 / 3,200 mm
Max. hook load	45 t	45 t
Max. cutting depth	100 mm	100 mm

G = Weight
B = Width, overall

Weights shown are approximate values;
 optional equipment may change the overall
 weight and dimensions.

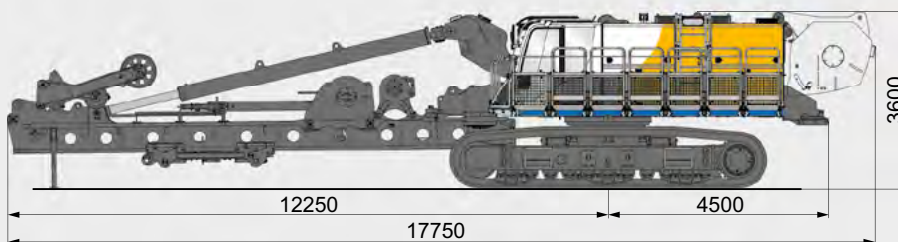
Base carrier

G = 67.0 t (without main winch)
B = 3,720 mm



Base carrier with lower mast section

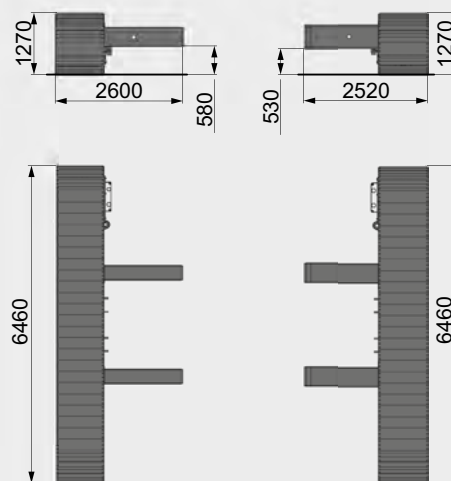
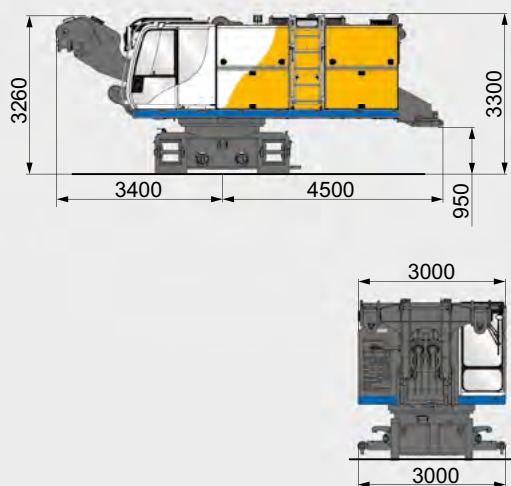
G = 91.0 t (without main winch)
B = 3,720 mm



Base carrier without crawlers

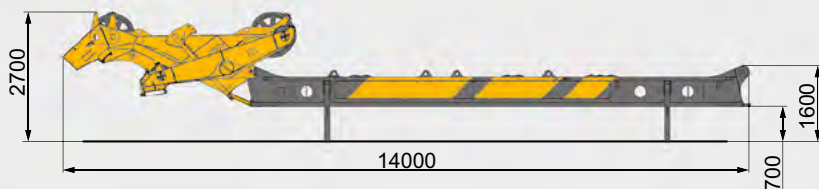
G = 36.0 t
B = 3,000 mm

G = 2 x 15.5 t



Upper mast section with mast head

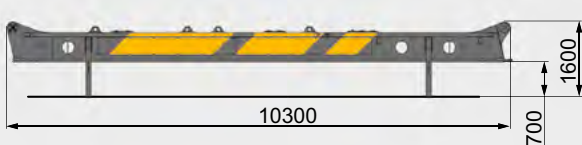
G = 7.2 t
B = 2,100 mm



G = 2.4 t
B = 1,700 mm

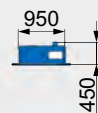


G = 4.8 t
B = 1,650 mm



Counterweight

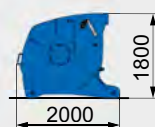
G = 3*x 4.9 t
+ 2*x 2.5 t
B = 3,000 mm



*depending on application

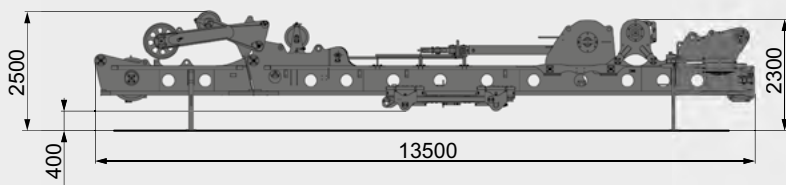
Main winch 380 kN

G = 7.8 t
(with 140 m rope)
B = 2,500 mm

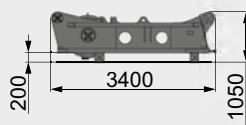


Lower mast section with Vario-mast system

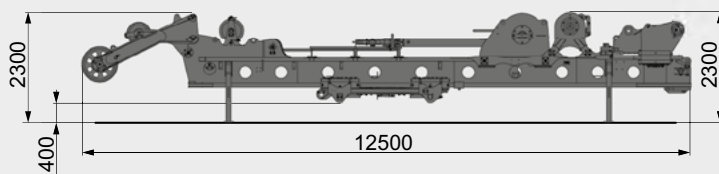
G = 22.6 t **B = 2,480 mm**



G = 2.6 t **B = 1,100 mm**

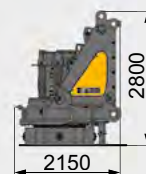


G = 20.0 t **B = 2,480 mm**



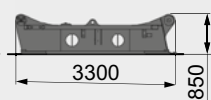
Rotary drive

KDK 460 S:
G = 9.5 t



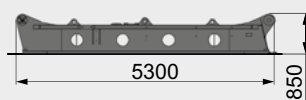
Mast extension 3 m

G = 1.9 t
B = 1,150 mm



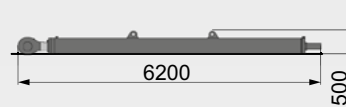
Mast extension 5 m

G = 2.6 t
B = 1,150 mm



Backstay cylinders

G = 2 x 2.0 t
B = 400 mm



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