

BAUER BG 28 H

Drilling Rig
Base Carrier BT 75

 Energy-Efficient
Power **EEP**



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 Bauer drilling rigs are:

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



Kelly drilling



Cased Kelly drilling
Casing Installation with BTM



CFA
Continuous Flight
Auger Method



FDP
Full Displacement Piling
(standard or lost bit)



FoW
Front-of-wall method



VD
Vibro Displacement

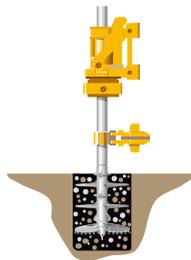


The Rotary Drilling Rig BG 28 H (BT 75)

Max. drilling diameter:	2,500 mm
Max. drilling depth:	65.7 m
Max. torque:	282 kNm
Max. height:	24.9 m
Engine:	CAT C 9.3 B 310 kW



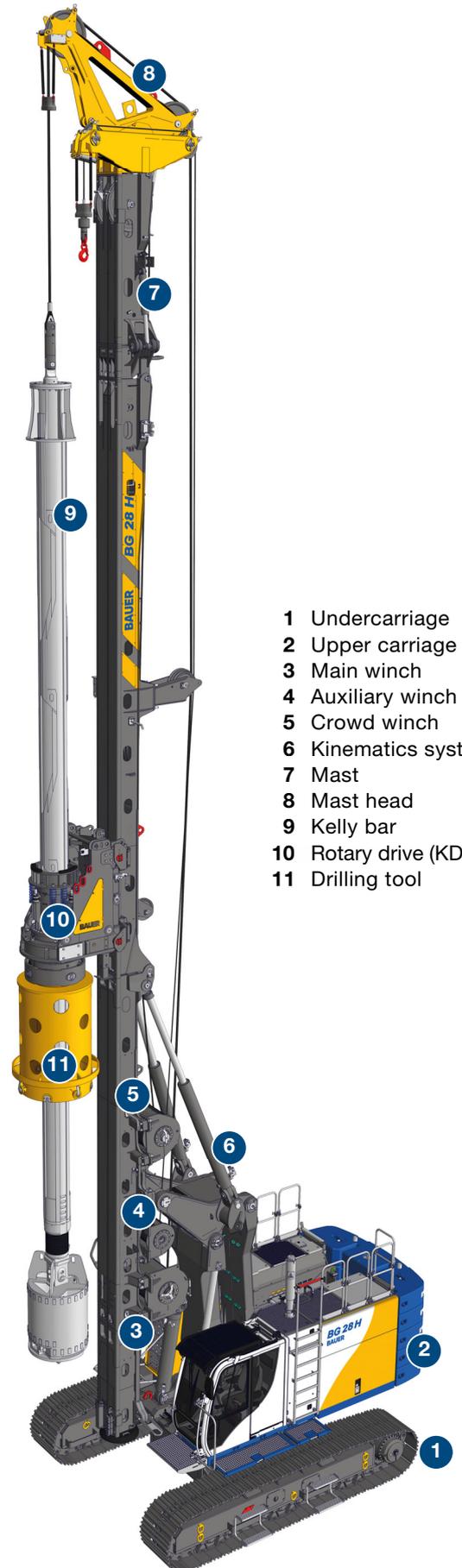
Cased Kelly drilling
Casing installation
with casing oscillator



SCM/SCM-DH
Single column mixing



HDI
Jet grouting



- 1 Undercarriage
- 2 Upper carriage
- 3 Main winch
- 4 Auxiliary winch
- 5 Crowd winch
- 6 Kinematics system
- 7 Mast
- 8 Mast head
- 9 Kelly bar
- 10 Rotary drive (KDK)
- 11 Drilling tool



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 for multi-functional potentiometer input

Powerful CAT engines

- CAT C 9.3 B (UN/ECE R96* or Stage V/ Tier 4 final)
- Diesel particulate filter in exhaust emission EU Stage V, EPA/CARB Tier 4 final
- Low noise emission
- Worldwide CAT service partners



Safety equipment

- Integrated service platforms in the upper carriage for easy and safe maintenance work
- Retractable grating on side of cab
- Guardrails on the upper level (foldable for transport)
- Rear view cameras

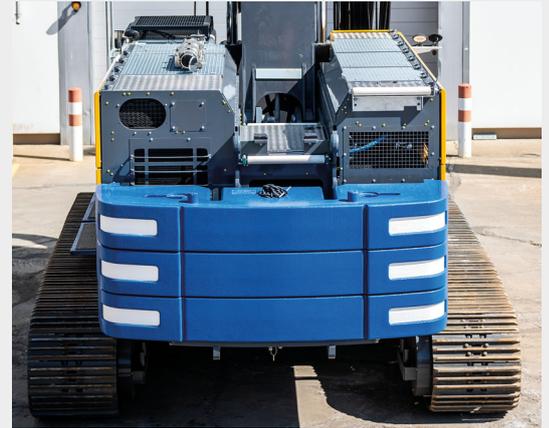


- Reduction of fuel consumption by up to 30%
- Increased productivity through improved efficiency
- Significantly reduced noise levels
- Tried and proven suitability for practical application
- Optimized parallel operation of main and auxiliary consumers

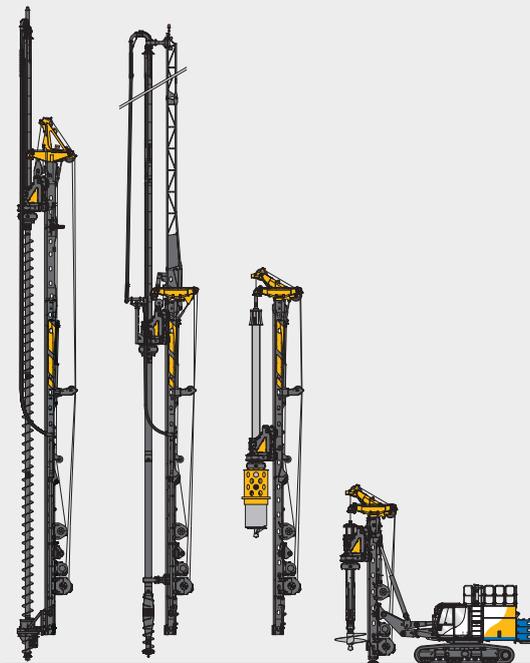
* Exhaust emission equivalent EPA Tier 3 and EU Stage III A

Variable stackable counterweight elements

- Constant tail radius (irrespective of number of counterweights)
- Low weight of individual elements (4.9 t or 2.5 t)
- Flexible arrangement for various applications
- Mounting and demounting possible with the drilling rig
- Transport of the machine possible without removing counterweights

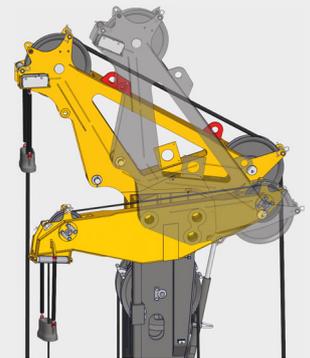


Single Pass SPEX Extreme



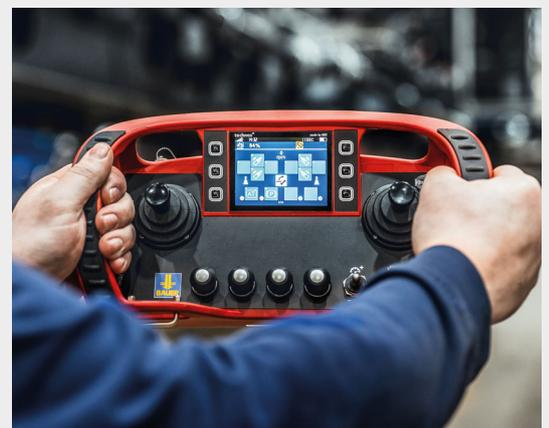
Flexible mast concept

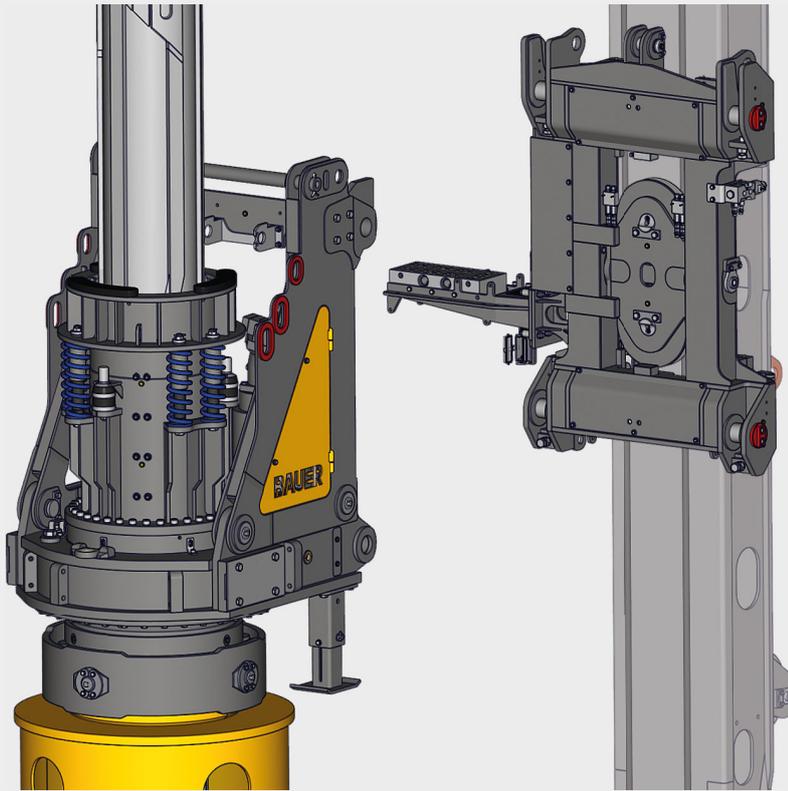
- Extension package Single Pass Extreme (SPEX)
- Multi-sectional mast
 - Low-head version
 - Giant drill version
 - Optimized transport length
- Upper mast extension 2 m or 3 m (hydraulic foldable and lockable)
 - Simple and secure attachment, no working at heights unsecured
 - Reduced transport length
- Lattice mast extension for 20.5 m follow-up stroke
- Vario-mast head
 - Mast head for drill axis 1,000 mm, expandable to 1,400 mm
 - Increased stroke for Kelly bars when using an upper Kelly guide
 - Tilttable main jib for single-pass processes and optimized transport



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 15)
- Enhanced drilling performance
- High operation comfort
- Reduction of wear on Kelly bars and drive keys

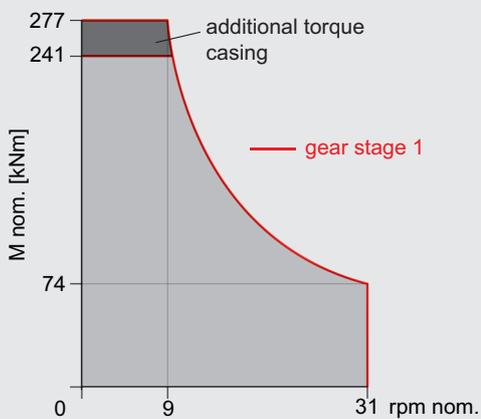
Rotary drive KDK 280

- Optional single gear drive or multi gear drive
- Max. torque 282 kNm
- Max. speed 55 rpm
- Various modes of operation, partially selectable speed of rotation and torque

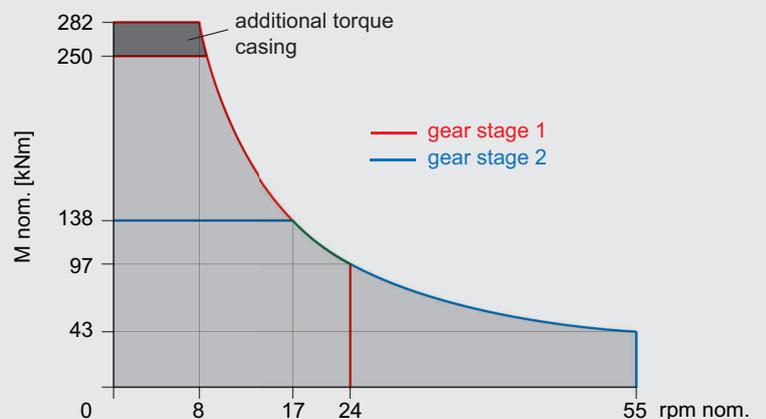
Hydraulically operated pin connection on the crowd sledge

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

KDK 280 K



KDK 280 S



Base carrier BT 75

Standard

- Removable counterweights
- Retractable grating steps next to the operator's cab
- Energy-efficient power (EEP)
- Premium operator's seat
- Cameras for rear area monitoring
- Integrated service platform

Optional

- Counterweight, variably adjustable
- Guardrails on the upper level (foldable for transport)
- High-pressure cleaner with water tank
- Rear support unit
- Compressor 1,000 l/min
- Generator 13 kVA
- Low-temperature package / Low-temperature package plus
- Cab space heater with automatic timer
- Remote control Basic / Multi
- Operator seat with air-condition
- Weather protection

Drilling rig attachments

Standard

- Main winch with hydraulic free-wheel control
- Swivel for main rope
- Masthead foldaway for transport
- Pivoted anchor point for main and auxiliary rope

Optional

- Vario masthead
- Extension of drill axis to 1,400 mm
- Hydraulically operated pin connection on the crowd sledge for easy mounting and removal of the rotary drive
- Mast support
- Mast extension 2 m or 3 m, hydraulically foldable and lockable
- Three-sectional mast for Low Head and Giant Drill applications
- Additional auxiliary winch 20 kN
- Attachment of casing oscillator up to BV 1500
 - Drilling rig weight can be activated by mechanical coupling (UW 80)
- Auger cleaner attachment for Kelly system
- Passenger transportation system with car attachment

Rotary drive

Standard

- Rotary drive KDK 280 K (constant drive)
- Kelly equipment for external Kelly casing 394 mm
- Integrated Kelly shock absorbing system
- Cardan joint

Optional

- Rotary drive KDK 280 S (switch drive)
- Kelly equipment for external Kelly casing 419 mm
- Torque converter BTM 720 K for Kelly drilling
 - Torque 400 kNm (nominal)

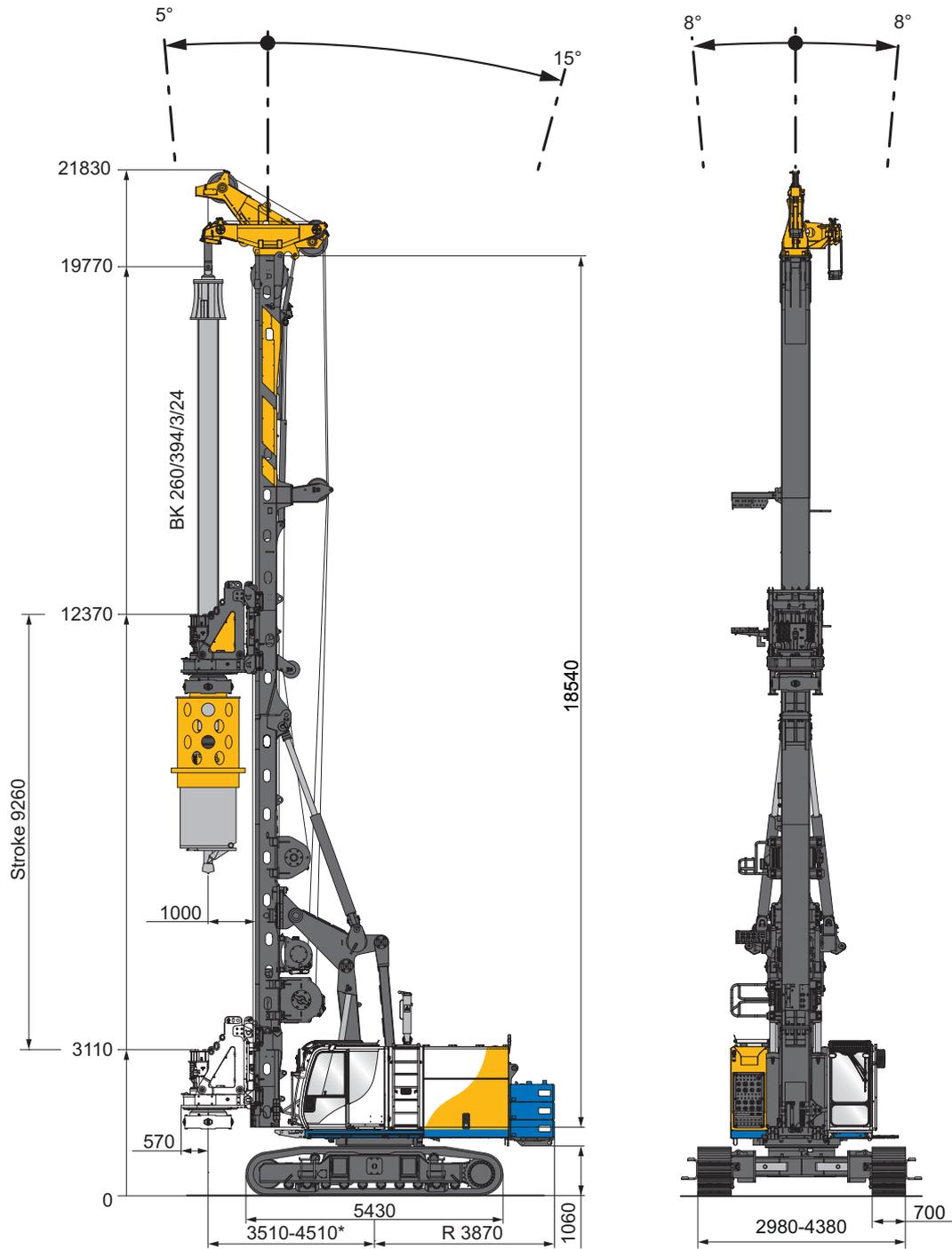
Measurement and control technology

Standard

- Automatic mast alignment with memory-recall
- Crowd stroke monitoring
- Feed rate control
- Electronic mast reach limiter

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 control for Single-Pass processes
- BAUER Enhanced CAN Interface (BECI)
- Crowd Plus
- Stability Plus



Operating weight 82.2 t
(as shown)

* depending on equipment

Rotary drive (selectable)	KDK 280 K	KDK 280 S
Torque (nominal) for casing operation at 350 bar	277 kNm	282 kNm
Torque (nominal) for drilling at 350 bar	241 kNm	250 kNm
Max. speed of rotation	31 rpm	55 rpm
Crowd winch		
Max. sledge stroke with 3 m mast extension	18,700 mm	
Crowded force push effective/nominal	330 / 423 kN	
Crowded force pull effective/nominal	330 / 423 kN	
Extraction force Crowd Plus effective/nominal	530 / 620 kN with Mast support unit 460 / 540 kN without Mast support unit	
Rope diameter	24 mm	
Speed (down / up)	9.9 m/min	
Fast speed (down / up)	32 m/min	
Main winch		
Line pull (1st layer) effective / nominal	200 / 250 kN	
Rope diameter	28 mm	
Line speed (max.)	85 m/min	
Auxiliary winch (selectable)		
Line pull (1st layer) effective / nominal	80 / 100 kN	100 / 125 kN
Rope diameter	20 mm	
Line speed (max.)	55 m/min	
Base carrier (EEP)		
Engine	CAT C 9.3 B	
Rated output ISO 3046-1	310 kW @ 1,850 rpm	
Exhaust emission	UN/ECE R96*	EU Stage V EPA/CARB Tier 4 final
Diesel tank capacity / AdBlue Tank	730 / - l	730 / 34,5 l
Sound pressure level in the cabin (EN 16228, Annex B)	LP _A 80 dB (A)	
Sound power level (2000/14/EC u. EN 16228, Annex B)	LW _A 109 dB (A)	
Hydraulic pressure	350 bar	
Hydraulic oil tank capacity	650 l	
Flow rates	2 x 250 + 1 x 400 + 1 x 135 l/min	
Under carriage (selectable)		
Crawler type	B 6	B 7
Traction force effective / nominal	450 / 530 kN	520 / 610 kN

* Exhaust emission equivalent EPA Tier 3 und EU Stage III A

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

Report of production data

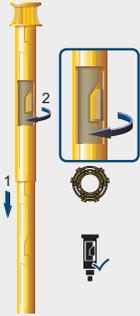
- Standardized reports for the documentation of drilling progress and verification of performance and quality



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 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.



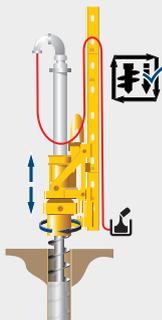
Kelly visualization

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

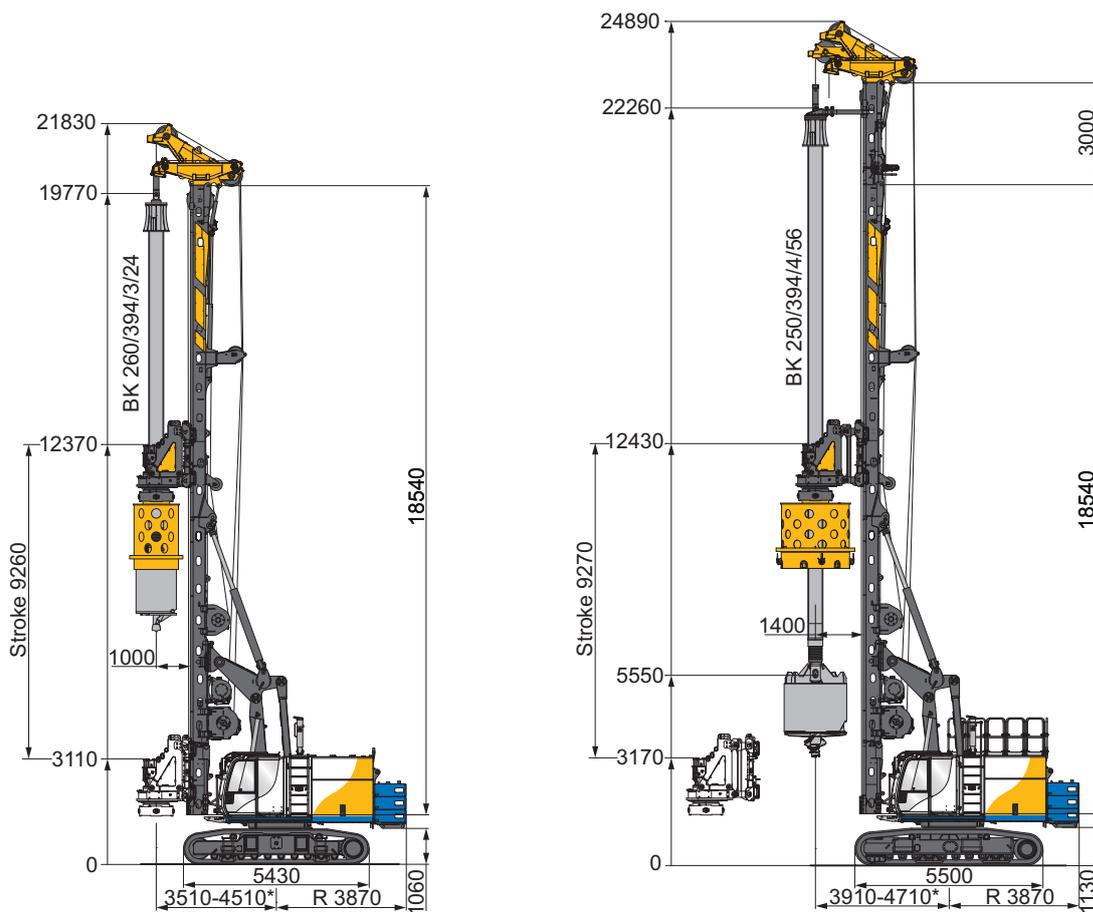
The system controls the drilling and / or extraction speed of the crowd system and enables hands-free operation. This ensures the production of a high-quality pile while simultaneously minimizing the amount of concrete.



Satellite-based positioning

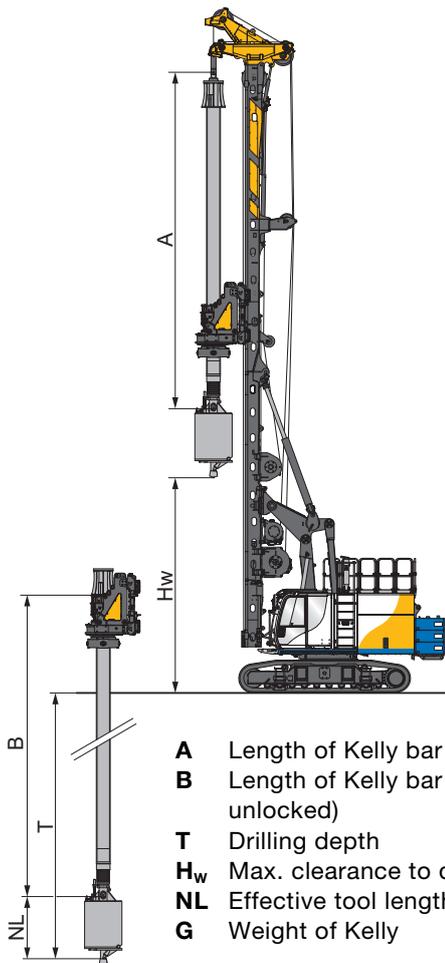
The BAUER Assistant Positioning System (B-APS) allows the position of a bored pile to be located extremely accurately. Documentation is provided for the nominal and actual coordinates, as well as the corresponding accuracy of each bored pile. Manual marking of the piles is no longer required.

Numerous other assistance systems are available in our portfolio.



	Basic version	Upgraded version
Under carriage	UW 65	UW 80
Mast extension	without	3 m
Upper Kelly guide	without	with
Drill axis	1,000 mm	1,400 mm
Max. drilling diameter		
uncased	1,700 mm	2,500 mm
cased	1,400 mm	2,200 mm
Operating weight, approx.	82.2 t	104.2 t
with Kelly	3/24	4/56
with casing drive adapter	1,300 mm	2,000 mm
with bucket	1,180 mm	1,830 mm
with counterweight *	9.9 t	14.7 t

* depending on equipment



- A** Length of Kelly bar (retracted)
- B** Length of Kelly bar (extended, unlocked)
- T** Drilling depth
- H_w** Max. clearance to drilling tool
- NL** Effective tool length
- G** Weight of Kelly

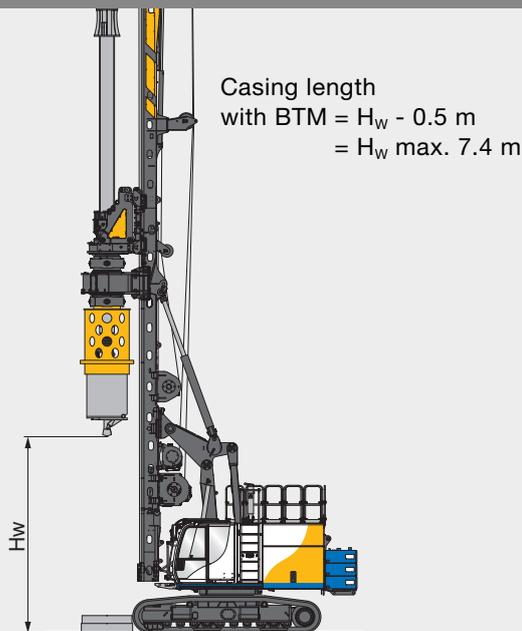
Drilling depth – uncased Kelly drilling, drill axis 1,000 mm

				without mast extension		3.0 m mast extension	
3-part Kelly	A (m)	B (m)	G (kg)	H _w (m)	T (m)	H _w (m)	T (m)
BK/260/394/3/24	10.7	26.6	4,800	6.9	25.4	7.9	25.4
BK/260/394/3/30	12.7	32.6	5,550	4.9	31.4	7.9	31.4
BK/260/394/3/33	13.7	35.6	5,920	3.9	34.4	6.9	34.4
BK/260/394/3/36	14.7	38.6	6,300	2.9	37.4	5.9	37.4
BK/260/394/3/42	16.7	44.6	7,100	0.9	43.4	3.9	43.4
BK/260/394/3/48	18.7	50.6	7,900	-	-	1.9	49.4
4-part Kelly							
BK/250/394/4/32	10.7	34.9	6,600	6.9	33.7	7.9	33.7
BK/250/394/4/40	12.7	42.9	7,750	4.9	41.7	7.9	41.7
BK/250/394/4/44	13.7	46.9	8,350	3.9	45.7	6.9	45.7
BK/250/394/4/48	14.7	50.9	8,900	2.9	49.7	5.9	49.7
BK/250/394/4/56	16.7	58.9	10,050	-	-	3.9	57.7
BK/250/394/4/64	18.7	66.9	11,200	-	-	1.9	65.7

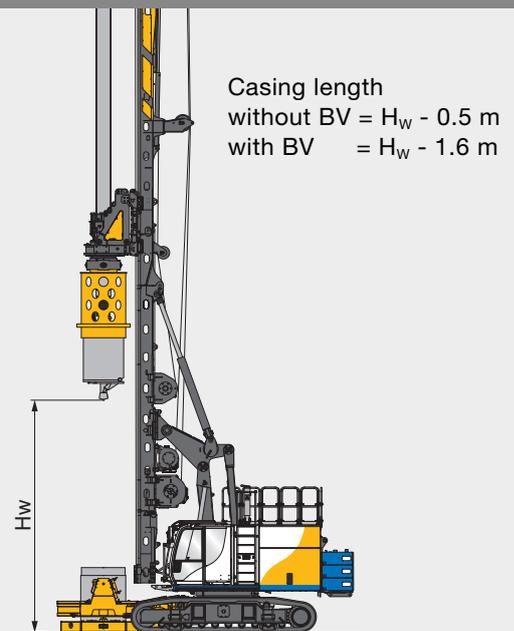
Drilling data have been determined with an effective tool length of NL = 1.9 m and with the mast at a minimum operating radius. These data only apply for the use of Bauer tools.

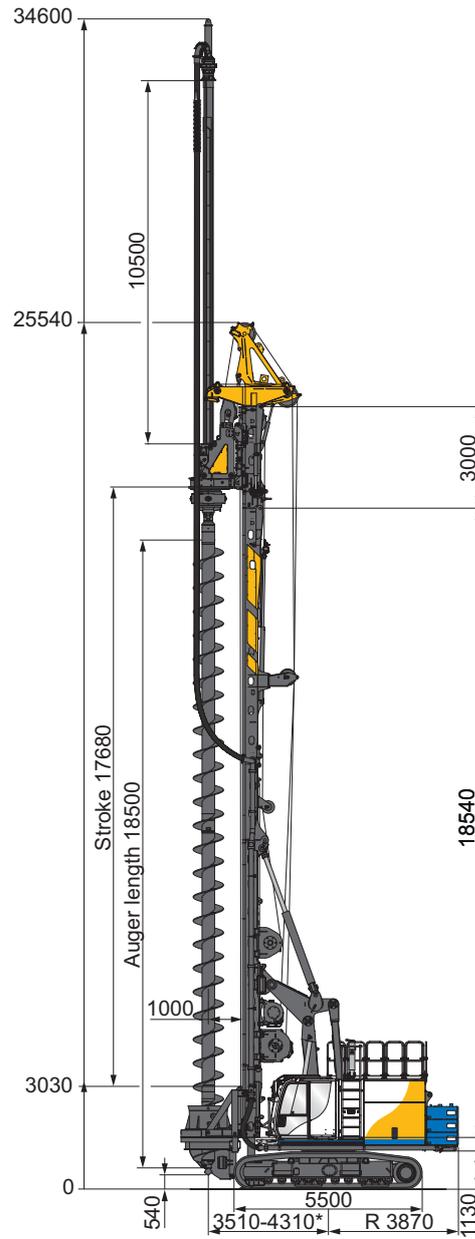
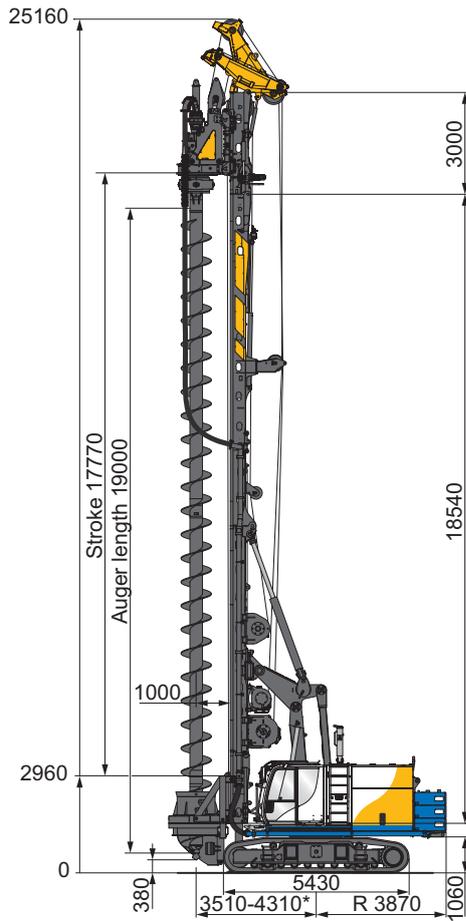
Other drilling depths, drilling diameters and Kelly versions are available on request.

Torque multiplier BTM 720 for a torque of 400 kNm for casing



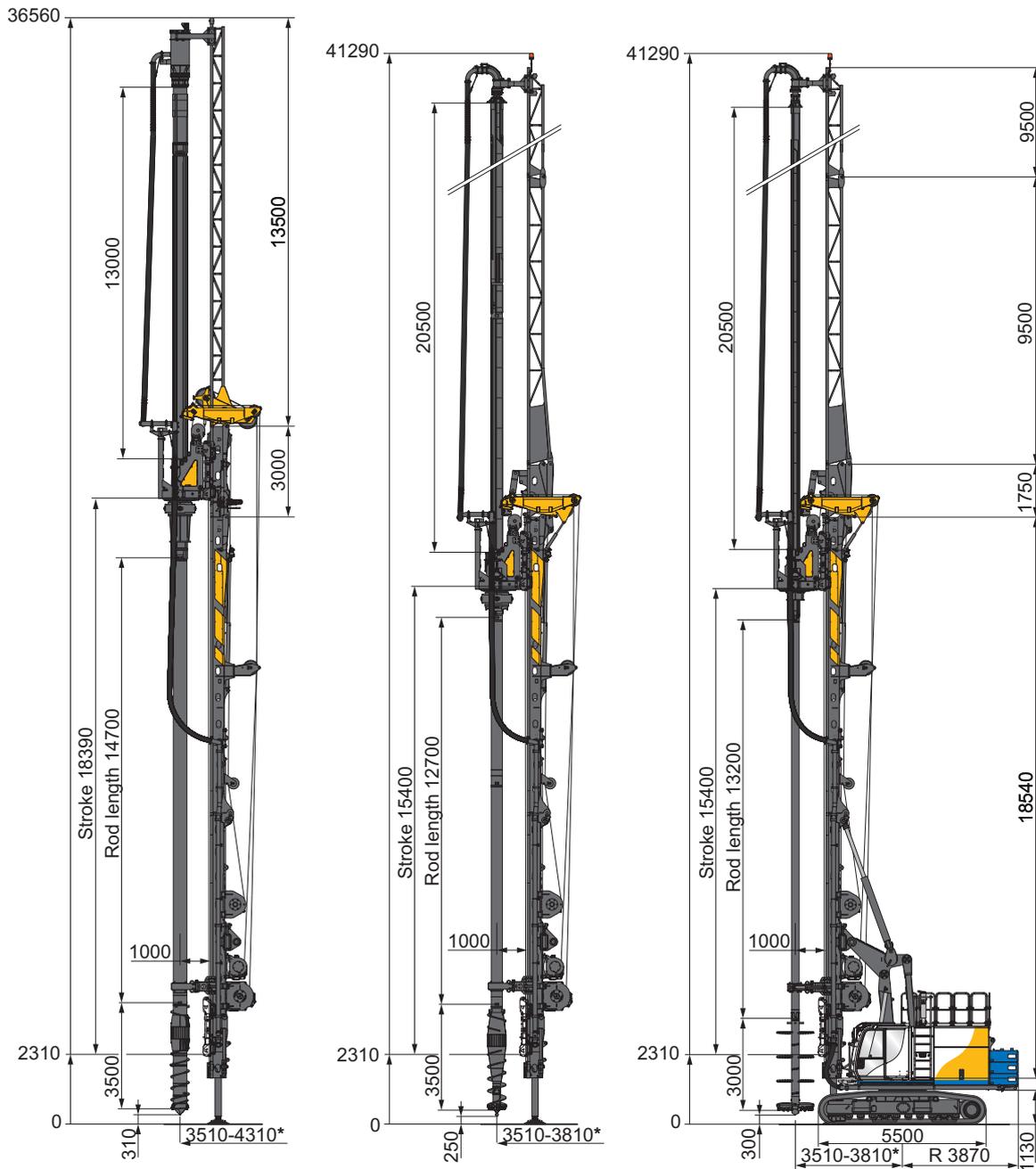
Kelly drilling with casing oscillator up to BV 1500





	Basic version	Upgraded version
Under carriage	UW 65	UW 80
Mast extension	3 m	3 m
Kelly extension	without	10.5 m
Max. drilling diameter	1,200 mm	1,200 mm
Drilling depth with auger cleaner	17.1 m	27.6 m
Max. extraction forth with main and crowd winch (effective)	730 kN	730 kN
with counterweight *	12.3 t	12.3 t

* depending on equipment



	FDP Lost-bit drilling Upgraded version	FDP drilling Upgraded version	SCM mixing Upgraded version
Under carriage	UW 80	UW 80	UW 80
Mast extension	3 m	-	-
Kelly extension	13.0 m	20.5 m	20.5 m
Max. drilling diameter FDP	620 mm	620 mm	-
Max. mixing diameter SCM	-	-	2,500 mm **
Max. drilling depth FDP	30.9 m	35.0 m	-
Max. mixing depth SCM	-	-	35.0 m
Max. extraction force with main and crowd winch (effective)	730 kN	730 kN	730 kN
with counterweight *	14.7 t	12.3 t	12.3 t

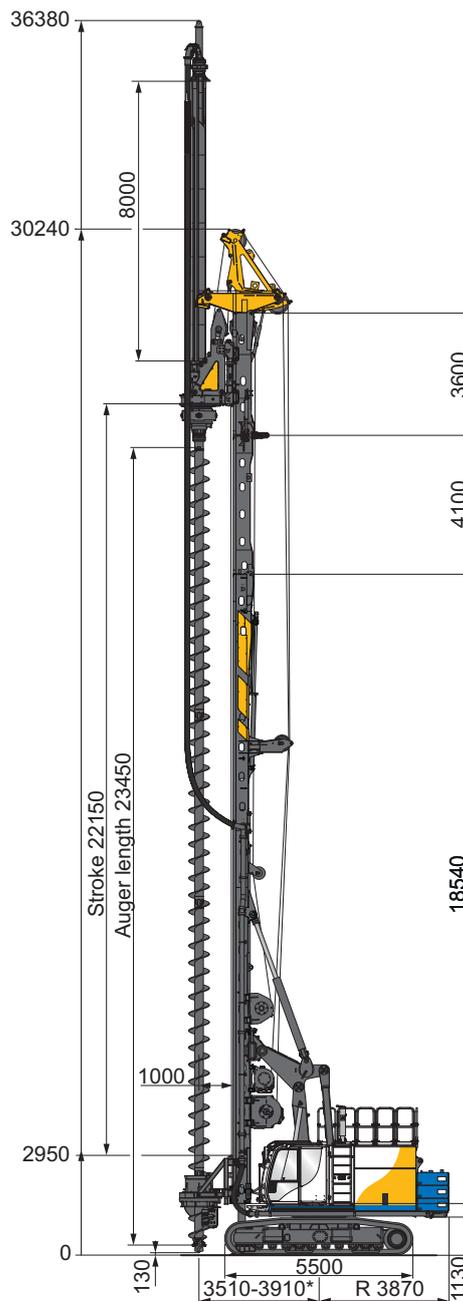
* depending on equipment

** operation only possible with restrictions



Highlights Extension Package Single Pass Extreme (SPEX)

- Expansion of the active feed by 7.7 m due to installation of an upper mast extension
- Further 8 m drilling depth, achievable due to following up with the Kelly extension
- Low investment costs due to the expansion of the standard equipment
- Compact transport dimensions due to the hydraulically foldable and lockable mast extension
- Optionally, the Remote Control Multi can be used to fold the mast extension
- Can be used in CFA, FDP and SCM mode

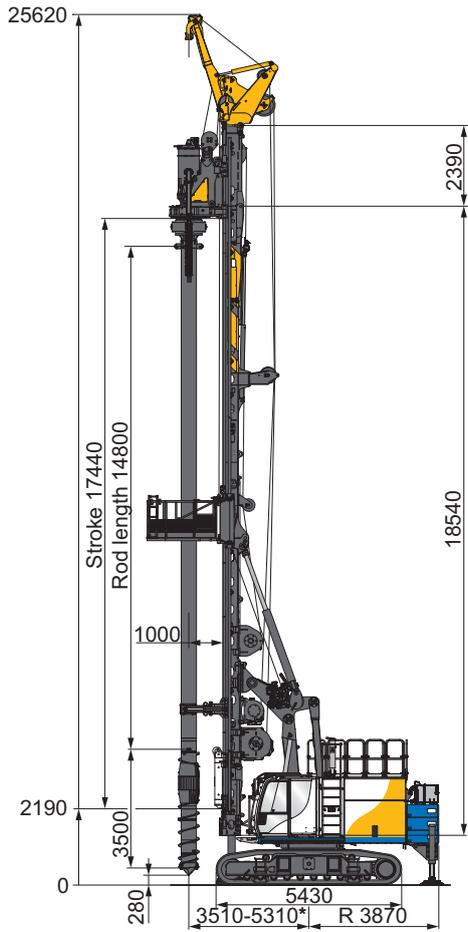


	CFA drilling		FDP drilling	SCM mixing
Kelly extension	without	8.0 m	8.0 m	8.0 m **
Max. drilling / mixing diameter	1,200 mm	880 mm	620 mm	1,700 mm
Drilling depth with auger cleaner and casing guidance				
without Kelly extension		21.9 m	22.3 m	22.3 m
with Kelly extension		30.0 m	30.3 m	30.3 m
Max. extraction force with main and crowd winch (effective) *		565 kN	565 kN	565 kN
with counterweight *		14.7 t	14.7 t	14.7 t

* depending on equipment
 ** not recommended

Highlights of Handling Package for FDP Lost-Bit:

- Special mast head with auxiliary rope boom, which can be swivelled hydraulically in the drill axis
- Mast-guided personal hoist system with swivelling transport platform
- Concrete funnel with camera system and cleaning system on the rotary drive for de-pressurized concreting in FDP mode
- High-pressure cleaner with water tank integrated in the base carrier
- Hydraulic upper carriage support for stabilizing and lifting the machine
- Extra wide flat track shoes on the under carriage
- Advanced EEP hydraulic system for full parallel operation of drilling and auxiliary functions
- Large horizontal movement enables a smooth and trouble-free swivel motion



Operating weight 91.7 t
(as shown)

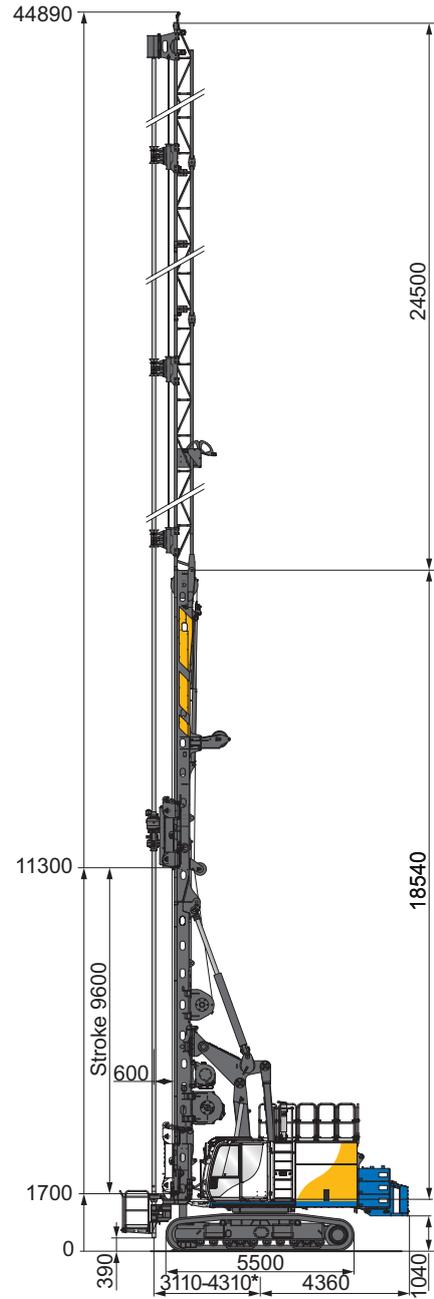
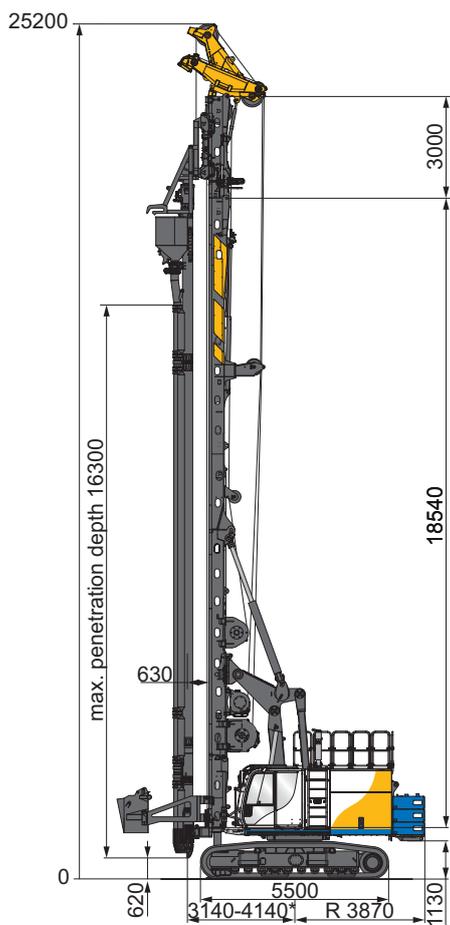
	FDP Lost-Bit drilling Handling Package
Max. drilling diameter	620 mm
Max. drilling depth	17.0 m
Max. extraction force with main and crowd winch (effective)	730 kN
with counterweight *	12.3 t

* depending on equipment



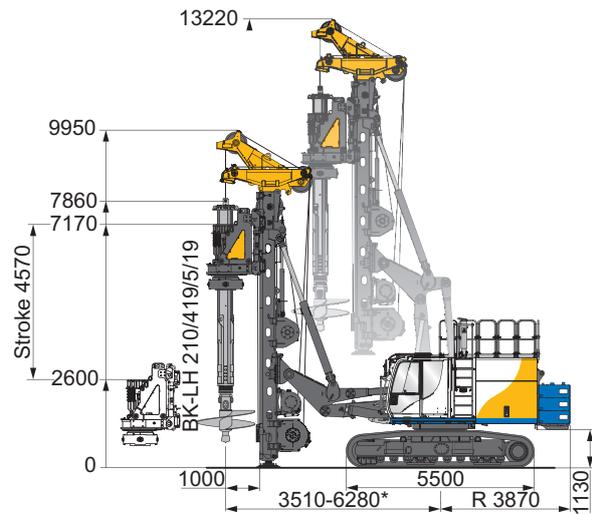
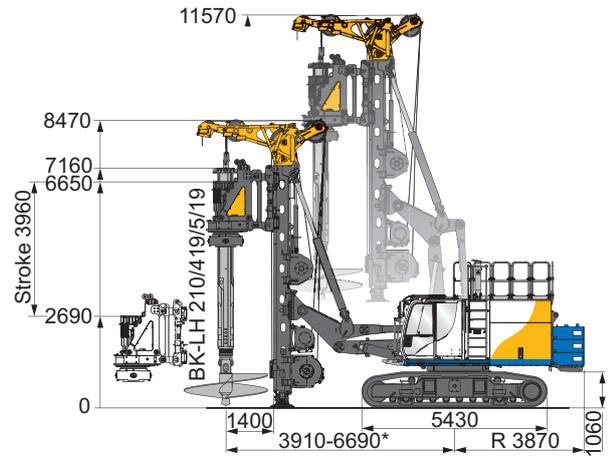
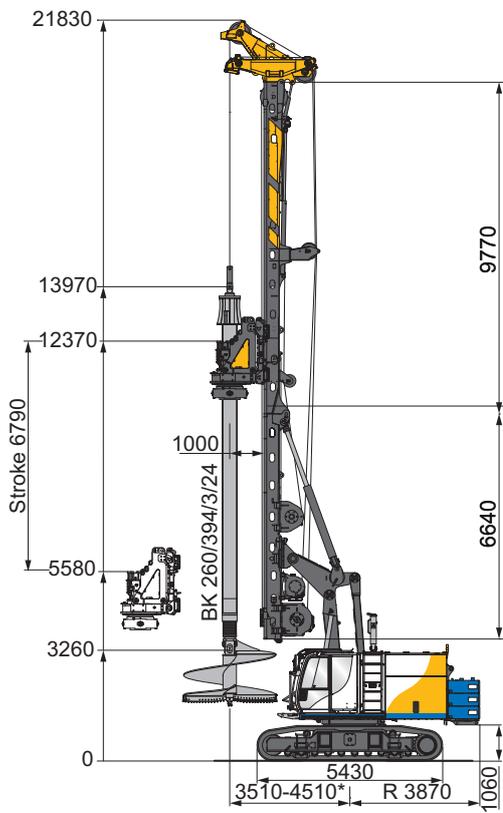
	CCFA with FoW application DKS 50/140
Torque auger/casing	50/140 kNm
Mast extension	3 m
Max. drilling diameter	610 mm
Max. drilling depth	18.3 m
Max. extraction force with main and crowd winch (effective)	500 kN
Ejection system	without
with counterweight *	12.3 t

* depending on equipment



	Vibro Displacement (VD) Vibrator TR 17	Upgraded version Jet Grouting
Max. penetration depth	16.3 m	Length of lattice mast 24.5 m
Pressure with crowd winch (effective)	110 kN	Max. rod diameter 89 - 133 mm
Max. extraction force with crowd winch (effective)	330 kN	Max. jetting depth 35.3 m
with counterweight *	14.9 t	Rotary drive KDK 10/14 S
		Max. extraction force with crowd winch (effective) 330 kN
		with counterweight * 12.3 t

* depending on equipment

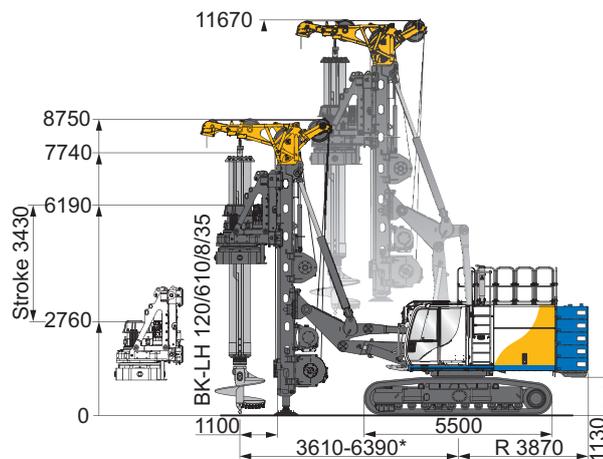


	Giant Drill - Basic version	Low Headroom System
Under carriage	UW 65 / UW 80	UW 65 / UW 80
Lower mast extension	without	-
Drill axis	1,000 mm	1,000 / 1,400 mm
Max. drilling diameter	3,000 mm	1,700 / 2,500 mm
Max. drilling depth	-	19.5 m

* depending on equipment

Low Headroom System for large drilling depths:

- The BG 28 H low headroom drilling rig can also be configured for large drilling depths in limited headroom conditions.
- With the special Kelly bar BK-LH 120/610/8/35 drilling depths of up to 35.3 m can be achieved with a maximum drilling diameter of 2,500 mm.
- Equipped with the low headroom masthead, the rig has a minimum height of just 8.8 m. Alternatively, the height of the rig with the Kelly masthead is 10.8 m.
- The KDK 280 WP (max. 250 kNm for drilling) automatically reduces the torque to 110 kNm when the special Kelly bar BK-LH 120/610/8/35 is used. The full torque of 280 kNm is provided for cased drilling.



Low Headroom System for large drilling depth

Under carriage	UW 80	
Rotary drive	KDK 280 WP	
Drill axis	1,100 mm	1,400 mm
Max. drilling diameter	1,900 mm	2,500 mm
Max. drilling depth (BK-F 110/610/10/47,5)	35.3 m	

* depending on equipment

G = Weight
B = Width, overall

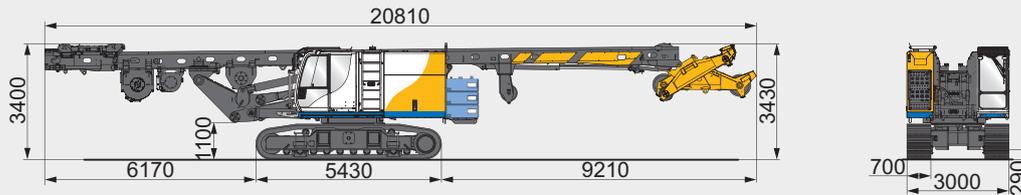
Weights shown are approximate values;
 optional equipment may change the overall
 weight and dimensions.

Transport with under carriage UW 65

Without mast extension *

G = 58.6 t

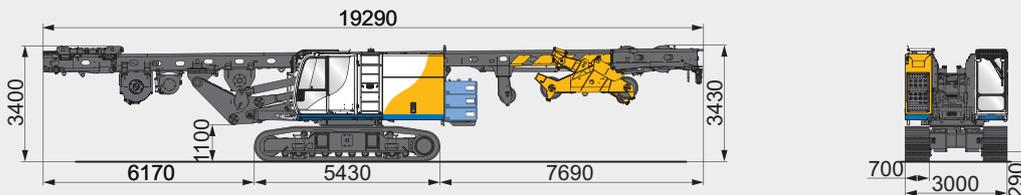
G = 68.5 t with 9.9 t counterweight



With mast extension *

G = 61.8 t

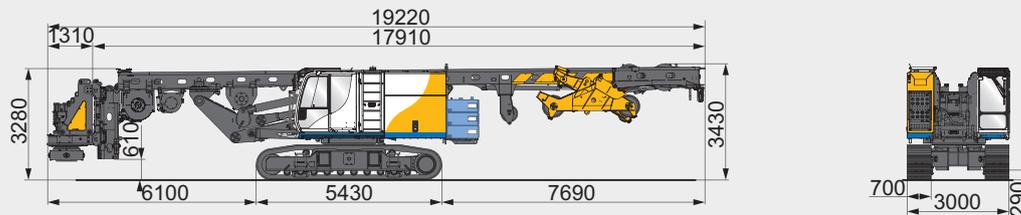
G = 71.7 t with 9.9 t counterweight



Lower mast section with rotary drive and folded mast extension

G = 67.3 t

G = 77.1 t with 9.9 t counterweight



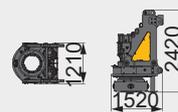
Counterweight **

G = 1 x 4.9 t + 2 x 2.5 t
B = 3,000 mm



Rotary drive

G = 5.2 t (KDK 280 K)
G = 5.5 t (KDK 280 S)



	UW 65	UW 80
Track shoes	Overall width of crawlers retracted / extended	
700 mm	3,000 - 4,400 mm	3,000 - 4,400 mm
800 mm	3,200 - 4,500 mm	3,300 - 4,500 mm
900 mm	3,400 - 4,600 mm	3,400 - 4,600 mm

* more weight with three-sectional mast approx. 500 kg

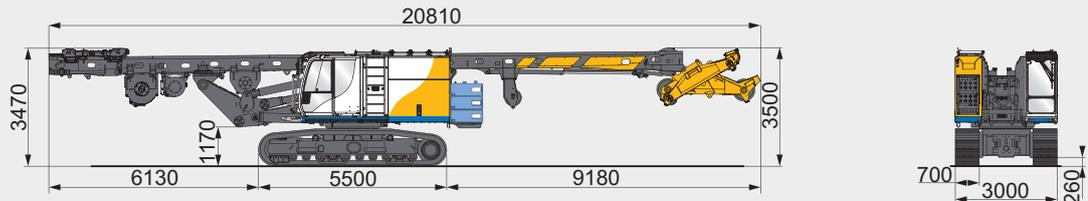
** depending on the process

Transport with under carriage UW 80

Without mast extension *

G = 62.9 t

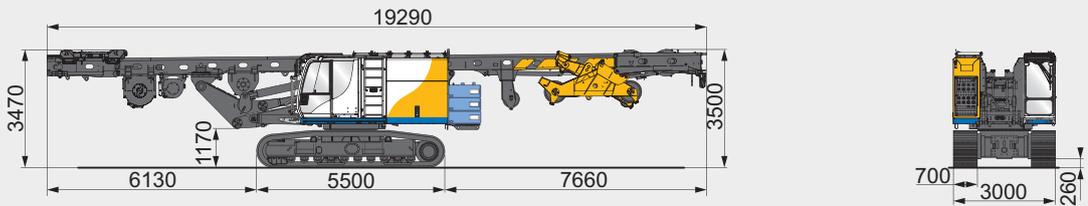
G = 75.2 t with 12.3 t counterweight



With mast extension *

G = 65.9 t

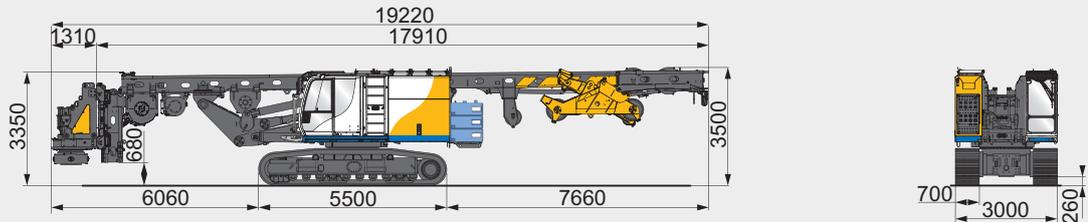
G = 78.2 t with 12.3 t counterweight



Lower mast section with rotary drive and folded mast extension

G = 71.3 t with rotary drive

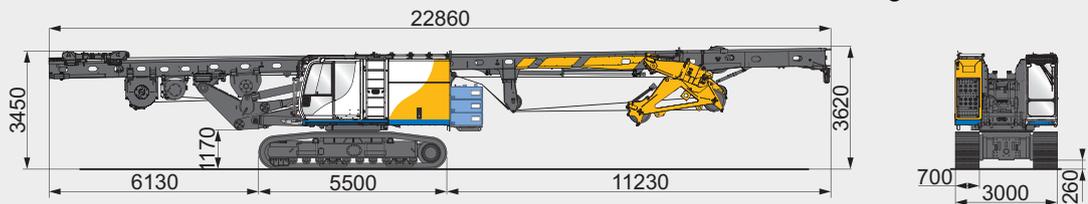
G = 83.6 t incl. rotary drive with 12.3 t counterweight



Extension Package Single Pass Extreme (SPEX)

G = 67.0 t

G = 81.7 t with 14.7 t counterweight



* more weight with three-sectional mast approx. 500 kg

International Service Hotline

+800 1000 1200*

+49 8252 97-2888

BMA-Service@bauer.de

*toll-free number, where available

24/7



BAUER Maschinen GmbH
BAUER-Strasse 1
86529 Schrobenhausen
Germany
Phone: +49 8252 97-0
bma@bauer.de
www.bauer.de

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