

BAUER BG 36 H

Drilling Rig
Base Carrier BT 85

 Energy-Efficient
PowerEEP



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 transport and short rigging time
- High quality standard
- Long lifetime and excellent resale value



Kelly Drilling



Cased Kelly Drilling Casing
Installation with BTM



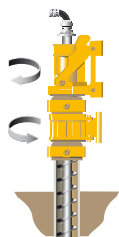
CFA
Continuous Flight Auger
Drilling



FDP
Full Displacement Piling
(Standard or Lost Bit)



FoW
Front of Wall

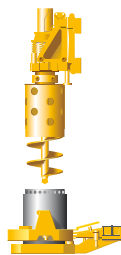


CCFA
Cased CFA system
with KDK+ BTM / Double
Rotary System

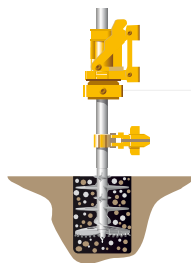


The Drilling Rig BG 36 H BT 85

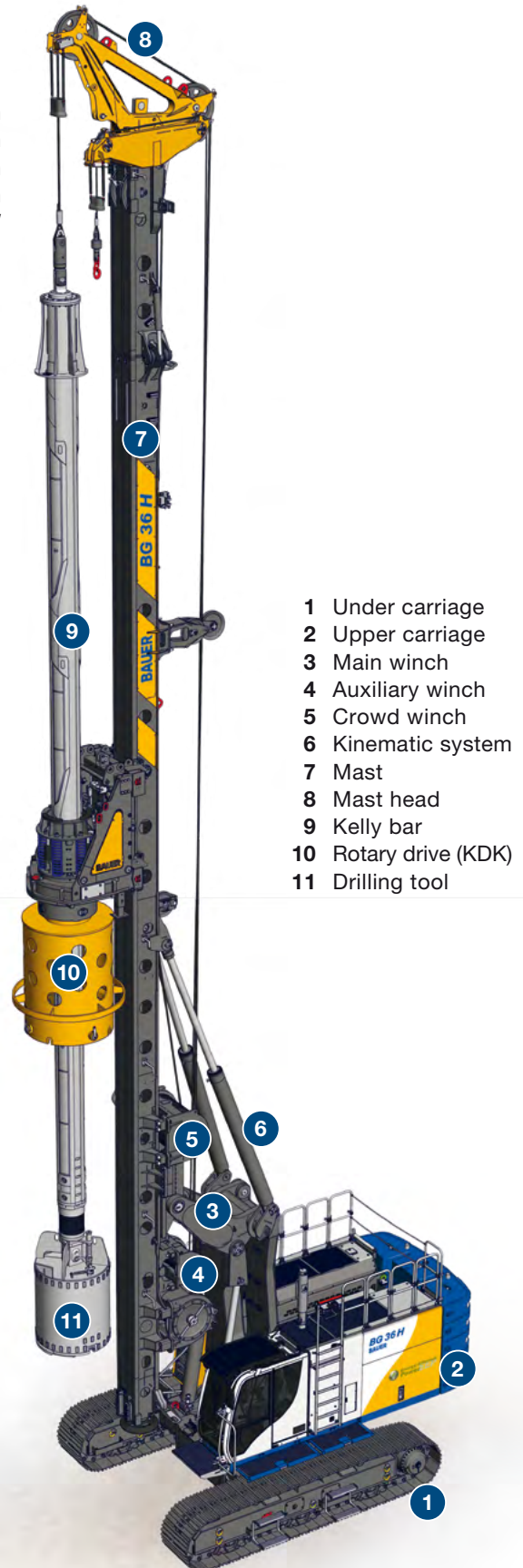
Max. drilling diameter: 2,500 mm
 Max. drilling depth: 68.0 m
 Max. torque: 385 kNm
 Max. height: 27.3 m
 Engine: Volvo TAD 13 345/405 kW



Cased Kelly Drilling
 Casing Installation with
 Casing Oscillator



SCM/SCM-DH
 Single Column Mixing



- 1 Under carriage
- 2 Upper carriage
- 3 Main winch
- 4 Auxiliary winch
- 5 Crowd winch
- 6 Kinematic 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 and heatable
- Joystick controls with high functionality
- B-Drive for multi-functional potentiometer input



Powerful Volvo engines

- TAD 13 (345 kW ORA* or 405 kW Stage V, Tier 4 final)
- Diesel particulate filter in exhaust emission Stage V
- Low noise emission
- Worldwide Volvo 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)
- Cameras for rear area



- 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 Tier 3 / 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



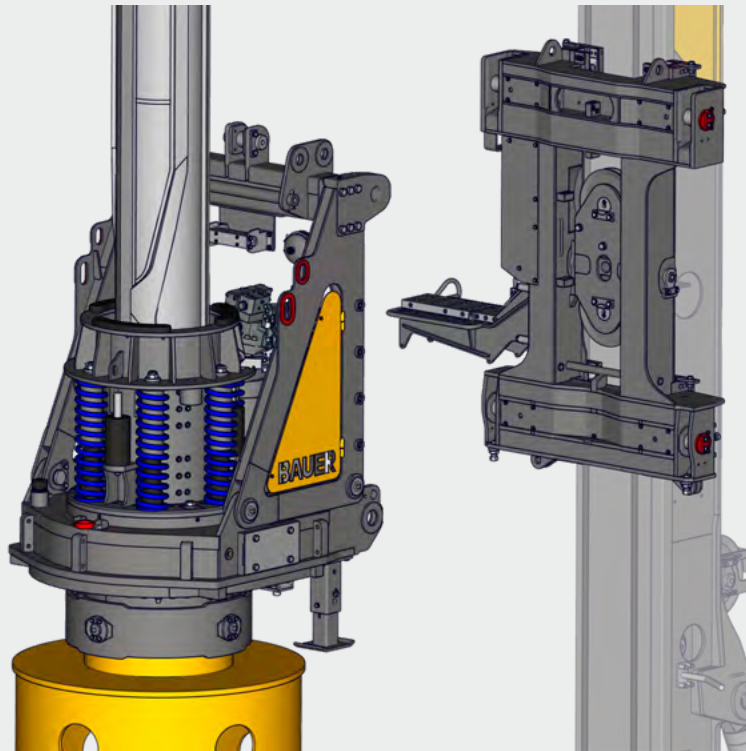
Flexible mast concept

- Vario-masthead
 - Masthead for drill axis distance 1,100 and 1,400 mm
 - Increased stroke for Kelly bars when using an upper Kelly guide
 - Tilttable main jib for Kelly drilling and single-pass processes
 - Auxiliary winch is always fully usable
- Minimized transport length based on hydraulically foldable and lookable upper mast section

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 9)
- Enhanced drilling performance
- High operation comfort
- Reduction of wear on Kelly bars and drive keys

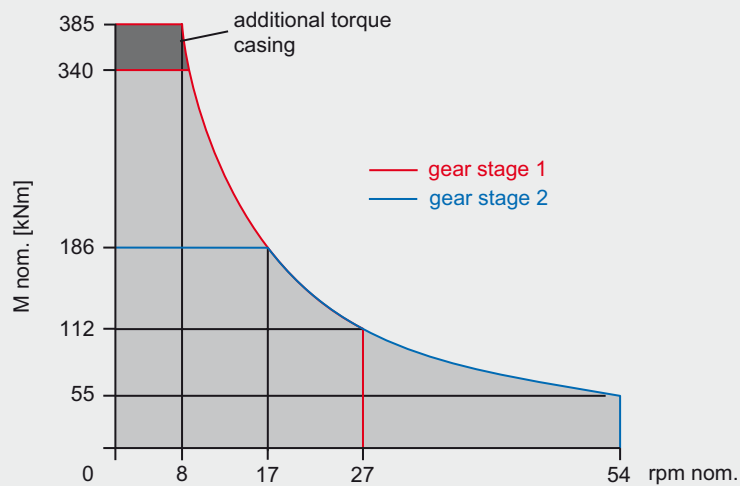
Rotary drive

- Optional single gear drive or multi gear drive
- Max. torque casing 385 kNm
- Max. speed of rotation 54 rpm
- Various modes of operation, partially selectable speed of rotation and torque

Hydraulically operated pin connection on the crowd sledge

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

KDK 385 S



Base carrier BT 85

Standard

- Removable counterweight elements
- Protective roof guard
- Energy-Efficient Power (EEP)
- Premium operator seat
- Cameras for rear area
- Integrated service platform
- Remote control Basic

Optional

- Counterweight, variably adjustable
- Foldable guardrails on the upper level
- Compressor 1,000 l/min
- Electric generator
- Arctic kit
- Cab space heater with automatic timer
- Rear support unit
- High-pressure cleaner with water tank
- Remote control Multi

Drilling rig attachment

Standard

- Main winch with hydraulic free-wheel control
- Swivel for main rope
- Masthead (foldable for transport)
- Pivoted anchor point for main and auxiliary rope
- Vario masthead
- Hydraulic foldable and lockable upper mast section

Optional

- 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 unit
- Additional auxiliary winch 20 kN
- Attachment of casing oscillator up to BV 2000
- Auger cleaner attachment for Kelly system

Rotary drive

Standard

- Rotary drive KDK 385 S (multi gear drive)
- Kelly drive adapter for outer Kelly tube 470 mm
- Integrated Kelly damping system
- Cardanic joint

Optional

- Torque multiplier BTM 720 K Kelly drilling
 - Torque 420 kNm (nominal)

Measuring and control system

Standard

- Automatic mast alignment with memory-recall
- Crowd stroke monitoring
- Electronic mast reach limiter
- Kelly visualization
- Slewing Angle Warner

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
- Slewing Angle Limiter (SDL)
- Stability Plus

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

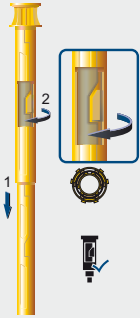


Adaptive Kelly speed assistant

The assistant raises and lowers the Kelly bar safely and quickly and allows an easy operation. The automatic control of the speed of the main winch reduces the speed at the transition points of the Kelly sections.

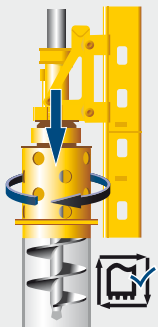
This provides maximum safety with minimum wear.

The permanent monitoring of the parameters prevents a locked Kelly bar from being raised or lowered accidentally and thus causing damage.



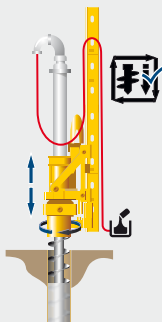
Kelly visualization

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.



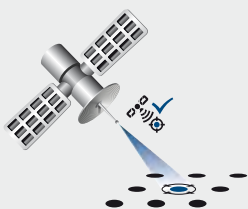
Kelly drilling assistant

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.

Stability Plus

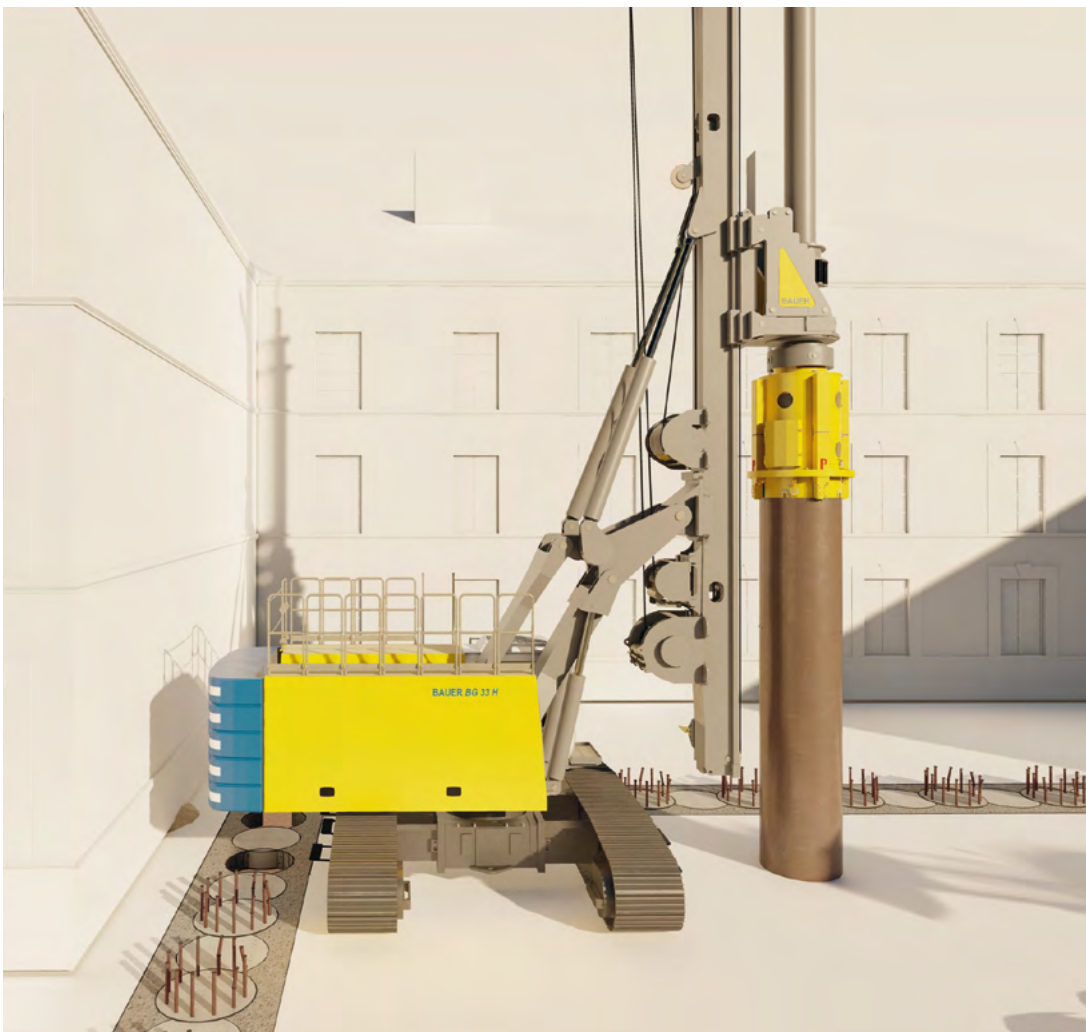
- Safe work even in the extended range of outreach (safety sensors monitor swinging speed and rotary drive position)
- The usual agility of the drilling rig during Kelly drilling with up to 3 rpm is fully maintained
- Enhanced performance thanks to extended outreach during drilling (light green area)
- 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



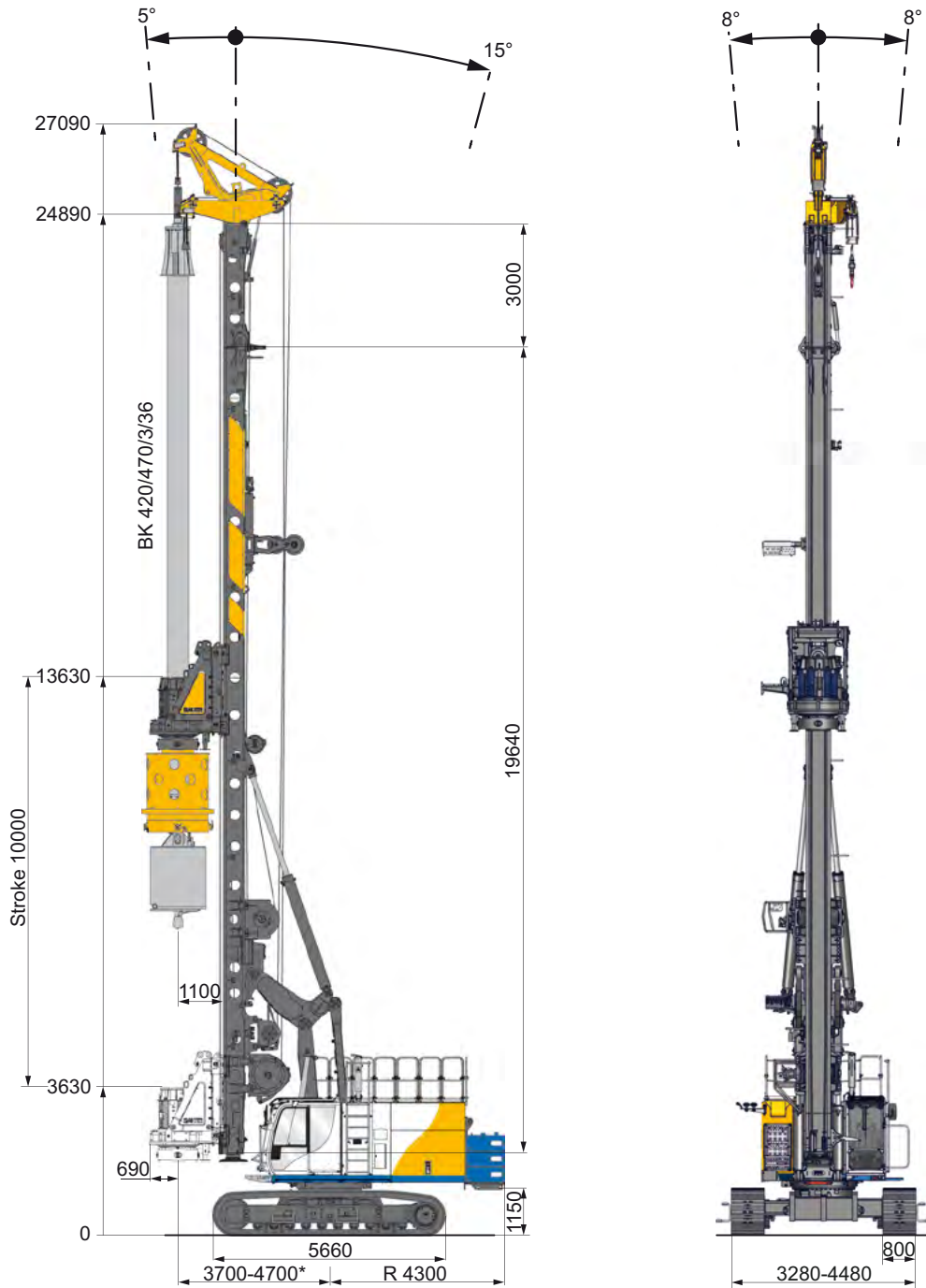
Only for reference to show working principle

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

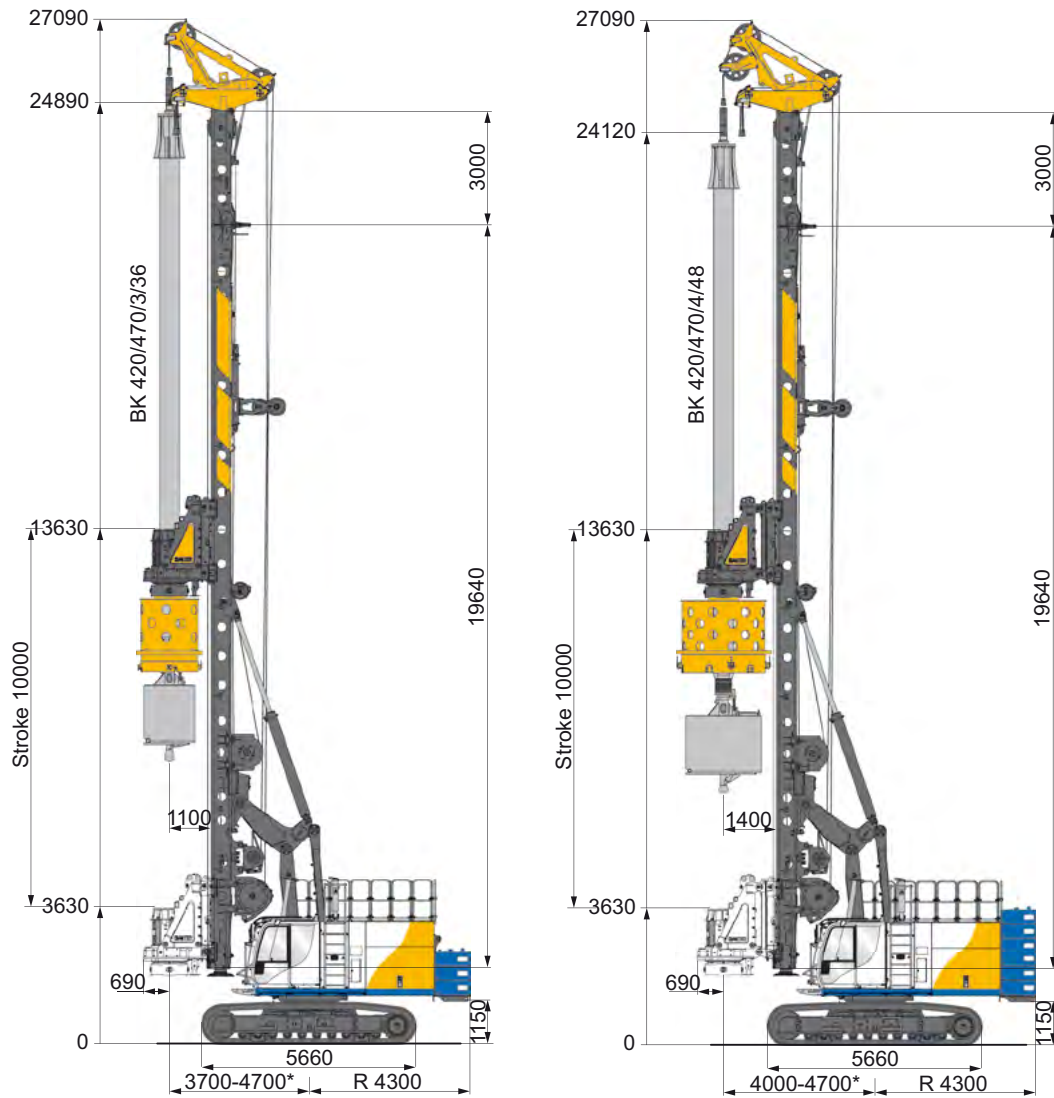


Operating weight 110.8 t
(as shown)

* depending on equipment

Rotary drive	KDK 385 S	
Torque casing (nominal) at 350 bar	385 kNm	
Torque drilling (nominal) at 350 bar	340 kNm	
Speed of rotation (max.)	54 rpm	
Crowd winch system		
Max. sledge stroke	20,090 mm	
Compressive force effective / nominal	400 / 513 kN	
Pulling force effective / nominal	400 / 513 kN	
Extraction force Crowd Plus effective / nominal with mast support unit	690 / 740 kN	
without mast support unit	630 / 610 kN	
Rope diameter	28 mm	
Speed (down / up)	10.5 m/min	
Fast speed (down / up)	28 m/min	
Main winch	M6 / L3 / T5	
Line pull (1st layer) effective / nominal	290 / 367 kN	
Rope diameter	32 mm	
Line speed (max.)	75 m/min	
Auxiliary winch (selectable)	M6 / L3 / T5	
Line pull (1st layer) effective / nominal	80 / 100 kN	100 / 125
Rope diameter	20 mm	
Line speed (max.)	55 m/min	
Base carrier (EEP)	BT 85	
Engine	Volvo TAD 13	
Rated output ISO 3046-1	345 kW 1.700 rpm	405 kW @1.700 rpm
Exhaust emission	UN/ECE R96*	EU Stage V EPA/CARB Tier 4 final
Diesel tank capacity / AdBlue Tank	730 / - l	730 / 70 l
Sound pressure level in the cabin (EN 16228, Annex B)	LPA 80 dB (A)	
Sound power level (2000/14/EC u. EN 16228, Annex B)	LWA 110 dB (A)	
Hydraulic pressure	350 bar	
Hydraulic oil tank capacity	650 l	
Flow rates	2 x 320 + 1 x 565 + 1 x 215 l/min	
Under carriage	UW 100	
Crawler type	B 7	
Traction force effective / nominal	730 / 860 kN	

* Exhaust emission equivalent Tier 3 / Stage III A



	Basic version	Upgraded version
Drilling axis	1,100 mm	1,400 mm
Max. drilling diameter		
uncased	1,900 mm	2,500 mm
cased	1,600 mm	2,200 mm
Operating weight approx.	110.8 t	131.2 t
with Kelly	BK 420/470/3/36	BK 420/470/4/48
with casing drive adapter	1,500 mm	2,200 mm
with bucket	1,350 mm	2,000 mm
with counterweight*	17.2 t	29.4 t

* depending on equipment



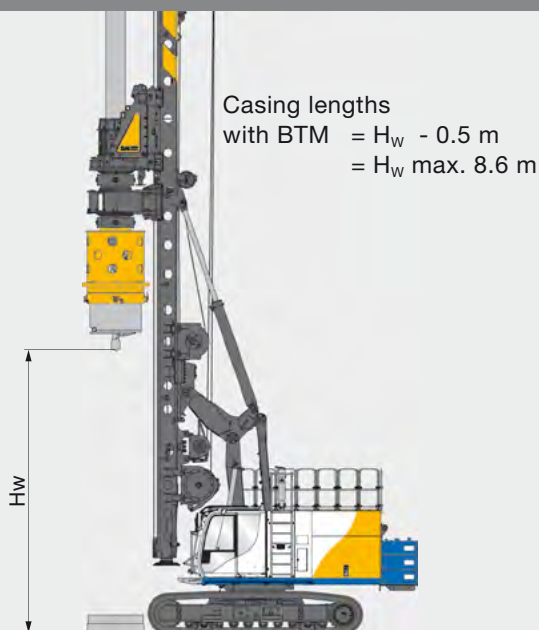
- A** Length of Kelly bar (retracted)
- B** Length of Kelly bar (extended, unlocked)
- T** Drilling depth
- H_w** Max. clearance to drilling tool
- NL** Effective tool length
- G** Weight of Kelly bar

Drilling depth - uncased Kelly drilling					
3-part Kelly	A (m)	B (m)	G (kg)	H _w (m)	T (m)
BK420/470/3/27	12.3	29.2	7,700	9.0	27.5
BK420/470/3/30	13.3	32.2	8,150	9.0	30.5
BK420/470/3/33	14.3	35.2	8,730	8.5	33.5
BK420/470/3/36	15.3	38.2	9,300	7.5	36.5
BK420/470/3/39	16.3	41.2	9,830	6.5	39.5
4-part Kelly					
BK420/470/4/36	12.3	37.8	10,250	9.0	36.0
BK420/470/4/40	13.3	41.8	11,000	9.0	40.0
BK420/470/4/44	14.3	45.8	11,800	8.5	44.0
BK420/470/4/48	15.3	49.8	12,600	7.5	48.0
BK420/470/4/52	16.3	53.8	13,350	6.5	52.0
BK420/470/4/64	19.3	65.8	15,700	3.5	64.0
BK420/470/4/68	20.3	69.8	16,480	2.5	68.0

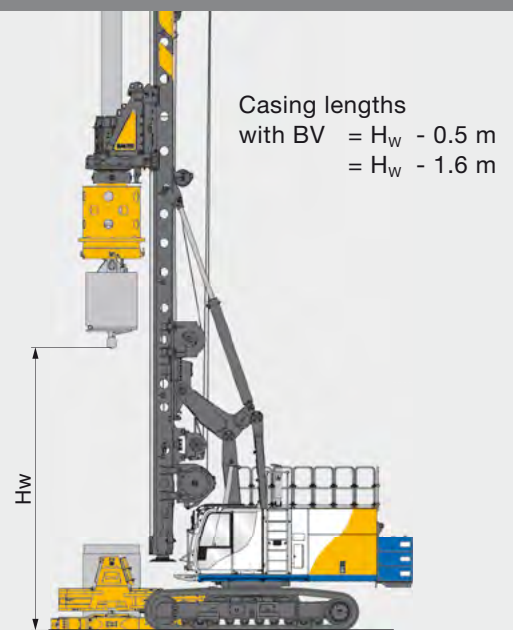
Drilling data as shown are based on tool length NL = 1.9 m, minimum horizontal mast reach and using Bauer attachment. Drilling depth is increased by 0.32 m when using maximum horizontal mast reach.

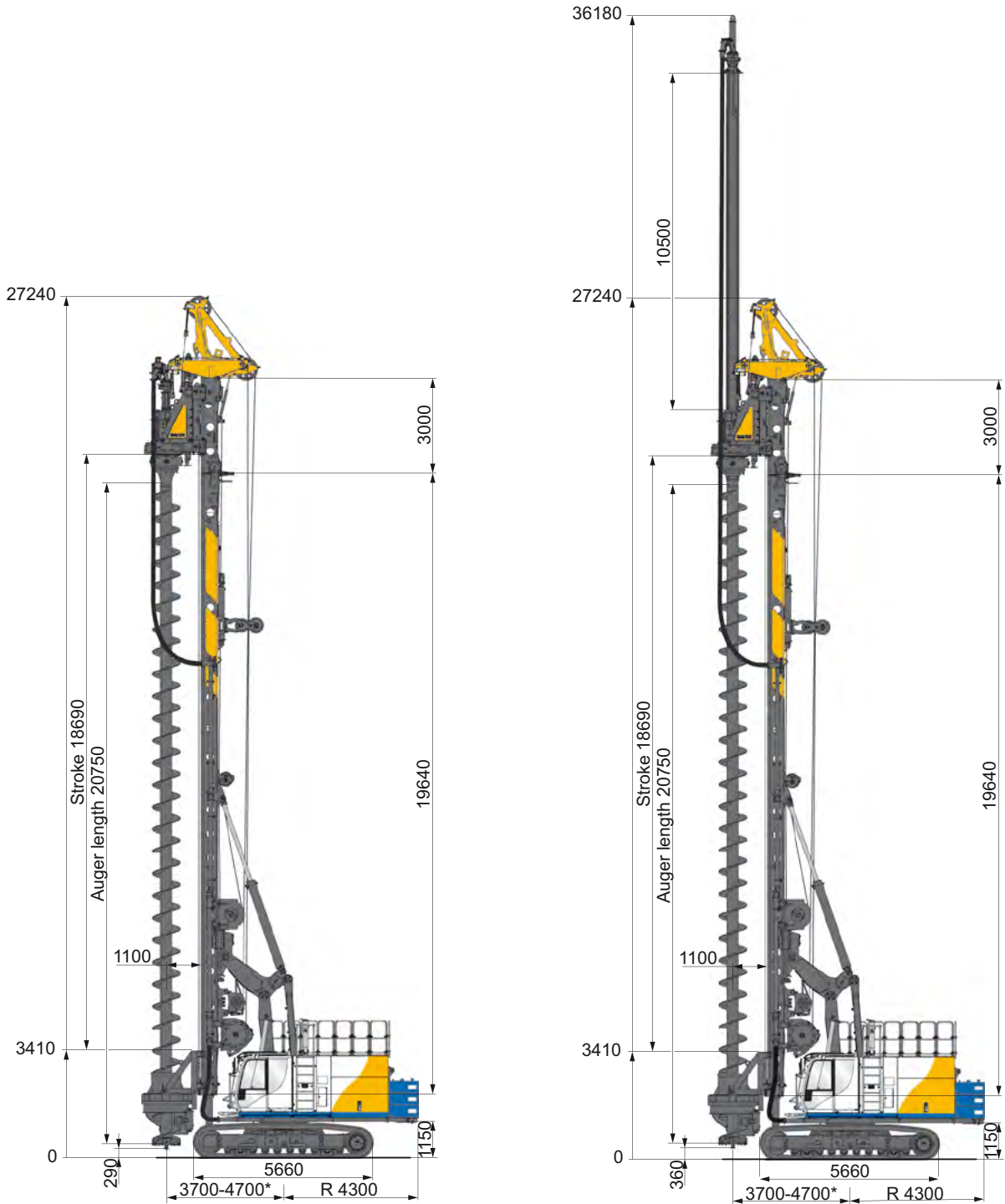
Further drilling depths, diameters and other Kelly types on request.

Torque multiplier BTM 720 for a torque while casing of 420 kNm



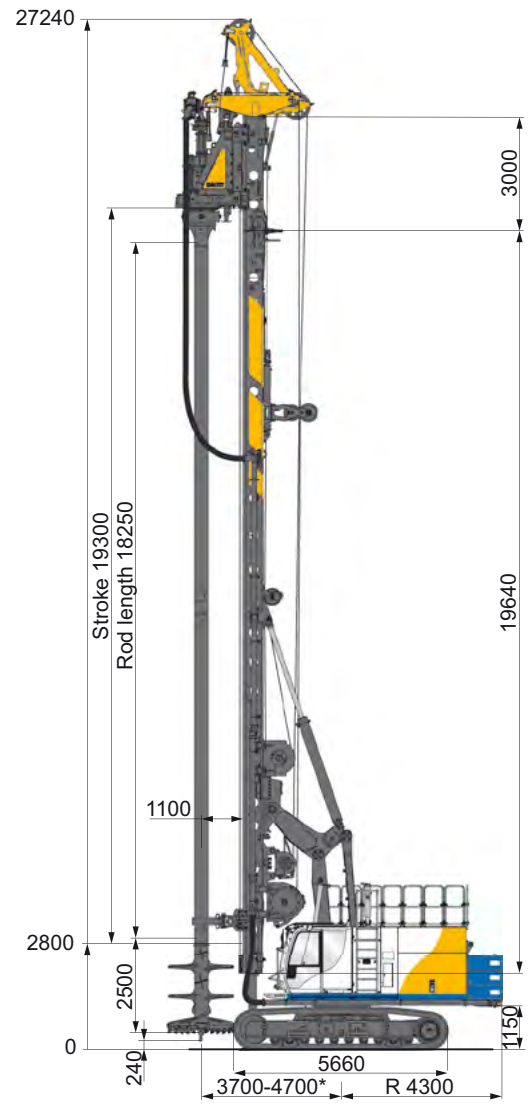
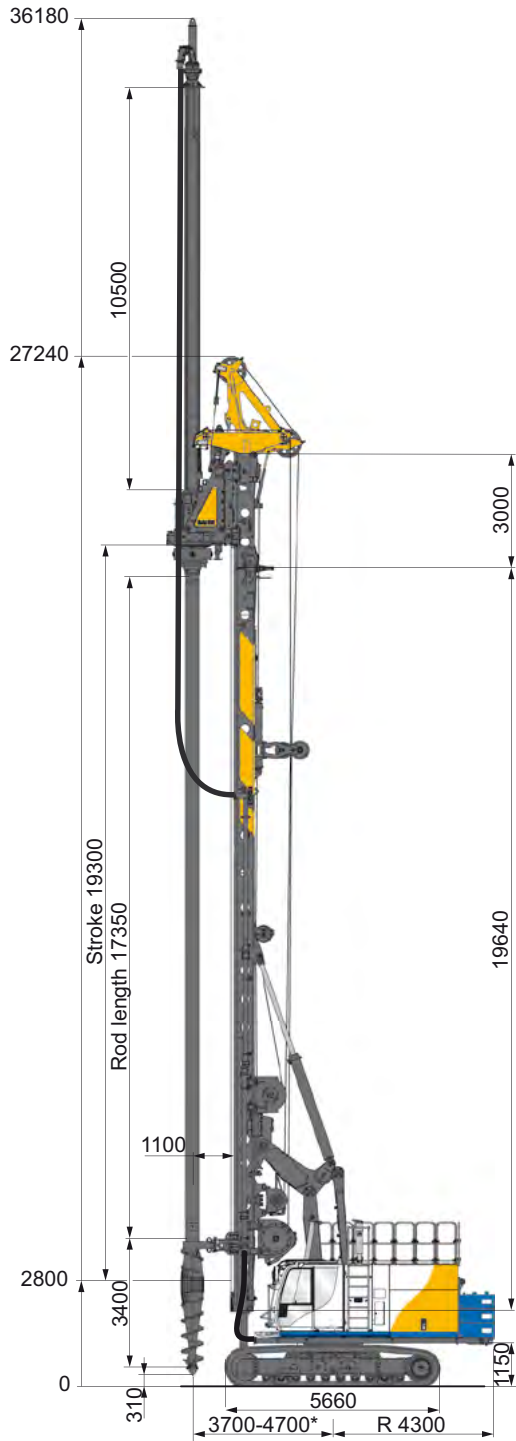
Kelly drilling with casing oscillator up to BV 2000





	Basic version	Upgraded version
Kelly extension	without	10.5 m
Max. drilling diameter	1,200 mm	1,200 mm
Drilling depth with Bauer rotary auger cleaner	18.2 m	28.7 m
Drilling depth with Bauer brush auger cleaner	19.4 m	29.9 m
Max. extraction force with main and crowd winch (effective)	850 kN	850 kN
with counterweight*	14.7 t	22.1 t

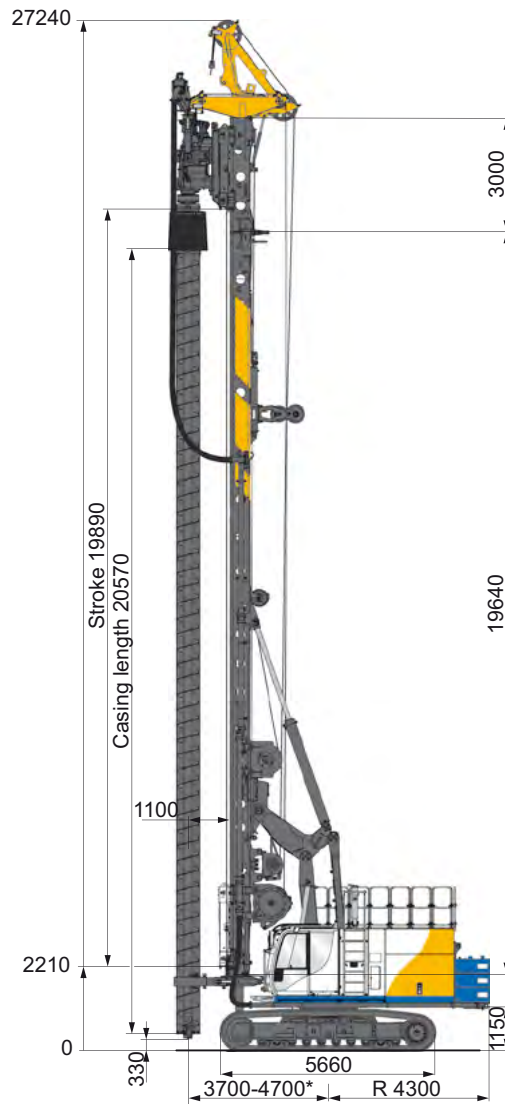
* depending on equipment



	FDP Drilling	SCM Mixing
Kelly extension	10.5 m	without
Max. drilling diameter	710 mm	2,500 mm**
Max. mixing depth with casing guidance	29.2 m	18.7 m
Max. extraction force with main and crowd winch	850 kN	850 kN
with counterweight*	19.7 t	14.7 t

* depending on equipment

** operation only with special equipment



	FoW drilling DKS 100 / 200
Torque auger	100 kNm
casing	200 kNm
Max. drilling diameter	750 mm
Max. drilling depth	19.4 m
Max. extraction force with main and crowd winch (effective)	690 kN
with counterweight*	19.7 t
Erection system	option

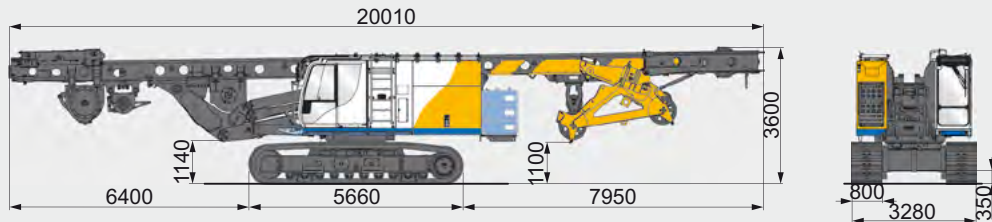
* depending on equipment

G = Weight
B = Width

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

Transport with base carrier UW 100

G = 73.3 t
G = 88.0 t mit 14.7 t Counterweight
B = 3,300 mm



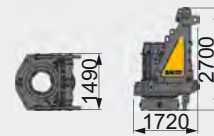
Counterweight*

G = 2.5 / 4.9 t
B = 3,000 mm



Rotary drive

G = 7.2 t (KDK 385 S)



Width of crawlers retracted / extended

Track shoes 800 mm	3,300 – 4,500 mm
Track shoes 900 mm	3,400 – 4,600 mm

* depending on application

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24/7



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