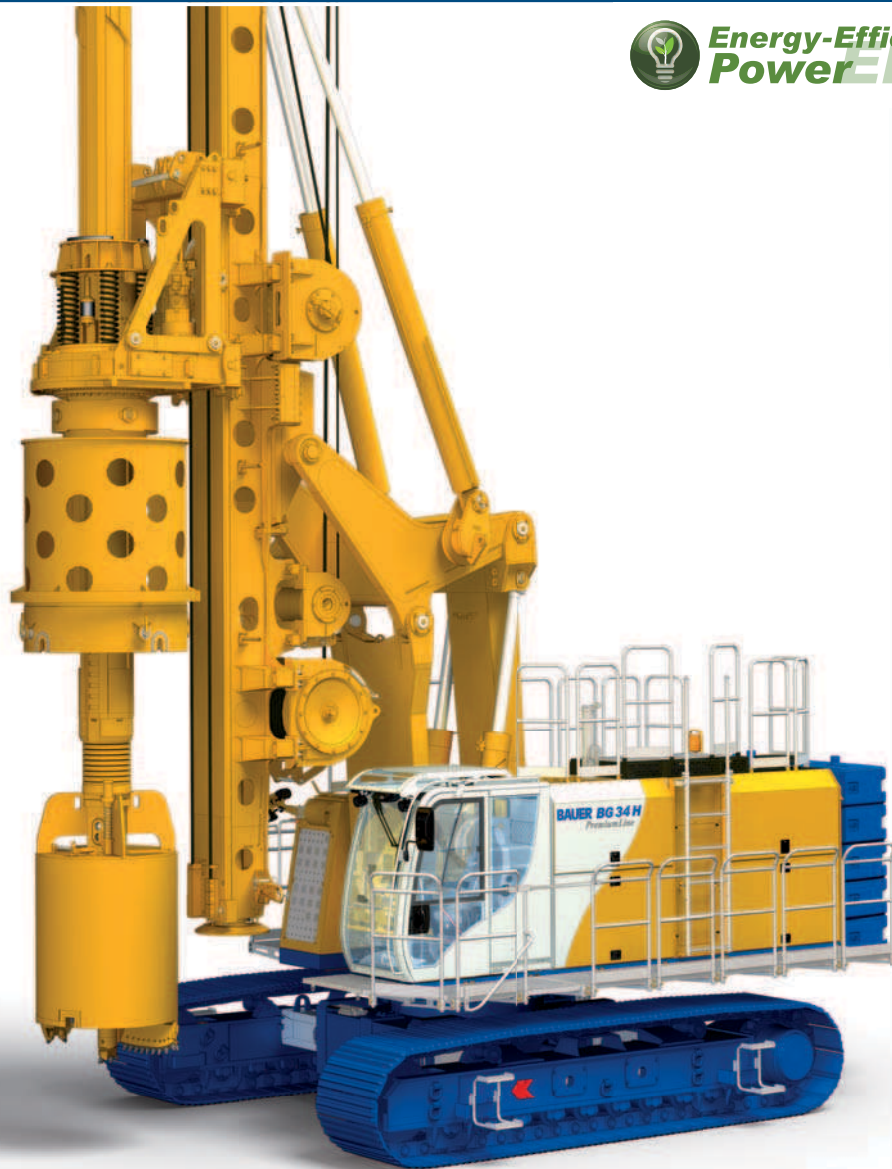


# BAUER BG 34 H

## Rotary Drilling Rig

Base Carrier BS 95

PremiumLine



## Experience for you!

*“100 years of drilling,  
4 decades of building machines,  
and still down to the earth”*

Prof. Thomas Bauer

We could start by telling you about Sebastian Bauer, who founded a copper forge in the German town of Schrobenhausen some 200 years ago. We could then move on to how his workshop prospered and developed to a leading construction company for specialist foundation engineering. The story would continue to the mid 20<sup>th</sup> century, when innovation and the drive for perfection prompted Bauer to develop and build their own high-quality and high-performance machinery. And it still wouldn't end in the 21<sup>st</sup> century, Bauer now family-run in the seventh generation and meanwhile a globally operating group with more than 100 branches and subsidiaries operating in the fields of special foundation engineering (Bauer Spezialtiefbau), in manufacturing of foundation equipment (Bauer Maschinen) and focusing on products and services in the fields of water, energy, mineral resources and environmental technology (Bauer Resources).

But we think what really matters about us and to our customers is this:

We are a strong partner with face and values, we are down to earth, and we are dedicated to perfection in everything we touch.



**1790**

Foundation as a  
copper forge in  
Schrobenhausen,  
Germany



**1928**

Well drilling in  
Bavaria, Germany



**1958**

Invention of the  
ground anchor by  
Dr.-Ing. K.H. Bauer



**1976**

First hydraulic rotary  
drill rig BAUER BG 7



**1984**

First diaphragm wall  
trench cutter BC 30



## More than machines: Competent consulting

*Quality is not an act,  
it is a habit.*

Of the thousands of machines Bauer Maschinen has built since production started in the 1970's with the first rotary drill rig BG 7, many of them are still in operation all over the world – in Siberia as well as in the desert. State of the art technology developed end-to-end by our inhouse engineers and full machine tests prior to delivery are one side of the coin. Bauer Maschinen can serve any customer need with the most comprehensive product portfolio. The other side is project-specific consulting by highly trained experts, with a focus on your special requirements.

- **Quality and experience in specialist foundation engineering**
- **Global operation – local contacts in over 70 countries**
- **Reliability in technology, service**
- **Customized solutions**
- **On-site support over entire machine service life**



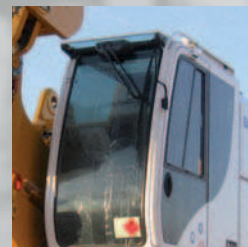
**1980's**  
Start of international  
equipment sales



**2001**  
Bauer Maschinen  
established as  
independent  
company within the  
Bauer Group



**2006**  
Stock market launch  
of BAUER AG,  
directed by  
Prof. Thomas Bauer



**2011**  
Introduction of  
BG ValueLine and  
BG PremiumLine



Regular showcasing  
of new developments  
on various exhibitions

# The BAUER BG PremiumLine

The BG Premium Line stands 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 BG PremiumLine 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

## The H-model line

### Special features of the H-model line are:

- Fast loading onto transport vehicles
- Easy rigging on-site due to compact design
- Rapid shifting to new working positions at construction sites with underpasses or below low bridges



BG 15 H  
BT 40



BG 18 H  
BT 50

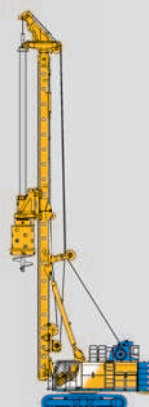


BG 20 H  
BT 60

## The V-model line

### Special features of the V-model line are:

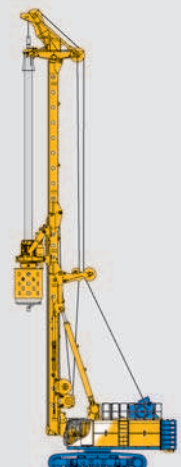
- Big borehole diameters
- Large drilling depths
- Extended service intervals and power transmission with low vibrations due to the robust design of the kinematic system



BG 30  
BS 95



BG 39  
BS 95



BG 42  
BS 115

## The Rotary drilling rig BG 34 H PremiumLine (BS 95)

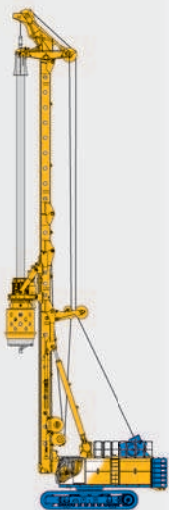
Max. drilling diameter:	2,500 mm
Max. drilling depth:	68.0 m
Torque (nominal):	340 kNm
Engine:	CAT C 15
Power:	403 kW @1,850 rpm
Max. height:	27.1 m



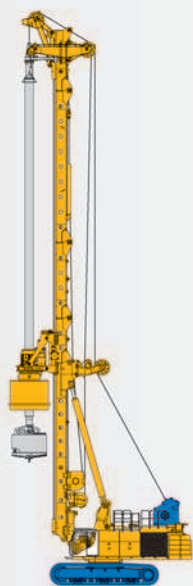
**BG 28 H  
BT 85**



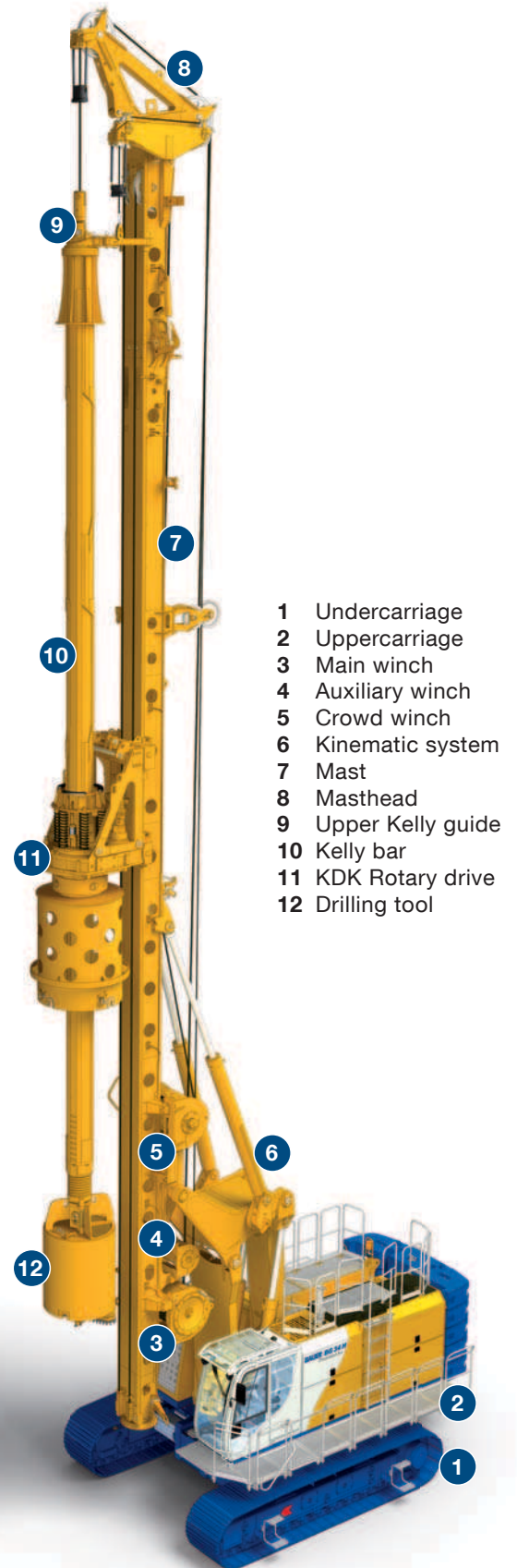
**BG 34 H  
BS 95**



**BG 46  
BS 115**



**BG 50  
BT 180**

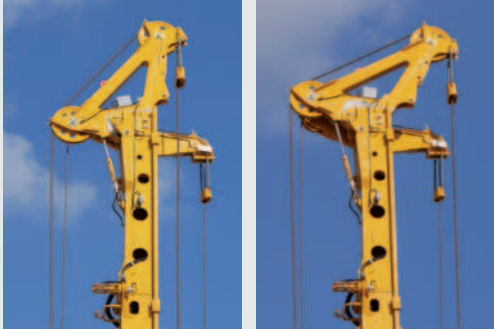


- 1 Undercarriage
- 2 Uppercarriage
- 3 Main winch
- 4 Auxiliary winch
- 5 Crowd winch
- 6 Kinematic system
- 7 Mast
- 8 Masthead
- 9 Upper Kelly guide
- 10 Kelly bar
- 11 KDK Rotary drive
- 12 Drilling tool



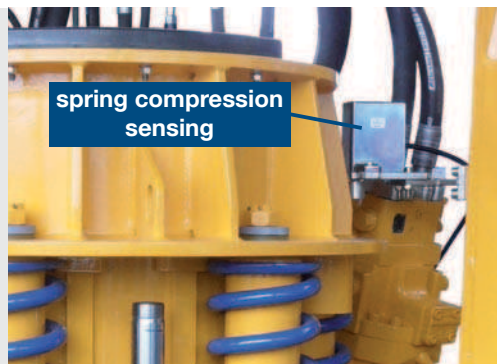
### Vario-masthead

- Masthead for drill axis distance 1,100 and 1,400 mm
- Increased stroke for kelly bars when using an upper kelly guide
- Tilttable mainrope jib for
  - Kelly drilling
  - Single pass mode
  - Optimized transport length
- Auxiliary winch is always fully usable



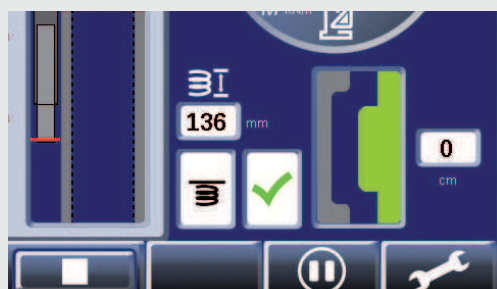
### Extended mast configuration

- Mast extension 3 m, hydraulically foldable and lockable
- Hydraulic locking, no working at height
- Increased stroke for Single Pass Systems
- Minimized transport length < 20 m



### Kelly visualization with spring compression sensing

- Display of lock recesses in the cm range
- Display of spring travel in the mm range
- Increase in drilling performance
- Reduced Kelly bar wear
- Cost savings
- Correct lowering and retracting of Kelly bar



### Modern, ergonomic operator cab

- FOPS compliant
- Sliding door with sliding window
- Premium comfort seat, air-sprung and heatable
- 10.4" color screen (Touchscreen)
- High-precision electronic pre-control system
- Joystick controls with high functionality, operating controls can be adjusted individually



**Energy-Efficient  
Power EEP**

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



#### Safety equipment

- Guardrails upper level
- Walking platform with handrail (option: foldable)
- Upward folding service doors
- Rear view camera, warning beacon and audible reverse warning system



#### Powerful engine CAT C 15

- Conforming to Exhaust Emission Standards Tier 3, Tier 4 final
- Optional with 403 kW or 433 kW
- Automatic idling mode
- Modern engine diagnostic system
- Low noise emission
- Low fuel consumption due to individual consumer control
- Worldwide CAT-service partners

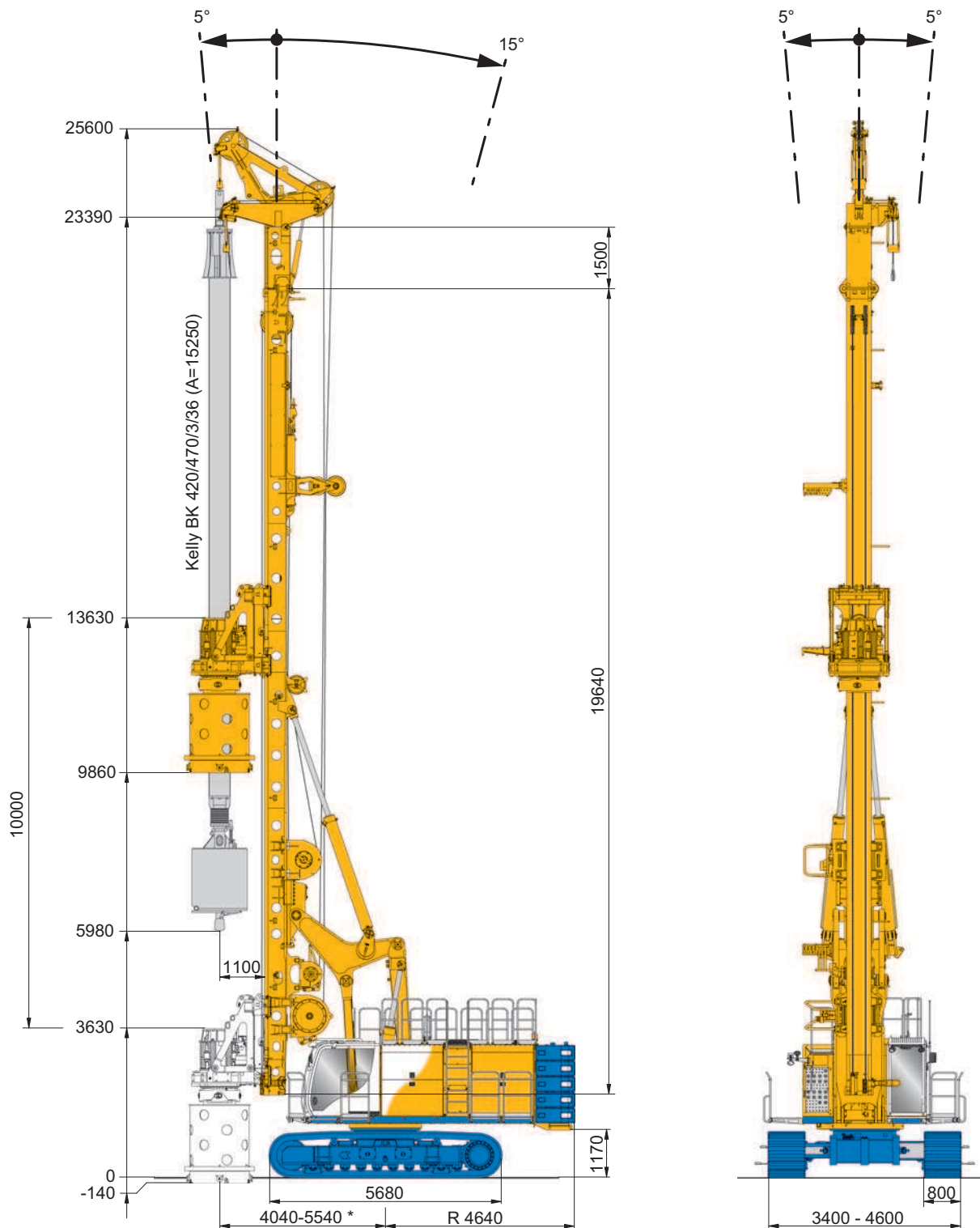


#### Variably stackable counterweight elements

- Constant tail radius
- Small weight of individual elements (4.9 t or 2.5 t)
- Flexible arrangement, adjustable to application
- Mounting and demounting with rig



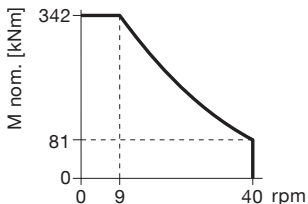
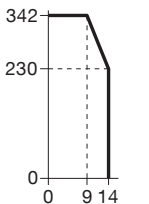
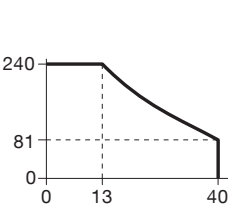




**Operating weight** 112 t  
(as shown)

\* depending on configuration



<b>Rotary drive</b>		KDK 340 K
Torque (nominal) at 350 bar		340 kNm
Speed of rotation (max.)		40 rpm
1 <sup>st</sup> gear	1 <sup>st</sup> gear	1 <sup>st</sup> gear
Standard mode	rpm reduced	M <sub>D</sub> reduced
 <p>M nom. [kNm]</p> <p>0 9 40 rpm</p>	 <p>0 9 14 rpm</p>	 <p>0 13 40 rpm</p>
Not to scale		
<b>Crowd winch</b>		
Crowd force push / pull (effective)		400 / 400 kN
Crowd force push / pull (measured at the casing drive adapter)		350 / 315 kN
Speed (down / up)		7.2 / 7.2 m/min
Fast speed (down / up)		26.4 / 26.4 m/min
<b>Main winch</b>		
Winch classification		multi-layer
Winch classification		M6 / L3 / T5
Line pull (1 <sup>st</sup> layer) effective / nominal		290 / 367 kN
Rope diameter		32 mm
Line speed (max.)		75 m/min
<b>Auxiliary winch</b>		
Winch classification		multi-layer
Winch classification		M6 / L3 / T5
Line pull (1 <sup>st</sup> layer) effective / nominal		80 / 100 kN
<b>Base carrier (EEP)</b>		
Engine		BS 95
Engine		CAT C 15
Rated output ISO 3046-1 (with/without power package)		403 / 433 kW
		@ 1,850 rpm
Exhaust Emission Standard acc. to EPA		Tier 3 Tier 4 final
Diesel tank capacity / AdBlue tank		1,000 / – 840 / 35 l
Sound pressure level in cabin (EN 791, Annex A)		LP <sub>A</sub> 80 dB(A)
Sound power level (2000/14/EG and EN 791, Annex A)		LW <sub>A</sub> 112 dB(A)
Hydraulic power output (measured at inlet to rotary drive)		330 kW
Hydraulic pressure		350 bar
Flow rates		2 x 425 + 1 x 565 + 1 x 215 l/min
Hydraulic oil tank capacity		1,000 l
<b>Undercarriage</b>		
Crawler type		UW 110
Crawler type		B7
Track width (retracted/extended)		2,600 / 3,800 mm
Overall width of crawlers (retracted/extended)		3,400 / 4,600 mm
Width of triple grouser track shoes		800 mm
Overall length of crawlers		5,680 mm
Traction force (effective)		740 kN

**Base carrier BS 95, Fig. A**

**Standard**

- Removable counterweight elements
- Removable crawler side frames
- Protective roof guard
- Radio with CD, MP3, USB and Bluetooth c/w hands-free kit
- Guardrails upper level
- Platforms with handrail (on both sides and at the cabin)
- EEP Energy Efficiency Package
- Air conditioning system
- Premium comfort seat
- 2 cameras for rear area surveillance

**Optional**

- Counterweight variably adjustable to max. 29.4 t
- Walking platform with handrail (continuous on both sides, at cabin level)
- Compressor 1,000 l/min
- Electric generator 13 kVA
- Bio-degradable hydraulic oil
- Arctic kit
- Cab space heater with automatic timer
- LED spotlights
- Additional camera (at customer-specific location)
- Front screen guard, **Fig. B**
- Sun blind small or big
- Climatronic

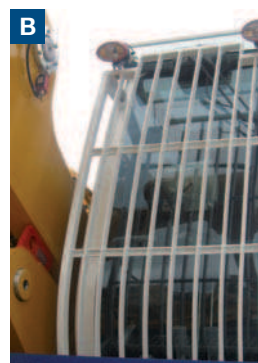
**BG attachment**

**Standard**

- Sturdy H-type mast kinematic system
- Main winch with hydraulically operated freewheeling
- Swivel for main rope
- Travel measuring device on crowd winch
- Electronically controlled horizontal displacement
- Hydraulically operated pin connection on crowd sledge for easy mounting and demounting of rotary drive
- Mast extension 1.5 m (fixed)
- Masthead tiltable

**Optional**

- Upper kelly guide
- Extension of drill axis to 1,400 mm
- Mast support unit
- Mast extension 3 m hydraulically foldable and lockable
- Swivel for auxiliary rope
- Attachment of casing oscillator (up to BV 2000 HD-07), **Fig. D** (BV 2000 HD-07 requires drill axis extension 1,400 m)
  - Powered by on-board hydraulics of base machine
  - Controlled from operator's cab
  - Weight of drill rig can be activated through mechanical fixing
- Attachment of automatic casing drive adapter, **Fig. C**



## Rotary drive KDK 340 K (single-gear drive), Fig. E

### Standard

- 3 selectable modes of operation
- Kelly drive adapter for outer kelly tube 470 mm
- Integrated kelly damping system
- Exchangeable kelly drive adapter
- Exchangeable kelly drive keys
- Cardanic joint
- Quick-release hydraulic couplers
- Transport supports
- Lifting gear

### Optional

- Torque multiplier BTM 720 K for Kelly drilling
  - Torque 400 kNm (nominal)
  - Increasing of torque for casing installation
  - Easy attachment
  - Separate sledge
  - Connection to rotary drive with cardanic joint
- Torque multiplier BTM 400 for CCFA / PCCFA, Fig. F

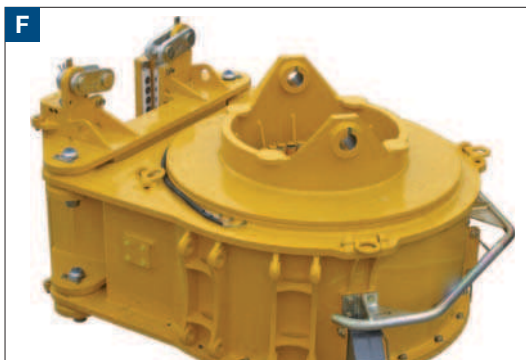
## Measuring and control system

### Standard

- PLC processor for all electrically actuated functions
- Depth measuring device on main winch
- Main winch with electronic load sensing
- Distance measuring device on crowd winch
- Auxiliary winch with hydraulic load sensing
- Kelly drilling assistant
- Crowd speed control
- Speed measuring control on rotary drive
- Uni-directional tool discharge
- Automatic crowd control
- Automatic swivel alignment function on main winch
- Slack rope prevention on main winch
- Hoist limit switch on main and auxiliary winch
- Electronic mast reach limiter
- Bauer B-Tronic 4.1
- Tablet
- DTR-LAN module

### Optional

- Electronic load-sensing for auxiliary winch
- Drilling and pulling assistant for Single-Pass processes
- Recording of concrete pressure and volume for Single-Pass processes
- Software modules for further applications
- B-APS Satellite-based positioning system

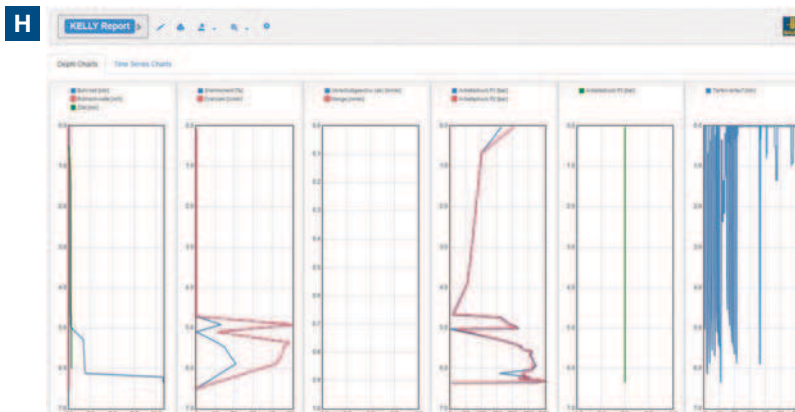




## Operating, Evaluation and Transfer Systems

### Standard

- Bauer B-TRONIC 4.1
  - High-resolution 10.4" touch screen for high operating comfort, **Fig. G**
  - High contrast display easy to read in daylight
  - Variable display of machine and process-specific production parameters in line with selected operating techniques
  - Main parameters, such as pump pressures, torque and drilling depth at a glance
  - Kelly visualization for displaying the actual position of lock recesses and drive keys
  - Recording of machine and process-specific production parameters (**Fig. H**) for documentation of the construction progress and external processing with the evaluation software B-Report
  - Data transfer to external data storage device (USB memory stick) or online access via WEB-BGM
  - Display of machine status and fault messages in plain text
  - Fault diagnosis
  - Automatic mast alignment with memory functions (3 storable positions)
- Tablet
  - Fully-fledged tablet with numerous apps, (such as camera, processor, notebook etc.), **Fig. I**
  - Internet access via DTR-LAN module
  - Copy (mirroring) of operator screen
  - Offline availability of machine-specific documents, such as manuals and spare parts lists
  - Mobile tools for service engineers
- DTR-LAN module
  - Online Internet connection for the drilling rig via mobile communications network (GSM)
  - GPS receiver for positioning
  - WLAN connection for the tablet
  - Internet data transfer to BAUER webserver (WEB-BGM) for protected customer access to their own machine and production process data.





**Kelly drilling**



**Cased Kelly drilling**  
(installation with BTM)



**Cased Kelly drilling**  
(installation with oscillator)



**CFA**



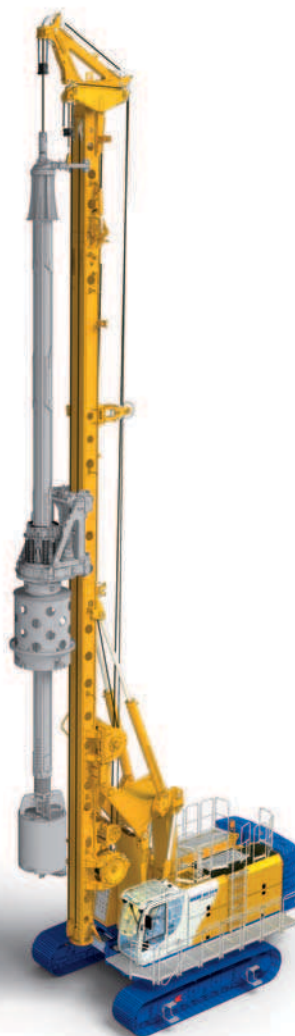
**CCFA**  
Cased CFA system  
with KDK + BTM



**PCCFA**



**CSM**  
Cutter Soil Mixing



**SCM**  
Single mixing paddle



**FDP**  
Standard or Lost Bit



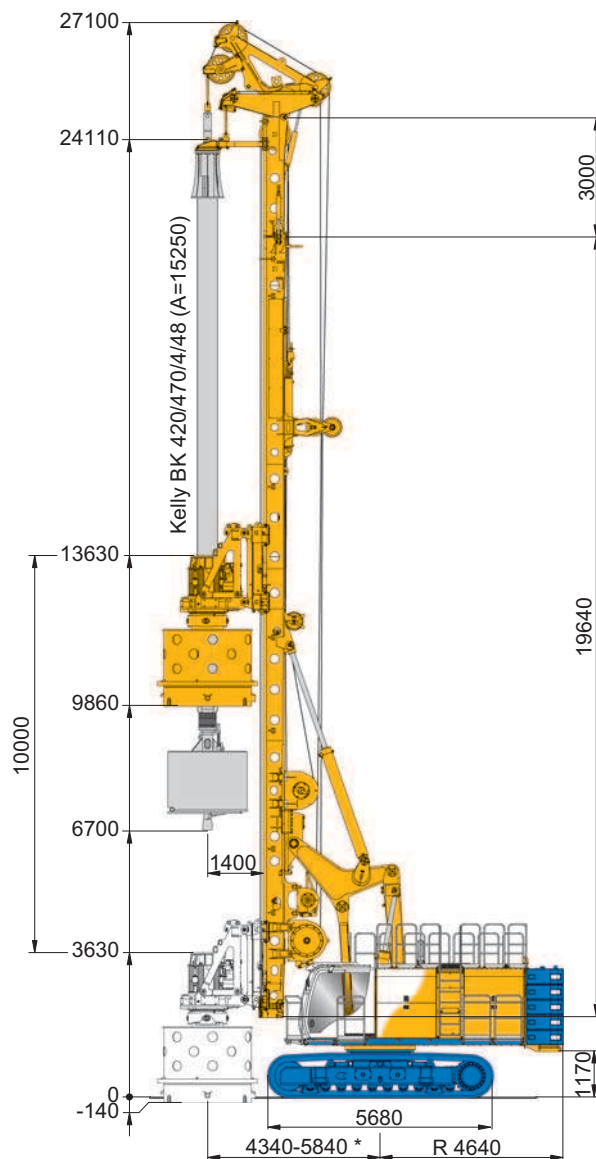
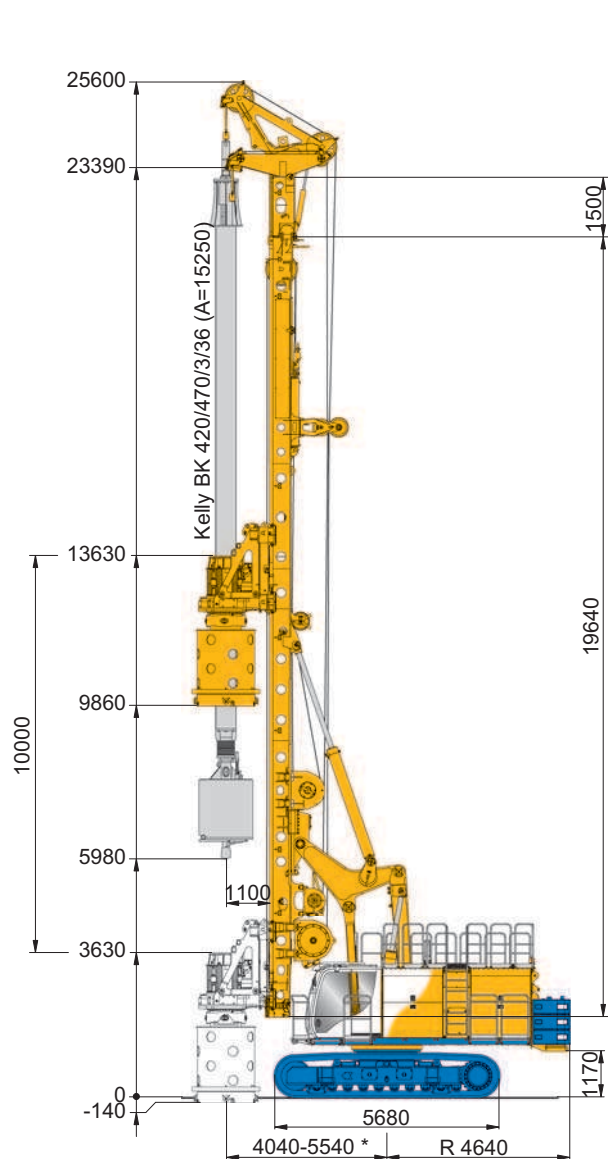
**Pile driving**  
with hydraulic hammer or  
Pileco Diesel hammer



**TR**  
Depth vibrator



**SMW**  
Triple mixing paddles

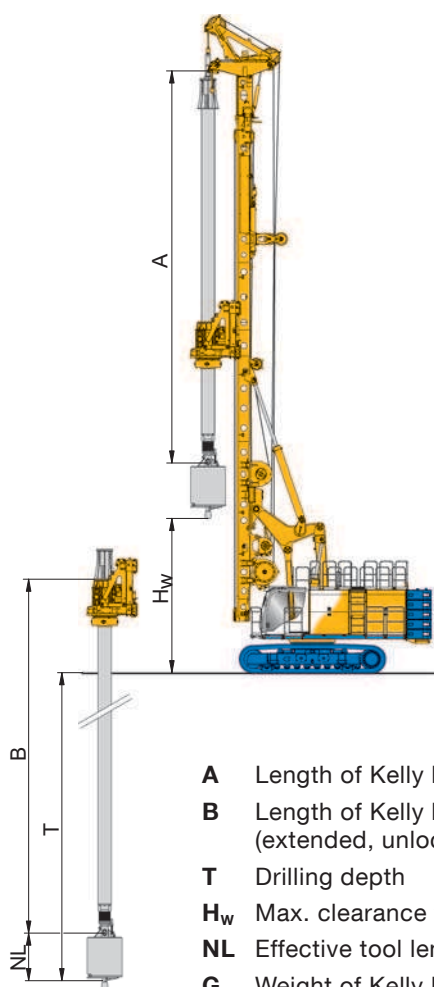


Basic version	
Undercarriage	UW 110 (B7)
Main winch	290 kN
Mast extension	1.5 m
Upper Kelly guide	without
Drilling axis	1,100 mm
Max. drilling diameter	
uncased	1,900 mm
cased	1,600 mm
Operating weight	112 t
with Kelly BK 300/419/...	...3/36
with bucket	KB 1350
with counterweight	14.7 t

Upgraded version	
Undercarriage	UW 110 (B7)
Main winch	290 kN
Mast extension	3.0 m
Upper Kelly guide	with
Drilling axis	1,400 mm
Max. drilling diameter	
uncased	2,500 mm
cased	2,200 mm
Operating weight	131 t
with Kelly BK 300/419/...	...4/48
with bucket	KB 2000
with counterweight	24.5 t

\* depending on configuration





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

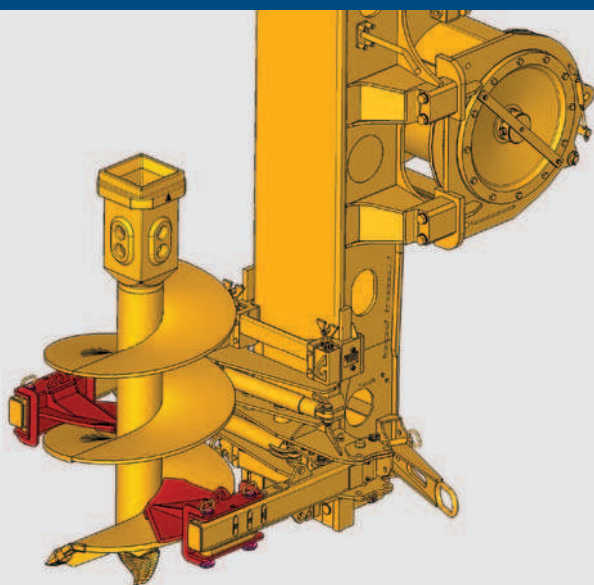
#### Drilling depth – uncased Kelly drilling, drill axis 1,100 mm

				1.5 m mast extension		3.0 m mast extension	
3-part Kelly bar	A (m)	B (m)	G (kg)	H <sub>w</sub> (m)	T (m)	H <sub>w</sub> (m)	T (m)
BK420/470/3/27	12.25	29.24	7,700	9.0	<b>27.5</b>	9.0	<b>27.5</b>
BK420/470/3/30	13.25	32.24	8,150	8.0	<b>30.5</b>	9.0	<b>30.5</b>
BK420/470/3/33	14.25	35.24	8,730	7.0	<b>33.5</b>	8.5	<b>33.5</b>
BK420/470/3/36	15.25	38.24	9,300	6.0	<b>36.5</b>	7.5	<b>36.5</b>
BK420/470/3/39	16.25	41.24	9,830	5.0	<b>39.5</b>	6.5	<b>39.5</b>
4-part Kelly bar	A (m)	B (m)	G (kg)	H <sub>w</sub> (m)	T (m)	H <sub>w</sub> (m)	T (m)
BK420/470/4/36	12.25	37.83	10,250	9.0	<b>36.0</b>	9.0	<b>36.0</b>
BK420/470/4/40	13.25	41.83	11,000	8.0	<b>40.0</b>	9.0	<b>40.0</b>
BK420/470/4/44	14.25	45.83	11,800	7.0	<b>44.0</b>	8.5	<b>44.0</b>
BK420/470/4/48	15.25	49.83	12,600	6.0	<b>48.0</b>	7.5	<b>48.0</b>
BK420/470/4/52	16.25	53.83	13,500	5.0	<b>52.0</b>	6.5	<b>52.0</b>
BK420/470/4/64	19.25	65.83	15,700	2.0	<b>64.0</b>	3.5	<b>64.0</b>
BK420/470/4/68	20.25	69.83	16,480	–	–	2.5	<b>68.0</b>

Drilling data as shown are based on tool length  
NL = 1.9 m, minimum horizontal mast reach and using  
Bauer attachment.

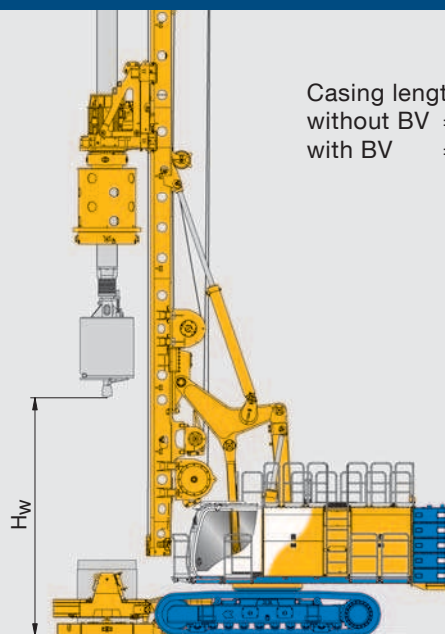
Further drilling depth, diameter and other Kelly types on  
request.

#### Auger cleaner for Kelly-drilling application Drilling diameter 520 to 1060 mm

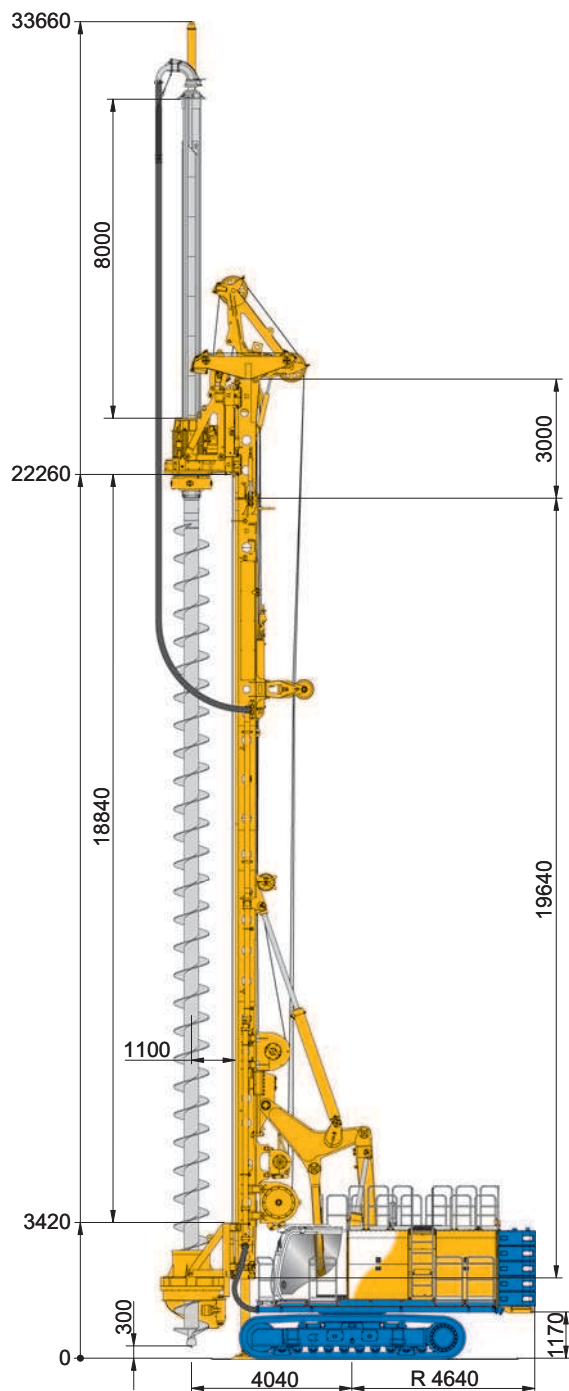


Further drilling diameters and drilling axes on request

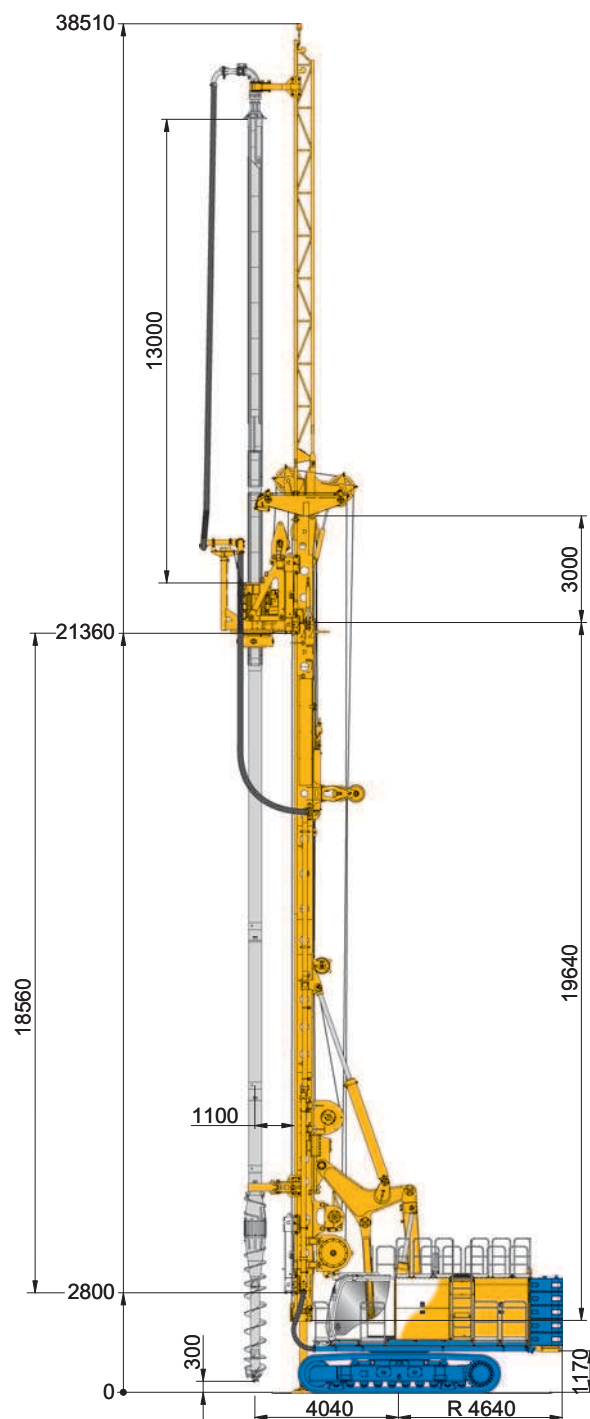
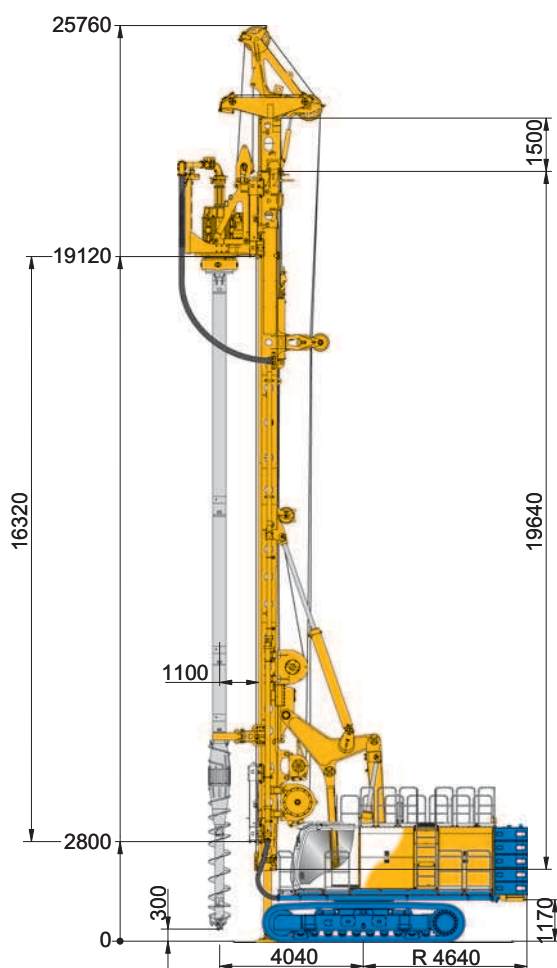
#### Cased Kelly drilling with Casing oscillator BV 1500 HD-07



Casing length  
without BV = H<sub>w</sub> - 0.5 m  
with BV = H<sub>w</sub> - 1.6 m



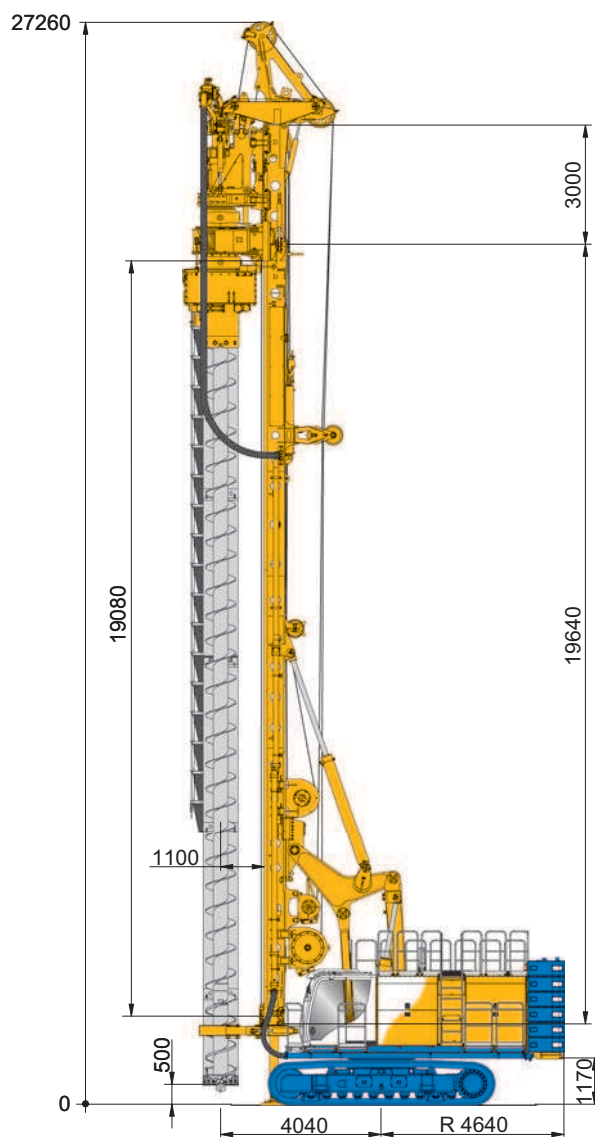
Upgraded version
8.0 m
26.3 m
1,000 mm
950 kN
UW 110
3.0 m



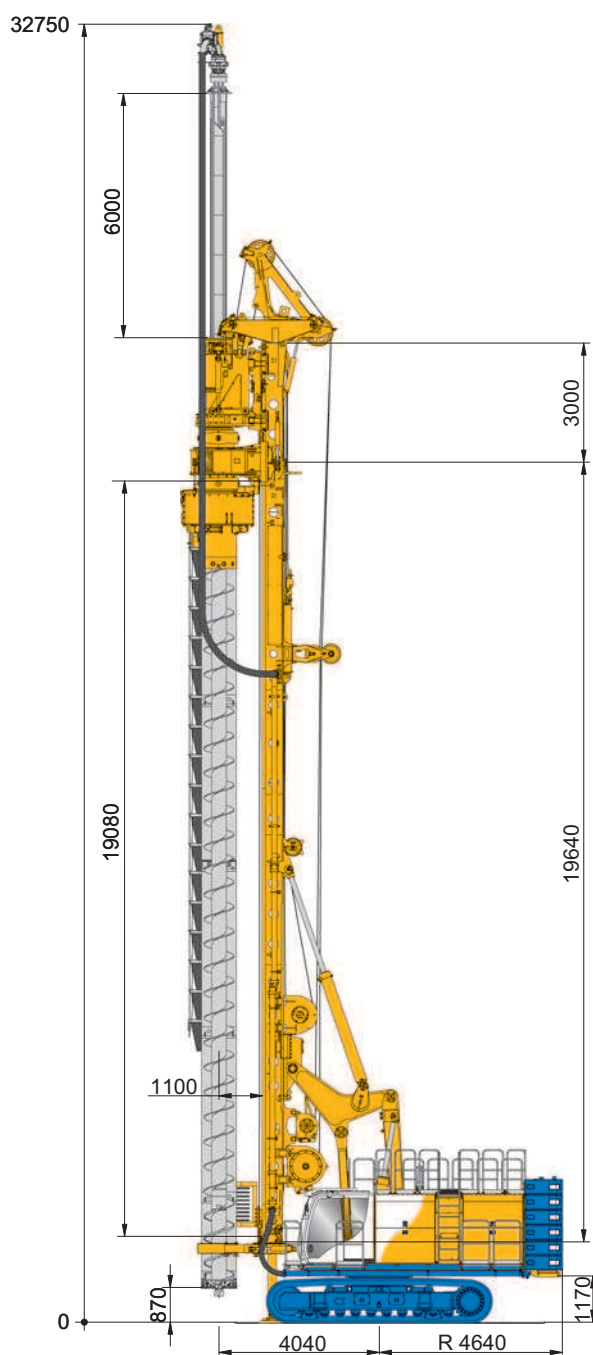
Basic version	
Kelly extension	–
Max. drilling depth	15.8 m
Max. drilling diameter	710 mm
Max. extraction force with main- and crowd winch (effective)	950 kN
Undercarriage	UW 110
Mast extension	1.5 m

Upgraded version	
Kelly extension	13.0 m
Max. drilling depth	31.6 m
Max. drilling diameter	710 mm
Max. extraction force with main- and crowd winch (effective)	950 kN
Undercarriage	UW 110
Mast extension	3.0 m





Upgraded version	
Max. drilling depth	18.5 m
Max. drilling diameter	880 mm
Max. extraction force with main- and crowd winch (effective)	950 kN
Undercarriage	UW 110
Mast extension	3.0 m
Drive units	
Auger (right-hand rotation)	KDK 340 S
Casing (left-hand rotation)	BTM 400

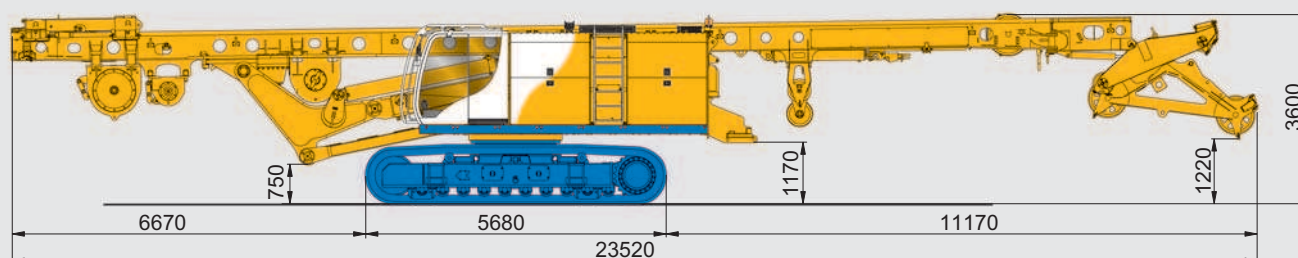


Upgraded version	
Max. drilling depth	24.0 m
Max. drilling diameter	880 mm
Max. extraction force with main- and crowd winch (effective)	950 kN
Undercarriage	UW 110
Mast extension	3.0 m
Drive units	
Auger (right-hand rotation)	KDK 340 S
Casing (left-hand rotation)	BTM 400



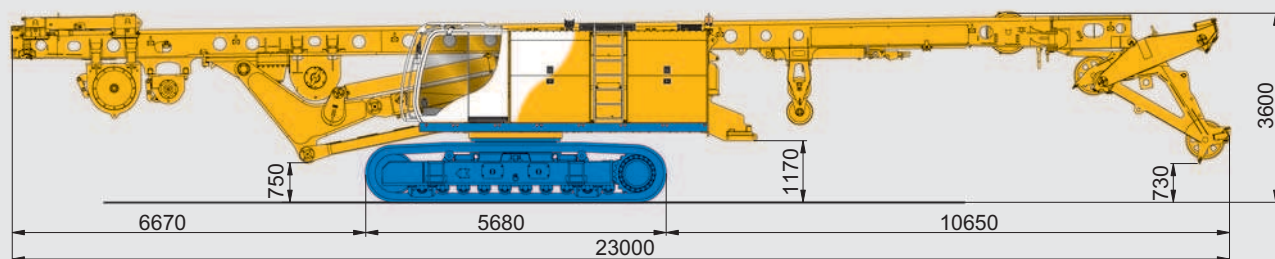
**Basic version**

**G = 76.9 B = 3,400**



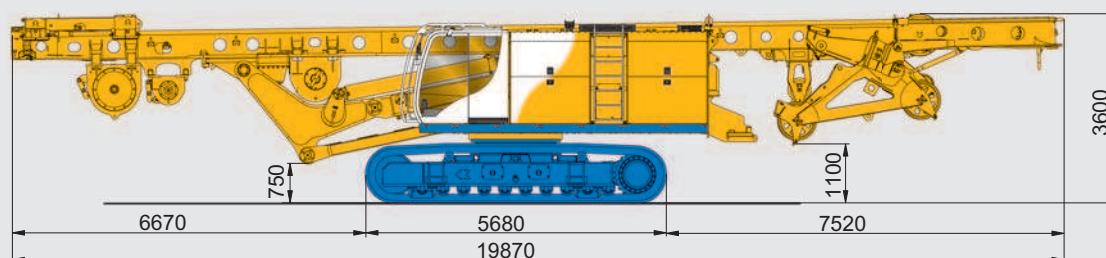
**Basic version** (mainrope jib tilted, minimized transport length)

**G = 76.9 B = 3,400**



**Upgraded version**

**G = 77.5 B = 3,400**



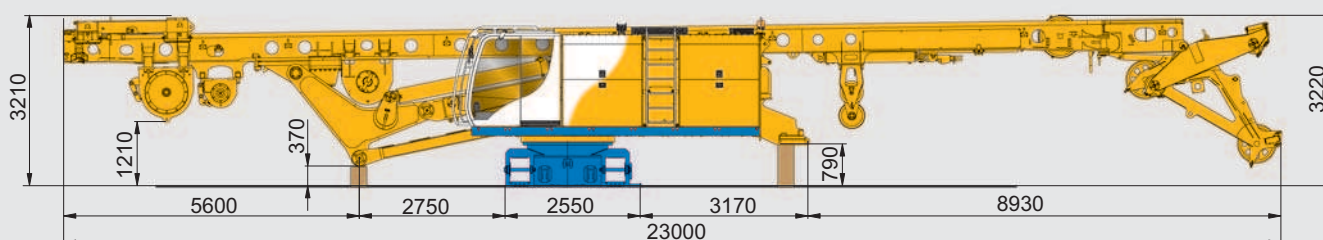


**G** = Weight (t)  
**B** = Width, overall (mm)

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

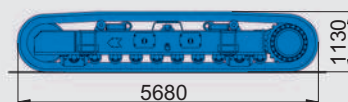
### Basic version (mainrope jib tilted)

**G = 56.9 B = 3,000**



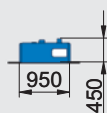
### Crawler

**G = 2 x 10.0**



### Counterweight \*

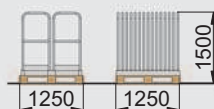
**G = 1 x 4.9 + 4 x 2.5**  
**B = 3,000**



\* depending on application

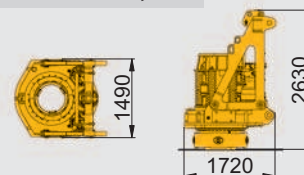
### Handrails

**G = 2 x 0.3**



### Rotary drive

**G = 6.7 B = 1,490**





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