

# BAUER eBG 33 H all electric

## Drilling Rig



# all electric

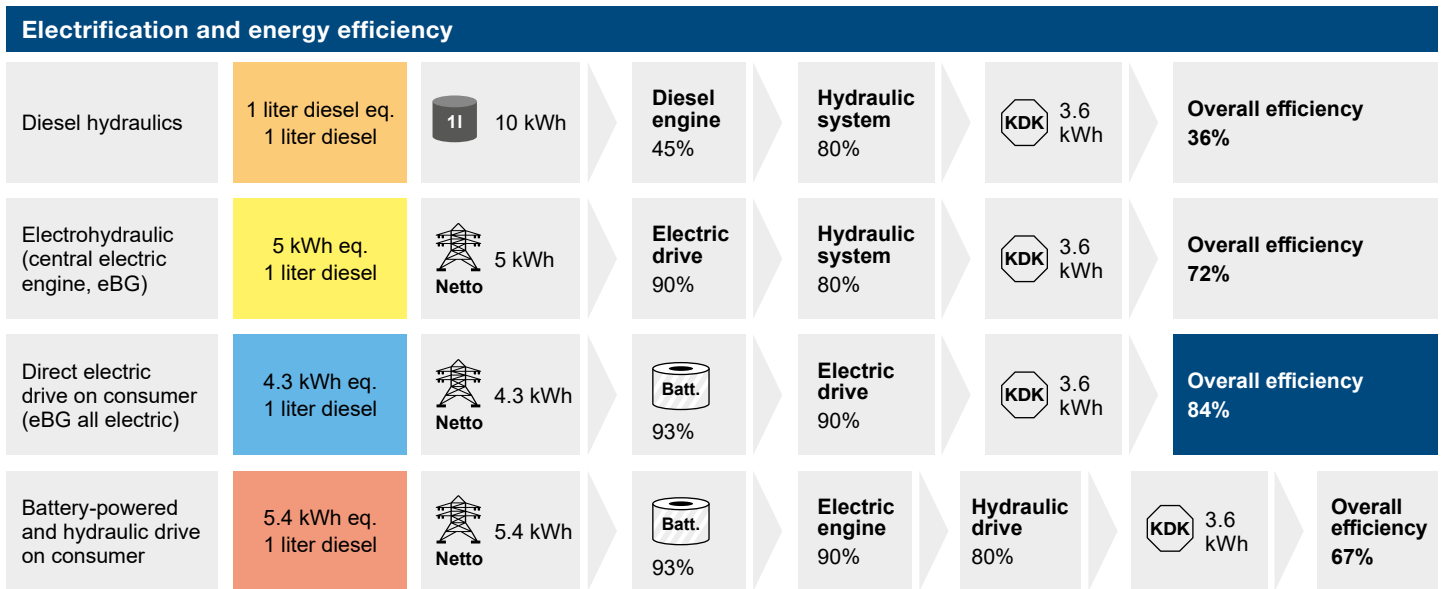
The requirements for construction sites are increasing from year to year. The focus here is on consistent reduction of emissions. Particularly in urban environments, strict regulations are already in place regarding exhaust gas figures, reduction of noise pollution and vibrationless operation, which the companies performing construction work have to observe.

Given this background, we developed the eBG 33 H all electric, which is powered entirely by electricity. Adding "all electric" to the name consciously references not only that the diesel drive has been replaced by a powerful electric drive, but also that the main consumers run purely on electricity. This revolutionary technology delivers many additional advantages, apart from the familiar and highly valued characteristics of all Bauer drilling rigs.

- Zero local CO<sub>2</sub> emission
- Very quiet
- Extremely efficient
- Excellent efficiency

- Energy recovery of the main winch when lowering
- The regulated fan system represents a logical enhancement of the EEP system, which has been established for years now, in order to achieve maximum energy efficiency.
- The reduction of noise emissions has a positive effect on the site itself as well as on the loading and unloading process for low bed trucks.
- Operating an eBG 33 H all electric eliminates both nitrogen oxides as well as CO<sub>2</sub> emissions generated on site, which means the site has zero local emissions.

This revolutionary technology for drilling rigs achieves unbeatable overall efficiency in consumption. Compared to conventional diesel-powered drilling rigs and battery-powered equipment with hydraulic consumers, the efficiency increases significantly.



Indicative rounded values

The implemented primary energy is utilized to maximum capacity. This is reflected both in the energy consumption as well as in the runtimes of the drilling rig (8 h operating time with average kelly drilling). As a result, the eBG 33 H

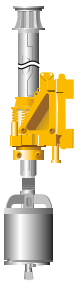
all electric is one of a kind in terms of energy efficiency and sustainability. To charge the batteries, a conventional on-site power connection (max. 125 A) is sufficient. To fully charge an empty battery, it just takes seven hours.



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**



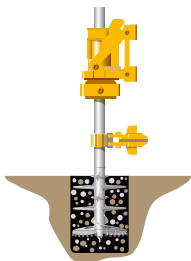
**Cased Kelly drilling**  
Casing installation with BTM



**Cased Kelly drilling**  
Casing installation with casing oscillator  
(additional power pack required)



**CFA**  
Continuous flight auger method



**SCM**  
Single column mixing



**FDP**  
Full displacement Piling  
(standard or lost bit)



## The Drilling Rig eBG 33 H all electric

|                         |          |
|-------------------------|----------|
| Max. drilling diameter: | 2,500 mm |
| Max. drilling depth:    | 68.6 m   |
| Max. torque:            | 300 kNm  |
| Max. height:            | 26.1 m   |
| Max. system capacity:   | 420 kW   |



- 1 Undercarriage with charging port
- 2 Upper carriage with battery storage
- 3 Main winch electric
- 4 Auxiliary winch
- 5 Crowd winch
- 6 Kinematics system
- 7 Mast
- 8 Mast head
- 9 Kelly bar
- 10 Crowd sledge with quick connect
- 11 Rotary drive (eKDK) electric
- 12 Drilling tool

#### Batteries

- Self-monitoring, which ensures high level of safety
- Battery management system
- Efficient climate system
- Capacity supply independent of charging level
- Sustainable design
- No special transport requirements for overall equipment
- High energy density
- Charging time approx. 7 h

#### Power supply

- No special wall box is required, a 400 V / AC on-site power connection is sufficient.
- On the chassis, a 125 A CEE plug 400 V with adapter for 63 A and 32 A is available.

#### Charging connection on undercarriage

- No impairments when swinging
- Easier cable management
- Static cable outlet offers safety
- Protected parking position during full battery operation
- Very good accessibility for plugging in



#### Familiar ease of operation – only quieter

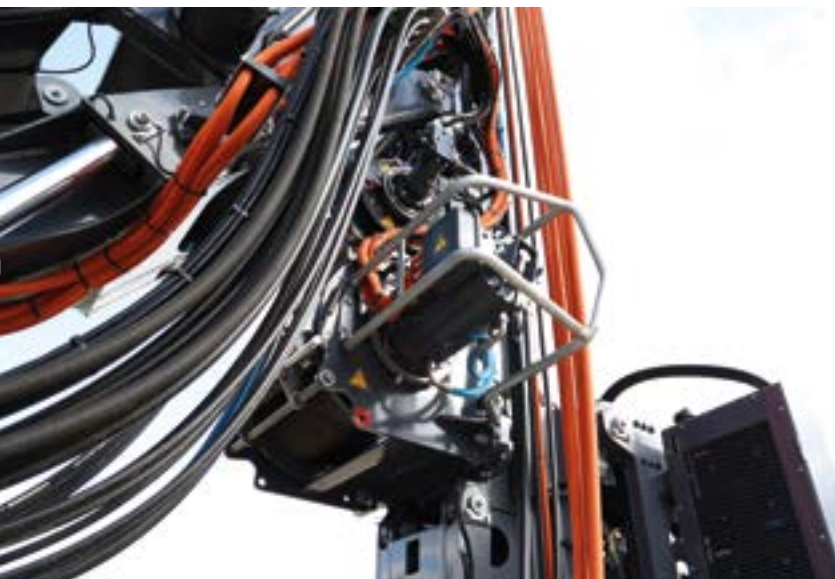
- Operation the same as before for the equipment operator
- No adjustment to new methods required
- Drilling parameters and assistance systems can be configured via B-Drive
- Considerably enhanced comfort due to low noise emissions



- Ultimate efficiency
- Maximal operating time
- Minimal noise emissions
- Maximal efficiency by adapting the familiar EEP
- Optimized parallel operation of main and auxiliary consumers

### Energy efficiency at the highest level

- Unique energy efficiency due to directly electrically powered main consumers like rotary drive and main winch (25% greater efficiency with battery storage)
- Extremely dynamic response characteristics



### Fully electric main winch

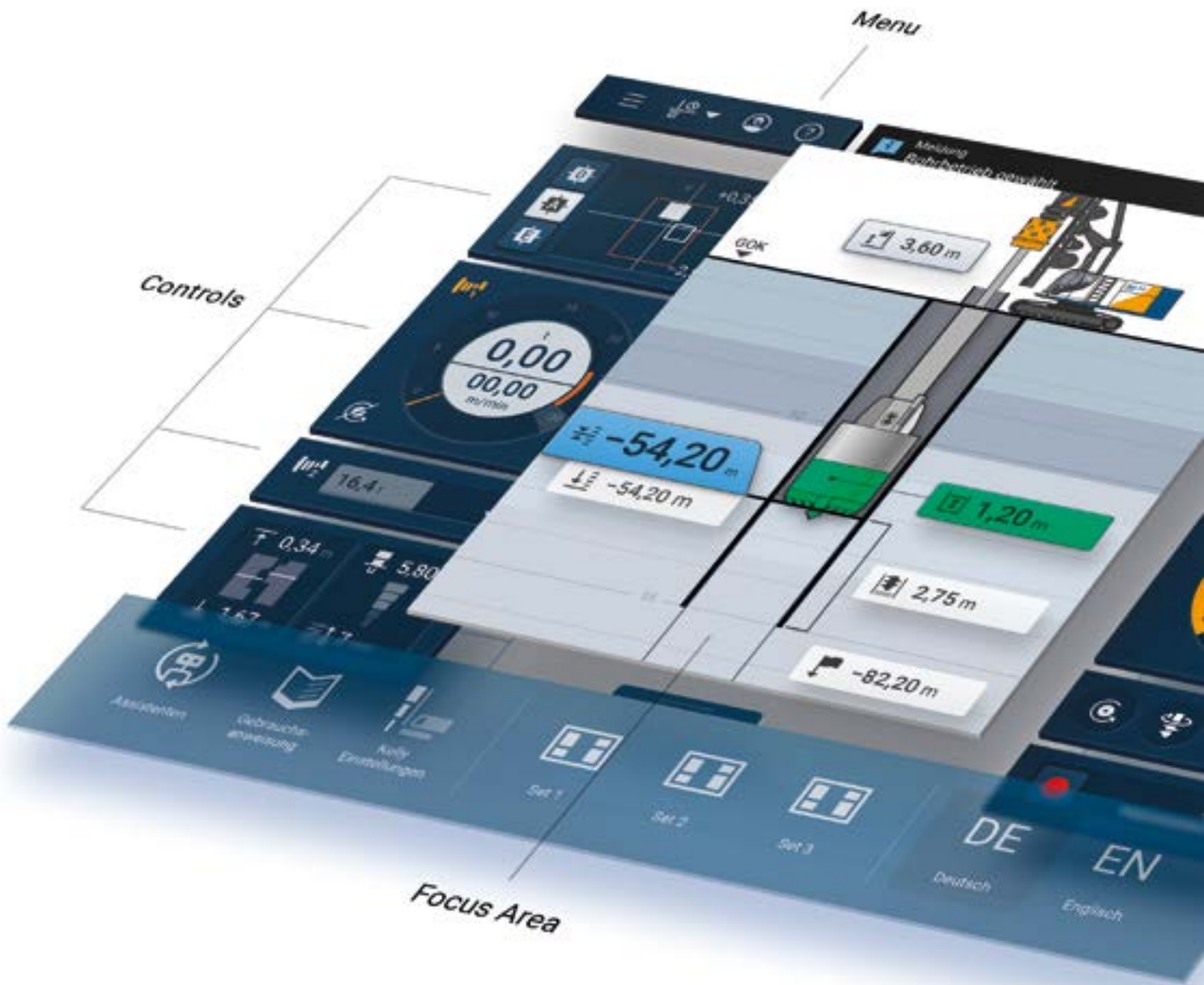
- Higher efficiency
- Full recuperation
- Hydraulic parking brake
- Highly sensitive response characteristics

### Air conditioning and heating

- Separate air conditioning and heating circuit
- Climate control always available
- Operational as soon as main switch is activated



The new B-Tronic 5, the new user interface which provides information quickly and in an organized manner using intuitive menu navigation. The display of content varies dynamically according to the process status, making it possible to keep a good overview at all times. Of course, the system offers various interfaces, making it possible to connect to Data2Rig or adopt recorded data or user settings from other equipment.



# B-TRONIC 5







## Dynamic

- Content varies depending on the process stage
- Dynamically adapted screen distribution
- Variable position of drilling equipment for better system knowledge

## Intuitive

- Clearly organized menu navigation
- Support available on every page
- In-depth information directly at the components
- Focus on process-related information

## Personalized

- Specific user login
- Takeover of configuration values
- Display instruments can be personalized

## Networked

- Connection with Data2Rig
- Interface of data recording
- Takeover of user settings even from other equipment
- Interface with service

### 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 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.

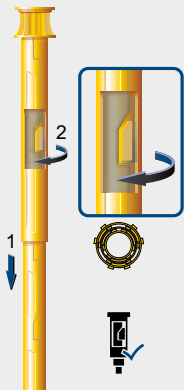


Only for reference to show working principle



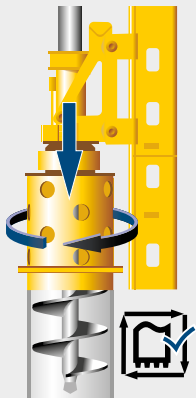
**Adaptive Kelly speed assistant**

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.



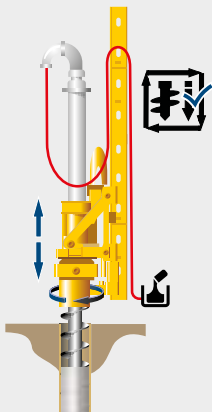
**Kelly visualization**

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**

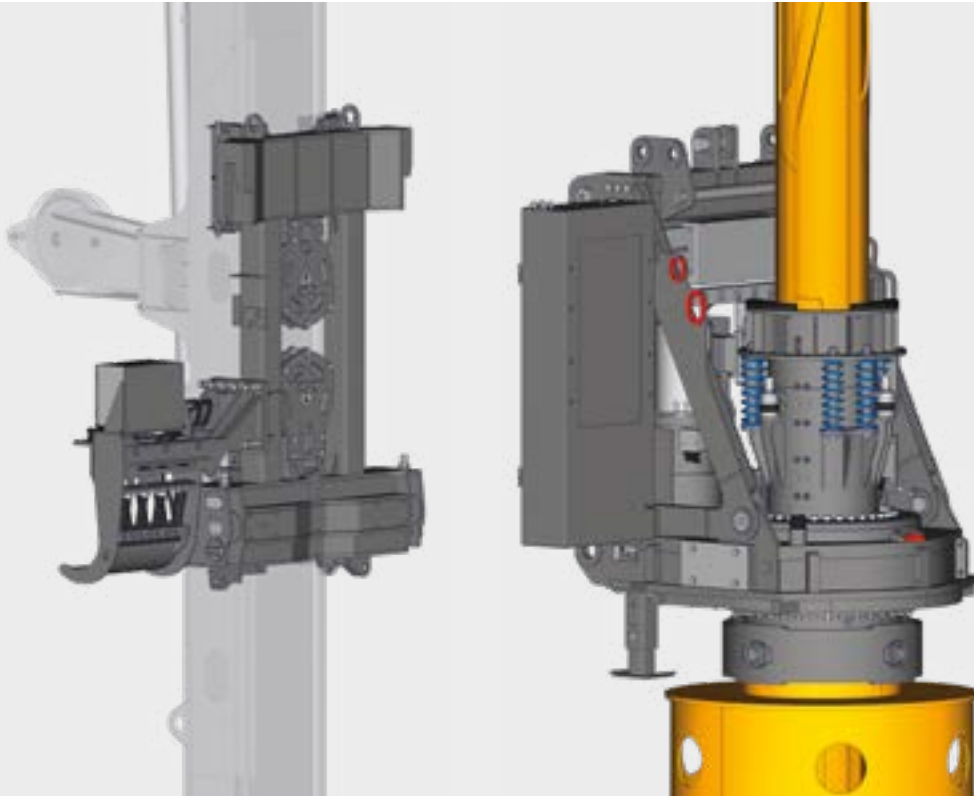
Saves the current crowd speed and the speed of the rotary drive. It enhances drilling performance with simultaneous hands-free operation. Drilling parameters can be adjusted during the automated drilling procedure.



**Automatic drilling and extraction control – single pass**

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.

Many other assistance systems (some optional) are available in our portfolio.



**Feed slide**

- Quick mechanical assembly via sliding block guide
- Easy and safe assembly of rotary drive, no work at unsecured heights

**Rotary drive**

- Max. torque 300 kNm
- Max. speed 50 rpm
- Different operating modes

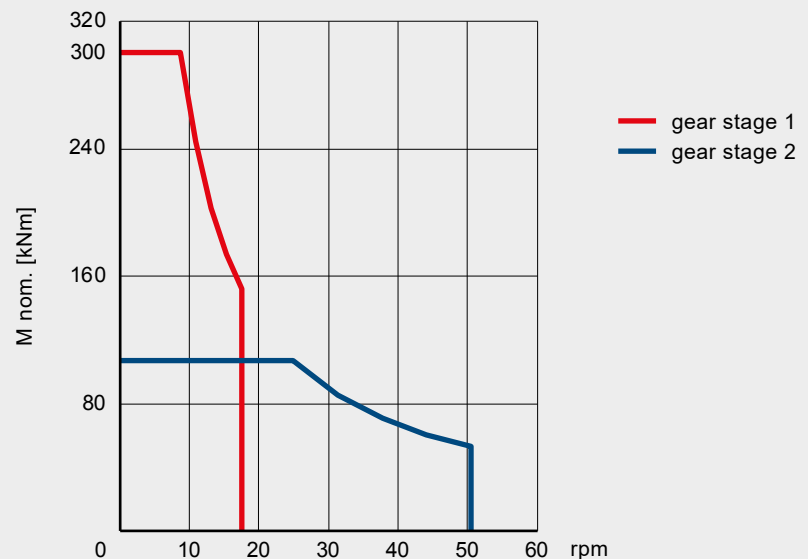
**Kelly equipment**

- Long guidance path
- Integrated shock absorbing spring system
- Kelly visualization (see assistance systems)
- Improvement of drilling performance
- Very easy to use
- Reduction of wear on Kelly bar and adapter bars

**Advantages of eKDK**

- High-torque electric engines
- Outstanding breakaway torque (electric engine characteristic)
- Excellent efficiency
- Proven planetary gears
- Easy installation
- Integrated cooling

**eKDK 300 S**



### Base carrier BT 85 ae

#### Standard

- Removable counterweights (stackable)
- 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
- Remote control Basic

#### Optional

- Counterweight, variably adjustable
- Guardrails on the upper level (foldable for transport)
- Remote control Multi
- Operator seat with air-condition
- Weather protection

### Drilling rig attachments

#### Standard

- Main winch electric
- 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
- Mast support
- Mast extension 3 m, hydraulically foldable and lockable
- Three-sectional mast for Low Head and Giant Drill applications
- Auger cleaner attachment for Kelly system
- Attachment continuous flight auger cleaner
- Attachment of casing oscillator up to BV 1500 (operation with additional power pack)

### Rotary drive

#### Standard

- Rotary drive eKDK 300 S (switch drive)
- Kelly equipment for external Kelly casing 419 mm
- Integrated Kelly shock absorbing system
- Integrated cooling system

#### Optional

- 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
- Kelly visualization
- Electronic mast reach limiter

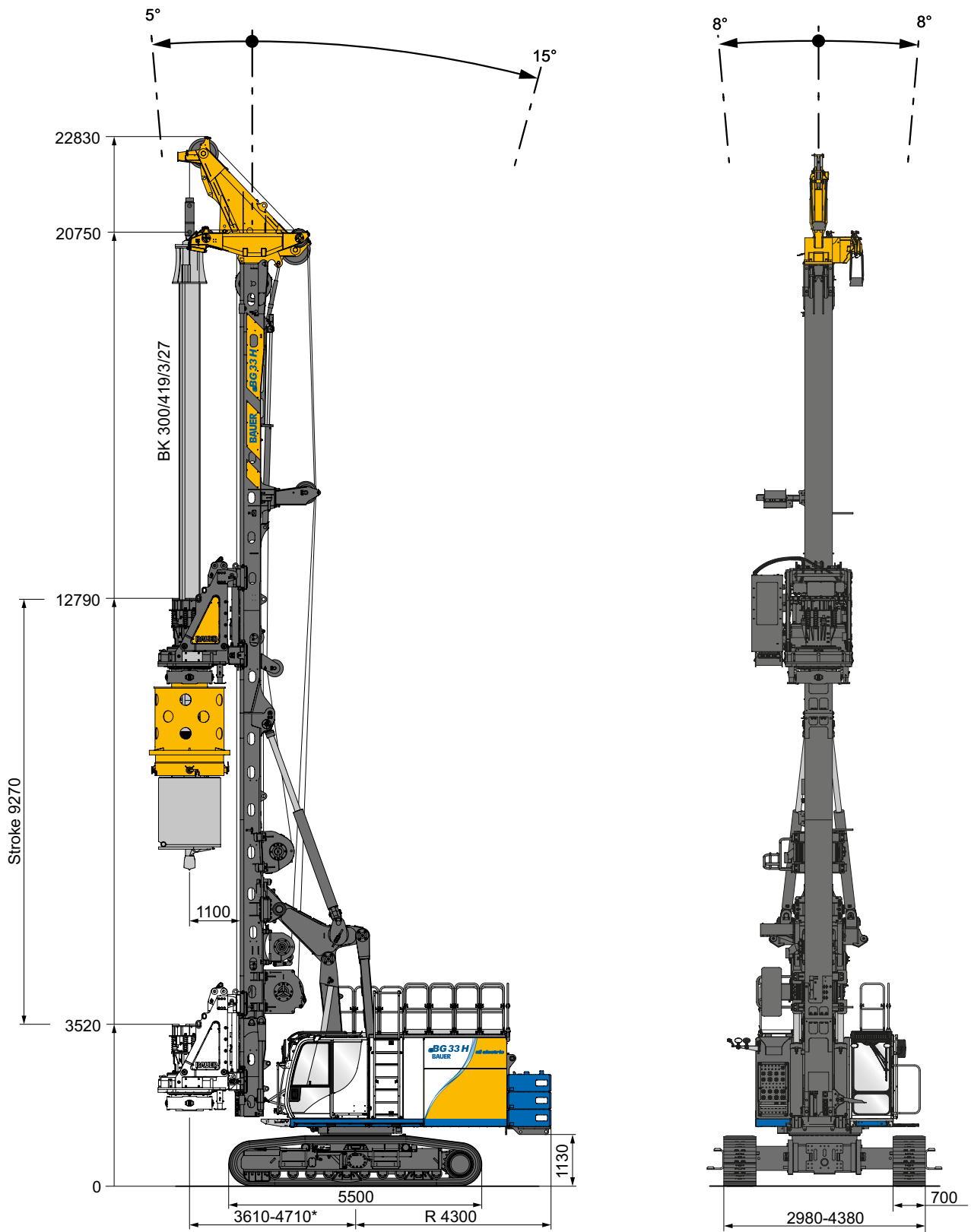
#### Optional

- 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

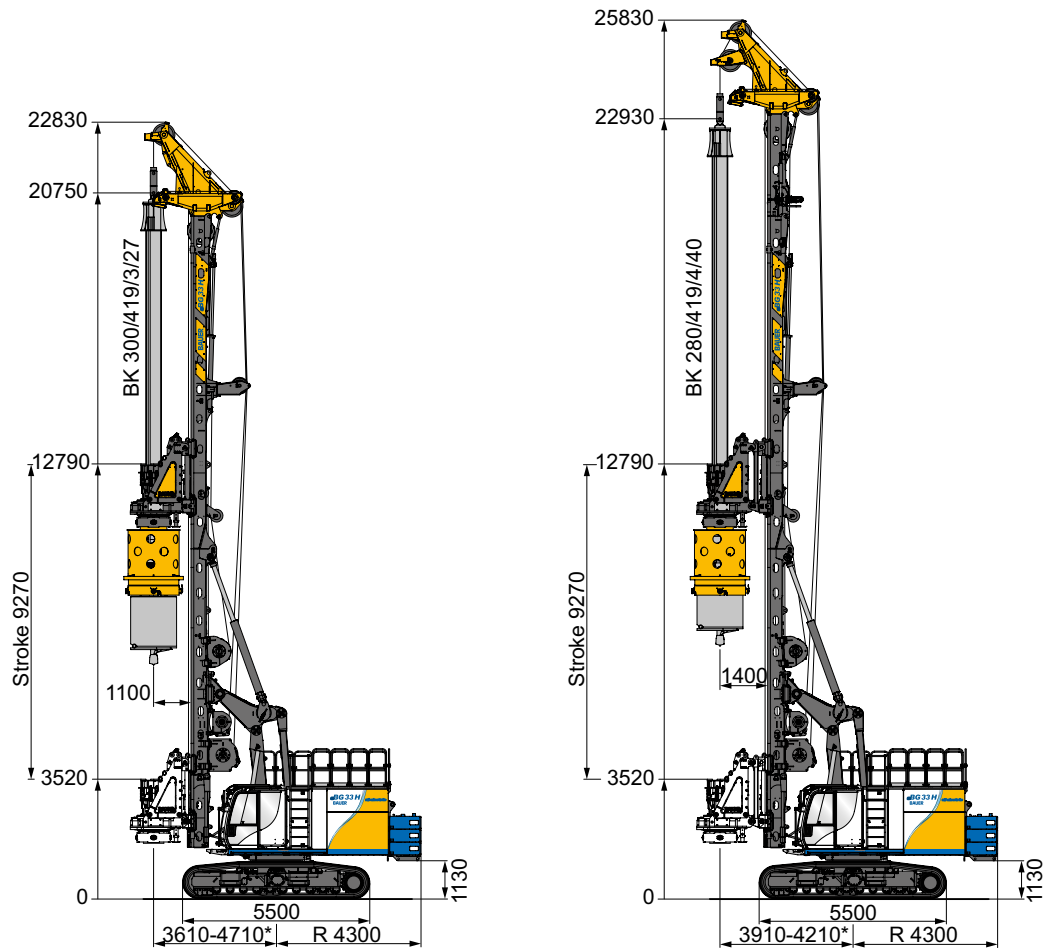
|   |   |              |
|---|---|--------------|
| <b>Rotary drive (electric)</b>  | <b>eKDK 300 S</b>   |              |
| Torque casing (nominal)   | 300 kNm   |              |
| Torque drilling (nominal)   | 260 kNm   |              |
| Max. speed of rotation  | 50 U/min  |              |
| <b>Pull-down winch (hydraulic)</b>                                      |   |              |
| Max. sledge stroke with 3 m mast extension                              | 17,080 mm   |              |
| Crowed force push effective/nominal                                     | 330 / 423 kN  |              |
| Crowed force pull effective/nominal                                     | 330 / 423 kN  |              |
| Extraction force Crowd Plus effective/nominal<br>with Mast support unit | 530 kN / 620 kN   |              |
| without Mast support unit   | 460 kN / 540 kN   |              |
| Rope diameter   | 24 mm   |              |
| Speed (down/up)   | 9.0 m/min   |              |
| Overdrive (down/up)   | 25 m/min  |              |
| <b>Main winch (electric)</b>  | <b>M6 / L3 / T5</b>   |              |
| Line pull (1st layer) effective/nominal                                 | 215 / 270 kN  |              |
| Rope diameter   | 28 mm   |              |
| Line speed (max.)   | 85 m/min  |              |
| <b>Auxiliary winch (hydraulic)</b>                                      | <b>M6 / L3 / T5</b>   |              |
| Line pull (1st layer) effective/nominal                                 | 80 / 100 kN   | 100 / 125 kN |
| Rope diameter   | 20 mm   |              |
| Line speed (max.)   | 54 m/min  |              |
| <b>Base carrier (EEP)</b>   | <b>BT 85 ae</b>   |              |
| Max. system capacity  | 420 kW  |              |
| Max. charging capacities  | 80 kW (CCE socket 125A / 400 V AC)<br>40 kW (CCE socket 63A / 400 V AC)<br>20 kW (CCE socket 32 / 400 V AC) |              |
| Range (full battery operation)  | up to 8 hours using Kelly method possible*  |              |
| Sound pressure level in the cabin (EN 16228, Annex B)                   | L <sub>PA</sub> 80 dB (A)   |              |
| Sound power level (2000/14/EG and EN 16228, Annex B)                    | L <sub>WA</sub> 105** dB (A)  |              |
| Hydraulic pressure (electrohydraulic auxiliary circuit)                 | 350 bar   |              |
| Hydraulic tank volume   | 355 l   |              |
| Flow rates  | 348 l/min   |              |
| <b>Undercarriage</b>  | <b>UW 80</b>  |              |
| Crawler type  | B 7   |              |
| Traction force effective/nominal  | 520 / 610 kN  |              |

\* Depending on the diameter and soil

\*\* Measurement still pending



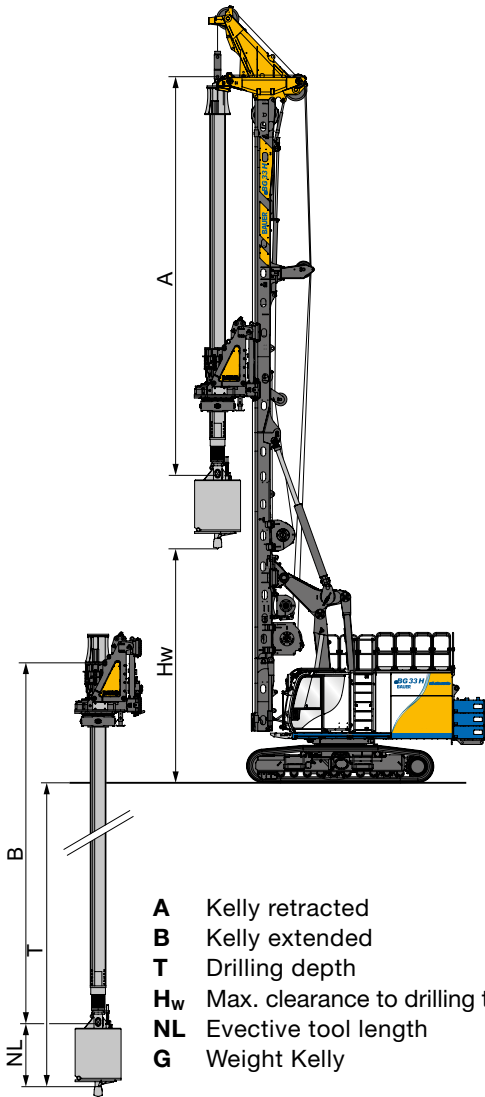
**Operating weight 99 t**  
(as shown)



|                           | Basic version         | Expansion stage       |
|---------------------------|-----------------------|-----------------------|
| Mast extension            | without               | 3 m                   |
| 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.  | 99.0 t                | 105.0 t               |
| with Kelly                | BK 300 / 419 / 3 / 27 | BK 280 / 419 / 4 / 40 |
| with casing drive adapter | 1,500 mm              | 2,000 mm              |
| with bucket               | 1,350 mm              | 1,830 mm              |
| with counterweight*       | 12.3 t                | 12.3 t                |

\*depending on equipment





**Drilling depths (unlocked) – uncased Kelly drilling, drilling axis 1,100 mm**

|                     |       |       | without mast extension |                    | 3.0 m mast extension |                    |       |
|---------------------|-------|-------|------------------------|--------------------|----------------------|--------------------|-------|
|                     | A (m) | B (m) | G (kg)                 | H <sub>w</sub> (m) | T (m)                | H <sub>w</sub> (m) | T (m) |
| <b>3-part Kelly</b> |       |       |                        |                    |                      |                    |       |
| BK/300/419/3/24     | 10.7  | 26.4  | 5,500                  | 7.9                | 24.8                 | 8.2                | 24.8  |
| BK/300/419/3/27     | 11.7  | 29.4  | 5,900                  | 6.9                | 27.8                 | 8.2                | 27.8  |
| BK/300/419/3/30     | 12.7  | 32.4  | 6,350                  | 5.9                | 30.8                 | 8.2                | 30.8  |
| BK/300/419/3/33     | 13.7  | 35.4  | 6,800                  | 4.9                | 33.8                 | 7.9                | 33.8  |
| BK/300/419/3/36     | 14.7  | 38.4  | 7,200                  | 3.9                | 36.8                 | 6.9                | 36.8  |
| BK/300/419/3/42     | 16.7  | 44.4  | 8,050*                 | 1.9                | 42.8                 | 3.9                | 42.8  |
| BK/300/419/3/48     | 18.7  | 50.4  | 9,400*                 | –                  | 45.8                 | 1.9                | 48.8  |
| BK/300/419/3/54     | 20.7  | 56.4  | 9,950*                 | –                  | –                    | 0.9                | 54.8  |
| <b>4-part Kelly</b> |       |       |                        |                    |                      |                    |       |
| BK/280/419/4/32     | 11.3  | 34.2  | 7,700                  | 7.3                | 32.6                 | 8.2                | 32.6  |
| BK/280/419/4/36     | 12.3  | 38.2  | 8,350                  | 6.3                | 36.6                 | 8.2                | 36.6  |
| BK/280/419/4/40     | 13.3  | 42.2  | 8,950                  | 5.3                | 40.6                 | 8.2                | 40.6  |
| BK/280/419/4/44     | 14.3  | 46.2  | 9,600                  | 4.3                | 44.6                 | 7.3                | 44.6  |
| BK/280/419/4/48     | 15.3  | 50.2  | 10,300                 | 3.3                | 48.6                 | 6.3                | 48.6  |
| BK/280/419/4/60     | 18.3  | 62.2  | 12,200*                | 0.3                | 60.6                 | 3.3                | 60.6  |
| BK/280/419/4/68     | 20.3  | 70.2  | 13,450                 | –                  | –                    | 1.3                | 68.6  |

(\*interpolated) (T=B+W-H)

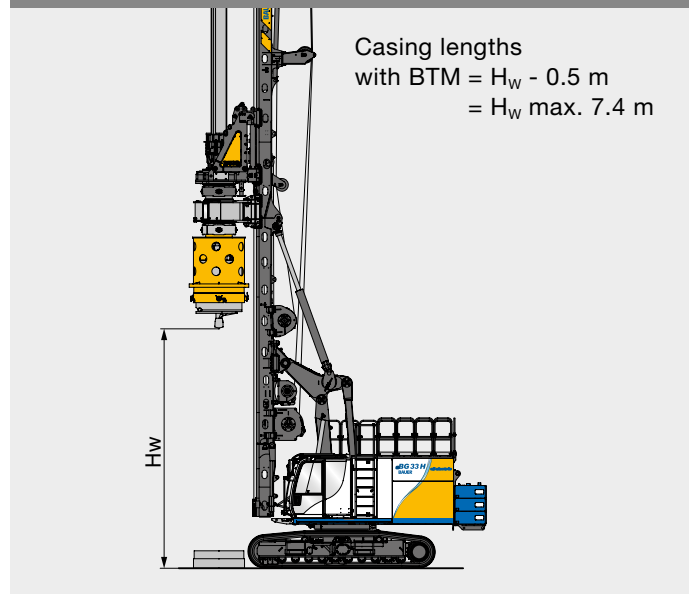
Drilling data have been determined with an effective tool length of NL = 1.9 m and with the mast at a minimum operating radius. These data only apply for the use of Bauer tools.

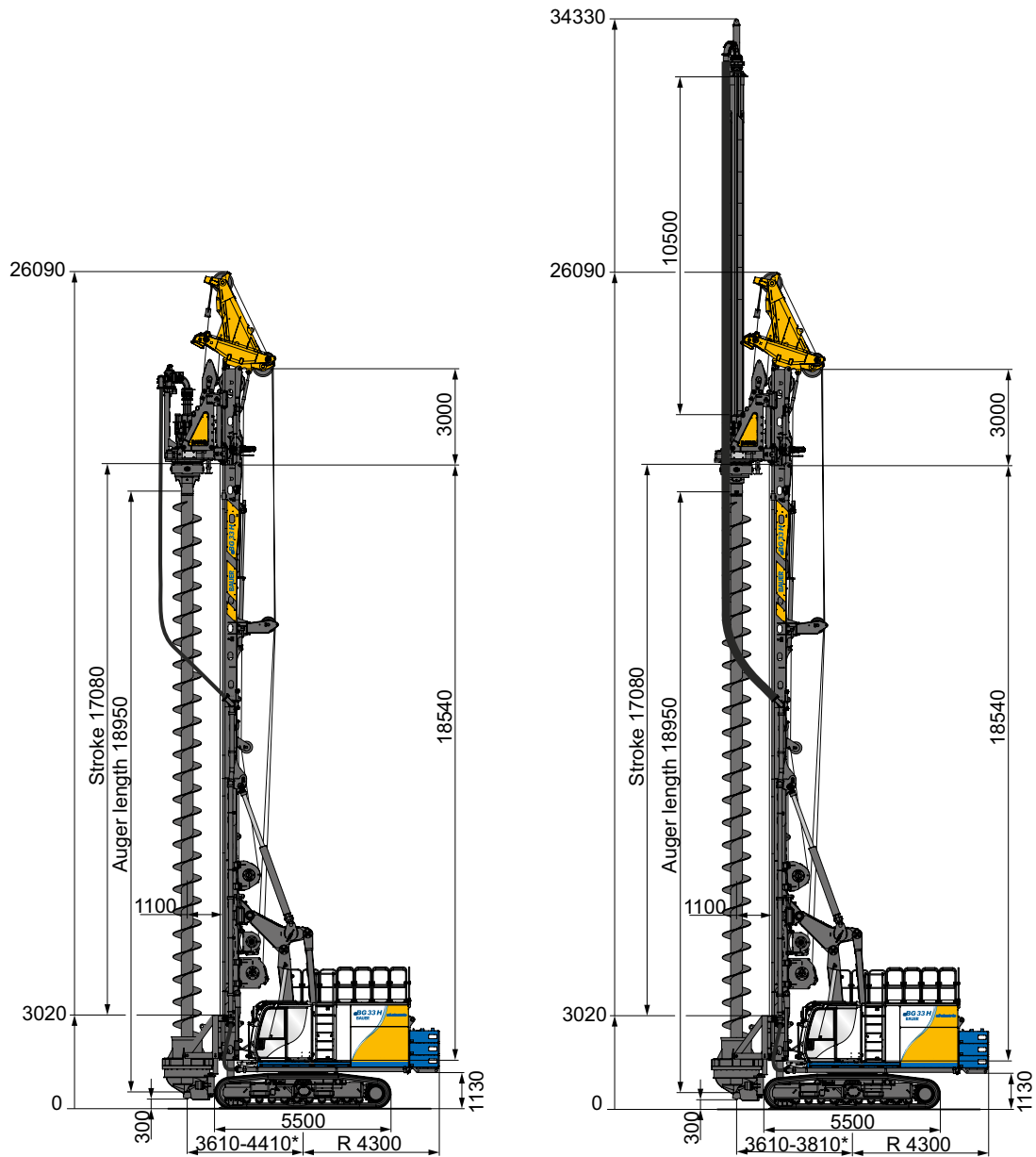
Additional drilling depths, drilling diameters and Kelly versions on request.

**Auger cleaner for Kelly drilling**  
Drilling diameter from 520 - 1,060 mm



**Torque converter BTM 720 for a torque while casing of 400 kNm**





|  | Basic version | Expansion stage |
|--|---------------|-----------------|
| Mast extension   | 3 m           | 3 m             |
| Kelly extension  | without       | 10.5 m          |
| Max. drilling diameter                                       | 1,200 mm      | 1,200 mm        |
| Max. drilling depth with auger cleaner                       | 16.6 m        | 27.0 m          |
| Max. extraction forth with main- and crowd winch (effective) | 730 kN        | 730 kN          |
| with counterweight*  | 9.9 t         | 12.3 t          |

\*depending on equipment

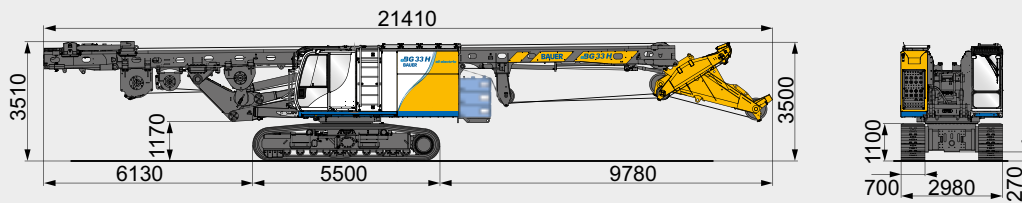
G = Weight  
B = Width

Weight data are approximate values, additional equipment (options) can modify the total weight and dimensions.

**Transport**

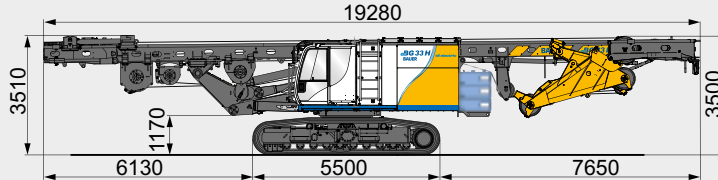
**Without mast extension\***

**G = 62.9 t      G = 75.2 t with 12.3 t counterweight**



**With mast extension\***

**G = 64.0 t      G = 76.3 t with 12.3 t counterweight**



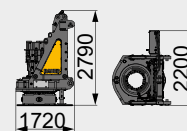
**Counterweight\*\***

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



**Rotary drive**

**G = 6.8 t**



**UW 80**

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

\*Added weight multi-piece mast approx. 500 kg

\*\*Depending on the method

## International Service Hotline

**+800 1000 1200\***

**+49 8252 97-2888**

**BMA-Service@bauer.de**

\*toll-free number, where available

**24/7**



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