

BAUER BG 55

Drilling Rig
Base Carrier BS 115



The Bauer drilling rig 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 Bauer drilling rig are:

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



Kelly Drilling



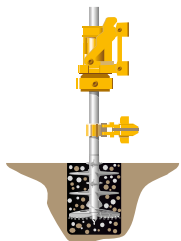
Cased Kelly Drilling
installation with BTM



CFA
Continuous Flight
Auger Drilling



FDP
Full Displacement Piling
(Standard or Lost Bit)



SCM / SCM-DH
Single Column Mixing



CSM
Cutter-Soil-Mixing

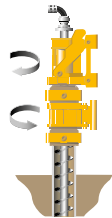


The Drilling Rig BG 55 (BS 115)

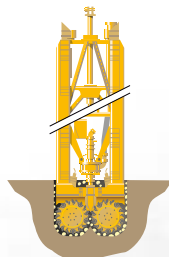
Max. drilling diameter: 3,700 mm
 Max. drilling depth: 126.0 m
 Max. torque (nominal): 553 kNm
 Max. height: 36.3 m
 Engine: CAT C 18 570 / 597 kW



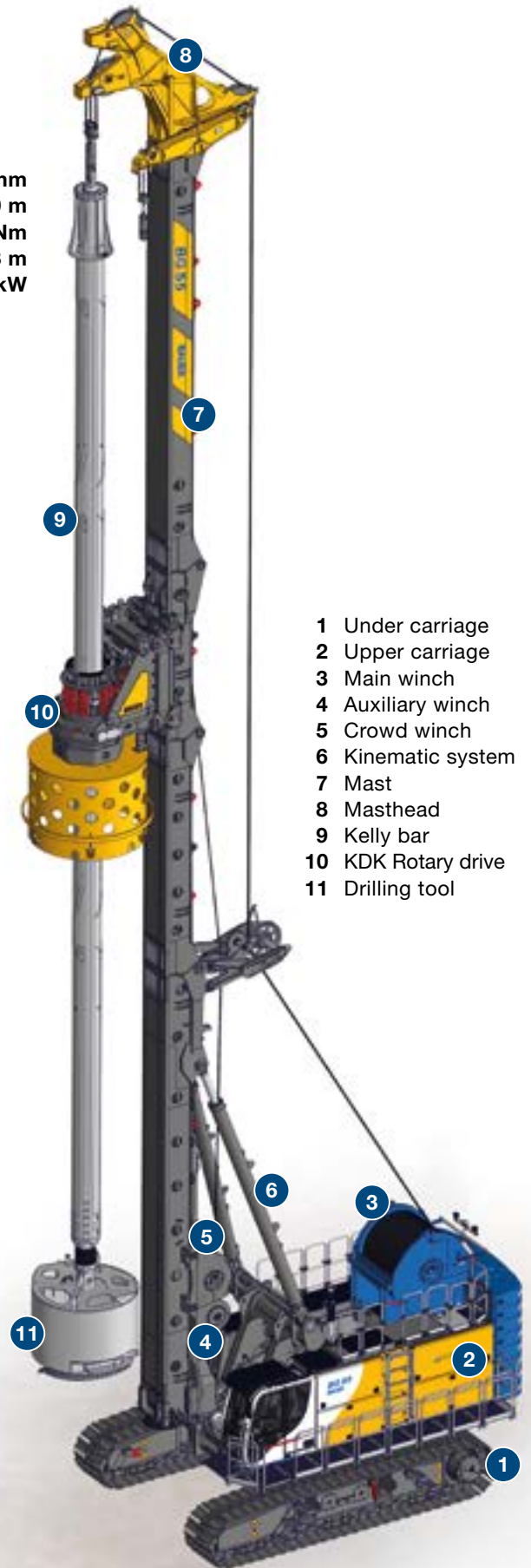
Cased Kelly Drilling
installation with oscillator



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



BC
Trench Cutter



- 1 Under carriage
- 2 Upper carriage
- 3 Main winch
- 4 Auxiliary winch
- 5 Crowd winch
- 6 Kinematic system
- 7 Mast
- 8 Masthead
- 9 Kelly bar
- 10 KDK Rotary drive
- 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 combines adjustable potentiometer values on one display

Powerful CAT engines

- C 18 570 kW (UN/ECE R96 *) or C 18 597 kW (EU Stage V, EPA/CARB Tier 4 final)
- Diesel particulate filter in exhaust emission standard EU Stage V, EPA/CARB Tier 4 final
- Low noise emission
- Worldwide CAT-service partners



Safety equipment

- Guardrails on upper level (foldable for transport)
- Walking platform with handrail (foldable for transport)
- Upward folding service doors
- Cameras for rear area monitoring
- Hydraulic locking of support trestle
- Variably stackable counterweights with low weight of individual elements (5.0 t)



**Energy-Efficient
PowerEEP**

- 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 emission standard

Main winch on upper carriage

- Wide winch drum
- Single layer winch for minimized rope wear
- Constant line pull (for whole drilling depth)
- Service-friendly winch position
- 1.5 layer operation for drilling depth greater than 125 m – 160 m



Vario-Masthead

BA 1,300



Drill axis extension

BA 2,000

BA 1,700



Flexible mast concept

- Vario-masthead
 - Masthead for drill axis distance 1,300 mm, expandable to 1,700 / 2,000 mm
 - Increased stroke for Kelly bars when using an upper Kelly guide
- Vario-crowd winch system
 - Transport possible with built-in crowd ropes (Kelly method)
 - Reduced Headroom version, min. rig height of 20.6 m (possible with integrated Vario-mast section)
- Mast extension 5.6 m can be combined with all drill axes
- Achievable max. drilling diameter of 3,700 mm

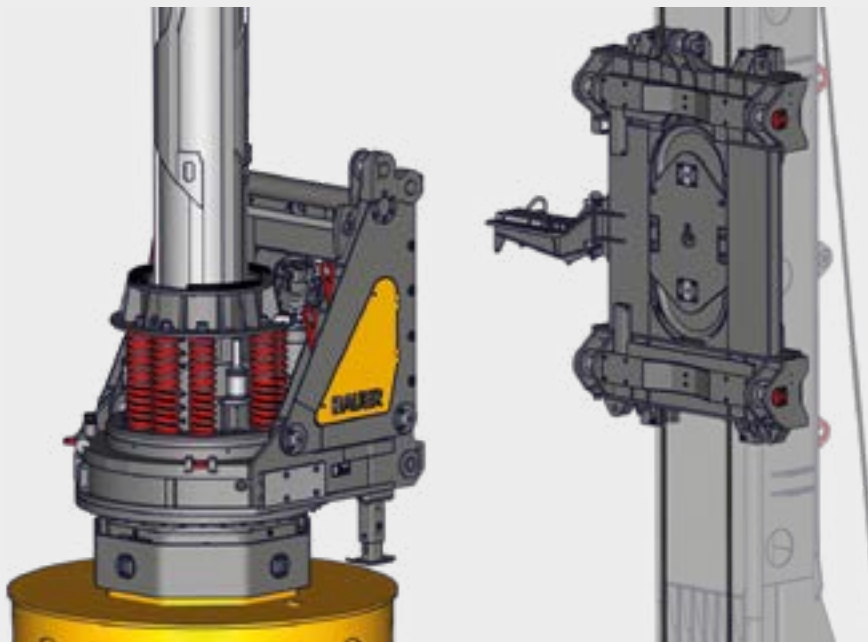
Easy and safe transport

- Mobilization kit with hydraulically operated pin connection for fast and save demounting of lower mast selection
- Hydraulic locking of support trestle
- Activated by remote control multi



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 undercarriage, etc.
 - Operation within sight of the controlled rigging functions
 - Rugged and compact wireless remote control Multi with LCD screen
 - Lockable storage box for the remote control can be accessed from the ground



Kelly set-up

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

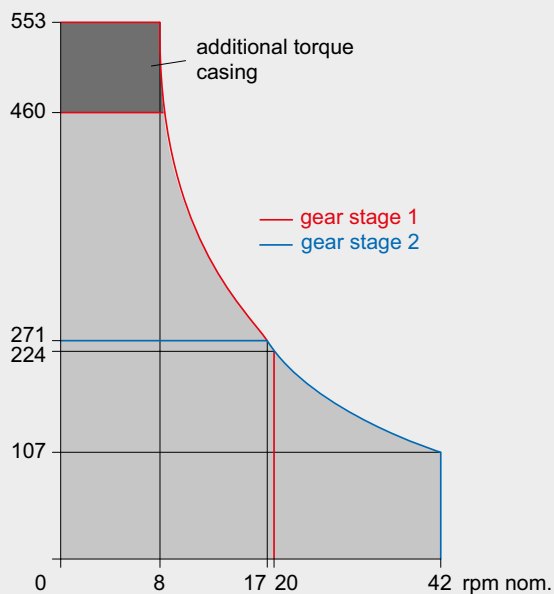
Rotary drive KDK 550 S (multi gear)

- Max. torque 553 kNm
- Max. speed 42 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 unsecured heights

KDK 550 S



Base carrier BS 115

Standard

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

Optional

- Counterweight variably adjustable
- Walking platform with handrail (continuous on both sides at cabin level), optional foldable for transport
- Compressor 1,000 l/min
- Electric generator 13 kVA
- Arctic kit / Artic kit plus
- Jack-Up System
- Quick-release hydraulic couplers
- Operator seat with air-condition

Drilling rig attachment

Standard

- Main winch with hydraulically operated freewheeling
- Swivel for main rope
- Pivoted anchor points for main and auxiliary rope
- Boom with hydraulic cylinders for vertical and horizontal mast alignment
- Hydraulic locking for trestle
- Flexible mast concept (Vario-mast, Vario-masthead)
- Hydraulically operated pin bolting on crowd sledg
- Mast extension 5.6 m (requires an auxiliary crane)

Optional

- Extension of drill axis to 1,700 mm or 2,000 mm
- Mast support unit
- Attachment of casing oscillator (up to BV 2000), Fig. C
 - Possible up to 2,500 mm drilling diameter on request
- Air line attachment
- Concrete line attachment

KDK 550 S (multi-gear drive)

Standard

- Selectable modes of operation
- Kelly drive adapter for outer Kelly tube 559 mm
- Integrated Kelly damping system
- Cardanic joint
- Quick-release hydraulic couplers

Optional

- Kelly drive adapter for outer Kelly tube 470 mm
- Torque multiplier BTM 720 K
 - Torque 700 kNm
- Torque multiplier BTM 400 for CCFA
- Torque multiplier BTM 600 for CCFA

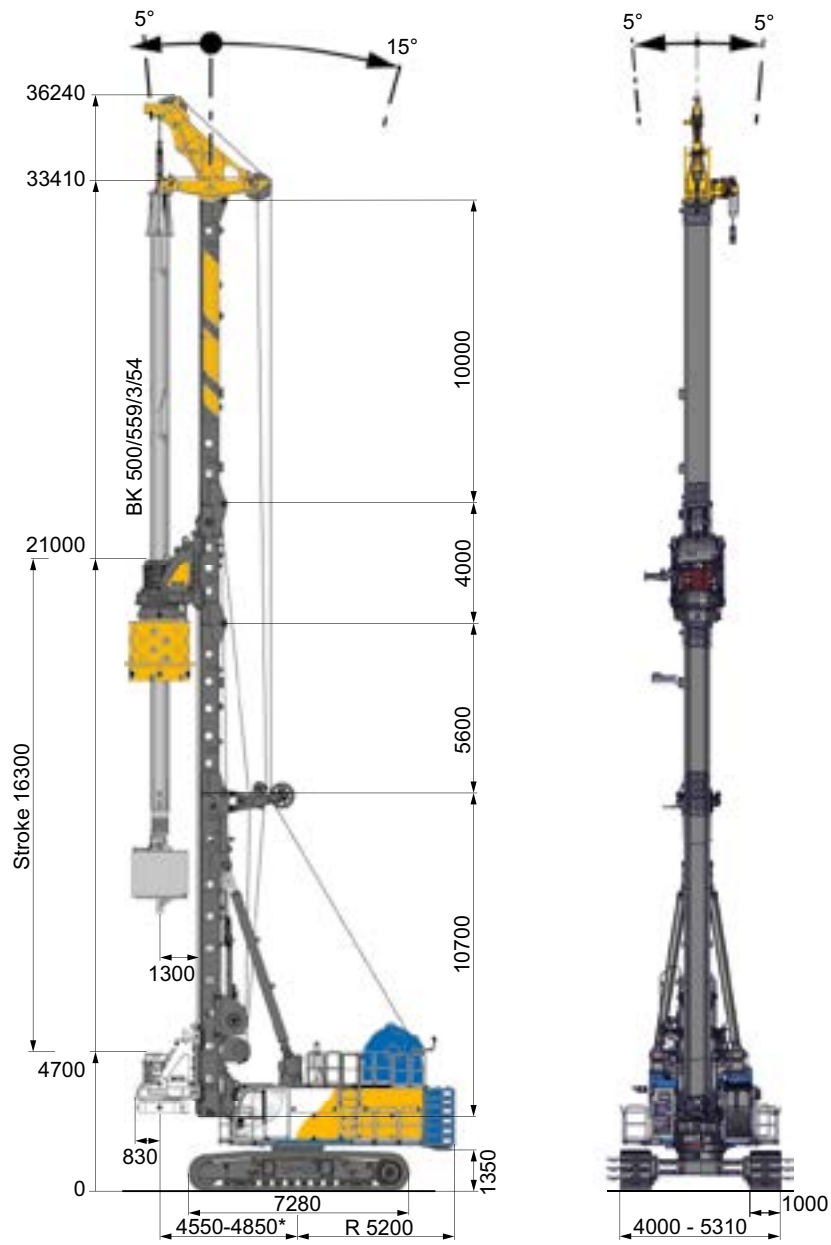
Measuring and control system

Standard

- Automatic mast alignment with memory function
- Distance measuring device on crowd winch
- Auxiliary winch with hydraulic load sensing
- Crowd stroke monitoring
- Crowd speed control
- Electronic mast reach limiter
- Kelly visualization

Optional

- Electronic load sensing for auxiliary winch
- Recording of concrete pressure and volume for Single-Pass processes
- Adaptive Kelly Speed assistant
- Automatic drilling and extraction control for Single-Pass processes
- BAUER Enhanced CAN Interface (BECI)
- Vorschub Plus
- Stability Plus



Operating weight 180.0 t
(as shown)

Rotary drive		KDK 550 S
Torque (nominal) for casing operation at 350 bar		553 kNm
Torque (nominal) for drilling operation at 350 bar		460 kNm
Max. speed of rotation		42 rpm
Crowd winch system		
Max. stroke of sledge with 5.6 m mast extension		26.3 m
Crowd force push and Pull effective / nominal		530 / 680 kN
Rope diameter		30 mm
Extraction force Crowd Plus effective / nominal with Mast support unit		980 / 1,250 kN
without Mast support unit		890 / 1,140 kN
Speed (down/up)		8.5 / 8.5 m/min
Fast speed (down/up)		31.0 / 31.0 m/min
Main winch		single-layer
Winch classification		M6 / L3 / T5
Line pull (1 st layer) effective / nominal		500 / 633 kN
Rope diameter		40 mm
Max. line speed		62 m/min
Auxiliary winch		
Winch classification		M6 / L3 / T5
Line pull (1 st layer) effective / nominal		140 / 177 kN
Rope diameter		22 mm
Max. line speed		55 m/min
Base carrier (EEP)		BS 115
Engine		CAT C 18
Rated output ISO 3046-1	570 kW 1,850 rpm	597 kW 1,850 rpm
Exhaust Emission Standard acc. to	UN/ECE R96 * -I	EU Stage VEPA/ EPA/CARB Tier 4 final
Diesel tank capacity	1,200 l	1,200 l
Sound pressure level in cabin (EN 16228, Annex B)		LP _A 80 dB (A)
Sound power level (2000/14/EC and EN 16228, Annex B)		LW _A 111 dB (A)
Hydraulic pressure		350 bar
Flow rates (main circuits + auxiliary circuit)		3 x 430 + 1 x 565 + 1 x 400 + 1 x 320 l/min
Hydraulic oil tank capacity		1,200 l
Under carriage		UW 195
Crawler type		B9S
Traction force effective / nominal		1,100 / 1,300 kN

* Exhaust emission equivalent Tier 3 / Stage III A emission standard

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

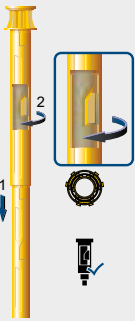
Report of production data

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



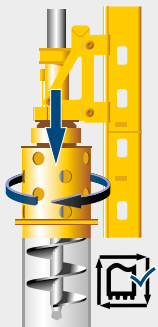
Adaptive Kelly speed assistant

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.



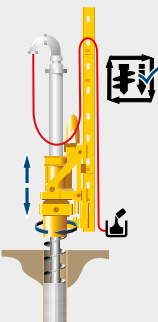
Kelly visualization

Display of the locking recesses and the correct 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.



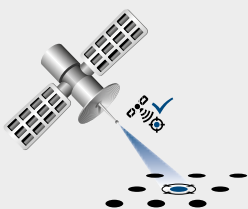
Kelly drilling assistant

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

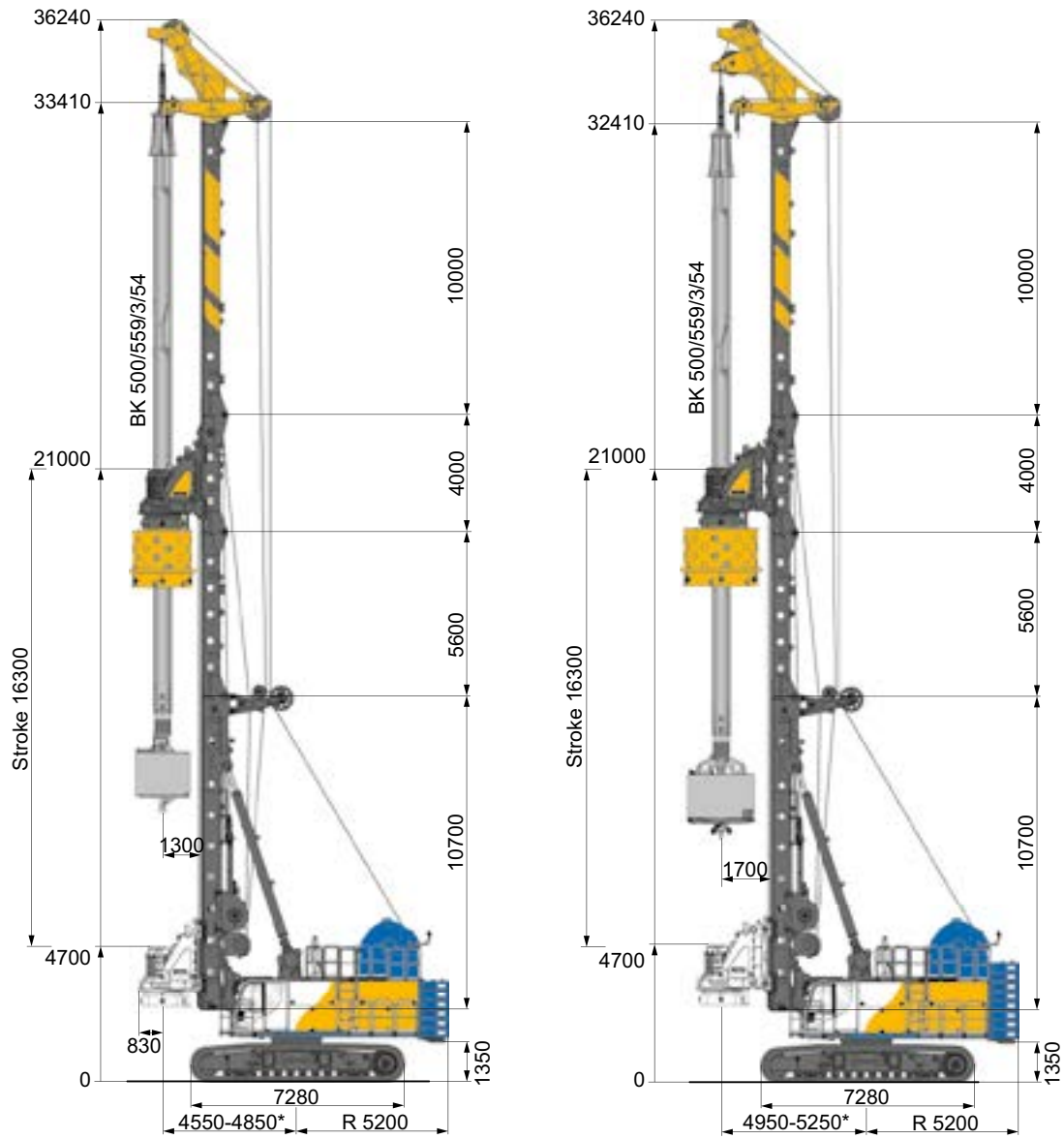
The system controls the drilling and / or extraction speed of the crowd system and enables hands-free operation. This ensures the production of a high-quality pile while simultaneously minimizing the amount of concrete.



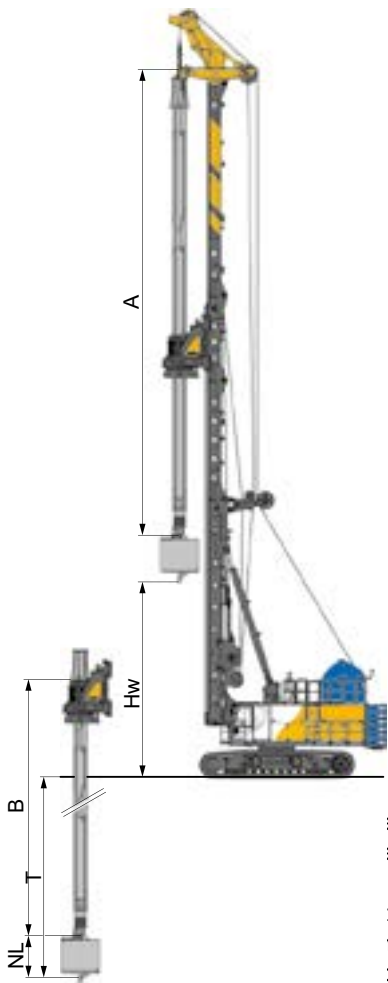
Satellite-based positioning

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	
Drilling axis	1,300 mm	1,700 mm	2,000 mm	
Max. drilling diameter uncased	2,300 mm	3,100 mm	3,700 mm	
Max. drilling diameter cased	2,000 mm	2,800 mm	3,400 mm	
Operating weight approx. with Kelly BK 500/559/... 3/54	180 t	221 t	226 t	
Operating weight approx. with casing drive adapter	1,650	2,500	3,000	
Operating weight approx. with bucket KB 1,500	KB 1,500	KB 2,320	KB 2,800	
Operating weight approx. with counterweight 30 t	30 t	40 t	40 t	



Drilling depth – uncased Kelly drilling

				Basic version		Upgr. version	
3-part Kelly bar	A (m)	B (m)	G (kg)	H _w (m)	T (m)	H _w (m)	T (m)
BK500/559/3/54	22.0	57.7	17,200	9.2	54.8	8.2	54.8
BK500/559/3/60	24.0	63.7	19,000	7.2	60.8	6.2	60.8
BK500/559/3/66	26.0	69.7	20,900	5.2	66.8	4.2	66.8
4-part Kelly bar							
BK500/559/4/64	19.9	67.9	20,950	11.3	65.0	10.3	65.0
BK500/559/4/72	21.9	75.9	23,000	9.3	73.0	8.3	73.0
BK500/559/4/84	24.9	87.9	25,650	6.3	85.0	5.3	85.0
BK500/559/4/90	26.4	93.9	27,150	4.8	91.0	3.8	91.0
BK500/559/4/96	27.9	99.9	28,650	3.3	97.0	2.3	97.0
5-part Kelly bar*							
BK420/559/5/100	23.8	103.9	25,600	7.4	101.1	6.4	101.1
BK420/559/5/110	25.8	113.9	27,700	5.4	111.1	4.4	111.1
BK420/559/5/120	27.8	123.7	29,760	3.4	121.1	2.4	121.1
BK420/559/5/125**	28.8	128.9	31,000	2.4	126.1	-	126.1

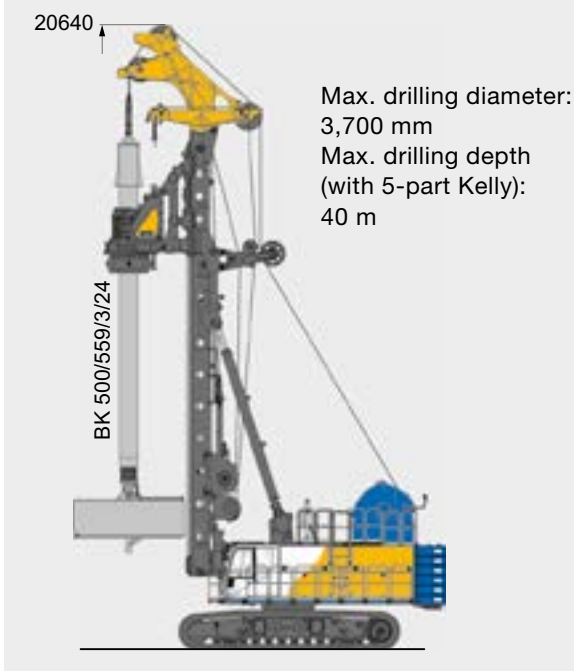
A Kelly bar (retracted)
 B Kelly bar (extended,
 T h
 NL distance to drilling tool
 Hw mast length

G Weight of Kelly bar

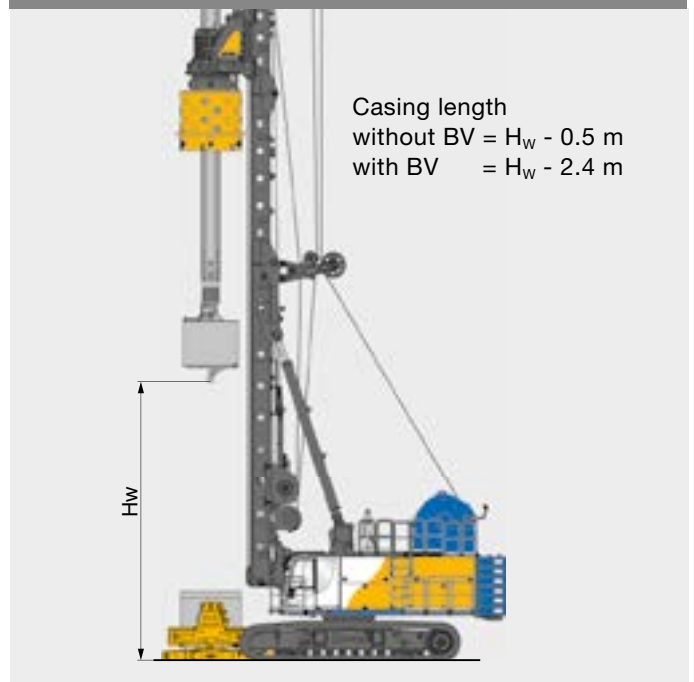
Drilling data as shown are based on tool length NL = 1.9 m, minimum horizontal mast reach and using Bauer attachment. Drilling depth is increased by 0.47 m when using maximum horizontal mast reach.

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

Uncased Kelly drilling with reduced headroom configuration

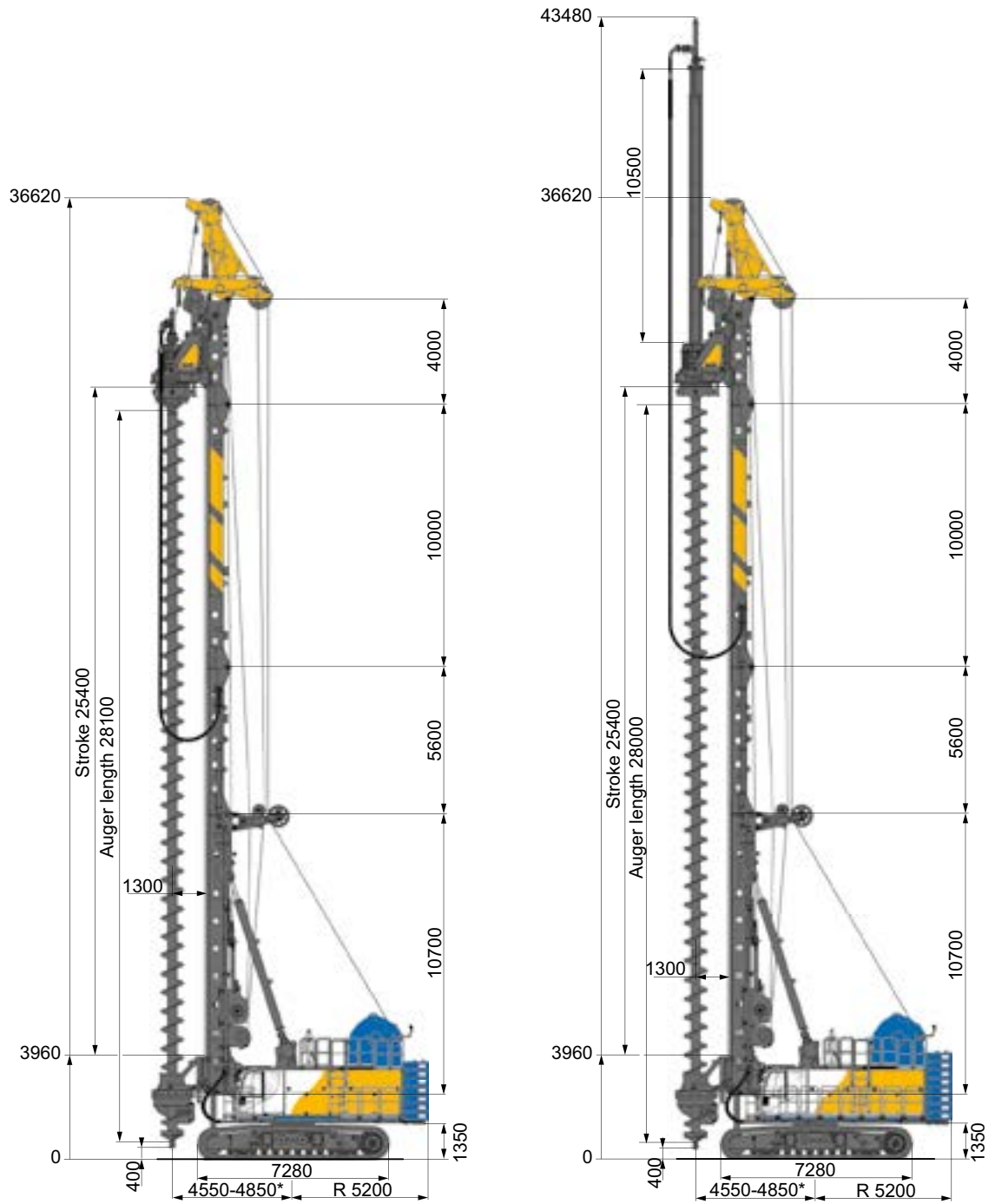


Cased Kelly drilling with casing oscillator BV 2000

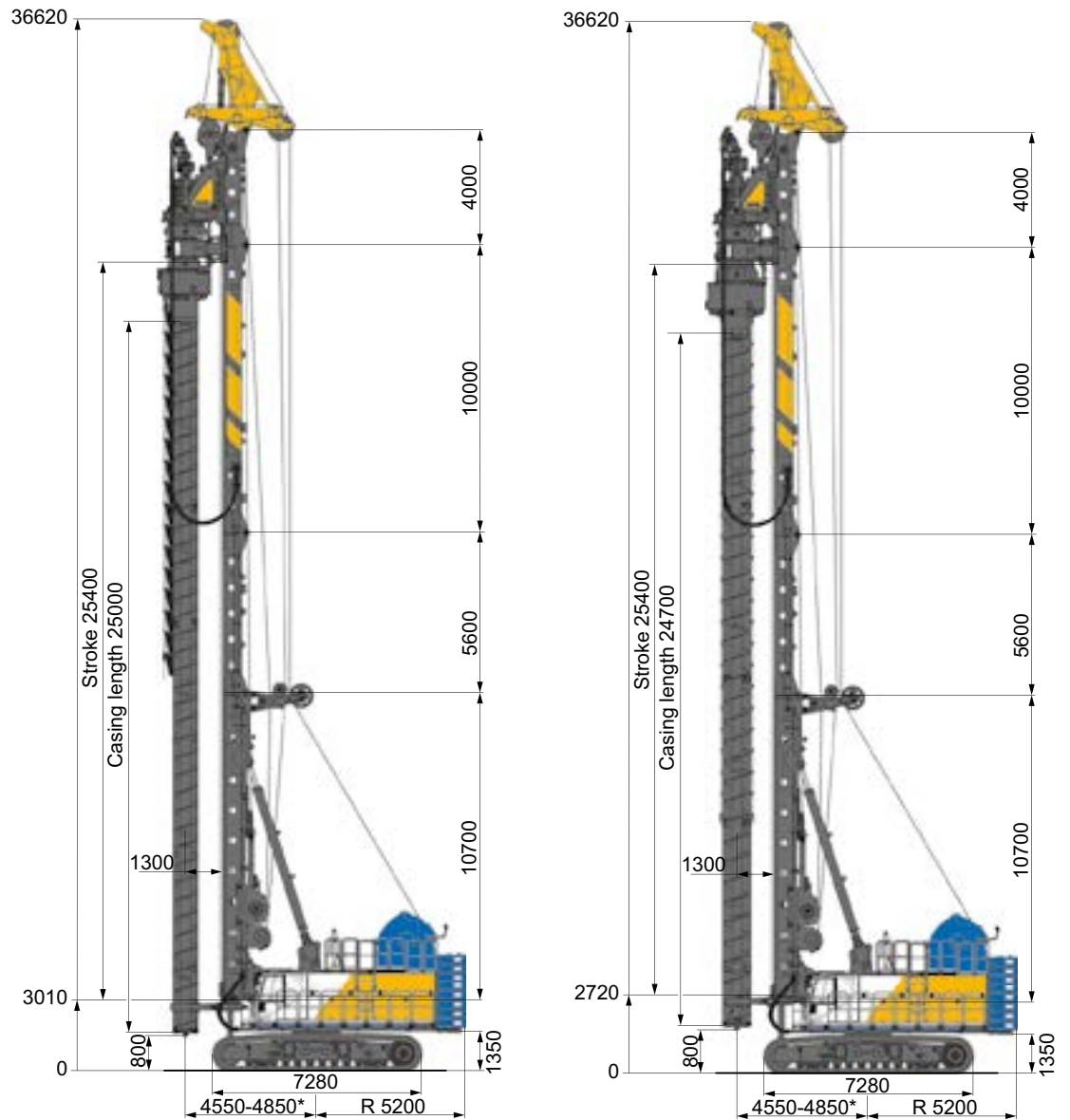


* Reduction of torque to 420 kNm for Kelly type BK 420

** Only possible with drill axis 1,300 mm



	Basic version	Upgraded version
Kelly extension	without	10.5 m
Max. drilling diameter	1,200 mm	1,200 mm
Max. drilling depth with auger cleaner	24.8 m	35.3 m
Max. extraction force with main- and crowd winch (effective)	1,060 kN	1,060 kN
with counterweight	35 t	40 t



	with BTM 400		with BTM 600	
Mast extension	5.6 m	without	5.6 m	without
Max. drilling diameter	880 mm	1,180 mm	1,000 mm	1,180 mm
Max. drilling depth	24.4 m	18.8 m	24.4 m	18.8 m
Max. extraction force with main- and crowd winch (effective)	1,060 kN		1,060 kN	
with counterweight	40 t		40 t	
Max. torque auger (right-hand rotation)	200 kNm		240 kNm	
Max. torque casing (left-hand rotation)	400 kNm		600 kNm	

BC – Trench Cutter System

For cutting depths > 48 m it is recommended to use the HDS-System as shown here. It consists of two hydraulically driven hose drums for mud hose and hydraulic hoses.



Type of trench cutter	BC 35 / BC 48
Max. cutting width	1,500 mm
Max. cutting depth	100 m
Hose drum system	HDS 100

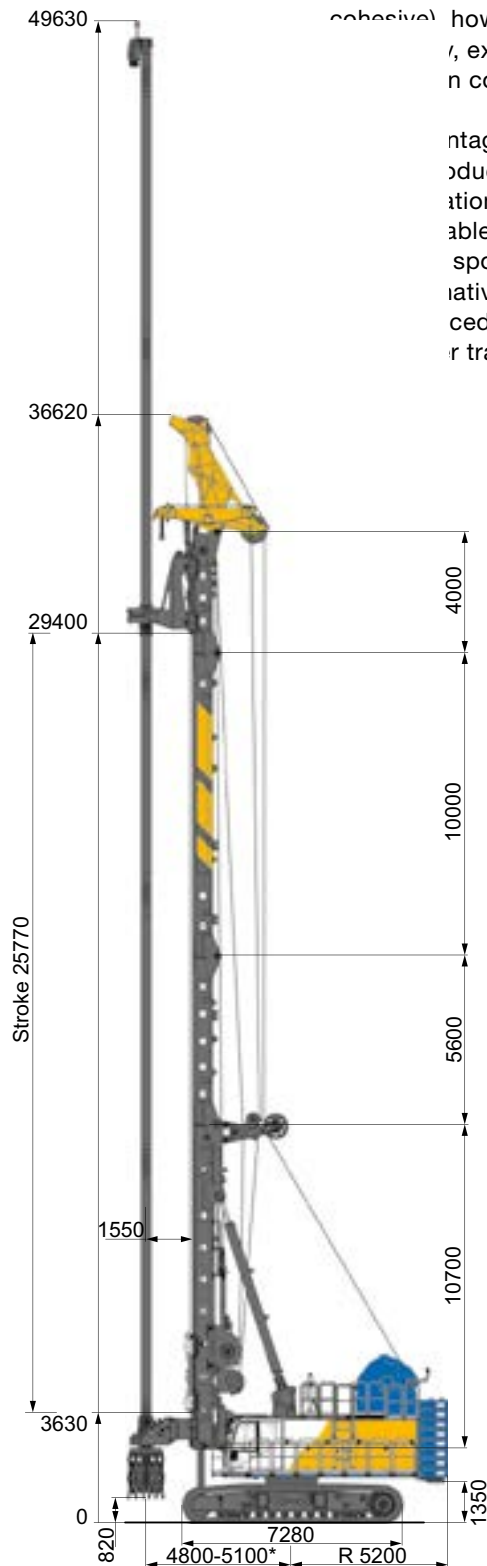
CSM – Cutter Soil Mixing

Mixing of self-hardening slurries with native soils by using a modified trench cutter technique is a new and effective method for constructing cut-off walls, earth retaining walls, soil improvement or for constructing foundation elements.

CSM is used mainly for stabilizing soft or loose soils (non-cohesive and cohesive) however the machinery used, derived from Bauer's cutter rig, extends the applicability of the method to much harder soils compared to other methods of soil mixing.

Advantages of the method are:

- High productivity
- Vibration induced during construction is minimal (Reduced CO₂ Emissions)
- No spoil removal
- Native soil is used as construction material
- Reduced concrete consumption
- Lower transport volumes (excavated material, concrete)



Drawing contains optional turning device (- 95° to + 45°)



Cutting / Mixing head	BCM 5	BCM 5L	BCM 10
Panel width	1.0 m	1.0 m	1.2 m
Panel length	2.4 m	2.8 m	2.8 m
Max. panel depth	45 m*		

* Additional panel depth available upon request

G = Weight
B = Width, overall

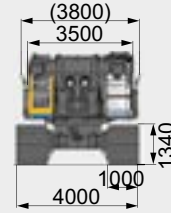
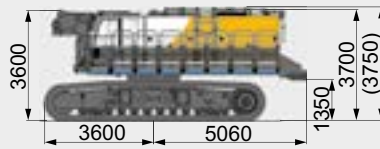
Weights shown are approximate values;
 optional equipment may change the overall
 weight and dimensions.

Transport

Base carrier with crawler side frames

G = 80.0 t (with walking platform and guardrails)

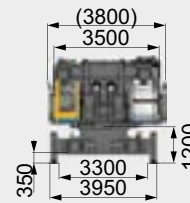
B = 4,000 mm



Base carrier without crawler side frames incl. Jack-Up System

G = 49.6 t (with walking platform and guardrails)

B = 3,950 mm

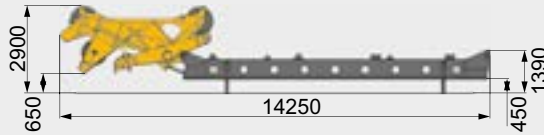


G = 2 x 16.4 t B = 1,200 mm



Upper mast section with mast head

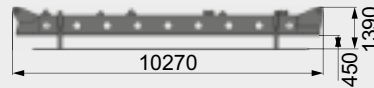
G = 8.8 t B = 2,200 mm



G = 3.3 t B = 1,900 mm

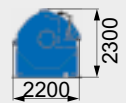


G = 5.4 t B = 1,630 mm



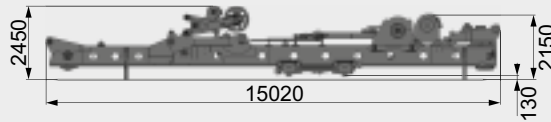
Main winch 500 kN

**G = 10.7 t (with 140 m rope)
B = 2,600 mm**



Lower mast section with Vario-mast section

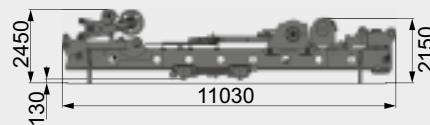
G = 26.9 t B = 2,650 mm



G = 3.4 t B = 1,170 mm

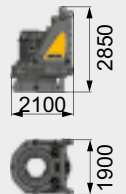


G = 25.0 t B = 2,650 mm



Rotary drive

G = 11.0 t B = 1,900 mm



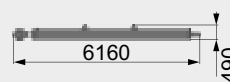
Mast extension 5.6 m

G = 4.0 t B = 1,170 mm



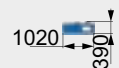
Backstay cylinders

**G = 2 x 2.3 t
B = 400 mm**



Counterweight

**G = 6 bis 8* x 5.0 t
B = 3,450 mm**



* depending on application

International Service Hotline

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*toll-free number, where available

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