

NEW

BAUER BG 28 H

Rotary Drilling Rig

Base Carrier BT 75

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 20th 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 21st 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



2014

With EEP Bauer sets new standards for efficiency

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**

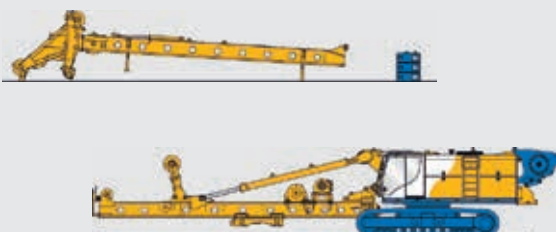
**BG 20 H
BT 60**

**BG 23 H
BT 75**

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 28
BS 80**

**BG 36
BS 95**

**BG 45
BS 95**

The Rotary Drilling Rig BG 28 H PremiumLine (BT 75)

Max. drilling diameter:	2,500 mm
Max. drilling depth:	65.7 m
Max. torque:	277 kNm
Max. height:	24.9 m
Engine:	CAT C 9 – Stage III A
	280 kW @ 1.850 U/min
	CAT C 9.3 – Stage IV
	298 kW @ 1.850 U/min



**BG 28 H
BT 75**



**BG 28 H
BT 85**



**BG 33 H
BT 85**



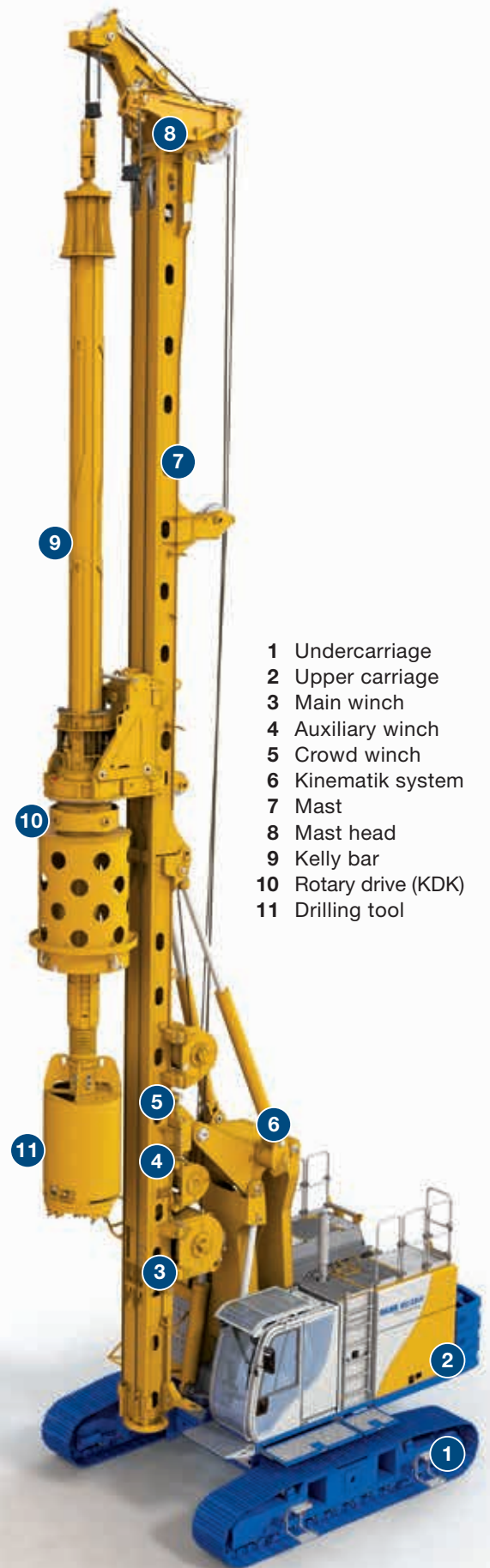
**BG 36 H
BS 95**



**BG 55
BS 115**



**BG 72
BT 180**



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



Modern, ergonomic operator 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 CAT engines

- C 9 (280 kW, Tier 3) or C 9.3 (298 kW, Tier 4 final)
- Diesel particulate filter in Exhaust Emission Standard Tier 4 final
- Automatic idling mode
- Modern engine diagnostic system
- Low noise emission
- Low fuel consumption due to individual consumer control
- Worldwide CAT-service partners



Flexible mast concept

- Three-sectional mast
 - Low-Head version
 - Giant Drill version
 - Optimized transport length
- Upper mast extension 2 m or 3 m (hydraulically foldable and lockable)
 - Simple and secure attachment, no working at heights unsecured
 - Reduced transport length
- Lattice mast extension for max. 20.5 m interlocking length
- Vario-masthead
 - Masthead for drill axis 1,000 expandable to 1,400 mm
 - Increased stroke for Kelly bars when using an upper kelly guide
 - Tilttable main jib for for single-pass processes and for optimized transport



**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

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



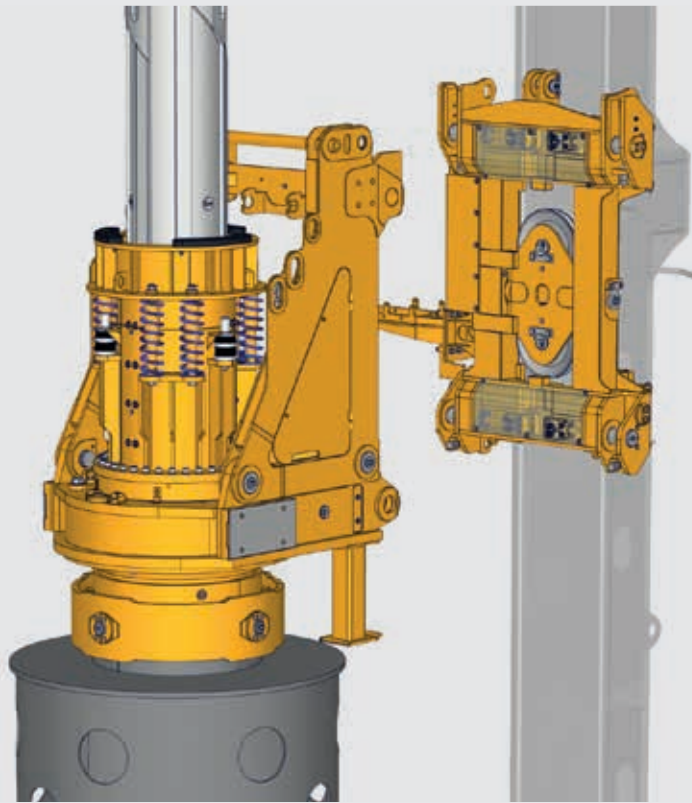
Safety equipment

- 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)
- 2 rear view cameras

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





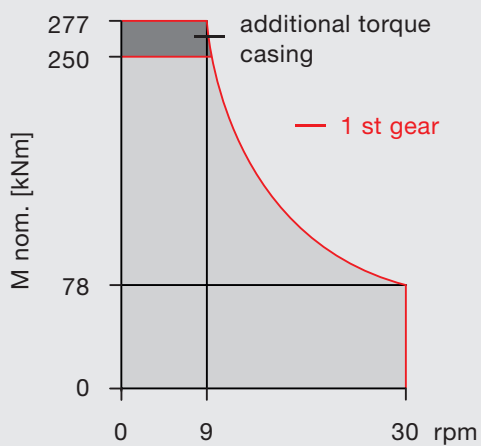
Rotary drive KDK 280

- Optional single gear drive KDK 280 K or multi gear drive KDK 280 S
- Max. torque 277 kNm
- Max. speed 55 rpm

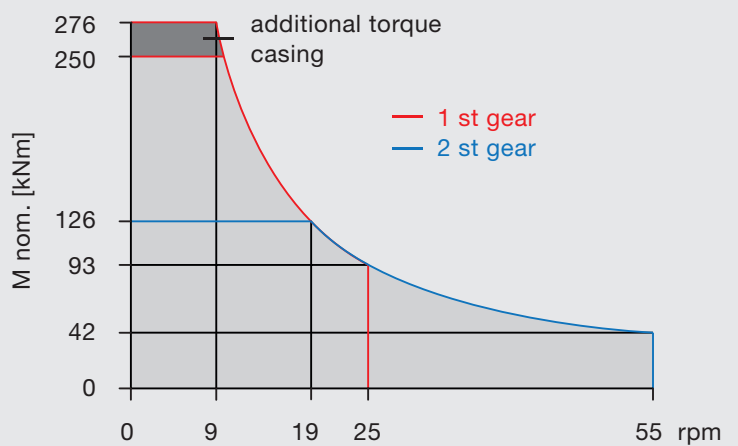
Hydraulically operated pin connection on the crowd sledge

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

KDK 280 K



KDK 280 S

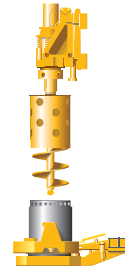




Kelly Drilling



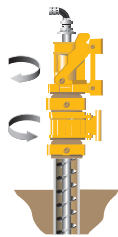
Cased Kelly Drilling
Casing installation with BTM



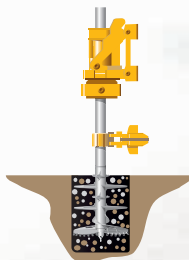
Cased Kelly Drilling
Cading installation with oscillator



CFA
Continuous Flight
Auger Method



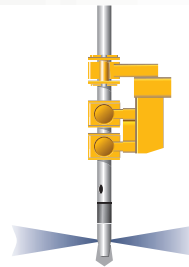
CCFA
Cased CFA
with KDK + BTM /
Double Rotary System



SCM
Single-Column-Mixing



CSM
Cutter-Soil-Mixing



HDI
Jet Grouting



FDP
Full Displacement Piling
(Standard or Lost Bit)

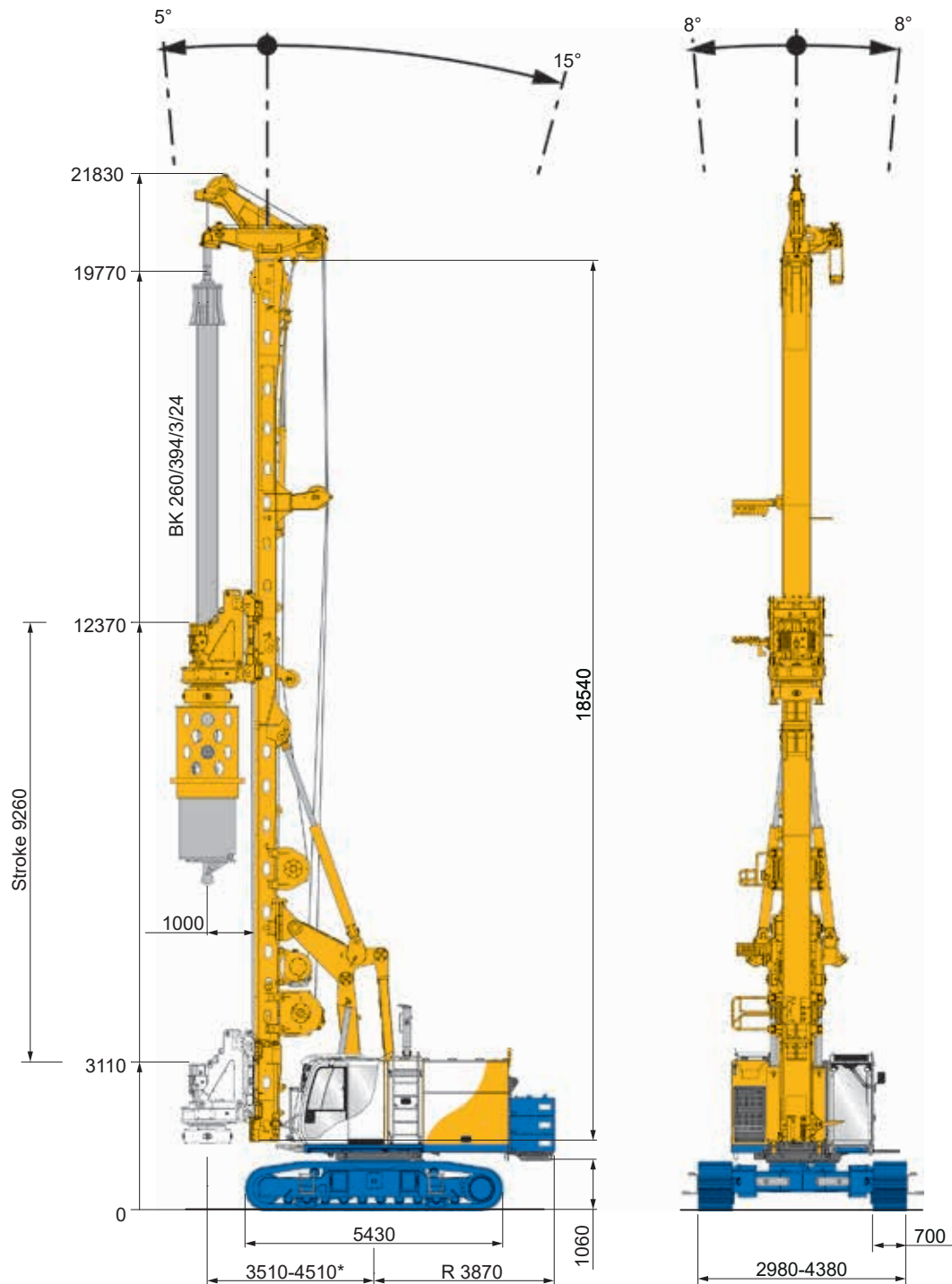


Pile Driving
with Hydraulic Hammer
or Pileco Diesel Hammer



TR
Vibrator





Operating weight 82.2 t
(as shown)

* depending on equipment

Rotary drive	KDK 280 K	KDK 280 S
Torque (nominal) for casing operation at 350 bar	277 kNm	276 kNm
Torque (nominal) for drilling at 350 bar	250 kNm	250 kNm
Max. speed of rotation	30 rpm	55 rpm
Crowd winch		
Max. sledge stroke with 3 m mast extension	18,700 mm	
Crowded force push and pull, effective / nominal	330 / 423 kN	
Rope diameter	24 mm	
Speed (down / up)	6.5 m/min	
Fast speed (down / up)	25 m/min	
Main winch	M6 / L3 / T5	
Line pull (1st layer) effective / nominal	200 / 250 kN	
Rope diameter	28 mm	
Line speed (max.)	85 m/min	
Auxiliary winch (selectable)	M6 / L3 / T5	
Line pull (1st layer) effective / nominal	80 / 100 kN	100 / 125 kN
Rope diameter	20 mm	
Line speed (max.)	55 m/min	
Base carrier (EEP)	BT 75	
Engine	CAT C 9	CAT C 9.3
Rated output ISO 3046-1	280 kW @ 1,850 rpm	298 kW @ 1,850 rpm
Exhaust emission EEC 97/68 EC	Stage III A	Stage IV
standard acc. to EPA/CARB	Tier 3	Tier 4 final
Diesel tank capacity / AdBlue Tank	730 / – l	730 / 34.5 l
Sound pressure level in the cabin (EN 16228, Annex B)	L _P A 80 dB (A)	
Sound power level (2000/14/EG u. EN 16228, Annex B)	L _W A 112 dB (A)	
Hydraulic pressure	350 bar	
Hydraulic oil tank capacity	650 l	
Flow rates	2 x 250 + 1 x 400 + 1 x 135 l/min	
Undercarriage	UW 65	UW 80
Crawler type	B 6	B 7
Traction force effective / nominal	450 / 530 kN	520 / 610 kN

Base carrier BT 75

Standard

- Removable counterweights
- Protective roof guard
- Radio with MP3, USB and Bluetooth hands-free kit
- Grating in front of cab
- Retractable grating on side of cab
- Electric refuelling pump
- Energy-Efficient Power (EEP)
- Premium operator seat
- 2 rear view cameras
- Integrated service platform
- Central lubrication system
- LED spotlights
- Climatronic

Optional

- Counterweight, variably adjustable
- Guardrails on the upper level (foldable for transport)
- Integrated service platform (electrically retractable / extendable)
- High-pressure cleaner with water tank
- Rear support unit, **Fig. A**
- Compressor 1,000 l/min
- Electric generator 13 kVA
- Bio-degradable hydraulic oil
- Arctic kit
- Cab space heater with automatic timer
- Additional camera (at customer specific location)
- Front screen guard
- Sun blind small or large
- Remote control Basic, **Fig. B**
- Remote control Multi

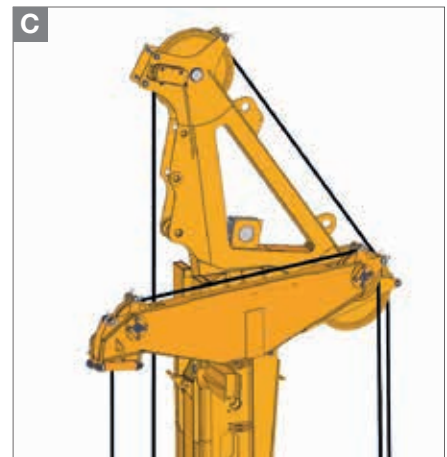
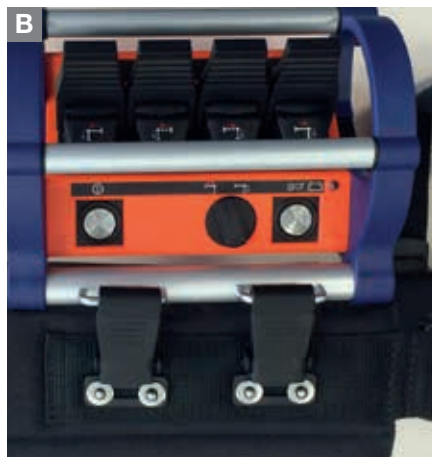
Drilling rig attachment

Standard

- Main winch with hydraulic free-fall control
- Swivel for main rope
- Masthead (foldable for transport)
- Pivoted anchor point for main and auxiliary rope

Optional

- Vario-masthead, **Fig. C**
- Upper Kelly guide
- 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
- Mast extension 2 m or 3 m, hydraulically foldable and lockable
- Three-sectional mast for Low Head and Giant Drill applications
- Lattice mast extension
- Swivel for auxiliary rope
- Additional auxiliary winch 20 kN
- Attachment of casing oscillator up to BV 1500, **Fig. D**
 - Powered by on-board hydraulics of the base carrier
 - Controlled from operator's cab
 - Weight of drilling rig can be activated through mechanical fixing (UW 80)
- Attachment of automatic casing drive adapter
- Sling for counterweight handling
- Auger cleaner attachment for Kelly system
- Personal hoist system with lift cage, **Fig. E**



Rotary drive

Standard

- Rotary drive KDK 280 K (single-gear drive)
- Selectable modes of operation
- Kelly drive adapter for outer Kelly tube 394 mm
- Integrated Kelly damping system
- Exchangeable Kelly drive adapter
- Cardanic joint
- Quick-release hydraulic couplers
- Transport supports
- Lifting gear

Optional

- Rotary drive KDK 280 S (multi-gear)
- Kelly equipment for outer Kelly tube 419 mm
- Torque multiplier BTM 720 K for Kelly drilling
 - Torque 400 kNm (nominal)
 - Increase of torque for casing installation
 - Easy attachment
 - Separate sledge
 - Connection to rotary drive with cardanic joint
- Torque multiplier BTM 200 for CCFA

Measuring and control system

Standard

- PLC processor for all electrically actuated functions
- Automatic mast alignment with memory-recall
- Depth measuring device on main winch
- Distance measuring device on crowd winch
- Main winch with electronic load sensing
- Slack rope prevention
- Automatic swivel alignment function
- Hoist limit switch for main and auxiliary winch
- Auxiliary winch with hydraulic load sensing
- Crowd stroke monitoring
- Crowd speed control
- Speed measuring control for rotary drive (KDK)
- Hold-Back control
- Electronic mast reach limiter
- Casing length monitoring

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



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 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

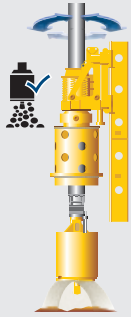
- The DTR module allows equipment and production data to be made available to a wide variety of users

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

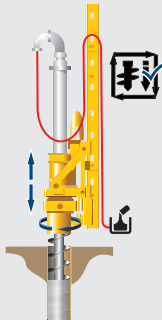
B-Report

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



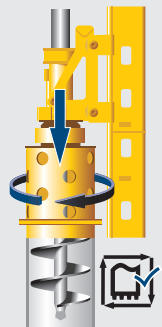
One-directional and bi-directional spoil discharge assistant

Automatic emptying of spoil via an alternating or shocking slewing rotation of the rotary drive. Infinitely variable adjustment of the shaking or shocking frequency via joystick.



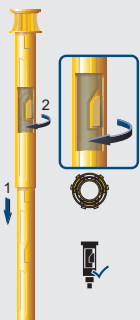
Automatic drilling and extraction control for Single-Pass processes

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



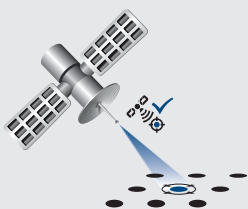
Kelly drilling assistant

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.



Kelly visualization

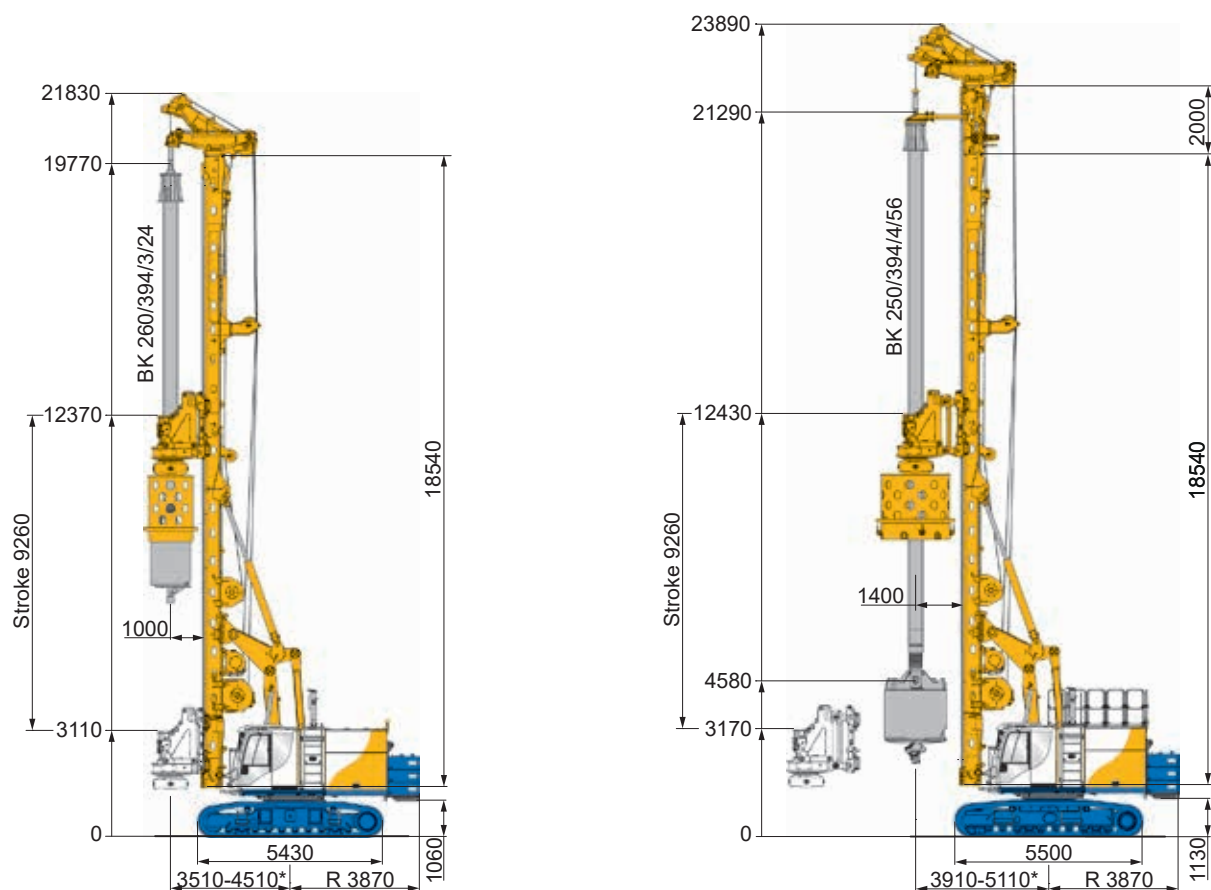
Display of the locking recesses, as well as representation of the controlled extension and retraction of the Kelly bar on the B-Tronic system. The rapid approach of the locking position results in a considerably enhanced drilling performance. In addition, the level of wear that the Kelly bar and drive keys are subject to is significantly reduced.



Satellite-based positioning

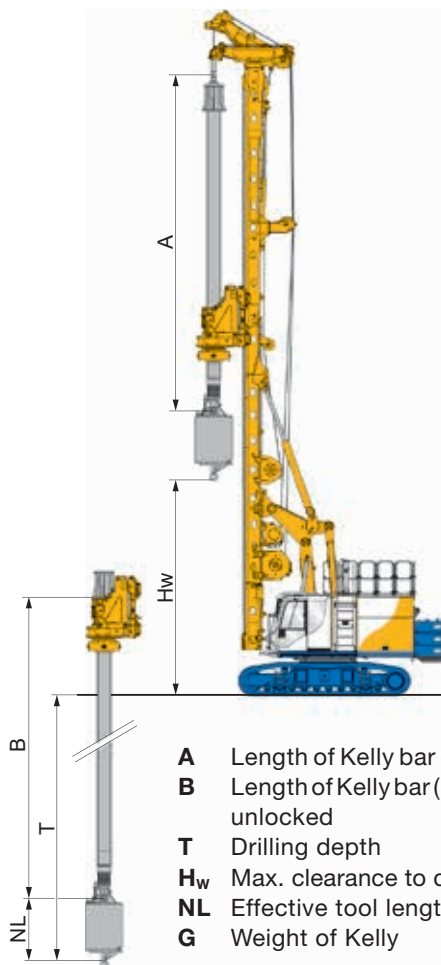
The BAUER-Assistant Positioning System (B-APS) allows the position of a bored pile to be located extremely accurately. Documentation is provided for the nominal and actual coordinates, as well as the corresponding accuracy of each bored pile. Manual marking of the piles is no longer required.

Numerous other assistance systems are available in our portfolio.



	Basic version	Upgraded version
Undercarriage	UW 65	UW 80
Mast extension	without	2 m
Upper Kelly guide	without	with
Drill axis	1,000 mm	1,400 mm
Max. drilling diameter		
uncased	1,700 mm	2,500 mm
cased	1,400 mm	2,200 mm
Operating weight, approx.	82.2 t	100.2 t
with Kelly	3/24	4/56
with casing drive adapter	Ø 1,300 mm	Ø 2.000 mm
with bucket	Ø 1,180 mm	Ø 1,830 mm
with counterweight *	9.9 t	12.3 t

* depending on equipment



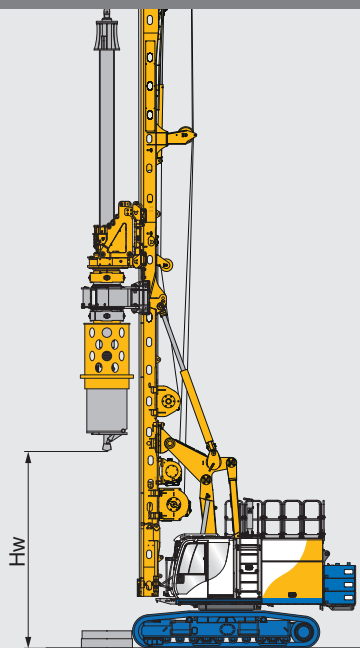
Drilling depth – uncased Kelly drilling, drill axis 1,000 mm

				without mast extension		2.0 m mast extension	
3-part Kelly	A (m)	B (m)	G (kg)	H _w (m)	T (m)	H _w (m)	T (m)
BK/260/394/3/24	10.72	26.60	4.800	6.9	25.4	7.9	25.4
BK/260/394/3/30	12.72	32.60	5.550	4.9	31.4	6.9	31.4
BK/260/394/3/33	13.72	35.60	5.920	3.9	34.4	5.9	34.4
BK/260/394/3/36	14.72	38.60	6.300	2.9	37.4	4.9	37.4
BK/260/394/3/42	16.72	44.61	7.100	0.9	43.3	2.9	43.4
BK/260/394/3/48	18.72	50.60	7.900	-	-	0.9	49.4
4-part Kelly							
BK/250/394/4/32	10.72	34.94	6.600	6.9	33.7	7.9	33.7
BK/250/394/4/40	12.72	42.94	7.750	4.9	41.7	6.9	41.7
BK/250/394/4/44	13.72	46.94	8.350	3.9	45.7	5.9	45.7
BK/250/394/4/48	14.72	50.94	8.900	2.9	49.7	4.9	49.7
BK/250/394/4/56	16.72	58.98	10.050	-	-	2.9	57.7
BK/250/394/4/64	18.72	66.94	11.200	-	-	0.9	65.7

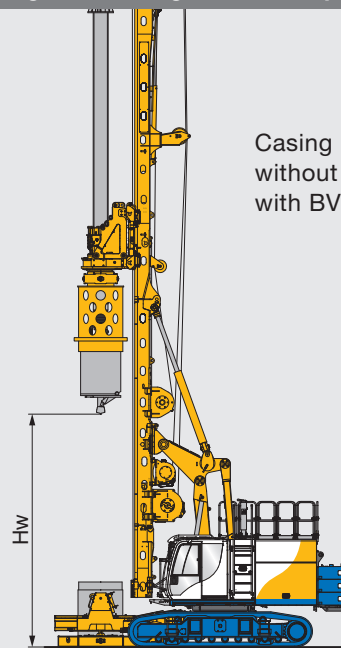
Drilling data have been determined with an effective tool length of NL = 1.9 m and with the mast at a minimum operating radius. These data only apply for the use of Bauer tools.

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

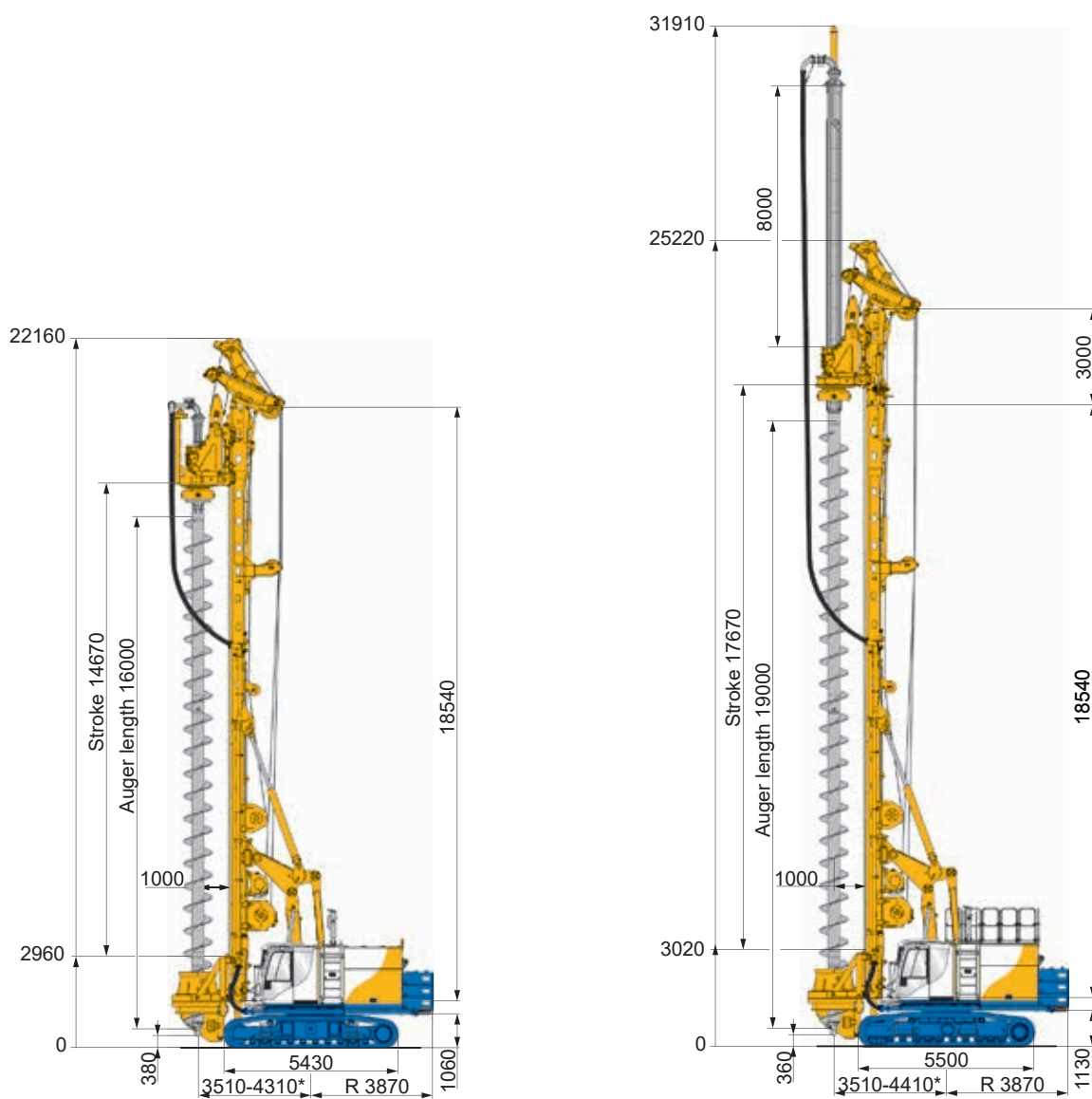
Torque multiplier BTM 720



Kelly drilling with casing oscillator up to BV 1500

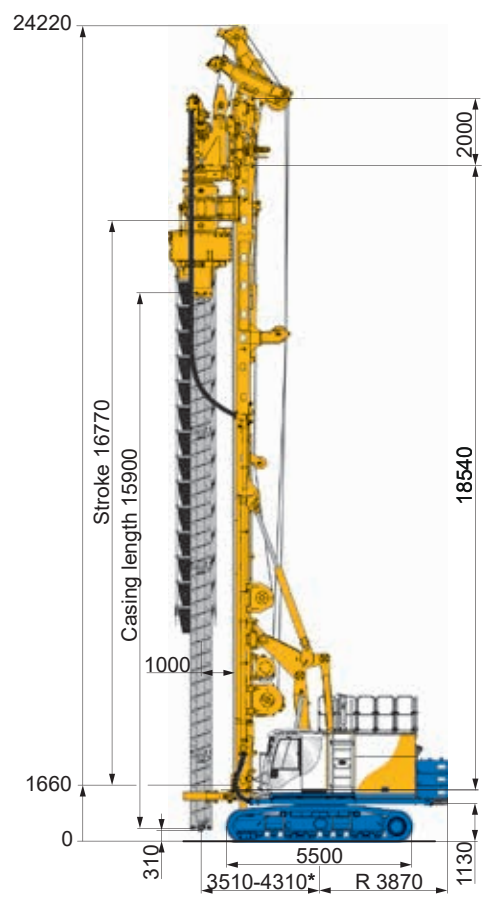
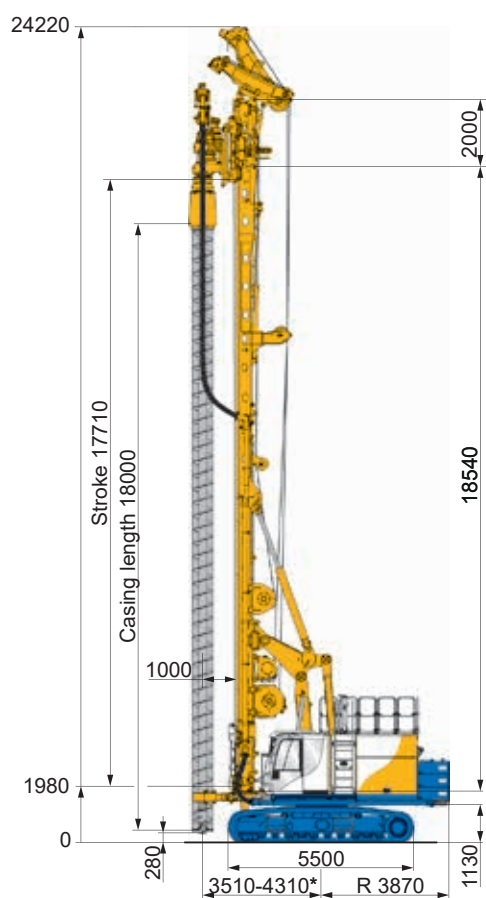


Casing length
 without BV = H_w - 0.5 m
 with BV = H_w - 1.6 m



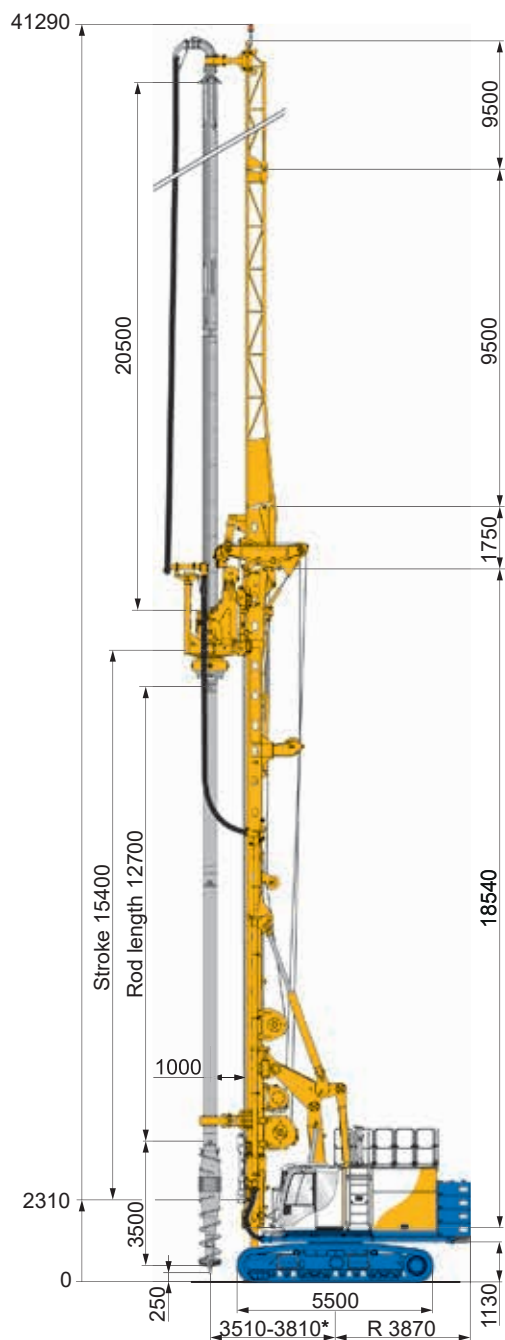
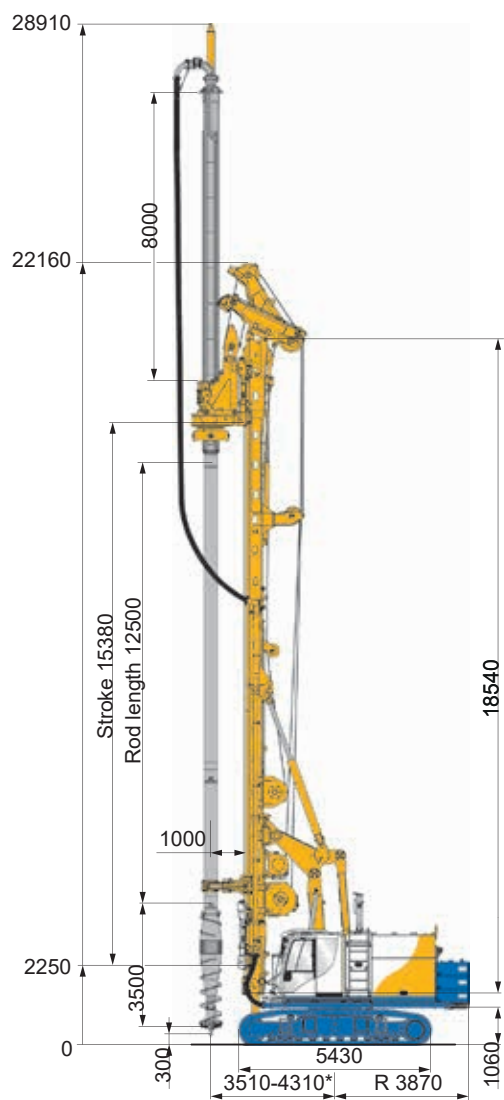
	Basic version	Upgraded version
Undercarriage	UW 65	UW 80
Mast extension	without	3 m
Kelly extension	without	8 m
Max. drilling diameter	900 mm	1,200 mm
Drilling depth with auger cleaner	14.1 m	25.1 m
Max. extraction forth with main- and crowd winch (effective)	730 kN	660 kN
with counterweight *	9.9 t	12.3 t

* depending on equipment



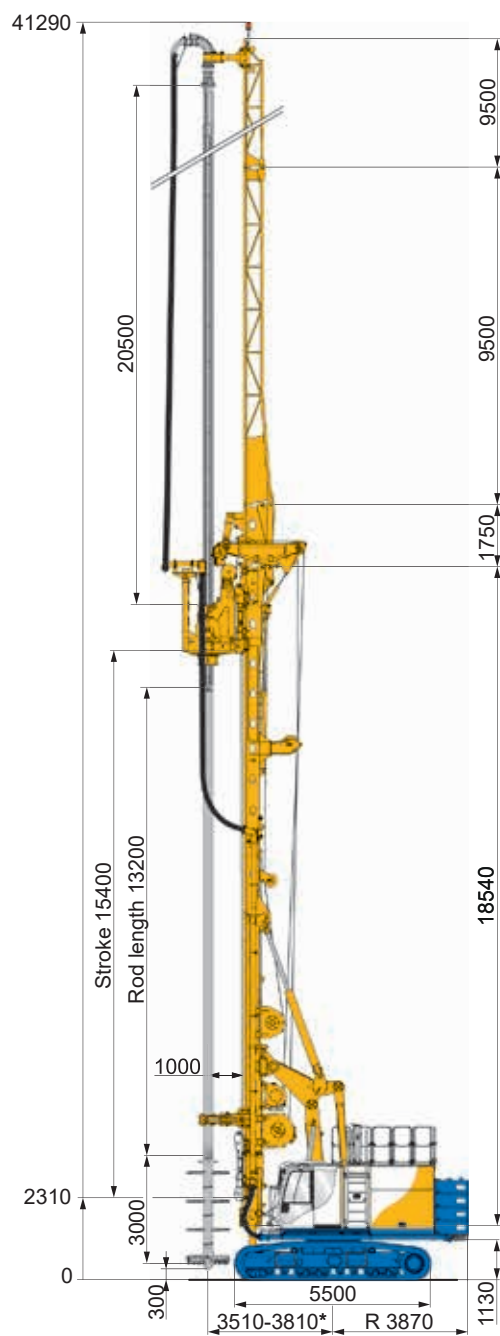
	FoW drilling DKS 50 / 140	CCFA drilling mit BTM 200
Torque auger / casing	50/140 kNm	100/200 kNm
Mast extension	2 m	2 m
Max. drilling diameter	610 mm	750 mm
Max. drilling depth	17.3 m	16.4 m
Max. extraction force with main- and crowd winch (effective)	500 kN	730 kN
with counterweight *	12.3 t	12.3 t
Ejection system	without	standard

* depending on equipment

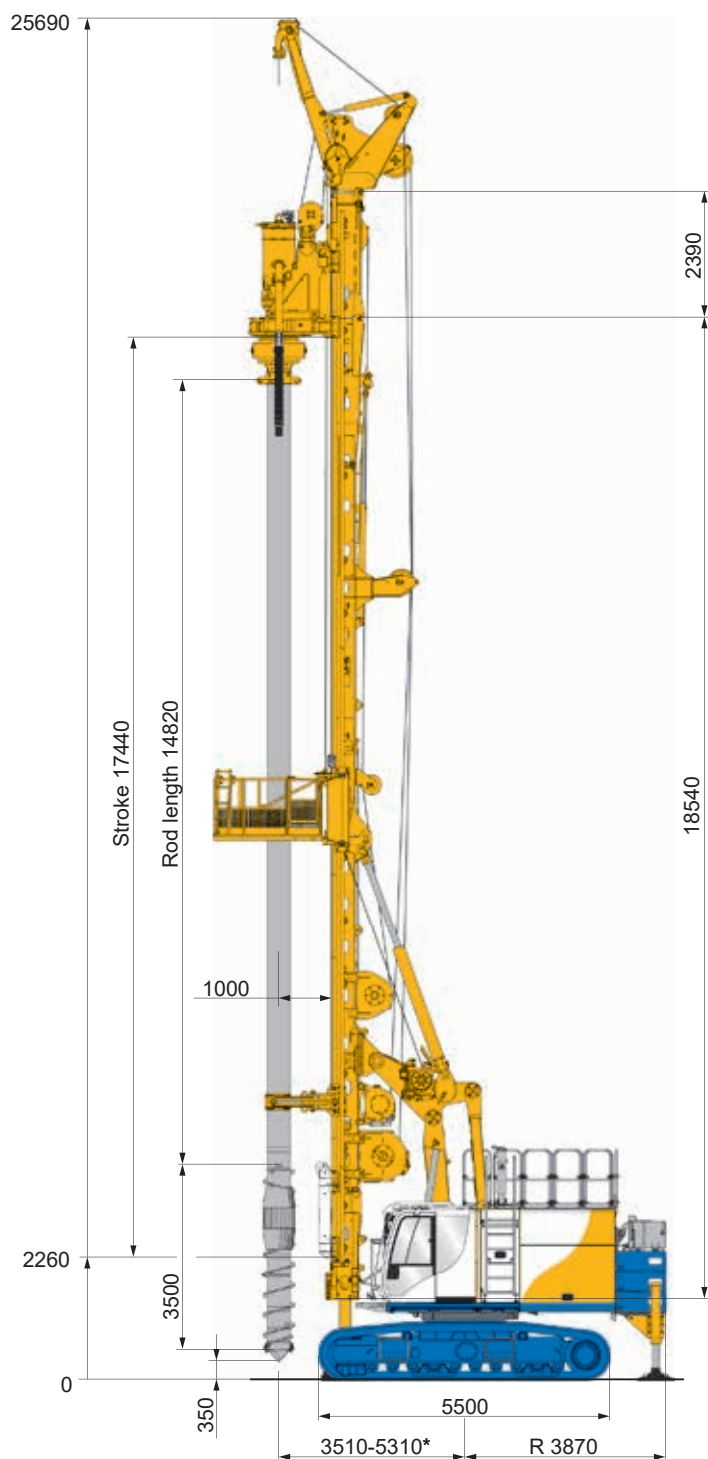


	FDP drilling Basic version	FDP drilling Upgraded version
Undercarriage	UW 65	UW 80
Mast extension	without	-
Kelly extension	8 m	20.5 m
Max. drilling diameter FDP	620 mm	620 mm
Max. drilling depth FDP	23.0 m	35.0 m
Max. extraction force with main- and crowd winch (effective)	730 kN	730 kN
with counterweight *	9.9 t	12.3 t

* depending on equipment



- * depending on equipment
- ** operation only possible with restrictions



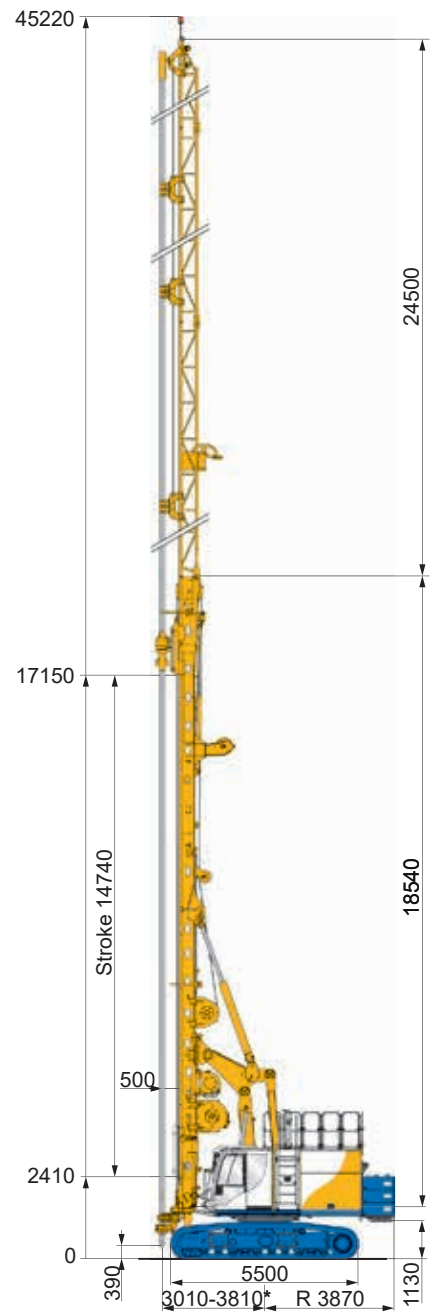
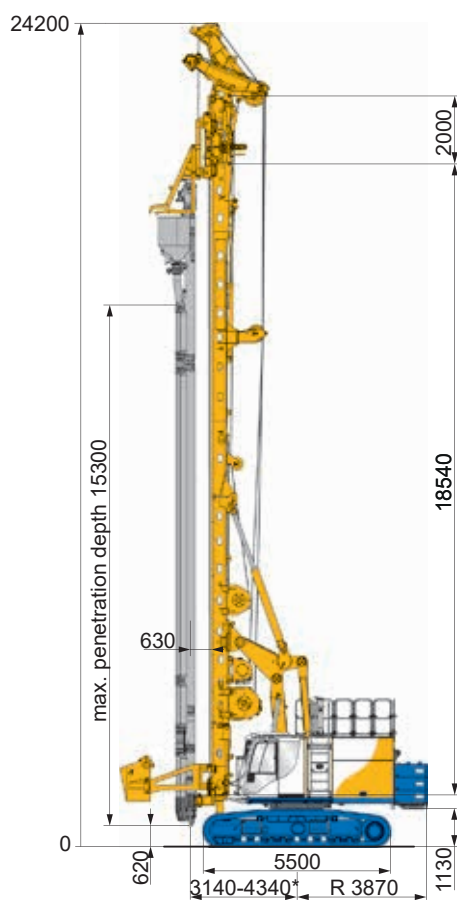
Highlights of Handling Package for FDP Lost-Bit:

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

Operating weight 85.4 t
(as shown)

FDP Lost-Bit drilling Handling Package	
Max. drilling diameter	620 mm
Max. drilling depth	17 m
Max. extraction force with main- and crowd winch (effective)	730 kN
with counterweight *	12.3 t

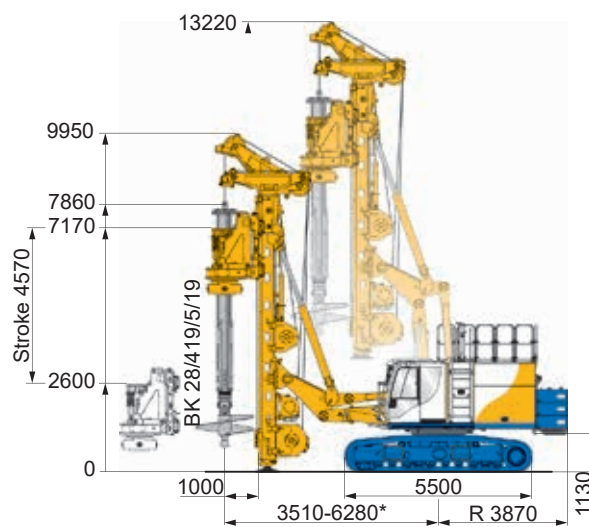
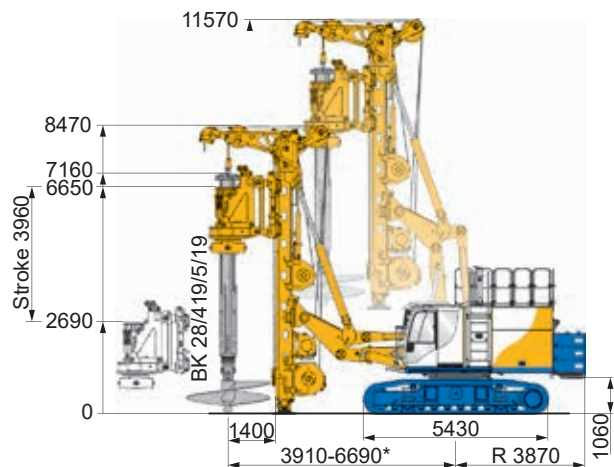
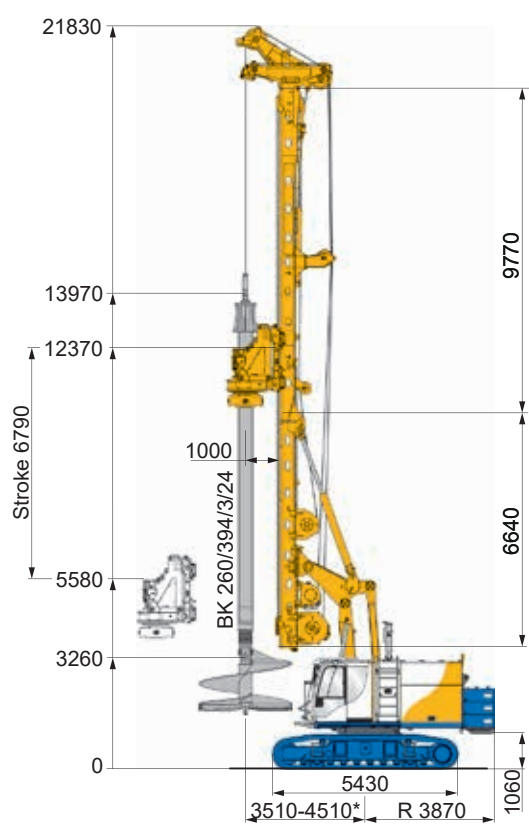
* depending on equipment



Vibro Displacement (VD) Vibrator TR 17	
Max. penetration depth	15.3 m
Pressure with crowd winch (effective)	110 kN
Max. extraction force with crowd winch (effective)	330 kN
with counterweight *	9.9 t

Upgraded version Jet Grouting	
Length of lattice mast	24.5 m
Max. rod diameter	89 - 133 mm
Max. jetting depth	35.3 m
Rotary drive	KDK 10 S
Max. extraction force with crowd winch (effective)	330 kN
with counterweight *	12.3 t

* depending on equipment

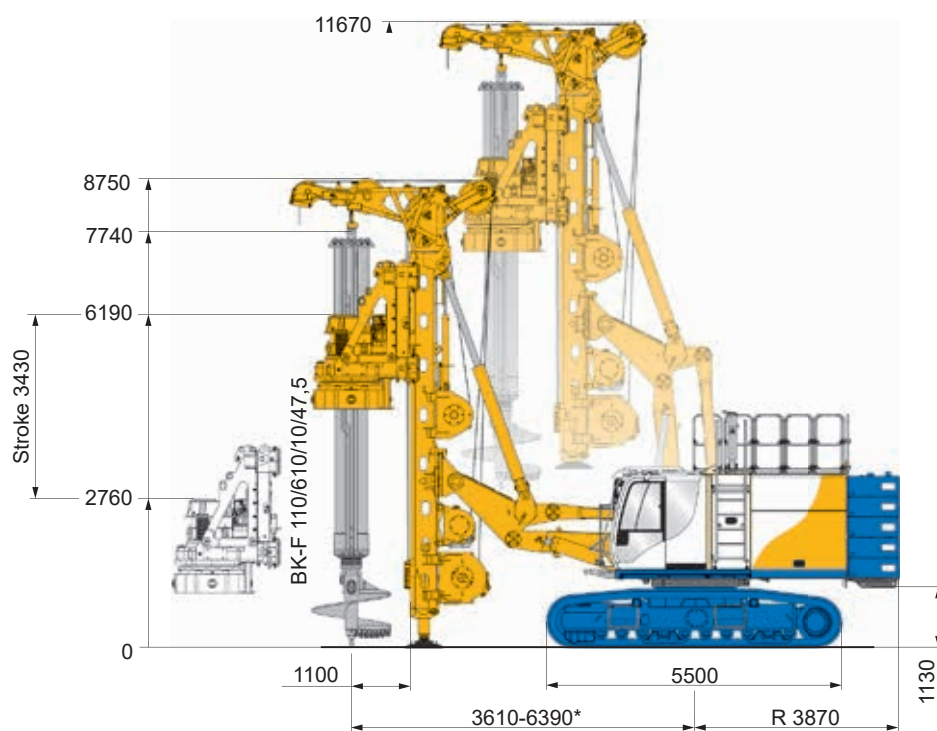


	Giant Drill - Basic version	Low Headroom System
Undercarriage	UW 65 / UW 80	UW 65 / UW 80
Lower mast extension	without	-
Drill axis	1,000 mm	1,000 / 1,400 mm
Max. drilling diameter	3,000 mm	1,700 / 2,500 mm
Max. drilling depth	-	19.5 m

* depending on equipment

Low Headroom System for large drilling depths:

- The BG 28 H low headroom drilling rig can also be configured for large drilling depths in limited headroom conditions.
- With the special Kelly bar BK-F 110/610/10 / 47.5 drilling depths of up to 47.8 m can be achieved with a maximum drilling diameter of 2,500 mm.
- Equipped with the low headroom masthead, the rig has a minimum height of just 8.8 m. Alternatively, the height of the rig with the Kelly masthead is 10.8 m.
- The KDK 280 WP (max. 250 kNm for drilling) automatically reduces the torque to 110 kNm when the special Kelly bar BK-F 110/610/10 / 47.5 is used. The full torque of 280 kNm is provided for cased drilling.



Low Headroom System for large drilling depth		
Undercarriage	UW 80	
Rotary drive	KDK 280 WP	
Drill axis	1,100 mm	1,400 mm
Max. drilling diameter	1,900 mm	2,500 mm
Max. drilling depth (BK-F 110/610/10/47,5)	47.8 m	

* depending on equipment

G = Weight
B = Width, overall

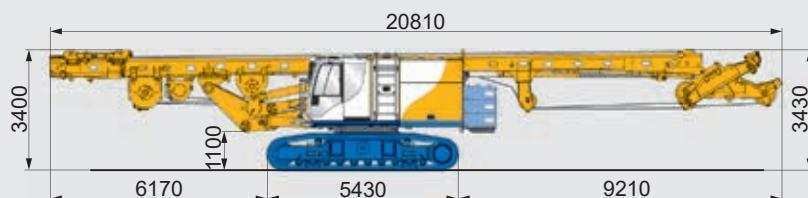
Weights shown are approximate values;
optional equipment may change the overall
weight and dimensions.

Transport with undercarriage UW 65

Without mast extension *

G = 58.6 t

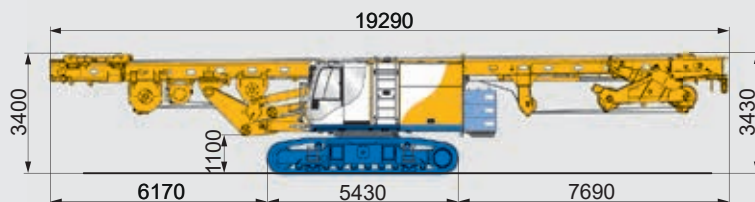
G = 68.5 t with 9.9 t counterweight



With mast extension *

G = 59.7 t

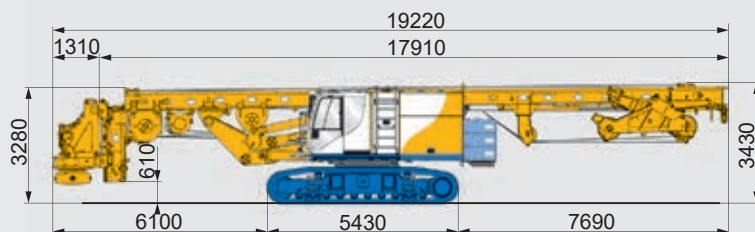
G = 69.6 t with 9.9 t counterweight



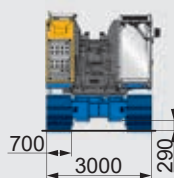
Lower mast section with rotary drive and folded mast extension

G = 64.8 t

G = 74.7 t with 9.9 t counterweight



Base carrier with UW 65 (Basic version)



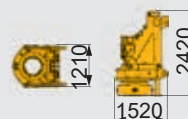
Counterweight **

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



Rotary drive

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



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

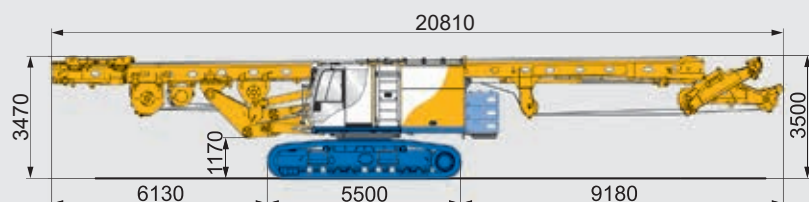
** depending on application

Transport with undercarriage UW 80

Without mast extension *

G = 62.9 t

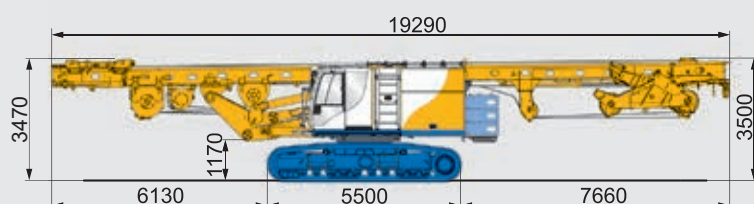
G = 75.2 t with 12.3 t counterweight



With mast extension *

G = 64.0 t

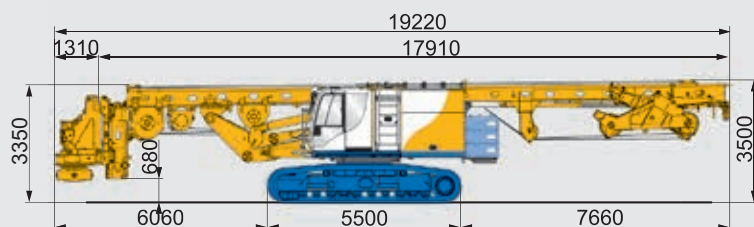
G = 76.3 t with 12.3 t counterweight



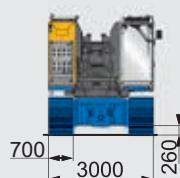
Lower mast section with rotary drive and folded mast extension

G = 69.1 t

G = 81.4 t with 12.3 t counterweight



Base carrier with UW 80 (Upgraded version)



Counterweight **

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



Rotary drive

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



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

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

** depending on application



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