

BAUER BG 46

Rotary Drilling Rig

Base Carrier BS 115

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 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

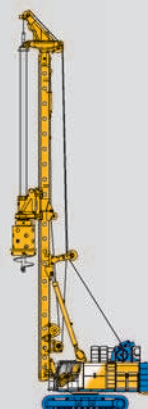


BG 20 H
BT 60

The V-model line

Special features of the V-model line are:

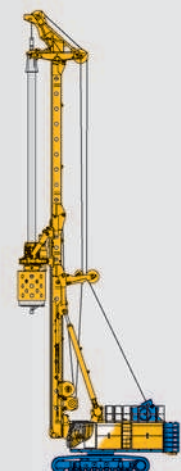
- Big borehole diameters
- Large drilling depths
- Extended service intervals and power transmission with low vibrations due to the robust design of the kinematic system



BG 30
BS 95



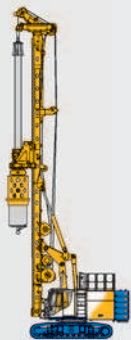
BG 39
BS 95



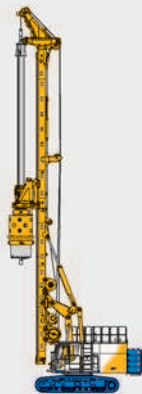
BG 42
BS 115

The Rotary drilling rig BG 46 PremiumLine (BS 115)

Max. drilling diameter:	3,700 mm
Max. drilling depth:	126.0 m
Max. torque (nominal):	553 kNm
Engine:	CAT C 18 – Tier 2 570 kW @ 1,850 rpm CAT C 18 – Tier 4 563 kW @ 1,850 rpm
Max. height:	36.3 m



BG 24 H
BT 75 / BT 85



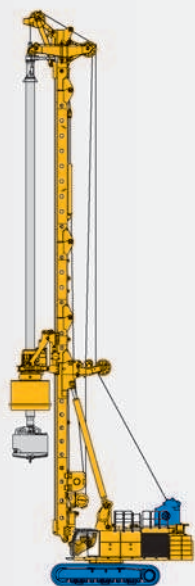
BG 28 H
BT 85



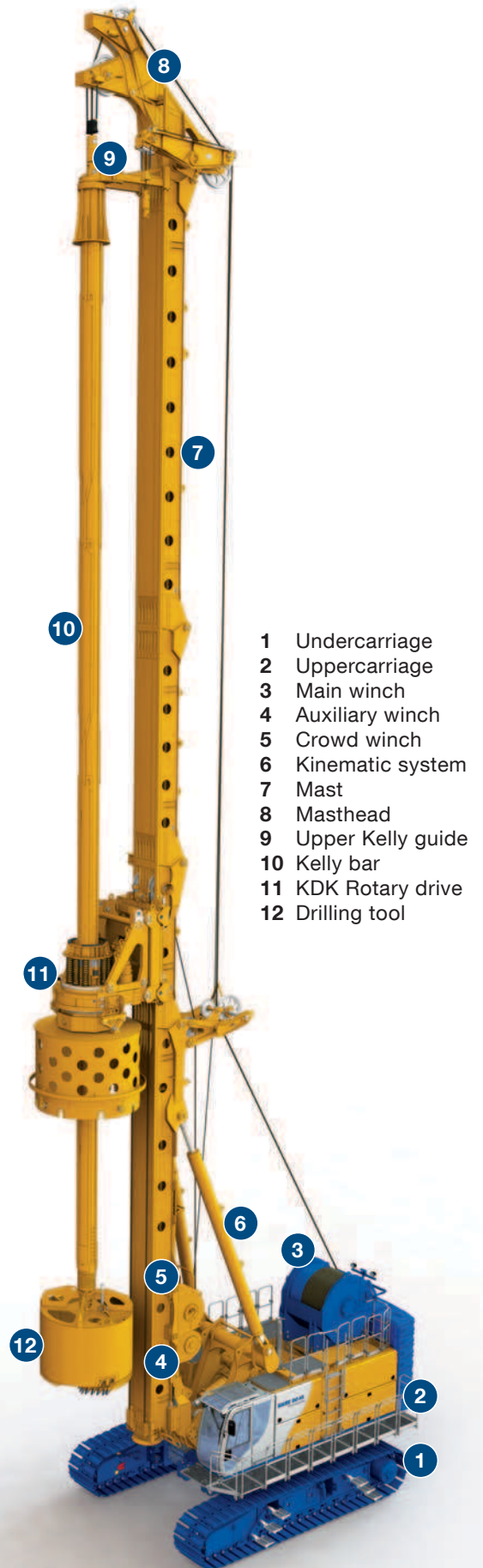
BG 34 H
BS 95



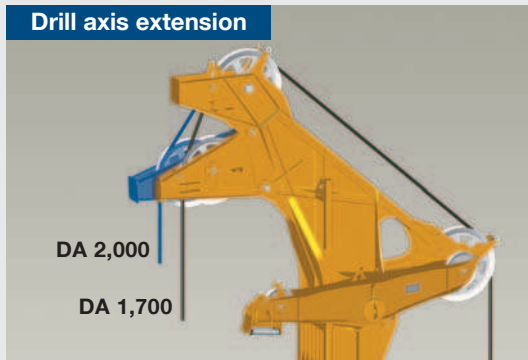
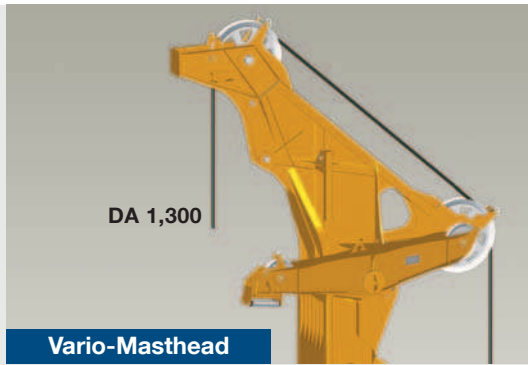
BG 46
BS 115



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



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
 - Tiltable side jib for optimal position of auxiliary rope (in both drilling axes, for single-pass processes and for transport)
- Vario-crowd winch system
 - Transport possible with built-in crowd ropes (Kelly operation)
 - Low Head version, min. rig height of 20,6 m (possible with integrated Vario-mast section)
 - Rope tensioning cylinder integrated in lower mast section
- Max. mast extension 5.6 m
 - Increasing of drilling depth
 - Increased stroke for Single-Pass systems
 - Use of longer Kelly bars and casing tubes
 - Mast extensions can be combined with all drill axes
- Achievable max. drilling diameter of 3,700 mm



Modern, ergonomic operator cab

- FOPS compliant with additional protective roof guard
- Sliding door with sliding window
- Premium comfort seat, air-sprung and heatable
- High-precision electronic pre-control system
- Joystick controls with high functionality
- B-Tronic 4.2 control module with color touch screen and a multitude of assistant and automatic systems
- The machine is linked via the Internet to site and service management systems through integrated DTR module and tablet
- B-Drive multifunctional potentiometer input



Patented Kelly visualization with spring compression sensing

- Display of lock recesses of the Kelly bar
- Increase in drilling performance
- Reduced wear on Kelly bar and Kelly drive keys
- Display and supervision of correct lowering and retracting of the Kelly bar
- Adaptive Kelly speed assistent



- 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



Safe and easy transport

- Hydraulic locking of support trestle
- Easy demounting of mast with two short pins
- Activated by remote control (optional)



Main winch (on uppercarriage)

- Wide winch drum
- Single layer winch for minimized rope wear (optional)
- Constant line pull
- Service-friendly winch position
- Optimal transfer of hydraulic power
- Designed for heavy continuous operation (winch classification M6 / L3 / T5)
- Swing down mechanism for transport
- Hydraulic locking for single layer winch



Rotary drive KDK 550 S

- Max. torque on casing 553 kNm
- Hydraulically pin connection on crowd sledge
- Easy and safe rigging of the rotary drive, no working at height
- Activated by remote control (optional)

Variably stackable counterweight elements

- Constant tail radius
- Small weight of individual elements (5.0 t)
- Flexible arrangement, adjustable to application
- Easy assembly and disassembly



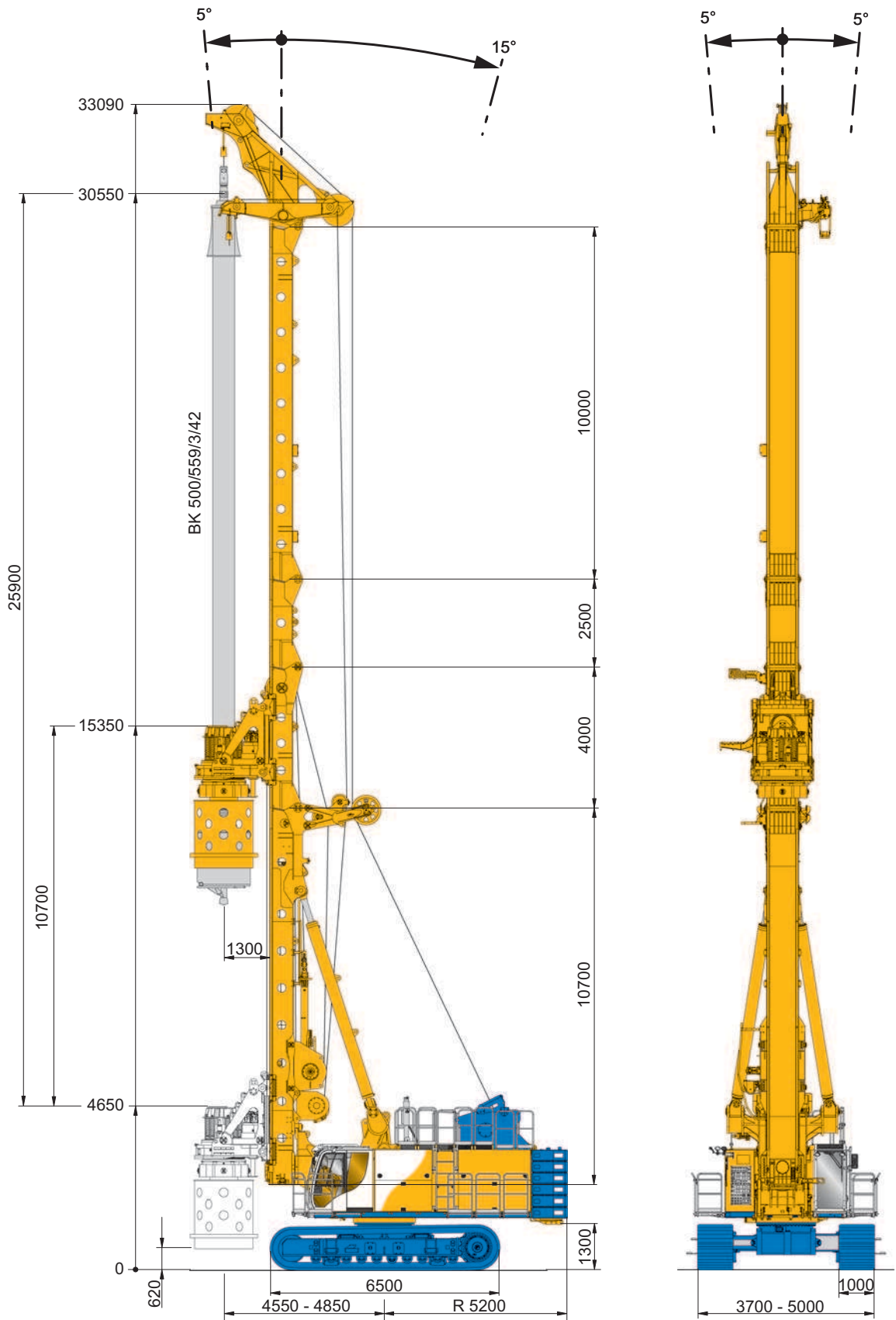
Powerful engine CAT C 18

- For Exhaust Emission Standards Tier 2 or Tier 4
- Diesel particulate filter in Exhaust Emission Standard Tier 4 final
- Low noise emission
- Low fuel consumption due to individual consumer control
- Worldwide CAT-service partners



Safety equipment

- Guardrails on upper level (foldable for transport)
- Walking platform with handrail (foldable for transport)
- Upward folding service doors
- Closed circuit cameras for rear area and main winch surveillance with display on integrated screen in operator's cab
- Flashing warning lights and audible reverse warning system
- Slewing angle display for upper carriage

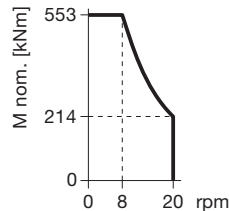


Operating weight 176.5 t
(as shown)

Rotary drive	KDK 550 S
Torque casing (nominal) at 350 bar	553 kNm
Torque drilling (nominal) at 350 bar	460 kNm
Speed of rotation (max.)	39 rpm

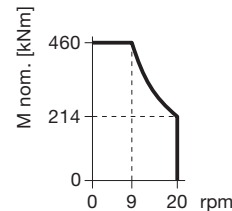
KDK 550 S

Casing
1st gear Standard mode



Not to scale

Drilling
2nd gear Standard mode



Crowd winch (selectable)		
Crowd force push and pull effective nominal	460 / 590	530 / 680 kN
Speed (down / up)	6.5 / 6.5	8.5 / 8.5 m/min
Fast speed (down / up)	30.5 / 30.5	31.0 / 31.0 m/min
Main winch (selectable)	multi-layer	single-layer
Winch classification	M6 / L3 / T5	M6 / L3 / T5
Line pull (1 st layer) effective / nominal	420* / 532	450 / 570 kN
Rope diameter	40	40 mm
Line speed (max.)	62	62 m/min
Auxiliary winch		
Winch classification		M6 / L3 / T5
Line pull (1 st layer) effective / nominal		140 / 177 kN
Rope diameter		22 mm
Line speed (max.)		55 m/min
Base carrier (EEP)		BS 115
Engine		CAT C 18
Rated output ISO 3046-1	570	563 kW @
	1.850	1.850 rpm
Exhaust Emission Standard acc. to EPA	Tier 2	Tier 4 final
Diesel tank capacity	1,200	1,200 l
Sound pressure level in cabin (EN 16228, Annex B)		LP _A 80 dB(A)
Sound power level (2000/14/EG and EN 16228, Annex B)		LW _A 114 dB(A)
Hydraulic pressure		350 bar
Flow rates (main circuits + auxiliary circuit)	3 x 420 + 1 x 565 + 1 x 400 + 1 x 320	l/min
Hydraulic oil tank capacity		1,200 l
Undercarriage (selectable)	UW 160	UW 195
Crawler type	B9S	B9S
Track width (retracted/extended)	2,700 / 4,000	2,980 / 4,310 mm
Width of triple grouser track shoes	1,000	1,000 mm
Overall length of crawlers	6,500	7,280 mm
Traction force (effective)	1,300	1,300 kN

* Line pull 420 kN can also be used in 2nd layer

Base carrier BS 115, Fig. A

Standard

- Removable counterweight elements (6 x 5 t)
- Basic-remote control
- Removable crawler side frames
- Protective roof guard
- Radio with CD, MP3, USB and Bluetooth c/w hands-free kit
- Platforms with handrail (on both sides and at the cabin)
- Guardrails upper level (foldable for transport)
- Electric refueling pump
- EEP Energy Efficiency Package
- Air conditioning system
- 3 cameras for rear area and main winch surveillance
- Hydraulic system with quick-release hydraulic couplers (socket bank)
- Central lubrication system
- Premium comfort seat

Optional

- Counterweight variably adjustable to max. 40 t
- Walking platform with handrail (continuous on both sides at cabin level), optional tiltable
- Compressor 1,000 l/min
- Electric generator 13 kVA
- Bio-degradable hydraulic oil
- Arctic kit / Artic kit plus
- Flat-track shoes
- Quick-release hydraulic couplers (by UW 195 standard)
- 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
- Multi-remote control

BG attachment

Standard

- Sturdy V-type mast kinematic system
- 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 support block
- Flexible mast concept (Vario-mast, Vario-masthead)
- Hydraulically pin connection on crowd sledge

Optional

- Upper kelly guide
- Extension of drill axis to 1,700 mm or 2,000 mm
- Mast support unit
- Mast extension possible up to 5.6 m (from 4 m extension requires an auxiliary crane)
- Swivel for auxiliary rope
- Attachment of casing oscillator (up to BV 2000), Fig. D
 - Powered by on-board hydraulics of base machine
 - Controlled from operator's cab
 - Possible up to 2.500 mm drilling diameter on request
- Attachment of automatic casing drive adapter, Fig. C
- Air line attachment
- Concrete line



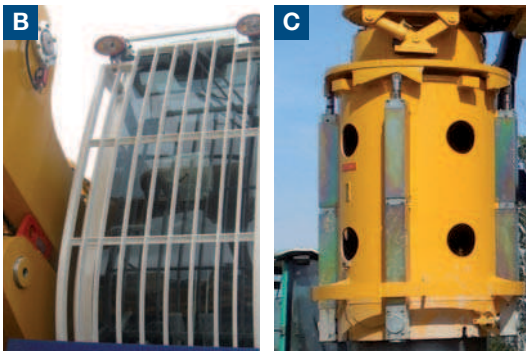
Rotary drive KDK 550 S (multi-gear), Fig. E

Standard

- Selectable modes of operation
- Kelly equipment KA 962/559
- Integrated Kelly damping system
- Exchangeable Kelly drive adapter
- Exchangeable Kelly drive keys
- Cardanic joint
- Quick-release hydraulic couplers
- Transport supports
- Lifting gear

Optional

- Kelly equipment KA 962/470



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 on main and auxiliary winch
- Auxiliary winch with hydraulic load sensing
- Crowd stroke monitoring
- Crowd speed control
- Speed measuring control on rotary drive (KDK)
- Automatic torque setting (KDK)
- Hold-Back control
- Bauer B-Tronic 4.2
- Tablet
- DTR module
- Assistants: *
 - Kelly drilling assistant
 - Automatic crowd control
 - One-directional spoil discharge assistant
 - Bi-directional spoil discharge assistant
 - Casing extraction assistant

Optional

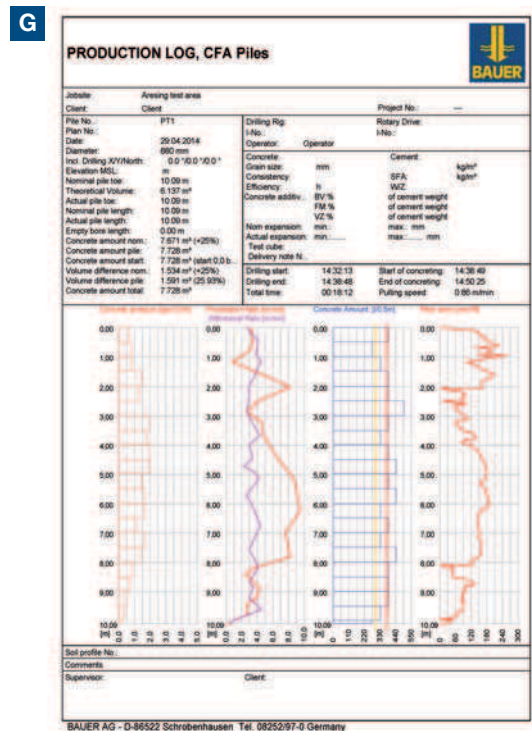
- Electronic load-sensing for auxiliary winch
- Drilling and pulling assistant for Single-Pass processes
- Recording of concrete pressure and volume for Single-Pass processes
- Software modules for further applications
- B-APS Satellite-based positioning system

* Further assistants on request

Operating, Evaluation and Transfer Systems

Standard

- Bauer B-TRONIC 4.2
 - High-resolution 12" touch screen for high operating comfort, Fig. F
 - 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. G) 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
- B-Drive for simplified potentiometer input
- Tablet
 - Fully-fledged tablet with numerous apps, (such as camera, processor, notebook etc.), Fig. H
 - Internet access via DTR module
 - Copy (mirroring) of operator screen
 - Offline availability of machine-specific documents, such as manuals and spare parts lists
 - Mobile tool for service engineers
- DTR 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



PCCFA



SCM
Single mixing paddle



SMW
Triple mixing paddles



FDP
Standard or Lost Bit



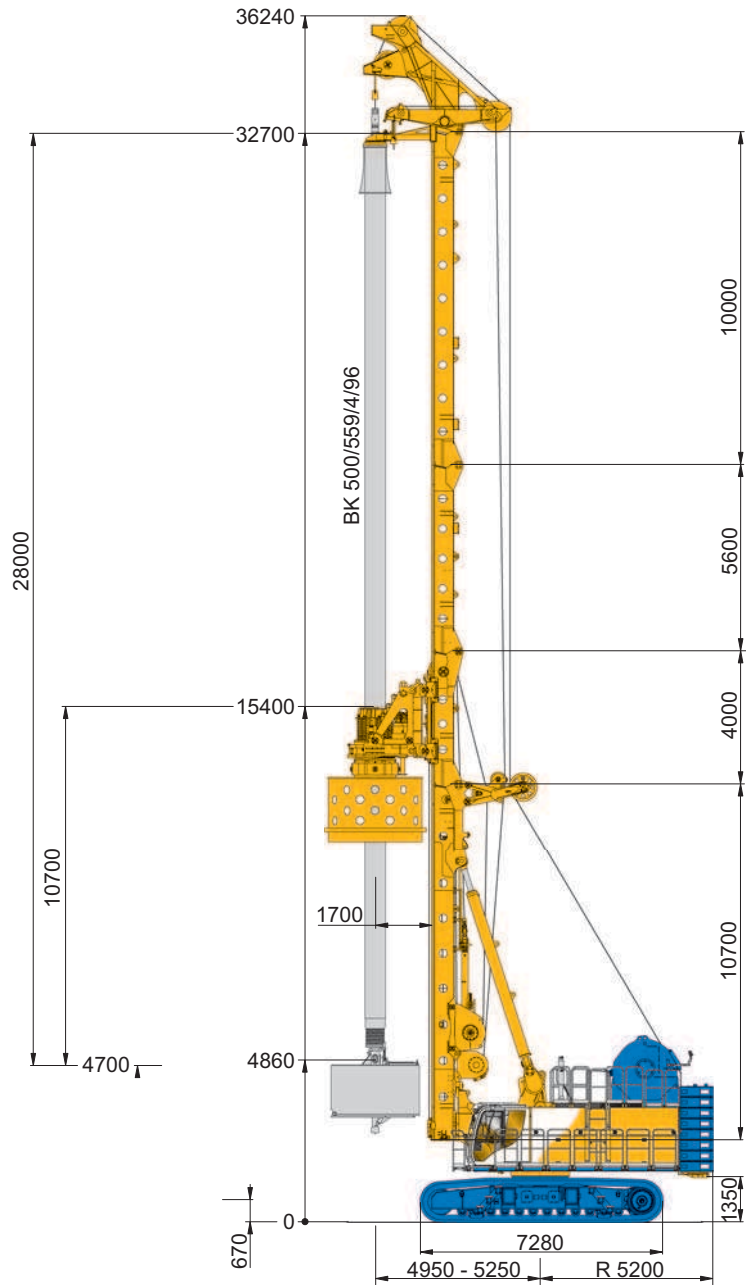
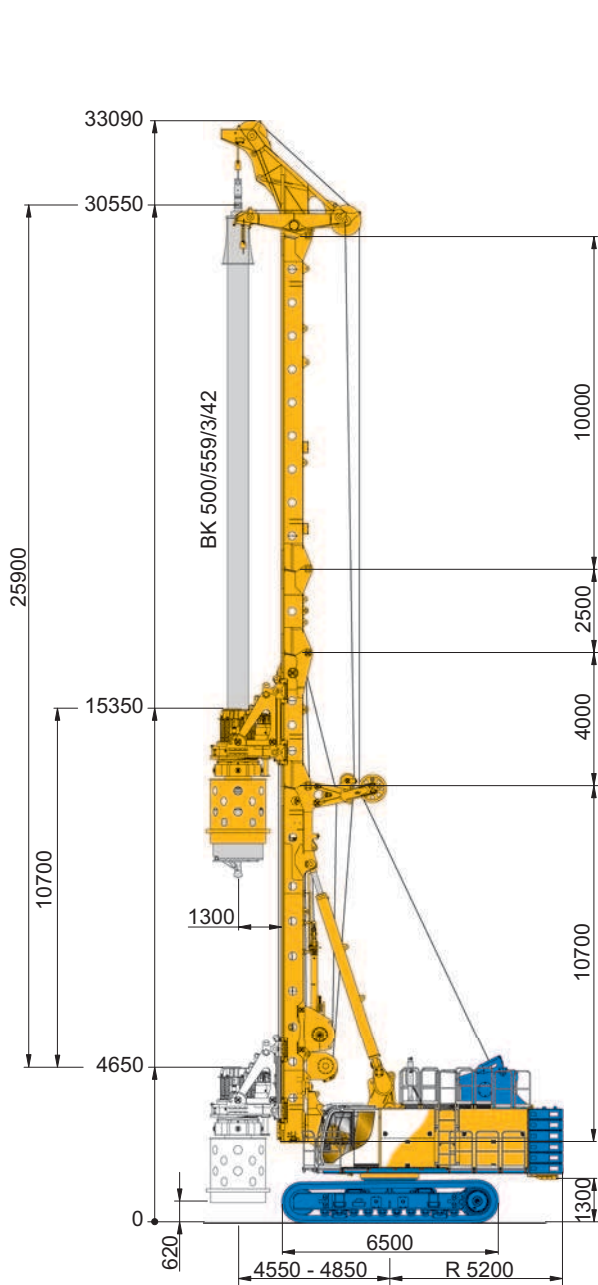
CSM
Cutter Soil Mixing



BC
Trench cutter

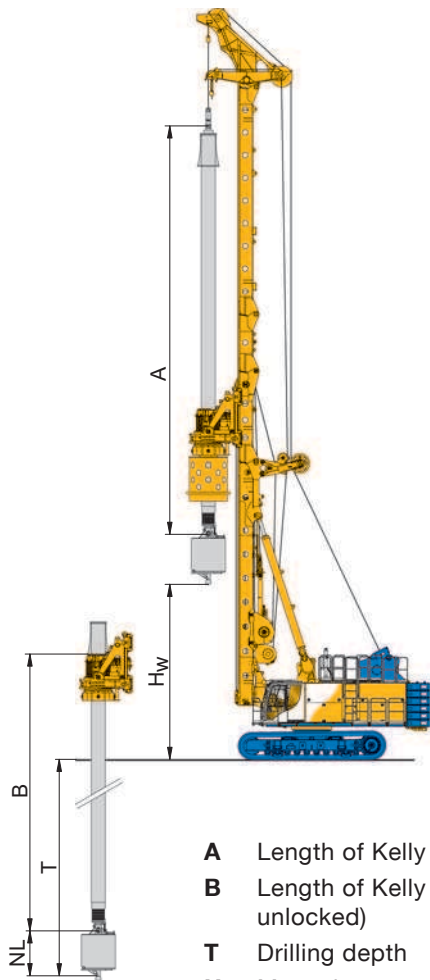


VIPAC
Casing system
with top vibrator



Basic version	
Undercarriage	UW 160
Main winch	420 kN
Mast extension	2.5 m
Upper Kelly guide	without
Drilling axis	1,300 mm
Max. drilling diameter	
uncased	2,300 mm
cased	2,000 mm
Operating weight	179.5 t
with Kelly BK 500/559/...	...3/42
with casing drive adapter	1,600
with bucket	KB 1,500
with counterweight	30.0 t

Upgraded version		
		UW 195
		450 kN
		5.6 m
		with
	1,700 mm	2,000 mm
Max. drilling diameter		
uncased	3,100 mm	3,700 mm
cased	2,800 mm	3,400 mm
Operating weight	221.0 t	226.0 t
with Kelly BK 500/559/...	...4/96	...4/96
with casing drive adapter	2,500	3,000
with bucket	KB 2,320	KB 2,800
with counterweight	40.0 t	40.0 t



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

Drilling depth – uncased Kelly drilling

				Basic version		Upgr. version	
	A (m)	B (m)	G (kg)	H _w (m)	T (m)	H _w (m)	T (m)
3-part Kelly bar							
BK500/559/3/36	16.0	39.6	12,900	10.3	36.9	10.4	36.8
BK500/559/3/42	18.0	45.6	14,300	10.3	42.9	10.4	42.8
BK500/559/3/48	20.0	51.6	15,700	8.3	48.9	10.4	48.8
BK500/559/3/54	22.0	57.6	17,200	6.3	54.9	8.5	54.8
BK500/559/3/60	24.0	63.6	18,600	4.3	60.9	6.5	60.8
BK500/559/3/66	26.0	69.6	20,000	–	–	4.5	66.8
4-part Kelly bar							
BK500/559/4/64	19.8	67.8	20,600	8.5	65.1	10.4	65.0
BK500/559/4/72	21.8	75.8	22,650	6.5	73.1	8.6	73.0
BK500/559/4/80	23.8	83.8	24,650	4.5	81.1	6.6	81.0
BK500/559/4/84	24.8	87.8	25,650	3.5	85.1	5.6	85.0
BK500/559/4/90	26.3	93.8	27,150	–	–	4.1	91.0
BK500/559/4/96	27.8	99.8	28,650	–	–	2.6	97.0
5-part Kelly bar *							
BK420/559/5/100	23.8	103.9	25,600	4.5	101.2	6.7	101.1
BK420/559/5/110	25.8	113.9	27,700	2.5	111.2	4.7	111.1
BK420/559/5/125 **	28.8	128.9	31,000	–	–	2.7	126.1

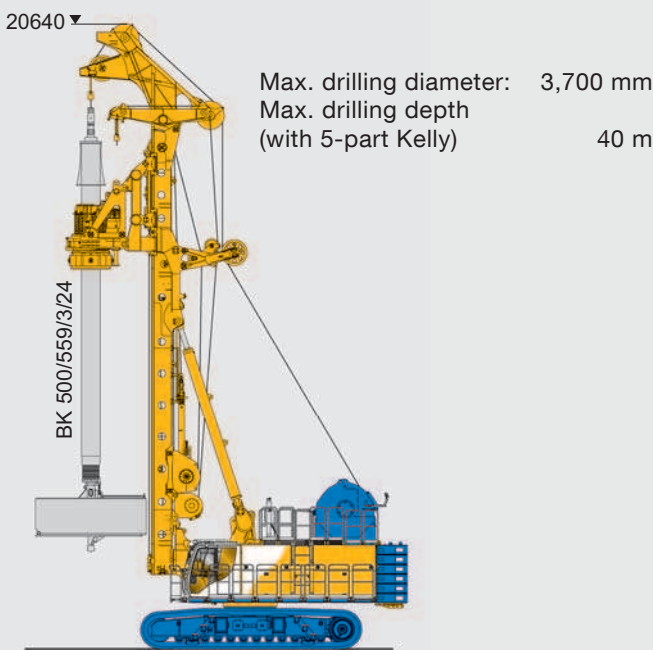
* Reduction of torque to 420 kNm for Kelly type BK 420

** Only possible with drill axis 1,300 mm

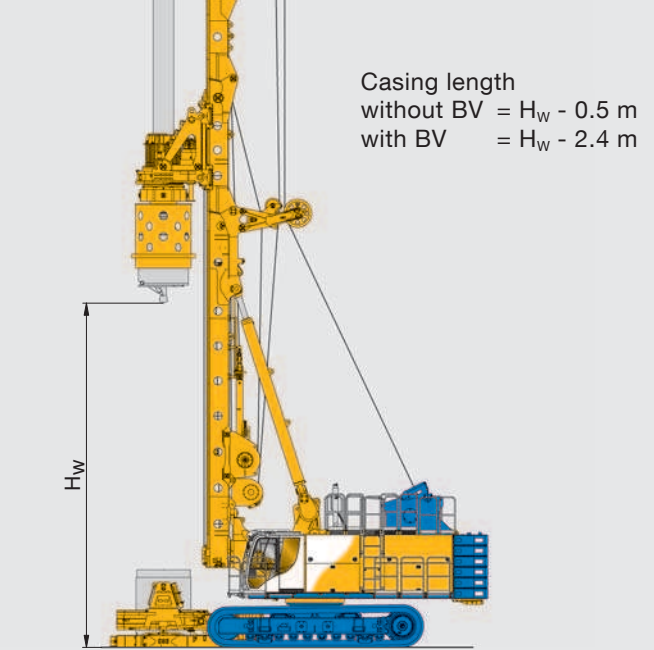
Drilling data as shown are based on tool length NL = 1.9 m, minimum horizontal mast reach and using Bauer attachment. Drilling depth is increased by 0.47 m when using maximum horizontal mast reach.

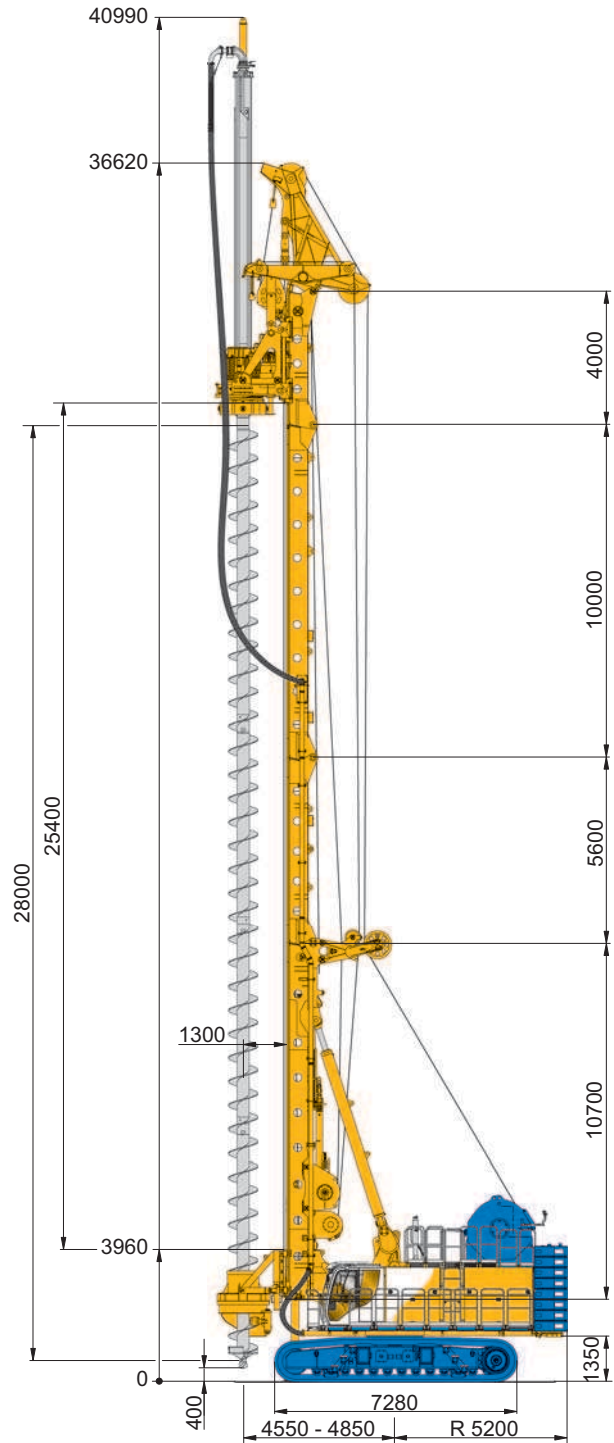
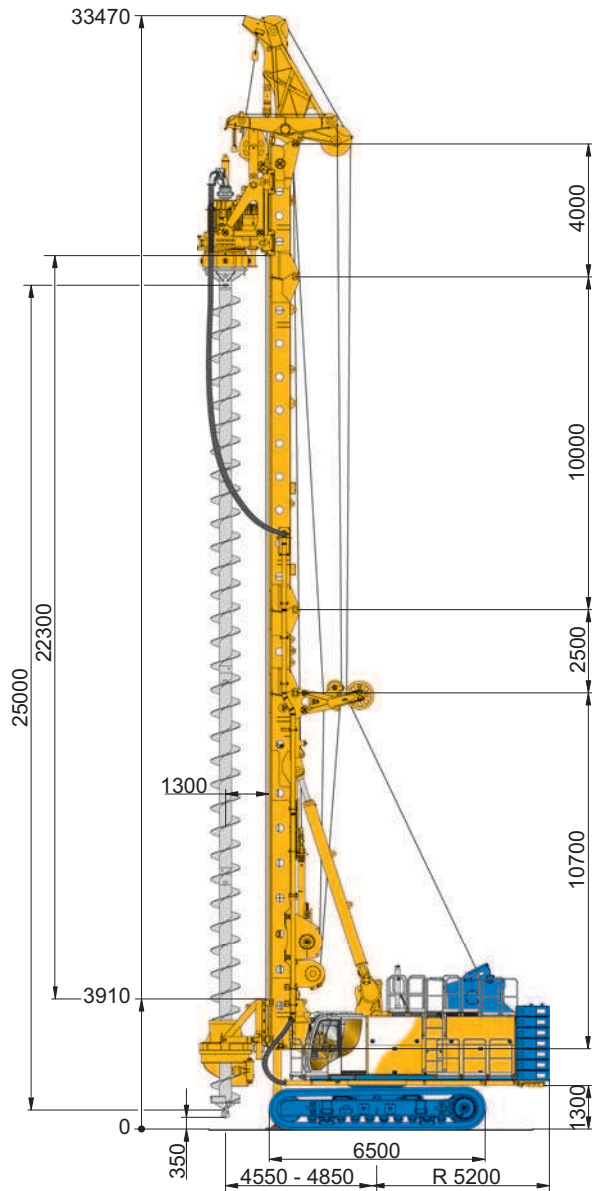
Further drilling depth, diameter and other Kelly types on request.

Uncased Kelly drilling with Low Head configuration



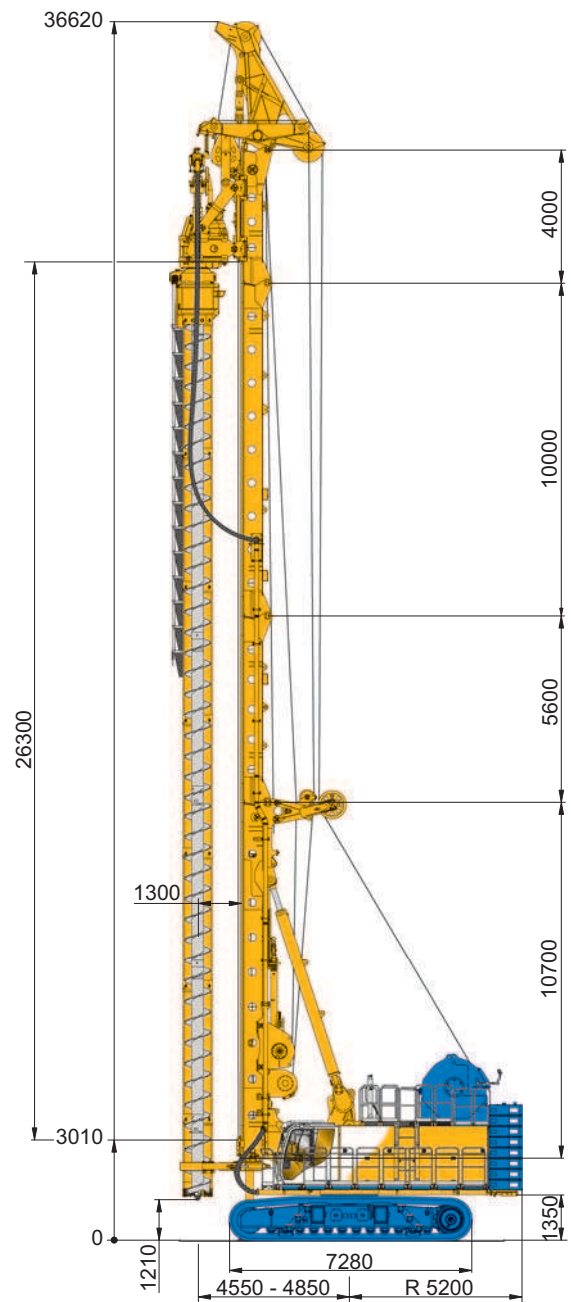
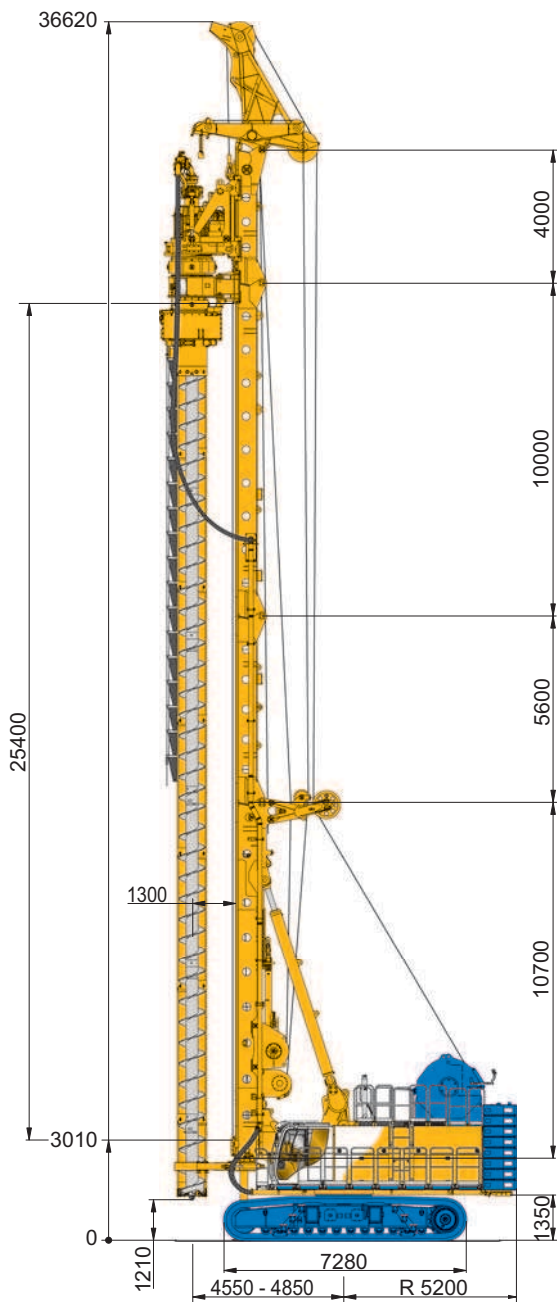
Cased Kelly drilling with Casing oscillator BV 2000





Basic version	
Undercarriage	UW 160
Mast extension	2.5 m
Kelly extension	without
Max. drilling diameter	1,200 mm
Max. Drilling depth (with auger cleaner)	22.0 m
Max. extraction force with main- and crowd winch (effective)	1,060 kN
Counterweight	35.0 t

Upgraded version	
Undercarriage	UW 195
Mast extension	5.6 m
Kelly extension	8.0 m
Max. drilling diameter	1,200 mm
Max. Drilling depth (with auger cleaner)	33.0 m
Max. extraction force with main- and crowd winch (effective)	1,060 kN
Counterweight	40.0 t



Upgraded version with BTM 400

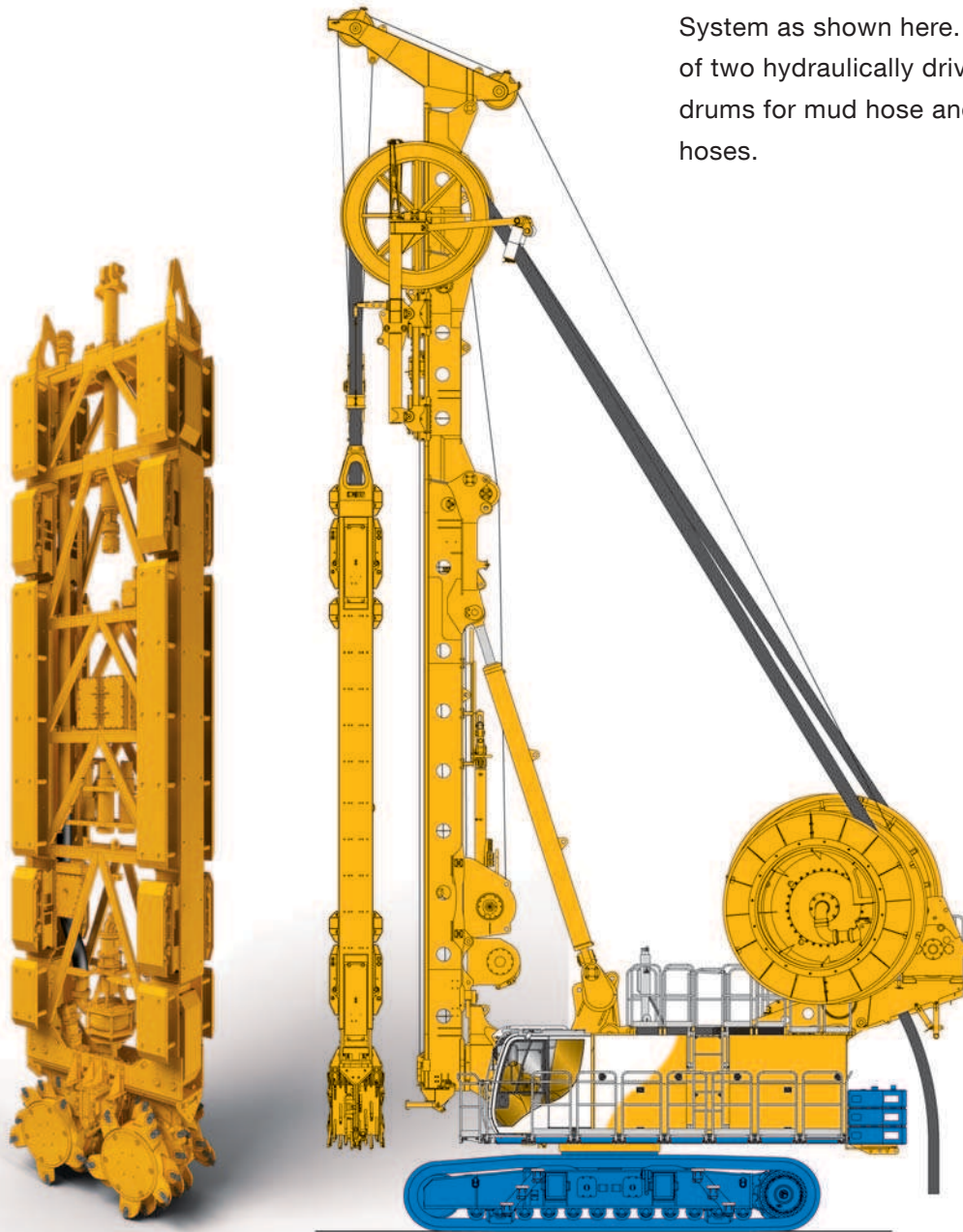
	UW 195	UW 195
Undercarriage	UW 195	UW 195
Mast extension	5.6 m	without
Max. drilling diameter	880 mm	1,180 mm
Max. drilling depth	24.1 m	18.5 m
Max. extraction force with main- and crowd winch (effective)	1,060 kN	1,060 kN
Operating weight (approx.)	222.0 t m	217.0 t
Counterweight	40.0 t	40.0 t

Upgr. version with DKS 150 / 300

	UW 195	UW 195
Undercarriage	UW 195	UW 195
Mast extension	5.6 m	2.5 m
Max. drilling diameter	1,000 mm	1,180 mm
Max. drilling depth	24.9 m	21.8 m
Max. extraction force with main- and crowd winch (effective)	1,060 kN	1,060 kN
Operating weight (approx.)	214,5 t	217.0 t
Counterweight	40.0 t	40.0 t

BC – Trench cutter system

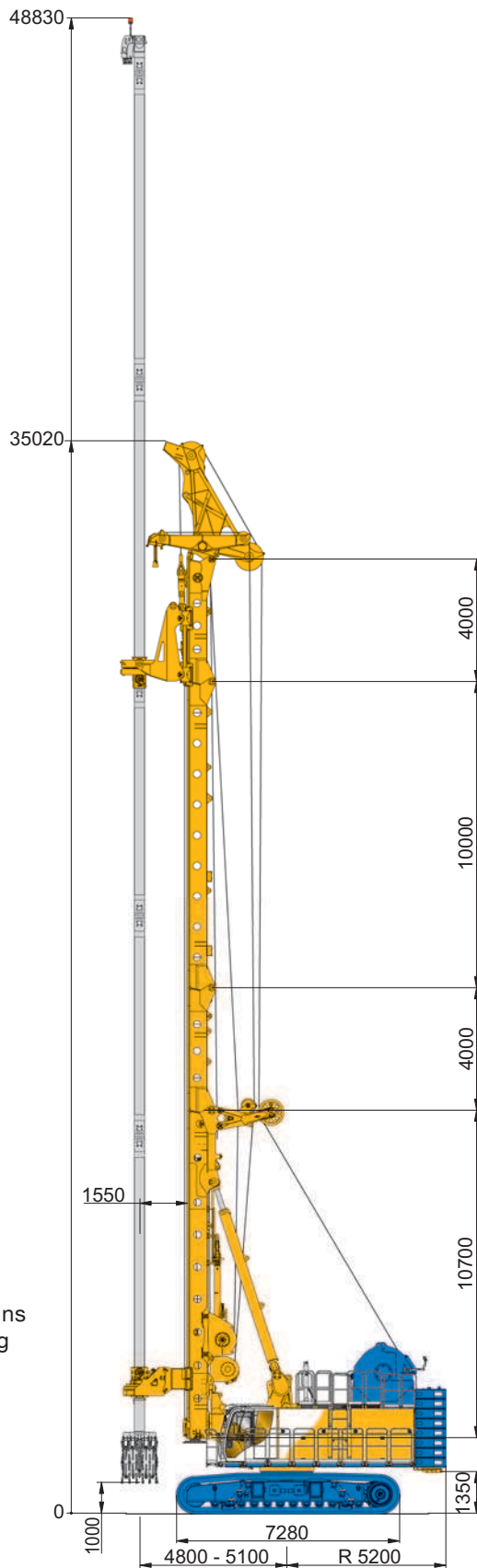
For cutting depths > 48 m it is recommended to use the HDS-System as shown here. It consists of two hydraulically driven hose drums for mud hose and hydraulic hoses.



Type of trench cutter	BC 35	BC 40
Max. cutting width	1,500 mm	1,800 mm
Max. cutting depth	100 m	
Hose drum system	HDS 100	
Undercarriage	UW 160 / UW 195	
Operating weight	up to 200 t	

For further information please refer to the catalogue "BAUER Trench cutter system" 905.679.2

CSM – Cutter Soil Mixing



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

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 technology, extends the applicability of the method to much harder strata when compared to other methods of soil mixing.

Main advantages of the method are:

- High productivity
- The in-situ soil is used as a construction material
- Very little generation of spoil (important factor in contaminated areas)
- No vibrations induced during construction



Cutting / Mixing head	BCM 5	BCM 10
Panel width	1.0 m	1.2 m
Panel length	2.4 m	2.8 m
Max. panel depth	43 m	
Undercarriage	UW 160* / UW 195	
Operating weight	up to 200 t	

* subject to restrictions

For further information please refer to the catalogue "Cutter Soil Mixing" 905.656.2



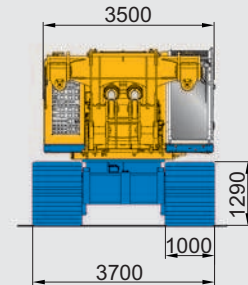
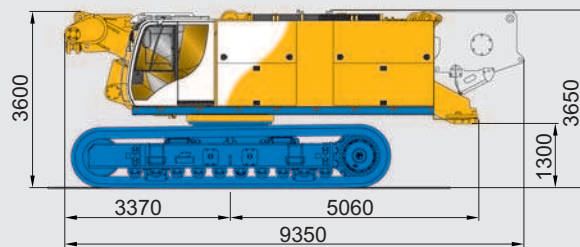
G = Weight (t)
B = Width, overall (mm)

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

Base carrier (Basic version)

G = 72.1 B = 3,700

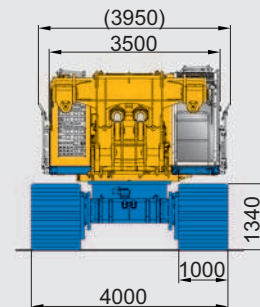
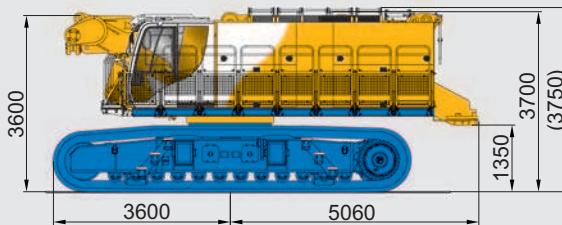
G = 79.3 (with 420 kN main winch)



Base carrier (Upgraded version)

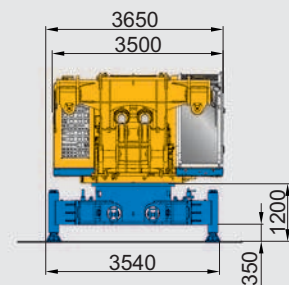
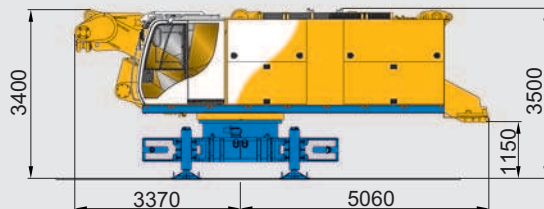
G = 77.0 B = 4,000

G = 77.9 (with walking platform and guardrails)

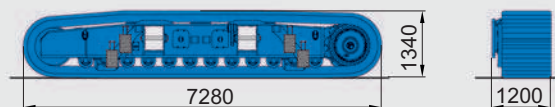


G = 45.8 B = 3,650

G = 46.7 (with walking platform and guardrails)



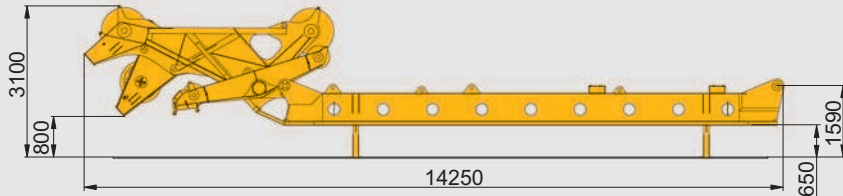
G = 2 x 16.4 B = 1,200



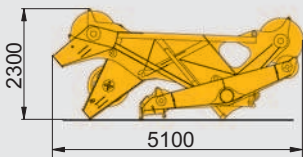
Transport possible with lower mast section (optional)

Upper mast section with mast head

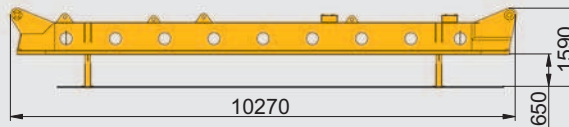
G = 8.8 B = 2,200



G = 3.3 B = 1,900

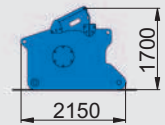


G = 5.5 B = 1,630



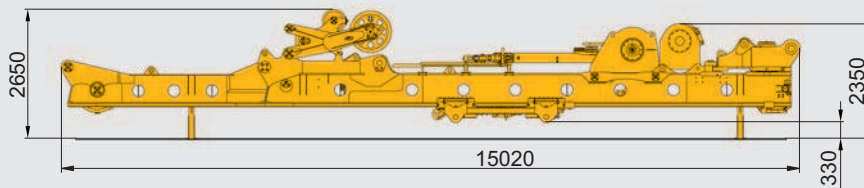
Main winch 420 kN

**G = 6.0 (without rope)
7.2 (with 140 m rope)
B = 2,500**

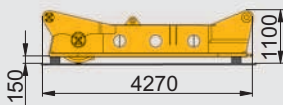


Lower mast section with Vario-mast section

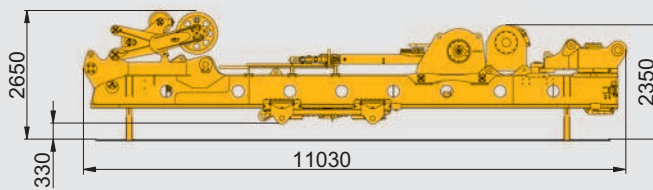
G = 26.4 B = 2,650



G = 3.4 B = 1,170

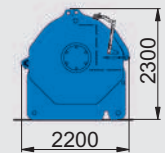


G = 22.9 B = 2,650



Main winch 450 kN

**G = 9.5 (without rope)
10.7 (with 140 m rope)
B = 2,600**



Mast extension 2.5 m

G = 2.2 B = 1,060



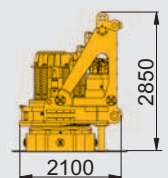
Mast extension 5.6 m

G = 3.5 B = 1,170



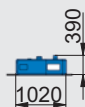
Rotary drive

G = 11.0 B = 1,900



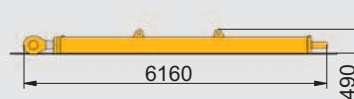
Counterweight

**G = 6 to 8* x 5.0
B = 3,450**



Backstay cylinders

G = 2 x 2.0 B = 400



* depending on application



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