

BAUER BG 55

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 ValueLine and BG PremiumLine



2014

With EEP Bauer sets new standards for efficiency

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**

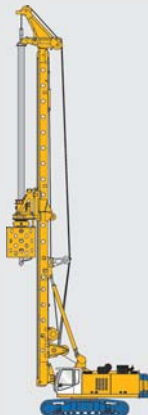
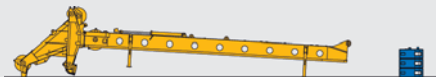


**BG 20 H
BT 60**

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 28
BS 80**



**BG 36
BS 95**



**BG 45
BS 95**

The Rotary drilling rig BG 55 PremiumLine (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 – Tier 2
	570 kW @ 1,850 rpm
	CAT C 18 – Tier 4 final
	563 kW @ 1,850 rpm



BG 24 H
BT 75 / BT 85



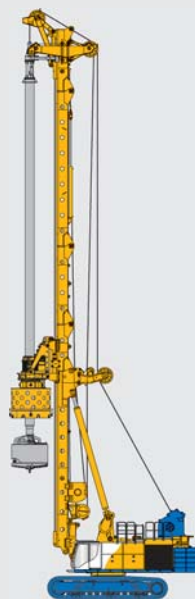
BG 28 H
BT 85



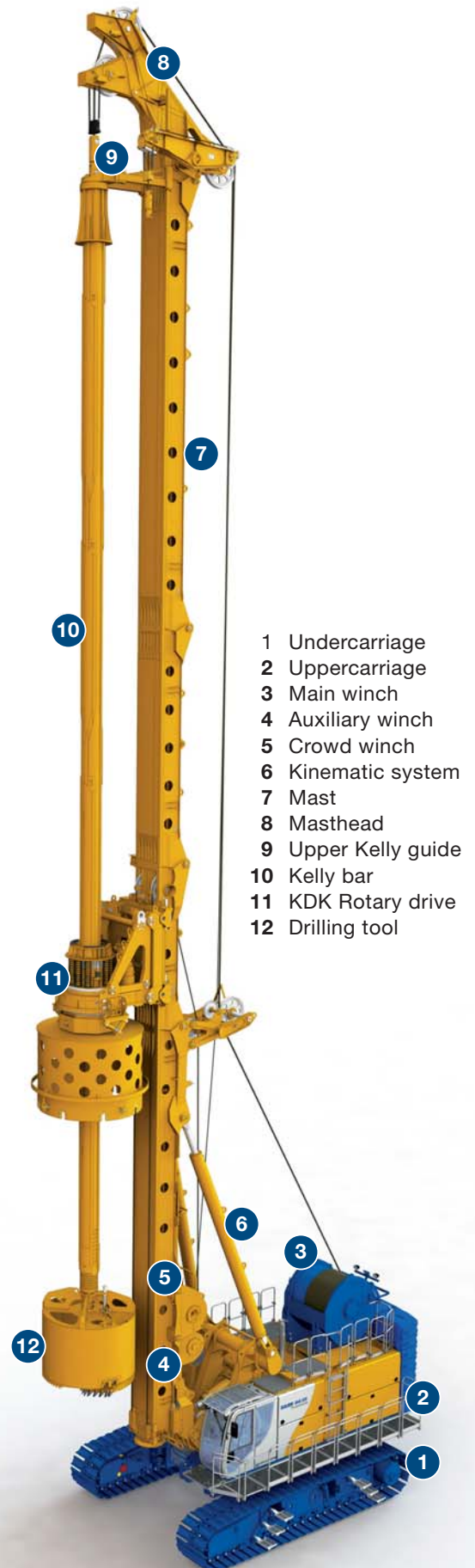
BG 36 H
BS 95



BG 55
BS 115



BG 72
BT 180



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

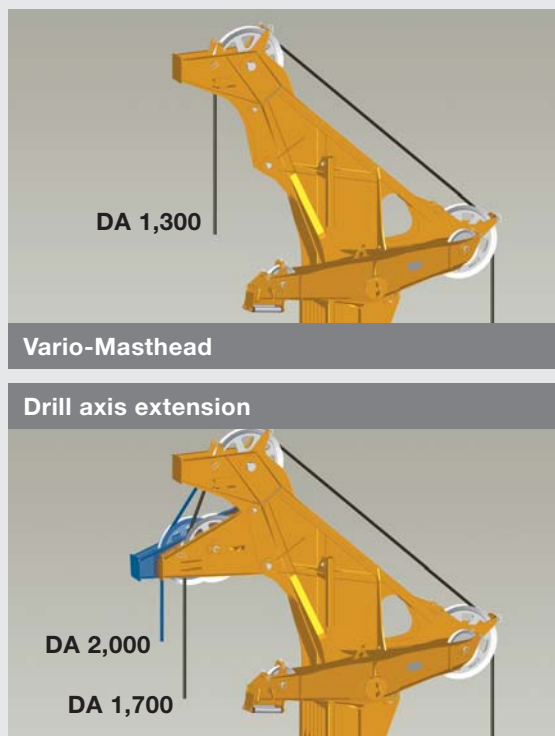


Modern, ergonomic operator cab

- FOPS compliant with additional protective roof guard
- Premium operator seat, air-sprung and heatable
- Joystick controls with high functionality
- B-Drive combines adjustable potentiometer values on one display

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



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)
- Max. mast extension 5.6 m can be combined with all drill axes
- Achievable max. drilling diameter of 3,700 mm



**Energy-Efficient
Power EEP**

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

Variably stackable counterweight elements

- Constant tail radius
- Low weight of individual elements (5.0 t)
- Flexible arrangement for various applications
- Easy assembly and disassembly



Main winch (on uppercarriage)

- Wide winch drum
- Single layer winch for minimized rope wear
- Constant line pull (for whole drilling depth)
- Service-friendly winch position

Powerful engine CAT C 18

- Conforming to Exhaust Emission Standards Tier 2 or 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
- Closed circuit cameras for rear area and main winch surveillance with display on integrated screen in operator's cab
- Hydraulic locking of support trestle



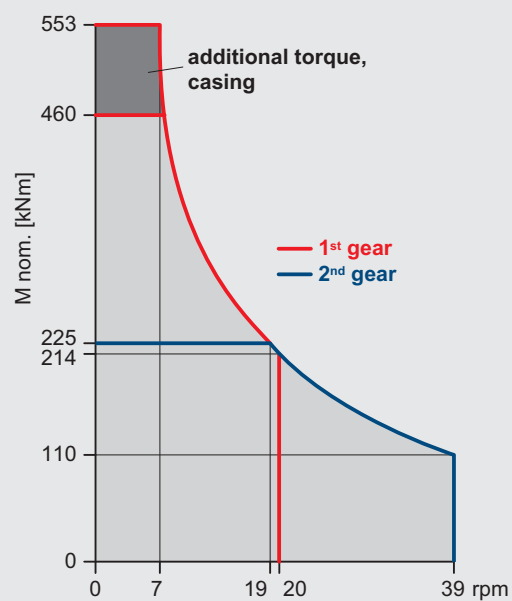
Rotary drive KDK 550 S (multi gear)

- Max. torque 553 kNm
- Max. speed 39 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 unsecured heights

KDK 550 S



Not to scale.



Kelly drilling



Cased Kelly drilling
(installation with BTM)



Cased Kelly drilling
(installation with oscillator)



CFA



CCFA
Cased CFA system



FoW



SCM
Single Column Mixing



SMW
Triple mixing paddles



FDP
Standard or Lost Bit



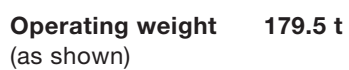
CSM
Cutter Soil Mixing



BC
Trench cutter



VIPAC
Casing system
with top vibrator



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
Speed of rotation (max.)		39 U/min
Crowd winch system (selectable)		
Max. stroke of sledge with 5.6 m mast extension		26,3 m
Crowd force push and pull effective / nominal	460 / 590 kN	530 / 680 kN
Rope diameter	28 mm	30 mm
Speed (down / up)	6,5 / 6,5 m/min	8,5 / 8,5 m/min
Fast speed (down / up)	30,5 / 30,5 m/min	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 kN	450 / 570 kN
Rope diameter	40 mm	40 mm
Line speed (max.)	62 m/min	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 kW @ 1.850 U/min	563 kW @ 1.850 U/min
Exhaust Emission Standard acc. to EPA	Tier 2	Tier 4 final
Diesel tank capacity	1.200 l	1.200 l
Sound pressure level in cabin (EN 16228, Annex B)	L _{PA} 80 dB(A)	
Sound power level (2000/14/EG and EN 16228, Annex B)	L _{WA} 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) approx.	2.700 / 4.000 mm	2.980 / 4.310 mm
Double grouser track shoes	1.000 mm	1.000 mm
Overall length of crawler	6.500 mm	7.280 mm
Traction force effective / nominal	1.300 / 1.100 kN	1.300 / 1.100 kN

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

Base carrier BS 115

Standard

- Removable counterweight elements
- Remote control multi
- Removable crawler side frames
- Protective roof guard
- Radio with 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
- Energy-Efficient Power (EEP)
- Air conditioning system
- 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
- Walking platform with handrail (continuous on both sides at cabin level), optional foldable for transport
- 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 (UW 195 standard)
- Cab space heater
- LED spotlights
- Additional camera (at customer-specific location)
- Front screen guard, **Fig. A**
- Sun blind small or big
- Climatronic

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 trestle
- Flexible mast concept (Vario-mast, Vario-masthead)
- Hydraulically operated pin connection on crowd sledge for easy mounting and demounting of rotary drive

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. B**
 - Powered by on-board hydraulics of base carrier
 - Controlled from operator's cab
 - Possible up to 2.500 mm drilling diameter on request
- Attachment of automatic casing drive adapter
- Air line attachment
- Concrete line attachment



Rotary drive KDK 550 S (multi-gear)

Standard

- Selectable modes of operation
- Kelly drive adapter for outer Kelly tube 559 mm
- Integrated Kelly damping system
- Exchangeable Kelly drive adapter
- Exchangeable Kelly drive keys
- Cardanic joint
- Quick-release hydraulic couplers
- Transport supports
- Lifting gear

Optional

- Kelly drive adapter for outer Kelly tube 470 mm
- Torque multiplier BTM 720 K
 - Torque 700 kNm
 - Increasing of torque for casing installation
 - Easy attachment
 - Separate sledge
 - Connection to rotary drive with cardanic joint
- Torque multiplier BTM 400 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

Optional

- Electronic load sensing for auxiliary winch
- Recording of concrete pressure and volume for Single-Pass processes
- Software modules for further applications

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



B-Tronic

The BAUER B-Tronic system allows completion of your 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

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

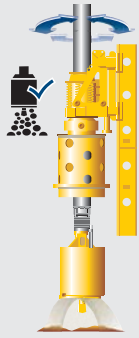
- Standardized reports for the documentation of drilling progress and verification of performance and quality



B-Drive

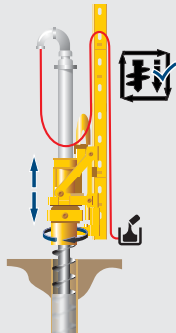
The B-Drive is a central operating and visualization system

- B-Drive combines adjustable potentiometer values on one display
- Ergonomic placement of the display on the right column of the operator cab



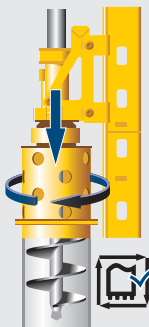
One-directional and bi-directional spoil discharge assistant

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 B-Drive.



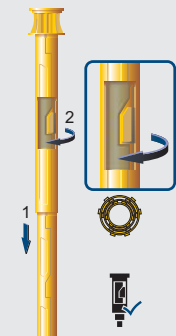
Automatic drilling and extraction control for Single-Pass processes

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.



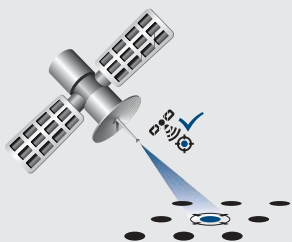
Kelly drilling assistant

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

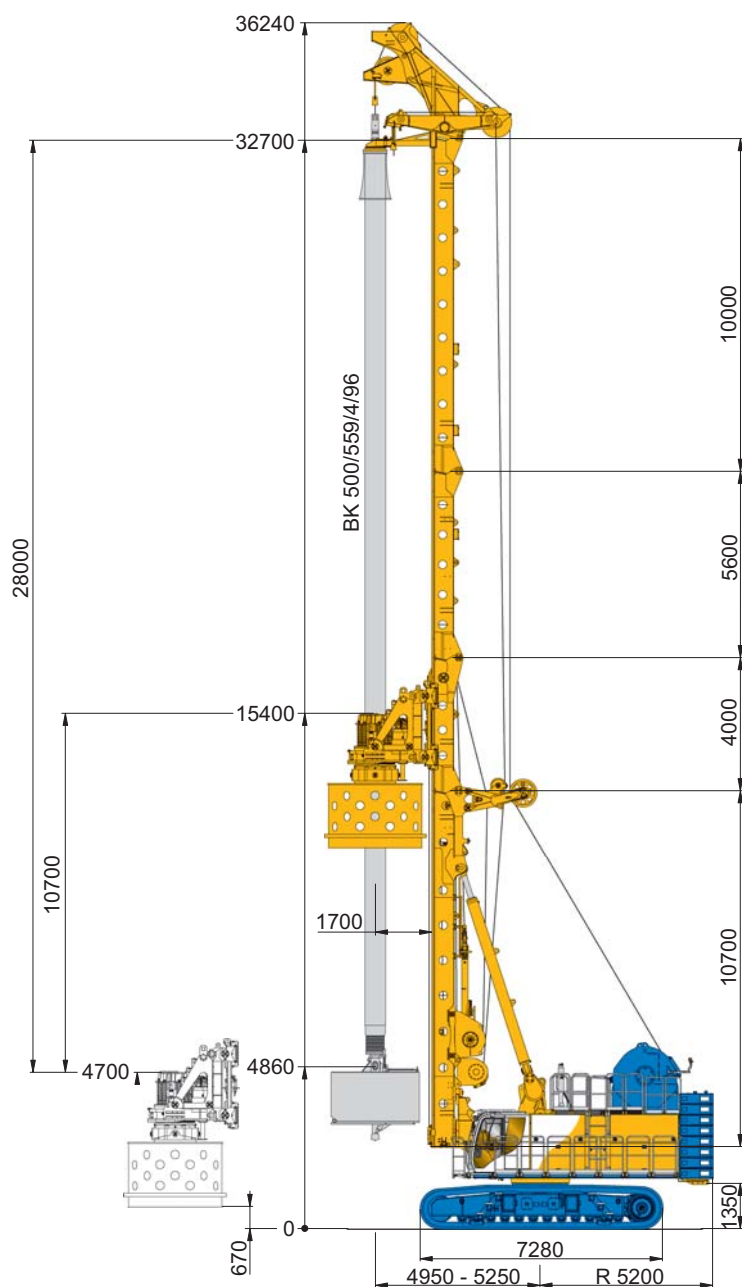
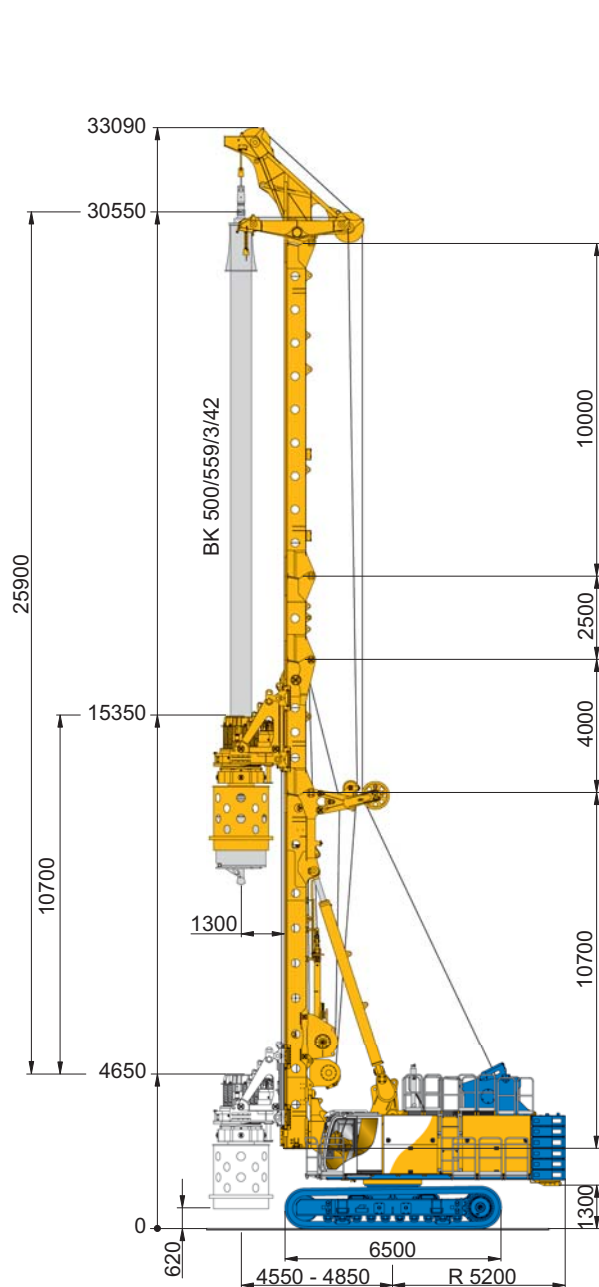
Display of the locking recesses, as well as representation of the controlled extension and retraction of the Kelly bar on the B-Tronic system. The rapid approach of the locking position results in a considerably enhanced drilling performance. In addition, the level of wear that the Kelly bar and drive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



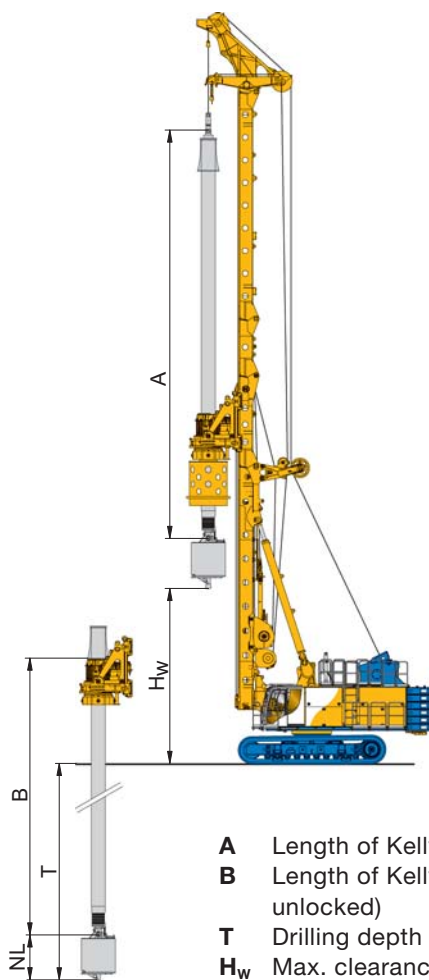
Satellite-based positioning

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 160		UW 195	
Main winch	420 kN		450 kN	
Mast extension	2.5 m		5.6 m	
Upper Kelly guide	without		with	
Drilling axis	1,300 mm	1,700 mm	2,000 mm	
Max. drilling diameter				
uncased	2,300 mm	3,100 mm	3,700 mm	
cased	2,000 mm	2,800 mm	3,400 mm	
Operating weight approx.	179.5 t	221.0 t	226.0 t	
with Kelly BK 500/559/...	...3 / 42	...4 / 96	...4 / 96	
with casing drive adapter	1,650	2,500	3,000	
with bucket	KB 1,500	KB 2,320	KB 2,800	
with counterweight	30.0 t	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

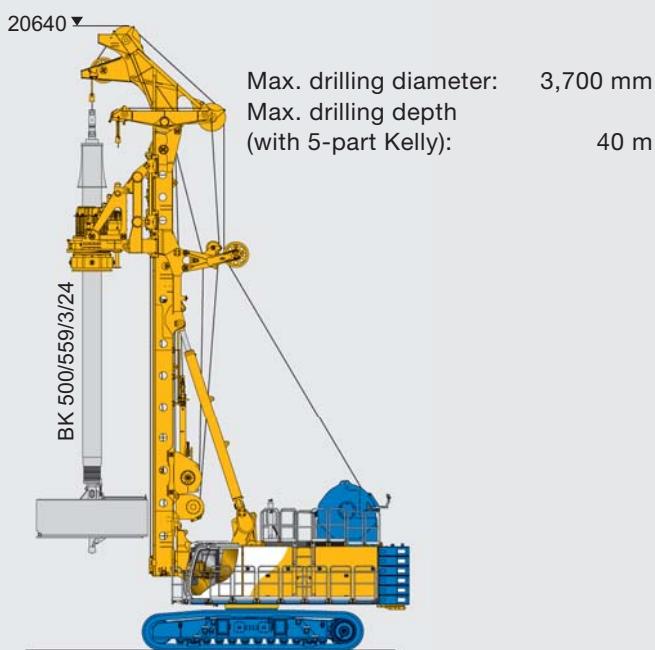
Drilling depth – uncased Kelly drilling

3-part Kelly bar	A (m)	B (m)	G (kg)	Basic version		Upgr. version	
				H _w (m)	T (m)	H _w (m)	T (m)
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	69.9	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

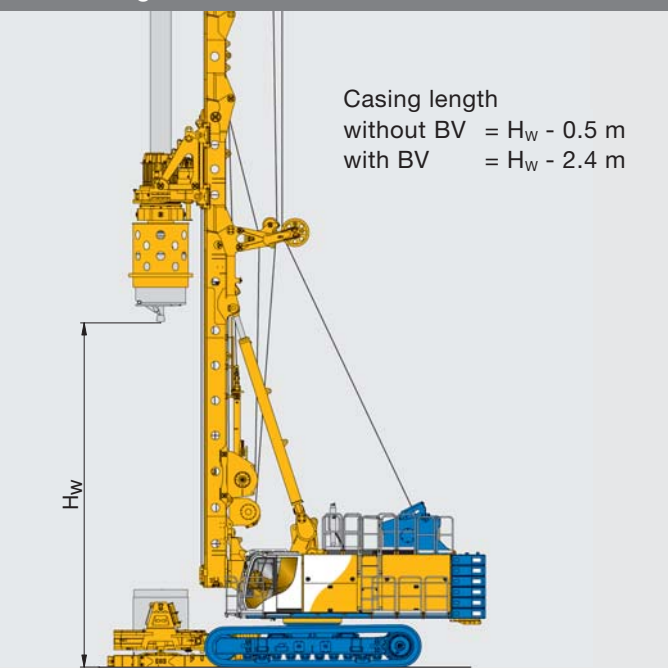
Drilling data as shown are based on tool length NL = 1.9 m, minimum horizontal mast reach and using Bauer attachment. Drilling depth is increased by 0.47 m when using maximum horizontal mast reach.

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

Uncased Kelly drilling with Reduced Headroom configuration

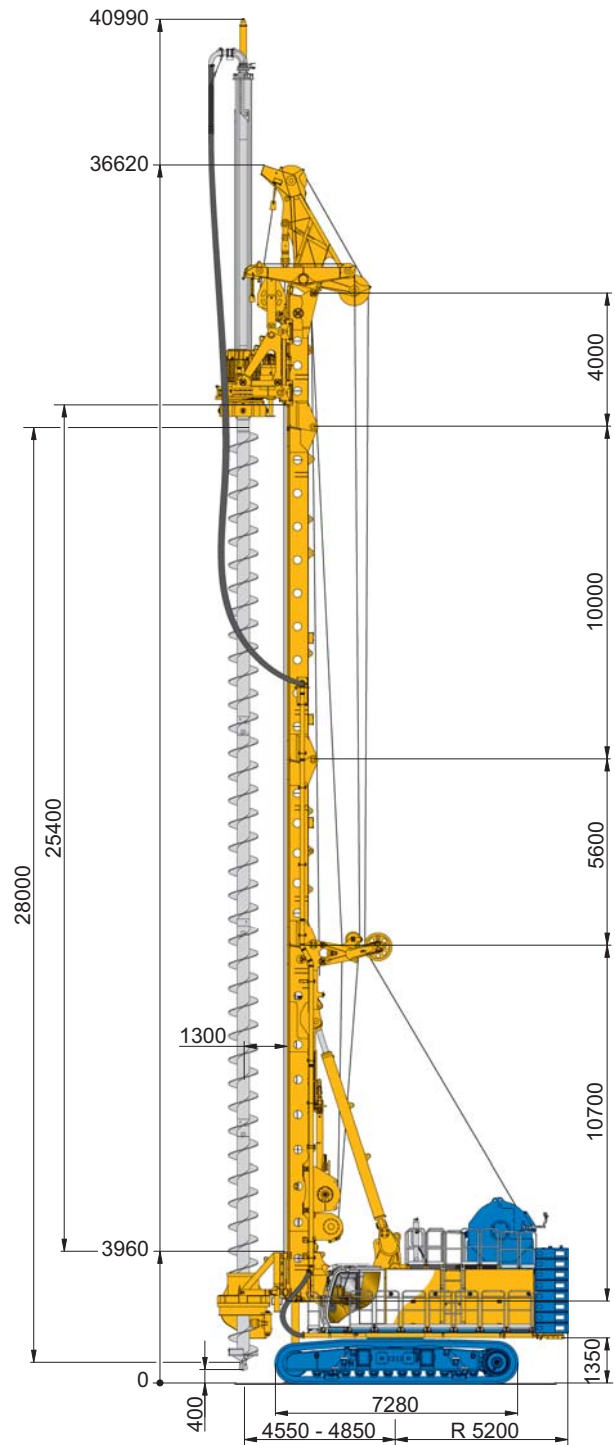
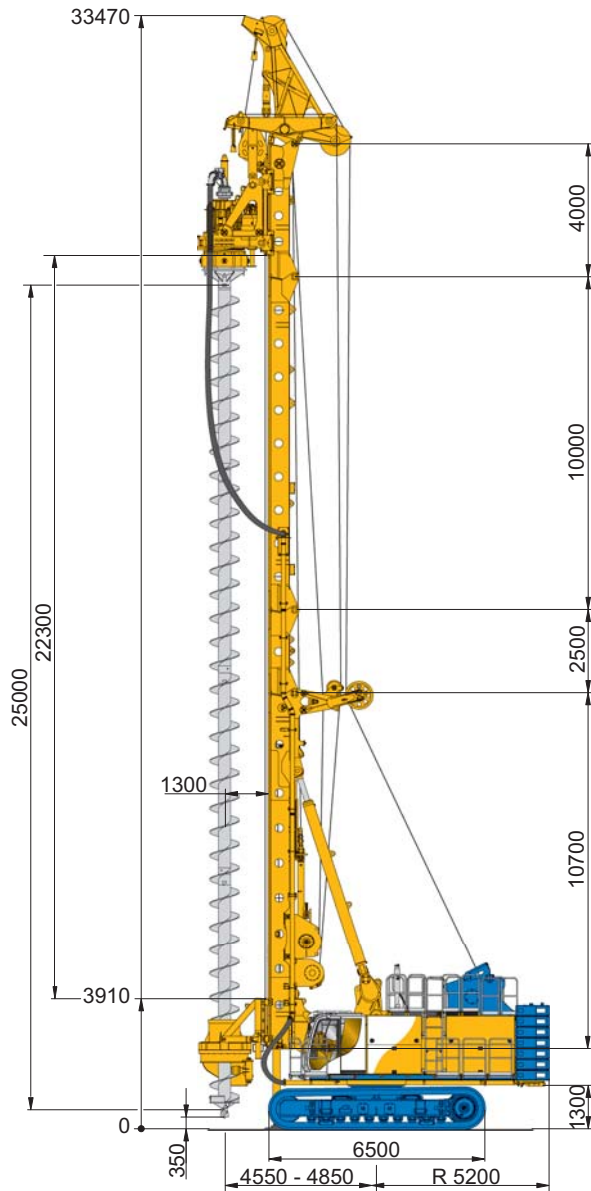


Cased Kelly drilling with Casing oscillator BV 2000

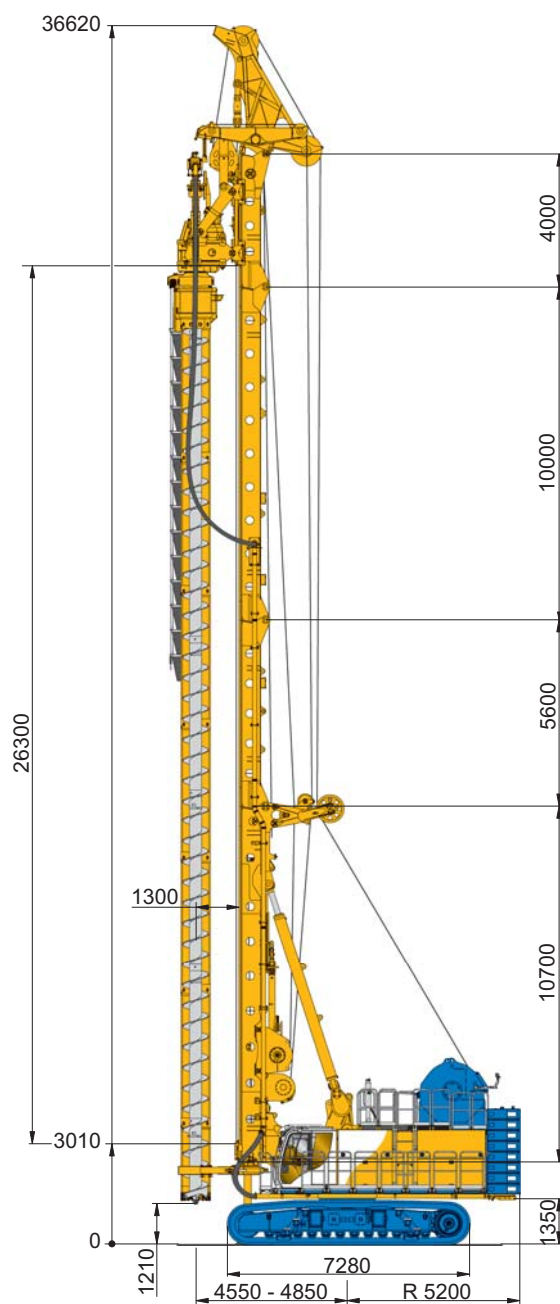
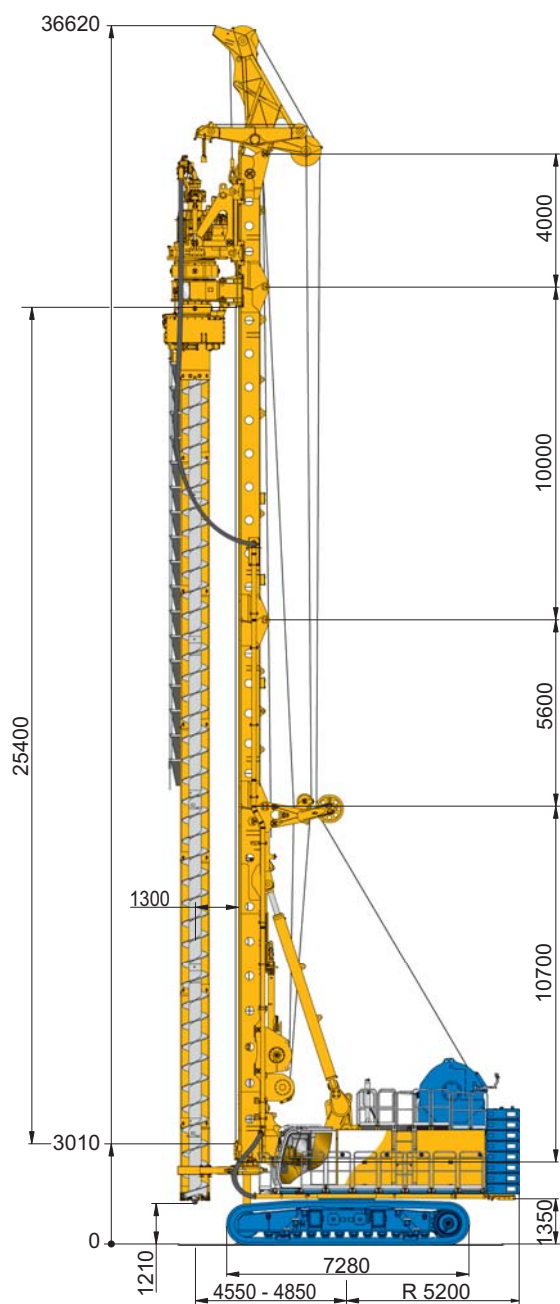


* Reduction of torque to 420 kNm for Kelly type BK 420

** Only possible with drill axis 1,300 mm



Basic version		Upgraded version	
Undercarriage	UW 160	UW 195	
Mast extension	2.5 m	5.6 m	
Kelly extension	without	8.0 m	
Max. drilling diameter	1,200 mm	1,200 mm	
Max. Drilling depth (with auger cleaner)	22.0 m	33.0 m	
Max. extraction force with main- and crowd winch (effective)	1,060 kN	1,060 kN	
Counterweight	35.0 t	40.0 t	



CCFA-drilling with BTM 400

Undercarriage	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	
Counterweight	40.0 t	
Max. torque auger (right-hand rotation)	200 kNm	
Max. torque casing (left-hand rotation)	400 kNm	

CCFA-drilling with DKS 150 / 300

Undercarriage	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	
Counterweight	40.0 t	
Max. torque auger (right-hand rotation)	150 kNm	
Max. torque casing (left-hand rotation)	300 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 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	

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

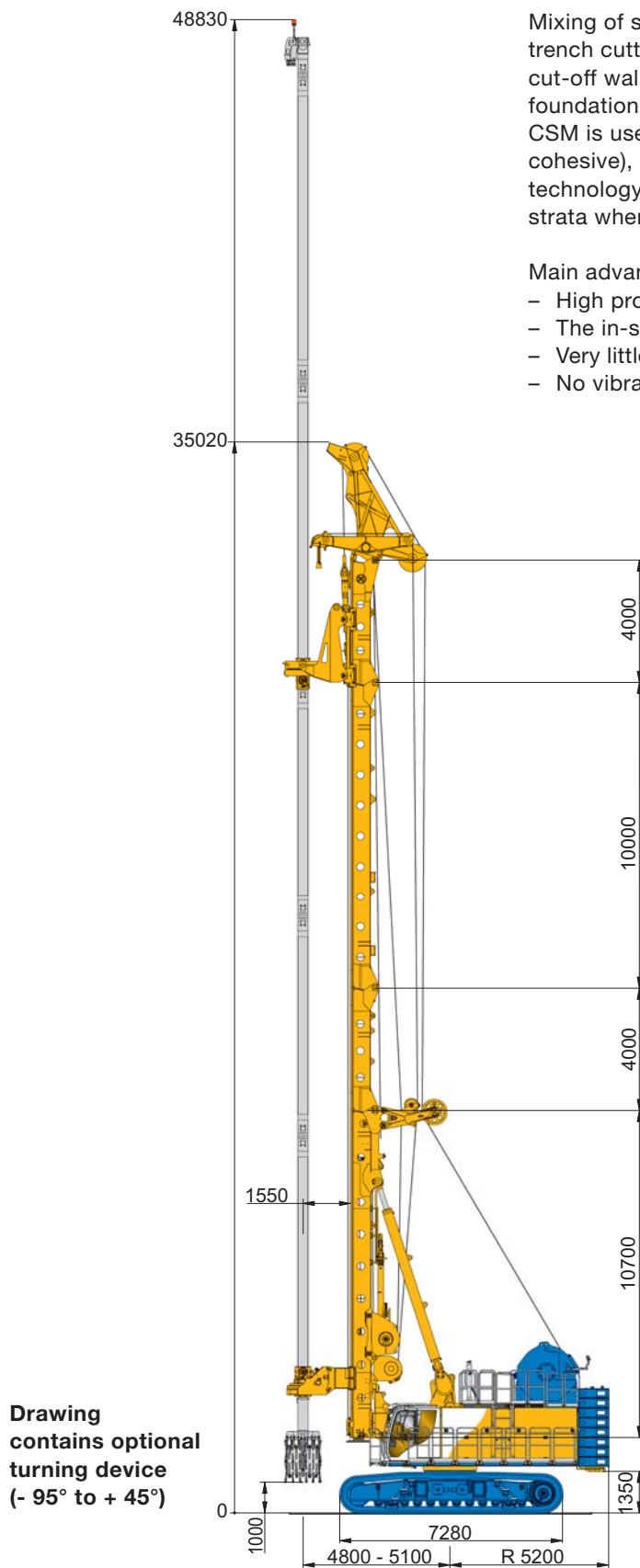
CSM – Cutter Soil Mixing

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 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	

* subject to restrictions

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

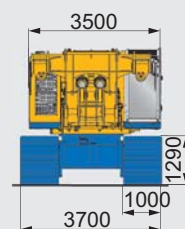
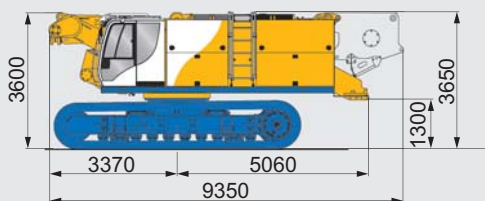
G = Weight
B = Width, overall

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

Transport with UW 160

G = 79.3 t (with 420 kN main winch)

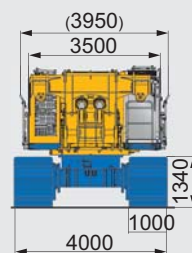
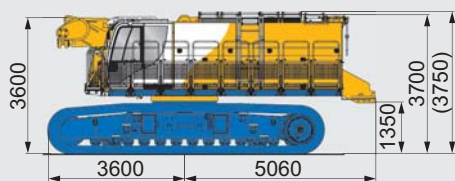
G = 72.1 t B = 3,700 mm



Transport with UW 195

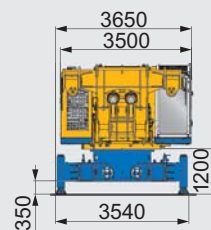
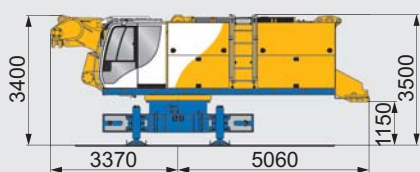
G = 77.9 t (with walking platform and guardrails)

G = 77.0 t B = 4,000 mm

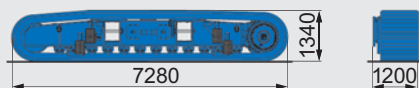


G = 46.7 t (with walking platform and guardrails)

G = 45.8 t B = 3,650 mm



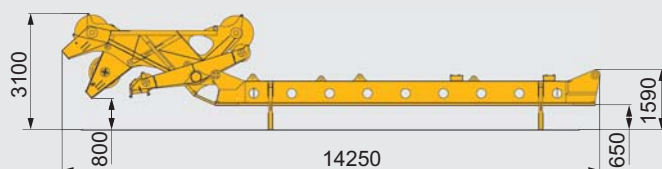
G = 2 x 16.4 t B = 1,200 mm



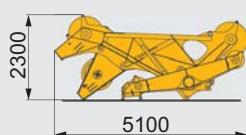
Transport possible with lower mast section (optional)

Upper mast section with mast head

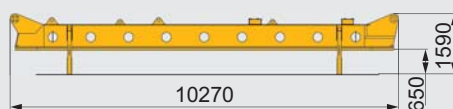
G = 8.8 t B = 2,200 mm



G = 3.3 t B = 1,900 mm



G = 5.5 t B = 1,630 mm



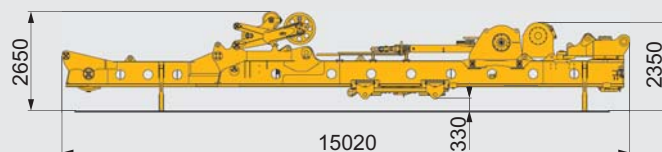
Main winch 420 kN

**G = 7.2 t
(with 140 m rope)
B = 2,500 mm**



Lower mast section with Vario-mast section

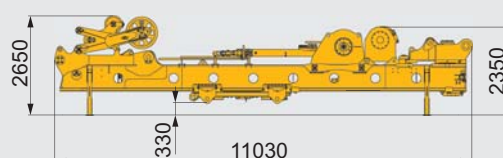
G = 26.4 t B = 2,650 mm



G = 3.4 t B = 1,170 mm

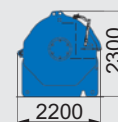


G = 22.9 t B = 2,650 mm



Main winch 450 kN

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



Mast extension 2.5 m

G = 2.2 t B = 1,060 mm



Mast extension 5.6 m

G = 3.5 t B = 1,170 mm



Rotary drive

G = 11.0 t B = 1,900 mm



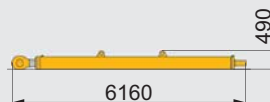
Counterweight

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



Backstay cylinders

**G = 2 x 2.0 t
B = 400 mm**



* depending on application



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