BAUER BG 38

Rotary Drilling Rig

Base Carrier BS 80

ValueLine

BAUER

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. And what is even more, our service and support extends to the full 30.000 and more working hours of each of our machines.

- **Quality and experience in specialist foundation engineering**
- **Global operation – local contacts in over 70 countries**
- **Reliability in technology, finances, 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

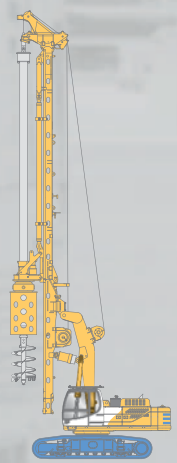
2011
Introduction of BG ValueLine and BG PremiumLine

Regular showcasing of new developments on various exhibitions

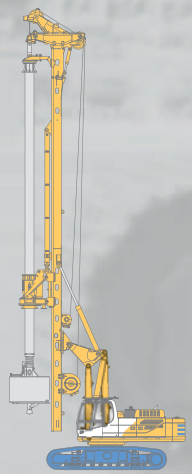
The BG ValueLine

Perfection is achieved
when there is nothing left to take away.

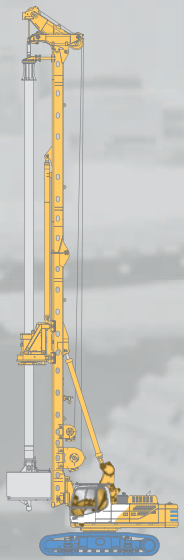
Drilling uncased deep boreholes stabilized by drilling fluid, or drilling cased boreholes with installing casings by the rotary drive or by a hydraulic casing oscillator. If Kelly drilling is your task, then the BG ValueLine is our solution. The machines of the ValueLine are specifically adapted to no other purpose than Kelly drilling – and that perfectly.
You can expect superior Bauer performance and customary Bauer durability at affordable costs for acquisition and operation. How we do it? By applying cutting-edge technology, reduced to nothing less than the essentials.



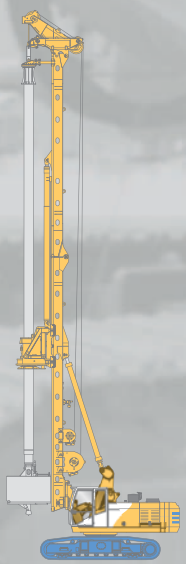
BG 15
BH 75



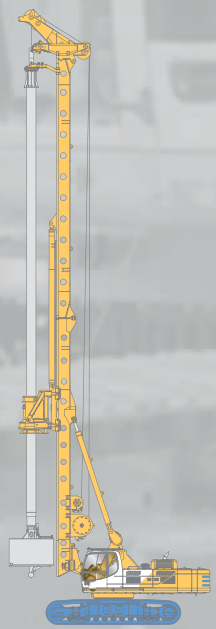
BG 20 H
BH 75



BG 26
BH 75



BG 26
BT 70



BG 30
BH 80

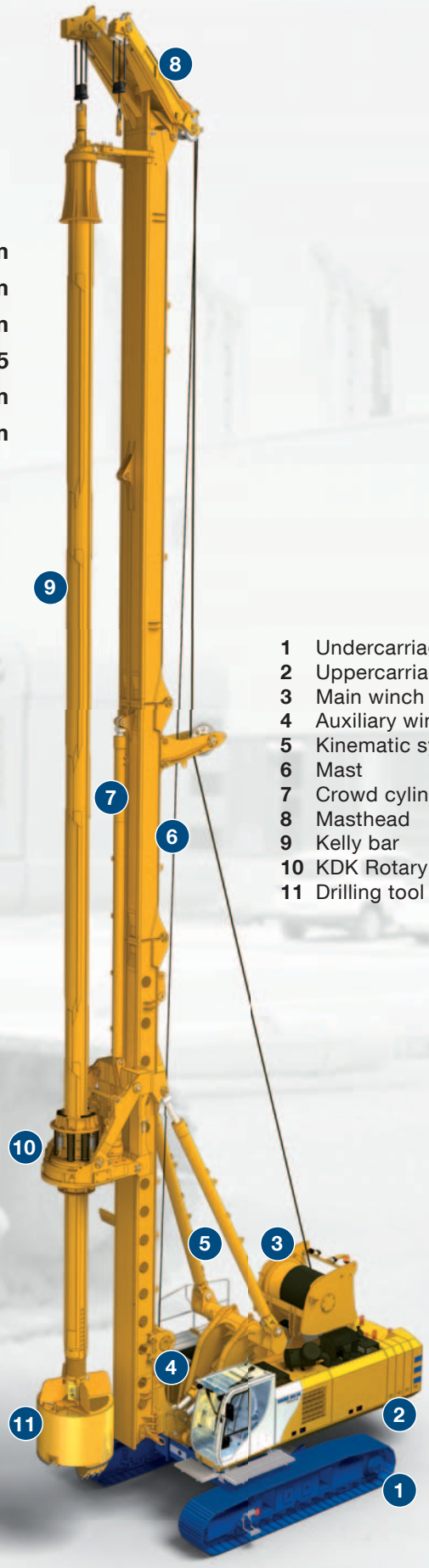
- **Longer mast for more drilling depth**
- **Increased axis distance for larger drilling diameter**
- **Higher winch forces and increased torque**
- **Reduced weight and optimized engine for energy efficiency and high productivity**
- **Easy handling, easy maintenance**
- **Superior performance**
- **Easy and cost efficient to operate**

The Rotary drilling rig BG 38 ValueLine (BS 80)

Max. drilling diameter:	**3.000 mm**
Max. drilling depth:	**91,8 m**
Torque:	**380 kNm**
Engine:	**CAT C15**
Power:	**354 kW @ 1.800 rpm**
Max. height:	**32,6 m**

BG 30
BS 80

BG 38
BS 80



1 Undercarriage
2 Uppercarriage
3 Main winch
4 Auxiliary winch
5 Kinematic system
6 Mast
7 Crowd cylinder
8 Masthead
9 Kelly bar
10 KDK Rotary drive
11 Drilling tool

Spotlights

KDK rotary drive

- Multi gear drive with strong and robust design and high mechanical and hydraulic efficiency
- Adjustment to various soil conditions with 4 selectable modes of operation
- Protection of the rotary drive with an integrated Kelly damping system

Kinematic system

- Bauer proven kinematic support trestle system with backstay cylinders for best stability

Winches

- Single layer winch with strong and robust design (optional)
- Superior and tested effective line pull and line speed
- Load classification M6/L3/T5 for heavy-duty, continuous operation
- A special grooving system on the drum and a rope pressure roller reduce wear on the wire rope
- Pinned connection for easy mounting and dismantling of the winch on the mast/uppercarriage

Inclination supervision system

- PATENT PENDING
- Electronic and optical supervision of mast inclination with redundant electronic and visual systems
- Permanent supervision of inclination for operator and supervisor

Upper Kelly guide

- Simple and easy attachment
- No additional limit switch necessary
- No modification of the electric installation needed

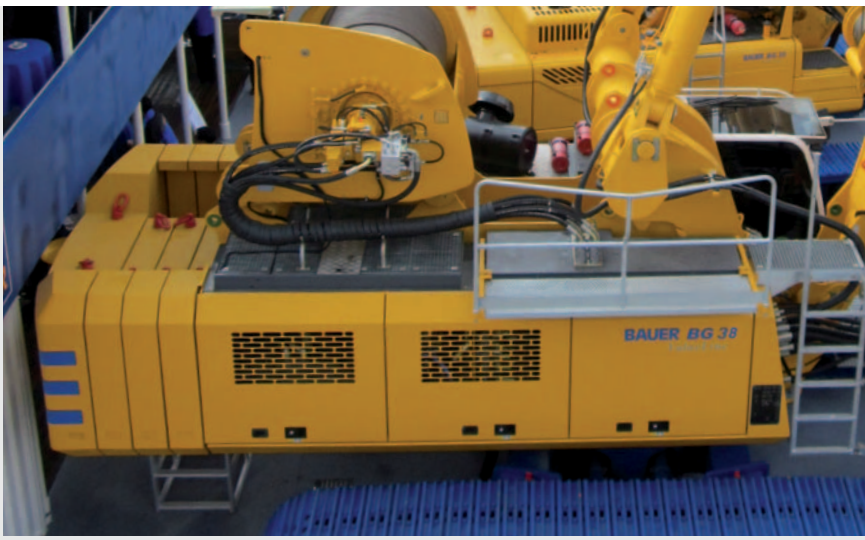
Undercarriage

- Solid Bauer-design for 360° drilling operating radius
- Telescopic with hydraulic cylinders
- Large footprint to resist high overturning moments
- High traction forces

- **Economic operation**
- **Hydraulic efficiency**
- **Easy handling**
- **Easy maintenance**
- **High safety standard**
- **Ergonomic cabin design**
- **Long life expectancy and lasting value**
- **Ease of transportation and rigging**

Ergonomic cabin design

- FOPS compliant
- B-TRONIC 3.1: Electronic monitoring-, control- and visualization-system
- Clear arrangement of instruments and displays
- Ease of operation



Uppercarriage – HSE features

- Access ladder to upper structure
- Service-friendly catwalk (on side and in front of operator's cab)
- Service platform on top of upper structure
- Heavy duty base frame optimized for BG attachment
- Rear view camera, beacon light and warning horn
- Multigrade oil for reducing fuel consumption

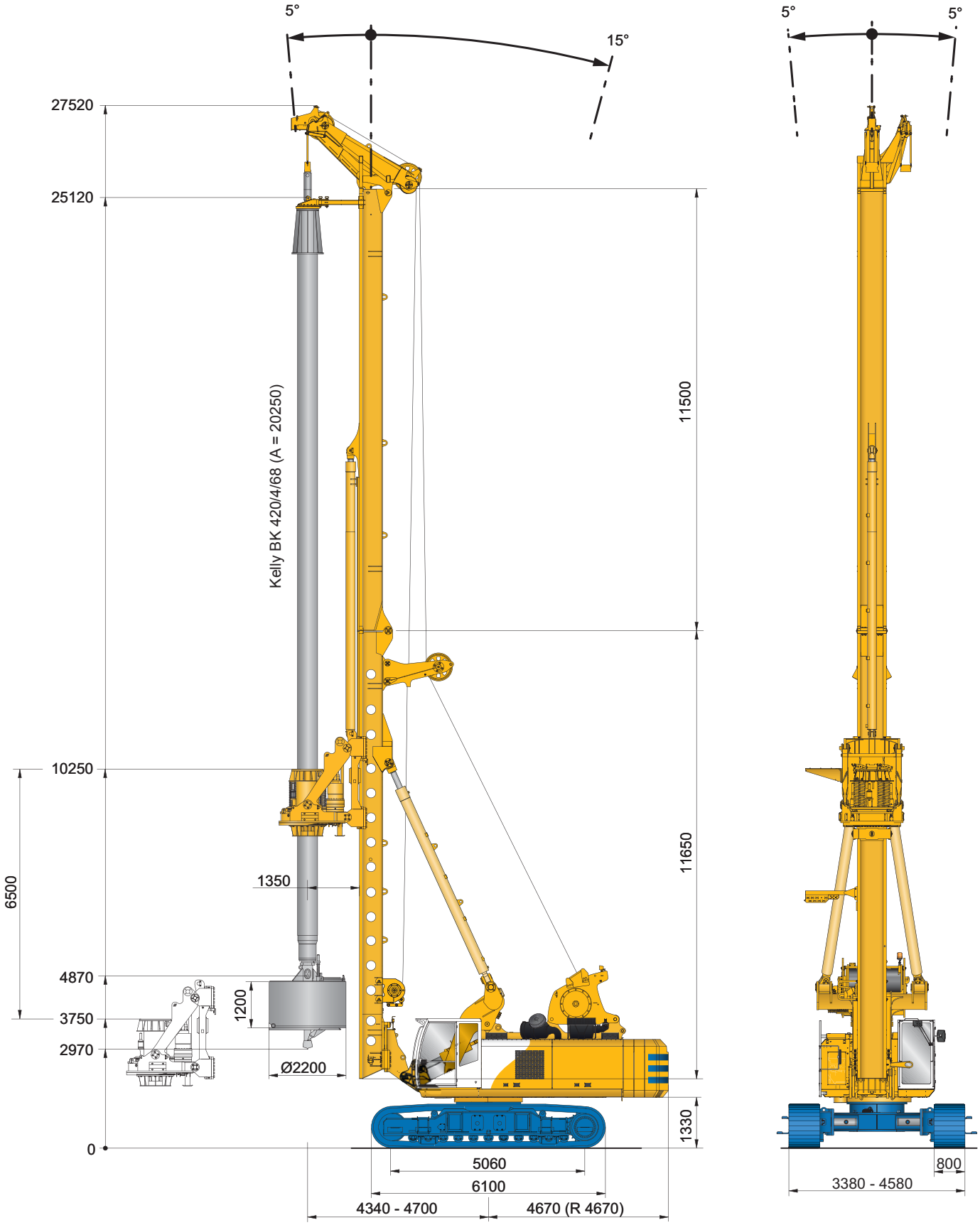
Crowd system with crowd cylinder

- PATENT PENDING
- Crowd system "upside-down" installation
- No hydraulic installation in the upper mast
- Easy handling for transport without disconnecting hydraulic hoses

Final inspection and test run

- Comprehensive Bauer testing programme
- Optimal adjustment and calibration of all components
- Heat transfer test

Dimensions

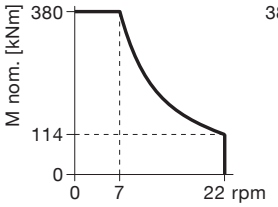


Operating weight **126 t**
(as shown)

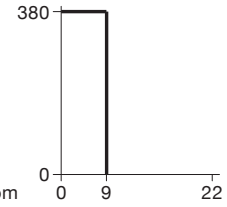
Technical specifications

Rotary drive	KDK 380 S	
Torque (nominal) at 320 bar	380	kNm
Speed of rotation (max.)	46	rpm

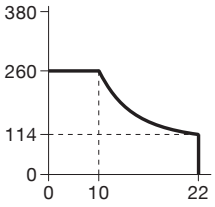
1st gear Standard mode



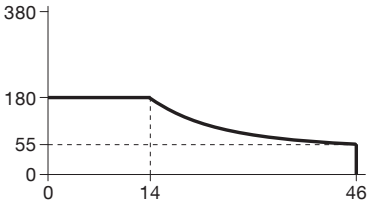
1st gear rpm reduced



1st gear M_D reduced



2nd gear Standard mode



Not to scale

Crowd cylinder		
Crowd force push / pull (effective)	250 / 400	kN
Crowd force (measured at the casing drive adapter)	350 / 320	kN
Speed (down/up)	3,5 / 7,0	m/min
Fast speed (down/up)	20 / 20	m/min
Main winch	M6 / L3 / T5	
Line pull (1st layer) effective/nominal	290 / 370	kN
Rope diameter	32	mm
Line speed (max.)	80	m/min
Auxiliary winch	M6 / L3 / T5	
Line pull (1st layer) effective/nominal	100 / 125	kN
Rope diameter	20	mm
Line speed (max.)	55	m/min
Base carrier	BS 80	
Engine	CAT C15	
Rated output ISO 3046-1	354	kW
	at 1.800	rpm
Engine conforms to	EEC 97/68EC Stage III / EPA/CARB TIER III	
Diesel tank capacity	800	l
Ambient air temperature (at full power) up to	45	° C
Sound pressure level in cabin (EN 791, Annex A)	LP_A 78	dB(A)
Sound power level (2000/14/EG u. EN 791, Annex A)	LW_A 114	dB(A)
Hydraulic power output (measured at inlet to rotary drive)	270	kW
Hydraulic pressure	320	bar
Flow rates (main circuits + auxiliary circuit)	2 x 320 + 1 x 130	l/min
Hydraulic oil tank capacity	900	l
Undercarriage (Retractable crawler frames)	UW 115	
Crawler type	B 7	
Traction force effective/nominal	730 / 860	kN

Technical equipment

KDK rotary drive

Standard

- Integrated kelly damping system
- Wear pads exchangeable without removal of rotary drive
- Exchangeable kelly drive adapter
- Exchangeable kelly drive keys
- Quick-release couplers on hydraulic hoses
- 4 selectable modes of operation
- Transport supports
- Trigger plate

Optional

- Cardanic joint
- BTM 720 (torque: 500 kNm), **Fig. A**

Main winch

Standard

- Hydraulically controlled freewheeling
- Automatic rope tensioning facility
- Swivel alignment function
- Depth measuring device on main rope
- Electronic load sensing
- Winch drum with special grooving
- Pin connection

Optional

- Single layer winch (355 kN), **Fig. B**
- Overload protection device on main rope

A

BG attachment

Standard

- Bauer V-kinematic system
- Masthead for optional use with drill axis 1.350 or 1.550 mm, **Fig. C**
- Crowd cylinder upside-down
- Crowd in fast and slow mode
- Hoist limit switch on main and auxiliary winches
- Swivel for main rope
- Pivoted anchor points for main and auxiliary ropes
- Transport supports for upper and lower mast sections

Optional

- Swivel for auxiliary rope
- Mast extension (5,1 m or 2,3 m)
- Mast support unit for transport
- Upper kelly guide
- Video camera attachment
- Slings gear (for rotary drive)
- Drill axis 1.550 mm (new sledge)
- Steering system and mechanical preparation of undercarriage for usage with casing oscillator

B

C

Base carrier

Standard

- Engine diagnostic system
- Removable counterweight
- Transport securing lugs on crawler units
- On-board lighting set
- Electric refuelling pump
- Bauer operator cab (FOPS compliant), **Fig. D**
- Air conditioning system
- Radio and CD player
- Catwalk (on side and in front of operator's cab)
- Multigrade hydraulic oil

Optional

- Cab front/top screen guard, **Fig. E**
- Undercarriage UW 110
- Undercarriage UW 130
- Width of triple grouser track shoes 900 mm
- Compressor (1.000 l/min capacity)
- Vise attachment
- Tempered safety glass panels
- Independent cab heater with time switch
- Pressurized air conditioning system
- Quick couplings for removable crawler side frames
- On board tool set
- Arctic kit (-40 °C) with additional heating system, low temperature oils in the rig, high performance batteries etc.
- Central lubrication system

Measuring and control equipment

Standard

- Bauer B-Tronic 3.1 incl. integrated diagnostic capability, **Fig. F**
- Display message as plain text
- Mast inclination measurement on x/y axes (digital / analog display)
- Automatic vertical alignment of mast
- Optical inclination supervising system
- Uni-directional impact function on KDK (for auger discharge)
- Hydraulic load sensing on auxiliary winch
- Speed measuring device on KDK

Optional

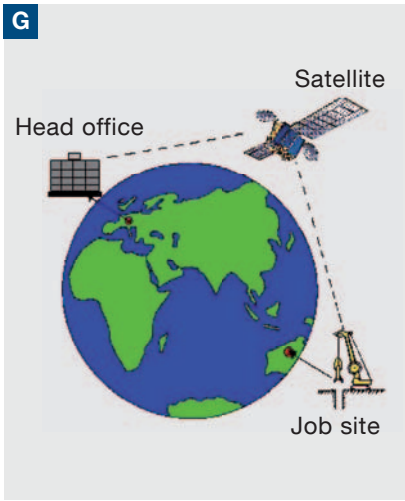
- Remote transmission of operating data, **Fig. G**
- Electronic load sensing on auxiliary rope

E

D

F

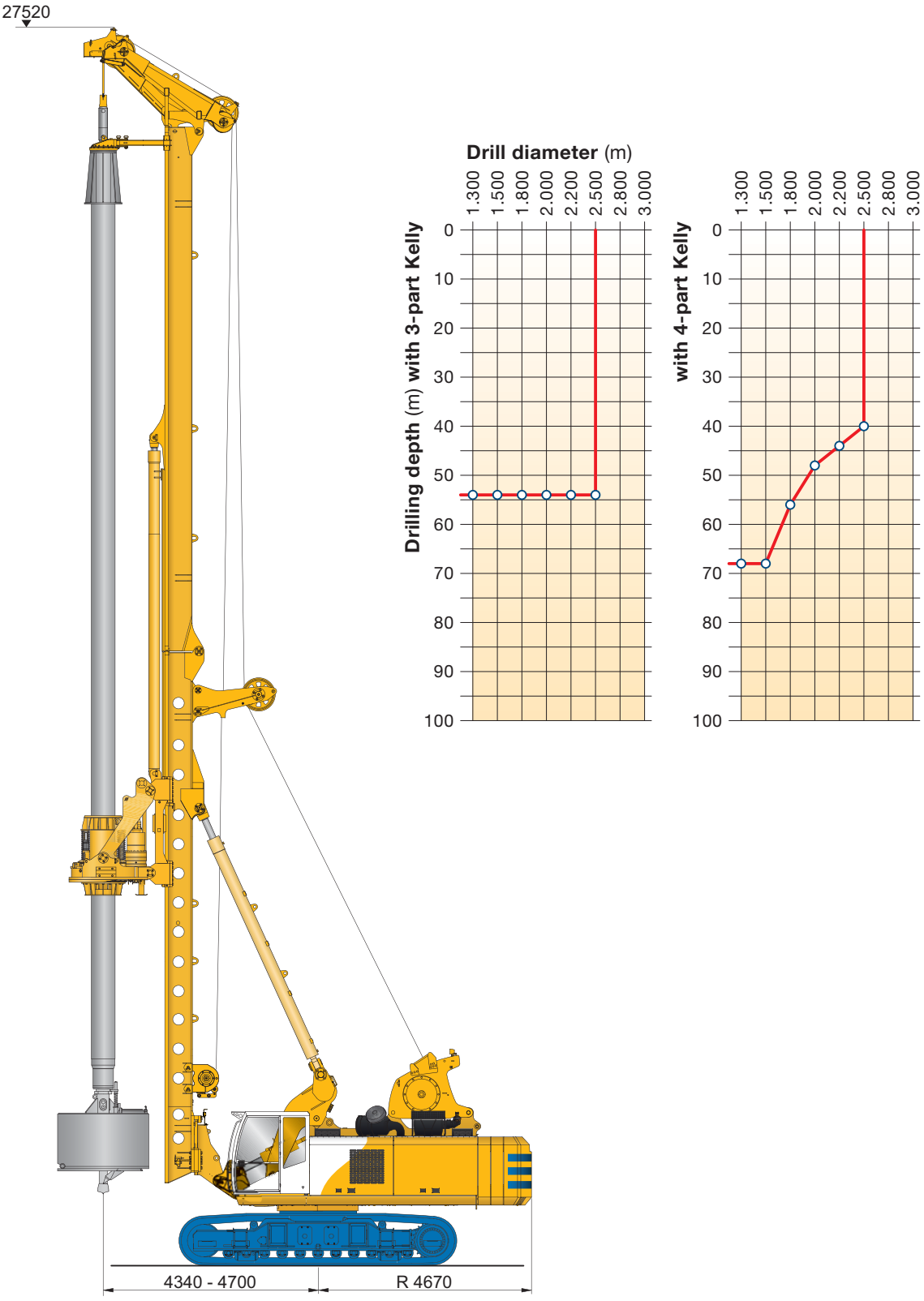
G



Application – uncased Kelly drilling

Standard configuration

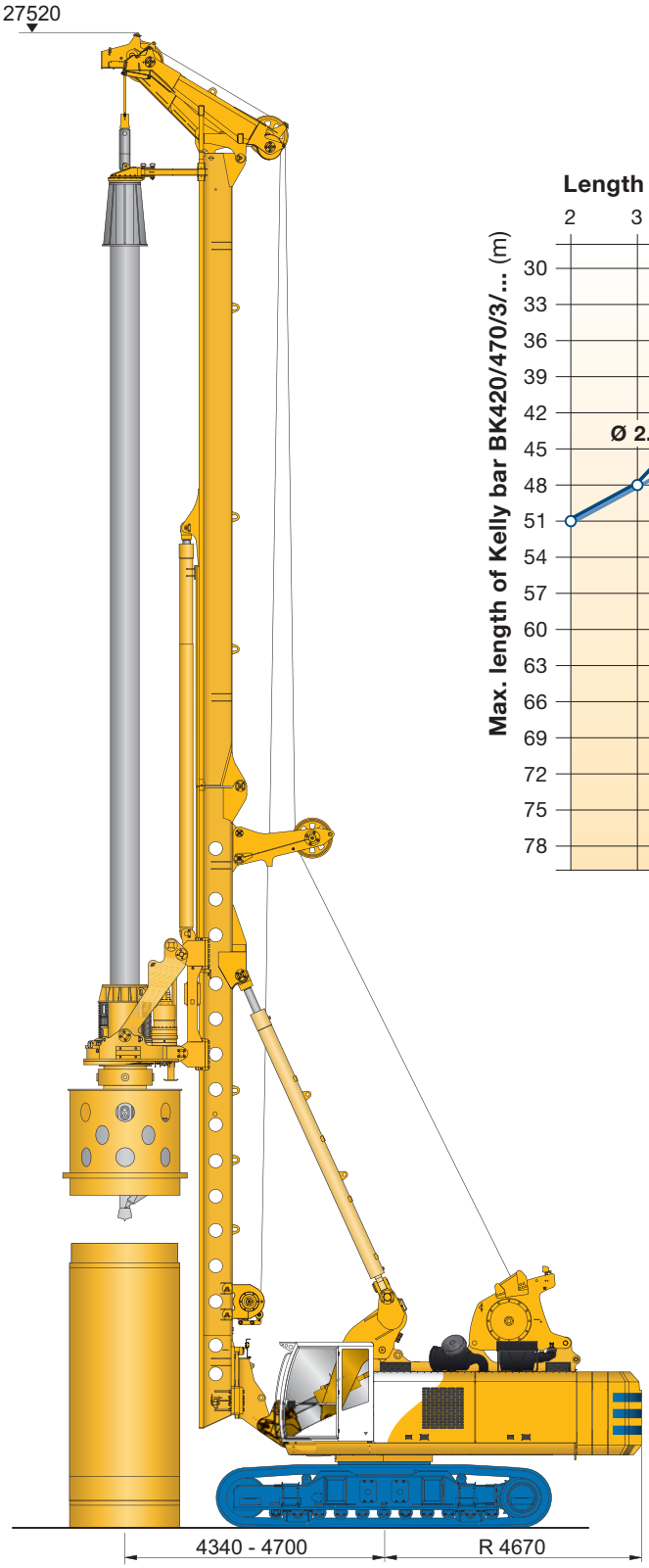
Drill axis 1.350 mm

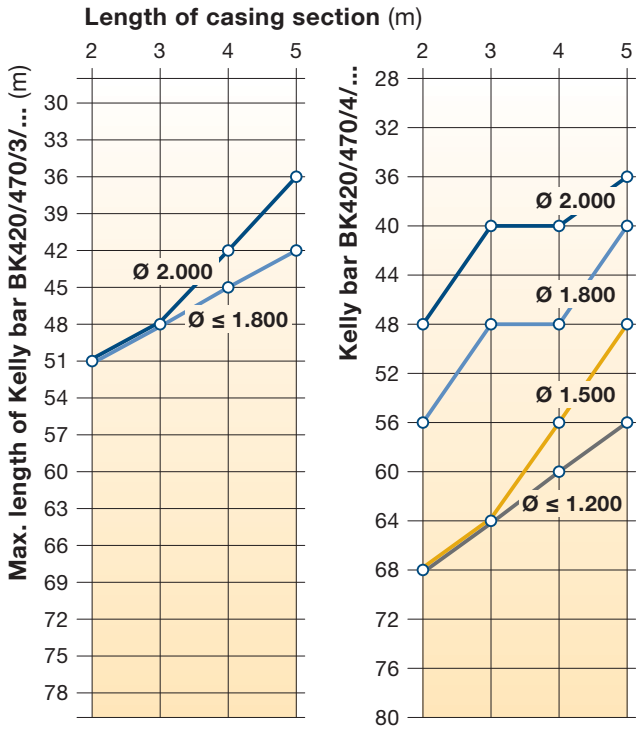


Application – cased Kelly drilling

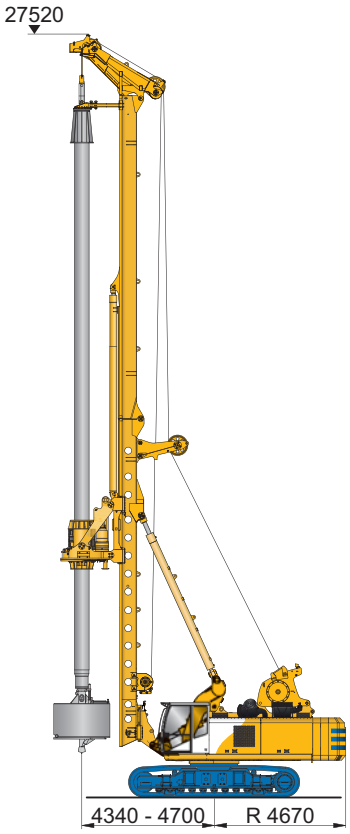
Standard configuration

Drill axis 1.350 mm

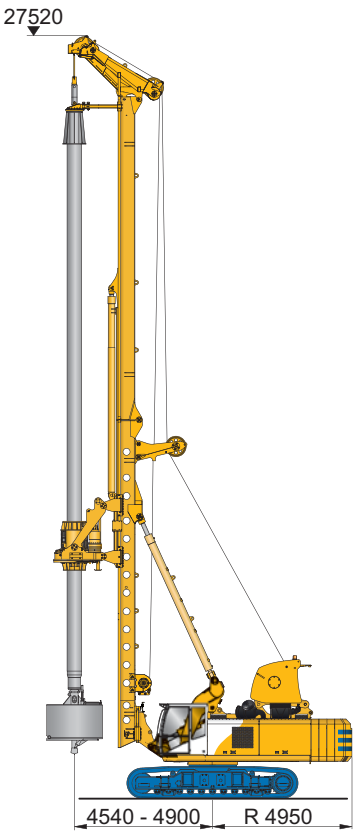




Application – uncased Kelly drilling

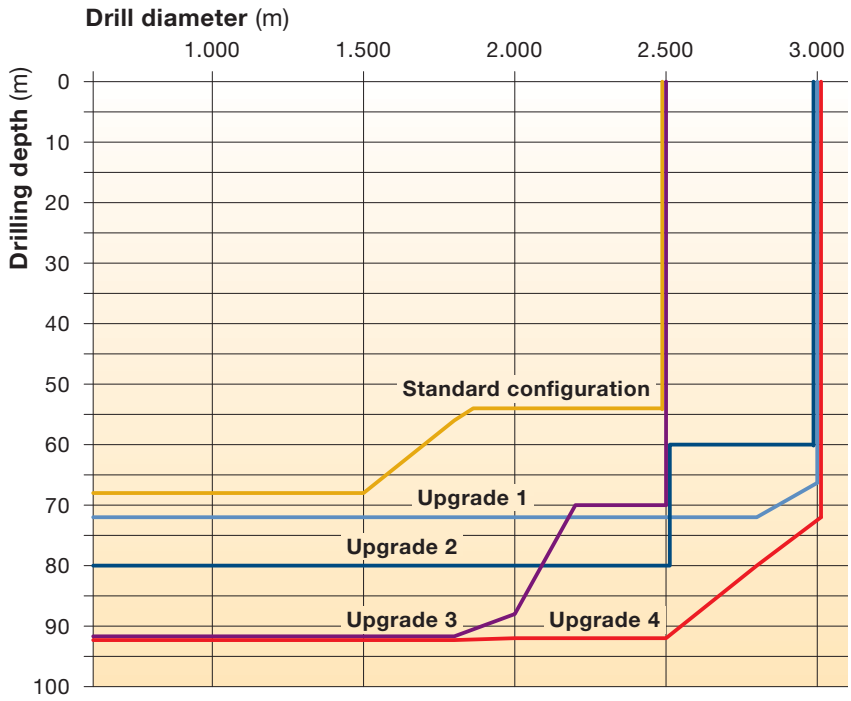


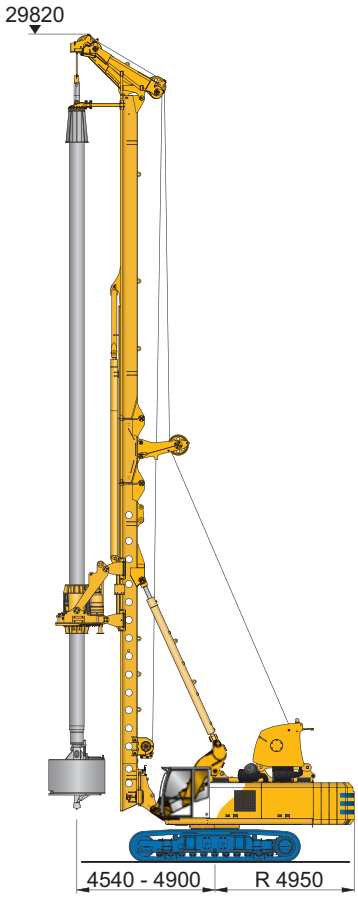
Standard configuration



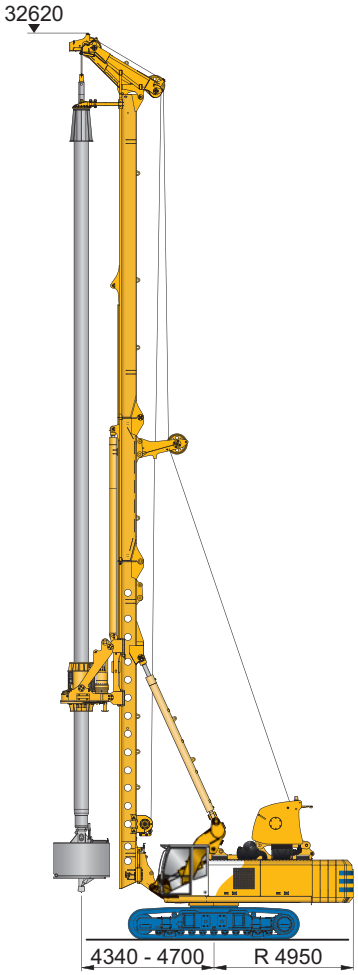
Upgrade 1

Diagramm views uncased Kelly drilling

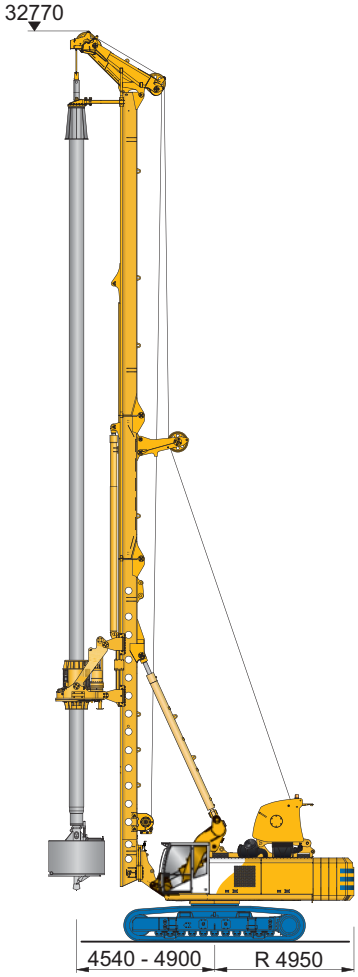




Upgrade 2



Upgrade 3



Upgrade 4

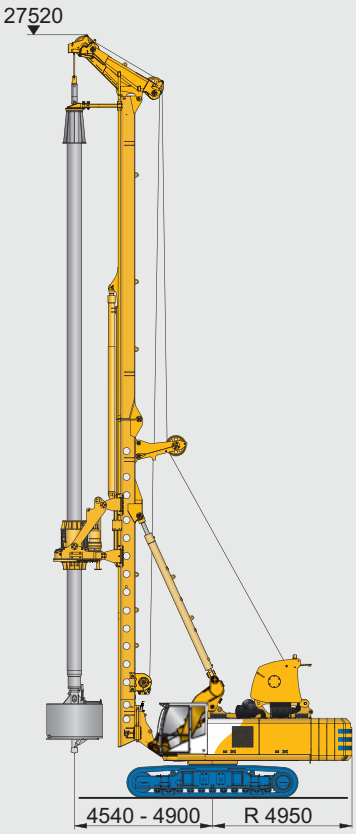
Configuration uncased Kelly drilling					
	Standard	**Upgrade 1**	**Upgrade 2**	**Upgrade 3**	**Upgrade 4**
Undercarriage	UW 115	UW 115	UW 115	UW 115	UW 130
Main winch	28,7 t	35,5 t (single layer)	35,5 t (single layer)	35,5 t (single layer)	35,5 t (single layer)
Counterweight	21,5 t	26,5 t	26,5 t	26,5 t	26,5 t
Mast extension	—	—	2,3 m	5,1 m	5,1 m
Drill axis	1.350 mm	1.350 mm (1.550 mm)	1.550 mm (1.350 mm)	1.350 mm	1.550 mm (1.350 mm)

Data shown are valid for minimum horizontal mast reach and using BAUER attachment. For more information, please contact the BAUER Sales Department.

Application – uncased Kelly drilling

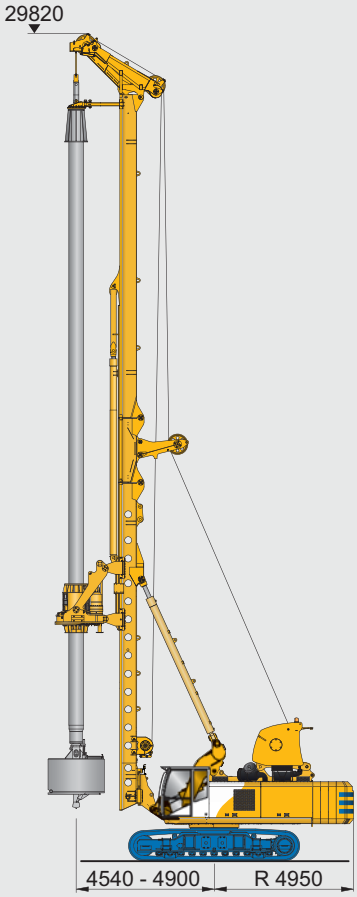
Upgrade 1

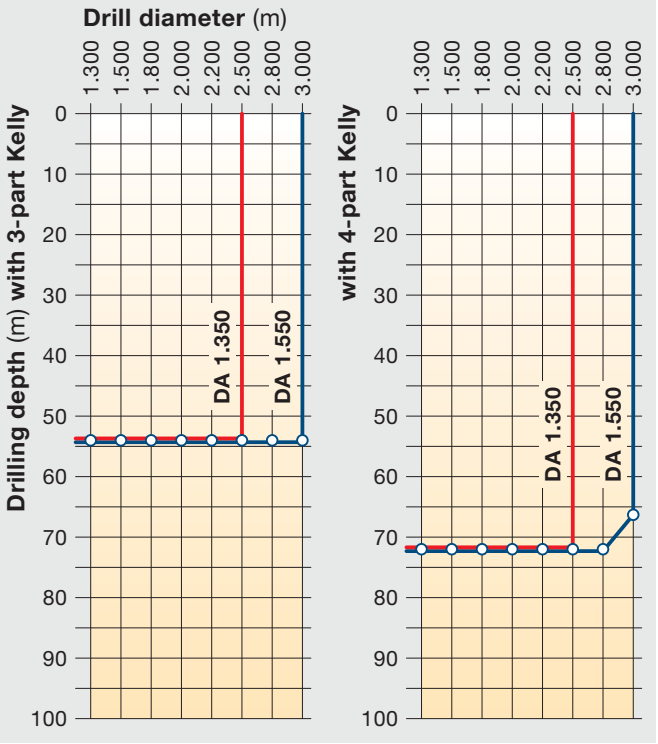
Drill axis 1.350 mm (1.550 mm)

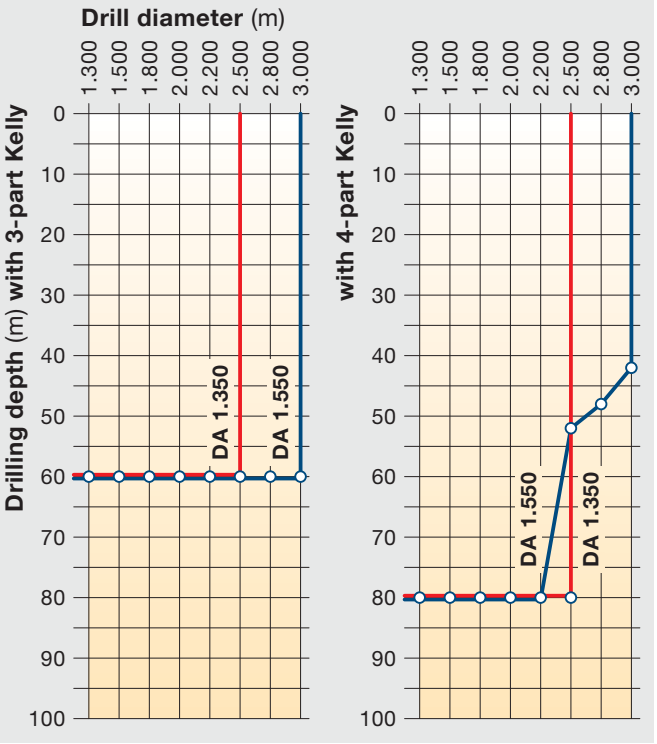


Upgrade 2

Drill axis 1.550 mm (1.350 mm)

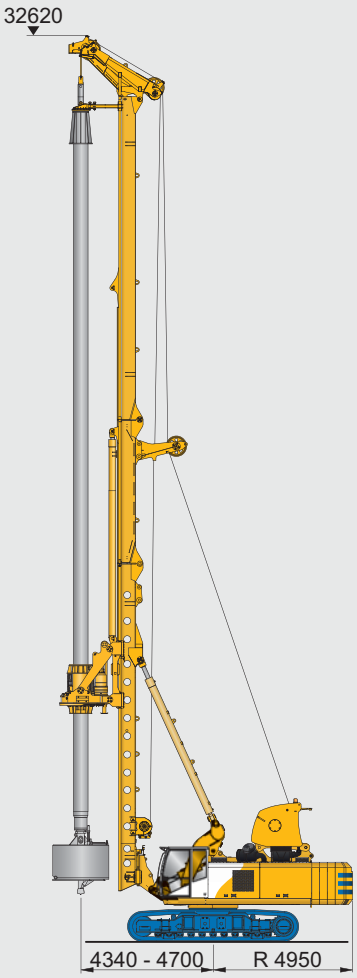


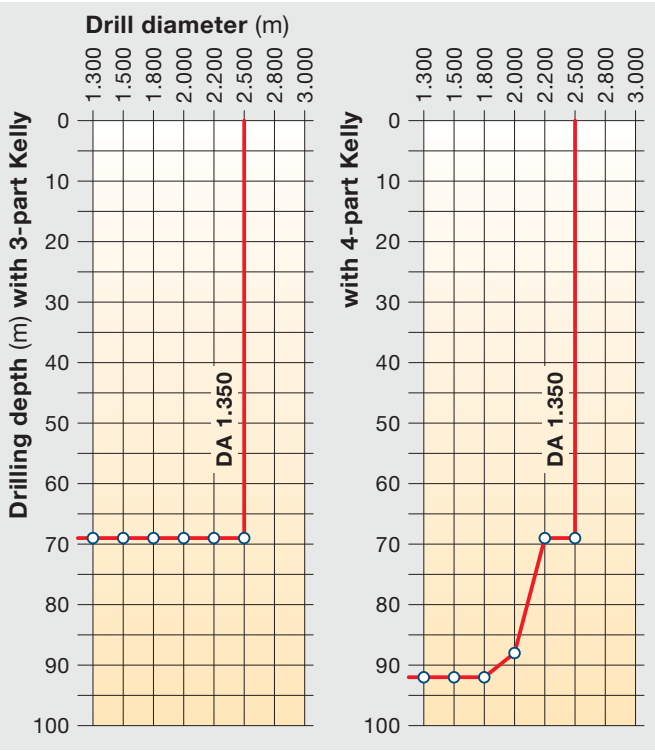




Upgrade 3

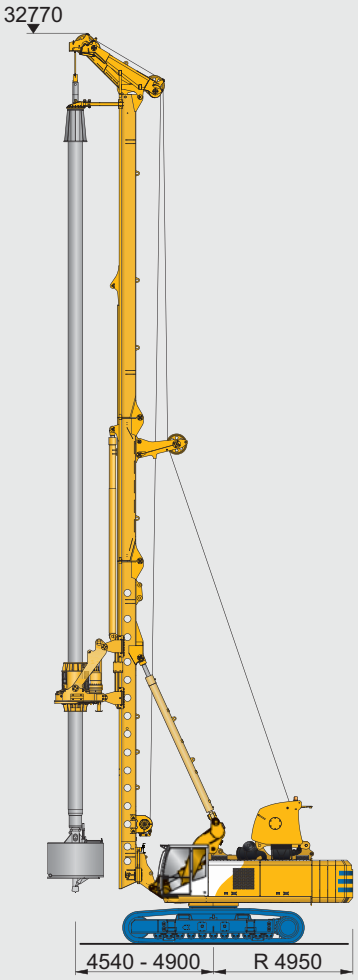
Drill axis 1.350 mm

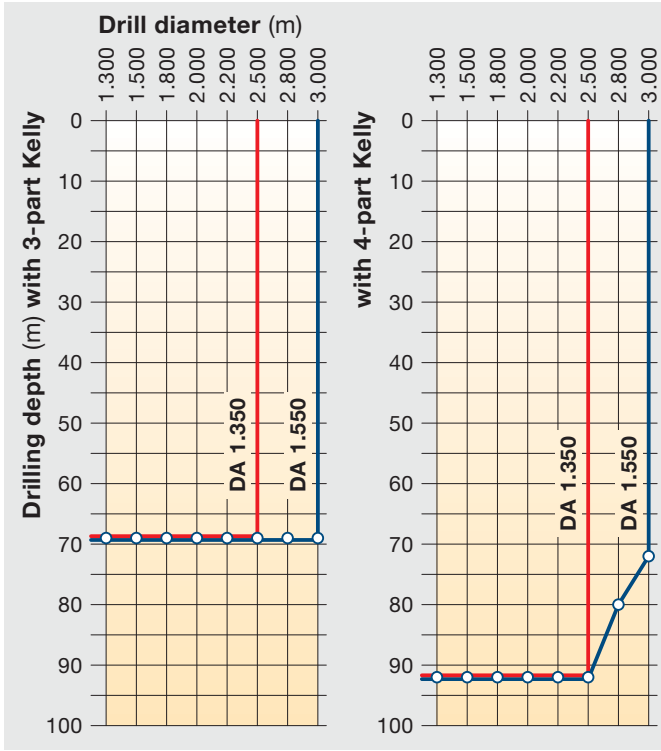




Upgrade 4

Drill axis 1.550 mm (1.350 mm)

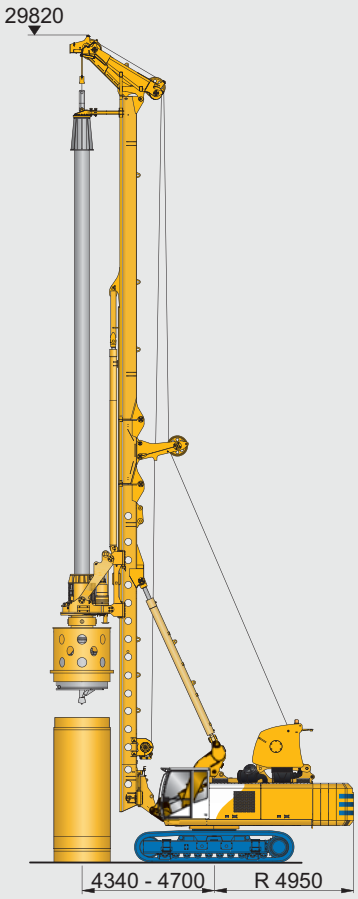


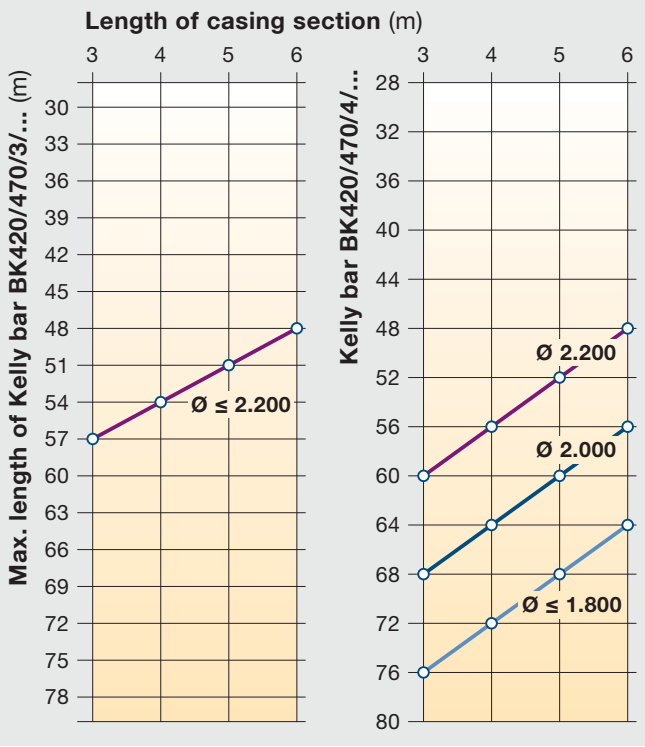


Application – cased Kelly drilling (Recommendation)

Upgrade 2 with rotary drive KDK

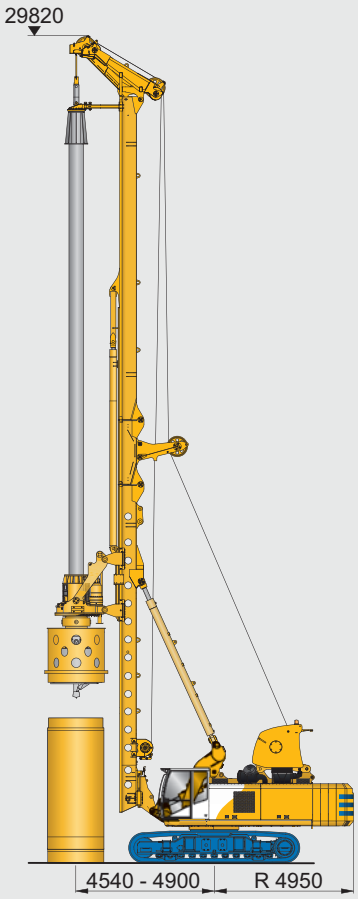
Drill axis 1.350 mm

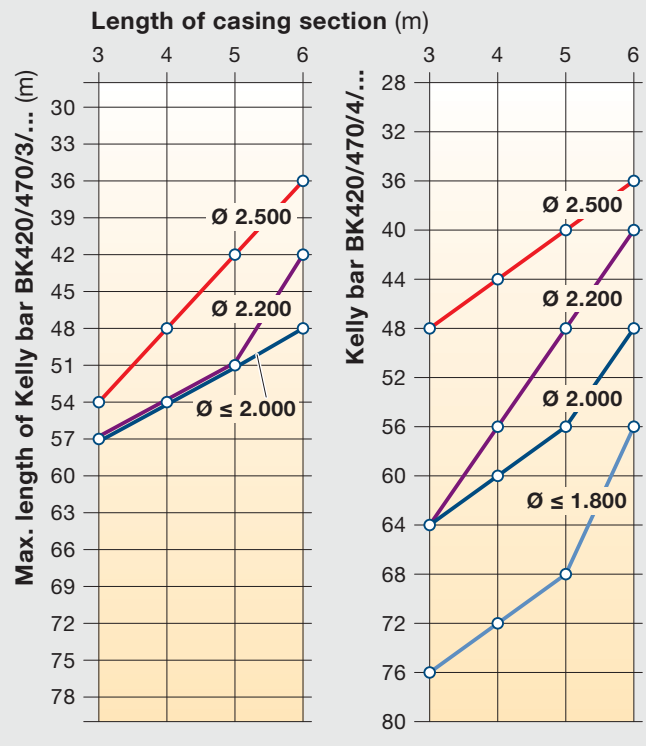




Upgrade 2 with rotary drive KDK

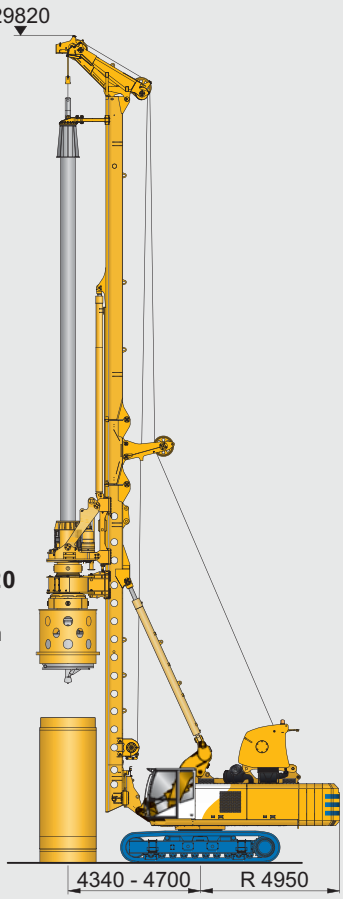
Drill axis 1.550 mm



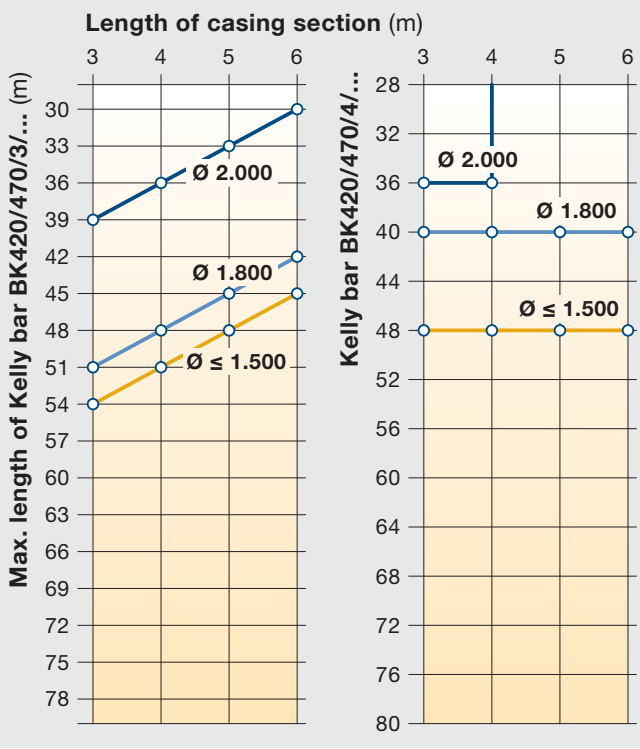


Upgrade 2 with rotary drive KDK-BTM

Drill axis 1.350 mm

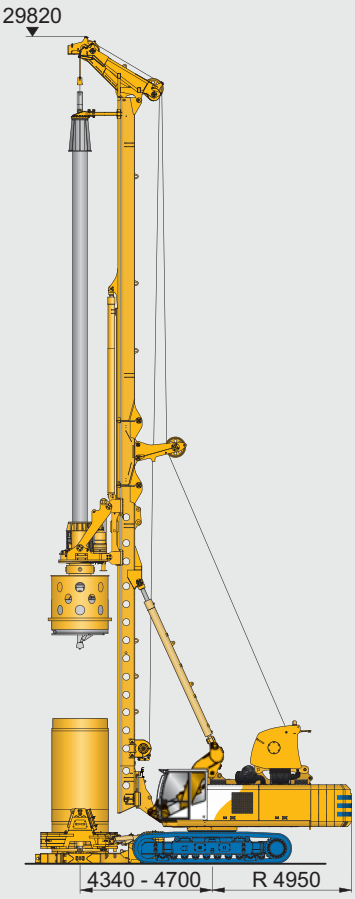


BTM 720
Torque:
500 kNm

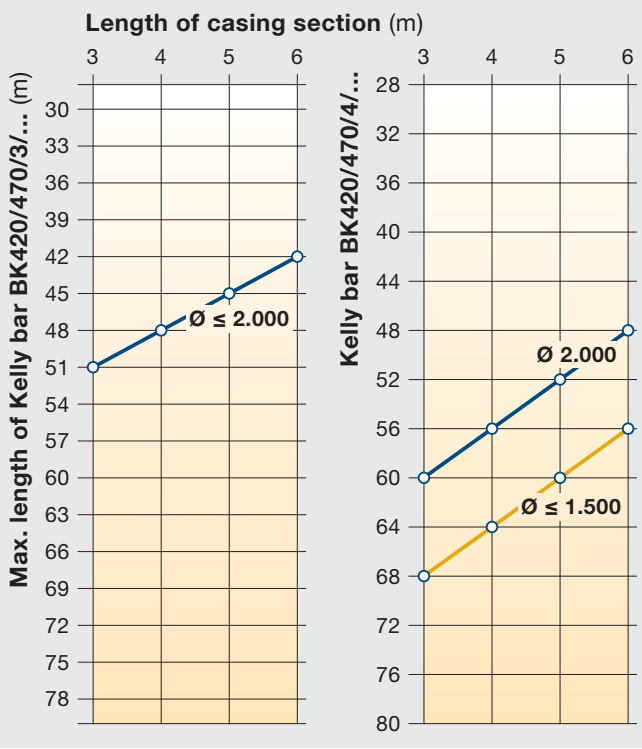


Upgrade 2 with casing oscillator

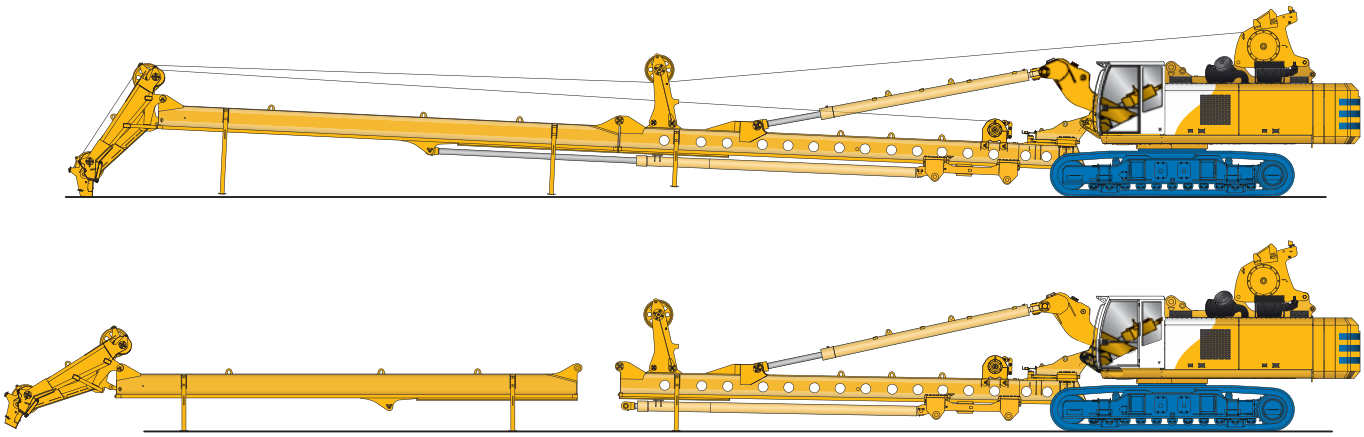
Drill axis 1.350 mm



Applicability:
BV 1180HD-03
up to
BV 2000HD-07



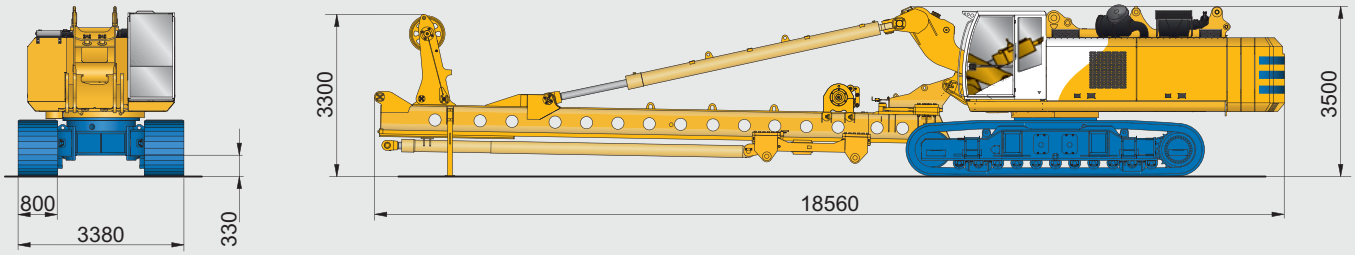
Transport



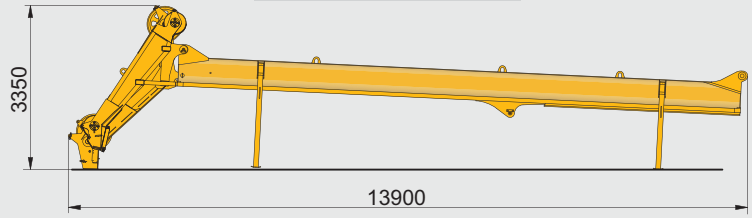
Safe and simple derigging with crowd cylinder system „upside-down“

- Easy disassembling by removing a pin only
- No disconnection of hydraulic lines
- No oil lines in the upper mast section
- Hydraulic hoses stay connected (minimized risk of oil leakages at couplings)

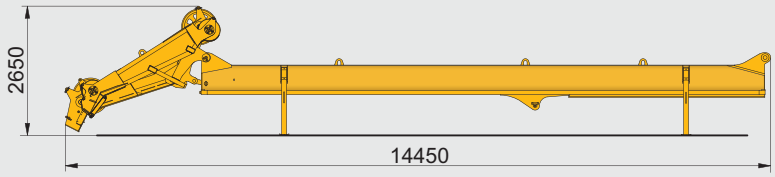
G = 88,9



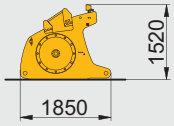
G = 5,0 B = 1900



Telescopic transport supports
Masthead tilted

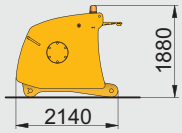


G = 3,1 B = 1650

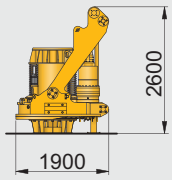


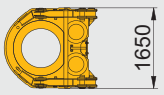
G = 6,7 B = 2450

optional



G = 7,5

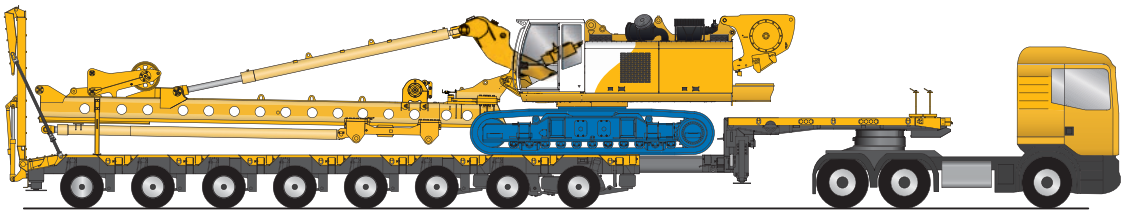




G = Weight (t)
B = Width, overall (mm)

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

Transport dimensions and weights

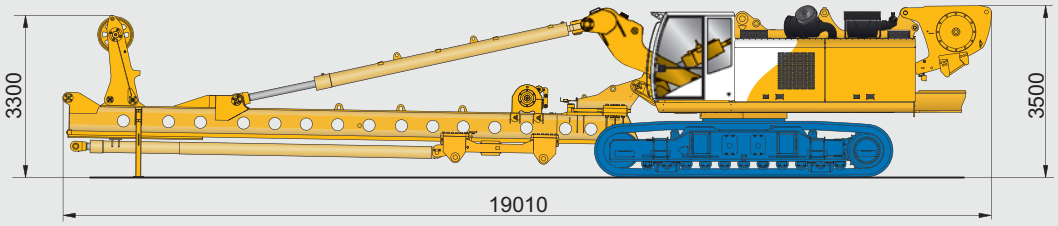


Transport

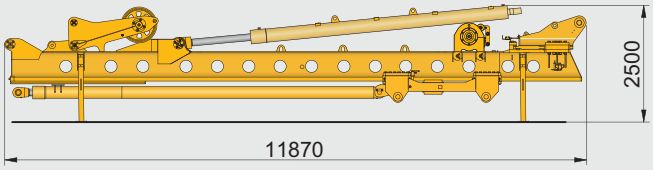
– Simple loading onto the truck trailer

– Easy handling and maneuvering for transport

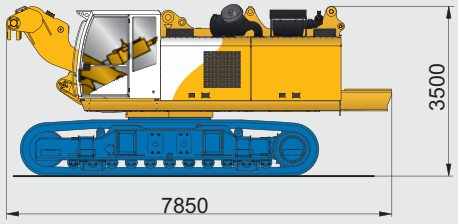
G = 70,5



G = 17,5 B = 2300

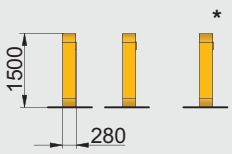


G = 24,3

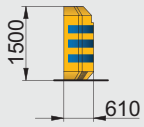


G = 3 x 5,0 B = 3000

* optional

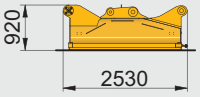


G = 11,5 B = 3000



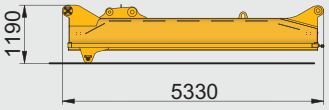
G = 1,0 B = 900

optional



G = 1,9 B = 900

optional



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