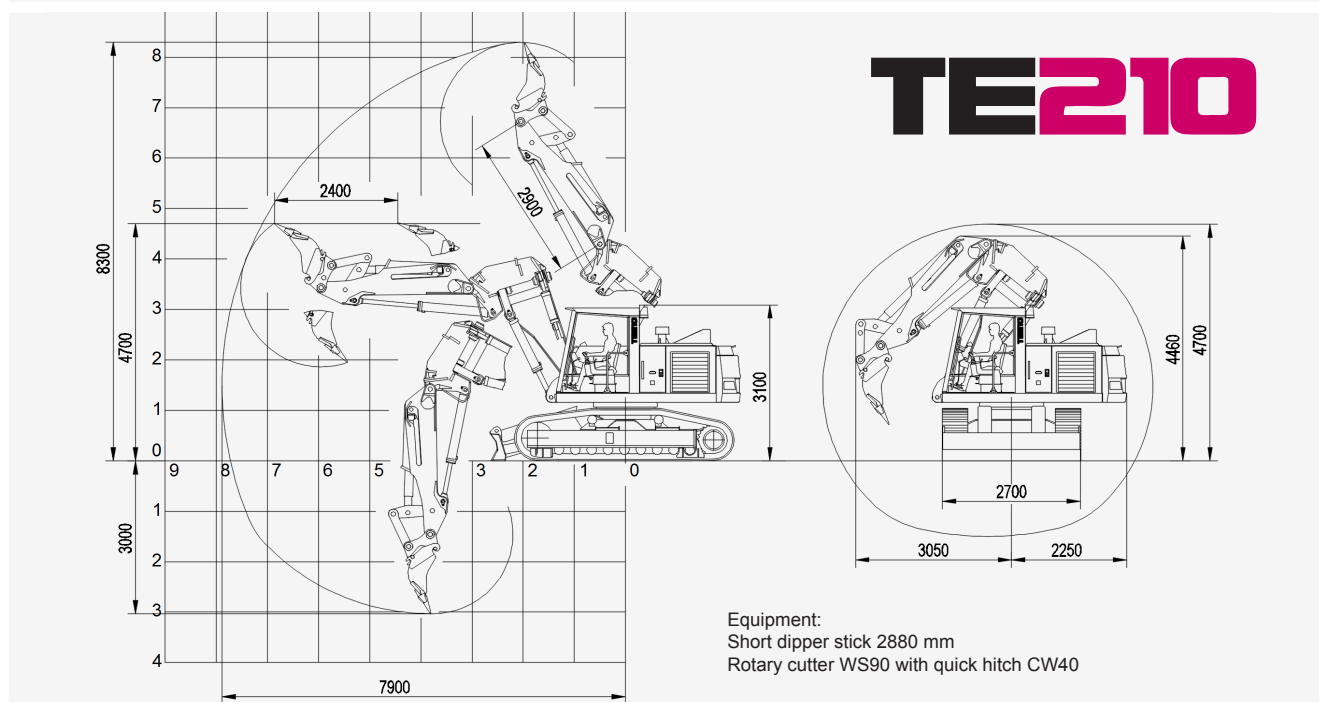
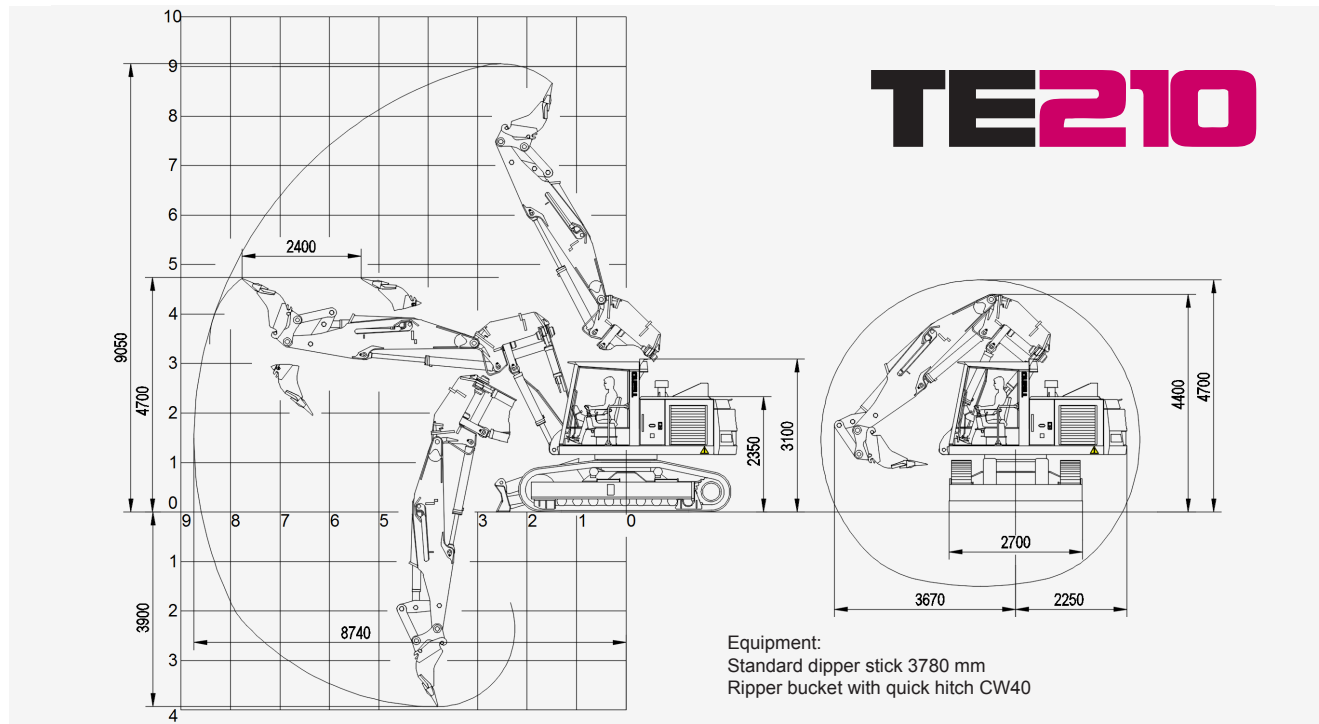


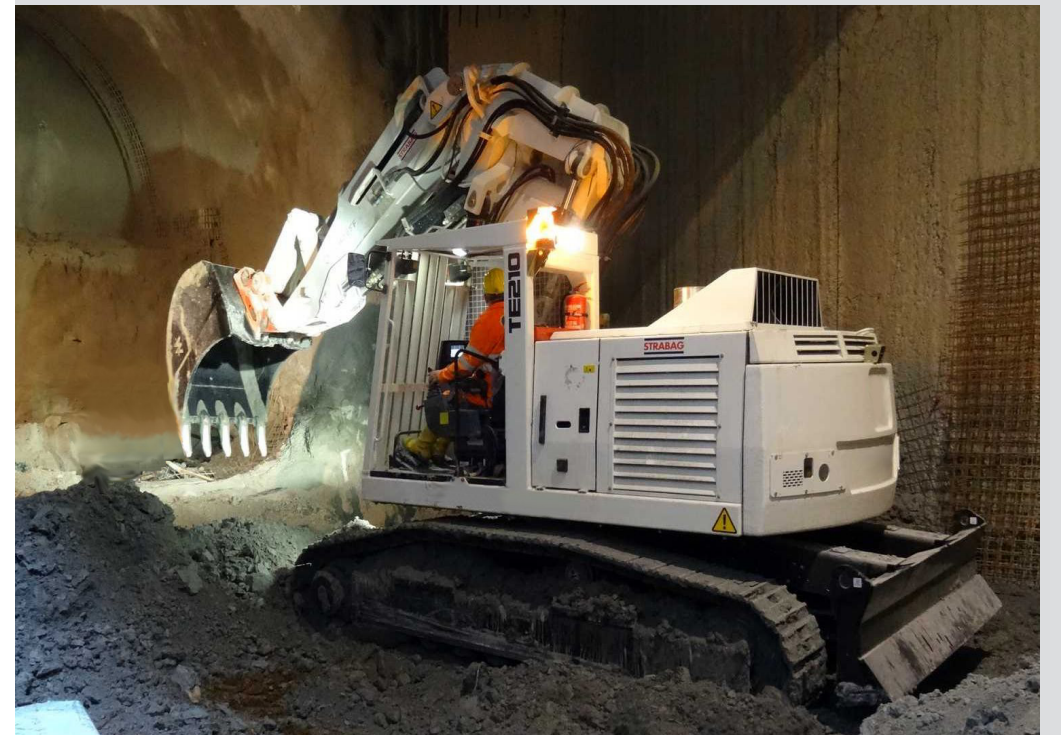
TUNNEL EXCAVATOR



Technical Main Data

Maximal vertical reach	mm	8.500	Machine height for transport	mm	3.300
Maximal boom reach	mm	3.900	Diesel engine power	kW	165
Minimal operating height	mm	4.700	Operating weight, acc. to equipment	t	28 and 32
Machine width	mm	2.700			
Machine height in working position	mm	4.400			

TE210



- For heading in soft to medium hard ground
- Tunnel excavation boom with swivel dipper stick
- Optimal cross section approx. 25-60 m²
- Diesel drive 165 kW
- Operating weight 28 t and 32 t

Tunnel Excavator TE 210

The SCHAEFF TE 210 Tunnel Excavator is the triumphant result of our steadily up-grading tunnelling equipment, which has been designed and manufactured from many years of job site requirements and successful applications from around the World, especially in the high demands of underground and tunnel construction. With its service friendly design being one of the most important features of the TE210, ensures that the machine is one of the most reliable on the market.

The TE210 is available in two different operating weights, standard 28 tonne and 32 tonne super standard. The difference in weight is achieved by using a heavier undercarriage on the 32 tonne machine which provides more stability while working under extraordinary operating conditions.

Featuring a compact and robust design, the TE210 is predestined for use in small to medium size tunnel cross sections. The compact super structure with its short tail swing radius allows for a large upper structure swing range which is ideal for both wide and narrow tunnels. With the cinematics of the work equipment and the combination of the high breakout forces, allows advances in low profile tunnel higher than approximately 4.700 mm, while operating heights of up to 8'500 mm are easily achieved.

The machine is equipped with a 165 kW liquid-cooled Deutz turbocharged diesel engine featuring charge-air cooling (with emission Euro St. 3a) combined with an additional exhaust soot particule filter system as standard.

Due to the increasing challenges in both underground and tunnel construction, the TE210 excavator with it's 165 kW diesel engine and high flow hydraulic system allows for the operation of powerful attachments, such as cutting units (up to 110 kW), hydraulic hammers, etc...

Upon request from customers there is an alternative to the standard diesel engine which is the emission free electric drive. The power supply cable is either routed directly onto the superstructure or through a cable drum which is either onto the crawler undercarriage.

Technical main data

Operating data

• Maximal vertical reach	8'500 mm
• Maximal digging depth	3'900 mm
• Minimal operating height	4'700 mm
• Minimal overhead clearance	3'300 mm
• Machine width lower carriage	2'500 mm
• Machine width upper carriage	2'700 mm
• Machine height over cab	3'100 mm
• Machine height for transport	3'300 mm
• Rear swing radius	2'250 mm
• Minimal swing radius	3'670 mm
• Operating weight, acc. to equipment	28 t and 32 t

Diesel engine

• Liquid-cooled turbocharged diesel engine	Deutz TCD 2013 L06 2V
• Power rating at 2,000 r.p.m	165 kW
• Diesel engine complies with emission standard	Euro St. 3a
• Exhaust soot particle filter system	Physitron
• Fuel tank capacity	410 l

- An alternative to the standard Diesel engine is the 132 kW emission-free electric drive which can be retrofitted upon request.

Certification for tunnel construction

- The machine meets the current CE-requirements and is certified for tunnel construction according to EN12111, Dec. 2002

Hydraulic system

• Output controlled dual axial piston pump with «load-sense» control and electronic power limit control	
• Pump capacity	520 + 90 l/min
• Hammer / TCU control circuit	280 l/min
• Max. hydraulic operating pressure	350 bar
• Hydraulic capacity (incl. system)	450 l
• Hydraulic oil tank capacity	370 l
• Hydraulic oil filter: Full-flow return filter with contamination indicator	

Crawler-type undercarriage (model 28 t)

• Running gear	maintenance free tractor running gear, type B60
• Running gear width with dozer blade	2'700 mm
• Running gear length	3'450 mm
• Width of triple rouser shoes	500 mm
• Hydrostatic travel drive via 3-stage planetary gear with a hydraulic parking brake, as well as travel motor with integrated brake valve	
• Travel speed	0 - 1,7 / 4,5 km/h
• Crawler chain drawbar pull	240 kN
• Gradeability	max. 100%

Crawler-type undercarriage (model 32 t)

• Running gear	maintenance free tractor running gear, type B60
• Running gear width with dozer blade	2'700 mm
• Running gear length	3'450 mm
• Travel speed	0 - 2,4 / 3,9 km/h
• Crawler chain drawbar pull	280 kN

Boom equipment

• Special boom equipment for excavation of soft ground or blasted material, composed of:	
• Basic jib with double lift rams	
• Tunnel swivel console for dipper stick, 2x45° tilt	
• Dipper stick with double lift rams and integrated bucket ram	
• Hydraulic circuit for hydraulic hammer / cutting unit as well as demolition shear resp. rotator	
• Length of the dipper stick	3'780 mm (optional 2'880mm)
• Dipper stick crowd distance (in 4,7m height)	2'400 mm
• Standard ripper bucket	660 mm wide with 2 teeth
• Bucket radius	1'175 mm
• Ripping force	100 kN
• Breakout force	140 kN

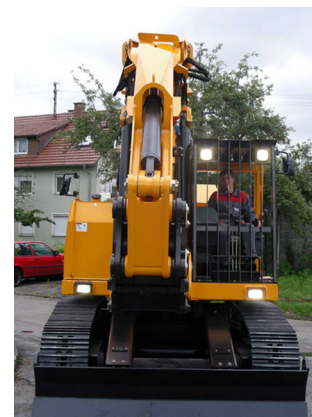
Optional equipments

- There is the possibility for the attachment of a range of ancillary equipment such as:
- Attachments quick hitch for tools, ripper and loading bucket, ripper tooth, cutting unit (max. 110 kW), rock breaker (max. 1200 kg), demolition crusher (max. 1800 kg), etc.
- Closed operator cab with air condition and protection ventilation system
- Fire extinguishing system for engine compartment
- Electric drive instead of Diesel drive
- Dipper sticks for longer or shorter reach, etc.
- Customised boom equipment

Further details accessories available upon request.
Subject to modification without prior notice.



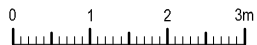
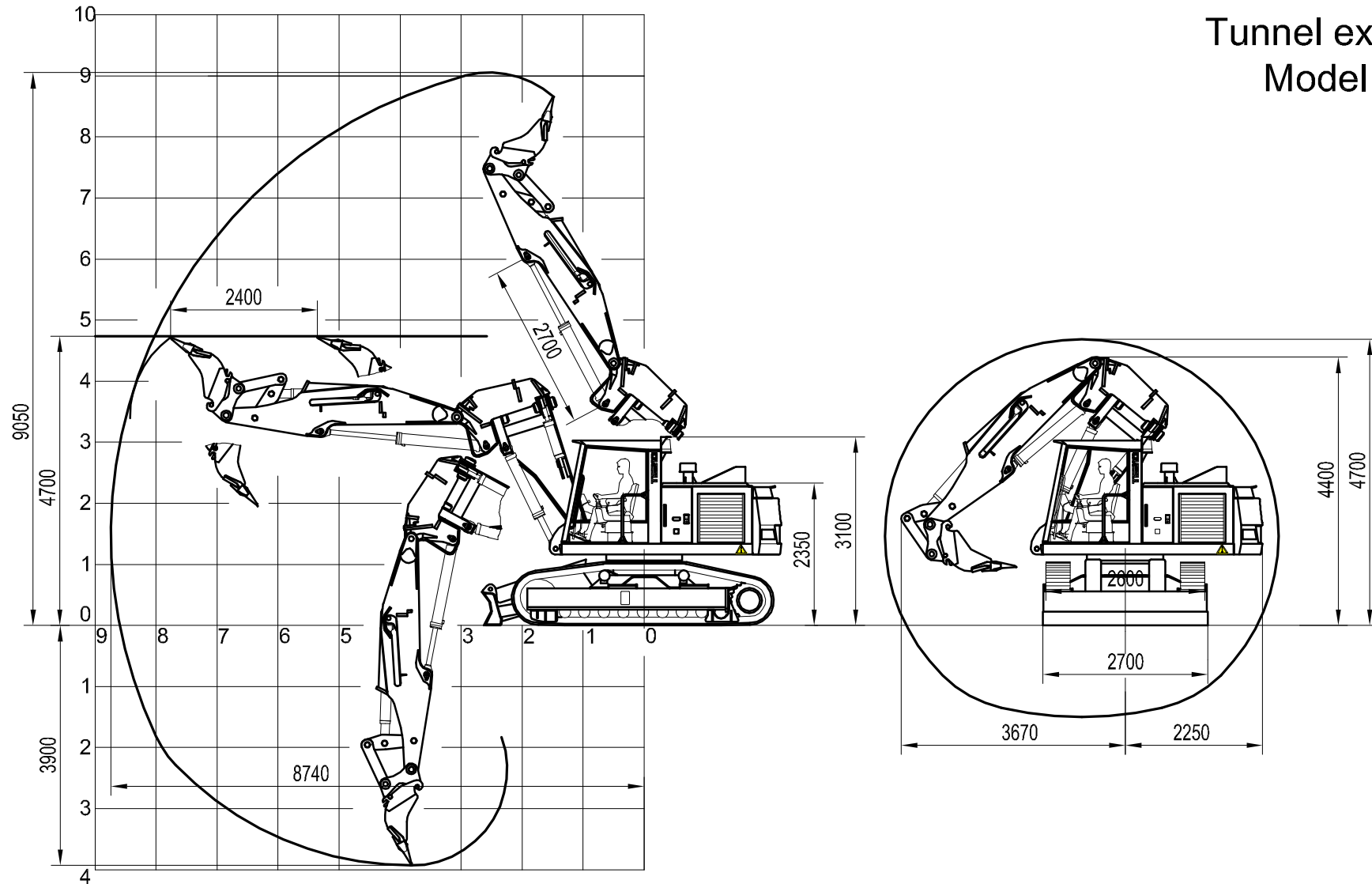
TE210



Tunnel Excavator



Tunnel excavator Model TE 210



TE210-01

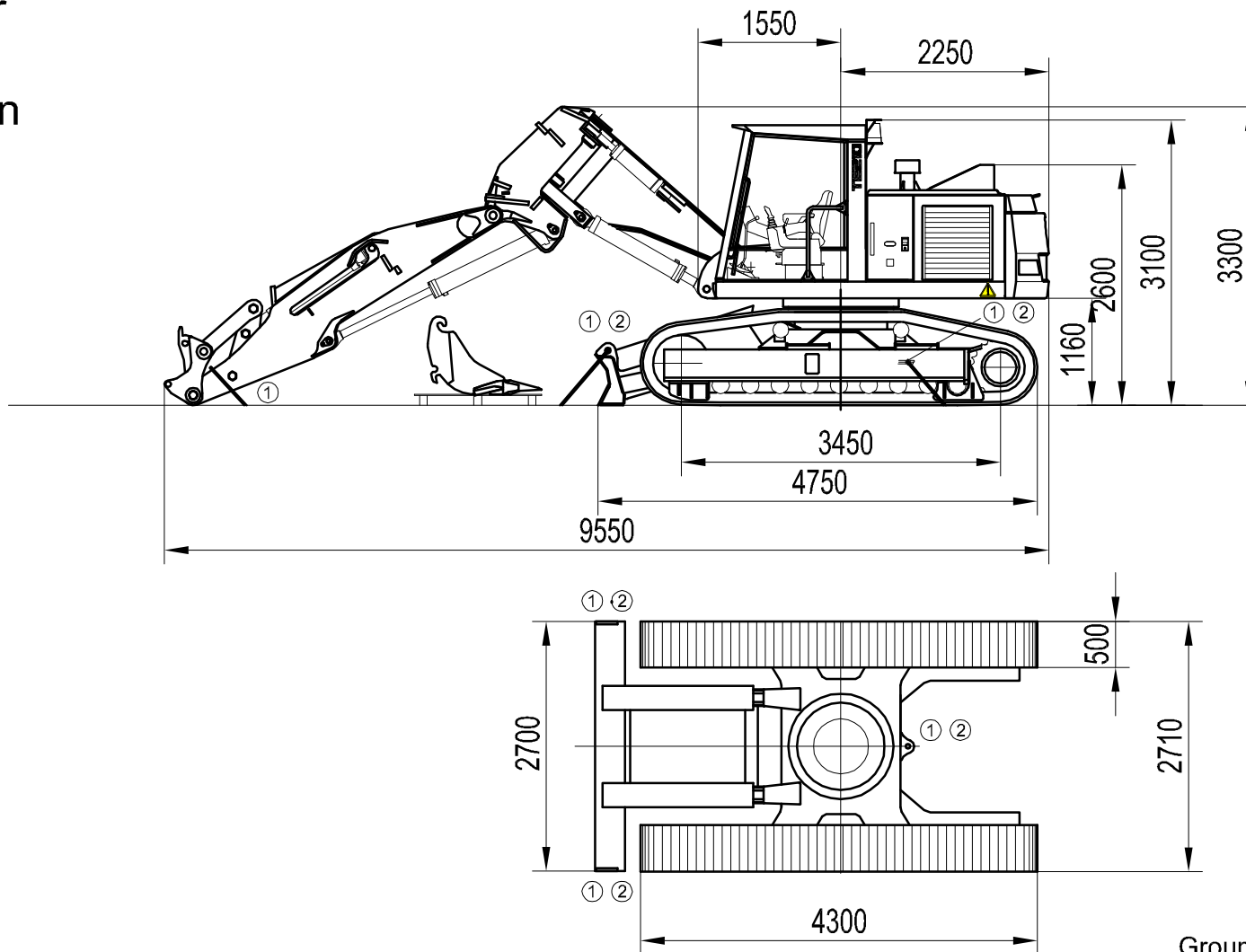
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Tunnel excavator
 Model TE 210
 Transport position



Ground pressure: 0,81 kg/m²



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TE210-03

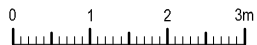
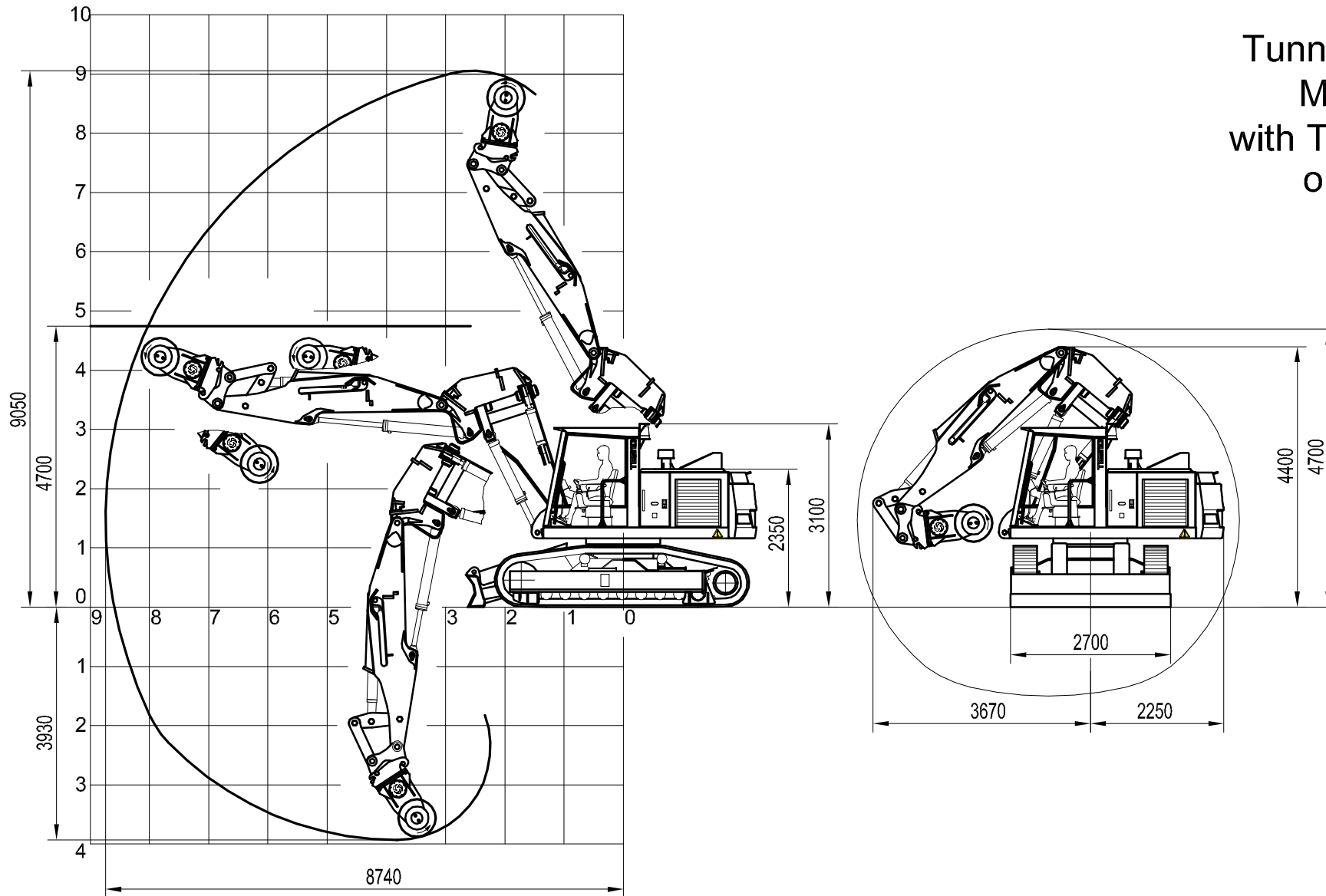
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Tunnel excavator
 Model TE 210
 with TCU WS 90N
 on quick hitch



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TE210-04

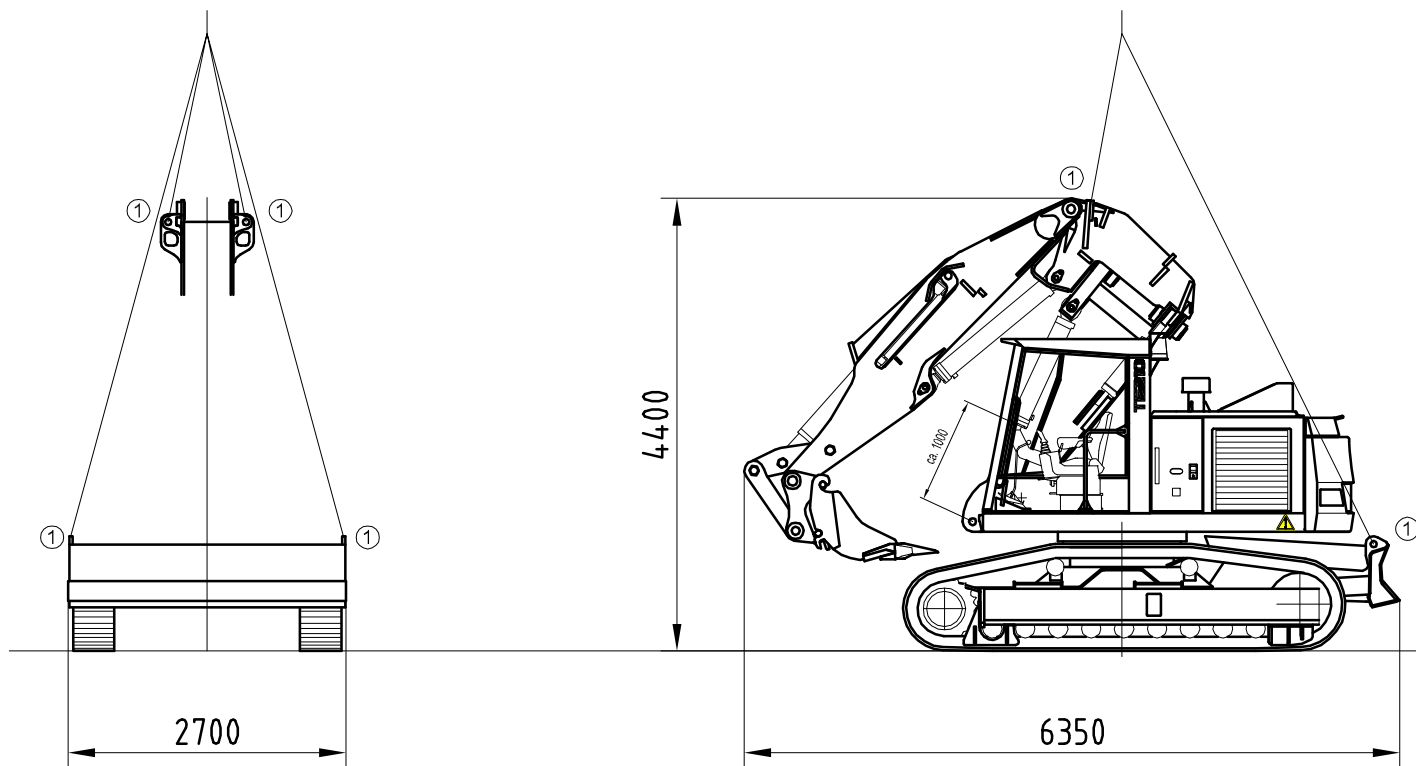
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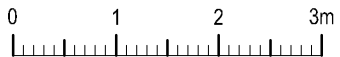
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Tunnel excavator Model TE 210 Crane loading




- ① Crane loading
- Upper carrier turned (180°)
- Drive out the jib ram of the indication measure
- Boom equipment straight forwards
- Shield fully lifted
- Dipper stick ram driven in
- Bucket ram driven out (bucket flipped in)

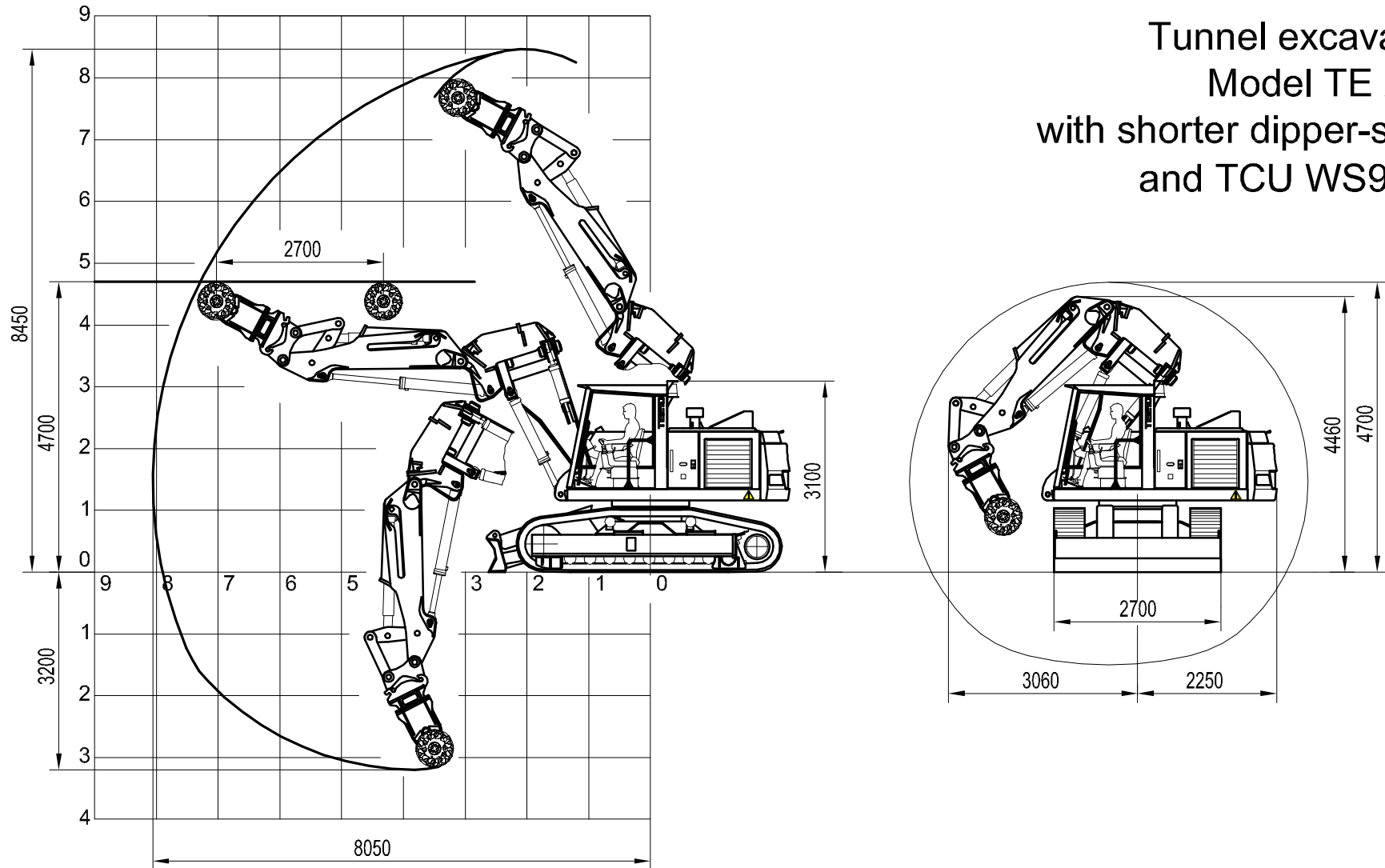
Weight: 28'000kg



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Tunnel excavator Model TE 210 with shorter dipper-stick and TCU WS90 N



Equipment:
TCU WS90 N with adapter platte CW40
Dipper-stick 2880mm



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TE210-09

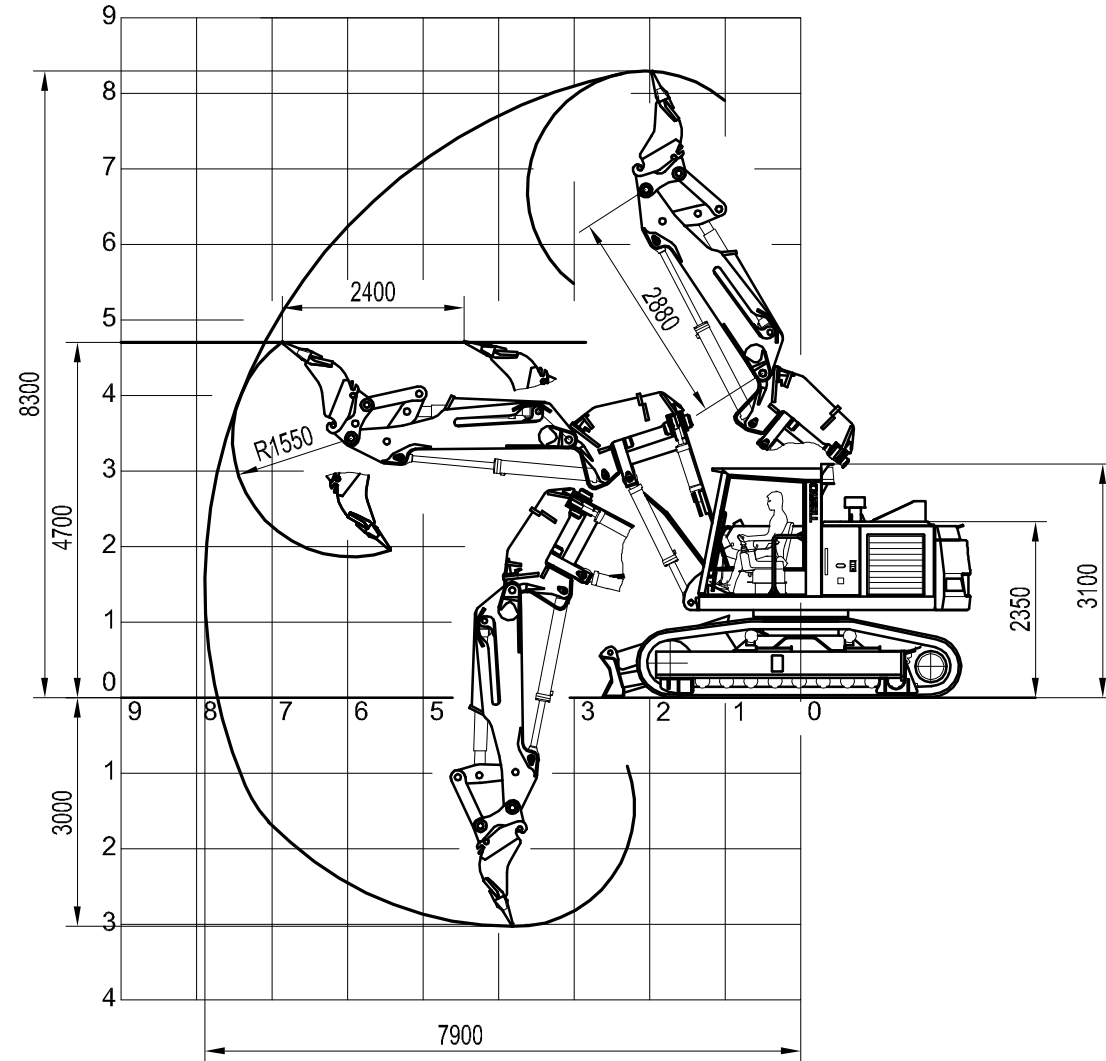
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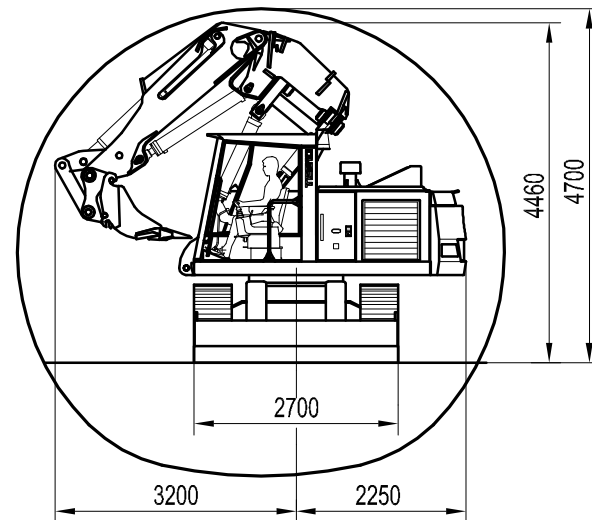


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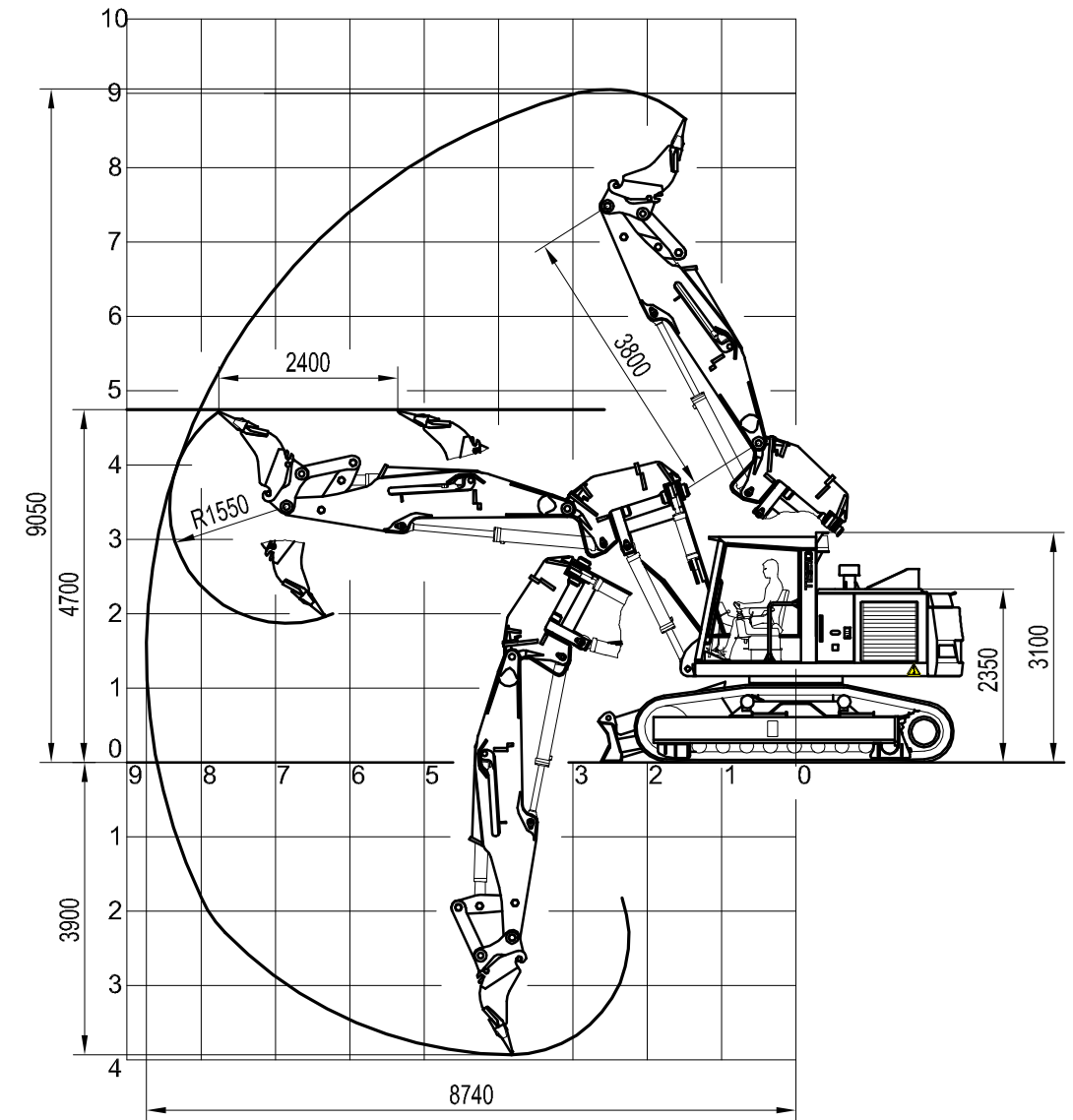
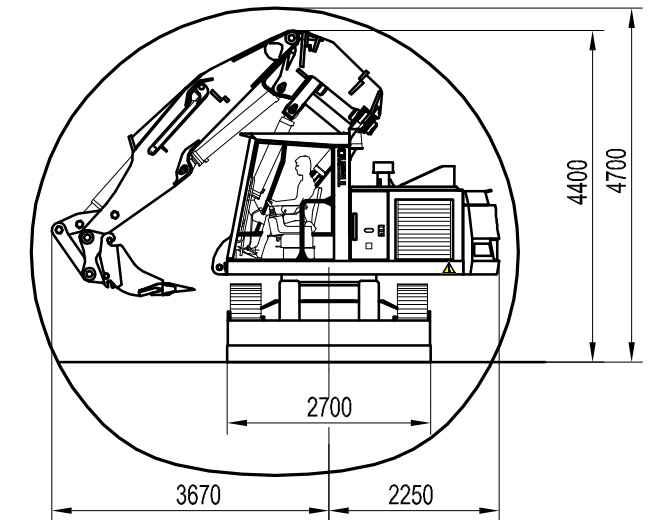
Tunnel Excavator Model TE210



with shorter dipper-stick 2880 mm



with dipper-stick 3800 mm



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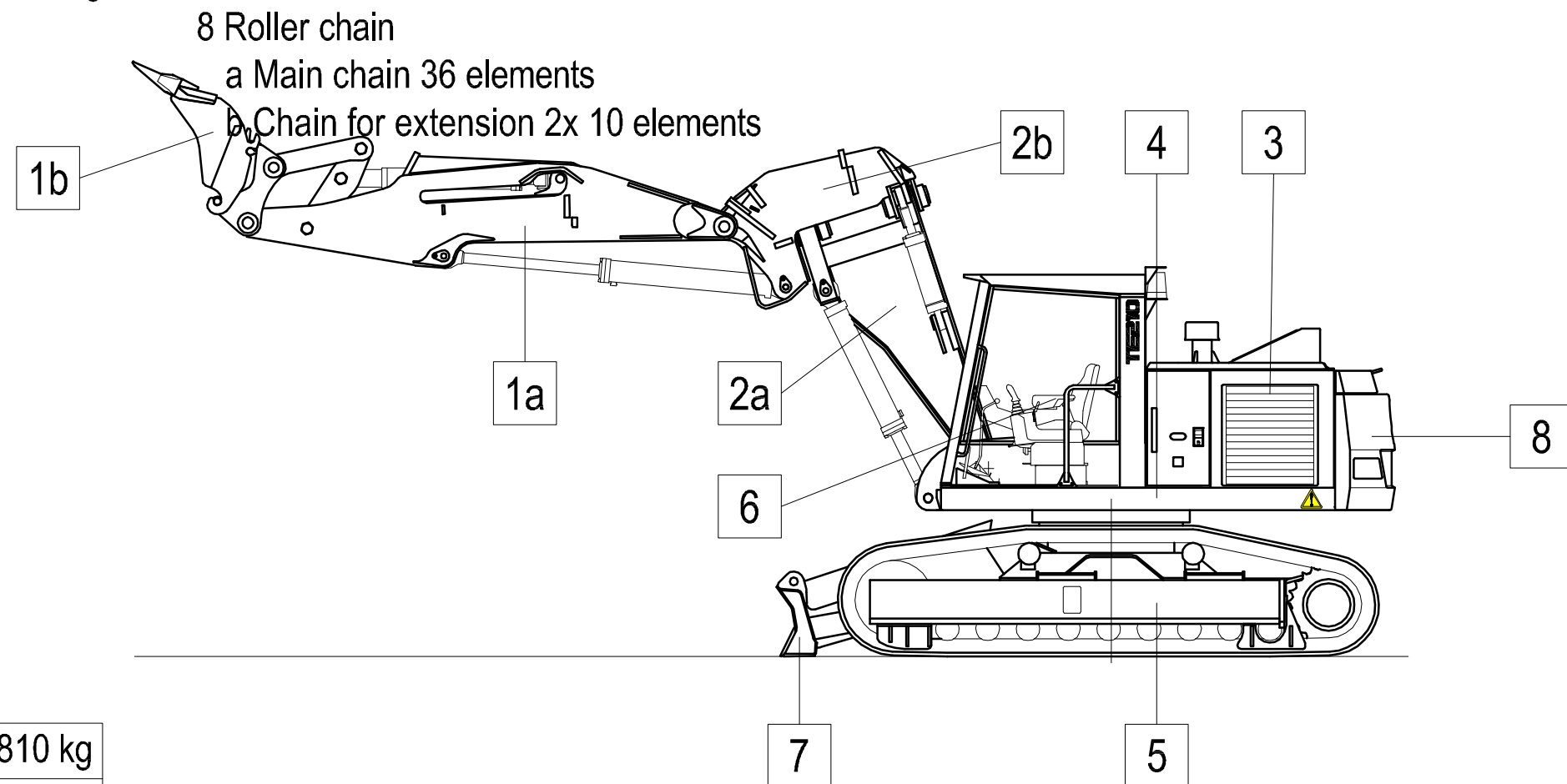
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Tunnel heading and loading machine Model ITC120N F2

Composition of the weight of the construction groups

<p>1 Tool carrier</p> <p style="margin-left: 20px;">a Tool carrier with cylinder (2'285 kg)</p> <p style="margin-left: 20px;">b Bucket with cylinder 1'565 kg</p> <p style="margin-left: 20px;">c Tilting- Swivel console cpl. 720 kg</p> <p style="margin-left: 20px;">d Hammer Rammer S29 with ram</p> <p style="text-align: right; margin-right: 20px;">(2'755 kg)</p>	<p>3 Drive</p> <p style="margin-left: 20px;">a Electrical drive 50Hz / 400V / 55kW (1'150 kg)</p> <p style="margin-left: 20px;">b Diesel drive DEUTZ TCD 2012 - 74kW 1'150 kg</p> <p>4 Basic machine wit crawler carrier</p> <p>6 FOPS protection cab + Front guard 2'670 kg</p> <p>7 Conveyor 3'450 kg</p> <p style="margin-left: 20px;">a Basic conveyor + Load. apron 300 kg</p> <p style="margin-left: 20px;">b Conveyor drive</p> <p style="margin-left: 20px;">c Extension element (2x1625mm)</p>	<p>9 Cable reel without cable 1'240 kg</p> <p>10 Additional working equipement 2'000 kg</p> <p style="margin-left: 20px;">a Electric cable 75m 3x50 + 3x10</p>
<p>2 Jib 1'705 kg</p> <p style="margin-left: 20px;">a Tilting console cylinder 1'050 kg</p> <p style="margin-left: 20px;">b Jib with cylinder</p> <hr style="width: 100%;"/> <p style="margin-left: 20px;">c King post with cylinder</p> <p style="margin-left: 20px;">d Moil point holder 5'040 kg</p>		

Total boom equipment:



Machine total weight:	10'810 kg
Boom F2 total weight:	5'040 kg
Ad. equipment weight:	
Total weight:	15'850 kg

Produced by ITC GmbH

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