

3. Technical Data

3.1 Views

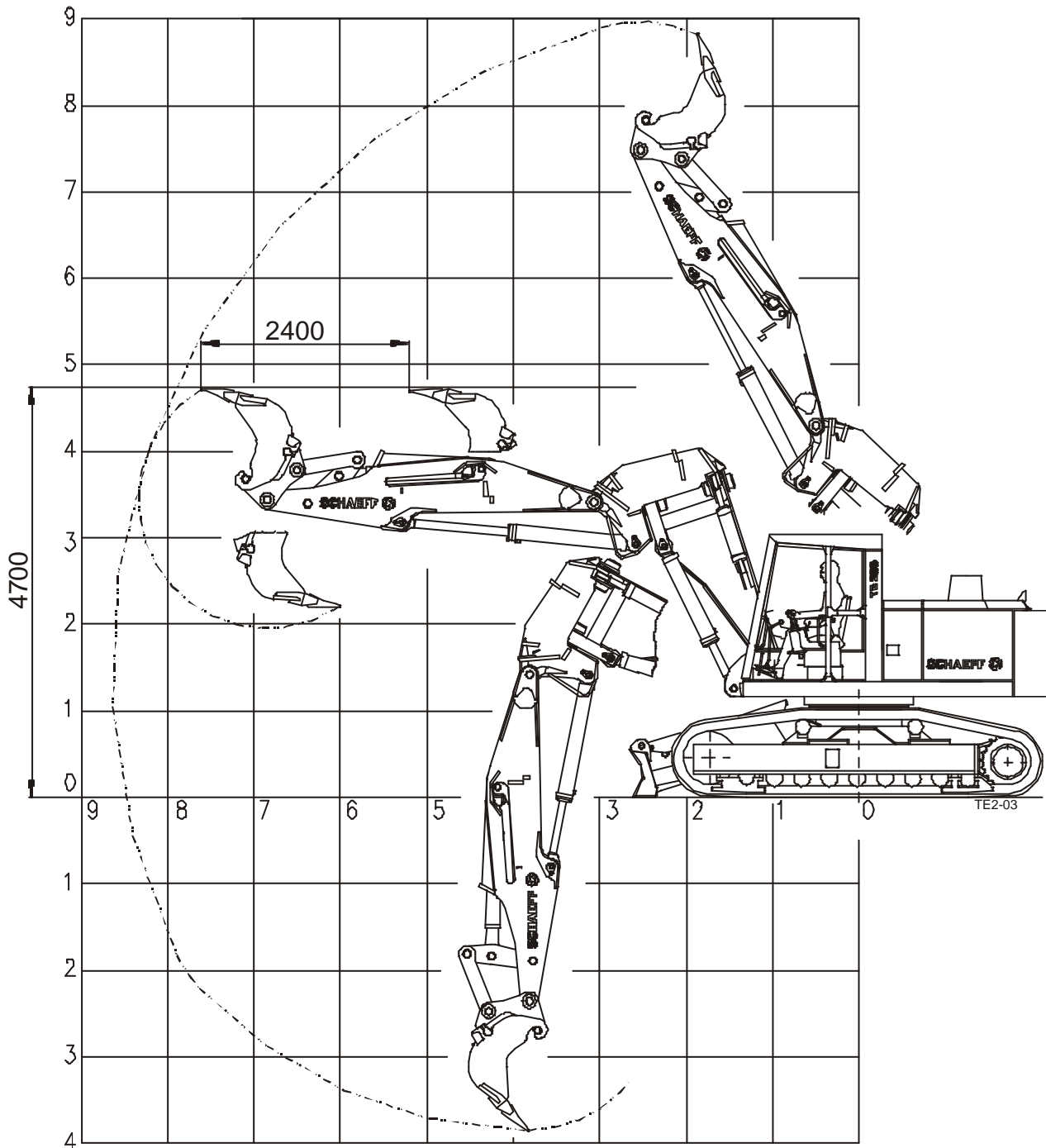


Fig. 3 Digging envelope

### 3 Technical Data

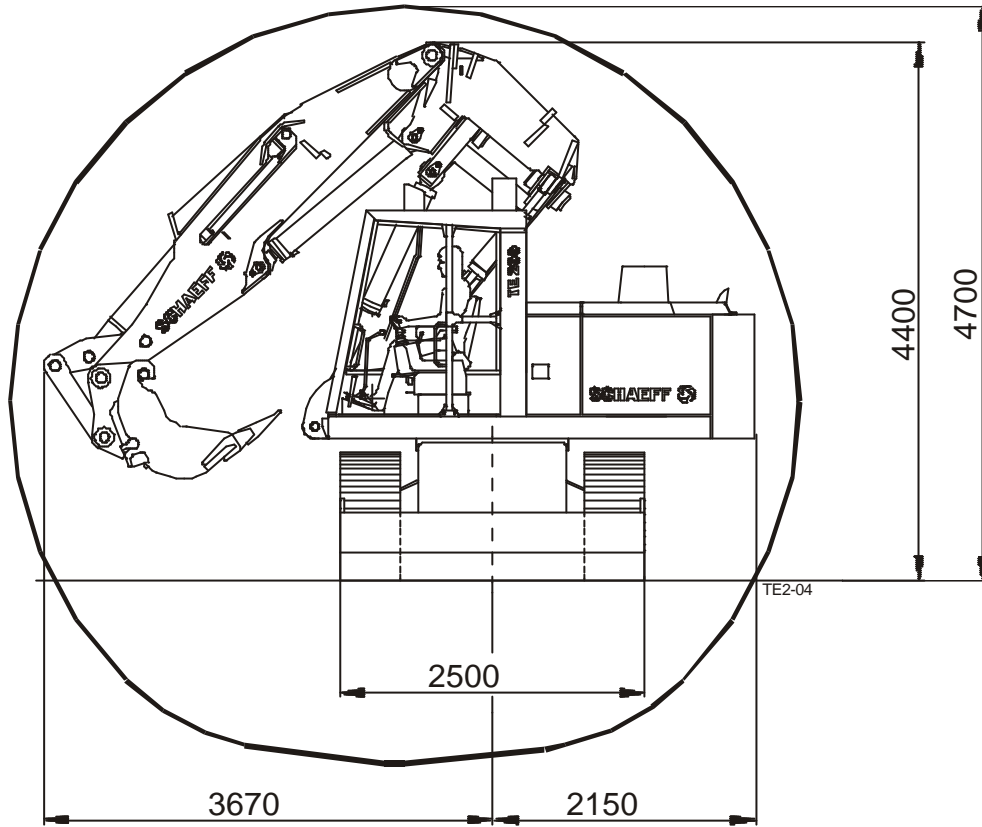


Fig. 4 Tunnel profile

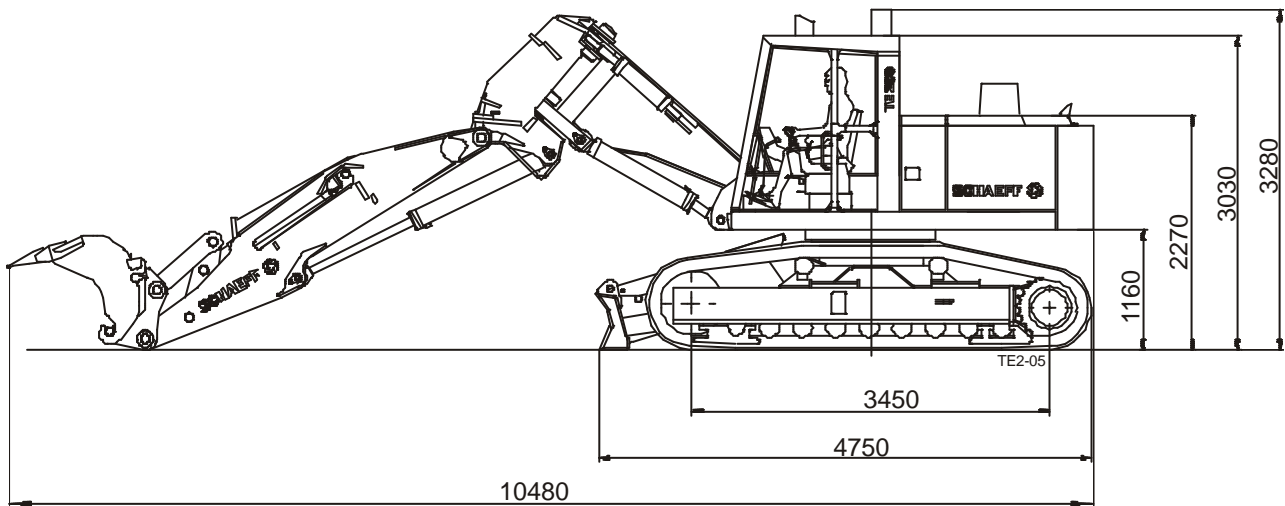


Fig. 5 Transport position

**3.2 Engine**

|                         |  |
|-------------------------|--|
| Make.....               | : Perkins  |
| Type .....              | : 1006-60T   |
| Design .....            | : 6-cylinder, in-line, four-stroke diesel engine,<br>turbocharger<br><br>optimised for emissions reduction |
| Displacement .....      | : 6,000 cm <sup>3</sup>  |
| Power to DIN 70020..... | : 103 kW at n = 2,300 rpm  |
| Max. torque .....       | : 537 Nm at n = 1,200 rpm  |
| Cooling .....           | : Water/ antifreeze mixture  |

**3.3 Electrical system**

|                        |                  |
|------------------------|------------------|
| Operating voltage..... | : 24 V           |
| Batteries .....        | : 2 x 12 V 65 A  |
| Generator .....        | : 24 V 55 A      |
| Starter.....           | : 4.0 kW         |
| Starting aid .....     | : Flame-type kit |

**3.4 Travel mechanism**

|                                  |   |
|----------------------------------|---|
| Crawler-type undercarriage ..... | : Maintenance-free crawler-type undercarriage,<br>type D6<br><br>Hydraulic crawler tensioning.<br>Triple grouser plate, 500 mm wide<br>3,450 mm in length |
| Travel speed .....               | : Forwards - reverse<br><br>Gear range I = 0 > 1.7 km/h<br>Gear range II = 0 > 5.0 km/h   |
| Max. gradability .....           | : 100%  |
| Drawbar pull .....               | : 280 kN  |
| Power transmission .....         | : Hydrostatic drive with 3-stage planetary gear<br>directly acting on the crawler sprockets.  |

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### 3.5 Steering

Steering .....: Independent individual control of crawler chains, also counterwise.  
Hydraulic pilot-operated valves operated by 2 foot pedals, combined with 2 additional levers.

### 3.6 Brakes

Parking brake.....: Hydraulically released, spring-loaded multi-disc brake in the crawler gear units.  
Swing brake .....: Automatically acting spring-loaded multi-disc brake acting as parking brake.  
Additionally, the hydrostatic swing drive acts as a wear-resistant swing brake.

### 3.7 Hydraulic system

Hydraulic system .....: Dual axial piston pump with load-sensing and electronic power limit control.  
Max. capacity: 2 x 230 l/min.  
Max. pressure: 350 bar  
Hydraulic cylinders.....: Double-acting working cylinders, partially with end position damping.  
Swing drive.....: Hydrostatic with two-stage planetary gear and drive pinion on internally toothed ring gear of swing connection.  
Swing range: 360° unlimited  
Swing speed: 0-8 rpm.  
Hydraulic oil filters .....: 2 full-flow return filters in tank  
Hydraulic oil radiator: .....: Thermostatically controlled  
Range 50-45 °C

### Support / dozer blade

Width .....: 2,500 mm

**3.8 Lubricants**

**3.8.1 Filling quantities**




|                                      |         |  |  |
|--------------------------------------|---------|--|--|
| Fuel .....                           | approx. | 260.0 l  | Diesel   |
| Fuel additive .....                  |         | 1:1000 l   | Additive as specified by the manufacturer of the particle filter |
| Engine oil and filters.....          | approx. | 15.0 l   | Engine oil (change quantity)                                     |
|                                      |         | 2 x 0.5 l  |  |
| Hydraulic oil, tank and system ..... | approx. | 330.0 l  | Hydraulic oil  |
| Hydraulic oil tank.....              | approx. | 280.0 l  | Hydraulic oil (change quantity)                                  |
| Crawler gear units .....             | each    | 5.0 l  | Gear oil   |
|                                      | approx. |  |  |
| Swing gear .....                     |         | circulating lubrication (supplied by hydraulic system) |  |
| Ring gear slewing joint.....         |         | 21 kg  | Low-viscosity grease   |
| Engine coolant .....                 | approx. | 40.0 l   | Water with anti-corrosion agent and antifreeze                   |

All values stated are approximate.

The level marking is always the decisive factor.

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#### 3.8.2 Fuel, lubricant and coolant specifications

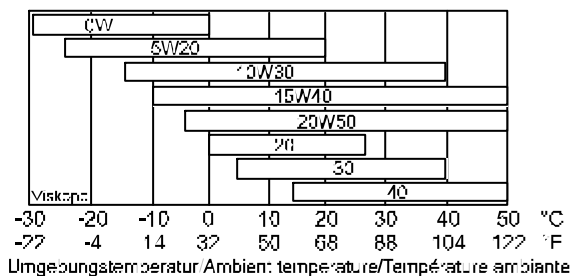
| Application                                    | Code designation according to Bi <sup>1)</sup> | Prescribed fuels, lubricants and coolants for Central Europe  |                                     | Remarks  |
|--|--|---|-------------------------------------|--|
|  |  | Designation   | Specification, Standards, Quality   |  |
| Engine   | --   | Diesel fuel<br> When using a particle filter system additives may be required. | DIN 51601<br>ASTM D975 1-D / 2-D    |  Before using RME-fuels (rape oil methyl ester), it is essential to consult your responsible <b>SCHAEFF</b> dealer for further details.   |
| Engine   | EO 1540 A                                      | Engine oil  | SAE 15W-40<br>API CF4               | See also engine manufacturer's instructions  |
| Cooling for engine                             | SP-C   | Coolant   | Antifreeze based on ethylene glycol | See also engine manufacturer's instructions  |
| Hydraulic system                               | HYD 1040                                       | Hydraulic oil or multi-grade engine oil   | HVLP D 68<br>or<br>SAE 10W-40       | <b>The following viscosity limit values must be kept (according to ASTM 445)</b><br>at 100 °C min. 10 mm <sup>2</sup> /s (cSt)<br>at -10 °C approx. 1,500 mm <sup>2</sup> /s (cSt)<br><br> When changing from mineral to biodegradable hydraulic oils, it is essential to consult your responsible <b>SCHAEFF</b> dealer. |
| Crawler gear units                             | GO 90 LS                                       | Gear oil  | SAE 80W-90LS<br>API-GL 5            | Alternative recommendations:<br>SAE 90LS<br>SAE 85W-90LS   |
| Lubricating points, central lubricating system | MPG-A  | Multi-purpose, lithium-soap based grease  | K2K-30<br>DIN 51825                 |  |
| Ring gear slewing joint                        |  | Low-viscosity grease  | GOOM-30<br>DIN 51502                |  |

4. In conformity with the regulation lubricants of the Main Association of the German Building Industry e.V.

#### Alternative recommendation for other temperature ranges

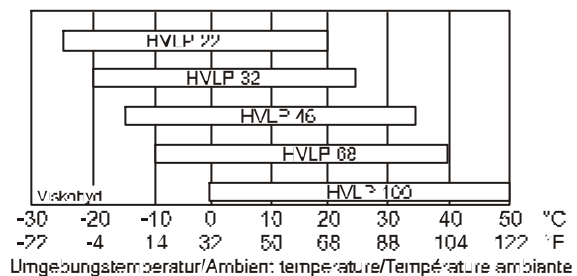
##### Engine oil

according to API CG 4 or CF 4 and according to ACEA E3 or E2



##### Hydraulic oil

according to DIN 51524.T3 HVLP



**3.9 Standard equipment**

- FOPS-certified canopy
- Certified cab front guard

**3.10 Sound level values to EEC 86/662**

Sound power level: .....  $L_{W(A)} = 105 \text{ dB (A)}$

Sound pressure level in driver's cab.....  $L_{p(A)} = 85 \text{ dB (A)}$



***Wear ear protectors!***  
***Danger of hearing loss.***

**3.11 Dimensions and weights**

|   |         |           |
|---|---------|-----------|
| Operating weight (depending on work equipment): ..... | approx. | 25,000 kg |
| Total width – dozer blade: .....                      |         | 2,500 mm  |
| Width over crawlers:.....                             |         | 2,500 mm  |
| Min. tunnel profile height:.....                      |         | 4,600 mm  |
| Min. clearance height:.....                           |         | 3,300 mm  |
| Height up to top edge of driver's cab (canopy):       |         | 3,030 mm  |
| Uppercarriage tailswing: .....                        |         | 2,000 mm  |
| Track width:.....                                     |         | 2,000 mm  |
| Centre of sprocket to centre of idler: .....          |         | 3,450 mm  |
| Overall length of undercarriage: .....                |         | 4,750 mm  |

**3.12 Excavator installation**

Special tunnel boom with 2 x 45° slewing assembly

|                      |    | <b>Dipperstick</b> |
|----------------------|----|--------------------|
|                      |    | <b>3,780 mm</b>    |
| Digging depth .....  | mm | 3,900              |
| Max. reach.....      | mm | 8,900              |
| Bucket radius .....  | mm | 1,175              |
| *Ripping force.....  | kN | 100                |
| *Breakout force..... | kN | 140                |

4. Values are theoretical according to DIN 24086

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#### TE 200 Table of Carrying Capacity

| Load radius from the centre of the ring gear |   |                |     |     |     |     |     |     |     |     |     |
|--|---|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A: supported by blade                        |   | V: unsupported |     |     |     |     |     |     |     |     |     |
|  |   | 3m             |     | 4m  |     | 5m  |     | 6m  |     | 7m  |     |
| Height of hook                               |   | l              | t   | l   | t   | l   | t   | l   | t   | l   | t   |
| 3 m  | A | 9.0            | 5.9 | 9.0 | 5.9 | 8.1 | 4.2 | 5.6 | 2.6 | 4.1 | 1.5 |
|  | V | 7.1            | 5.7 | 7.1 | 5.7 | 4.7 | 4.0 | 3.1 | 2.5 | 2.0 | 1.4 |
| 1.5 m  | A | 7.9            | 6.1 | 7.9 | 6.1 | 9.0 | 3.6 | 5.4 | 2.3 | 4.2 | 1.4 |
|  | V | 7.2            | 5.8 | 7.2 | 5.8 | 4.4 | 3.4 | 2.9 | 2.2 | 2.0 | 1.3 |
| 0 m  | A | 8.7            | 4.4 | 8.7 | 4.4 | 8.4 | 2.8 | 6.5 | 1.8 | 4.0 | 1.1 |
|  | V | 6.1            | 4.2 | 6.1 | 4.2 | 4.2 | 2.6 | 2.6 | 1.7 | 1.7 | 1.0 |
| -0.5 m                                       | A | 8.3            | 4.5 | 8.3 | 4.5 | 9.0 | 2.8 | 6.2 | 1.9 | 3.6 | 1.2 |
|  | V | 6.0            | 4.2 | 6.0 | 4.2 | 3.9 | 2.6 | 2.4 | 1.7 | 1.6 | 1.2 |

l = lengthwise; t = transverse

The stated carrying capacities in tonnes (t) include a stability factor of 1.33, or 87% of the hydraulic lifting load capacity. In each case, the smaller value is indicated.

The values were determined with quick-attach system but without bucket. With a tool (bucket) attached, the permissible payloads are reduced by the weight of the tool attached.

#### 3.13 Work attachments

|  |                |
|--|----------------|
| Standard ripper bucket, 2 teeth.....   | 630 mm wide    |
| Bucket .....                           | 660 mm wide    |
| Ripper tooth.....                      |                |
| Hydraulic rock breaker .....           | 1,400 kg class |
| Hydraulic transverse cutting unit..... | up to 60 kW    |
| Hydraulic crusher .....                |                |

#### 3.14 Optional equipment

- Emission control with soot particle filter
- Quick-mount hitch for work attachments
- Enclosed driver's cab
- Second support / dozer blade

Further additional equipment available upon request!



*Any modifications of **SCHAEFF** products and their equipment using extras and work attachments which are not included in our product range require our written approval.*

*If our approval is not sought, our warranty expires, as does our product liability for any resulting consequential damage.*



3.15 Working range for cutting unit operation



For safety reasons, ensure that the indicated reaches are not exceeded when the cutting unit is operated.

The load radius refers to the centre of the ring gear to the dipperstick/quick-mount hitch attachment point.

**Danger of tilting!**

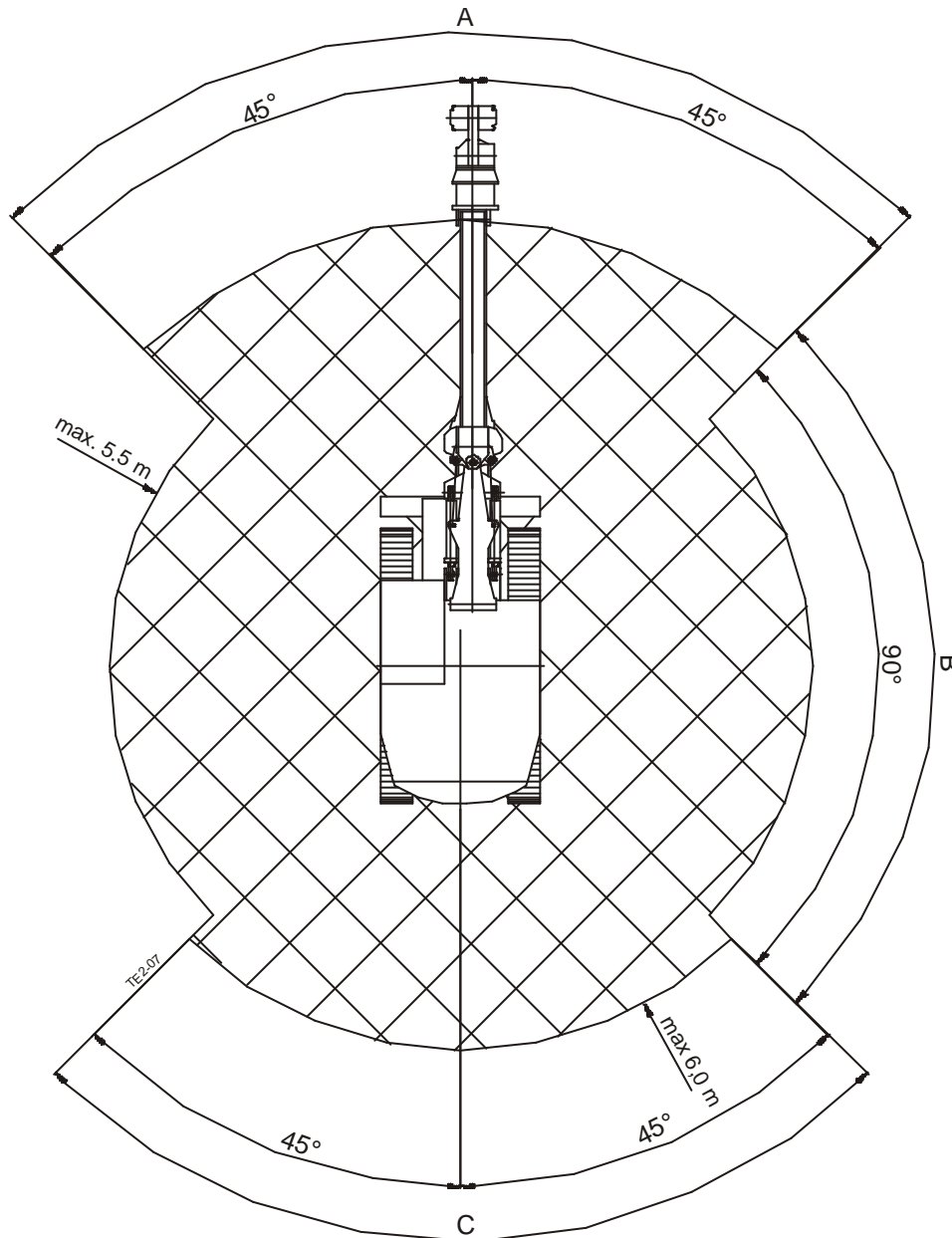


Fig. 7-Cutting unit working envelope

A = max. reach

B = restricted reach, max. 5.5 m

C = restricted reach, max. 6.0 m

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