Sennebogen 653 Specification
**Telescopic crawler crane**

- **119 kW (Tier 3a)**
- **129 kW (Tier 4)**
- **50 t**
- **30.4 m**

*Tier 4f emission standards*
### ENGINE

**Model**
Cummins QSB 4.5 diesel motor, 119 kW/162 hp at 2,200 rpm
Cummins QSB 4.5 diesel motor, 129 kW/175 hp at 2,500 rpm

**Cooling**
Water-cooled

**Diesel filter**
With water separator and heating system

**Air filter**
Dry filter with integrated pre-separator, automatic dust discharge, main element and safety element, contamination indicator

**Fuel tank**
360 l

**AdBlue tank**
38 l

**Electrical system Anlage**
24 V

**Batteries**
2 x 155 AH battery disconnect switch

**Options**
- Low-temperature package with engine pre-heating and heated diesel filter for temperatures below -20 °C
- Electric fuel pump

### HYDRAULIC SYSTEM

**Load sensing/LUDV hydraulic system, electrohydraulic pilot-controlled work functions, load limit sensing control**

**Pump type**
Swashplate-type variable-displacement piston pump, load pressure-independent flow distribution for simultaneous, independent control of work functions

**Pump control**
Zero-stroke control, on-demand flow control – the pumps only pump as much oil as will actually be used, pressure purging, load limit sensing control

**Operating pressure**
max. 330 bar

**Filtration**
High-performance filtration with long change interval

**Hydraulic tank**
500 l

**Control system**
Proportional, precision electrohydraulic actuation of work movements, 2 electric servo joysticks for work functions, including winch motion display via vibration transducer, additional functions via switches and pedals

**Safety**
Hydraulic circuits secured with safety valves
Pipe fracture safety valve for luffing and telescoping cylinders

**Options**
- Bio-oil – environmentally friendly
- SENNEBOGEN HydroClean 3-μm hydraulic microfilter
- Electric heater for hydraulic tank for temperatures below -20 °C

### UPPER CARRIAGE

**Design**
Torsion-resistant box design, precision crafted, steel bushings for boom bearings. Extremely service-friendly design, longitudinal engine

**Electrical system**
Central electrical distributor, battery disconnect switch

**Cooling system**
3-circuit cooling system with high cooling capacity, electronically regulated fan drive for water, charge air and oil cooler

**Safety**
Rearview and right sideview cameras, LED lighting package

**Options**
- Additional LED headlights
- Up to 2 additional cameras
- Anti-corrosive maritime climate varnish
- Low-temperature package for use at temperatures below -20 °C

### SLEWING DRIVE

**Gearbox**
Compact planetary gear with slant-axis hydraulic motor, integrated brakevalves

**Slewing gear brake**
Spring-loaded disk brake, pedal for individual braking

**Slewing ring**
Externally geared slewing ring, sealed

**Slewing speed**
0 – 2 rpm, variable

Subject to change. Additional options available upon request.
### ATTACHMENTS

| Design | Decades of experience, state-of-the-art computer simulation, maximum stability, longest service life, oversized, low-maintenance bearing points, sealed special bearing bushes, precision-crafted |
| Telescopic boom | 4-piece with pulley head, continuous hydraulic telescoping from 9.4 – 30.4 m |
| Hoisting winch | Slant-axis hydraulic motor drive with compact planetary gear, 50 kN pulling power (4th layer), 0 – 115 m/min. cable speed, 16 mm cable diameter, 170 m cable length. Winch motion display via vibration transducers in the joysticks |
| Safety brake | Spring-loaded disk brake |
| Crane safety | Next-generation load moment monitoring, straightforward panel displaying all important data through SENCON display, lifting limit switch, cable exit protection, pressure relief valves and pipe fracture safety device with event recorder |
| Cylinders | Hydraulic cylinders with high-quality sealing and guide elements |
| Options | - 6.5-m fly boom, tiltable (0°, 40°), extremely fast and easy setup without auxiliary devices, locked on basic boom when not in use |
| | - Fly boom extension to 13 m, tiltable (0°, 40°) |

### UNDERCARRIAGE

| Design | T41/380 crawler undercarriage with hydraulically extendable track width. Stable welded construction. |
| Drive | Hydraulic travel drive for each running gear side, 2-stage hydraulic traction motors |
| Parking brake | Spring-loaded, hydraulically ventilated disk brake |
| Traveling gear | 700-mm 3-grouser crawler shoes, maintenance-free tractor chassis |
| Speed | 0 – 2.9 kph |
| Options | Available crawler shoe types: |
| | - 800-mm 3-grouser crawler shoes |
| | - 700-mm flat crawler shoes |

### OPERATING WEIGHT

| Mass | Approx. 51,300 kg |
| With 30.4-m telescopic boom, 35-t hook, 700-mm 3-grouser crawler shoes, 2 hoisting winches, hydraulically telescoping undercarriage, 8.9-t ballast, 5.5-t undercarriage ballast |
| Note | The operating weight varies according to model type. |
Crane equipment

30.4-m main boom (HA)

Subject to change. See page 17 for notes on load lift charts.
### Load ratings

#### 30.4-m main boom (HA)

<table>
<thead>
<tr>
<th>Boom length [m]</th>
<th>9.4</th>
<th>12.8</th>
<th>16.3</th>
<th>19.8</th>
<th>23.3</th>
<th>26.8</th>
<th>30.4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Counterweight [t]</strong></td>
<td>8.9</td>
<td>8.9</td>
<td>8.9</td>
<td>8.9</td>
<td>8.9</td>
<td>8.9</td>
<td>8.9</td>
</tr>
<tr>
<td><strong>Undercarriage ballast [t]</strong></td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>Undercarriage track width [m]</strong></td>
<td>3.8</td>
<td>3.0</td>
<td>2.3</td>
<td>3.8</td>
<td>3.0</td>
<td>2.3</td>
<td>3.8</td>
</tr>
</tbody>
</table>

#### Outreach [m]

| Number of strands | 4 | 10 | 10 | 3 | 8 | 8 | 3 | 6 | 6 | 2 | 4 | 4 | 2 | 4 | 4 | 2 | 4 | 4 | 1 | 4 |
|-------------------|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I                 | 0%| 50%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%|
| II                | 0%| 0% | 0%  | 0%  | 25% | 50% | 75% | 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%|
| III               | 0%| 0% | 0%  | 0%  | 0%  | 25% | 50% | 75% | 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%| 100%|

| Load capacity reduction [kg] | 580 | 420 | 330 | 270 | 230 | 200 | 180 |

Subject to change. See page 17 for notes on load lift charts.
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