Stage IVf emission standards

Crawler material handler

97 kW (Stage IIIa)
104 kW (Stage IVf)
90 kW (Electro)

26.3 t

11 m
Advanced. The E-Series

What makes up the E-Series

- More than 65 years of experience in designing and constructing hydraulic material handling machines
- Uncompromisingly high performance in all areas: Focus on material handling
- Technology that can be mastered: High-quality components without over-engineering
- Long product service life and high value retention

Your top benefits

1. **Green Efficiency**
   Safe fuel - reduce operating costs
   Work quietly - protect operator and environment

2. **Peak performance**
   Durable mechanical systems - stressed parts optimized
   High speeds - high load capacities

3. **Maximum usability**
   Comfortable Maxcab operator club - relaxed work
   SENCON - work program selection made easy

4. **Maximum safety**
   Safe entry and exit - no-slip steps
   State-of-the-art camera - entire work area in view

5. **Maintenance and service made easy**
   SENNEBOGEN Control System SENCON - easy fault diagnosis
   Easy Maintenance - clear labeling

6. **Consultation and support in your area**
   3 production sites - 2 subsidiaries
   more than 130 sales partners - worldwide and also in your area

1962: Rope-driven S833 with elevated operator cab
Subject to technical changes. Further options available upon request.
Four ways to save fuel

- Up to 20% savings: working in Eco Mode with reduced engine speed
- Idle automation reduces speed to 40% of operating speed
- Stop automation switches the engine off when not needed
- Optimized settings of engine and hydraulics reduces fuel consumption

Quiet operation

- Consistently quiet operation thanks to decoupled engine mounts and soundproofing in the doors
- Sound pressure level reduced by up to 4.5 dB; soundpower level according to 2000/14/EC up to 2 dB lower than required

High-capacity cooling

- Constant, reliable performance thanks to large-dimensioned and robust fans and coolers
- Water and oil coolers with top-notch efficiency thanks to axial-piston pump and motor control and ondemand thermostatic control
- Fan reversal for cleaning in series
Maximum safety
- No-slip work surfaces 1
- 2 cameras to the right and rear
- Platform with railing next to cab sliding door* 2

Powerful hydraulic system 5
- Strong pumps with power reserves
- Top efficiency thanks to large-dimensioned hydraulic valves and lines
- Extra-long change intervals of 4,000 operating hours through initial fill-up with special oil with extended service life when using SENNEBOGEN HydroClean*

* Optional
The premium cab.

Features

- optimum cab climate with automatic air conditioning system, partial tinted glass
- pleasant and equal temperature dispersion by means of 9 nozzles
- panoramic view
- climatic comfort seat with air suspension and air conditioning*
- very quiet through optimized noise insulation
- Highest safety & comfort with sliding door, wide door opening
- ergonomically arranged operating controls for fatigue-free and relaxed working
- 12 V, 24 V, and USB charging sockets, hands-free telephone preparation, document box
- various options: electric cooler behind's, protective covers, seat air conditioning

Our SENNEBOGEN joysticks

- consoles and ergonomic joysticks that move with the seat
- pleasant grip through ergonomic design
- precise control of all movements through direct and sensitive function activation
- quick access to all operating controls through optimized design of all push-buttons and switches
Maintenance and service made easy.

Hydro Clean*
- Optimal protection of hydraulic components thanks to 3 μm microfilter
- Cleaner hydraulic oil, longer service life

Central measuring points
- Easily accessible, central measuring points
- Quickly inspect entire hydraulic system

Clear labeling
- All parts labeled with a unique part number
- Easy and reliable spare parts ordering

Optimized for maintenance
- Fast and easy diagnosis thanks to straightforward and clearly labeled electrical distributor
- Easy access to all service points on the machine
- Automatic central lubrication for equipment and slewing gear raceway

* Option
821E Modular design – versatile solutions

Attachments

- Orange-peel grapple
- Double-shell grapple
- Magnetic plate
- Scrap metal shears

Equipment options (others available upon request)

- Diesel-hydraulic drive
- Electrohydraulic drive

Cabs

- Maxcab
- Maxcab Industry

Uppercarriage

- Options
- Engine line drum
- Transformer

Undercarriage variants

- M mobile*
- MHD mobile*
- R25/240 crawler
- 4-point underframe

* Additional information on our mobile undercarriages can be found in the 821 M E-Series brochure
Advantages at a glance

Reliable operation through robust and FEM-optimized equipment

High load capacities even when fully extended thanks to massive cylinders

Better illumination of the work area with powerful LED headlights*

Safe entry and exit thanks to railing*, handles and no-slip steps

Sliding door for convenient entry and exit

Ideal overview and safe working height thanks to stable cab elevation

Robust side covers made of recyclable sheet steel
### Machine Type

**Model (type)**

821

### Engine

**Power**

97 kW / 130 hp at 2,200 rpm (IIIa)

104 kW / 141 hp at 2,200 rpm (IVf)

**Model**

Cummins QSB 4.5 Stage IVF

Direct injection, turbo-charged, charge air cooler, reduced emissions, Eco Mode, idle automation

**Cooling**

Water-cooled

**Air filter**

Dry air filter with cyclonic pre-filter, safety element, contamination indicator

**Fuel tank**

330 l

**DEF tank**

30 l

**Electrical system**

24 V

**Batteries**

2 x cold-start high-performance batteries

**Options**

- Engine block heater for temperatures below -20 °C
- Electric fuel pump
- Jump-start terminals

### UpperCarriage

**Design**

Torsion-resistant upper frame with end shields all the way from boom linkage to counterweight for optimized force transmission, precision-crafted steel bushings for boom bearings, lockable storage compartment, outstanding design, very low noise emissions

**Central lubrication**

Automatic central lubrication for equipment and slewing gear raceway

**Electrical system**

Central electrical distributor, battery disconnect switch

**Options**

- Slewing gear brake via foot pedal
- Perimeter uppercarriage railing for additional safety
- LED lighting packages
- Fire extinguisher
- Special paint finish
- Electric hydraulic tank preheater with uppercarriage power socket
- Low-temperature package (oils, battery heater, hydraulic oil preheater, cab preheater, motor preheater)
- Platform with railing next to cab
- Hydraulically driven 9 kW/15 kW magnetic generator

### Hydraulic System

**Load-sensing/LUDV hydraulic system for work and travel functions**

**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. 350 bar

**Delivery rate**

Max. 310 l/min

**Filtration**

High-performance filtration with long change interval

**Hydraulic tank**

260 l

**Control system**

Proportional, precision hydraulic actuation of work movements, 2 hydraulic servo joysticks for work functions, additional functions via switches and foot pedals

**Safety**

All hydraulic circuits secured with safety valves, hydraulic accumulator for emergency attachment and cab lowering if engine fails, pipe fracture safety valves for stick and hoist cylinders

**Options**

- Bio-oil – environmentally friendly
- ToolControl for programming pressure/rate of up to 10 tools
- Additional hydraulic circuit for shears attachment
- Load moment warning with capacity utilization indicator with/without shutdown
- Electronic overload safeguard with overload shutdown
- SENNEBOGEN HydroClean 3-μm hydraulic microfilter system

### Slewimg Drive

**Gearbox**

Planetary gearbox with axial piston motor and integrated brake valve

**Parking brake**

Spring-loaded, hydraulically vented safety multi-disk brake

**Slewing ring**

Oversized slewing ring

**Slewing speed**

0–8 rpm, continuous. Hydraulic brake valves integrated into motor ensure wear-free braking.
### ATTACHMENTS

#### Design
Sealed and soiling-protected box design with oversized bearing points for long service life. Oversized bearing points with low-maintenance, sealed special bushings, precision-crafted.

#### Cylinders
Special hydraulic cylinder with hydraulic end position damping, optimized kinematics for high lifting power. The material handling attachment is specifically designed for high-performance applications.

#### Central lubrication
Automatic central lubrication system

#### Options
- Ball valves on the hydraulic lines to open, close, and rotate grapple
- Multi-coupling
- Adjustable hoisting limiter/stick limiter

### UNDERCARRIAGE

#### Design
Crawler undercarriage in stable, torsionally rigid box design

#### Travel drive
Hydraulic travel drive

#### Parking brake
Spring-loaded multi-disk brakes with hydraulic brake valves

#### Traveling gear
Undercarriage with 600 mm B4HD traveling gear and 3-grouser track shoes R25/240 crawler undercarriage

#### Travel speed
Stage I: 0–1.8 km/h; Stage II: 0–2.4 km/h

#### Options
- B4HD crawler track with 700 mm 3-grouser canted track shoes

### ELECTRIC DRIVE

#### Option
- Power: **90 kW, 400 V, 50 Hz**
  - Total connected load 200 kVA, customer-provided 250 A fuse (alternatively 315 A with magnet system) for 400 V – delta-wye connection motor start
  - Advantages: Lowest operating costs, quiet and virtually vibration-free work, long service life of hydraulic components

### OPERATING WEIGHT

#### Mass
821 R with R25/240 undercarriage, K11 compact attachment and 600-l orange-peel grapple
- **approx. 26,300 kg**

#### Note
Operating weight varies by model and equipment.
All ratings are in tons (t) and constitute 75 % of the static tipping load or 87 % of the hydraulic lifting power in accordance with ISO 10567. They apply on firm and level ground and 360° slewing with maximum track gauge. The values in parentheses [ ] apply in the longitudinal direction for the undercarriage. Safe working loads include attachments such as multi-shell grapples, magnets, etc. According to harmonized EU standard EN 474-5, hydraulic excavators used for lifting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.
All ratings are in tons (t) and constitute 75% of the static tipping load or 87% of the hydraulic lifting power in accordance with ISO 10567. They apply on firm and level ground and 360° slewing with maximum track gauge. The values in parentheses [ ] apply in the longitudinal direction for the undercarriage. Safe working loads include attachments such as multi-shell grapples, magnets, etc. According to harmonized EU standard EN 474-5, hydraulic excavators used for lifting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.

Technical features and dimensions subject to change.
Dimensions

821 R with R25/240 undercarriage and E270 hydraulically elevating cab

821 R with 6.3 m compact boom and 4.6 m dipperstick

Vertical clearance with 600-l grapple

821 R with 6.3 m compact boom and 4.6 m dipperstick with SENNEBOGEN orange-peel grapple

821 R with 6.3 m compact boom and 4.2 m ULM dipperstick

Technical features and dimensions subject to change.

* Optional, can be removed for transport
Recommended grapples

SGM orange-peel grapple (4 shells)

<table>
<thead>
<tr>
<th>Design/size</th>
<th>Grapple capacity</th>
<th>Weight1</th>
<th>Max. load capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM</td>
<td>400.30-4</td>
<td>400</td>
<td>1275</td>
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<tr>
<td></td>
<td>600.30-4</td>
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<td>1300</td>
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<tr>
<td></td>
<td>800.30-4</td>
<td>800</td>
<td>1345</td>
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SGM orange-peel grapple (5 shells)

<table>
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<th>Weight1</th>
<th>Max. load capacity</th>
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</thead>
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<tr>
<td>SGM</td>
<td>400.30-5</td>
<td>400</td>
<td>1465</td>
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<tr>
<td></td>
<td>600.30-5</td>
<td>600</td>
<td>1490</td>
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<tr>
<td></td>
<td>800.30-5</td>
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SGZ double-shell grapple

<table>
<thead>
<tr>
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<th>Grapple capacity</th>
<th>Weight1</th>
<th>Max. load capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000.40</td>
<td>1000</td>
<td>1270</td>
<td>t</td>
</tr>
<tr>
<td>1200.40</td>
<td>1200</td>
<td>1360</td>
<td>t</td>
</tr>
<tr>
<td>1400.40</td>
<td>1400</td>
<td>1420</td>
<td>t</td>
</tr>
<tr>
<td>1600.40</td>
<td>1600</td>
<td>1530</td>
<td>t</td>
</tr>
</tbody>
</table>

Magnetic plates

Type series/model Power Tare weight Breakaway force Load capacity in kg

<table>
<thead>
<tr>
<th>Type series/model</th>
<th>Power</th>
<th>Tare weight</th>
<th>Breakaway force</th>
<th>Load capacity in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOKO</td>
<td>kW</td>
<td>kg</td>
<td>kN</td>
<td>Slab (safety factor 2)</td>
</tr>
<tr>
<td>S-RSL 13</td>
<td>10.5</td>
<td>1300</td>
<td>260</td>
<td>13000</td>
</tr>
<tr>
<td>S-RLB 10</td>
<td>4.8</td>
<td>730</td>
<td>190</td>
<td>9500</td>
</tr>
<tr>
<td>S-RLB 11.5</td>
<td>5.5</td>
<td>1060</td>
<td>240</td>
<td>12000</td>
</tr>
<tr>
<td>S-RLB 12.5</td>
<td>8.8</td>
<td>1310</td>
<td>280</td>
<td>14000</td>
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<tr>
<td>S-RLB 13.5</td>
<td>10.0</td>
<td>1700</td>
<td>300</td>
<td>15000</td>
</tr>
</tbody>
</table>

Recommended magnetic generator: 9 kW/15 kW

*1) Available upon request
*2) Weight information without grapple suspension, stick bolts, hose system
*3) Half-open shells: shell sheet steel width 400 mm, 500 mm for 1,250 l capacity and higher

Dimensions in [mm]

Detailed information on grapples as well as log grabs, quick-release systems, and other attachments can be found in the “Attachments” brochure.
This catalog describes machine models, what equipment comes with individual models, and configuration options (standard equipment and optional equipment) of the machines delivered by SENNEBOGEN Maschinenfabrik. Machine illustrations may contain optional and additional equipment. Actual equipment may vary depending on the country to which the machines are delivered, especially in regard to standard and optional equipment.

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