90 kW (Electro)
97 kW (Stage IIIa)
104 kW (Stage IV)
119 kW (Type MHD: Stage IIIa/IV)
23.9/25.1 t
9–13 m

Mobile material handling machine
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

1962: rope-driven S833 with elevated operator cab

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 cab - 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

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

What makes up the E-Series
The E-Series. At a glance.

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
- 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
- 2 cameras to the right and rear
- Platform with railing next to cab sliding door*

Powerful hydraulic system

- 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
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

* Option
Hydro Clean*

- Optimal protection of hydraulic components thanks to 3 μm micro-filter
- Cleaner hydraulic oil, longer service life

Central measuring points

- Easily accessible
- Quickly inspect entire hydraulic system

Clear labeling

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

Maintenance and service made easy.

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
Modular design – versatile solutions

Attachments

- Orange peel grab
- Clamshell grab
- Magnetic plate
- Scrap metal shears

Equipment options (others available upon request)

- K9
- K11
- K11 ULM
- K12
- K13**

Cab

- Maxcab
- Maxcab Industry

Cab elevation

- E270

Uppercarriage

- Diesel-hydraulic drive
- Electrohydraulic drive

Options

- Motorized cable reel
- Transformer

Undercarriage variants

- M mobile MP21
- MHD mobile MP26
- R25/240 crawler*
- 4-point pedestal

max. 0.6 m
max. 1.0 m
max. 3.0 m

* Additional information on our crawler undercarriages can be found in the 821 R E-Series brochure  **only available for undercarriage type MP26 (MHD)
Better illumination
of the work area through powerful LED headlights*

High load capacities
even when fully extended
thanks to massive cylinders

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

High stability
due to the broad outrigger area

Reliable operation
through robust and FEM-optimized equipment

Sliding door
For convenient entry and exit

Safe entry and exit
thanks to platform with railing

Ideal overview
And safe working height thanks to stable cab elevation

Robust side cover
Made of recyclable sheet steel

*Optional
## Technical data, equipment

### MACHINE TYPE

Model (type) 821

### ENGINE

**Power**
- 97 kW at 2200 rpm (IIIa)
- 104 kW at 2200 rpm (IV)
- MHD: 119 kW at 2200 rpm (IIIa/IV)

**Model**
- Cummins QSB 4,5

**Cooling**
- Water-cooled

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

**Fuel tank**
- 300 l

**DEF tank**
- 30 l (Stage IV)

**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 counter-weight, 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 gearway

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

**Safety**
- Right and rearview cameras

**Options**
- Swing bearing brake
- Hand rails at the upper structure for additional safety
- LED lighting packages
- Fire extinguisher
- Sea climate resistant coating
- Electric hydraulic tank preheater with uppcarrriage power socket
- Low-temperature packages (oils, battery heater, hydraulic oil preheater, cab preheater, motor preheater)
- Hydraulically driven 9 kW/15 kW magnetic generator
- Telematic system SENtrack DS

### 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

**Delivery rate**
- 310 l/min

**Operating pressure**
- Max. 350 bar

**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 the 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 shear attachment
- Load moment warning with capacity utilization indicator with/without shutdown
- Electronic overload safeguard with overload shutdown
- SENNEBOGEN HydroClean 3-μm hydraulic microfilter system

### SLEWING 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.

---

Subject to change.
### CAB

<table>
<thead>
<tr>
<th>Cab type</th>
<th>E270 hydraulically elevating cab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cab equipment</td>
<td>Sliding door, excellent ergonomics, automatic climate control, heated, air-suspension comfort seat, fresh/circulating air filter, joystick control, 12 V/24 V connections, SENCON</td>
</tr>
</tbody>
</table>

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

### UNDERCARRIAGE

<table>
<thead>
<tr>
<th>Design</th>
<th>Strong undercarriage with 4-point outrigger support or combination of stabilizer blade and claw support (option), hydraulically locking pendulum steering axle. Pendulum axle cylinder with pipe-fracture safety valves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive</td>
<td>All-wheel drive powered by variable-displacement hydraulic motor with direct-mounted, automatically actuated brake valve and 2-speed power-shift transmission. Strong planetary axles with integrated steering cylinder, 2-circuit multi-disk service brake.</td>
</tr>
</tbody>
</table>

| Parking brake              | Spring-loaded multi-disk brake |
| Tires                      | 8 x 10.00-20 solid rubber |
| Speed                      | Stage I: 0–5.5 km/h; Stage II: 0–20 km/h |

| Options                    | 8 x 10.00-20 pneumatic tires, Individual outrigger actuation, Additional pushing blade for 4-point support (front or rear), 2-point outriggers and stabilizer blade (front or rear), Protection for travel drive/shunting coupling |

### ELECTRIC DRIVE

<table>
<thead>
<tr>
<th>Option</th>
<th>Power: 90 kW, 400 V, 50 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total connected load 200 kVA, machine side fusing 200 A (alternatively 250 A with magnet system) for 400 V – delta-wye connection motor start</td>
</tr>
<tr>
<td></td>
<td>Advantages: Lowest operating costs, quiet and virtually vibration-free work, long service life of hydraulic components</td>
</tr>
</tbody>
</table>

### OPERATING WEIGHT

| Mass                       | 821 M with 4-point outrigger, K11 compact loading attachment and 600-l orange peel grab |
|----------------------------| Approx. 23,950 kg |
|                            | 821 MHD with 4-point outrigger, K12 compact loading attachment and 600-l orange peel grab |
|                            | Approx. 25,100 kg |

| Note                       | Operating weight varies by model and equipment. |

Subject to change.
Load ratings

All load ratings are in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grapples, magnets, load hooks, etc. are included in the load ratings. The ratings constitute 75% of the static tipping load or 87% of the hydraulic lifting power in accordance with ISO 10567. In accordance with EU standard EN 474-5, material handling machines used for hoisting must be equipped with pipe-fracture safety devices on the hoist cylinders and an overload warning device. Load ratings apply for a machine with deployed 4-point outrigger support and for 360° slewing. Load ratings in square brackets [ ] apply for blocked pendulum axle, undeployed outriggers, free-standing, 360° slewing.
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Subject to change.
Undercarriage | MP21 | Compact boom | 6.3 m | Cab | E270 Maxcab, hydraulically elevating
--- | --- | --- | --- | --- | ---
Grab stick | 4.2 m |  |  |  |  

All load ratings are in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grapples, magnets, load hooks, etc. are included in the load ratings. The ratings constitute 75% of the static tipping load or 87% of the hydraulic lifting power in accordance with ISO 10567. In accordance with EU standard EN 474-5, material handling machines used for hoisting must be equipped with pipe-fracture safety devices on the hoist cylinders and an overload warning device. Load ratings apply for a machine with deployed 4-point outrigger support and for 360° slewing. Load ratings in square brackets [ ] apply for blocked pendulum axle, undeployed outriggers, free-standing, 360° slewing.

Subject to change.
Transport dimensions

Transport width 2,500 mm

821 M with MP21 undercarriage and E270 hydraulically elevating cab

<table>
<thead>
<tr>
<th></th>
<th>Load boom</th>
<th>Grab stick</th>
<th>Transport length (L)</th>
<th>Transport height (H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K9</td>
<td>5.1 m</td>
<td>4.0 m</td>
<td>8.5 m</td>
<td>3.25 m</td>
</tr>
<tr>
<td>K11</td>
<td>6.3 m</td>
<td>4.6 m</td>
<td>9.65 m</td>
<td>3.25 m</td>
</tr>
<tr>
<td>K11 ULM</td>
<td>6.3 m</td>
<td>4.2 m ULM</td>
<td>9.7 m</td>
<td>3.25 m</td>
</tr>
<tr>
<td>K12</td>
<td>7.0 m</td>
<td>4.9 m</td>
<td>10.4 m</td>
<td>3.25 m</td>
</tr>
</tbody>
</table>

Technical features and dimensions subject to change.
All load ratings are in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grapples, magnets, load hooks, etc. are included in the load ratings. The ratings constitute 75% of the static tipping load or 87% of the hydraulic lifting power in accordance with ISO 10567. In accordance with EU standard EN 474-5, material handling machines used for hoisting must be equipped with pipe-fracture safety devices on the hoist cylinders and an overload warning device. Load ratings apply for a machine with deployed 4-point outrigger support and for 360° slewing. Load ratings in square brackets [ ] apply for blocked pendulum axle, undeployed outriggers, free-standing, 360° slewing.
Transport width 2,750 mm

821 MHD with MP26 undercarriage and K13 equipment

Technical features and dimensions subject to change.
Recommended grabs

SGM Orange peel grab (4 shells)

<table>
<thead>
<tr>
<th>Design / size</th>
<th>Grab capacity</th>
<th>Weight&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Max. piled density</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM</td>
<td>l</td>
<td>kg</td>
<td>kg</td>
</tr>
<tr>
<td>600.30-4</td>
<td>600</td>
<td>1280</td>
<td>1410</td>
</tr>
<tr>
<td>800.30-4</td>
<td>800</td>
<td>1320</td>
<td>1510</td>
</tr>
</tbody>
</table>

SGM Orange peel grab (5 shells)

<table>
<thead>
<tr>
<th>Design / size</th>
<th>Grab capacity</th>
<th>Weight&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Max. piled density</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM</td>
<td>l</td>
<td>kg</td>
<td>kg</td>
</tr>
<tr>
<td>600.30</td>
<td>600</td>
<td>1430</td>
<td>1550</td>
</tr>
<tr>
<td>800.30</td>
<td>800</td>
<td>1460</td>
<td>1600</td>
</tr>
</tbody>
</table>

Clamshell grab SGZ

<table>
<thead>
<tr>
<th>Design / size</th>
<th>Grab capacity</th>
<th>Weight&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Max. piled density</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGM</td>
<td>l</td>
<td>kg</td>
<td>kg</td>
</tr>
<tr>
<td>1000.40</td>
<td>1000</td>
<td>1270</td>
<td></td>
</tr>
<tr>
<td>1200.40</td>
<td>1200</td>
<td>1360</td>
<td></td>
</tr>
<tr>
<td>1400.40</td>
<td>1400</td>
<td>1420</td>
<td></td>
</tr>
<tr>
<td>1600.40</td>
<td>1600</td>
<td>1530</td>
<td></td>
</tr>
</tbody>
</table>

Sorting grab SGR

<table>
<thead>
<tr>
<th>Design / size</th>
<th>Grab capacity</th>
<th>Weight&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGR</td>
<td>l</td>
<td>kg</td>
</tr>
<tr>
<td>800.30 L</td>
<td>380</td>
<td>1035</td>
</tr>
<tr>
<td>1000.30 L</td>
<td>450</td>
<td>1050</td>
</tr>
<tr>
<td>1200.30 L</td>
<td>520</td>
<td>1060</td>
</tr>
</tbody>
</table>

Magnetic plates

<table>
<thead>
<tr>
<th>Type series / model</th>
<th>Power</th>
<th>Weight</th>
<th>Pull-off strength</th>
<th>Load-bearing 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-RLB 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>
</tr>
<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

*) Available upon request  
¹) Weight information without grapple suspension, stick bolts, hose system  
²) Half-open shells: shell sheet steel width 400 mm, 500 mm wide for 1250 l capacity and higher

Detailed information on grabs, as well as log grabs, quick-release systems, and other attachments can be found in the “Attachments” brochure
This catalog describes machine models, scopes of equipment of individual models, and configuration options (standard equipment and optional equipment) of the machines delivered by SENNEBOGEN Maschinenfabrik. Machine illustrations can contain optional equipment and supplemental 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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