Mobile material handler

- 227 kW (Stage IIIa)
- 231 kW (Stage V)
- 200 kW (Electro)
- 53 t
- 20 m

Stage V
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
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
- 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
- Hand rails*  
- 2 cameras to the right and to the rear
- Step grid 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*
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
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

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

* Option
**840E** Modular structure - versatile solutions

**Attachments**
- Orange peel grab
- Clamshell grab
- Magnet plate
- Scrap metal shears

**Equipment (additional equipment on request)**

**Cabs**
- Maxcab
- Maxcab Industry

**Uppercarriage**
- Diesel-hydraulic drive
- Electro-hydraulic drive
- Motorized cable reel
- Transformer

**Variants undercarriage**
- Mobil E MP42
- Crawler * R43/400
- Crawler Special * R44/400
- 4-point-pedestal ST48/400

* Additional information on our crawler undercarriages can be found in the separate 840 R E-Series brochure
Advantages at a glance

- Reliable work through robust and FEM-optimized equipment
- Sliding door for convenient entry and exit, step grid with railing
- Better illumination of the work area through powerful LED headlights*
- Ideal overview and safe working height, thanks to stable cab elevation
- High load capacities even when fully extended, thanks to massive cylinders
- Safe entry and exit thanks to railings*, grip handles and non-slip steps
- High stability due to the broad outrigger area
- Robust side cover of recyclable steel sheet
- Robust slewing gear (2x) for fast work cycles and high performance material handling

* Option
**Technical data, equipment**

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### MACHINE TYPE

**Model (type)**

840

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### MOTOR

**Power**

- **Stage V:**
  - Rated Power: 231 kW at 2100 rpm
  - 237 kW at 2000 rpm / 242 kW at 1800 rpm

- **Stage IIIa:**
  - Rated Power: 227 kW at 2000 rpm
  - 254 kW at 1800 rpm

**Model**

Cummins L9

**Cooling**

Water-cooled, direction of rotation changeover of the cooler fan

**Diesel filter**

With water separator and heater

**Air filter**

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

**Fuel tank**

625 l

**DEF tank**

75 l

**Electr. system**

24 V

**Batteries**

2 x 150 Ah, battery disconnect switch

**Options**

- Engine block pre-warming at temperatures under -20 °C
- Electric fuel pump

---

### UPPERCARRIAGE

**Design**

Torsion-resistant box design, precision crafted, steel bushings for boom bearing arrangement, Extremely service-friendly concept, engine installed in the longitudinal direction

**Central lubrication**

Autom. central lubrication for equipment and slewing ring raceway

**Electrical**

Central electrical distributor, battery disconnect switch

**Cooling system**

3-circuit cooling system with high cooling output, thermostatically regulated fan drive for oil cooler and water cooler, fan reversal for cleaning

**Options**

- Slewing gear brake via foot pedal
- Hand rail at the upper structure
- LED light packages
- Fire extinguisher
- Sea climate resistant coating

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### HYDRAULIC SYSTEM

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

**Pump type**

Variable-displacement piston pump in swash-plate design, 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**

maximum 740 l/min

**Operating pressure**

to 350 bar

**Filtration**

High-performance filtration with long-term change interval

**Hydraulic tank**

500 l

**Control system**

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

**Safety**

Hydraulic circuits with safety valves, secured emergency lowering of the equipment at engine standstill, pipe fracture safety valves for lift cylinder and stick cylinder

**Options**

- Bio-oil filling ecologically sound
- Tool Control for easy change of attachments
- Supplemental hydraulic circuit for attachment of shears
- Load moment warning with overload shutdown
- Overload safeguard with overload shutdown
- 3 μm micro filter system SENNEBogen HydroClean

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### SLEWING DRIVE

**Gearbox**

Compact planetary gear with bent-axis hydraulic motor, integrated brake valves

**Parking brake**

Spring-loaded disk brake

**Slewing ring**

External gear slewing ring with 360° protection and pinion tooth lubrication

**Slewing speed**

0-8 RPM, stepless

---

**Options**

- Electrical hydraulic tank pre-warming at temperatures under -20 °C
- Low temperature packages
- Hydraulically-driven magnetic generator 20 kW
- Telematic system SENtrack DS

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Subject to change.
**UNDERCARRIAGE**

<table>
<thead>
<tr>
<th>Design</th>
<th>Mobile undercarriage with integrated 4-point outrigger, steering axle as hydraulically locking pendulum axle, pendulum axle cylinder with pipe fracture safety valves, type MP42</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive</td>
<td>All-wheel drive powered by a variable-displacement hydraulic motor with direct-mounted, automatically actuated brake valve and planetary axles with integrated steering cylinders, service brake in 2-circuit system</td>
</tr>
<tr>
<td>Parking brake</td>
<td>Spring-loaded disk brake</td>
</tr>
<tr>
<td>Tires</td>
<td>12.00-24, 8x, option: 14.00-24, 8x</td>
</tr>
<tr>
<td>Speed</td>
<td>0-14 km/h, stepless</td>
</tr>
<tr>
<td>Options</td>
<td>Individual activation of the outriggers for firm stance on uneven substrate, Protection for travel drive, Shunting coupling</td>
</tr>
</tbody>
</table>

**ELECTRIC DRIVE**

<table>
<thead>
<tr>
<th>Option</th>
<th>Power: 200 kW, 400 V, 50 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total connected load 340 kVA, machine-provided 400 A fuse (alternatively 425 A with magnet system) for 400 V – star-delta 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>

**EQUIPMENT**

<table>
<thead>
<tr>
<th>Design</th>
<th>Decades of experience, state-of-the-art computer simulation, highest level stability, longest service life, large-dimensioned bearing points, sealed special bearing bushes, precision-crafted, quick-release couplings on the grab connections - open/closed/rotate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinders</td>
<td>Hydraulic cylinders with high-quality sealing and guide elements, end position damping, sealed bearing points</td>
</tr>
<tr>
<td>Options</td>
<td>Ball valves on the hydraulic lines grab open, closed, rotate Kinematic position II for greater working depth Sea climate resistant coating Float position for equipment Lift limitation / stick limitation adjustable for the stop settings, for example in the hall</td>
</tr>
</tbody>
</table>

**OPERATING WEIGHT**

<table>
<thead>
<tr>
<th>Mass</th>
<th>approx: 53,000 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic machine</td>
<td>840 M with attachment K18 and 600 l orange peel grab</td>
</tr>
<tr>
<td>Note</td>
<td>The operating weight varies depending on the design.</td>
</tr>
</tbody>
</table>
All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on a solid, level substrate. Attachments, such as grapple, magnet, load hook, etc., are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting force, in accordance with ISO 10567. In accordance with the EU standard, EN 474-5, material handling machines in hoist operation must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device. The specified load ratings apply for the machine supported with 4-point claw support and slewable 360°. The specified load ratings in square brackets [ ] apply with blocked pendulum axle, unsupported, free standing, slewable 360°.
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Technical data and dimension information subject to change.
Machine shown mirror image

All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on a solid, level substrate. Attachments, such as grapple, magnet, load hook, etc., are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting force, in accordance with ISO 10567. In accordance with the EU standard, EN 474-5, material handling machines in hoist operation must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device. The specified load ratings apply for the machine supported with 4-point claw support and slewable 360°. The specified load ratings in square brackets [ ] apply with blocked pendulum axle, unsupported, free standing, slewable 360°.

Technical data and dimension information subject to change.
All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on a solid, level substrate. Attachments, such as grapple, magnet, load hook, etc., are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting force, in accordance with ISO 10567. In accordance with the EU standard, EN 474-5, material handling machines in hoist operation must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device. The specified load ratings apply for the machine supported with 4-point claw support and slewable 360°. The specified load ratings in square brackets [ ] apply with blocked pendulum axle, unsupported, free standing, slewable 360°.
In accordance with the EU standard, EN 474-5, material handling machines in hoist operation must be equipped with pipe fracture safety devices on the hoist. The specified load ratings apply for the machine supported with 4-point claw support and slewable 360°.
### Grab recommendation

**Orange peel grab SGM (4 shells)**

<table>
<thead>
<tr>
<th>Design / size</th>
<th>Grab content</th>
<th>Weight¹</th>
<th>max. piled density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HO</td>
<td>G</td>
<td>t/m³</td>
</tr>
<tr>
<td>SGM 400.40-4</td>
<td>400</td>
<td>1570</td>
<td>1720</td>
</tr>
<tr>
<td>SGM 600.40-4</td>
<td>600</td>
<td>1600</td>
<td>1790</td>
</tr>
<tr>
<td>SGM 800.40-4</td>
<td>800</td>
<td>1685</td>
<td>1930</td>
</tr>
<tr>
<td>SGM 1250.40-4</td>
<td>1250</td>
<td>1850</td>
<td>2200</td>
</tr>
<tr>
<td>SGM 1500.40-4</td>
<td>1500</td>
<td>2475</td>
<td>2830</td>
</tr>
<tr>
<td>SGM 2000.40-4</td>
<td>2000</td>
<td>2660</td>
<td>3075</td>
</tr>
</tbody>
</table>

**Orange peel grab SGM (5 shells)**

<table>
<thead>
<tr>
<th>Design / size</th>
<th>Grab content</th>
<th>Weight¹</th>
<th>max. piled density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HO</td>
<td>G</td>
<td>t/m³</td>
</tr>
<tr>
<td>SGM 400.40</td>
<td>400</td>
<td>1820</td>
<td>1920</td>
</tr>
<tr>
<td>SGM 600.40</td>
<td>600</td>
<td>1910</td>
<td>2035</td>
</tr>
<tr>
<td>SGM 800.40</td>
<td>800</td>
<td>1960</td>
<td>2140</td>
</tr>
<tr>
<td>SGM 1250.40</td>
<td>1250</td>
<td>2180</td>
<td>2415</td>
</tr>
<tr>
<td>SGM 1500.40</td>
<td>1500</td>
<td>2475</td>
<td>2830</td>
</tr>
<tr>
<td>SGM 2000.40</td>
<td>2000</td>
<td>2660</td>
<td>3075</td>
</tr>
</tbody>
</table>

**Clamshell grab SGZ**

<table>
<thead>
<tr>
<th>Design / size</th>
<th>Grab content</th>
<th>Weight¹</th>
<th>max. piled density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HO</td>
<td>G</td>
<td>t/m³</td>
</tr>
<tr>
<td>SGZ 1500.50</td>
<td>1500</td>
<td>1950</td>
<td>2.6</td>
</tr>
<tr>
<td>SGZ 2000.50</td>
<td>2000</td>
<td>2200</td>
<td></td>
</tr>
<tr>
<td>SGZ 2500.50</td>
<td>2500</td>
<td>2300</td>
<td></td>
</tr>
<tr>
<td>SGZ 3000.50</td>
<td>3000</td>
<td>2490</td>
<td></td>
</tr>
<tr>
<td>SGZ 4000.50</td>
<td>4000</td>
<td>2880</td>
<td></td>
</tr>
</tbody>
</table>

**Magnetic plates**

<table>
<thead>
<tr>
<th>Type series / model</th>
<th>Power</th>
<th>Deadweight</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>Bramme (safety factor 2)</td>
</tr>
<tr>
<td>S-RSL 15</td>
<td>12.2</td>
<td>1950</td>
<td>360</td>
<td>18000</td>
</tr>
<tr>
<td>S-RSL 17</td>
<td>17.0</td>
<td>2500</td>
<td>460</td>
<td>23000</td>
</tr>
<tr>
<td>S-RLB 13,5</td>
<td>10.0</td>
<td>1700</td>
<td>300</td>
<td>15000</td>
</tr>
<tr>
<td>S-RLB 15</td>
<td>11.7</td>
<td>2400</td>
<td>380</td>
<td>19000</td>
</tr>
<tr>
<td>S-RLB 17</td>
<td>17.8</td>
<td>3300</td>
<td>640</td>
<td>32000</td>
</tr>
</tbody>
</table>

*Recommended magnetic generator 20 kW*

¹ Weight information without grab suspension, stick bolts, hose system
² Half-open shells: Shell sheet steel 400 mm wide, from content 1250 l shell sheet steel 500 mm wide

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**Dimension information in [mm]**

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**Orange peel grab SGM (4 shells)**

**Clamshell grab SGZ**

**Magnetic plates**
840 M with cab type E300/260, can be elevated and moved forward hydraulically

840 M with hydraulically elevating cab type E270, transport width 3500 mm

840 M with cab type E300/260, hydraulic elevating and forward moving

Technical data and dimension information subject to change.
**Transport dimensions 840 M with undercarriage type MP42E**

<table>
<thead>
<tr>
<th></th>
<th>Load boom (m)</th>
<th>Grab stick (m)</th>
<th>Transport length (L) (m)</th>
<th>Transport height (H) (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K17</td>
<td>10.6</td>
<td>7.1</td>
<td>15.2</td>
<td>3.65</td>
</tr>
<tr>
<td>K18</td>
<td>10.6</td>
<td>8.0</td>
<td>15.2</td>
<td>3.65</td>
</tr>
<tr>
<td>B18</td>
<td>11.0 m banana</td>
<td>8.0</td>
<td>15.5</td>
<td>3.7</td>
</tr>
<tr>
<td>B19</td>
<td>11.0 m banana</td>
<td>9.4</td>
<td>15.5</td>
<td>3.65 m*</td>
</tr>
<tr>
<td>K20</td>
<td>11.7</td>
<td>9.4</td>
<td>16.2</td>
<td>4.2 m (3.65 m*)</td>
</tr>
</tbody>
</table>

* Stick is dismounted

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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 in a tolerance range depending on the country to which the machines are delivered, especially in regard to standard and optional equipment.

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