



















A long-term investment

The E-series is characterised by robust components, and an intelligent and resource-efficient machine design – the machine retains its value over the longterm, even with demanding continuous use

SENJEBOGEN

ENEEDGEN

Modular variety

Unique machine variety – we build the perfect machine to meet the needs of your port.

Maximum comfort

The spacious Portcab is designed with the needs of the operator in mind – comfortable and spacious with sophisticated features.

Maintenance & service

Intelligent fleet management and machine status monitoring via the SENtrack portal as well as unique accessibility of machine components.

Occupational safety

Thanks to the precisely controlled movements and the numerous safety features, you can work effortlessly and safely throughout your day.

Energy efficiency

Appreciated around the world, thanks to drives that are resource- and environmentally-friendly and the Green Hybrid energy recovery system - whether with diesel drive or as an electric version.



AN INVESTMENT THAT PAYS OFF.

The durability and reliability of the SENNEBOGEN Green Line is based on decades of experience in the design of high-quality crane and material handling technology. We can find the perfect solution for every port application, ensuring you can handle general cargo and bulk materials in an efficient and resource-saving way.



Low operating costs thanks to energy-efficient electric drives and energy recovery through the Green Hybrid system



Manageable and service-friendly technology for maximum machine availability



Consistent performance thanks to robust steel construction, and high-quality drive and control components from renowned manufacturers



High handling capacity of up to 1,800 t per hour* reduces the berthing time of ships



Sophisticated technology thanks to the consistent further development up to the 5th generation of the E-Series – for demanding material handling



Durable and robust in extreme weather and harsh operating conditions, works equally well in the cold of the Arctic Circle or the heat of Dubai







LONG SERVICE LIFE, HIGH VALUE RETENTION

- Reliable and powerful thanks to its robust construction and high-quality components
- Temperature-controlled cooling system, designed and tested for heavy-duty applications and high ambient temperature

SOPHISTICATED, STATE-OF-THE-ART TECHNOLOGY

In the 5th generation – decades of experience in designing and constructing material handlers



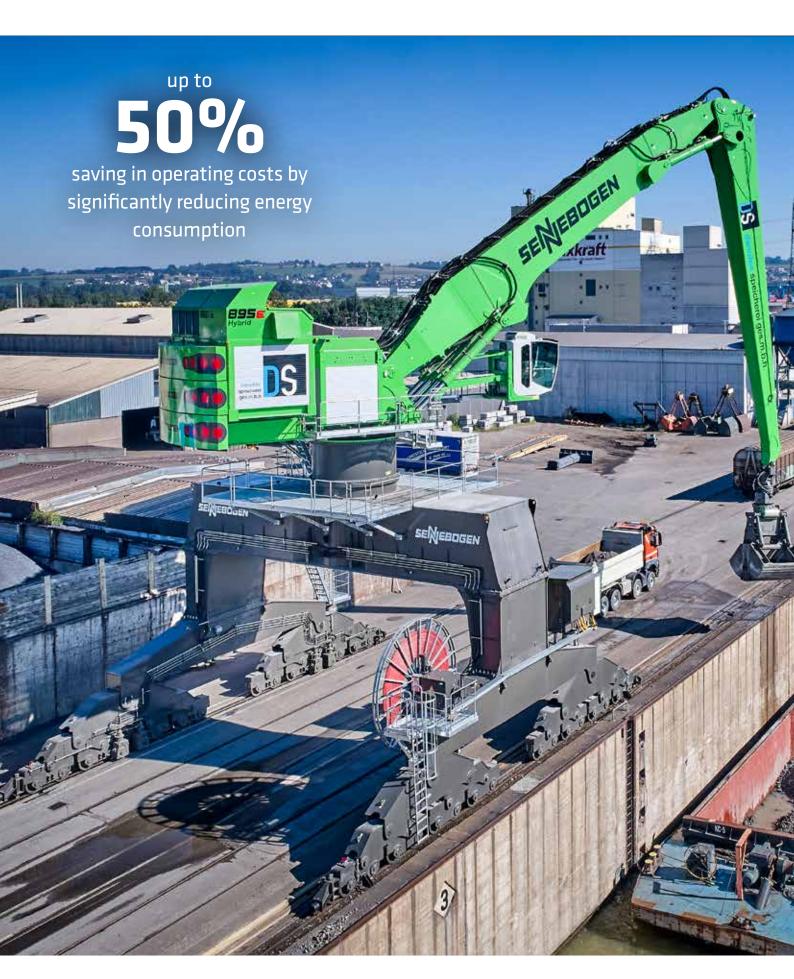
SIMPLE TO MAINTAIN AND SERVICE

- Manageable technology and no overengineering
- Ideal accessibility to all components for easy maintenance

ENVIRONMENTALLY-FRIENDLY DRIVE TECHNOLOGY

- State-of-the-art engine, drive and emission systems in line with the latest technology standards (stage V)
- Large-scale pipes and valves for maximum efficiency







SENNEBOGEN – WORLD LEADER

IN ELECTRIC MATERIAL HANDLERS.

Over the last **35 years**, we have implemented by far the most electrical applications

- A complete solution direct from the manufacturer detailed route analyses and individual power supply project planning, tailored specifically to your application
- A variety of solutions for power supplies, voltage types and emergency operating units ex works
- No fueling stops or need to store fuel always ready for use
- Service intervals twice as long and lower service costs: No need for fuel/oil filter and oil changes compared to a diesel engine
- High value retention and significantly longer service life
- No exhaust gases good for the environment, good for people
- Low-noise and vibration-free operation for greater working comfort
- Cleaner engine compartment even after long operating period



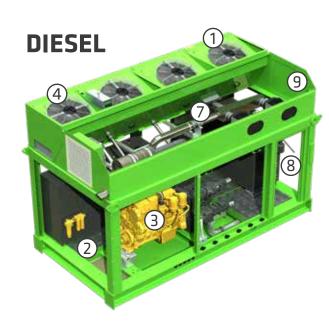
THE SENNEBOGEN POWERPACK



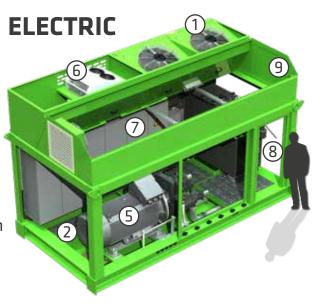


DIESEL OR ELECTRIC DRIVETHE DECISION IS YOURS!

Efficient diesel technology or economical electric engine – the choice is yours. With its folding roof, the almost identical, spacious Powerpack offers sufficient space for maintenance work - easily and safely accessible. The ventilation system (forced ventilation) also ensures a dust-free engine housing through overpressure filtering of the outside air.



- ① Oil cooler
- 2 Fresh air intake
- 3 Diesel engine
- 4 Diesel engine cooler
- 5 Electric drive
- 6 Air conditioner
- 7 Control cabinet
- 8 Central lubrication system
- Hydraulically controlled Powerpack roof





GREEN HYBRID ENERGY RECOVERY TECHNOLOGY



Energy recuperation through safe & smart design: watch the video to find out how the SENNEBOGEN Green Hybrid system makes port handling even more efficient.

www.sennebogen.com/895-green-hybrid

Save up to

55%

energy with two hybrid hydraulic cylinders



Boom lowers, gas compresses



Energy storage module consisting of hydraulic cylinder and nitrogen accumulator



The nearly constant force transmission throughout the cylinder cycle supports the next boom lift

selyebogen Green**Hybrid**

Protects the environment, saves energy, reduces your costs.

- System advantages: large system volume and constant force transmission over the entire cylinder cycle
- System stability through constant pressure and temperature control
- Functional safety through the use of standard hydraulic components
- System is optimally adjusted to the individual machine configuration



ONE MACHINE THREE MODES OF USE

OPTIMIZED FOR **SPEED**

The 895 E-Series combines speed and efficiency

Especially when handling bulk materials, fast loading or unloading times are required to save money. As standard, the port giant therefore operates in a speed-optimized handling mode for fast work cycles.



OPTIMIZED FOR **PRECISION**

General cargo handling is all about accuracy

The 895 E-Series moves pulp packages, Big Bags or other loose-loaded goods carefully and precisely – simply at the push of a button on the joystick and without interrupting work.

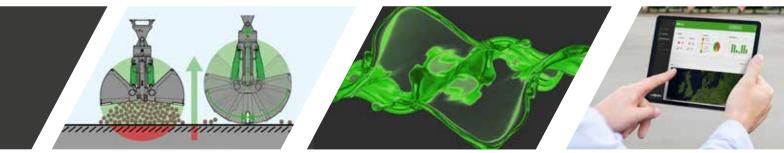




OPTIMIZED FOR LOAD CAPACITY AND PRECISION







Safety Boom Lift

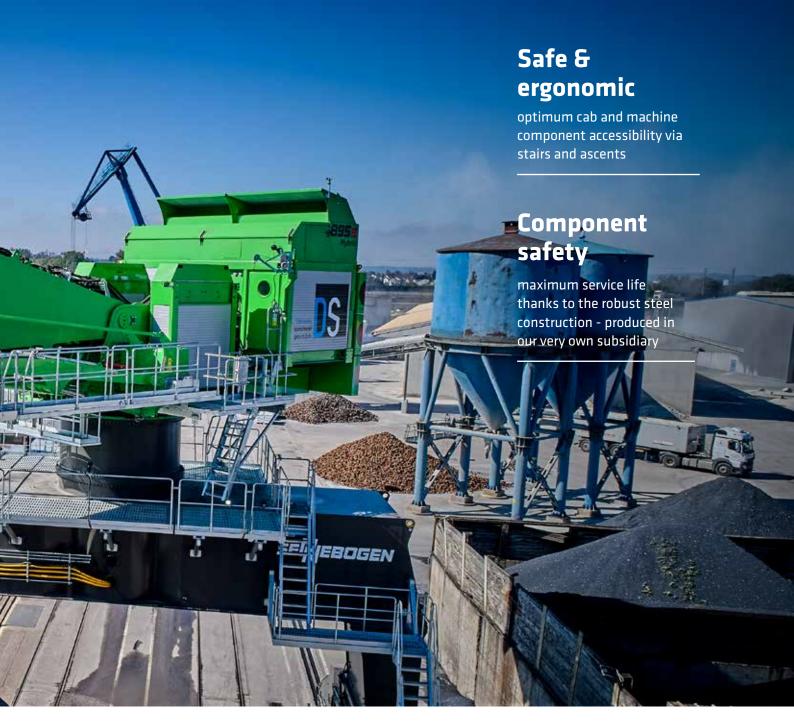
Grab automatically lifts as it closes, protecting ship hulls, port surfaces, equipment and the grab itself

Bio oil

For extended oil change intervals, with safe environmental compatibility

SENtrack

Maintain fleet management safety by monitoring the condition of your machines





Powerful LED spotlights

for optimal illumination of the work area

Load moment limitation

protection of equipment by switching off in the event of an impermissible load

Optimal camera monitoring

of all safety-relevant areas*

^{*} Cameras are installed as standard on the right-hand side and to monitor the rear area. Additional cameras, e.g. on the stick, are available on request.

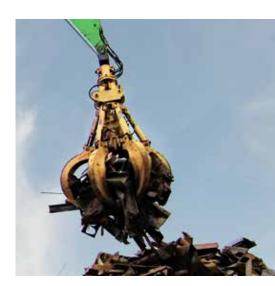


EXPERIENCE VARIETYFOR EVERY TYPE OF MATERIAL

Today general cargo, tomorrow bulk cargo – working in the port means staying flexible from day to day. The entire range of handling technology can be flexibly operated using the quick change system on the stick and the SENNEBOGEN port machines' powerful hydraulics.



Bulk material (feed, coal, etc.)



Scrap handling



Timber grab



Big Bag loading



Timber spreader/wooden pallet loading



Pulp spreader



Steel coils



Container handling

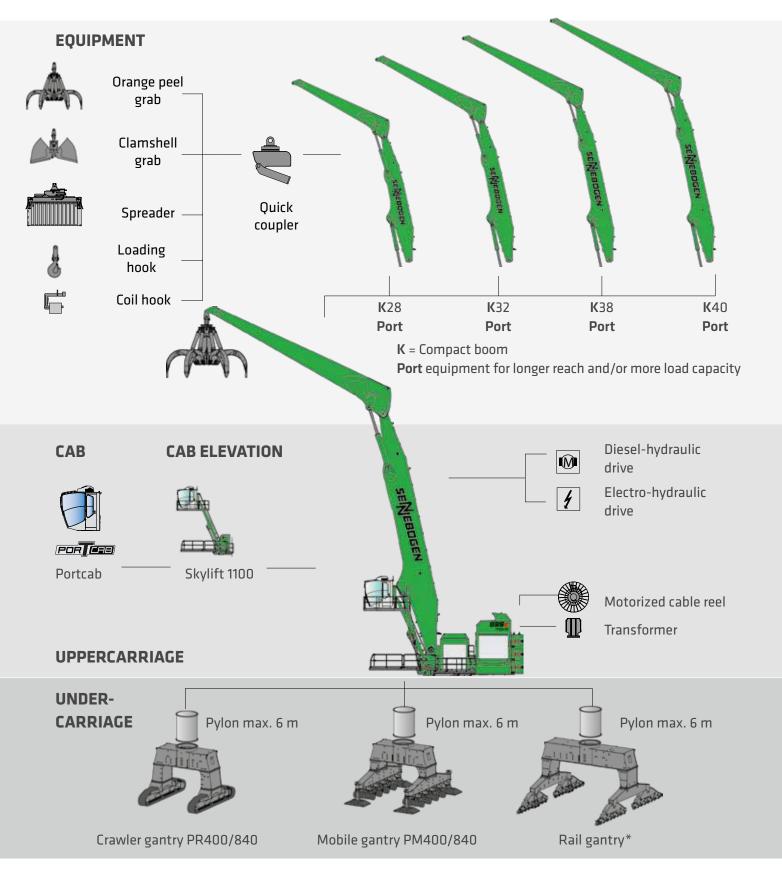


Vacuum lifter





A MODULAR DESIGN. NUMEROUS APPLICATIONS.







More than 16,000 unique material handling solutions can be delivered through SENNEBOGEN's modular machine design - watch the video now!



www.sennebogen.com/versatility

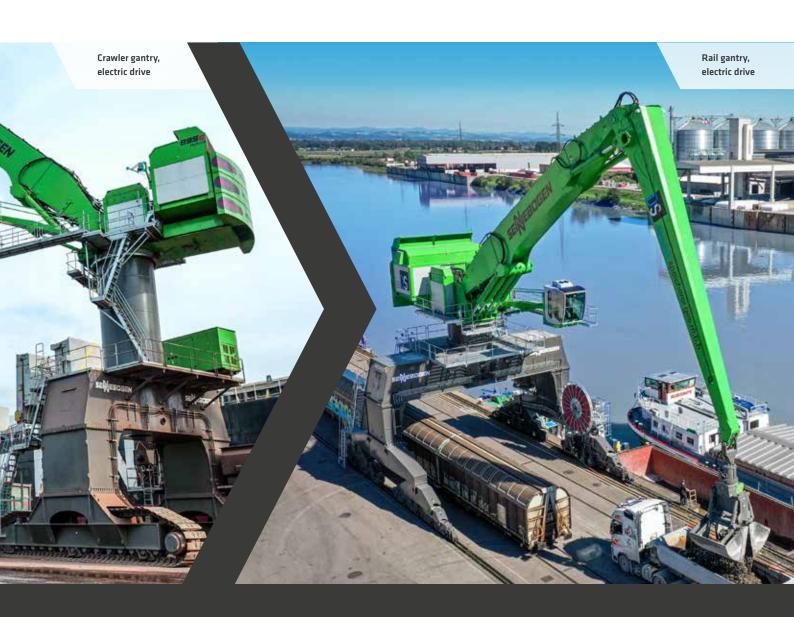


MAXIMUM MOBILITY AND DRIVE RANGE



Clean diesel technology or highly efficient electromobility – with the help of the modular machine concept, you can choose the right solution for your application

- Cable-supplied power for linear routes on the quay
- Rail concepts adapted to existing tracks
- Auxiliary engines for bridging short distances to the nearest power source
- Impressive agility with mobile gantry undercarriage thanks to all-wheel steering and crab steering



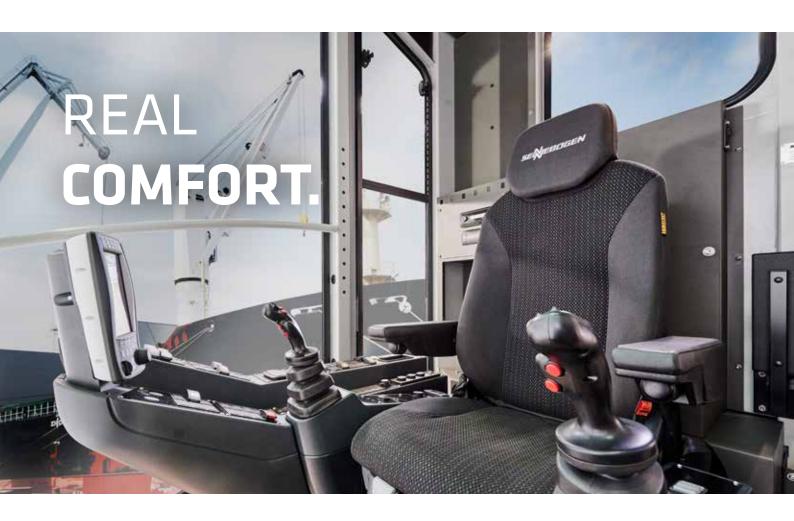
DISCOVER MOBILITY



Crawler, mobile or rail gantry: thanks to the different undercarriage designs, you remain flexible in the port – whether with diesel drive through optional additional tanks in the portal supports or sophisticated power supplies on the quay.

The undercarriage's track gages and clear portal height can be optimized to suit your needs at any time thanks to a variable clearance profile. You can also raise the uppercarriage with pylon by up to 6 m for additional visibility inside the ship!

www.sennebogen.com/895-mobility



Everything in view

The spacious cab with panoramic view gives you a practical overview of your work area. The window in the floor makes it possible to carry out precise loading operations even in close proximity. The safety cameras provide support and allow you to monitor the critical areas conveniently via the monitoring system in the cab.

Easy control

The intelligent SENCON control system gives you quick and easy feedback on the machine's condition. Thanks to the intuitive user interface, it has never been easier to monitor energy consumption and utilization, control the desired working modes and contribute towards reducing operating costs.

For your health

Operators spend many hours in their working position. The backfriendly comfort seat, adjustable armrests, joysticks that sit comfortably in the hand, and the optimally arranged controls make daily work as easy as possible.

Pleasant indoor climate

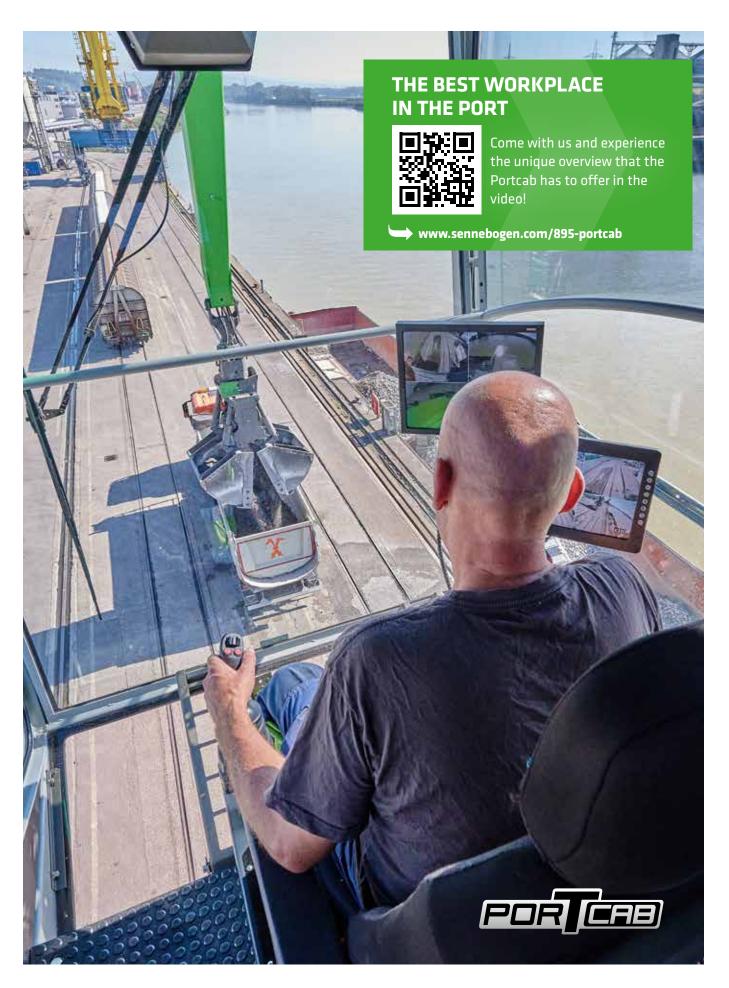
Whether in warmer areas or in ports with sub-zero temperatures, you can enter a work space with a comfortable temperature every day and concentrate on the essentials of work thanks to heating and air conditioning.

"We welcome regular feedback from operators to ensure the work space is configured perfectly."

ROBERT AUMÜLLER, Head of the Port Business Unit









CAB HIGHLIGHTS



The large capacity cab for the best all-round view of the port

IN SERIES	POR ESS
ENTRANCE	Easy access through wide cab door
OPERATOR'S SEAT	Air-suspended, with lumbar support, headrest and numerous settings for optimal ergonomics, heated
ARM RESTS AND FOOT SUPPORTS	Easy to adjust to suit each user
WINDSHIELD	Generous windshield, tinted double glazing for safety windows
FLOOR WINDOW	Large floor window made of safety glass for the best view into the hull
WIPERS	Parallelogram windshield wipers for harsh weather conditions
	Wipers for skylight
AIR CONDITIONER	Heating/air conditioning system with fresh air and recirculating air filter
LARGE 10.2" MONITOR	Camera-supported monitoring of the danger zone (rear, right)
FOLDAWAY SEAT	Additional trainer's seat with seat belt
RADIO PREPARATION	✓
SENCON CONTROL AND DIAGNOSTIC SYSTEM	✓
OPTIONS	
AIR-CONDITIONED SEAT	✓
RADIO	✓
COOLING BOX FOR FOOD AND DRINKS	✓
LOUD SPEAKER SYSTEM	✓
SUN PROTECTION PACKAGE	✓





1. Reduce service costs

The dashboard is used to monitor the machine and its main operating parameters (temperatures, consumption). If key figures deviate significantly from the target value, the user is informed immediately.

2. Reduce consumption

You will receive daily updated insights into your fleet processes: Easily identify and optimize times when machines are idle or change set parameters when machines are underloaded to reduce consumption.

"What if you could receive real-time data from all your machines with just one click and so increase your productivity? SENNEBOGEN's SENtrack telematic system makes this possible."

3. Improve productivity

With just a few clicks, you can identify and optimize machine capacity, analyse routes if required and thus make your port processes more profitable.

4. Safeguard your investment

Practical alarm messages inform you about critical machine conditions. In the event of irregular movements, the machine can also easily be deactivated remotely.





MAINTENANCE AND SERVICE.

KEEP IT SIMPLE. WITH MANAGEABLE TECHNOLOGY.



Reliable and practical technology makes life easier. Where electronics add no value, we rely on hydraulics and electrical systems.



We make you happy, not reliant. With cost-effective components and fewer process steps, you can take care of the machine on your own.



The most important components, such as the accumulator module or the electrical distributor, are all easily accessible from a central point for straightforward checking and troubleshooting.





The SENCON control system supports you with diagnostics and makes troubleshooting easier. So your machine is back in action more quickly.

All maintenance and service points are clearly arranged and easily accessible. The clear labeling of components makes finding your way around easy.



MACHINE TYPE

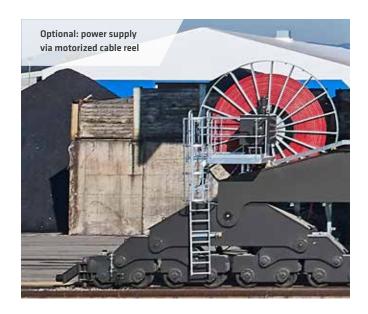
MODEL (TYPE) 895 Hybrid

DIESEL ENGINE TYPE Stage V: CAT C18 EM02171 Rated power: 597 kW / 1800 rpm Operating point standard: 585 kW / 1600 rpm Operating point ECO: 562 kW / 1500 rpm Stage II: On request Both: automatic idle/stop COOLING Water-cooled incl. fuel pre-filter DISPLACE-18.1 l MENT NUMBER OF **CYLINDERS BATTERIES** 2 x 210 Ah battery disconnect switch ELECTRICAL 24 V SYSTEM **OPTIONS** Engine block heater Electric fuel pump

UPPERCARI	RIAGE 😓
DESIGN	Torsion-resistant box design, precision crafted, steel bushings for boom mounting, service-friendly design, sea climate resistant coating as corrosion protection, camera package (right/rear), SENtrack telematic system
COOLING SYSTEM	Compact 3-circuit cooling system with large cooling capacity, thermostatically regulated fan drive for oil and water cooler reduces energy consumption and noise emissions Fan reversal for easy and regular cleaning
OPTIONS	LED lighting package
	Swing bearing brake via foot pedal
	Fire extinguisher
	Low temperature packages
	Electrical Hydraulic tank preheating
	Magnet generator 30/33 kW

OPTIONS Type: 500 kW, standard with 400 V / 50 Hz Transformer Cable reel

FUEL 2250 I, additional tanks optional HYDRAULIC TANK COOLANT approx. 120 I ENGINE OIL approx. 40 I CENTRAL Automatic central lubrication for equipment and slewing ring, display of fault and empty message via SENCON	TANK CAPA	CITIES
TANK COOLANT approx. 120 I ENGINE OIL approx. 40 I CENTRAL Automatic central lubrication for equipment and slewing ring, display of	FUEL	2250 l, additional tanks optional
ENGINE OIL approx. 40 I CENTRAL Automatic central lubrication for equipment and slewing ring, display of		2170 l
CENTRAL Automatic central lubrication for LUBRICATION equipment and slewing ring, display of	COOLANT	approx. 120 l
LUBRICATION equipment and slewing ring, display of	ENGINE OIL	approx. 40 l
	LUBRICATION	equipment and slewing ring, display of





HYDRAULIC	SYSTEM <u>1</u>
Load-sensing/ L operated work fu	DUV hydraulic system, hydraulically unctions
DELIVERY RATE	4x 570 I/min (load sensing) and 2x 380 I/min
OPERATING PRESSURE	up to 320 bar
CONTROL SYSTEM	Proportional, precision electrical control of work movements, joysticks for work functions, additional functions via switches and foot pedals
SAFETY	Hydraulic circuits safeguarded with safety valves
	Pipe fracture safety devices
	Emergency lowering of equipment and cab in case of engine standstill
OPTIONS	Bio-oil filling
	Tool Control for programming pressure/ rate of up to 10 tools
	Load torque warning with capacity display
	Overload safeguard with shutdown

CAB	
CAB TYPE	Portcab, elevates up to 11 m
CAB FEATURES	SENNEBOGEN Portcab – large, special cab with excellent all-around visibility, large floor window at the front and powerful heating and climate control
	Air-suspended comfort seat and seat belt, additional trainer's seat, control elements in accordance with the latest ergonomic standards, roof and floor window made of bulletproof glass, sun protection for roof and side windows, control and diagnostic system SENCON
OPTIONS	Bullet proof windshield
	Safety side window and rear window
	Polycarbonate safety glass
	Wipers for lower windshield/skylight
	Sunblinds on the side windows
	Loudspeaker system with swan neck microphone
	Radio
	Cooling box

SLEWING D	RIVE
GEARBOX	Compact planetary gear with bent-axis hydraulic engine, integrated brake valves
SLEW BRAKE	Spring-loaded multi-disk brake
SLEWING RING	3-row slewing ring, sealed. Externally toothed slewing ring with 360° grease drip pan and pinion lubrication
SLEWING SPEED	0-3.6 rpm, variable
TORQUE	750 kNm







CRAWLER GANTRY



Crawler gantry undercarriage PR400/840 with hydraulic travel drive on each chassis side integrated in the chassis frame by an axial piston engine via compact planetary gears, spring-loaded parking brake, hydraulically ventilated multidisk brake, flat track shoes 1200 mm

TRAVEL SPEED 0-1.5 km/h

OPTION max. 6 m pylon



MOBILE GANTRY



Stable and agile mobile gantry undercarriage PM400/840 with 20 wheel sets and integrated 4-point support, automatic load compensation via corresponding level control for even floor relief. Simple, reliable maneuvering thanks to all-wheel steering on all wheel sets and crab steering, small turning radii

TIRE TYPE	80 x 285/70 R19.5
BRAKES	hydraulic
TRAVEL SPEED	0-4 km/h
OPTION	max. 6 m pylon



RAIL GANTRY



Custom-manufactured rail undercarriage, dimensions according to customer requirements

TRAVEL SPEED 2.5 km/h

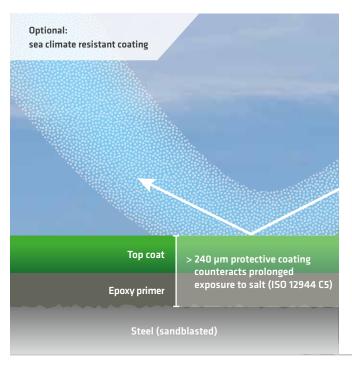
OPTION max. 6 m pylon

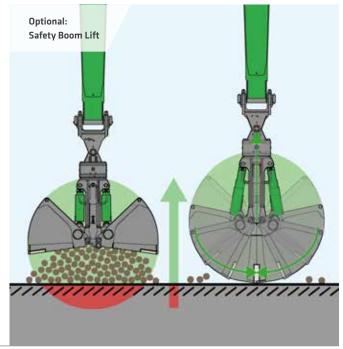




EQUIPMENT	
REACH	up to 40 m
CYLINDERS	Hydraulic cylinders (incl. hybrid cylinders) with high-quality sealing and guide elements, end position damping, sealed bearing points Sea climate resistant coating of all cylinders, nickel-plated and chromiumplated, pipe fracture safety device (lifting cylinder)
CENTRAL LUBRICATION	Automatic central lubrication system
OPTIONS	Safety Boom Lift for equipment
	Lift limitation / stick limitation adjustable to the stop settings
	LED lighting
	Stick mounted camera

OPERATING	420 t
WEIGHT	
NOTE	Operating weight varies by model and equipment.
Option:	счариси
Option: quick coupler	equipment







LOAD RATINGS K28 HEAVY LIFT

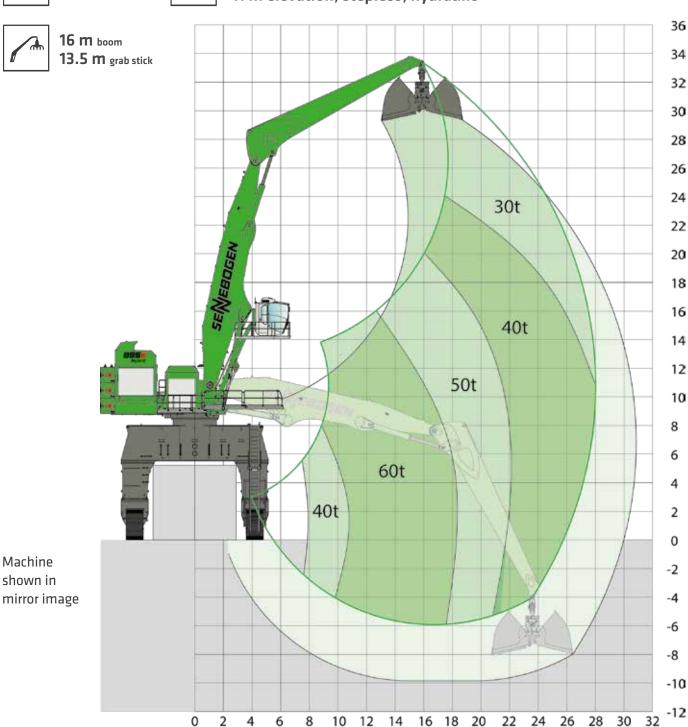
The load ratings are given as information only. Please contact our regional sales partners or portdivision@sennebogen.de for a detailed project study.



PR400/840



SKYLIFT 1100 with PORTCAB, 11 m elevation, stepless, hydraulic



Notes:

All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply on firm and level ground and 360° slewing. Attachments such as orange peel grabs, magnets, etc. are included in the load capacity. In accordance with harmonized EU standard EN 474-5, hydraulic material handlers used for hoisting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.





LOAD RATINGS K32 PORT

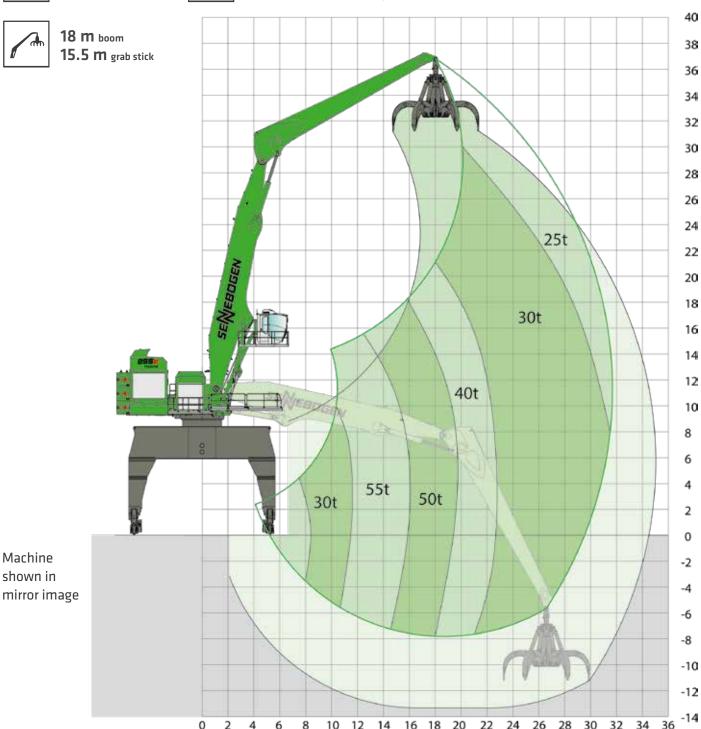
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RAIL GANTRY



SKYLIFT 1100 with PORTCAB, 11 m elevation, stepless, hydraulic



Notes:

All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply on firm and level ground and 360° slewing. Attachments such as orange peel grabs, magnets, etc. are included in the load capacity. In accordance with harmonized EU standard EN 474-5, hydraulic material handlers used for hoisting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.





LOAD RATINGS K38 PORT

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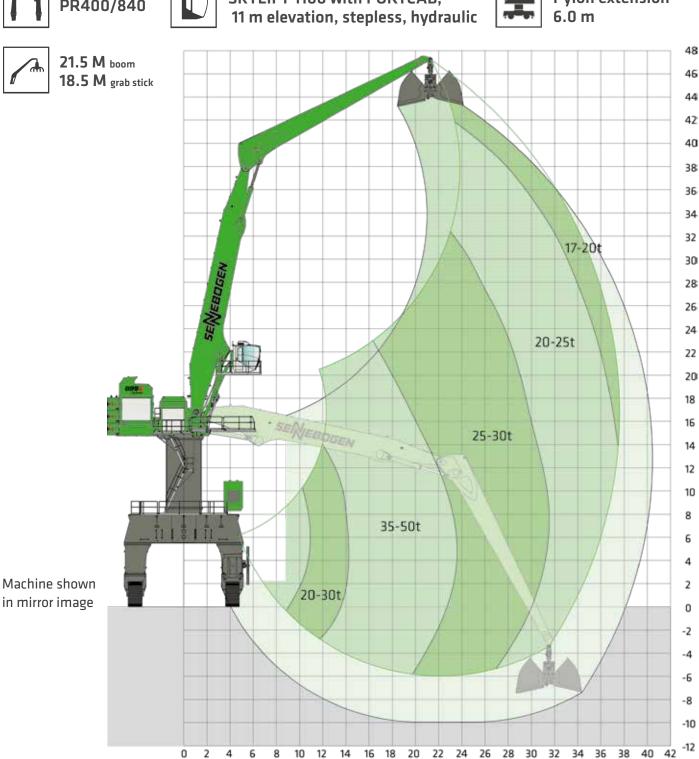
PR400/840



SKYLIFT 1100 with PORTCAB,



Pylon extension



Notes:

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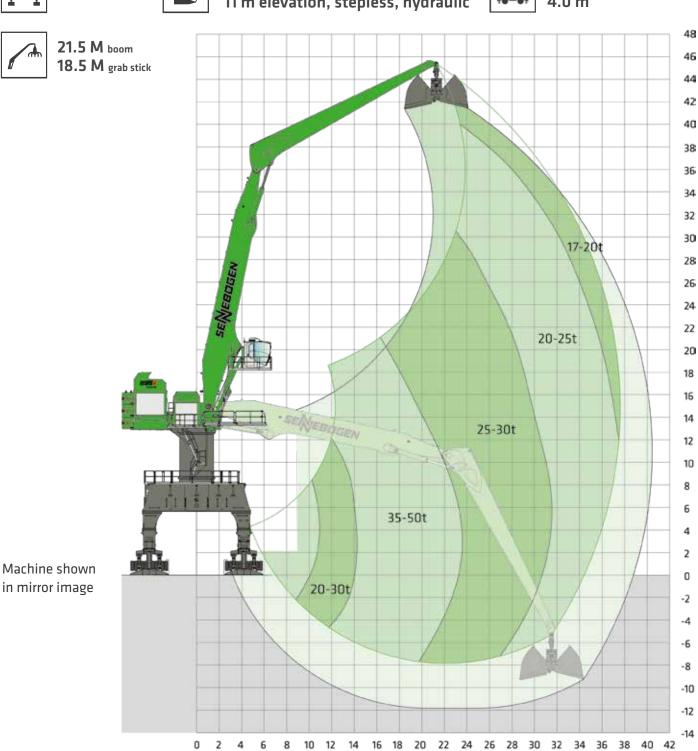
PM400/840



SKYLIFT 1100 with PORTCAB, 11 m elevation, stepless, hydraulic



Pylon extension 4.0 m



Notes:

All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply on firm and level ground and 360° slewing. Attachments such as orange peel grabs, magnets, etc. are included in the load capacity. In accordance with harmonized EU standard EN 474-5, hydraulic material handlers used for hoisting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.

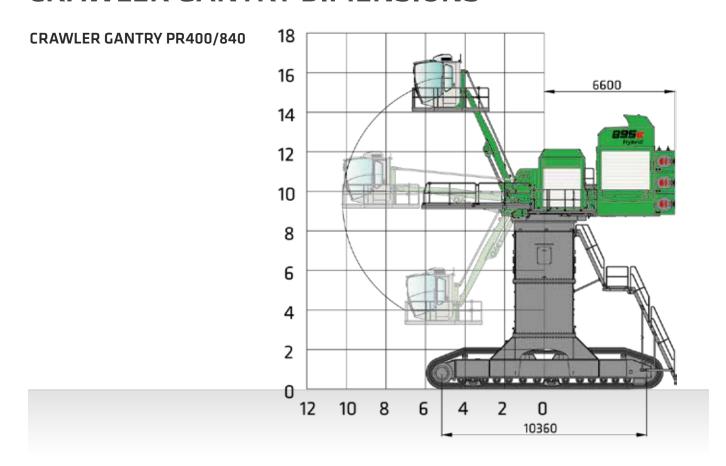
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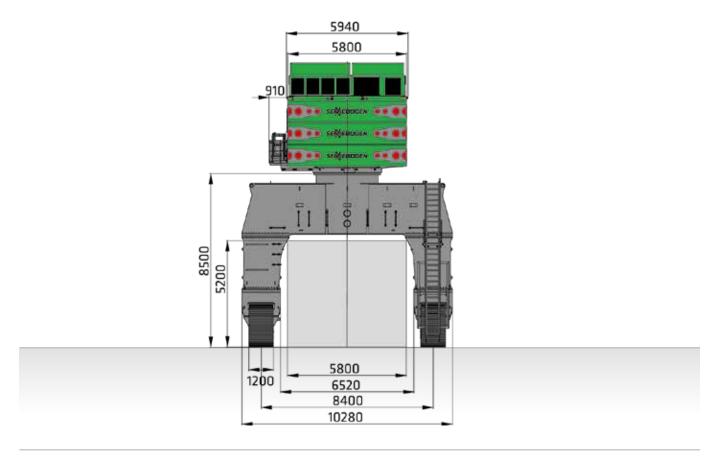
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CRAWLER GANTRY DIMENSIONS



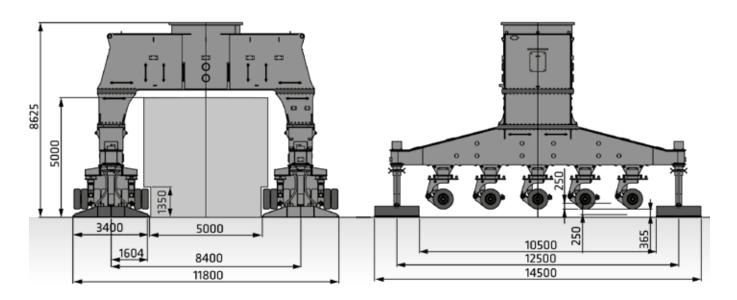


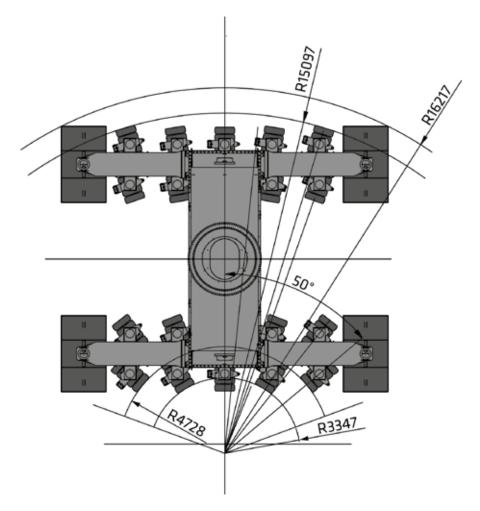




MOBILE GANTRY DIMENSIONS

MOBILE GANTRY PM400/840











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Increase your knowledge because success is based on knowledge. In the SENNEBOGEN ACADEMY we place great importance on ensuring it flows powerfully.

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MOVE BIG THINGS WITH US



70 over

years of experience

100%

family company

over 1800

experienced specialists worldwide

4

production plants in Germany

over 180

sales and service partners worldwide **27**

different material handlers



Telehandler 4-5.5 t

Balancer 130-300 t Material handler

Duty cycle crane 13.5-300 t

50-300 t

Telescopic crane

Port crane 300 t



This catalog describes machine models, the scope of equipment of individual models, and configuration options (standard equipment and optional equipment) of the machines delivered by SENNEBOGEN Maschinenfabrik GmbH. Machine illustrations may contain optional and supplementary equipment. Actual equipment may vary depending on the country to which the machines are delivered, especially in regard to standard and optional equipment. All product designations used may be trademarks of SENNEBOGEN Maschinenfabrik GmbH or other supplying companies, and any use by third parties for their own purposes may violate the rights of the owners.

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