



# 865E

**GREEN HYBRID MATERIAL HANDLER**



Cummins X12, Tier 4F  
355 HP (261 kW)



Rubber Tired (M) - 198,420 lb - 242,510 lb (90,000 kg - 110,000 kg)



Crawler (R-HD) - 198,420 lb - 242,510 lb (90,000 kg - 110,000 kg)

# PURPOSE-BUILT – TO SUIT YOUR PURPOSE

We're building smarter, to build *your* business.

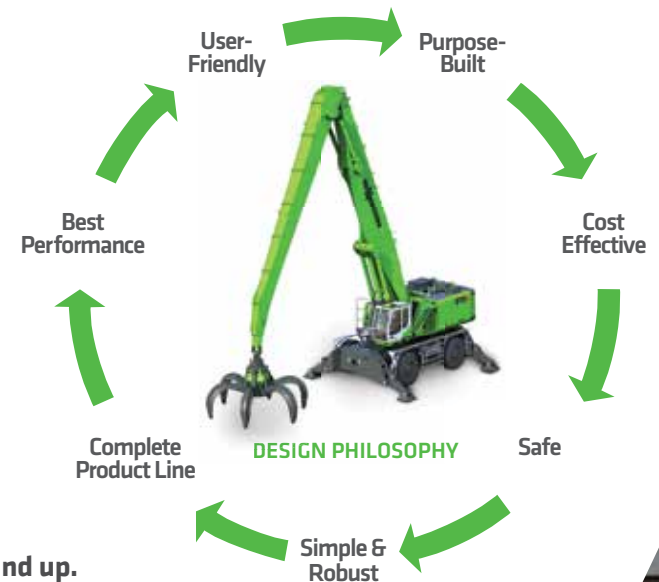
Every SENNEBOGEN material handler begins with you, our customer, and the challenges you face every day. Our singular focus leads us to the simplest, most efficient engineering solutions.

With our Green Hybrid series of purpose-built material handlers, we're meeting our commitment to help you move more material, safely, at a lower cost:

- Innovative energy recovery system saves costs with every lift
- Interchangeable components across multiple platforms
- Industry standard parts for service & repairs
- Intelligent hydraulics in place of complex electronics
- Robust structures matched to heavy loads and stresses

Now in our third generation as a family-owned business, SENNEBOGEN takes pride in taking a personal interest in the needs of our customers. By listening and responding to their requirements, we have continually delivered the world's best material handling solutions since 1952.

When you purchase a SENNEBOGEN machine, you'll know it was purpose-built for you, **from the ground up.**





## Lift More. Pay Less.

SENNEBOGEN innovative Green Hybrid energy recovery system **saves energy costs** every time it lifts a load. But it offers more savings too.

Material handlers equipped with the Green Hybrid energy recovery system, starting with the SENNEBOGEN 865, will **outlift conventional machines**, and they do it with less horsepower. As a result, you can now **replace larger equipment** in your fleet with a smaller Green Hybrid machine, and still meet the same goals for lift capacity, throughput and cycle time.

### QUICK SPECS

#### 865 M RUBBER TIRED

#### 865 R-HD CRAWLER TRACKS

#### Net Power

355 HP (261 kW)

355 HP (261 kW)

#### Operating Weight

198,420 lb - 242,510 lb  
(90,000 kg - 110,000 kg)

198,420 lb - 242,510 lb  
(90,000 kg - 110,000 kg)

#### Magnet System

33 kW

33 kW

#### Max reach

82' (25.0 m)

82' (25.0 m)

## Power

With its engineered efficiency and Green Hybrid energy recovery system, the 865 reduces operating costs and your environmental footprint whether you choose diesel power, electric drive or a combination of the two.

For reliable performance and ease of maintenance, SENNEBOGEN diesel machines are powered by industry-preferred Cummins engines.

## Cab Configurations and Elevations

The elevating Maxcab, now with bulletproof windshield and skylight as standard equipment, allows an unobstructed view in all directions for increased safety and productivity, even under harsh and adverse conditions.

Optional features include:

- Windshield protective guard
- Skylight protection guard and/or FOPS guard
- Floor window

### Cabs



Maxcab



Maxcab Industry

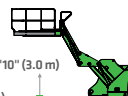


Mastercab

### Cab elevations



E270

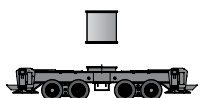


E300/260

9'10" (3.0 m)  
8'6" (2.6 m)



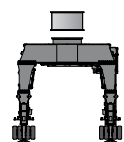
Skylift  
700/900



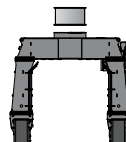
Rubber Tired



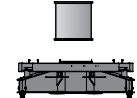
Crawler



Rubber Tired  
Gantry



Crawler Gantry

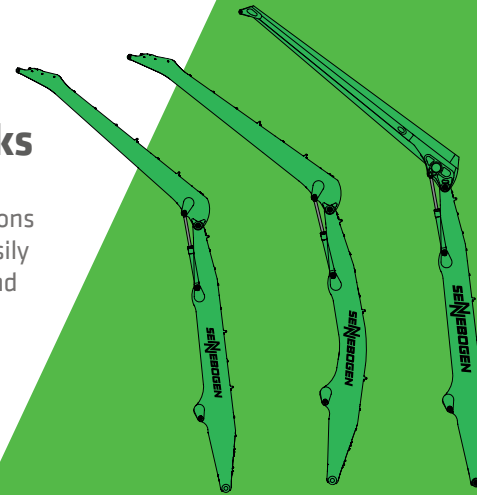


4-Point Pedestal



## Booms and Sticks

A wide choice of powerful boom and stick configurations allows the 865 to adapt easily to match the specific lift and reach requirements of your operations.



## Attachments

SENNEBOGEN grapples and magnets complete your purpose-built solution with the same reliability as our 865 material handling machines. Your machine will also accept a full range of standard attachments from all brand-name manufacturers including:



Orange peel grab



Clamshell grab



Magnet plate



Timber grab

SENNEBOGEN magnet systems are powered by Baldor generators with Hubbell controllers

## Platforms

The modular design of the 865 adapts easily to any required mounting for gantries, rail cars, barges and ship applications.





## UNDERCARRIAGE

### ■ Stable footprint

The centered point of rotation for the swing bearing allows for 360° equal lift capacity

### ■ Swing system

The large-diameter slewing ring provides excellent cycle times and swing torque for large loads

### ■ Multiple platforms

The modular 865 is designed to adapt to standard wheeled, tracked and pedestal mounts

## CAB

### ■ Elevating Maxcabs

Various cab configurations maximize safety, loading accuracy and stability. Optionally available with an elevated fixed cab

### ■ Joystick steering

Unobstructed view for operator with highly responsive controls

### ■ SENCON

Advanced diagnostic system with user-friendly multicolored interface, available in multiple languages

### ■ Entry/exit

Maxcab sliding door with permanent catwalk for safe, easy entry and exit

### ■ Superior visibility

Large bulletproof glass front window and skylight as well as large side windows supplemented by 2-camera system are standard. Also available with glass floor

## HYDRAULIC SYSTEM

### ■ Purpose-built design

Fully hydraulic controls require no special software to troubleshoot

### ■ Hybrid Technology

SENNEBOGEN's exclusive Green Hybrid captures energy on each downstroke of the boom, and releases it as "free" load-lifting power on each upstroke

### ■ HydroClean filtration

3-micron oil filtering with 99.95% efficiency absorbs water, prevents acid generation

### ■ Convenient servicing

All test ports are easily accessible in one place

## UPPER CHASSIS

### ■ Upper carriage

Guarding surrounds upper deck to enhance safety for service technicians

### ■ One-piece center frame

Optimizes distribution of stresses and machine balance from boom pivot to counterweight

### ■ Reversible fan

Closed circuit drive with axial displacement pump allows fast change between normal and reverse

### ■ OSHA-compliant

Continuous 3-point contact access to upper deck with handrails and guarding from ground to cab

### ■ Longitudinal engine mount

Allows safe and easy access and unequalled fuel efficiency due to efficient cooling

### ■ Automatic lubrication

Extend component life with no waste, no spill hazards

## BOOM & STICK

### ■ Limit switches

Limit switches on the boom and stick cylinders prevent high pressure peaks to provide a cushion for rod movement and prevent attachments from colliding with the cab

### ■ Boom pivot

Purpose-designed boom mounting point on the chassis for enhanced balance and lifting capacity

### ■ Cylinder protection

The boom and stick have been designed specifically for material handling applications. Hydraulic cylinders are mounted and protected by an open box frame to ensure uptime

## SAFETY

### ■ Safety rails

Full guarding on upper decks provide safety for technicians on North American models

### ■ Fuses and relays

All fuses and relays are clearly labeled and easily accessible in a centrally located terminal box

### ■ Sliding door

The door slides open for safe ease of entry and exit from the cab

### ■ Bulletproof glass

Bulletproof windshield and skylight are standard on all new SENNEBOGEN models

Bulletproof windshield and skylight are now standard on all new SENNEBOGEN material handlers.

# HEALTH & SAFETY: THE FIRST STEP TO PRODUCTIVITY

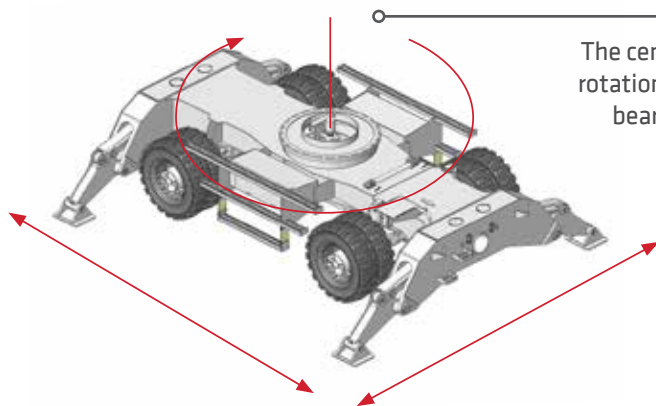
Various optional guarding packages available to meet industry safety requirements.



## SENNEBOGEN is renowned as the industry leader in preventing downtime, and in protecting people.

Safety-conscious producers look for equipment that prevents liability costs and protects their most valued assets. SENNEBOGEN works closely with the operators and technicians who know our equipment best, and we listen to their ideas to make our machines the safest on any jobsite.

That's why ease of access, ground-to-cab guarding, sliding door cab entry, 360° visibility, battery disconnect switch and travel alarm are all standard features of your 865.



The centered point of rotation for the swing bearing minimizes tipping risk.

Handrails around the upper deck and anti-slip walking surfaces provide a safe working environment for service and maintenance crews.

All daily service is completed with easy access to all maintenance points.



Safe access to the upper deck is achieved with a permanent 3-point contact ladder with railings.

Accessible safety switches including emergency shut-off, battery disconnect and travel alarm.



Dual cameras with views to the rear and to the right side are standard equipment.

Maxcab's sliding door and guarded permanent catwalk provide the safest entry and exit in the industry.



**Optional Mastercab's maximized window area (shown) and elevating mount** give the operator an unobstructed wide-angle view of the work zone.

**Intuitive joystick controls** connect the operator seamlessly to the industry's most responsive hydraulic system for precise, easy handling.

**Ergonomic comfort and climate control features** keep operators alert, adapting to individual preferences to fight fatigue through long shifts.

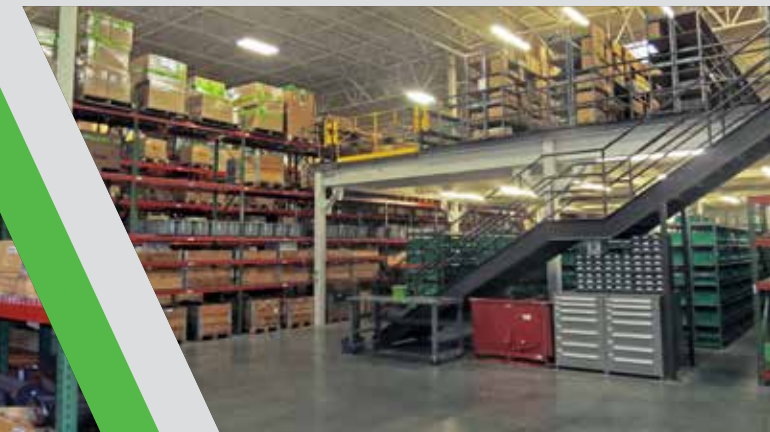
# BEYOND THE MACHINE

SENNEBOGEN is on a mission to deliver the lowest Total Cost of Ownership with the industry's best in aftersale service. Expert technical support, available parts and qualified servicing translate into less downtime and more productive years on the job.

- Our 100,000 sq. ft. (9,300 m<sup>2</sup>) headquarters in Stanley, NC is a multipurpose facility dedicated to supporting customers "beyond the machine."
- Our coast-to-coast network of factory-trained distributors and technicians sets the industry standard for outstanding field service.
- SENNEBOGEN application specialists provide customers and dealer sales staff with expert insight into the unique challenges.
- Our in-house engineering services respond quickly to customer needs for unique solutions.

The largest inventory of material handler parts in the Americas ensures fast delivery for repairs and service to every fielded SENNEBOGEN machine currently in operation.

**98% ORDER FULFILLMENT  
WITHIN 24 HOURS**





# TRAINING CENTER OF EXCELLENCE

The dedicated Training Center in our North American head office complex provides primary and advanced courses. Offered free of charge for our dealers and their customers, the Training Center has working units, demonstration modules and is staffed with professional trainers each with many years of in-field experience and hands-on knowledge.

## Purpose-built For America's Best-Trained Technicians

The main demonstration bay allows hands-on access to machines while the meeting rooms and classrooms are all equipped with the technology required for today's interactive instruction methods.

Truly a Center for developing excellence in service and support for dealer and customer personnel, the SENNEBOGEN Training Center has earned accolades for the quality of the instructors, facilities and materials.

## Free Training Courses Include:

Service • Parts Training • Tree Care • Operator Familiarization

Visit us online at  
[www.sennebogen-na.com/training](http://www.sennebogen-na.com/training)



5 Day Courses

### Service Level 1

**Class Size:** 8 Students

**Required:** Basic Technical Knowledge

**Course Content:**

- Machine Safety, Operation & Functions
- Preventive Maintenance
- Read & Understand Hydraulic & Electric Schematics
- Basic Troubleshooting:  
Magnet System, Hydraulics, Electrics

### Service Level 2

**Class Size:** 8 Students

**Required:** Completion of Level 1 Class

**Course Content:**

- Remote Troubleshooting
- Component Training & Repair
- Failure Analysis
- In-Depth Troubleshooting:  
Magnet System, Hydraulics, Electrics

———— **Course fees:** No charge to SENNEBOGEN dealers, staff and customers. ————

Courses offered in English and Spanish sessions

# PROVEN UPTIME

To find out how to make SENNEBOGEN machines easier to maintain than any other material handler, we ask the experts...

... we talk to the technicians who actually service our equipment.

Our own support team, our instructors, our dealers and customers are all in constant contact to troubleshoot problems and find permanent solutions. Even our senior management and the Sennebogen family take a hands-on approach to product improvement, meeting customer mechanics and operators in their own shops and yards.

Their innovative ideas help us to deliver machines that spend more time on the job, and less time in the shop.

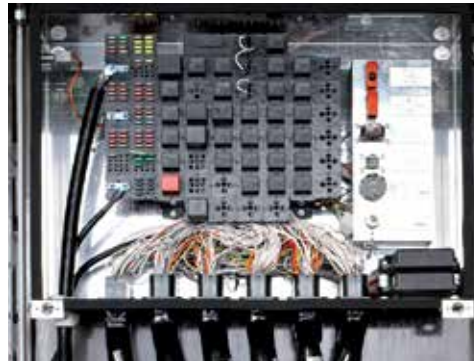


SENNEBOGEN Uptime Kits are matched to specific service tasks and machines. Hundreds of assorted parts, connectors, fittings and electrical components are easy to locate and access.

In the shop or in the field, these fully stocked kits bring together all the parts and material required for a specific service need, conveniently sorted and organized in one place.



Solid steel top-opening compartment access doors on the sides, top of the upper deck and above the engine compartment maintain a secure fit, even after repeated opening for service access.



All the fuses and relays are in a centrally located box for easy access.



Simple hydraulic controls replace complex electronics, so the 865 requires no special software or “black box” components to troubleshoot your machine.



The large reversing fan provides up to 45% more of the cooling surface than comparable machines.



## SENCÓN

The advanced SENCÓN diagnostic and reporting system presents a multicolored user-friendly interface, now available in multiple languages.



With no bypass in the fluid circuit, SENNEBOGEN's HydroClean system continuously protects hydraulic components with industry-leading 3-micron oil filtration.



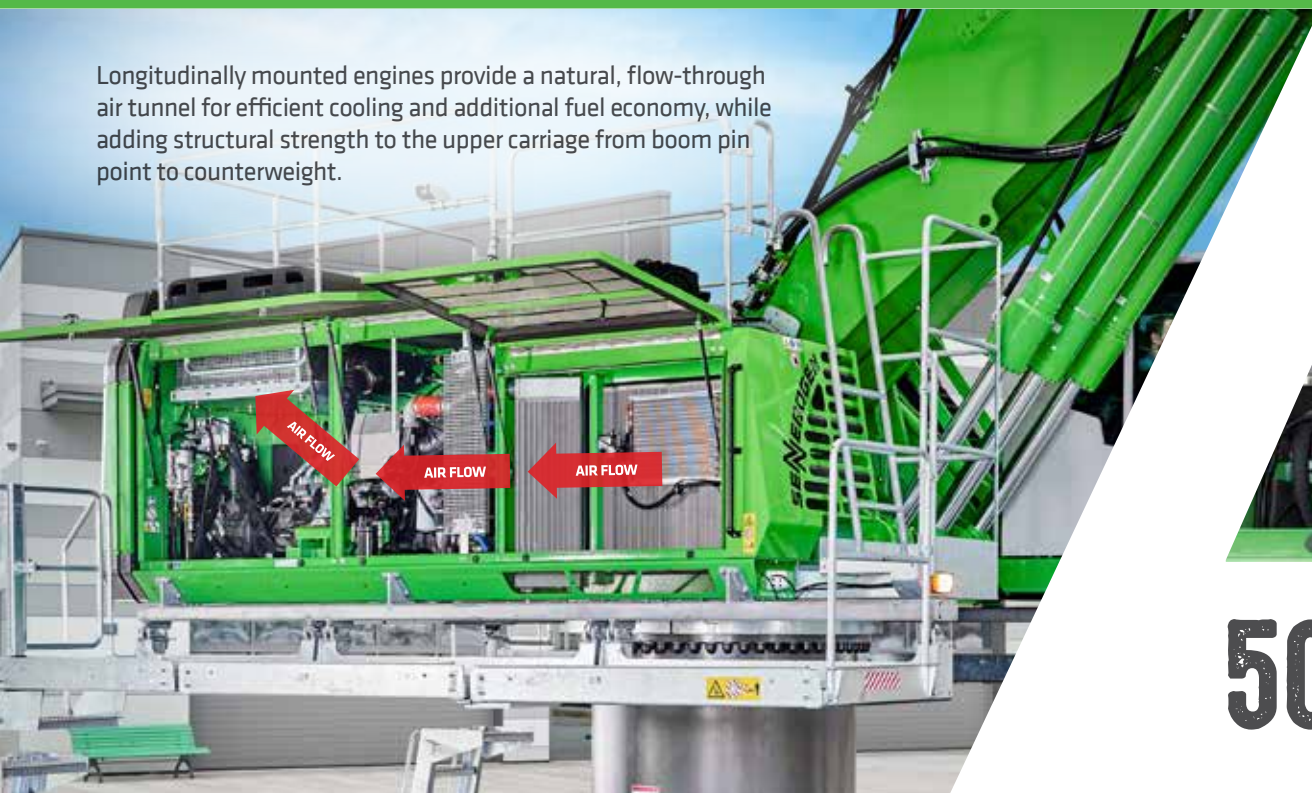
Automatic central lubrication, standard on all SENNEBOGEN machines, saves servicing time every day while improving component life cycles.

# BIG SAVINGS

“Green Efficiency” powers a new generation of machines that reduce operating costs through every working hour and on every lift.

All SENNEBOGEN E-Series machines are built on layers of smart engineering and system innovations aimed at doing more with less. Our “Green Efficiency” solution combines with multiple design features that utilize power more effectively to achieve **savings of up to 50%** compared to traditional diesel-fueled machines.

Longitudinally mounted engines provide a natural, flow-through air tunnel for efficient cooling and additional fuel economy, while adding structural strength to the upper carriage from boom pin point to counterweight.



Optional eGreen electric-drive systems reduce energy costs up to 50%; reduce vibration wear and maintenance cycles; eliminate refueling stops.



## 50% LOWER OPERATING COSTS WITH SENNEBOGEN ENERGY SOLUTIONS

# LITTLE FOOTPRINT




Tier 4F engines, efficient hydraulics, Eco-mode controls and electric drive options mean low noise and emissions for eco-friendly material handling.

## REDUCE ENERGY COSTS BY 30% WITH GREEN HYBRID TECHNOLOGY

By utilizing power more efficiently, the 865 will outlift larger conventional machines while it consumes **30% less energy** and reduces emissions.

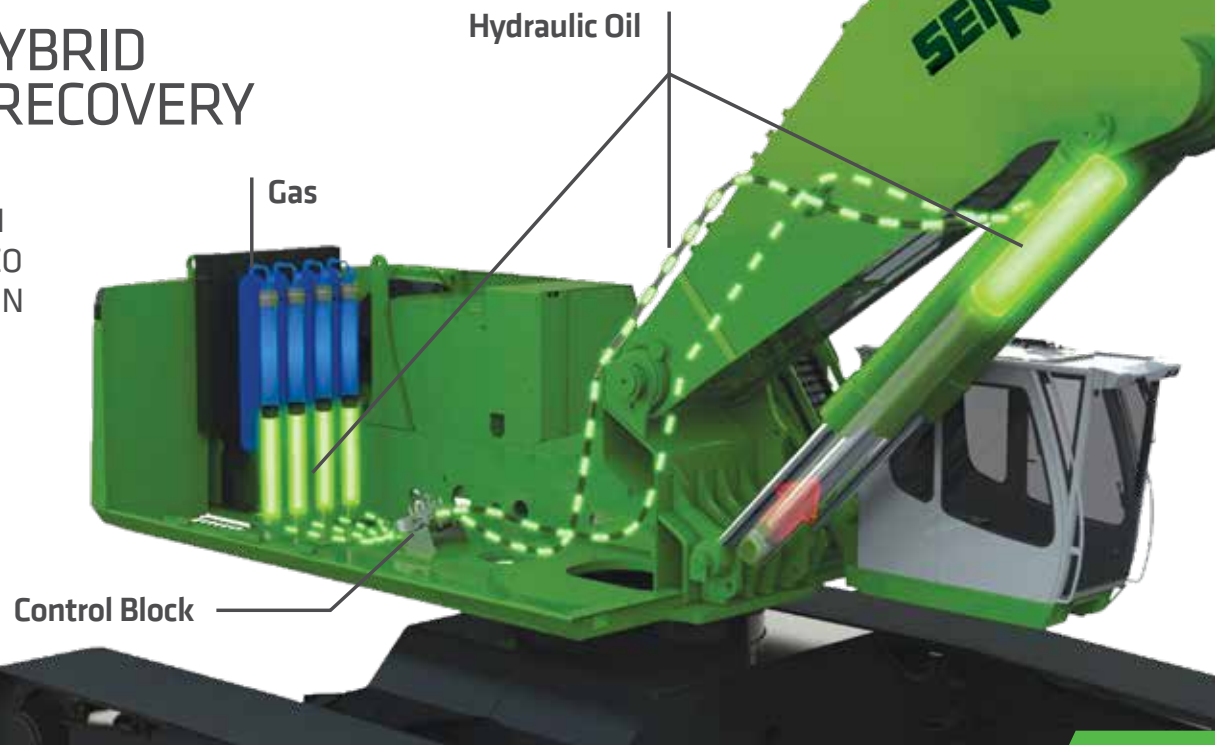
- Vertical boom movements generate potential energy
- Recovery cylinder captures energy in gas accumulators
- Released energy supports the boom through the next lift cycle
- Simple, safe energy recovery with no electronics

Eco-mode engine control automatically reduces engine speed to 1800 rpm.

Operating ECO Mode	Automatic Idle		Stop
			
2000 ECO min <sup>-1</sup>	1800 min <sup>-1</sup>	800 min <sup>-1</sup>	0 min <sup>-1</sup>
0 s	5 s	8 s	5 min

## GREEN HYBRID ENERGY RECOVERY SYSTEM

SCAN TO WATCH AN ONLINE VIDEO DEMONSTRATION

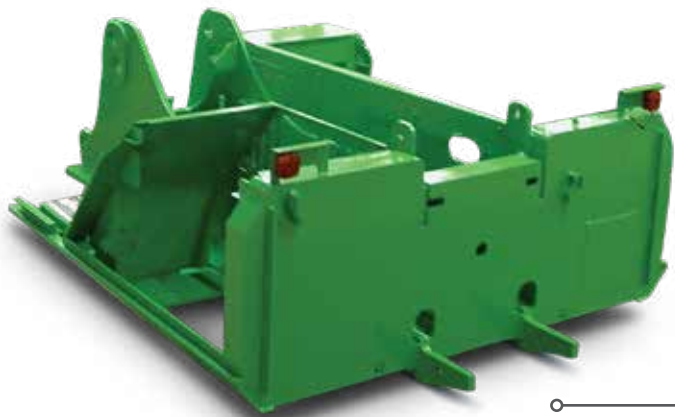


# ATTENTION TO DETAILS MAKES US STRONGER

## Strong-and-smart SENNEBOGEN machines stand up to your toughest and grittiest work environments.

Reliability and durability are engineered into the details of your 865, from heavy-duty structural components to natural flow-through engine cooling. Each of SENNEBOGEN's manufacturing, fabrication and assembly facilities is ISO-certified to deliver the same outstanding quality in every machine, every time.

By going to work every day, and staying on the job year after year, your 865 is built to deliver the best return on your equipment investment.



Dual motors extend swing system life while improving cycle times and torque.

The swing bearing is equipped with automatic lubrication to withstand extreme 360° duty cycle operation.

A continuous flange ring reduces stress and improves distribution of swing loads to the undercarriage.

The upper carriage is built around a large, continuous one-piece center frame for added structural strength and improved air flow.

Fully hydraulic controls require no special software to troubleshoot and all test ports are easily accessible in one place.

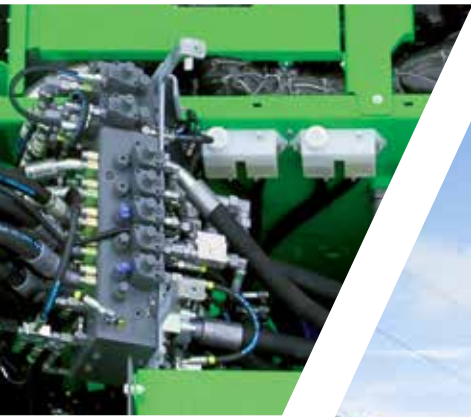


Fabricating booms and sticks in our own shops lets SENNEBOGEN eliminate welding stresses inside the box structure and maximize service life.



Low-vibration engine mounting reduces wear on components and lowers sound levels.

SEE HOW OUR QUICK  
COUPLER ADAPTS  
THE 865 TO ANY LOAD,  
EASILY AND QUICKLY



Built on SENNEBOGEN's renowned expertise with intelligent hydraulics, the 865 and its Green Hybrid system minimize the need for delicate electronics and computers, preventing their related failures and the associated downtime in harsh environments.



# PURPOSE-BUILT FACILITIES

With nearly 1,000,000 sq. ft. (93,000 m<sup>2</sup>) of production space in our four manufacturing facilities in Europe, every step of production at SENNEBOGEN is planned to serve individual customer needs. Every critical component and process is completed in-house to assure quality, efficiency and flexibility on the production line.

- We fabricate our own booms and sticks
- Our lineup is based on a full line of interchangeable platforms
- Our plants are designed to customize each machine, built-to-order
- Your machine is fully inspected and live-tested before it leaves the factory

Our four factories in Europe support the full range of capabilities for SENNEBOGEN to machine, fabricate and assemble all major components to our own standards, in-house.

*(Pictured here is our main plant in Straubing, Germany)*



Modular components used across multiple products allow SENNEBOGEN to deliver purpose-built machines competitively. Shared systems also streamline aftersale parts inventories for customers and their local SENNEBOGEN distributors.







Every configuration of a SENNEBOGEN begins as an identical machine up until the final stage of assembly. The unit is then mounted on your choice of undercarriage or platform, and completed with your preferred equipment and choice of cab.

# THE RIGHT TOOLS FOR EVERY JOB ENSURES MAXIMUM UPTIME

Keep your 865 E “purpose-built” from end to end with your choice of genuine SENNEBOGEN attachments.

SENNEBOGEN grapples, lifting magnets, and clamshell buckets are all heavy-duty production-rated tools, built to SENNEBOGEN’s exacting standards for reliable, efficient service. Specified to match the fittings and power ratings for your SENNEBOGEN material handler, these attachments ensure that you always get the most productivity from your machine.

Available only from your authorized SENNEBOGEN dealer, *green machine* attachments qualify as part of your total SENNEBOGEN Capital financing package.



## Orange Peel Grapples

Built to grab and hold large loads efficiently, with easy handling and reliable service

- 4-tine and 5-tine scrap grapples
- From .5 to 5.0 yd<sup>3</sup>
- Protected hose routings and hose guarding
- Tine tips 44% stronger than Hardox 400
- Fully sealed Rotobec rotator design with 360° rotation
- Self-contained cylinders with integrated guarding

## Lifting Magnets

Made-in-America magnets engineered to operate 24/7 with consistent lifting strength throughout every working shift

- Deep field and extra deep field models with aluminum or copper coils
- Optimized for true 75% duty cycle
- Available in common sizes from 30" (762 mm) to 72" (1828 mm)
- Balanced for superior lift-to-weight ratios
- Heavy-duty cast or fabricated casings
- High-temperature insulation
- Durable manganese bottom plate





## Mag Grapples

Combination 4-tine grapple and magnet to sort and separate scrap metals from mixed loads and debris

- 11 models from .75 to 1.5 yd<sup>3</sup>
- Magnets from 30" to 44" diameter
- 360° rotation; designed for high radial and axial loads
- Removable cylinder guards for ease of service



## Clamshell Buckets

- Light, standard and heavy-duty models
- Sizes from 1.5 yd<sup>3</sup> to 14 yd<sup>3</sup> capacity
- Rotobec 5,000 psi quad-cylinder design
- Fully sealed 360° rotation
- Bolt-on cutting edges



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# Technical Specifications - 865 M “E”

ENGINE	
model	Cummins X12 FR21082
type	in-line, 6 cylinder, cooled exhaust gas recirculation, DPF diesel particulate filter water cooled
emission	EPA Tier 4F
net power	355 HP (261 kW) @ 1,800 rpm
injection	high pressure common-rail
aspiration	turbo charged, charge air cooled
fuel tank	264 gal (1000 L)
air filtration	direct flow filtration system dual stage filter with pre-filter
control	integrated ECM automatic idle - stop eco mode
HYDRAULIC SYSTEM	
system type	Load-sensing/ LDUV hydraulic system, hydraulically operated work functions
pump type	variable-displacement axial-piston pump
max. pressure	5,076 psi (350 bar)
hydraulic tank	238 gal (900 L)
hydraulic delivery rate	2 x 126 gal/min (2 x 475 L/min)
filtration	dual filtration system 3 micron (HydroClean)
COOLING	
cooling type	water cooled, charge air cooling, coolant cooling
hydraulic / water	hydraulic fan drive axial piston pump, reversible fan thermo-statically controlled, closed loop system
charge air	direct fan drive

ELECTRICAL	
alternator	24 V, 105 A
starter	24 V, 9 kW
battery	2 x 180 Ah
lights	2 x cab roof, type halogen 2 x frame upper carriage, type H4
SWING SYSTEM	
swing speed	0 - 5.5 rpm
swing hydraulic	closed loop
hydraulic delivery rate	2 x 73 gal/min (2 x 274 L/min)
drive	Compact planetary gear with bent-axis hydraulic engine, integrated brake valves
swing brake	multi-disc brake, spring loaded
swing bearing	external teeth sealed triple roller bearing
UPPER CARRIAGE	
design	torsion-resistant box design, precision crafted, steel bushings for boom mountings. Service-friendly design, engine installed in the longitudinal direction
TRAVEL / UNDERCARRIAGE	
type	MP71
drive	all-wheel drive powered by a variable-displacement hydraulic motor with direct-mounted, automatic brake valve and 2-gear power shift transmission  planetary axles with integrated steering cylinder and dual-circuit service brake
speed	0-8.7 mph (0-14 kph)
tires	solid rubber 14.00-24 (8x)
parking brake	spring-loaded multi-disc brake
steering	joystick steering
safety	travel alarm

REFILL CAPACITIES	
fuel tank	264 gal (1000 L)
engine cooling system	21 gal (80 L) approx.
engine oil w / filter	9 gal (34 L)
hydraulic tank	238 gal (900 L)
DEF (AdBlue) tank	29 gal (110 L)
WEIGHT	
operating weight	198,420 lb - 242,510 lb (90,000 kg - 110,000 kg)
MAGNET SYSTEM	
rating	20/25 kW
voltage (magnetized)	230 V
current (cold condition)	137.5 Amps
controller	Hubbell
generator	Baldor
drive	hydraulic

Subject to technical modification.

# Standard / Optional Equipment - 865 M “E”

ENGINE	
Water separator in fuel line	●
Automatic idle / engine stop control	●
Eco mode	●
Muffler	●
Visual fuel tank check	●
Engine block & water separator pre-heater	○
ELECTRIC	
Battery disconnect switch	●
Centralized fuse box	●
Battery jump start connection from ground level	●
HYDRAULIC	
Pilot pressure controlled variable displacement pump	●
Thermostatically controlled cooling system	●
Centralized hydraulic test ports	●
Protection covers for pilot pressure control valves	●
3 micron dual filtration system	●
Load sensing, flow on demand hydraulic system	●
Optimized hydraulic pump regulation (GLR)	●
Visual hydraulic tank check from ground level	●
Attachments open, close & rotation hydraulics	●
Hydraulic tank shut off valve	●
Electrical hydraulic tank pre-heater	○
Biodegradable hydraulic oil	○
Hydraulic circuit for scrap shear	○
Additional hydraulic circuit slasher	○
Additional hydraulic circuits	○
Attachment return filtration filters (60 µm)	○
UPPER CARRIAGE	
Rearview & right side view camera system	●
Automatic lubrication system	●
Anti-slip mats on walking area	●
Lockable side doors	●
Handrails on top of upper carriage	●
Mirror left side	●
Turning signal lights in upper carriage frame	●
Removable panels	●
Additional light package	○
Custom colors	○
Seawater paint coating	○

OPERATOR'S CAB (Maxcab)	
Hydraulic elevating up and out cab E270	●
Multi-adjustable, air suspended operator's seat	●
3" (76 mm) seat belt	●
Seat heater	●
Automatic climate control (heater / AC)	●
Air outlets w / defroster	●
Storage area for lunch box	●
Large cup holder	●
Fire extinguisher	●
Tinted windows with safety glass	●
Door window as sliding window	●
Radio with USB and SD port, MP3 and Bluetooth	●
Removable floor mat	●
SenCon diagnostic system	●
Multicolor monitor	●
Tilt out front window	●
Halogen light package on cab roof	●
Mechanical hour meter	●
Sliding door	●
Catwalk w / handrail	●
12 V / 24 V power outlet	●
Windshield wiper and washers	●
Emergency exit hammer	●
Safety lever	●
Sun shades	●
Interior lighting	●
Rain cover front window	●
Outside mirror	●
Optical and acoustic warning system	●
Positive filtered ventilation (pressurized cab)	●
Safety check valves for elevating cab cylinder	●
Foot rest	●
Bulletproof windshield	●
Bulletproof skylight	●
Maxcab industry	○
Windshield protection guard	○
Skylight protection guard	○
Skylight FOPS guard	○
Polycarbonate side windows	○
Additional light package	○
Fixed cab elevation	○
Operator's cab with floor window	○
Additional cameras	○
Spacious Mastercab	○
Skylift cab elevation (elevation 7 m or 9 m)	○

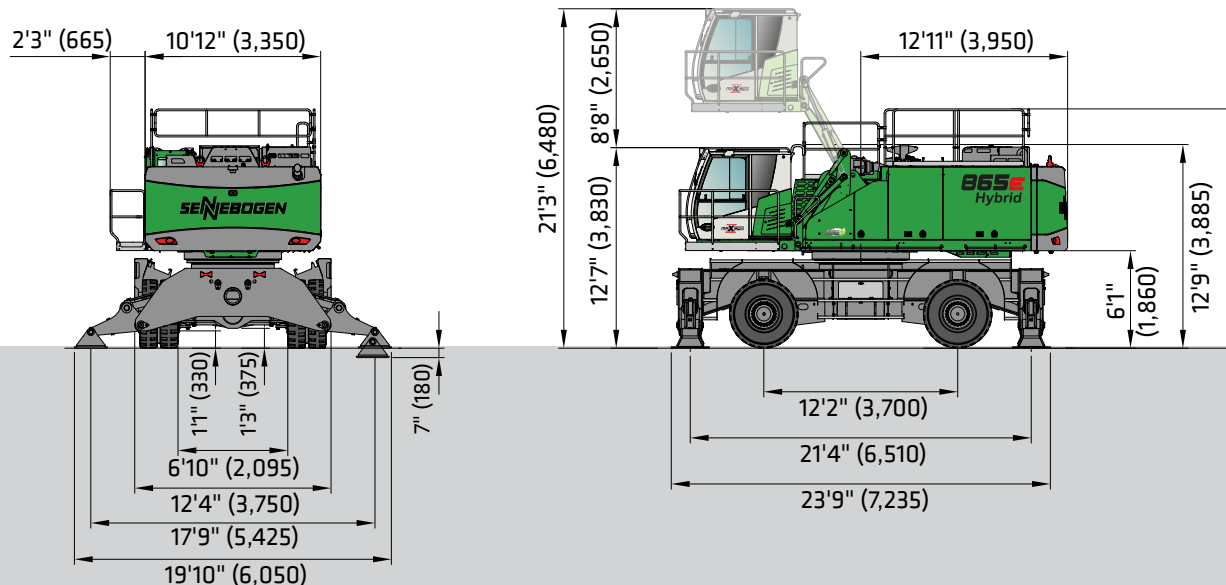
UNDERCARRIAGE	
Heavy-duty designed material handling undercarriage	●
Solid rubber 14.00-24 (8x) incl. intermediate ring	●
MP71 undercarriage with integrated 4-point outrigger system	●
All wheel drive	●
Planetary axles with integrated steering cylinders	●
Travel alarm	●
Solid rubber 16.00-24 (8x) incl. intermediate ring	●
Pylon elevation max. 4'11" (1.5 m)	○
MP80 undercarriage, optionally with pylon elevation max. 6'7" (2.0 m)	○
WORKING EQUIPMENT	
Purpose-built material handling boom	●
Green Hybrid energy recovery system	●
Purpose-built material handling stick	●
Attachment hydraulic line connections with ball valves	●
Safety check valves for stick cylinders	●
Safety check valves for boom cylinders	●
Cylinder end position dumping	●
Boom hoist limitation	●
Bronze bushings connected to automatic lubrication system	●
Stick limitation	●
Adjustable lift limitation / stick limitation	○
Stick mounted camera	○
LED light package boom	○
LED light package stick	○
Special port equipment with increased load capacities	○
Purpose-built material handling boom for scrap shears	○
MAGNET SYSTEM	
Hydraulic driven generator	●
Magnet controller	●
Magnet suspension link	○
ATTACHMENTS	
Orange peel grapple	○
Mag grapple	○
Clamshell	○
Magnet	○
Scrap shear	○
Power attachment	○
Pipe handler	○
SWING SYSTEM	
360° protection cover, removable	●
Electrical driven swing gear pinion lubrication pump	●

Standard Equipment ● Optional Equipment ○

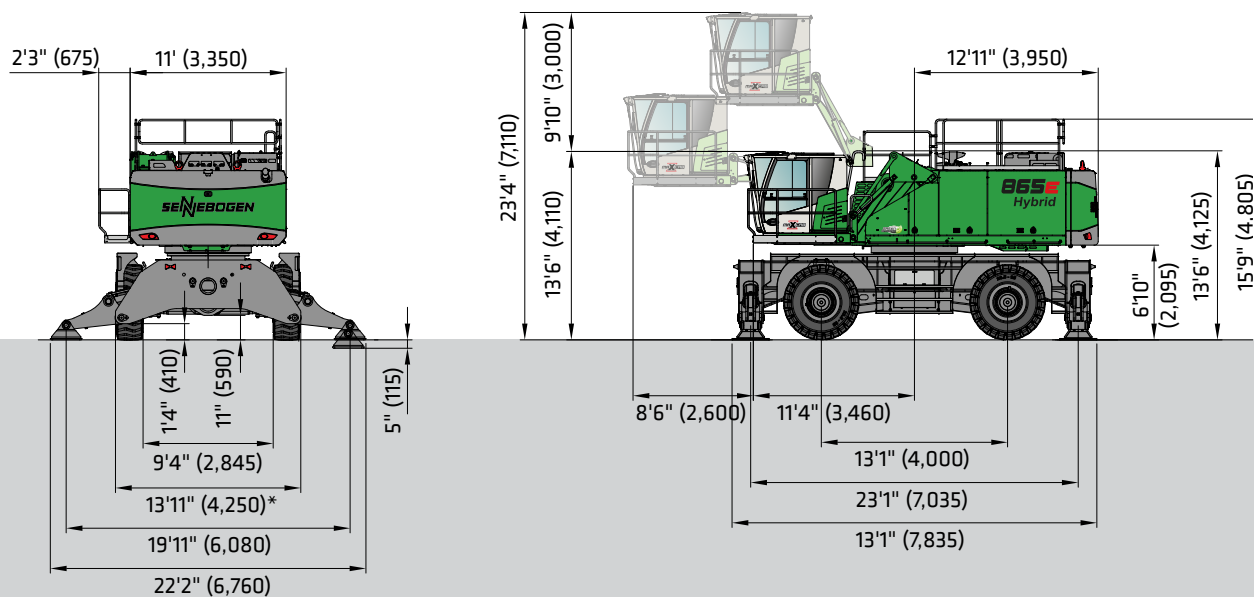
Subject to technical modification.

## Dimensions - 865 M "E"

865 E Hybrid with mobile undercarriage MP71 and hydraulically elevating cab E270 Maxcab, solid rubber tires 14.00-24 (8x)

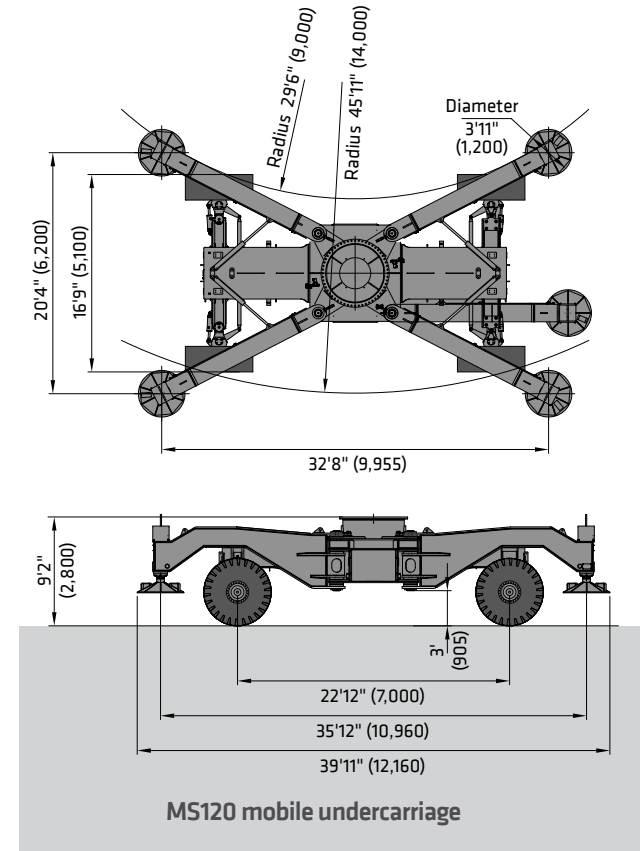
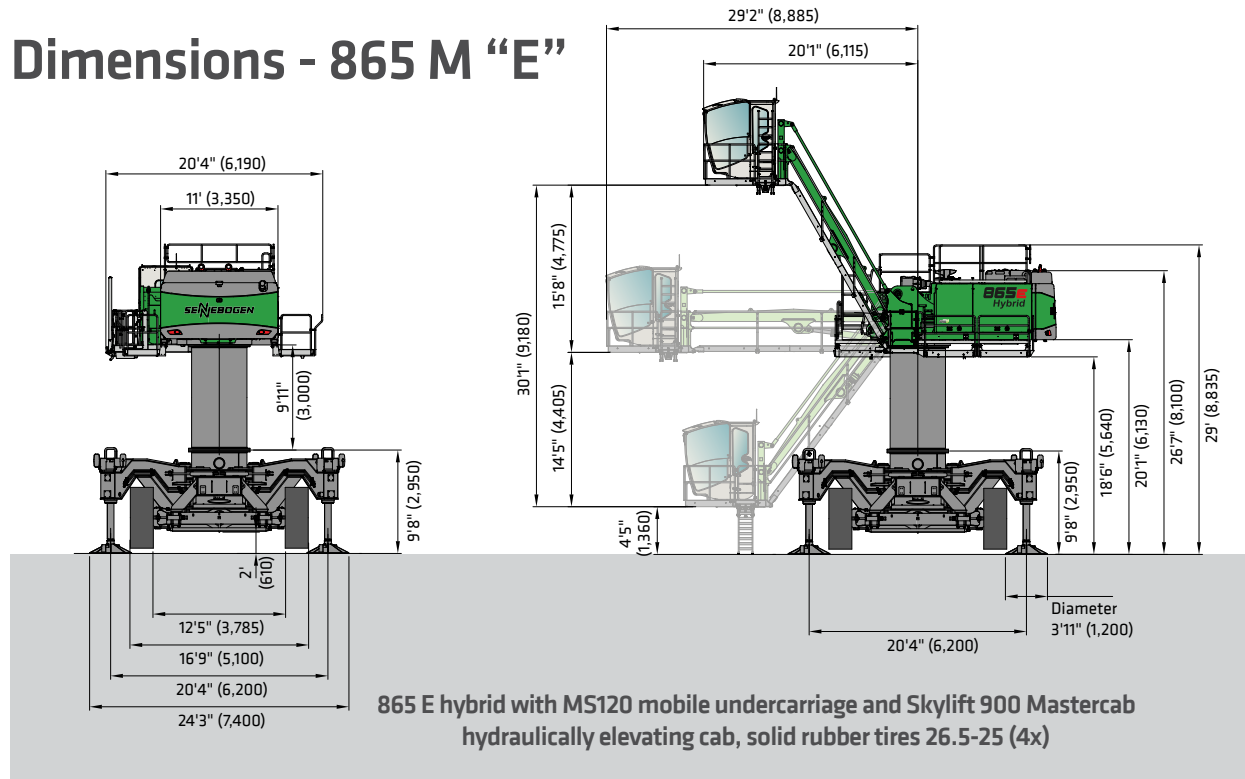


865 E Hybrid with mobile undercarriage and E300/260 Maxcab industry that can be elevated and moved forward hydraulically, solid rubber tires 26.5-25 (4x)

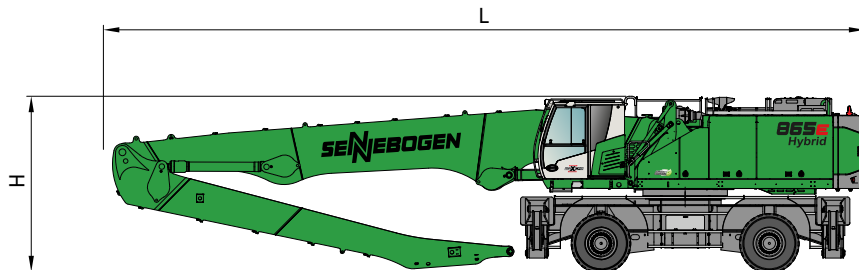




## Dimensions - 865 M "E"



## Transport Dimensions - 865 M "E"



Reach	Under-carriage	Boom Length	Stick Length	Transport Length (L)	Transport Height (H)
K18	MP71	35'5" (10.8 m)	28'7" (7.8 m)	51'6" (15.7 m)	12'10" (3.9 m)
K20	MP71	38'9" (11.8 m)	28'11" (8.8 m)	55'2" (16.8 m)	13'2" (4.0 m)
K25 Port	MP80	44'4" (13.5 m)	39'5" (12.0 m) Port	59'9" (18.2 m)	13'5" (4.09 m)
B24 Port	MP80	45'3" (13.8 m) Banana	39'5" (12.0 m) Port	59'9" (18.2 m)	13'5" (4.09 m)

Other transport dimensions on request

\* = stick removed

## Lift Capacities - 865 M "E"

### Working Equipment K18

Reach	59'1" (18.0 m)
Boom	35'5" (10.8 m)
Stick	28'7" (7.8 m)

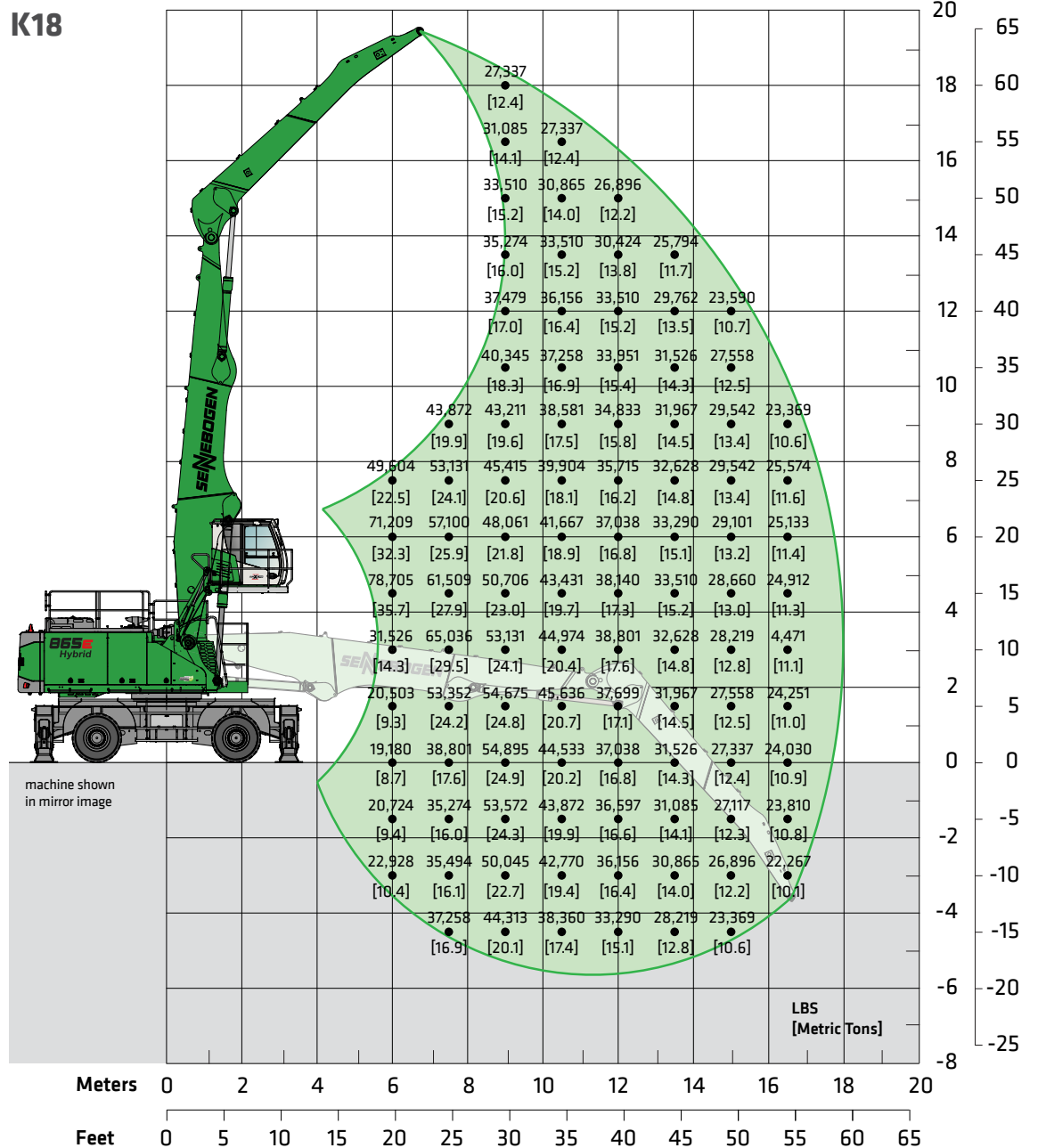
### Operator's Cab

Model	Maxcab E270, hydraulically elevated
Eye level	approx. 20' (6 m)

### Undercarriage

Model	MP71
Tires	8 x 14-24 solid rubber

K18



Lift capacities are stated in pounds. Values in [ ] are stated in metric tons. Indicated figures are based on ISO 10567 and do not exceed 75% of tipping and 87% of hydraulic capacity and machine standing on firm, level supporting surface. Loads are valid for 360° with machine support outriggers. Lifting capacities do not include working equipment such as orange peel grapples, magnets, clamshells, etc. The load point is the center line of the attachment pivot mounting pin on the stick. Their weights must be deducted from the numbers indicated in the lift charts. Please contact SENNEBOGEN or your local dealer for optimum attachment selection. The operator/user of the machine should be fully acquainted with the operator's & safety manual provided by SENNEBOGEN. Capacities apply only to the machine as originally manufactured and equipped by SENNEBOGEN.

# Lift Capacities - 865 M "E"

## Working Equipment B20

Reach	65'7" (20.0 m)
Boom	40'4" (12.3 m)
Stick	28'11" (8.8 m)

## Operator's Cab

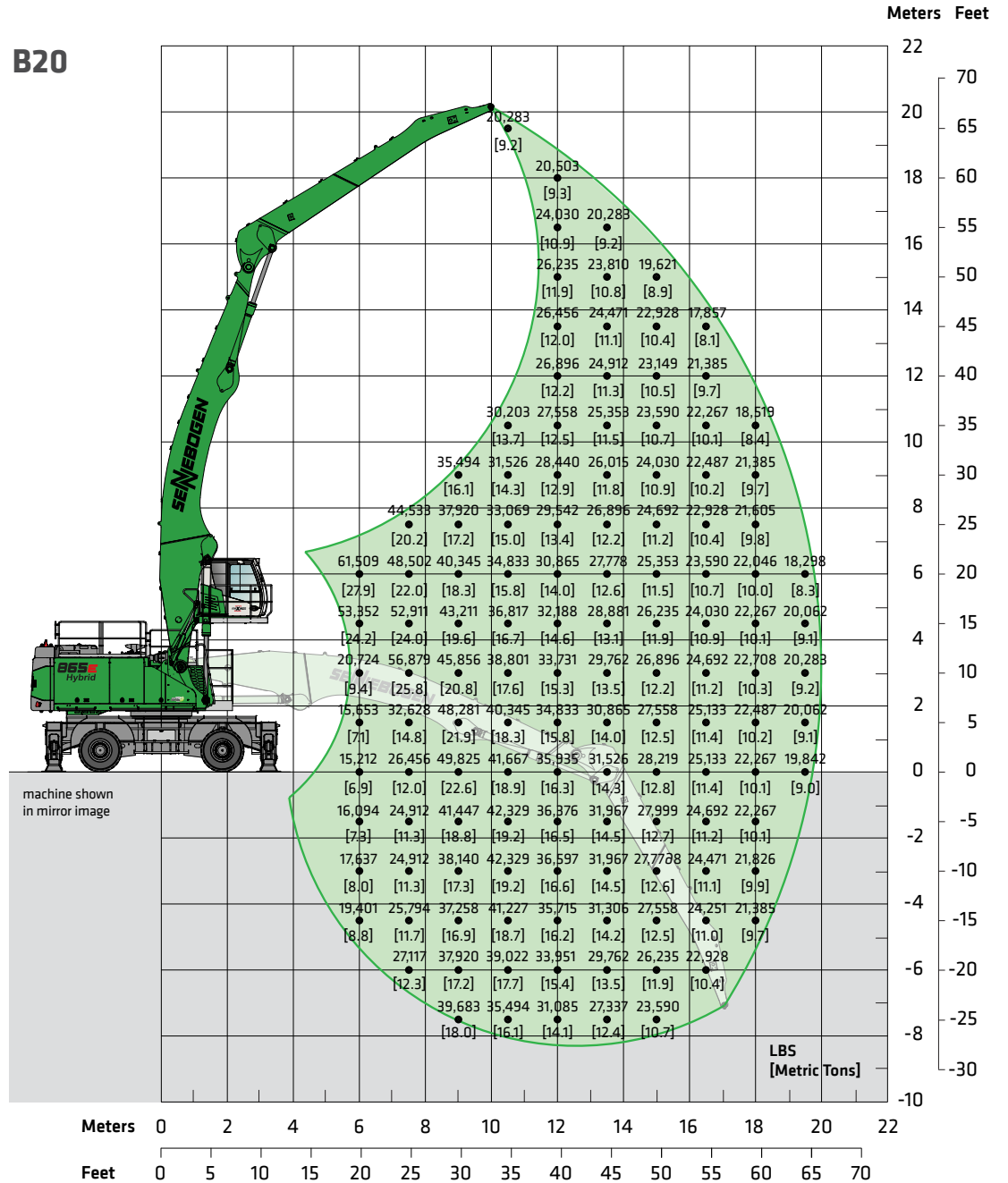
Model	Maxcab E270, hydraulically elevated
Eye level	approx. 20' (6 m)

## Undercarriage

Model	MP71
Tires	8 x 14-24 solid rubber

Lift capacities are stated in pounds. Values in [ ] are stated in metric tons. Indicated figures are based on ISO 10567 and do not exceed 75% of tipping and 87% of hydraulic capacity and machine standing on firm, level supporting surface. Loads are valid for 360° with machine support outriggers. Lifting capacities do not include working equipment such as orange peel grapples, magnets, clamshells, etc. The load point is the center line of the attachment pivot mounting pin on the stick. Their weights must be deducted from the numbers indicated in the lift charts. Please contact SENNEBOGEN or your local dealer for optimum attachment selection. The operator/user of the machine should be fully acquainted with the operator's & safety manual provided by SENNEBOGEN. Capacities apply only to the machine as originally manufactured and equipped by SENNEBOGEN.

B20



## Lift Capacities - 865 M "E"

### Working Equipment B21

Reach	68'11" (21.0 m)
Boom	45'3" (13.8 m) Banana
Stick	28'11" (8.8 m)
Pylon	4'11" (1.5 m)

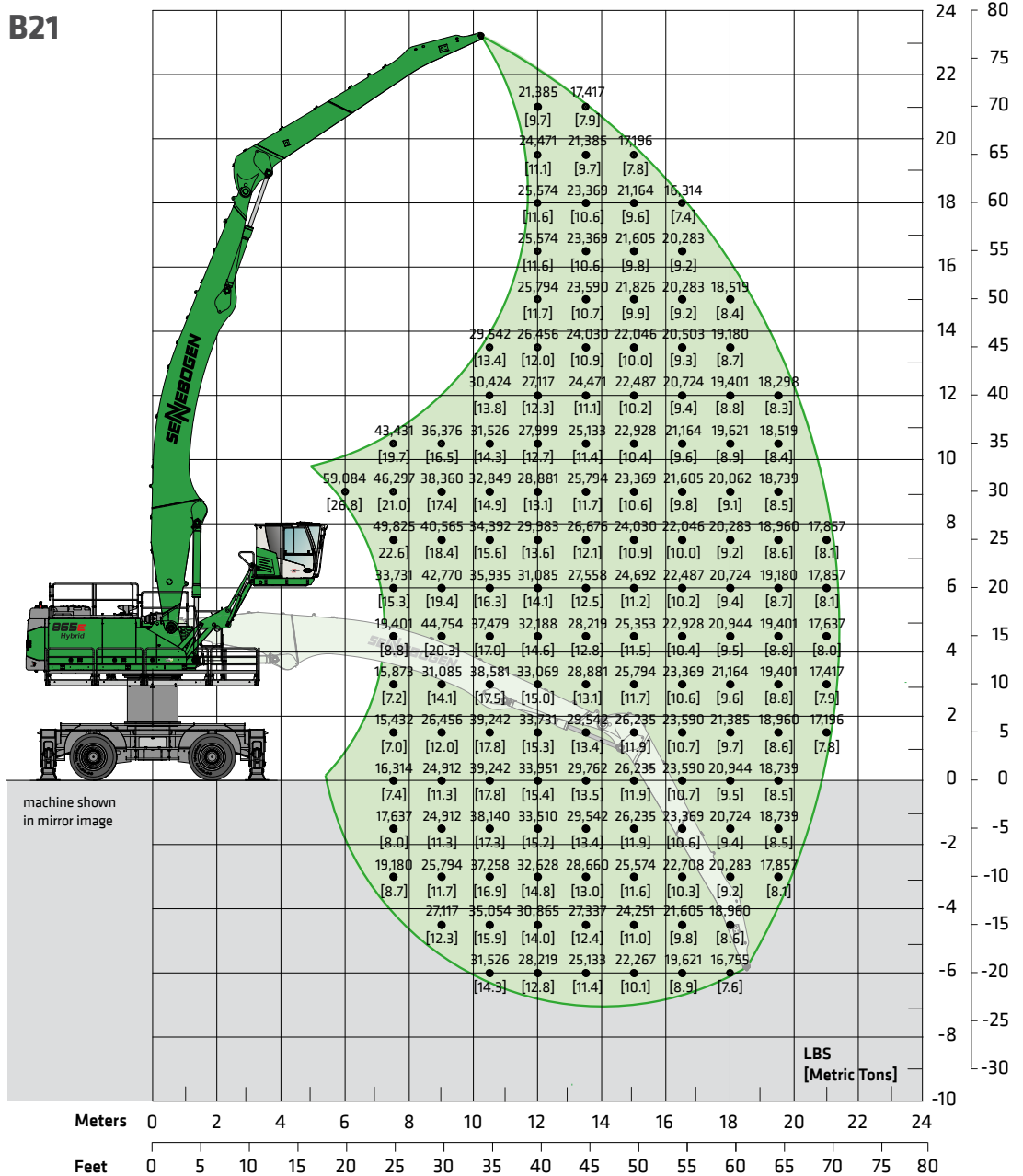
### Operator's Cab

Model	E300/260 Maxcab industry, hydraulically elevating
Eye level	approx. 25' (7.6 m)

### Undercarriage

Model	MP71
Tires	4 x 25-26.5 solid rubber

B21



Lift capacities are stated in pounds. Values in [ ] are stated in metric tons. Indicated figures are based on ISO 10567 and do not exceed 75% of tipping and 87% of hydraulic capacity and machine standing on firm, level supporting surface. Loads are valid for 360° with machine support outriggers. Lifting capacities do not include working equipment such as orange peel grapples, magnets, clamshells, etc. The load point is the center line of the attachment pivot mounting pin on the stick. Their weights must be deducted from the numbers indicated in the lift charts. Please contact SENNEBOGEN or your local dealer for optimum attachment selection. The operator/user of the machine should be fully acquainted with the operator's & safety manual provided by SENNEBOGEN. Capacities apply only to the machine as originally manufactured and equipped by SENNEBOGEN.

# Lift Capacities - 865 M "E"

## Working Equipment B24

Reach	78'9" (24.0 m)
Boom	39'5" (12.0 m) Port
Stick	45'3" (13.8 m) Banana
Pylon	6'7" (2.0 m)

## Operator's Cab

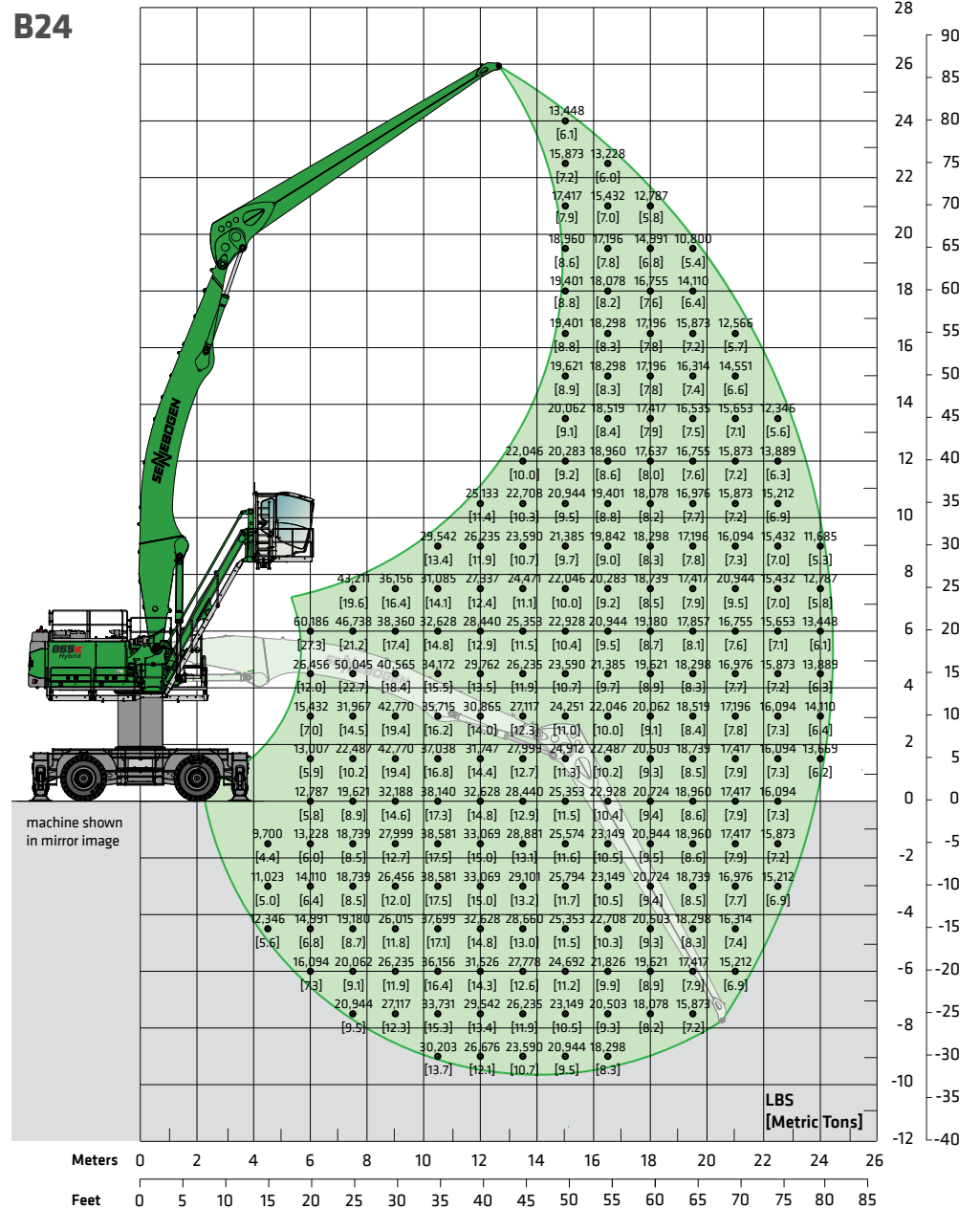
Model	Skylift 900 Mastercab, hydraulically elevating
Eye level	approx. 32'10" (10.0 m)

## Undercarriage

Model	MS120
Tires	4 x 25-26.5 solid rubber

Lift capacities are stated in pounds. Values in [ ] are stated in metric tons. Indicated figures are based on ISO 10567 and do not exceed 75% of tipping and 87% of hydraulic capacity and machine standing on firm, level supporting surface. Loads are valid for 360° with machine support outriggers. Lifting capacities do not include working equipment such as orange peel grapples, magnets, clamshells, etc. The load point is the center line of the attachment pivot mounting pin on the stick. Their weights must be deducted from the numbers indicated in the lift charts. Please contact SENNEBOGEN or your local dealer for optimum attachment selection. The operator/user of the machine should be fully acquainted with the operator's & safety manual provided by SENNEBOGEN. Capacities apply only to the machine as originally manufactured and equipped by SENNEBOGEN.

B24



# Technical Specifications - 865 R-HD “E”

ENGINE	
model	Cummins X12 FR21082
type	in-line, 6 cylinder, cooled exhaust gas recirculation, DPF diesel particulate filter water cooled
emission	EPA Tier 4F
net power	355 HP (261 kW) @ 1,800 rpm
injection	high pressure common-rail
aspiration	turbo charged, charge air cooled
fuel tank	264 gal (1000 L)
air filtration	direct flow filtration system dual stage filter with pre-filter
control	integrated ECM automatic idle - stop eco mode
HYDRAULIC SYSTEM	
system type	Load-sensing/ LDUV hydraulic system, hydraulically operated work functions
pump type	variable displacement axial piston pump
max. pressure	5,076 psi (350 bar)
hydraulic tank	238 gal (900 L)
hydraulic delivery rate	2 x 126 gal/min (2 x 475 L/min)
filtration	dual filtration system 3 micron (HydroClean)
COOLING	
cooling type	water cooled, charge air cooling, coolant cooling
hydraulic / water	hydraulic fan drive axial piston pump, reversible fan thermo-statically controlled, closed loop system
charge air	direct fan drive

ELECTRICAL	
alternator	24 V, 105 A
starter	24 V, 9 kW
battery	2 x 180 Ah
lights	2 x cab roof, type halogen 2 x frame upper carriage, type H4
SWING SYSTEM	
swing speed	0 - 5.5 rpm
swing hydraulic	closed loop
hydraulic delivery rate	2 x 73 gal/min (2 x 274 L/min)
drive	Compact planetary gear with bent-axis hydraulic engine, integrated brake valves
swing brake	multidisc brake, spring loaded
swing bearing	external teeth sealed triple roller bearing
UPPER CARRIAGE	
design	torsion-resistant box design, precision crafted, steel bushings for boom mountings. Service-friendly design, engine installed in the longitudinal direction
TRAVEL / UNDERCARRIAGE	
type	R83/450
system	mechanical
drive	independent driven by an axial piston motor through a compact planetary
travel speed	0-1.9 mph (0-3 km/h)
shoes	flat grouser shoes, 3' (900 mm)
crawler	B7
steering	joystick steering
safety	travel alarm

REFILL CAPACITIES	
fuel tank	264 gal (1000 L)
engine cooling system	21 gal (80 L) approx.
engine oil w / filter	9 gal (34 L)
hydraulic tank	238 gal (900 L)
DEF (AdBlue) tank	29 gal (110 L)
WEIGHT	
operating weight	198,420 lb - 242,510 lb (90,000 kg - 110,000 kg)
MAGNET SYSTEM	
rating	20/25 kW
voltage (magnetized)	230 V
current (cold condition)	137.5 Amps
controller	Hubbell
generator	Baldor
drive	hydraulic

Subject to technical modification.

# Standard / Optional Equipment - 865 R-HD "E"

ENGINE	
Water separator in fuel line	●
Automatic idle / engine stop control	●
Eco mode	●
Muffler	●
Visual fuel tank check	●
Engine block & water separator pre-heater	○
ELECTRIC	
Battery disconnect switch	●
Centralized fuse box	●
HYDRAULIC	
Pilot pressure controlled variable displacement pump	●
Thermostatically controlled cooling system	●
Centralized hydraulic test ports	●
Protection covers for pilot pressure control valves	●
3 micron dual filtration system	●
Load sensing, flow on demand hydraulic system	●
Optimized hydraulic pump regulation (GLR)	●
Visual hydraulic tank check from ground level	●
Attachments open, close & rotation hydraulics	●
Hydraulic tank shut off valve	●
Electrical hydraulic tank pre-heater	○
Biodegradable hydraulic oil	○
Hydraulic circuit for scrap shear	○
Additional hydraulic circuits	○
Attachment return filtration filters (60 µm)	○
UPPER CARRIAGE	
Rearview & right side view camera system	●
Automatic lubrication system	●
Anti-slip mats on walking area	●
Lockable side doors	●
Handrails on top of upper carriage	●
Mirror left side	●
Removable panels	●
Additional light package	○
Custom colors	○
Seawater paint coating	○

OPERATOR'S CAB (Maxcab)	
Hydraulic elevating up and out cab E270	●
Multi-adjustable, air suspended operator's seat	●
3" (76 mm) seat belt	●
Seat heater	●
Automatic climate control (heater / AC)	●
Air outlets w / defroster	●
Storage area for lunch box	●
Large cup holder	●
Fire extinguisher	●
Tinted windows with safety glass	●
Door window as sliding window	●
Radio with USB and SD port, MP3 and Bluetooth	●
Removable floor mat	●
SenCon diagnostic system	●
Multicolor monitor	●
Tilt out front window	●
Halogen light package on cab roof	●
Mechanical hour meter	●
Sliding door	●
Catwalk w / handrail	●
12 V / 24 V power outlet	●
Windshield wiper and washers	●
Emergency exit hammer	●
Safety lever	●
Sun shades	●
Interior lighting	●
Rain cover front window	●
Outside mirror	●
Optical and acoustic warning system	●
Positive filtered ventilation (pressurized cab)	●
Safety check valves for elevating cab cylinder	●
Foot rest	●
Bulletproof windshield	●
Bulletproof skylight	●
Maxcab industry	○
Windshield protection guard	○
Skylight protection guard	○
Skylight FOPS guard	○
Polycarbonate side windows	○
Additional light package	○
Fixed cab elevation	○
Operator's cab with floor window	○
Additional cameras	○
Spacious Mastercab	○
Skylift cab elevation (elevation 7 m or 9 m)	○

UNDERCARRIAGE	
Robust designed material handling undercarriage	●
Crawler undercarriage with mechanical fixed tracks	●
Flat grouser shoes, 3' (900 mm)	●
Maintenance-free crawler R83/450	●
Hydraulic chain tension device	●
Travel alarm	●
Centralized lubrication points	●
Servo brake system	●
Towing hitch package	●
Special undercarriage R90/550 with up to 13'2" (4 m) pylon	●

WORKING EQUIPMENT	
Purpose-built material handling boom	●
Green Hybrid energy recovery system	●
Purpose-built material handling stick	●
Attachment hydraulic line connections with ball valves	●
Safety check valves for stick cylinders	●
Safety check valves for boom cylinders	●
Cylinder end position dumping	●
Boom hoist limitation	●
Bronze bushings connected to automatic lubrication system	●
Stick limitation	●
Adjustable lift limitation / stick limitation	○
Stick mounted camera	○
LED light package boom	○
LED light package stick	○
Special port equipment with increased load capacities	○
Purpose-built material handling boom for scrap shears	○

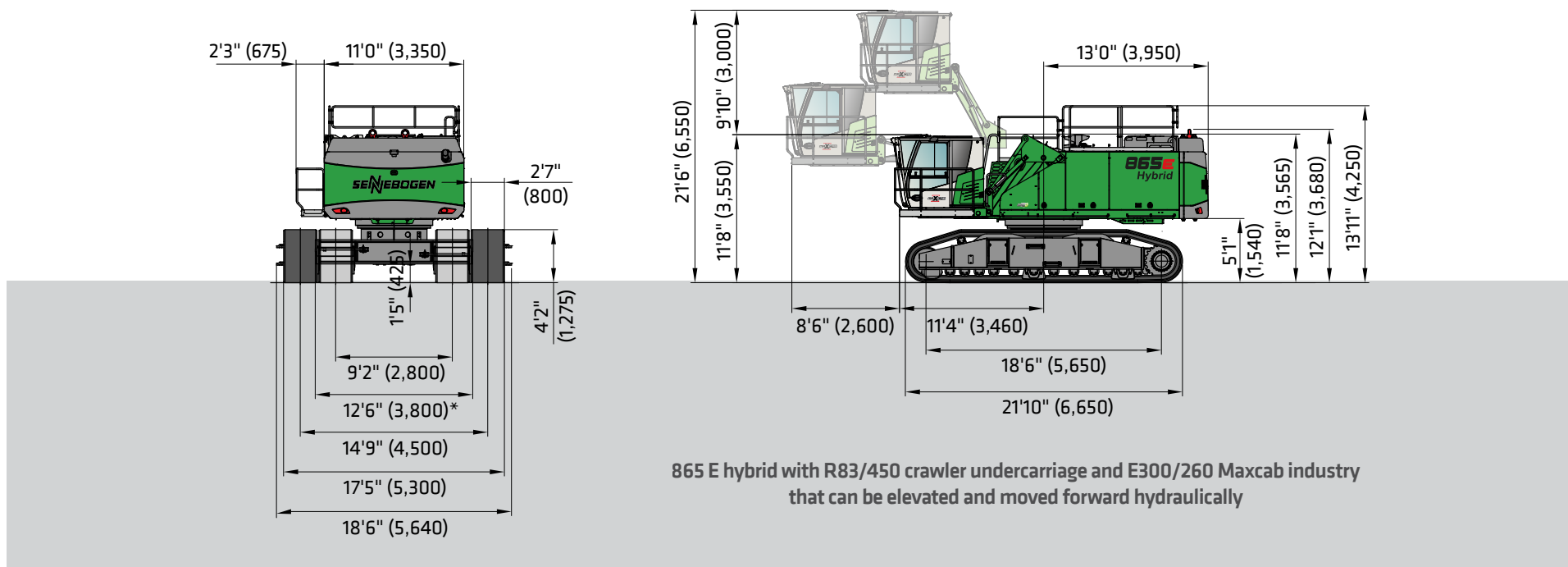
MAGNET SYSTEM	
Hydraulic driven generator	○
Magnet controller	○
Magnet suspension link	○

ATTACHMENTS	
Orange peel grapple	○
Mag grapple	○
Clamshell	○
Magnet	○
Scrap shear	○
Power attachment	○
Pipe handler	○

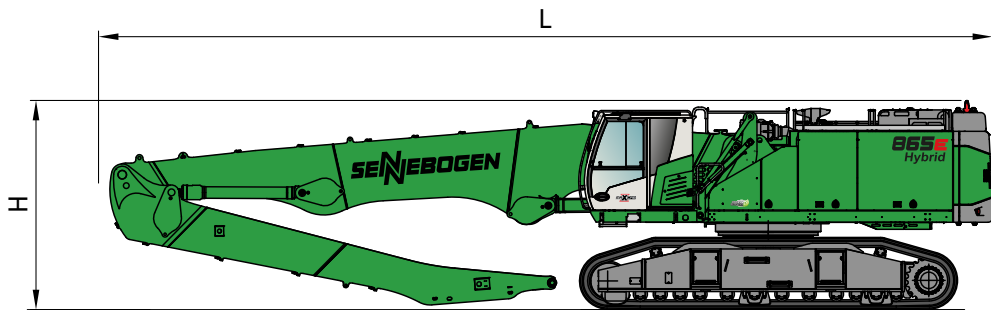
SWING SYSTEM	
360° protection cover, removable	●
Electrical driven swing gear pinion lubrication pump	●

Standard Equipment ● Optional Equipment ○  
Subject to technical modification.

## Dimensions - 865 R-HD "E"



## Transport Dimensions - 865 R-HD "E"



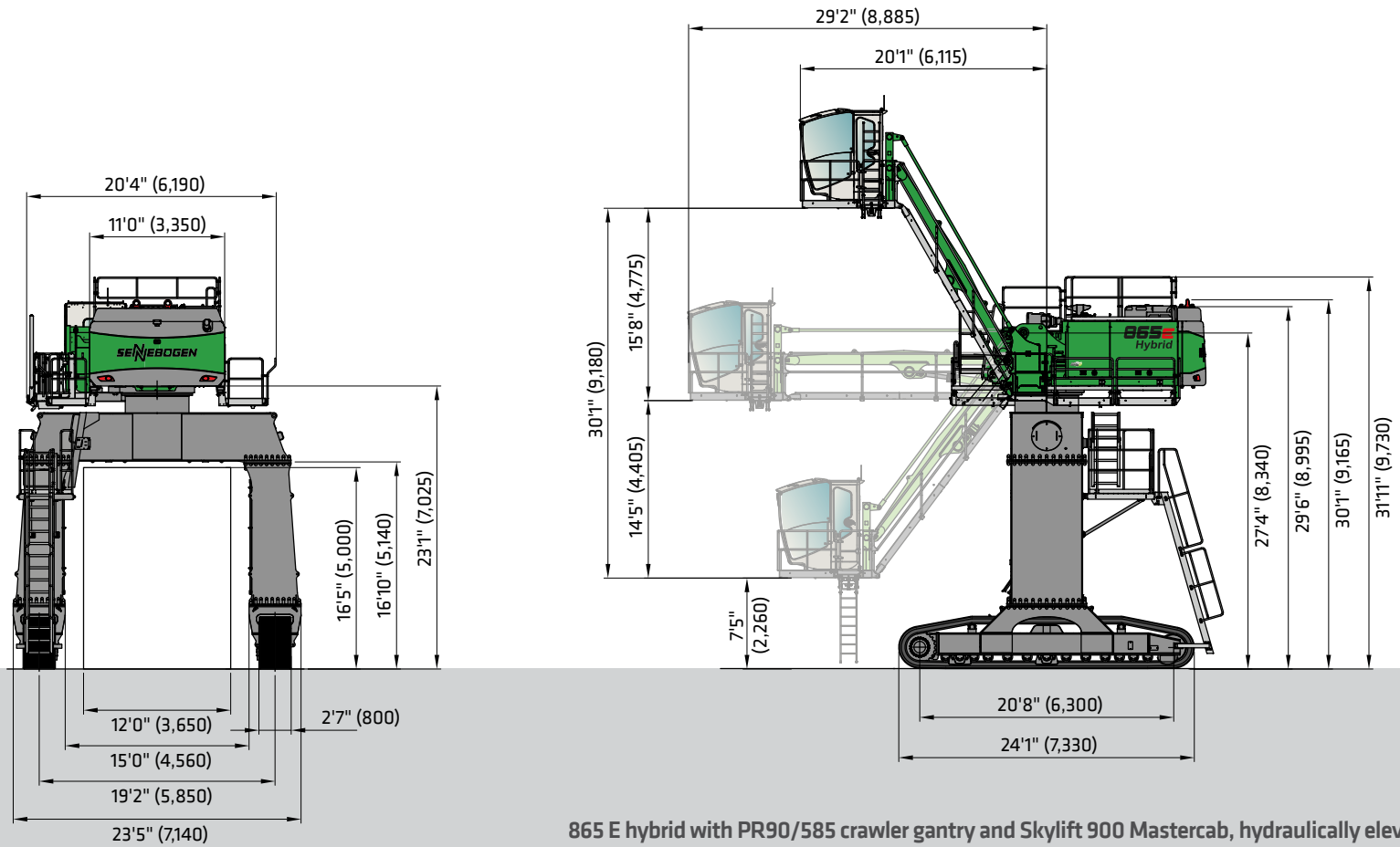
Reach	Boom Length	Stick Length	Transport Length (L)	Transport Height (H)
K18	35'5" (10.8 m)	28'7" (7.8 m)	51'10" (15.8 m)	12'2" (3.7 m)
K20	38'9" (11.8 m)	28'11" (8.8 m)	55'1" (16.8 m)	12'2" (3.7 m)
B21	45'3" (13.8 m) Banana	28'11" (8.8 m)	60'8" (18.5 m)	12'2" (3.7 m)*

Other transport dimensions on request

\* = stick removed



# Dimensions - 865 R-HD "E"



865 E hybrid with PR90/585 crawler gantry and Skylift 900 Mastercab, hydraulically elevating

## Lift Capacities - 865 R-HD "E"

### Working Equipment K20

Reach	65'7" (20.0 m)
Boom	38'9" (11.8 m)
Stick	28'11" (8.8 m)

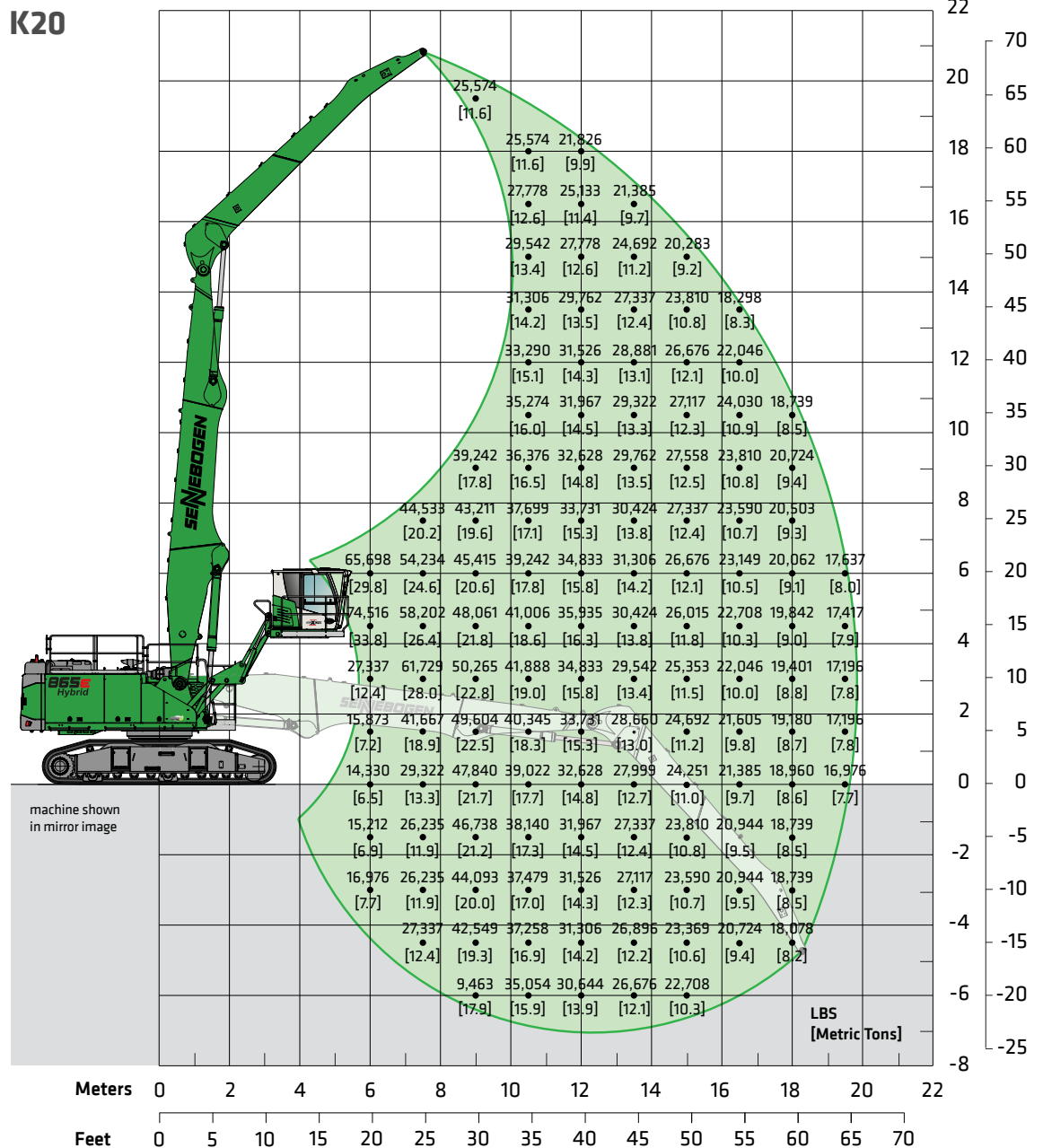
### Operator's Cab

Model	E300/260 Maxcab industry, hydraulically elevating
Eye level	approx. 18'4" (5.6 m)

### Undercarriage

Model	R83/450
Tracks	flat grouser shoes 3' (900 mm)

K20



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# Lift Capacities - 865 R-HD "E"

K25

## K25

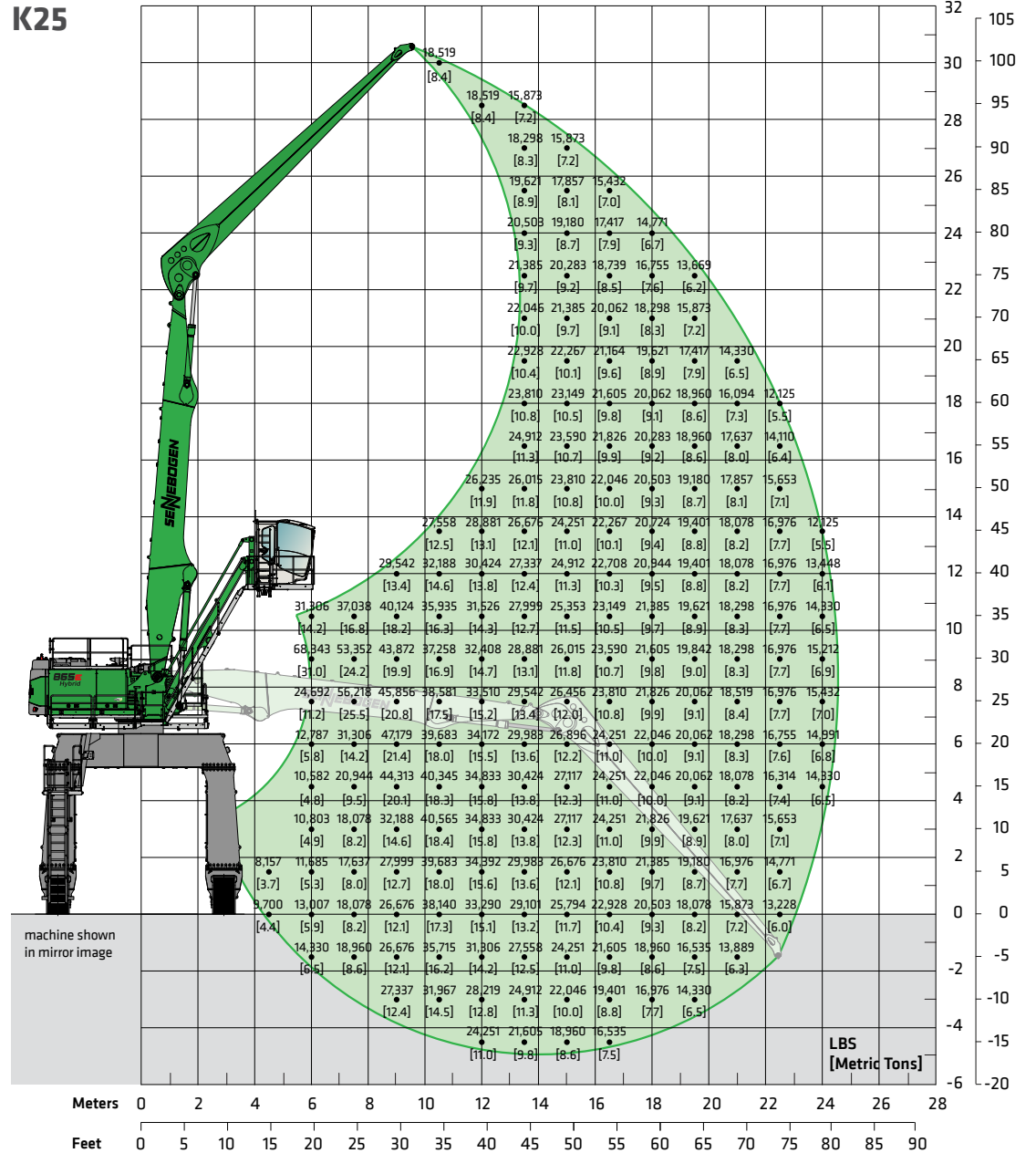
Reach	82' (25.0 m)
Boom	44'4" (13.5 m)
Stick	39'5" (12.0 m) Port

## Operator's Cab

Model	Skylift 900 Mastercab, hydraulically elevating
Eye level	approx. 42'8" (13.0 m)

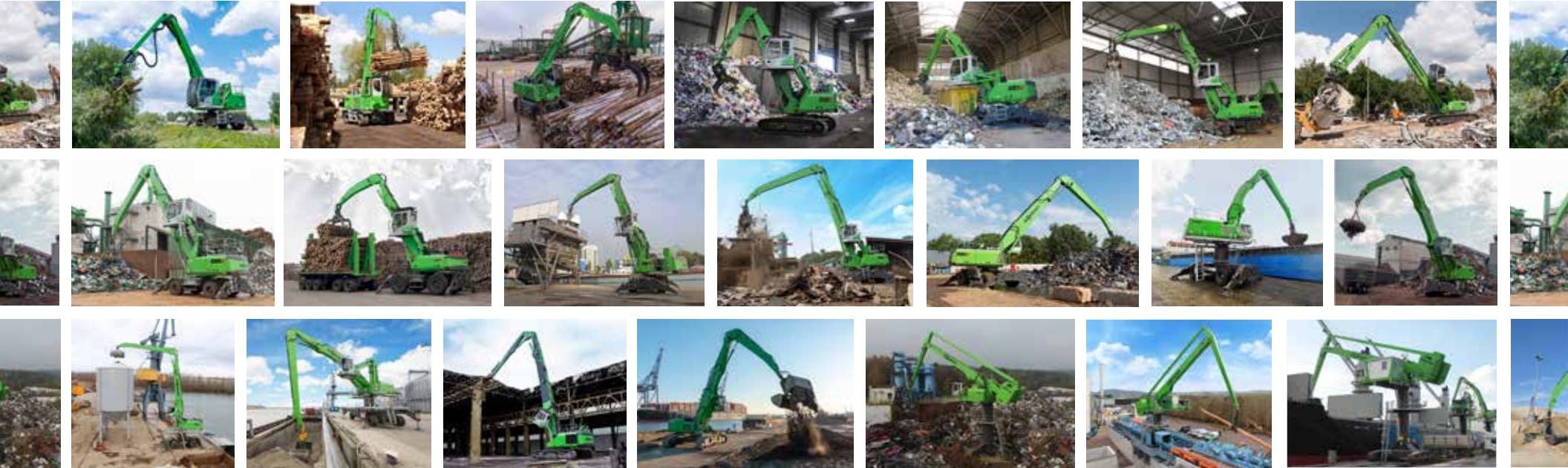
## Undercarriage

Model	PR90/585
Tracks	flat grouser shoes 3' (900 mm)



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# OUR COMPLETE LINE OF PURPOSE-BUILT MATERIAL HANDLERS



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