



FLORIDA SHERIFFS ASSOCIATION BID FSA20-EQU18.0
SPECIFICATION #201 MATERIAL HANDLER

Base 818E Material Handler
Base machine meets all specifications

GO FOR GREEN

SENNEBOGEN LLC Equipment Dealer Price List | North America
Edition 2020-01 | Valid from June 1, 2019 until June 30, 2020

Standard Machine Configuration

► SENNEBOGEN 818 M "E" series

Engine

- Cummins QSB4.5 diesel engine (4 cylinder) with direct injection, water cooled (TIER 4f emission)
- Engine output 130 HP (97 kW) @ 2,200 rpm
- Turbo Intercooler & water cooler hydraulically driven, reversible
- Automatic idle-stop control and eco-mode for diesel engine

Hydraulic System

- Computer free, state-of-the-art load-sensing with flow-on-demand control
- Hydraulic cooler hydraulically driven, reversible
- Hydro-Clean filtration system with water absorption and contamination indicator

Upper Carriage & Swing System

- Torsion free, precisely machined upper carriage frame
- High torque axial piston swing motor
- Large dimensioned, internal teeth swing bearing
- Automatic central lubrication system for upper carriage and swing bearing
- Handrail on top of upper carriage
- Fire extinguisher set (1x cab, 1x storage compartment) - brackets installed, extinguisher shipped separate to dealer
- Light Package consisting of: 2x halogen in cab roof, 2x in frame

Operator's Cab "maXCab"

- Hydraulic elevating cab system "E270" (elevation: 8'8")
- Catwalk with handrail beside cab
- "maXCab" with sliding door and door window as sliding window, sunshade, floor mat
- Skylight of bullet proof glass
- Windshield of bullet proof glass (fixed / no tilt out)
- Automatic climate control with AC, heater and defroster
- AM/FM radio with MP3/Bluetooth
- SENCON visual and acoustic diagnostic system for monitoring all essential machine functions
- Air suspended and adjustable operator's seat incl. armrests, seat heater, headrest, seat belt
- Camera system with display in cab
- Operator's & Maintenance manual incl. hydraulic & electric schematics (1x print / 1x digital)
- Spare Parts catalogue (1x print / 1x digital)

Working Equipment

- K10 - reach 32'9" / purpose built material handling working equipment (incl. addit. HD counterweight)
- straight material handling boom 20' 4", with end stop monitoring system and limit switches
- straight material handling stick 13' 9", with end stop monitoring system and limit switches
- Boom & Stick cylinders equipped with safety check valves and end position dumping
- Attachment open/close and rotate hydraulic circuits and lines installed up to the end of the stick (ball valves)

Under Carriage

- Rubber tired under carriage MP21E with 4-point outriggers
- Automatic unlock of oscillating axle if upper carriage in longitudinal direction to under carriage
- Solid rubber tires 10.00-20 (8 units) inclusive intermediate protection ring
- Steering via joy stick, front wheel steering
- All wheel drive via variable hydraulic motor with 2-stage shift transmission
- Protection guard for under carriage to protect transmission, hydraulic motor and drive shafts
- 2-circuit servo brake system with additional safety brake
- Centralized lubrication points (front & rear) for lubrication of under carriage components
- Audible travel alarm while driving machine (forward & backward)
- Tool box w/ basic tools, stick pin, grease gun, wheel chock, green & gray touch up paint located in under carriage tool box

Optional Magnet System

- 10 kW magnet system, hydraulic driven
- Plug in front of stick to hook up magnet, magnet connection cable in under carriage tool box

OPT

DEALER LIST PRICE (ex east coast port or storage location)

\$ 415,740

Delivery Surcharge:

shipments gulf coast port, e.g. Galveston, TX or Veracruz, Mexico (dealer net) \$ 2,320 shipments west coast port, e.g. Port Hueneme, CA or Tacoma, WA (dealer net) \$ 4,730

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Optional Equipment (installation through dealer, available at SENNEBOGEN parts department, prices ex Stanley, NC)

Operator's Cab "maXCab"	
► Protection guard for skylight (retrofit kit)	OPT
► Front protection guard for front windshield (retrofit kit)	OPT
Magnet Suspensions (ex Stanley, NC)	
► Magnet suspension link inclusive shackle	OPT
Orange Peel Grapples (terms see attachment price list)	
► SENNEBOGEN orange peel grapple, 0.50 yd3, 4 tine, semi-closed, OP4-050SEN-S-RT502 (incl. hanger & hoses)	OPT
► SENNEBOGEN orange peel grapple, 0.75 yd3, 4 tine, semi-closed, OP4-075SEN-S-RT502 (incl. hanger & hoses)	OPT
► SENNEBOGEN orange peel grapple, 0.52 yd3, 5 tine, semi-closed, OP5-040SEN-S-RT502 (incl. hanger & hoses)	OPT
Hydraulic System	
► Additional bar saw slasher hydraulic w/ connections at the under carriage (ball valves)	on request
Live and Dead Heels (for logging applications)	
► Dead heel HD-25SEN retrofit kit in combination with ULS (incl. heel, pins), dealer installation	OPT
► Live heel HWG-25SEN retrofit kit in combination with ULS (incl. cylinder, heel, hoses excl. hydraulics), dealer installation	OPT

Optional Machine Equipment (installation at factory, only available with new machine order, prices inclusive transport)

Engine	
► Electric refueling pump with level shut-off	OPT
► Cummins QSB4.5 diesel engine (4 cylinder) with direct injection, water cooled (TIER 3 emission) not valid for USA	OPT
Hydraulic System	
► Bio degradable hydraulic oil instead of standard hydraulic oil (PANOLIN HLP Synth 46)	OPT
► Live heel hydraulic including hydraulic, controls and hoses to boom head	OPT
Operator's Cab "maXCab"	
► Fixed cab elevation system "E150" (elevation: 4'11") incl. catwalk besides cab	OPT
► Strobe light mounted on cab	OPT
► Right, left and door window of shatter-proof lexan (polycarbonate)	OPT
► Windshield Wiper for lower glass	OPT
► Additional Camera; please define location (in addition to existing cameras, maximum of 4 total possible)	OPT
► Additional Light Package consisting of: 1x at cab backwards	OPT
► French operator's manual, maintenance manual & spare parts catalogue (1x print / 1x digital)	
Working Equipment	
► K9 - straight boom / straight stick (ball valves)	OPT
► K10 ULM - straight boom / straight stick incl. cylinder, linkage and hydraulics (ball valves)	OPT
► K9 ULS - straight boom / straight universal logging stick (for heel applications, for live heel please add hydraulics & heel)	OPT
► Boom floating device (recommended for barge unloading - note: the boom will raise when the grapple closes)	OPT
► Additional Light Package consisting of: 1x at boom, 2x at stick	OPT
Under Carriage	
► Pneumatic tires 10.00-20 (8 units)	OPT
► Pneumatic tires 650/50-22.5 (4 units)	OPT
► Bent 4-point outriggers for increased ground clearance (<u>attention</u> : wider transport width)	OPT
► Steering via steering wheel (instead of joystick steering)	OPT
► Individual control of 4-point outriggers	OPT
► Blade in addition to 4-point outriggers (over front), only in combination with individual outrigger control	OPT
► Manual trailer hitch (mounted in rear of machine)	OPT
Low Temperature	
► Low temperature package consisting of: > electric pre-heating engine block electric pre-heating hydraulic tank electric pre-heating water separator > one plug 110 V outside of machine	OPT

PURPOSE-BUILT FROM THE GROUND UP



818E

MATERIAL HANDLER



Cummins QSB 4.5, Tier 4F
132 HP (97 kW)



Rubber Tired (M) - 48,060 lb (21,800 kg)

Crawler (R-HD) - 55,115 lb (25,000 kg)

SENEBOGEN®

Purpose-Built – To Suit **Your** Purpose

By building simply, we can build flexibly.

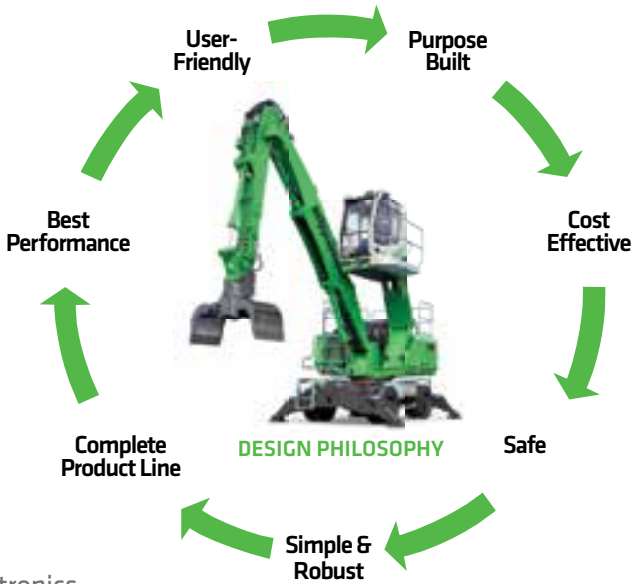
The design and manufacture of every SENNEBOGEN material handler begins with you, our customer, and the challenges you face every day. Our singular focus leads us to the simplest, most efficient engineering solutions.

To meet our commitment to customer needs, the simplest solution is to engineer machines that adapt easily to their intended purpose:

- Interchangeable components across multiple platforms
- Intelligent hydraulics in place of complex electronics
- Industry-standard service parts
- 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 continuously 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**.



The compact size of the 818 M allows operators to maneuver efficiently into tight corners and move quickly between narrow stockpile aisles.



One Model: Many Choices

The SENNEBOGEN 818 is offered with a complete range of mobile and stationary undercarriages to provide the best fit for your operation and related equipment. The adaptability of the 818 diesel power and/or electric drive with multiple boom configurations allows customers to choose the right model to achieve their production goals without the added cost of custom engineering.

QUICK SPECS	818 M RUBBER TIRED	818 R-HD CRAWLER
Net Power	132 HP (98 kW)	132 HP (98 kW)
Operating Weight	48,060 lb (21,800 kg)	55,115 lb (25,000 kg)
Magnet System	10 kW	9 kW
Max reach	32'8" (10 m)	29'5" (9 m)

Power

With their purpose-built lifting capability and engineered *eGreen efficiency*, SENNEBOGEN material handling machines reduce both your 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

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:

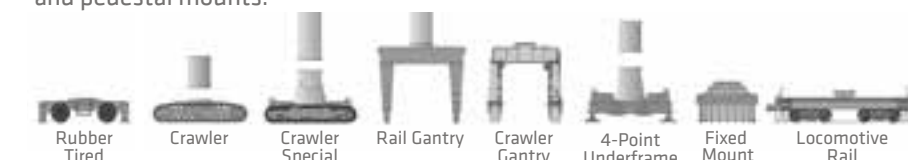
- Windshield protective guard
- Skylight protection guard and/or FOPS guard



E270
with Maxcab

Platforms

The modular machine concept of the 818 provides one base model design that's available on any required mounting for gantries, rail cars, barges, ship applications and pedestal mounts.



Booms and Sticks

A wide choice of powerful boom and stick configurations allows the 818 to adapt easily to 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 818 material handling machines. Your machine will also accept a full range of standard attachments from all brand-name manufacturers including:

- Orange Peel Grab
- Log Grapple
- Clamshell
- Lifting Magnets
- Mobile Shear Types
- Waste/Trash Grapple

SENNEBOGEN magnet systems are powered by a hydraulic driven generator.



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 818 is designed to adapt to standard wheeled, tracked and pedestal mounts

CAB

Elevating Maxcab

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 control

SENCON

Advanced diagnostic system with user-friendly multi-colored 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

HYDRAULIC SYSTEM

Purpose-built design

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

Convenient servicing

All test ports are easily accessible in one place

HydroClean filtration

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

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 unequaled 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

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

Boom pivot

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

SAFETY

Safety rails

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

Sliding door

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

Fuses and relays

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

Bulletproof glass

Bulletproof windshield and skylight are standard on all new SENNEBOGEN models

SPECIFICATIONS INDEX

818 M “E”

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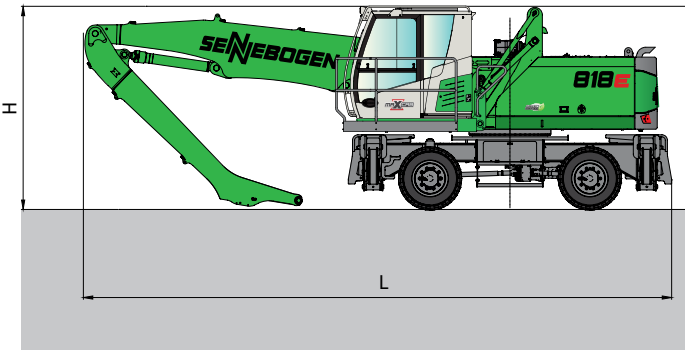
Technical Specifications - 818 M “E”

ENGINE	
model	Cummins QSB4.5-C130
type	in-line, 4 cylinder, cooled exhaust gas recirculation, water cooled
emission	EPA Tier 4 Final
net power	132 HP (97 kW) @ 2,200 rpm
injection	high pressure common-rail
displacement	275 cu. in. (4.5 L)
bore	4.21 in (107 mm)
stroke	4.88 in (124 mm)
aspiration	turbo charged, charge air cooled
fuel tank	87 gal (330 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	LUDV load sensing pilot pressure controlled open center
pump type	variable-displacement axial-piston pump
max. pump flow	82 gal (310 l/min)
max. pressure	5,076 psi (350 bar)
hydraulic tank	69 gal (260 L)
filtration	dual filtration system 3 micron (HydroClean)
COOLING	
cooling type	cool-on-demand, suction-type fan system, side by side
hydraulic / water	hydraulic fan drive axial piston pump, reversible fan thermostatically controlled, closed loop system
charge air	direct fan drive

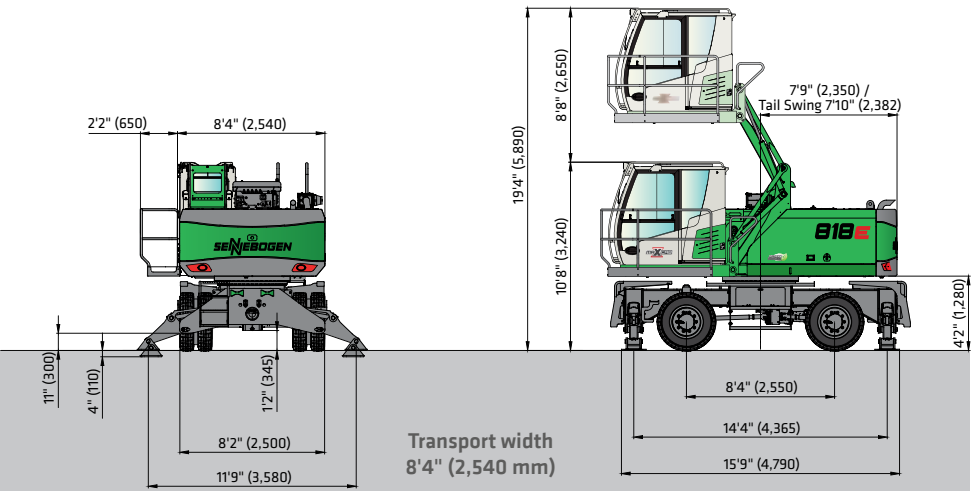
ELECTRICAL	
alternator	95 V/Ah
starter	24 V, 4.8 kW
battery	2 x 12 V, 150 Ah
lights	2 x cab roof, type halogen 2 x frame upper carriage, type H4
SWING SYSTEM	
swing speed	0 - 8 rpm
swing hydraulic	open loop
drive	1 x axial piston motor driving planetary gearbox, integrated brake vales
swing brake	multidisc brake, spring loaded
swing bearing	internal teeth, sealed ball bearing
UPPER CARRIAGE	
design	torsion-free upper frame with continuous bearing-plates for optimal power introduction, precision pivot; excellent design; very low noise emission
TRAVEL / UNDERCARRIAGE	
type	rubber tired MP21E
drive system	all-wheel drive, variable displacement motor with dual stage power shift transmission
travel speed	1st 0-3.4 mph (0-5.5 km/h) 2nd 0-12.43 mph (0-20 km/h)
tires	8 x 10.00-20 (solid rubber)
steering	joystick steering
front axle	oscillating with hydraulic lock, integrated safety check valves
rear axle	fixed
service brake	disc brake
parking brake	multidisc brake spring loaded
safety	travel alarm

REFILL CAPACITIES	
fuel tank	87 gal (330 L)
engine cooling system	10.6 gal (40 L)
engine oil w / filter	4.8 gal (18 L)
hydraulic tank	69 gal (260 L)
axle hub (front axle)	0.66 gal (2.5 L)
axle hub (rear axle)	0.66 gal (2.5 L)
axle differential (front axle)	2.51 gal (9.5 L)
axle differential (rear axle)	2.51 gal (9.5 L)
axle transmission	0.66 gal (2.5 L)
central lubrication reservoir	5.5 lb (2.5 kg)
WEIGHT	
operating weight	48,060 lb (21,800 kg)

Dimensions - 818 M “E”

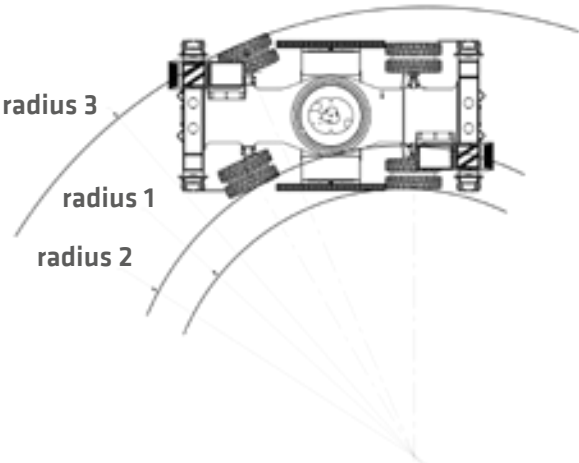


818 M undercarriage type MP21E



818 M with undercarriage MP21E and hydraulic elevating cabin type E270

	Boom	Stick	Transport Length (L)	Transport Height (H)
K9 ULM	17'5" (5.3 m)	12'6" (3.8 m) ULM	28'7" (8.7 m)	10'8" (3.25 m)
K9	17'5" (5.3 m)	12'6" (3.8 m)	28'7" (8.7 m)	10'8" (3.25 m)
K10 ULM	20'4" (6.2 m)	12'6" (3.8 m) ULM	31'6" (9.6 m)	10'8" (3.25 m)
K10	20'4" (6.2 m)	13'9" (4.2 m)	31'6" (9.6 m)	10'8" (3.25 m)



Undercarriage	Radius 1	Radius 2	Radius 3
818 M “E”	31'2" (9.5 m)	34'9" (10.6 m)	50'2" (15.3 m)

Subject to technical modification.

Lift Capacities - 818 M “E”

Working Equipment K10

Reach	34'2" (10.42 m)
Boom	20'4" (6.2 m)
Stick	13'9" (4.2 m)

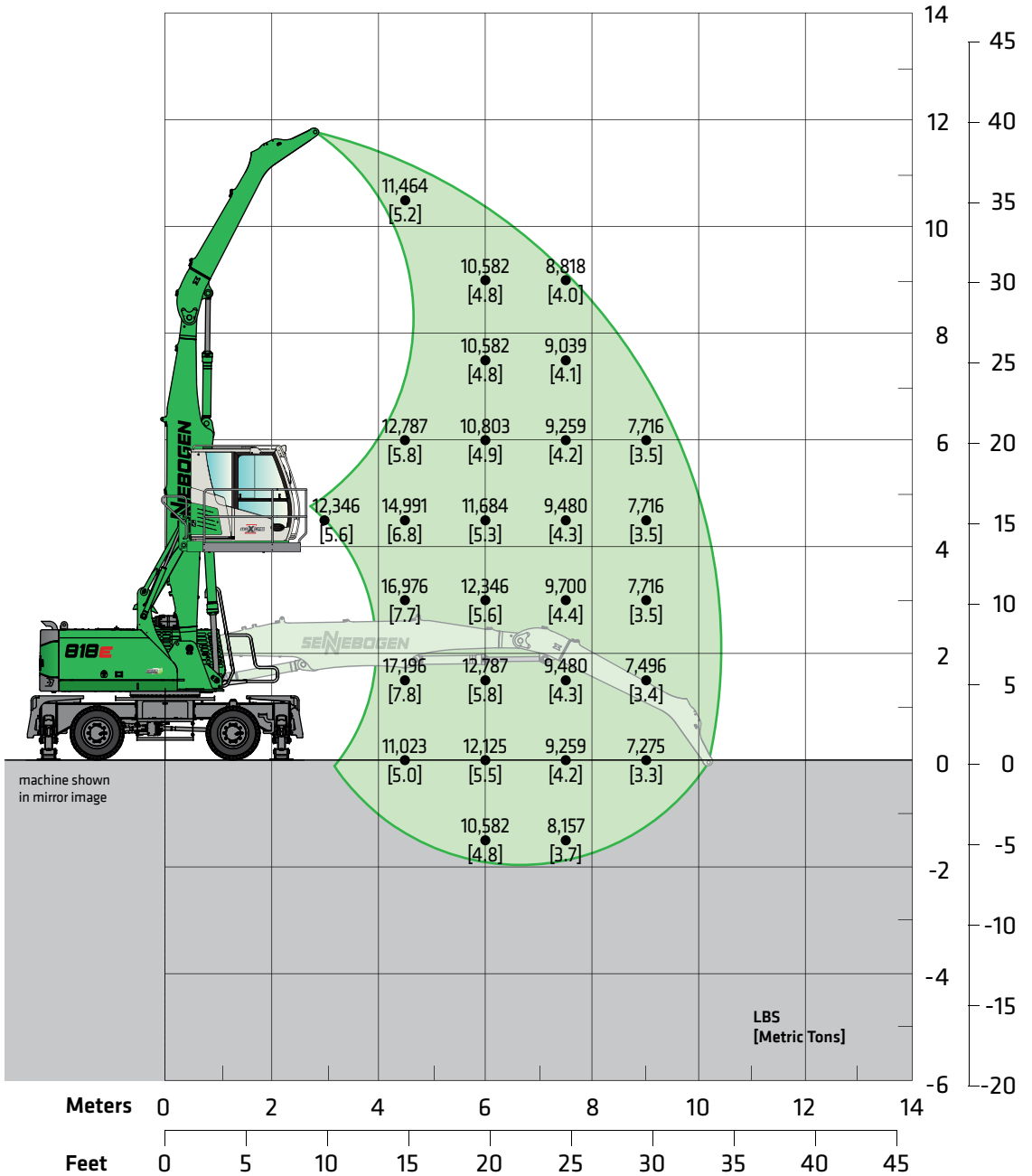
Operator’s Cab

Model	E270 Maxcab hydraulic elevating up 8'8" (2.65 m elevation)
Eye level	approx. 17'7" (5.35 m)

Undercarriage

Model	MP21E 4-point outriggers
Tires	10.00-20 solid rubber

K10



Lift capacities are stated in pounds. Values in brackets [] are stated in metric tons. Indicated figures are based on ISO 10567 and do not exceed 75% or tipping and 87% of hydraulic capacity and machine standing on firm, level supporting surface. Loads are valid for 360° with machine support on 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 lifting 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 - 818 M “E”

Working Equipment K9

Reach	30'1" (9.17 m)
Boom	17'5" (5.3 m)
Stick	12'6" (3.8 m)

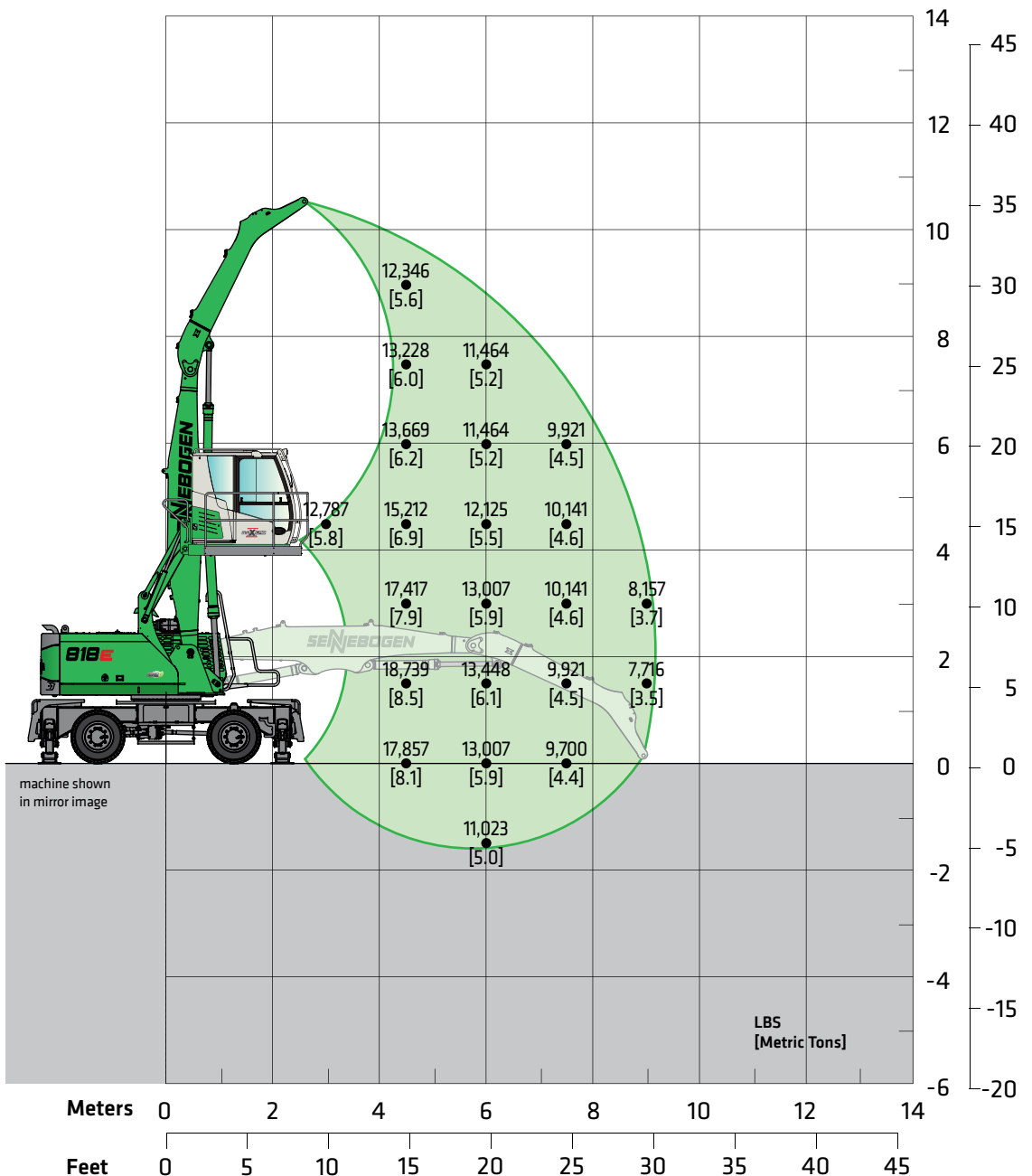
Operator’s Cab

Model	E270 Maxcab hydraulic elevating up 8'8" (2.65 m elevation)
Eye level	approx. 17'7" (5.35 m)

Undercarriage

Model	MP21E 4-point outriggers
Tires	10.00-20 solid rubber

K9



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Lift Capacities - 818 M “E”

Working Equipment K10 ULM

Reach	33'2" (10.1 m)
Boom	20'4" (6.2 m)
Stick	12'6" (3.8 m) ULM

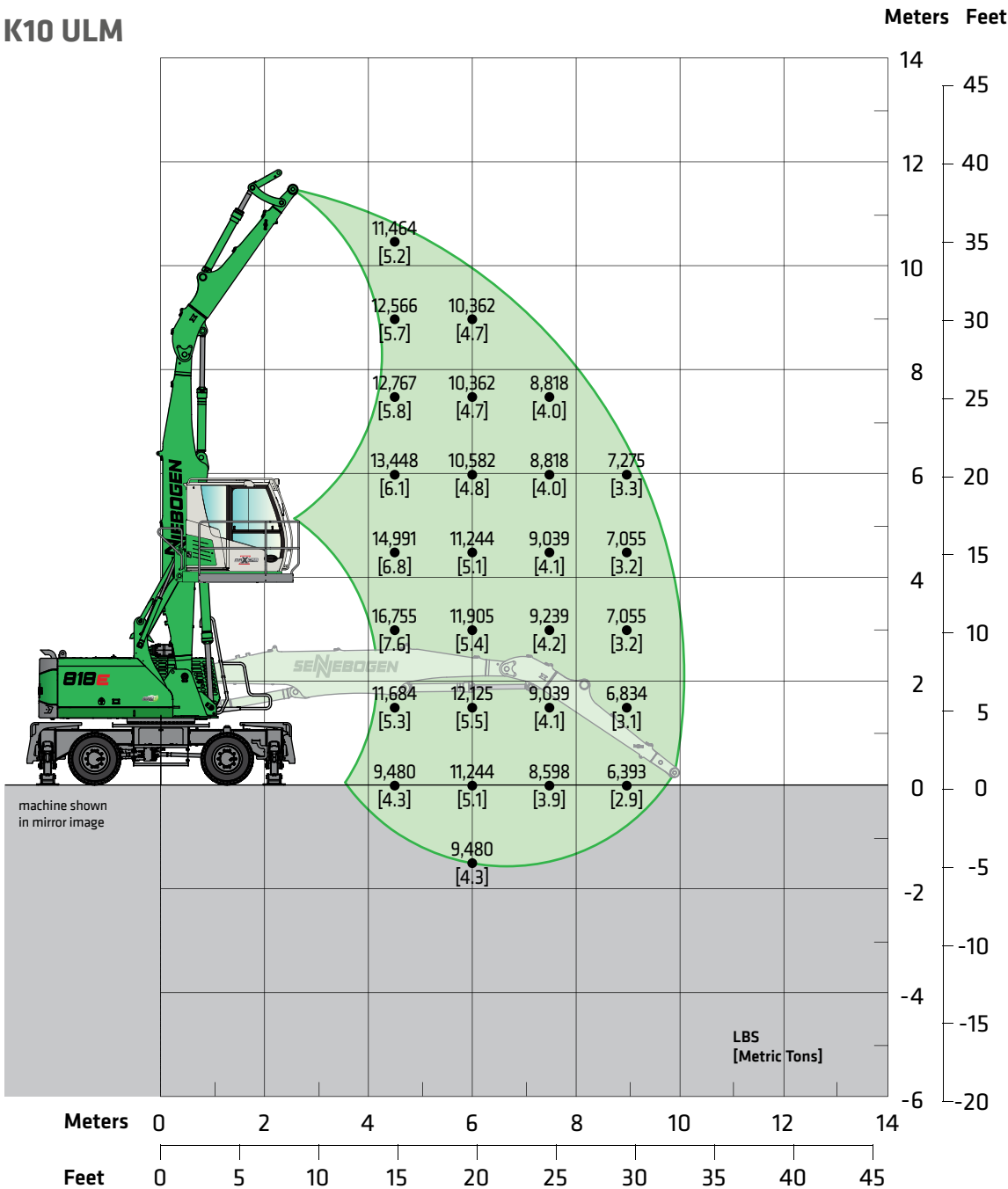
Operator’s Cab

Model	E270 Maxcab hydraulic elevating up 8'8" (2.65 m elevation)
Eye level	approx. 17'7" (5.35 m)

Undercarriage

Model	MP21E 4-point outriggers
Tires	10.00-20 solid rubber

K10 ULM



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Lift Capacities - 818 M “E”

Working Equipment K9 ULM

Reach	30'2" (9.2 m)
Boom	17'5" (5.3 m)
Stick	12'6" (3.8 m) ULM

Operator’s Cab

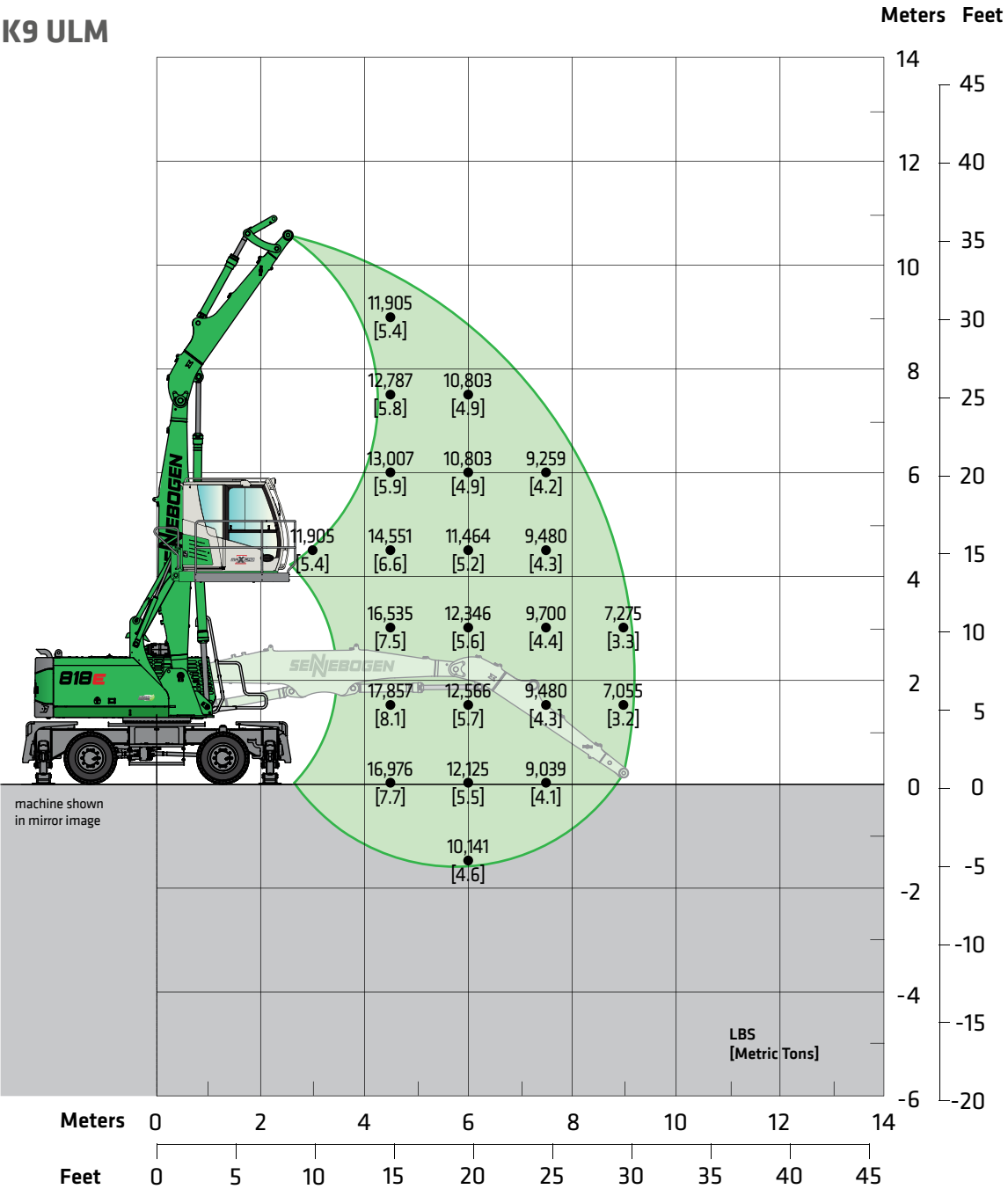
Model	E270 Maxcab hydraulic elevating up 8'8" (2.65 m elevation)
Eye level	approx. 17'7" (5.35 m)

Undercarriage

Model	MP21E 4-point outriggers
Tires	10.00-20 solid rubber

Lift capacities are stated in pounds. Values in brackets [] are stated in metric tons. Indicated figures are based on ISO 10567 and do not exceed 75% or tipping and 87% of hydraulic capacity and machine standing on firm, level supporting surface. Loads are valid for 360° with machine support on 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 lifting 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.

K9 ULM



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Standard / Optional Equipment

ENGINE	818 M	818 R-HD
Water separator in fuel line	●	●
Automatic idle / engine stop control	●	●
Eco mode	●	●
Air filter pre-cleaner	●	●
Visual fuel tank check	●	●
Heated water separator	●	●
Engine block 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 (HydroClean)	●	●
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	○	○
Hydraulic circuit for hammer, breaker	○	○
Additional hydraulic circuits	○	○
MAGNET SYSTEM		
Hydraulic driven generator	●	●
Magnet controller	●	●
Magnet suspension link	○	○

UPPER CARRIAGE	818 M	818 R-HD
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 cab system 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	●	●
Halogen light package on cab roof	●	●
Mechanical hour meter	●	●
Sliding door	●	●
Catwalk w / handrail	●	●
12 V / 24 V power outlet	●	●
Windshield wiper and washers	●	●

Standard / Optional Equipment

OPERATOR'S CAB (Maxcab) continued	818 M	818 R-HD
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	○	○
Steering column instead of joystick steering	○	○
Steering column in combination with joystick steering	○	○
Additional cameras	○	○
Operator's cab with floor window	N/A	N/A
ATTACHMENTS		
Orange peel grapple	○	○
Clamshell	○	○
Magnet	○	○
Log grapple	○	○
Scrap shear	○	○
Power attachment	○	○
Live heel / dead heel	○	○
SWING SYSTEM		
Automatic lubrication system	●	●

UNDERCARRIAGE	818 M	818 R-HD
Robust designed material handling under carriage	●	N/A
Heavy duty axles	●	N/A
Solid rubber tires 10.00-20 (8x) incl. intermediate ring	●	N/A
Crawler undercarriage with mechanical fixed tracks	N/A	●
Heavy duty crawler track frame	N/A	●
23.6" (600 mm) triple grouser track shoes, canted	N/A	●
Maintenance free crawler B4HD	N/A	●
Hydraulic chain tension device	N/A	●
Front axle automatic oscillating axle unlock (travel position)	●	N/A
Dual stage power shift transmission	●	N/A
Drive train protection guards	●	N/A
Travel alarm	●	●
Centralized lubrication points	●	●
Servo brake system	●	●
4-point outriggers	○	N/A
Integrated safety check valves in outrigger cylinders	●	N/A
Tool and storage compartments, lockable	●	N/A
Individual outrigger control	●	N/A
Towing hitch package	○	○
Pneumatic tires 10.00-20 (8x)	○	N/A
WORKING EQUIPMENT		
Purpose-built material handling boom	●	●
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	●	●
Bronze bushings connected to automatic lubrication system	●	●
Stick limitation	●	●
Boom limitation	○	○
LED light package boom	○	○
LED light package stick	○	○
Purpose-built material handling stick with reversing linkage	○	○
Purpose-built material handling boom for scrap shears	○	○

Standard Equipment ● Optional Equipment ○

Subject to technical modification.