

F120MH

ENGINEERED FOR PEAK PERFORMANCE, BUILT FOR THE PORT



350 kW



280 kW



150 kW

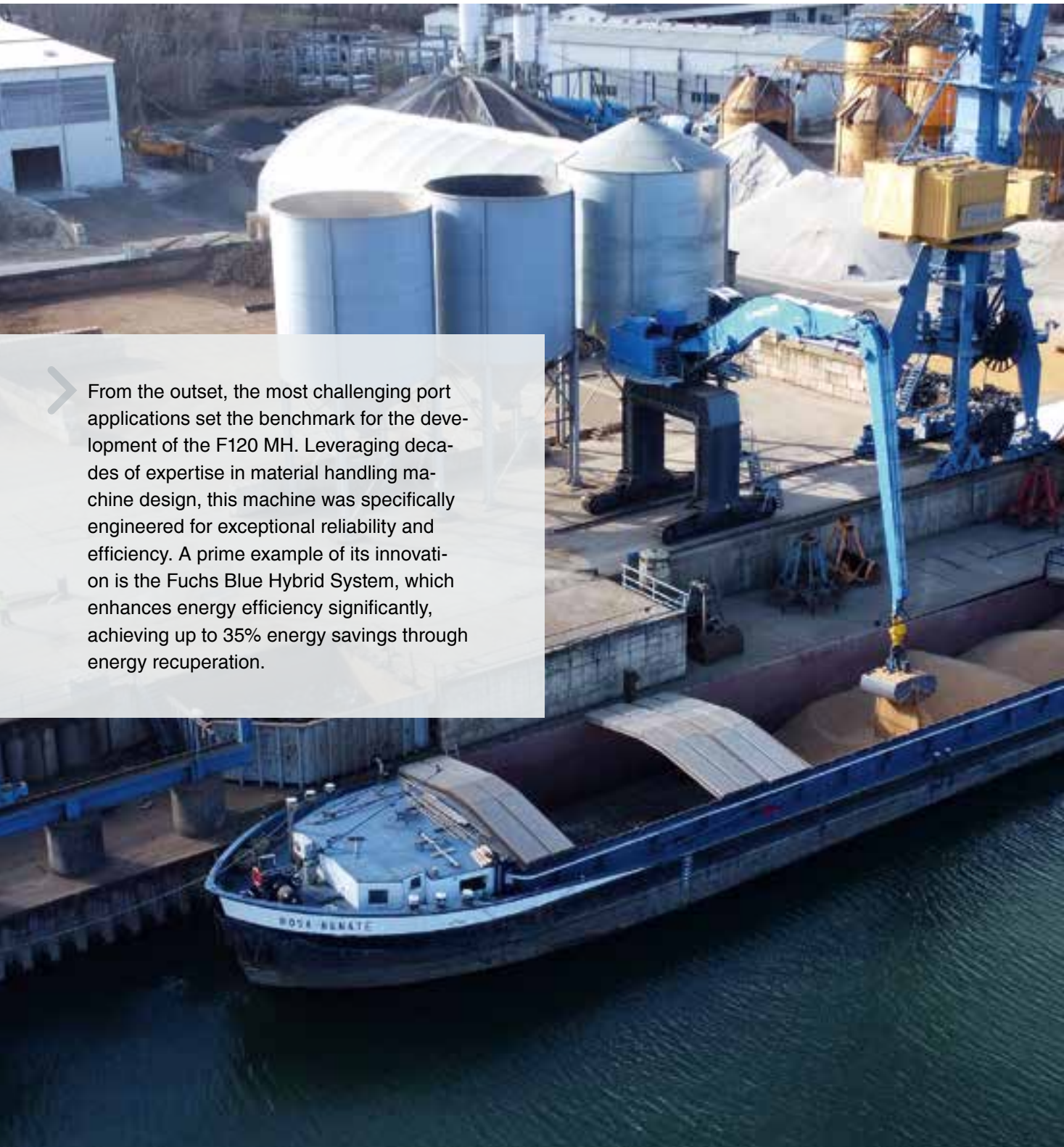


120 - 150 t



max. 28 m

PERFECTLY EQUIPPED FOR THE TOUGHEST PORT CHALLENGES



From the outset, the most challenging port applications set the benchmark for the development of the F120 MH. Leveraging decades of expertise in material handling machine design, this machine was specifically engineered for exceptional reliability and efficiency. A prime example of its innovation is the Fuchs Blue Hybrid System, which enhances energy efficiency significantly, achieving up to 35% energy savings through energy recuperation.



EXCEPTIONAL REACH
With operating ranges spanning from 18 to 28 meters, the F120 MH delivers remarkable versatility across a wide range of applications. It is perfectly suited for loading and unloading of inland river barges as well as ships up to Handy/Supramax sizes.

UNBEATABLE
The innovative Fuchs service platform provides convenient access to the engine compartment, Fuchs Hybrid System Components, main control block, central lubrication system, air filters, tanks, and more. This design streamlines maintenance and service work, significantly reducing operating costs.



ATTACHMENTS FOR EVERY TYPE OF CARGO
The quick coupling system and attachment tools maximise machine efficiency and significantly increase handling capacity in port operations.



ATTACHMENTS AND LOADING EQUIPMENT

- Robust and FEM-optimised loading device, designed for heavy-duty material handling applications
- Banana boom for an optimised range curve, which greatly facilitates the unloading of bulk carriers and barges
- Hydraulic installation designed for material handling, with mostly durable piping being used
- Hose rupture safety valves on allworking cylinders, while boom and stick cylinders also have hydraulic regeneration for enhanced efficiency and safety in every application
- Tool control: oil flowrate and pressures for attachments individually adjustable
- Blue Hybrid System: storage of recovered energy in accumulators when the charging medium is lowered, which can be used in the next charging cycle

CAB

- Fuchs comfort cab
- Large panoramic ceiling for optimal overhead visibility
- Wiper arms and motors are positioned outside the field of view
- Automatic climate control
- Various cab lifting systems available

DRIVE

- Blue Hybrid System reduces fuel consumption by up to 35%. The system power of 500 kW ensures energy efficient loading cycles, maximum handling performance and increases productivity

Diesel engine

- Low emissions thanks to state-of-the-art EU Stage 5 exhaust gas cleaning system
- Best-in-class fuel consumption
- Exhaust system incl. DPFs are optimally protected against mechanical damage
- Extended oil service period

Electric motor

- Low operating costs
- Minimum noise
- ZERO local emissions

UPPERCARRIAGE

- High-performance cooling systems, with separate coolers for the engine, the hydraulic oil and air conditioning
- Fans with thermostatic control, ensuring temperatures consistently remain within the optimal range. This prolongs their lifespan and helps to reduce operating costs
- Highly efficient mobile hydraulics
- Rear view and side camera

UNDERCARRIAGE

- Mobile *
- Crawler
- Portal *
- Rail-car *

FUCHS SERVICE PLATTFORM

- Unique in the market
- Gantry machine: service platform access via catwalk
- Secure location for carrying out service
- Convenient access to engine compartment, Fuchs Hybrid system components, main control block, central lubrication system, air filter, tanks and much more.
- Generous maintenance flaps made of sheet steel with gas spring
- Maintenance work can be completed quickly, safely and comfortably



VERSATILE UNDER-CARRIAGE OPTIONS FOR GREATER OPERATIONAL FLEXIBILITY

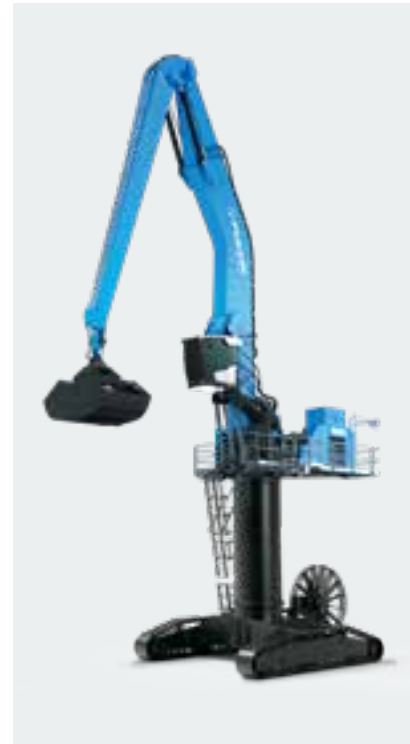
To meet the diverse demands of port operations, we offer a comprehensive product range. Each machine can be individually configured with various undercarriage options to suit its specific purpose.

Whether wheel-mounted, on tracks, as a gantry, or on rails, Fuchs provides the ideal solution for every application.

GANTRY



CRAWLER & PYLON



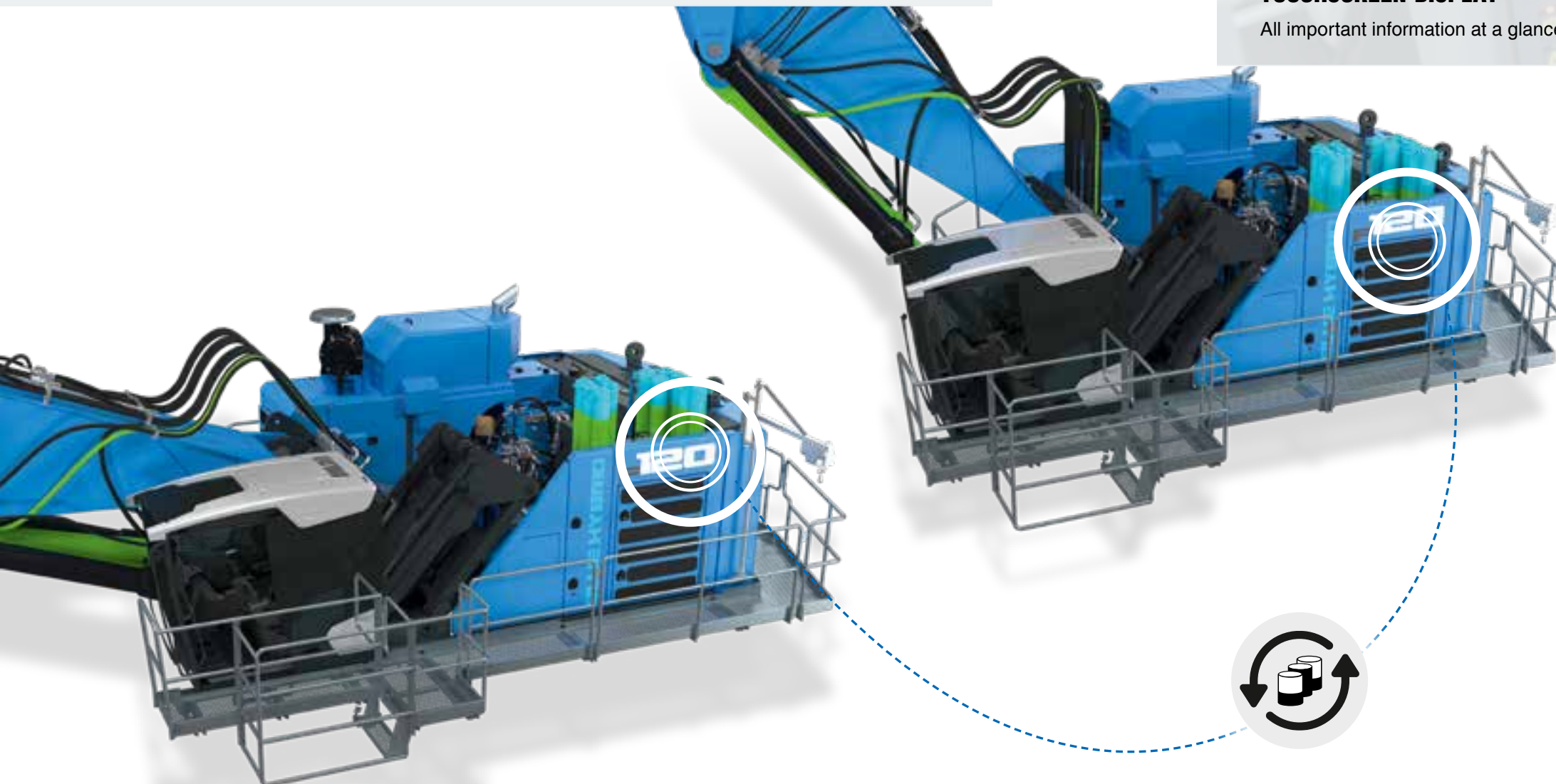
CRAWLER



FUCHS BLUE HYBRID SYSTEM

OPTIMISED FOR MAXIMUM ENERGY EFFICIENCY

- The Fuchs Hybrid System increases energy efficiency and enables energy savings of up to 35% through recuperation.
- Due to the energy recovery, the installed diesel engine power and, consequently, fuel consumption are significantly reduced.
- During each charging cycle, the recovered energy is stored and used to raise the boom during the next charging cycle.
- All components are safely and conveniently accessible from the service platform.
- Thermally regulated to consistently maintain the hybrid system at its optimal operating temperature, ensuring peak energy efficiency.



TOUCHSCREEN-DISPLAY

All important information at a glance



ENHANCED PRECISION

Precise monitoring through 3D view



INSTANT ACCESS

All relevant operating parameters at the touch of a button

PRACTICAL FEATURES

COME STANDARD WITH YOUR FUCHS



THE ELECTRONIC END POSITION DAMPING FOR STICK AND BOOM ensures a smooth and precise execution of handling operations.



HOSE RUPTURE SAFETY VALVES on all working cylinders. Both the lift and stick cylinders are additionally equipped with hydraulic regeneration, ensuring maximum efficiency and safety in every operation.



ELECTRIC JOYSTICKS are fully adjustable to accommodate the preferences of each operator. Additionally, three different joystick variants are available.



MONITORING
The automatic monitoring and documentation of abnormal operating conditions, along with visual and acoustic warnings, ensure safe and uninterrupted operation.



The hydraulically **ELEVATABLE AND EXTENDABLE CAB** provides the operator with an improved all-round view of the entire working area – ensuring maximum efficiency in handling operations.



DUAL-EAR PIN CONNECTION OF BOOM & STICK ensures optimal force distribution, reduced wear through lower stress, and offers outstanding durability.



TOOL CONTROL saves pressure and flow rate settings for up to 10 different attachments, each with a unique name, and ensures instant activation at any time.




The **CLOSE PROXIMITY RANGE** reliably reduces any risk of potential contact between the attachment and the cabin.

TECHNICAL DATA

Service weight without attachment			
F120 MH	120–150 t		
Diesel engine			
	EU Stage V	U.S. Tier 4	EU Stage IIIA/ U.S. Tier 3*
Manufacturer and type	Deutz TCD 12.0 V6	Deutz TCD 12.0 V6	Deutz TCD2015 V06
Design	6-cylinder V engine	6-cylinder V engine	6-cylinder V engine
	4-stroke diesel, common rail direct injection, turbocharged with intercooler, controlled exhaust gas recirculation, diesel particulate filter with continuous regeneration and SCR catalytic converter	4-stroke diesel, common rail direct injection, turbocharged with intercooler, SCR catalytic converter	4-stroke diesel, (pump-line-nozzle direct injection, turbocharged with intercooler
Engine power	350 kW	350 kW	350 kW
Nominal speed	1800 min ⁻¹	1800 min ⁻¹	1800 min ⁻¹
Displacement	12,0 l	12,0 l	12,0 l
ECO mode	Economical operation with reduced engine speed and high torque		
POWER mode	Maximum power always available on demand		
Cooling system	Spatially separated high-performance engine cooler with thermostatic control of fan speed, automatic, programmable reversible fan		
Air filter	Dry air filter with pre-separator, main and safety element		
Fuel tank (uppercarriage)	1700 l Diesel	1700 l Diesel	1700 l Diesel
Urea tank	105 l AdBlue	105 l AdBlue	–
Blue Hybrid System max.	150 kW	150 kW	150 kW
System performance max.	500 kW	500 kW	500 kW
Electrical system			
Alternator	28 V / 110 A	28 V / 110 A	28 V / 110 A
Operating voltage	24 V		
Battery	2 × 12 V / 110 Ah / 750 A		
Switch cabinets	Heavy-duty design, lockable		
Lighting	2 × LED headlights at the front of the machine, rear marker and blinker lights, 2 x Power LED cab at the front, 1x Power LED cab at the rear, 1x Power LED boom, 1x Power LED Dipperstick, 1 x Power LED Uppercarriage center (gantry)		
Electric motor			
Type	Three-phase asynchronous motor		
Power	280 kW		
System power	430 kW		
Total connected load	304 kW		
Mains connection	L1 / L2 / L3 / PE		
Engine startup	Soft starter		
Operating voltage	400V / 50 Hz oder 480V / 60 Hz (USA)		
Optional cable drum	Up to 50 meters (other lengths on request)		
Swing drive			
	Enclosed, energy-efficient swing drive with independent pump for energy recovery. Dynamic and apportionable, largely unaffected by other work functions. Swivel lock via joystick or touch display.		
Slew ring	Largely dimensioned, internally toothed, multi-row roller slewing ring, lubrication by automatic central lubrication system		
Drive	Reversible axial piston pump, 2-stage planetary gear with integrated multi-disc brake		
Uppercarriage swing speed	0–5,4 min ⁻¹		
Swivel lock	Electrically operated		

* for markets with little regulation

TECHNICAL DATA

Undercarriage			
Crawler			
Floor plates	Customized		
Travel speed	2-4 km/h		
Travel drive	Hydraulic, planetary gearbox with axial piston motors		
Crawler undercarriage	Virtually maintenance-free		
Gantry			
Floor plates	Customized		
Travel speed	≤ 2 km/h		
Travel drive	Hydraulic, planetary gearbox with axial piston motors		
Crawler units	Virtually maintenance-free		
Mobile			
	Customized		
Hydraulic system			
Regulation and control	Mobile hydraulics with Load Sensing System for pre-controlled work functions. Electronic load limit control and fuel-efficient, demand-oriented oil quantity regulation.		
Hydraulic pumps	Axial piston variable displacement pumps		
Max Delivery rate	1020 l/min for equipment and chassis, 344 l/min for the swing drive		
Max. Working pressure	320 / 360 bar (main pump)		
Mode selection			
Precision mode	Move loads precisely		
Heavy mode	Movement of heavy loads		
Hydraulic oil tank	max. 660 l		
Filtering	Flow-optimized return line filter, integrated in the oil tank. Filter fineness defined at a beta value β(10) = 200 guarantees 99.5% separation of dirt particles with 10 µm. Very good separation values are already achieved with particle sizes of 3µm. Generously dimensioned for long operating times. Permanent monitoring of oil cleanliness by quality sensor		
Cooling system	Spatially separated high-performance cooler with thermostatic control of fan speed, automatic, programmable reversible fan		
Boom and stick cylinders	Robust special cylinders with generously dimensioned bearing points, end position damping and rupture safety valves with regeneration function		
Hybrid cylinder	Robust cylinder with generously dimensioned bearings, rupture safety valve and end position damping		
Tool control	Settings for attachments adjustable via display		
Cab			
Cab	Comfort cab with sliding door, reinforced steel structure, soundproofed, heat-insulated panoramic windows for best all-round visibility, front window with roller blind, viewing window in the cab roof with sliding blind, multifunction color display with touch function. Wide range of storage and mounting options		
Climate control	Automatic climate control with recirculation function. Fresh and circulation air filters. Water heater with infinitely variable temperature adjustment and 8-speed fan, 10 adjustable air nozzles, 3 defroster nozzles, separate heat exchangers, fresh and circulation air filters		
Driver's seat	Air-cushioned comfort seat with swinging armrests / joysticks, seat belt, lumbar and headrest. Allows fatigue-free work thanks to universal adjustment options for the seat position, seat tilt and the arrangement of the seat cushion in relation to the armrests and joysticks		
Monitoring	Ergonomically arranged, glare-free instrumentation, multifunction display, automatic monitoring and storage of deviating operating states (including all hydraulic oil filters, hydraulic oil temperature, coolant and charge air temperature, loading of diesel particulate filter, steering). Visual and acoustic warning systems. Diagnostic option for the individual sensors via the multifunction display		
Screen wiper	Large parallel wiper for front field of vision, including washer - wiper motor outside field of vision		
Sound level	EU Stage V	U.S. Tier 4	EU Stage IIIA/ U.S. Tier 3*
(metered) acc. to directive 2000/14/EG	L _{WA} 105,5 dB(A)	L _{WA} 104 dB(A)	
(guaranteed) acc. to directive 2000/14/EG	L _{WA} 107 dB(A)	L _{WA} 106 dB(A)	
(inside the cabin) acc. to directive ISO 6396	L _{PA} 70 [dB(A)]	L _{PA} Cab 69 dB(A)	
Vibration	Weighted rms value of upper limb acceleration: below 2,5 m/s² Weighted effective value of acceleration for the seat and feet: below 0,5 m/s²		
Certification according to CE Directives			
Voluntary DGUV type examination			

EQUIPMENT

Diesel engine	Standard	Option
Large mesh water / air cooler	●	
Spatially separated high-performance cooler with thermostatic demand control of fan speed	●	
Reversible fan, automatic, cycle time programmable	●	
Electronic direct injection / common rail	●	
DEF injection, passive regeneration	●	
Advanced automatic idling with engine shutdown function	●	
ECO and POWER mode	●	
Engine diagnostic interface	●	
Heated diesel pre-filter with automatic temperature control	●	
Level monitor for cooling water level	●	
Cyclone prefractioner for air filter		●
Extended oil service interval	●	
Engine compartment lighting	●	
Mobile undercarriage		
Customized		●
Gantry undercarriage		
Low maintenance crawler undercarriage	●	
Refueling pump for auxiliary tank on undercarriage		●
Additional fuel tank 3000 l diesel		●
Floor panels according to customer requirements		●
Crawler undercarriages		
Low maintenance crawler undercarriage	●	
Floor panels according to customer requirements		●
Uppercarriage		
Blue Hybrid System	●	
Large service platform	●	
Maintenance flaps made of sheet steel with gas spring	●	
Spatially separated high-performance cooling system for hydraulic, engine and air-conditioning system	●	
Reversible fan hydraulic oil cooler, automatic, cycle time programmable	●	
Automatic central lubrication system	●	
Service crane		●
Light protection		●
Catwalk		●
Catwalk, circumferential		●
Monitored butterfly valve between pump(s) and hydraulic oil tank	●	
Level monitor hydraulic oil level	●	
Cab		
Fuchs comfort cab	●	
Vertically adjustable cabin	●	
Vertically and horizontally adjustable cabin		●
Single-pane safety glass (ESG)	●	
Cabin tinted windows (side, rear)	●	
Cab with laminated safety glass front and roof area (protection class P5A)		●
Cab with armored glass front and roof area (protection class P8B)		●
ISO control unit	●	
Windscreen washer (front windshield)	●	
Wiper/washer (roof window)		●
Roof window	●	
Air-cushioned driver's seat with headrest, safety belt, and lower lumbar support	●	
Seat contact	●	
Seat heating		●
Steering via Joystick	●	
Separate heat exchanger air conditioner	●	
Automatic climate control	●	
Auxiliary heating incl. timer		●
Bottle holder with cooler	●	

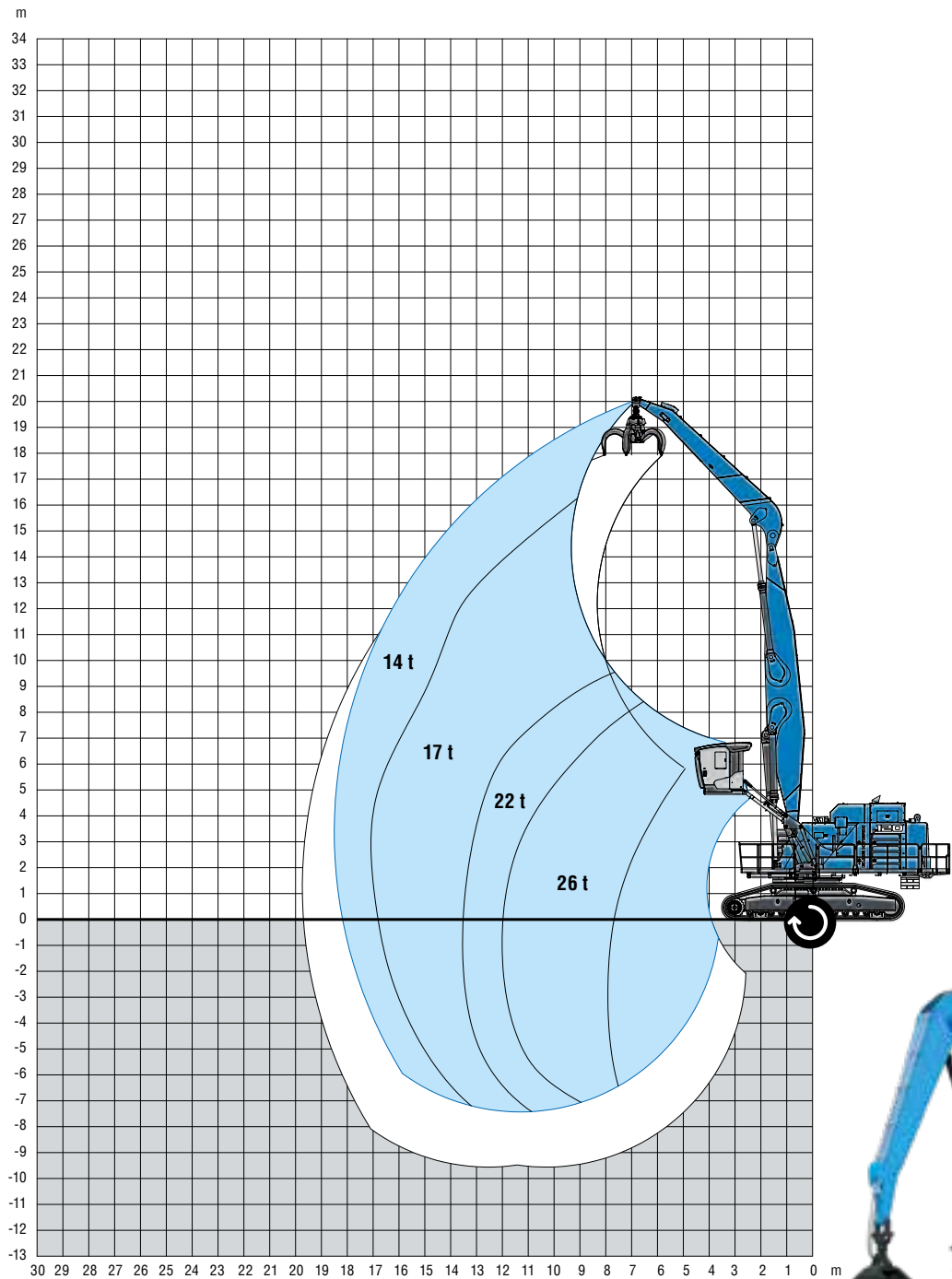
EQUIPMENT

Cab	Standard	Option
Powder fire extinguisher with holder		●
Document clip	●	
Protective roof grating (FOPS)		●
Protective front and roof grating		●
Voltage converter 12 V		●
12 „ multifunction display with touch function	●	
Digital radio (DAB+, USB, Bluetooth and hands-free)	●	
24V socket / cigarette lighter	●	
12V socket / cigarette lighter		●
Warning device driving with LED rotating beacon and acoustic signal		●
Joystick variant 1		●
Joystick variant 2		●
Joystick variant 3		●
Joystick with driver recognition		●
Joystick with driver recognition		
Loading equipment 18 m, 19 m, 21 m, 22 m, 24 m, 27 m, 28 m		●
Intelligent close proximity range	●	
Overload and work area control		●
Overload warning device		●
Filter system for attachments		●
Hose rupture safety valves for boom cylindersz including Regeneration	●	
Hose rupture safety valves for dipperstick cylinders including Regeneration	●	
Hose rupture safety valves for hybrid cylinders	●	
Camera dipperstick		●
1x Power LED boom, 1x Power LED dipperstick	●	
Float switch		●
Quick-lock couplings on the dipperstick	●	
End position damping boom	●	
End position damping dipperstick	●	
Lubrication via central lubrication system	●	
Electric supply of attachments		●
Tool control	●	
Electrical system		
Isolator switch, LOG OUT / TAG OUT	●	
30 kW DC generator incl. insulation monitoring		●
For diesel engine: driven hydraulically		●
Driving warning devic		●
Electrical tank refilling pump		●
Preheating of hydraulic 120 V		●
Preheating of hydraulic 230 V		●
LED headlights on machine front	●	
LED light packages		●
Ascent lighting with remote control (Gantry)	●	
Other equipment		
System status display	●	
Display error description and diagnosis	●	
Rear view camera	●	
Side camera	●	
Camera on the undercarriage for environment detection		●
Camera for the ascent system (gantry)	●	
Acoustic warning in case of critical machine conditions	●	
Pylon		●
Special coating		●
Fuchs Connect telematics system, including 5-year license	●	
Hydraulic oil quality sensor		●
Hydraulic oil particle counter		●

RANGE CHARTS

18 m

Boom: 11 m - Dipperstick: 7,7 m

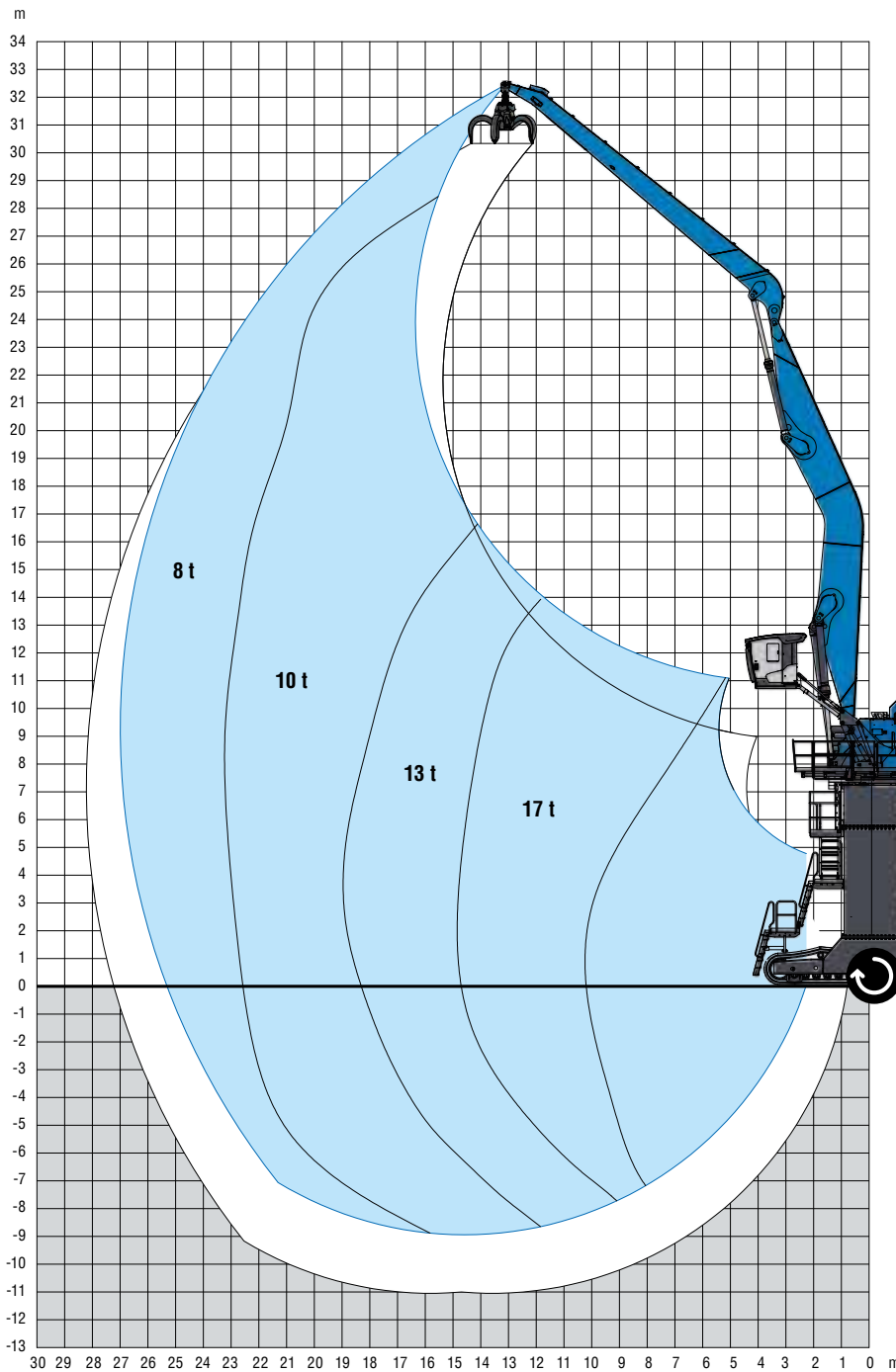


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Feel free to contact your Fuchs dealer for detailed load capacities for your application.

RANGE CHARTS

27 m

Boom: 15 m - Dipperstick: 13 m

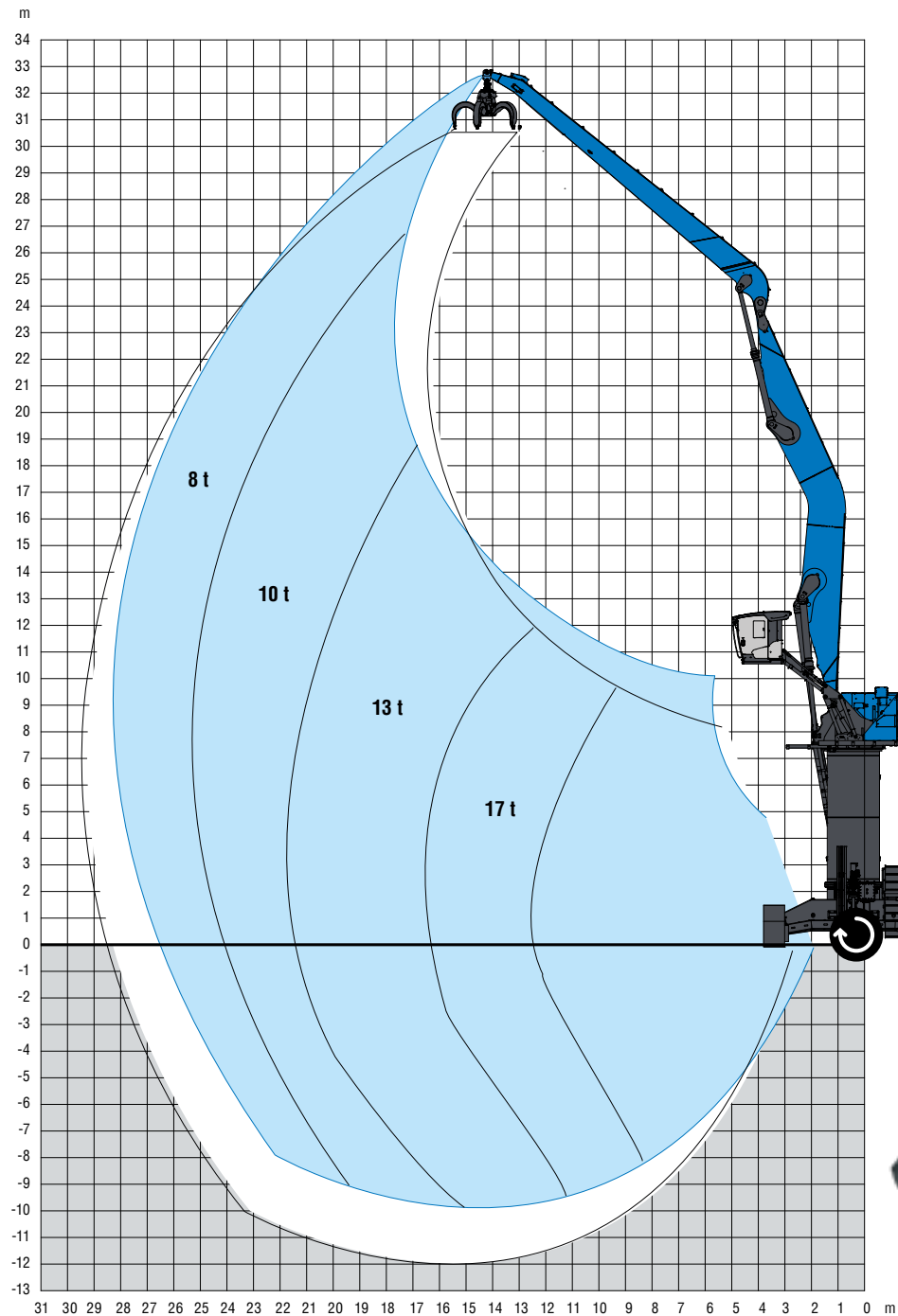


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RANGE CHARTS

28 m

Boom: 15 m - Dipperstick: 13,8 m



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THE RIGHT ATTACHMENTS

FOR EVERY TASK

ATTACHMENTS



Quick Coupling System /
4 connections



Adapter plate for grab



Load Hook



Big Bags Spreader



Timber Spreader



Cellulose or Paper Bale
Spreader



Cactus Grab



Clamshell Grab



FUCHS CONNECT*



EFFICIENT FLEET MANAGEMENT

KNOW WHAT IS HAPPENING, HOW IT'S HAPPENING AND WHERE IT'S HAPPENING

- Get insights into your fleet utilisation anytime, anywhere
- Automatic notifications on maintenance requirements
- Minimise downtime with advanced service features such as OTA service updates and pre-service analysis
- Mobile solutions for iOS and Android keep you in control wherever you are on whatever device you use

*Internet connection and active account required

Android



iOS



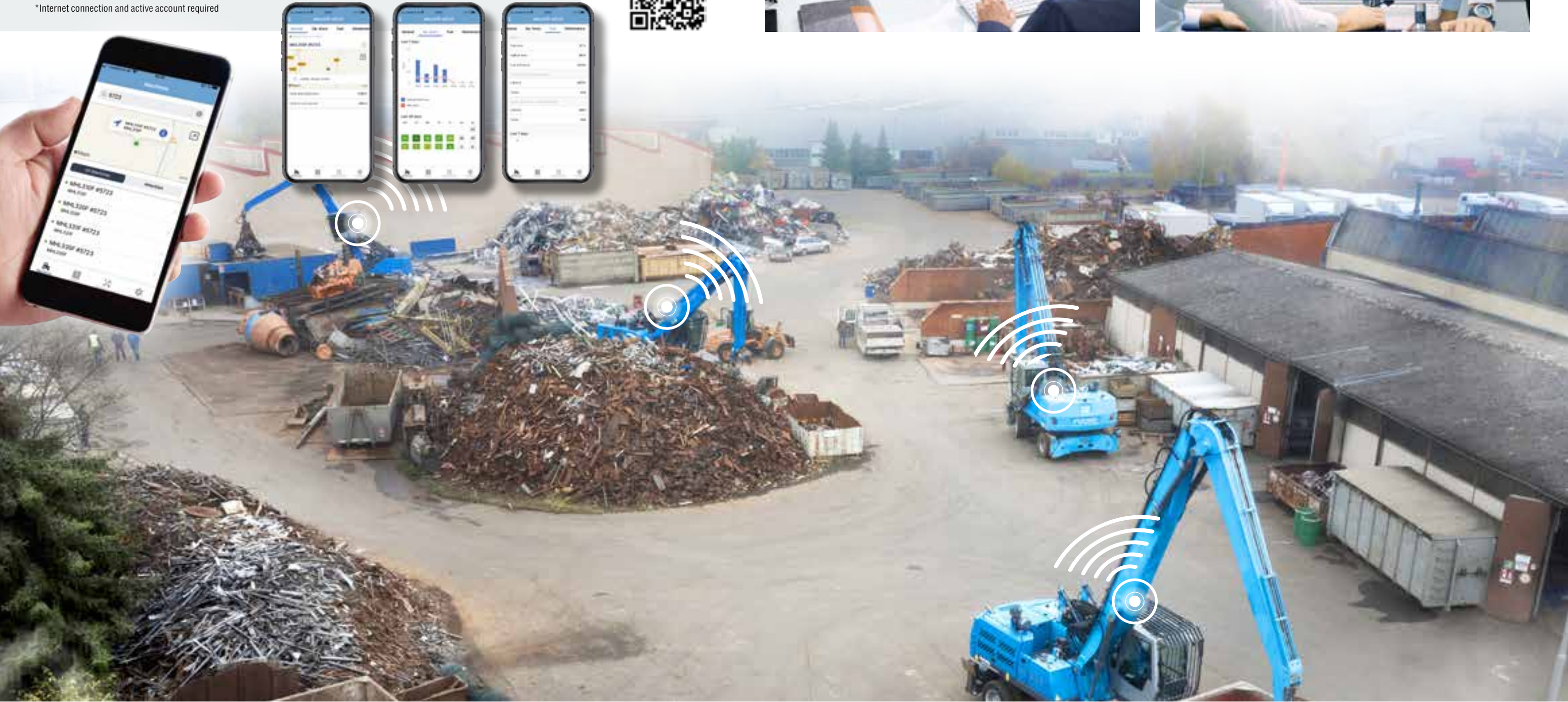
ALL QUESTIONS ANSWERED

Where are the machines located?
How high is their utilisation rate?



FLEXIBLE EXPANSION CAPABILITIES

Thanks to the API interface, Fuchs Connect can be extended to existing fleet management systems.





www.terex.com/fuchs

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