

Preliminary

# F120 MH



350 kW



280 kW



150 kW



120 - 150 t



max. 27 m



**FUCHS**<sup>®</sup>

A TEREX BRAND

## 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*
<b>Manufacturer and type</b>	Deutz TCD 12.0 V6	Deutz TCD 12.0 V6	Deutz TCD2015 V06
<b>Design</b>	6-cylinder V engine	6-cylinder V engine	6-cylinder V engine
	4-stroke diesel, common rail open-combustion-chamber injection, turbocharger, controlled exhaust gas recirculation, diesel particle filter with continuous regeneration and SCR catalytic converter	4-stroke diesel, common rail open-combustion-chamber injection, turbocharger, controlled exhaust gas recirculation, diesel particle filter with continuous regeneration and SCR catalytic converter	4-stroke diesel, common rail direct fuel injection, turbocharger with charge air cooling
<b>Engine power</b>	350 kW	350 kW	350 kW
<b>Nominal speed</b>	1800 min <sup>-1</sup>	1800 min <sup>-1</sup>	1800 min <sup>-1</sup>
<b>Displacement</b>	12,0 l	12,0 l	12,0 l
<b>ECO mode</b>	Economical operation with reduced engine speed and high torque		
<b>POWER mode</b>	Maximum power always available on demand		
<b>Cooling system</b>	Spatially separated high-performance engine cooler with thermostatic control of fan speed, automatic, programmable reversible fan		
<b>Air filter</b>	Dry air filter with pre-separator, main and safety element		
<b>Fuel tank (uppercarriage)</b>	1700 l Diesel	1700 l Diesel	1700 l Diesel
<b>Urea tank</b>	105 l AdBlue	105 l AdBlue	–
<b>Blue Hybrid System max.</b>	150 kW	150 kW	150 kW
<b>System performance max.</b>	500 kW	500 kW	500 kW
Electrical system			
<b>Alternator</b>	28 V / 110 A	28 V / 110 A	28 V / 110 A
<b>Operating voltage</b>	24 V		
<b>Battery</b>	2 × 12 V / 110 Ah / 750 A		
<b>Switch cabinets</b>	Heavy-duty design, lockable		
<b>Lighting</b>	2 × LED headlights at the front of the machine, rear marker and blinker lights, 2 × Power LED cab at the front, 1 × Power LED cab at the rear, 1 × Power LED boom, 1 × Power LED Dipperstick, 1 × Power LED Uppercarriage center (gantry)		
Electric motor			
<b>Type</b>	Three-phase asynchronous motor		
<b>Power</b>	280 kW		
<b>System power</b>	430 kW		
<b>Total connected load</b>	304 kW		
<b>Mains connection</b>	L1 / L2 / L3 / PE		
<b>Engine startup</b>	Soft starter		
<b>Operating voltage</b>	400V / 50 Hz or 480V / 60 Hz (USA)		
<b>Optional cable drum</b>	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.		
<b>Slew ring</b>	Largely dimensioned, internally toothed, multi-row roller slewing ring, lubrication by automatic central lubrication system		
<b>Drive</b>	Reversible axial piston pump, 2-stage planetary gear with integrated multi-disc brake		
<b>Uppercarriage swing speed</b>	0–5,4 min <sup>-1</sup>		
<b>Swivel lock</b>	Electrically operated		

\* for markets with little regulation

## TECHNICAL DATA

Undercarriage			
<b>Crawler</b>			
<b>Floor plates</b>	Customized		
<b>Travel speed</b>	2-4 km/h		
<b>Travel drive</b>	Hydraulic, planetary gearbox with axial piston motors		
<b>Crawler undercarriage</b>	Virtually maintenance-free		
<b>Gantry</b>			
<b>Floor plates</b>	Customized		
<b>Travel speed</b>	≤ 2 km/h		
<b>Travel drive</b>	Hydraulic, planetary gearbox with axial piston motors		
<b>Crawler units</b>	Virtually maintenance-free		
<b>Mobile</b>	Customized		
Hydraulic system			
<b>Regulation and control</b>	Mobile hydraulics with Load Sensing System for pre-controlled work functions. Electronic load limit control and fuel-efficient, demand-oriented oil quantity regulation.		
<b>Hydraulic pumps</b>	Axial piston variable displacement pumps		
<b>Max Delivery rate</b>	1020 l/min for equipment and chassis, 344 l/min for the swing drive		
<b>Max. Working pressure</b>	320 / 360 bar (main pump)		
<b>Mode selection</b>			
<b>Precision mode</b>	Move loads precisely		
<b>Heavy mode</b>	Movement of heavy loads		
<b>Hydraulic oil tank</b>	814 l		
<b>Filtering</b>	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 3 μm. Generously dimensioned for long operating times. Permanent monitoring of oil cleanliness by quality sensor		
<b>Cooling system</b>	Spatially separated high-performance cooler with thermostatic control of fan speed, automatic, programmable reversible fan		
<b>Boom and stick cylinders</b>	Robust special cylinders with generously dimensioned bearing points, end position damping and rupture safety valves with regeneration function		
<b>Hybrid cylinder</b>	Robust cylinder with generously dimensioned bearings, rupture safety valve and end position damping		
<b>Tool control</b>	Settings for attachments adjustable via display		
Cab			
<b>Cab</b>	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		
<b>Climate control</b>	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		
<b>Driver's seat</b>	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		
<b>Monitoring</b>	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		
<b>Screen wiper</b>	Large parallel wiper for front field of vision, including washer - wiper motor outside field of vision		
<b>Sound level</b>	<b>EU Stage V</b>	<b>U.S. Tier 4</b>	<b>EU Stage IIIA/ U.S. Tier 3*</b>
(metered) acc. to directive 2000/14/EG	L <sub>WA</sub> 105,5 dB(A)		
(guaranteed) acc. to directive 2000/14/EG	L <sub>WA</sub> 107 dB(A)		
(inside the cabin) acc. to directive ISO 6396	L <sub>PA</sub> 70 [dB(A)]		
<b>Vibration</b>	Weighted rms value of upper limb acceleration: below 2,5 m/s <sup>2</sup> Weighted effective value of acceleration for the seat and feet: below 0,5 m/s <sup>2</sup>		
<b>Certification according to CE Directives</b>			
<b>Voluntary DGUV type examination</b>			

### 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 prefractor for air filter		●
Extended oil service interval	●	
Engine compartment lighting	●	
<b>Mobile undercarriage</b>		
Customized		●
<b>Gantry undercarriage</b>		
Low maintenance crawler undercarriage	●	
Refueling pump for auxiliary tank on undercarriage		●
Additional fuel tank 3000 l diesel		●
Floor panels according to customer requirements		●
<b>Crawler undercarriages</b>		
Low maintenance crawler undercarriage	●	
Floor panels according to customer requirements		●
<b>Uppercarriage</b>		
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	●	
<b>Cab</b>		
Fuchs comfort cab	●	
Large port/ marina comfort cab		●
Elevating cab system	●	
In and out cab		●
Cab to ground (for gantry or pylon undercarriage)		●
Toughened safety glass (ESG)	●	
Cab privacy glazing (side, rear window)	●	
Sliding window in cab door	●	
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 clear glass	●	
Air-cushioned driver's seat with headrest, safety belt, and lower lumbar support	●	
Seat contact	●	
Seat heating		●
Steering via Joystick	●	
Steering column with tilt and height adjustment		●
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		●
<b>Work equipment</b>		
<b>Loading equipment</b>		
18 m, 19 m, 21 m, 22 m, 24 m, 27 m		●
SMART Stick Proximity Control	●	
Overload and work area control		●
Overload warning device		●
Filter system for attachments		●
Hose rupture safety valves for boom cylinders 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	●	
<b>Electrical system</b>		
Isolator switch, LOG OUT / TAG OUT	●	
30 kW DC generator incl. insulation monitoring		●
For diesel engine: driven hydraulically		●
Driving warning device		●
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)	●	
<b>Other equipment</b>		
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	●	

**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 all-working 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 surplus energy during lowering of the loading equipment in accumulators, which can be used during the next loadcycle

**CAB**

- Fuchs comfort cab
- Large panoramic ceiling for an optimal overhead visibility
- Wiper arms and motors out of the field of view
- Automatic climate control
- Large port comfort oder marina comfort cab \*
- Various cab lifting systems available

**DRIVE**

- Blue Hybrid System reduces fuel consumption 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. DPF's 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 PLATFORM**

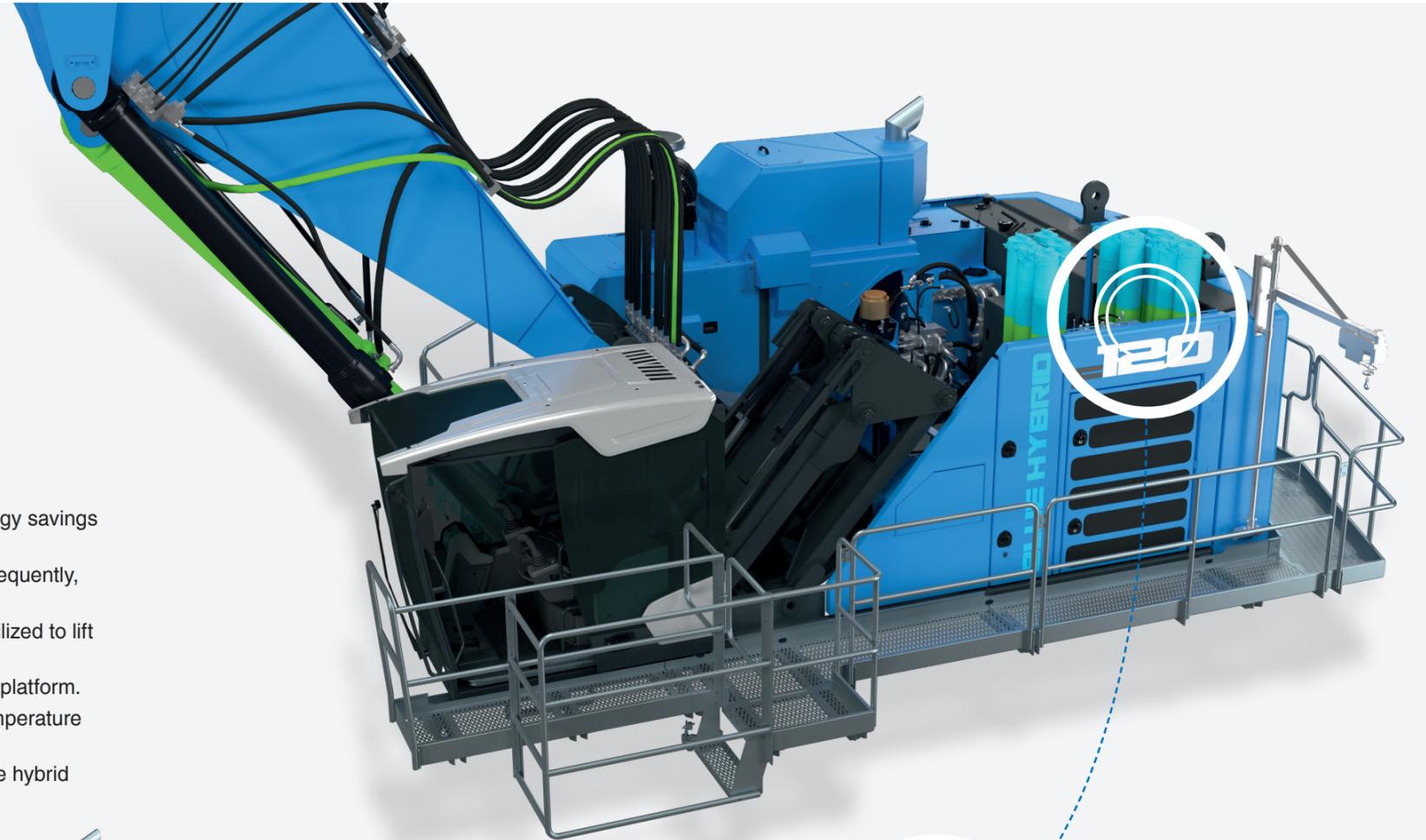
- Unique in the market
- Gantry machine: Service platform access via catwalk
- Secure place for carrying out service
- Convenient access to engine compartment, Fuchs Hybrid system components, main control block, central lubrication system, air filter, tanks and much more.
- Generous maintenance flaps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



# FOCUS ON ENERGY EFFICIENCY

## Blue Hybrid System

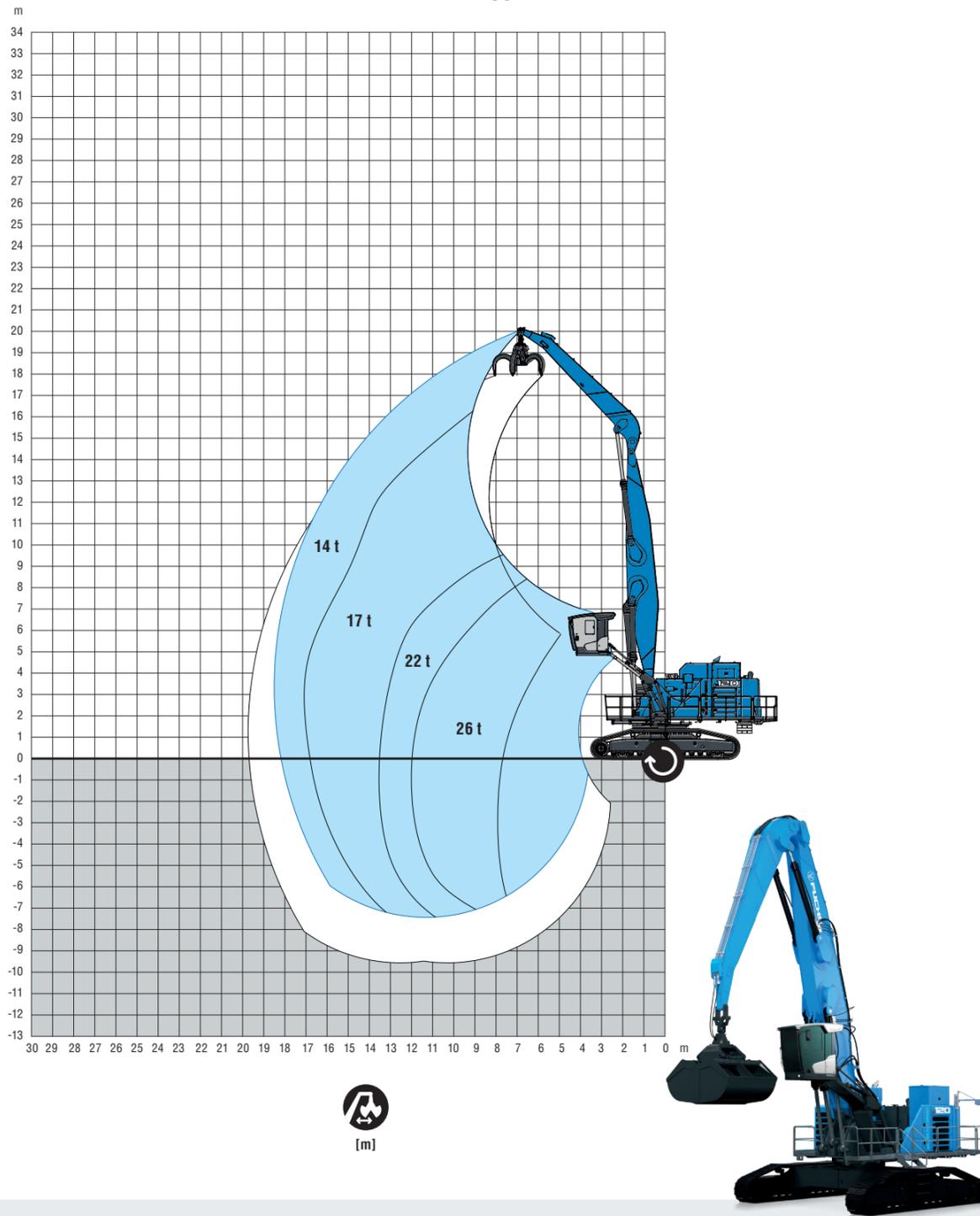
- The Fuchs Hybrid System increases energy efficiency and enables energy savings of up to 35% through recuperation.
- Due to the energy recovery, the installed diesel engine power and, consequently, fuel consumption were significantly reduced.
- During each loading cycle, excess energy is stored and subsequently utilized to lift the boom in the next loading cycle.
- All components are safely and conveniently accessible from the service platform.
- Thermally controlled to permanently maintain the optimum operating temperature of the hybrid system and thus ensure maximum energy efficiency.
- Thermally controlled to maintain the optimal operating temperature of the hybrid system and to ensure maximum energy efficiency.



RANGE CHARTS

18 m

Boom: 11 m · Dipperstick: 7,7 m

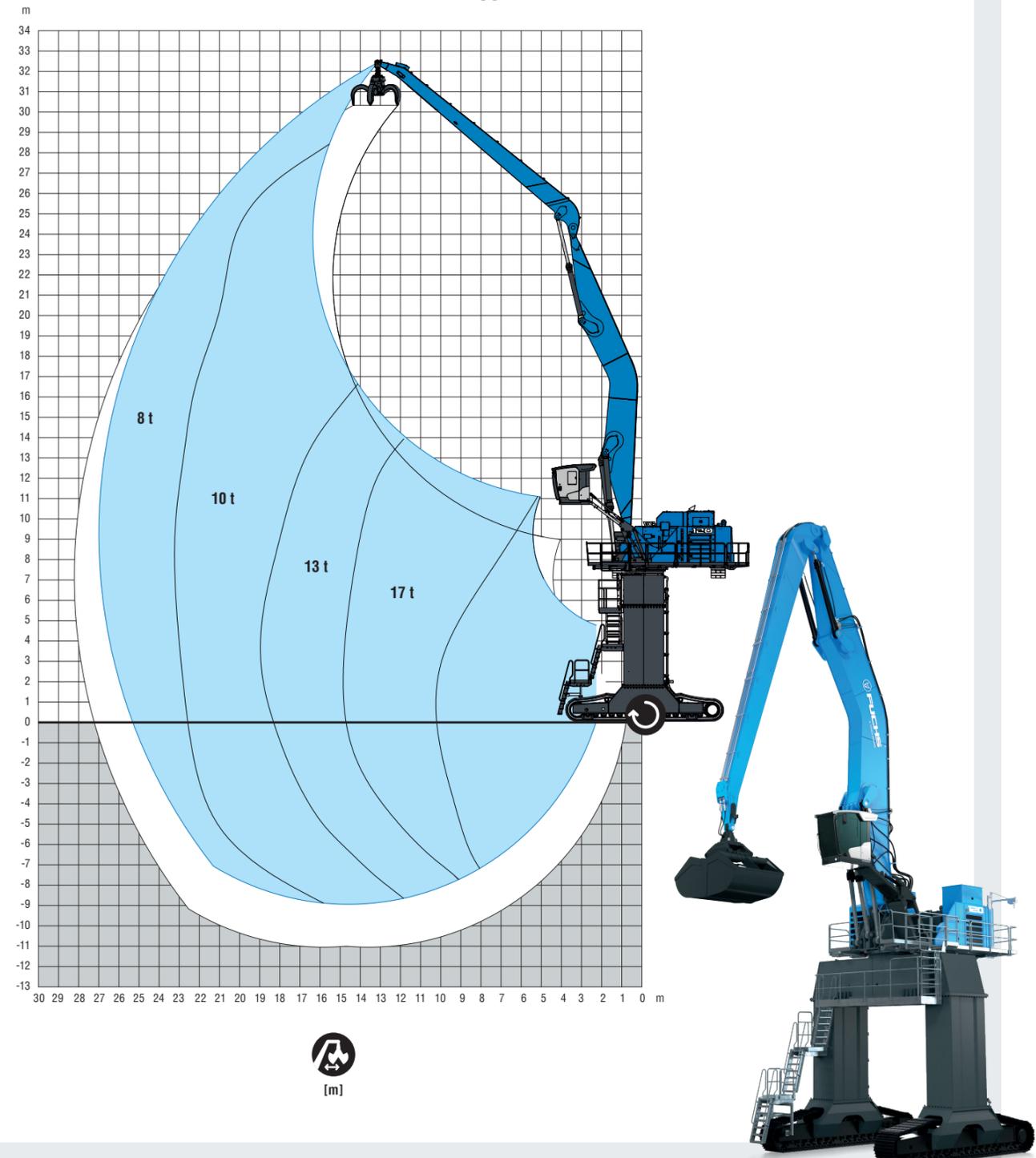


Product specifications and prices are subject to change without notice. The photographs and/or drawings in this brochure are for illustrative purposes only. Refer to the operating instructions for instructions on the proper use of this equipment.  
 Feel free to contact your Fuchs dealer for detailed load capacities for your application.

RANGE CHARTS

27 m

Boom: 15 m · Dipperstick: 13 m



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