



**TECHNICAL DATA AND INFORMATION**



 114 kW/153 hp

 22.0 - 23.5 t

 up to 12.0 m



**MHL 331 D**  
**RECYCLING MACHINE**



# TECHNICAL DATA MHL331 D



## OPERATING WEIGHT

22.0 - 23.5 t



## DIESEL ENGINE

|                               |  |
|-------------------------------|--|
| <b>MANUFACTURER AND MODEL</b> | Deutz TCD 2012 L06 2V  |
| <b>DESIGN</b>                 | 6-cylinder inline  |
| <b>ENGINE CONTROL</b>         | EMR III  |
| <b>TYPE</b>                   | 4-stroke diesel, common rail direct injection, turbo-charger w. charge air cooling |
| <b>ENGINE OUTPUT</b>          | 114 kW/153 hp  |
| <b>NOMINAL SPEED</b>          | 2000 min <sup>-1</sup>   |
| <b>DISPLACEMENT</b>           | 6.0 liters   |
| <b>COOLING SYSTEM</b>         | Liquid intercooling with temperature-controlled fan speed                          |
| <b>EMISSION STANDARDS</b>     | COM III and EPA Tier III   |
| <b>AIR FILTER DESIGN</b>      | Two-stage filter with safety valve   |
| <b>FUEL CAPACITY (USABLE)</b> | 300 l  |



## ELECTRICAL SYSTEM

|                          |   |
|--------------------------|---|
| <b>OPERATING VOLTAGE</b> | 24 V  |
| <b>BATTERIES</b>         | 2 x 12 V / 100 Ah / 760 A (in accordance with EN)   |
| <b>LIGHTING SET</b>      | 1 x H3 spotlights on upper carriage, 1 x H3 spotlights on cabin floor, turn signal and rear side-marker lamps |
| <b>OPTION</b>            | Magnet system 13 kW   |



## TRAVEL DRIVE

|                              |  |
|------------------------------|--|
|                              | Hydrostatic drive through infinitely variable axial piston motor and directly mounted travel brake valves, two-speed power shift gear, 4-wheel drive |
| <b>TRAVEL SPEED 1ST GEAR</b> | max. 5 km/h (3.1 mph)  |
| <b>TRAVEL SPEED 2ND GEAR</b> | max. 20 km/h (12.4 mph)  |
| <b>GRADEABILITY</b>          | max. 50%   |
| <b>TURNING RADIUS</b>        | 7.0 m  |



## SWING SYSTEM

|                                   |   |
|-----------------------------------|---|
| <b>RING GEAR</b>                  | Internally toothed ball ring gear (double row)            |
| <b>DRIVE</b>                      | Two-stage planetary gear with integrated multi-disc brake |
| <b>UPPER CARRIAGE SWING SPEED</b> | Infinitely variable from 0 - 8 min <sup>-1</sup>          |
| <b>PIVOT BRAKE</b>                | Electrically operated                                     |
| <b>MAX. PIVOT TORQUE</b>          | 49 kNm  |



## UNDERCARRIAGE

|                    |   |
|--------------------|---|
| <b>FRONT AXLE</b>  | Planetary drive axle with integrated drum brake, rigidly mounted, max. steering angle: 28°            |
| <b>REAR AXLE</b>   | Oscillating planetary drive rear axle with integrated drum brake and selectable oscillating axle lock |
| <b>STABILIZERS</b> | 4-point-stabilizers   |
| <b>TIRES</b>       | Solid rubber, elastic tires 8-fold 9.00 - 20  |



## BRAKE SYSTEM

|                      |  |
|----------------------|--|
| <b>SERVICE BRAKE</b> | Hydraulic single-circuit braking system acting on all four wheel pairs               |
| <b>PARKING BRAKE</b> | Electrically operated disc brake at transmission, acting on both front and rear axle |



**HYDRAULIC SYSTEM**

|                                |   |
|--------------------------------|---|
|                                | REXROTH mobile hydraulic system with load limit control, and fuel conserving power demand control. Separate oil cooler, temperature-controlled fan speed. Hydraulic oil filter: integrated in the oil tank; maintenance interval: 3000 operating hrs. Central lubrication system. |
| <b>MAX. PUMP CAPACITY</b>      | 380 l/min   |
| <b>MAX. OPERATING PRESSURE</b> | 320/360 bar   |
| <b>HYDRAULIC OIL TANK</b>      | 340 l   |



**OPERATOR'S CAB**

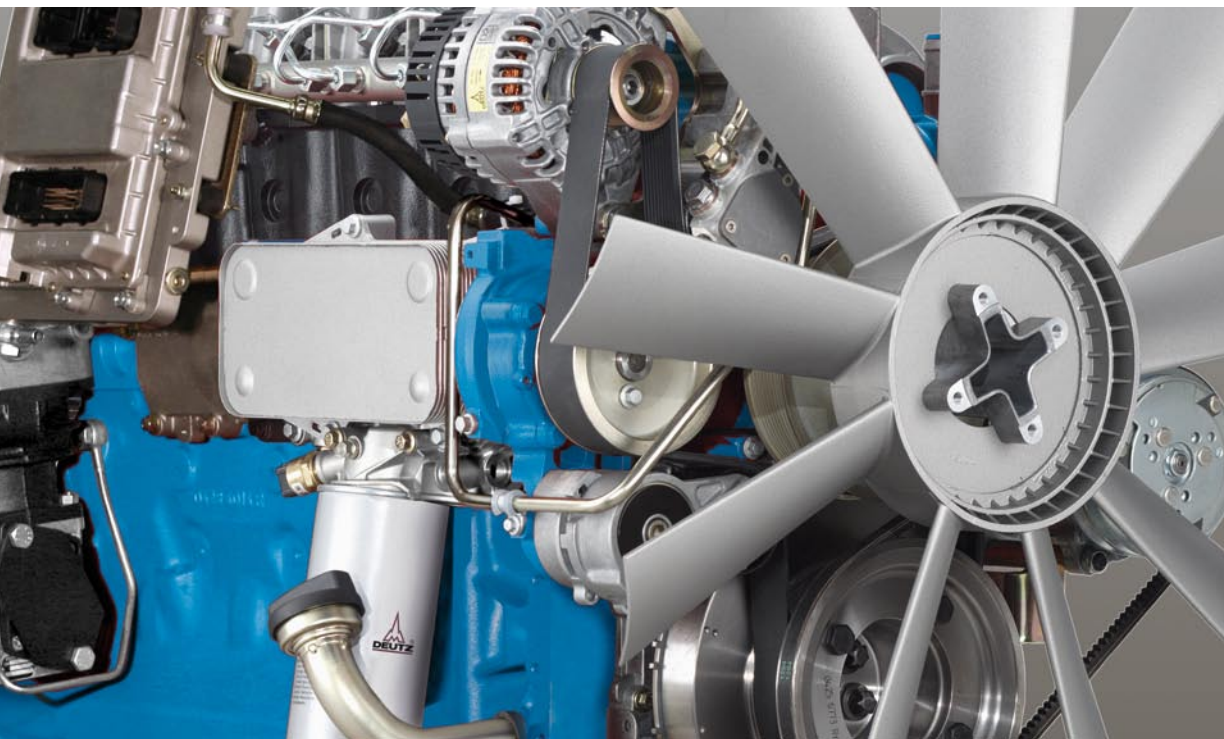
|                             |  |
|-----------------------------|--|
|                             | Cab: elastically supported, infinitely variable hydraulically height-adjustable with max. eye level of 5.2 m. Sound-deadened, heat-insulated panoramic windows for optimum all-around view, windshield with pull-down sunblind that slides under cab roof, visibility panel in cab roof, sliding window in cab door, steering column height and tilt adjustable. |
| <b>HEATING</b>              | Infinitely variable hot water heating with 3-speed fan, 4 adjustable defroster nozzles   |
| <b>OPERATOR'S SEAT</b>      | Air-cushioned comfort-seat with integrated headrest, safety-belt and lumbar support, seat-heating with integrated a/c function optional. Seat position, seat inclination and seat cushion multi-adjustable in line with position of armrests and pilot control units, allowing fatigue-free operation.   |
| <b>MONITORING</b>           | Ergonomic instrument layout, glare-free. Function monitoring; automatic warning and storage of deviating operating conditions, e.g. filter pressure w. warning indicator and shutdown of pilot controls, warning indicator or shutdown of pilot controls when exceeding hydraulic oil temperature limits.  |
| <b>AIR CONDITIONING</b>     | Automatic  |
| <b>ACOUSTIC POWER LEVEL</b> | (guaranteed) in accordance with guideline 2000/14 EG<br>$L_{w(A)} = 102 \text{ dB(A)}$   |

**SAFETY INSTALLATIONS**

|  |   |
|--|---|
|  | For crane operations in accordance with EN 474-5. |
|  | Cab protection by close proximity range limiter.  |

**OFFICIAL HOMOLOGATION**


|  |  |
|--|--|
|  | Certification according to CE-regulations. |
|--|--|








# EQUIPMENT MHL331 D




|  ENGINE | SERIES | OPTION |
|--|--------|--------|
| Turbocharger   | •      |        |
| Intercooling   | •      |        |
| Direct electronic fuel injection/<br>Common Rail   | •      |        |
| Automatic idle   | •      |        |
| Engine pre-heating   |        | •      |
| Interface for engine diagnosis   | •      |        |
| Temperature-controlled fan drive   | •      |        |

|  UNDERCARRIAGE | SERIES | OPTION |
|---|--------|--------|
| 2-speed power-shift transmission  | •      |        |
| 4-point stabilizers   | •      |        |
| 4-pt. stabilizers, individually controllable  |        | •      |
| Outrigger cylinders with integrated<br>two-way check valves                                     | •      |        |
| All-wheel drive   | •      |        |
| Piston rod protection on the outrigger<br>cylinders   | •      |        |
| Outrigger plates 500 x 350  | •      |        |
| Rear axle oscillating lock  | •      |        |
| Dozer blade in addition to 4-pt. stabilizers  |        | •      |
| Special paint   |        | •      |
| Drum brakes   | •      |        |
| Tool box  | •      |        |
| All-wheel steering  |        | •      |

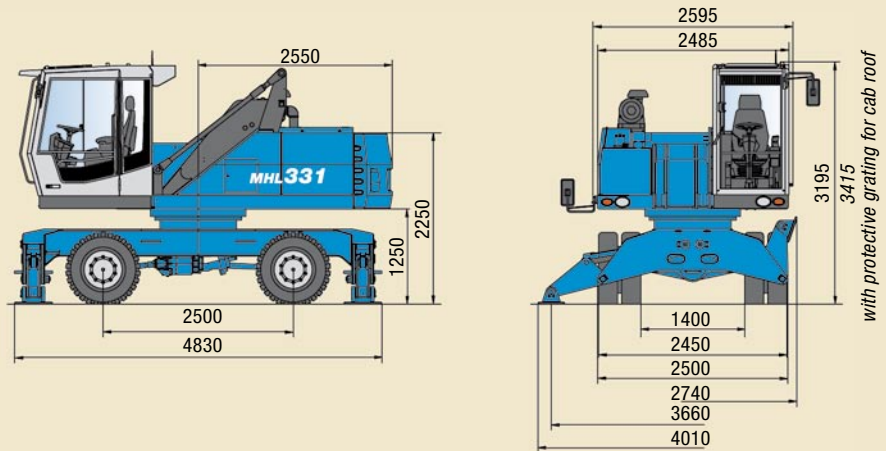
|  UPPER CARRIAGE | SERIES | OPTION |
|--|--------|--------|
| Electrical refueling pump  |        | •      |
| Lighting protection  |        | •      |
| Maintenance hood, actuated by gas strut,<br>with mechanical locking device                         | •      |        |
| Lockable cleaning access openings on<br>radiator   | •      |        |
| Separate radiator system for ambient<br>temperatures up to 50° C                                   | •      |        |
| Separate oil cooler w. temperature-<br>controlled fan drive  | •      |        |
| Automatic central lubrication system   | •      |        |
| Reversing device   |        | •      |
| Special paint  |        | •      |
| Quick-drain valve for fuel tank<br>(delivered in tool box)   | •      |        |
| Quick-drain valve on hydraulic oil tank  | •      |        |
| Quick-drain valve on radiator  | •      |        |
| Quick-drain valve on engine oil-pan  | •      |        |
| Reversible fan for radiator and<br>hydraulic oil cooler  |        | •      |

|  CAB | SERIES | OPTION |
|--|--------|--------|
| Lift-up skylight in cabin roof   | •      |        |
| Air cushioned operator's seat with<br>headrest, safety belt and lumbar support         | •      |        |
| FOPS protective grating  |        | •      |
| Front/roof protective grating  |        | •      |
| Hinged front windshield  | •      |        |
| Front windows break-resistant (LEXAN)  |        | •      |
| Bullet-proof safety glass, front and top   |        | •      |
| Cab elevation system, height adjustable  | •      |        |
| Air conditioning   | •      |        |
| Steering column, height and tilt adjustable  | •      |        |
| Multi-functional display   | •      |        |
| Fire extinguisher, dry powder  |        | •      |
| Preparation for radio  |        | •      |
| Radio cassette   |        | •      |
| RadioCD  |        | •      |
| Rotating beacon  |        | •      |
| Sliding window in cab door   | •      |        |
| Safety glass   | •      |        |
| Seat heating with integrated a/c function  |        | •      |
| Engine-independent heating   |        | •      |
| Windscreen washer system   | •      |        |
| Dust protection system   |        | •      |
| Pressurized cabin system   |        | •      |

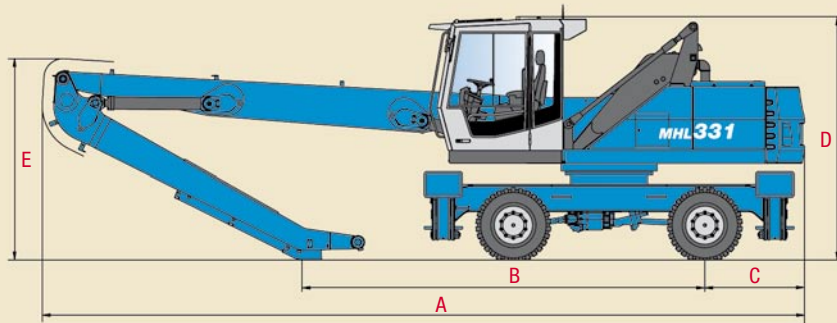
|  EQUIPMENT | SERIES | OPTION |
|--|--------|--------|
| Floodlights attached to cab floor  | •      |        |
| Floodlights, mounted to superstructure   | •      |        |
| Floodlight, stick mounted  |        | •      |
| Hydraulic oil preheating   |        | •      |
| Close proximity range limiter for stick  | •      |        |
| Coolant and hydraulic oil level<br>monitoring system   | •      |        |
| Hose rupture protection for lift cylinder  |        | •      |
| Hose rupture protection for stick cylinder   |        | •      |
| Dipper stick shock protection  | •      |        |
| Lubrication of the grab suspension by<br>central lubrication system                            | •      |        |
| Overload protection/ shutdown  |        | •      |
| XENON floodlight on stick  |        | •      |
| XENON-floodlight on superstructure   |        | •      |
| XENON floodlight on cab roof   |        | •      |
| Quick-connect coupling on stick  | •      |        |
| Tool filter system   |        | •      |

# DIMENSIONS

## MHL331 D



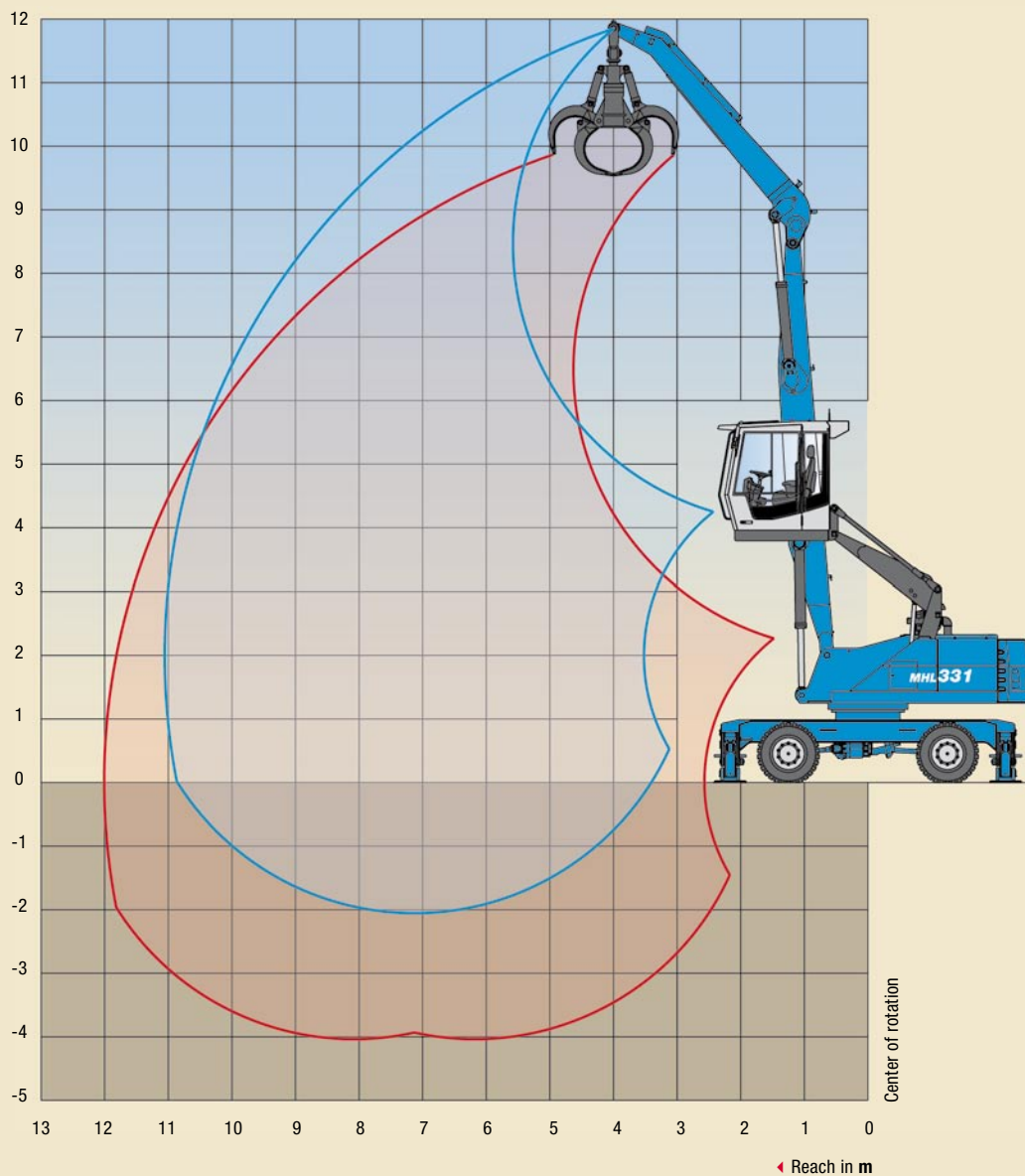
## MHL331 D Transport dimensions



| DIMENSIONS | REACH 10.7 m<br>(MULTI-PURPOSE STICK) | REACH 11.0 m         | REACH 12.0 m         |
|------------|---------------------------------------|----------------------|----------------------|
| <b>A</b>   | 10.000 mm                             | 9.950 mm             | 9.900 mm             |
| <b>B</b>   | 5.140 mm                              | 5.250 mm             | 4.280 mm             |
| <b>C</b>   | 1.300 mm                              | 1.300 mm             | 1.300 mm             |
| <b>D</b>   | 3.195 mm / *3.415 mm                  | 3.195 mm / *3.415 mm | 3.195 mm / *3.415 mm |
| <b>E</b>   | 2.700 mm                              | 2.650 mm             | 3.100 mm             |

\* with protective grating for cab roof

# WORKING RANGES/LIFTING CAPACITIES MHL331 D



**Reach 11 m  
with stick**

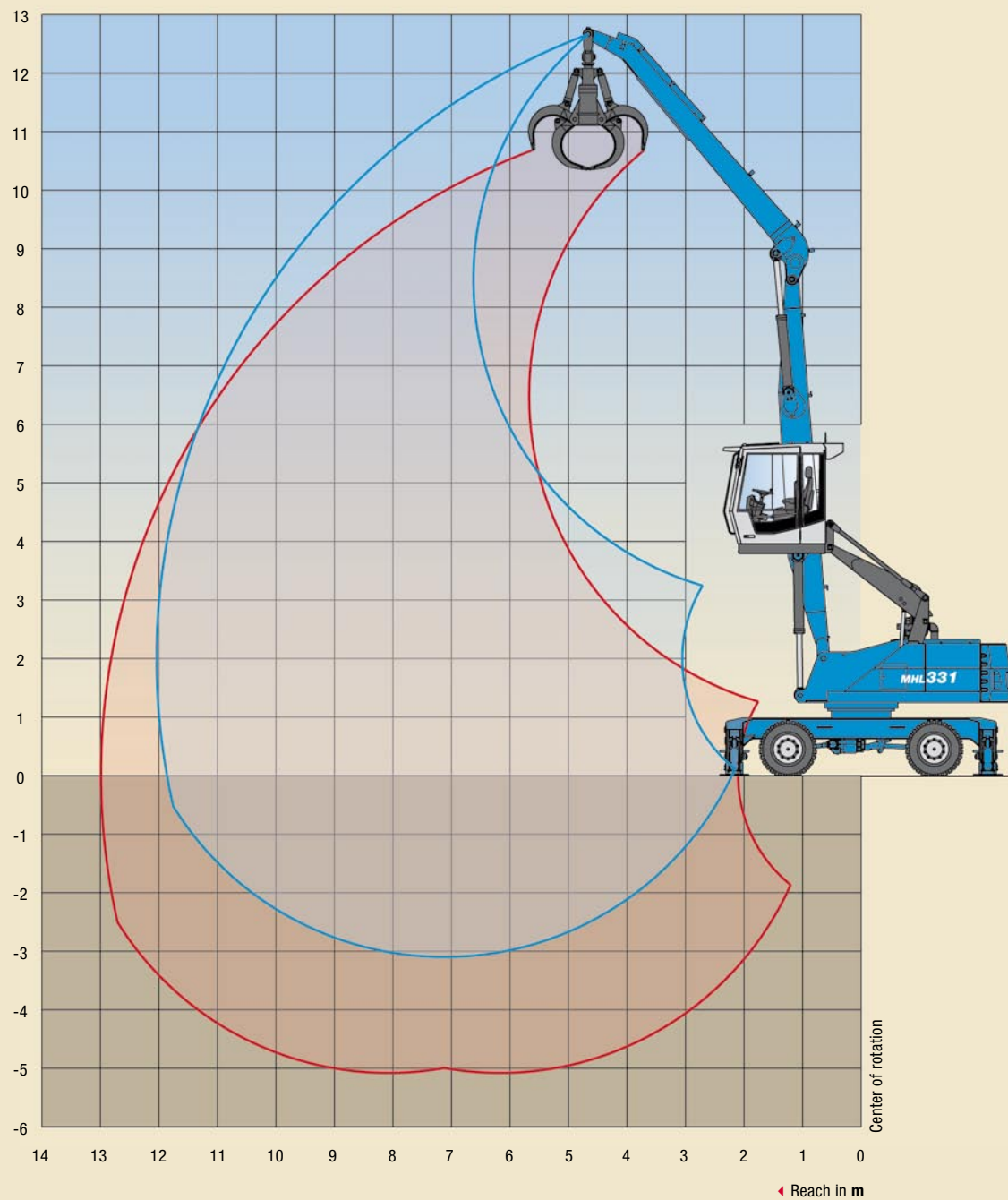
**Work equipment:**  
Box-type boom 6.5 m;  
Stick 4.4 m;  
Cactus grab

| HEIGHT<br>m | UNDERCARRIAGE<br>STABILIZERS | REACHES m     |             |             |            |           |
|-------------|------------------------------|---------------|-------------|-------------|------------|-----------|
|             |                              | 4.5           | 6           | 7.5         | 9          | 10.5      |
| 10.5        | non supported                |               | (5.2)       |             |            |           |
|             | 4-pt. supported              |               | 5.6* (5.6*) |             |            |           |
| 9           | non supported                |               | (5.3)       | (3.6)       |            |           |
|             | 4-pt. supported              |               | 6.3* (6.3*) | 5.6* (5.6*) |            |           |
| 7.5         | non supported                |               | (5.2)       | (3.7)       | (2.7)      |           |
|             | 4-pt. supported              |               | 6.4* (6.4*) | 5.7 (5.8*)  | 4.2 (4.9*) |           |
| 6           | non supported                |               | (5.1)       | (3.6)       | (2.6)      |           |
|             | 4-pt. supported              |               | 6.8* (6.8*) | 5.6 (6.0*)  | 4.2 (5.2)  |           |
| 4.5         | non supported                | (7.5)         | (4.8)       | (3.4)       | (2.6)      | (2.0)     |
|             | 4-pt. supported              | 9.6* (9.6*)   | 7.6* (7.6*) | 5.5 (6.4*)  | 4.1 (5.1)  | 3.2 (4.0) |
| 3           | non supported                | (6.8)         | (4.5)       | (3.3)       | (2.5)      | (2.0)     |
|             | 4-pt. supported              | 11.6* (11.6*) | 7.4 (8.5*)  | 5.3 (6.6)   | 4.0 (5.0)  | 3.2 (3.9) |
| 1.5         | non supported                | (6.2)         | (4.2)       | (3.1)       | (2.4)      | (1.9)     |
|             | 4-pt. supported              | 10.1* (10.1*) | 7.1 (9.0)   | 5.1 (6.4)   | 3.9 (4.9)  | 3.1 (3.9) |
| 0           | non supported                | (5.9)         | (4.0)       | (3.0)       | (2.3)      | (1.9)     |
|             | 4-pt. supported              | 7.0* (7.0*)   | 6.8 (8.8)   | 5.0 (6.2)   | 3.8 (4.8)  | 3.1 (3.9) |
| -1.5        | non supported                |               | (3.9)       | (2.9)       | (2.3)      |           |
|             | 4-pt. supported              |               | 6.8 (8.7)   | 4.9 (6.2)   | 3.8 (4.7)  |           |

| RECOMMENDED ATTACHMENTS                      |                                      |
|--|--------------------------------------|
| <b>LIFT HOOKS</b>                            | 10 t                                 |
| <b>TEREX® FUCHS CACTUS GRAB 0.4 m³</b>       | Open or half-closed shells           |
| <b>TEREX® FUCHS CACTUS GRAB 0.6 m³</b>       | Open or half-closed shells           |
| <b>GRAB FOR LIGHTWEIGHT MATERIALS 0.8 m³</b> | Loose goods density up to 1400 kg/m³ |
| <b>MAGNET SYSTEM</b>                         | Terex® Fuchs magnetic plate          |

Capacity values are stated in metric tons (t). The pump pressure is 360 bar (5221 psi). The values, in accordance with ISO 10567, amount to 75% of the static tipping load or 87 % of the hydraulic lifting force (marked \*). They apply to slewing operations through 360° on a firm and level surface. Values in brackets apply to the longitudinal direction of the undercarriage. "Non-supported" values only apply when the load is hoisted above the front or rear axle. The weight of the attached hoisting equipment (grab, magnet, load hook) must be deducted from the capacity values. In accordance with CE guidelines, hose-rupture safety valves on the lift cylinders and an overload warning device are required for crane operations.

# WORKING RANGES/LIFTING CAPACITIES MHL331 D



**Reach 12 m  
with stick**

**Work equipment:**  
Box-type boom 6.5 m;  
Stick 5.45 m;  
Cactus grab



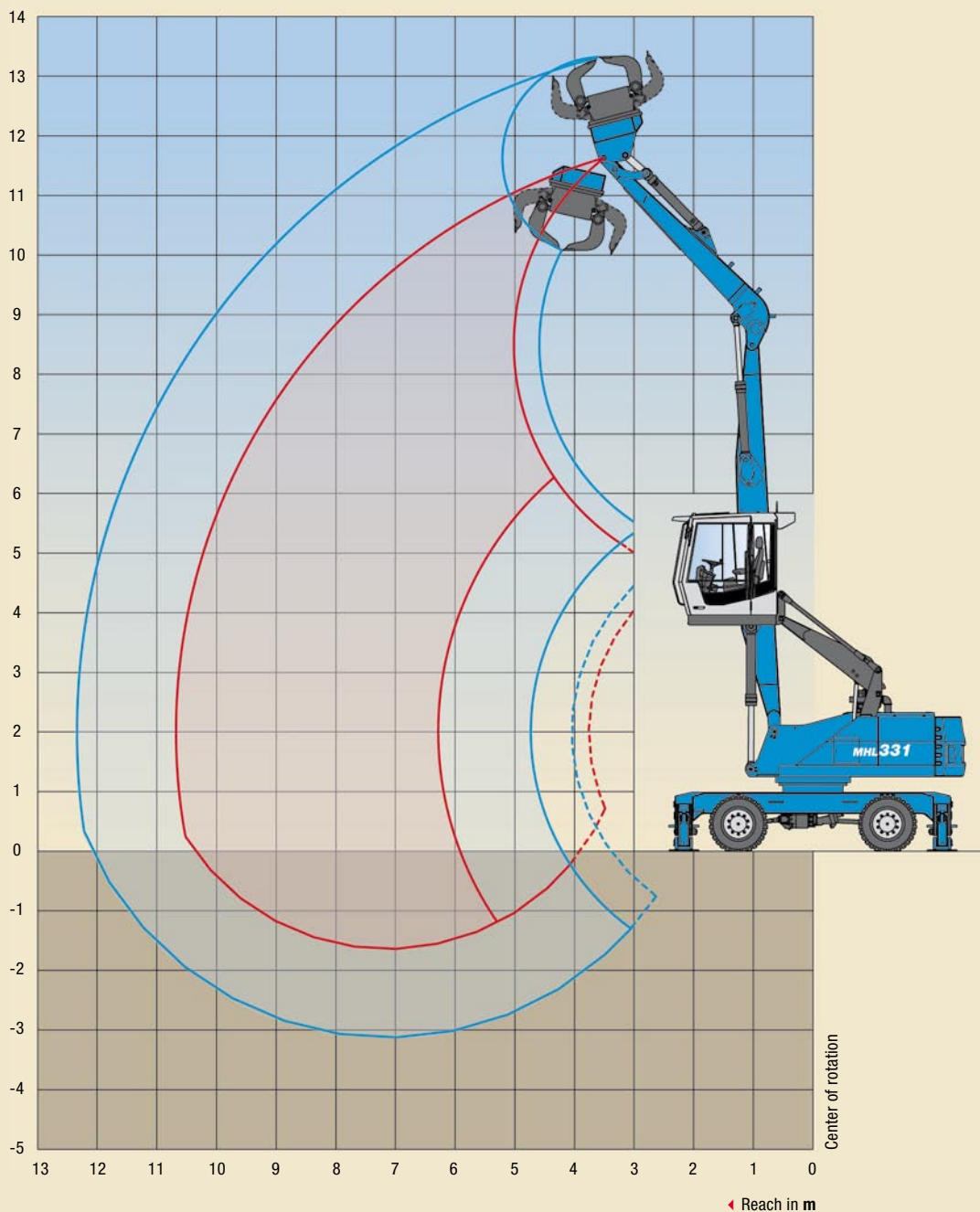
| HEIGHT<br>m | UNDERCARRIAGE<br>STABILIZERS | REACHES m     |             |             |             |             |            |
|-------------|------------------------------|---------------|-------------|-------------|-------------|-------------|------------|
|             |                              | 4.5           | 6           | 7.5         | 9           | 10.5        | 12         |
| 10.5        | non supported                |               |             | (3.7)       |             |             |            |
|             | 4-pt. supported              |               |             | 4.3* (4.3*) |             |             |            |
| 9           | non supported                |               |             | (3.8)       | (2.8)       |             |            |
|             | 4-pt. supported              |               |             | 5.1* (5.1*) | 4.0* (4.0*) |             |            |
| 7.5         | non supported                |               |             | (3.8)       | (2.8)       | (2.1)       |            |
|             | 4-pt. supported              |               |             | 5.1* (5.1*) | 4.3 (4.8*)  | 3.1* (3.1*) |            |
| 6           | non supported                |               |             | (3.7)       | (2.7)       | (2.1)       |            |
|             | 4-pt. supported              |               |             | 5.3* (5.3*) | 4.3 (4.9*)  | 3.3 (4.1)   |            |
| 4.5         | non supported                |               | (5.1)       | (3.6)       | (2.6)       | (2.0)       |            |
|             | 4-pt. supported              |               | 6.6* (6.6*) | 5.6 (5.8*)  | 4.2 (5.2*)  | 3.3 (4.0)   |            |
| 3           | non supported                | (7.3)         | (4.7)       | (3.4)       | (2.5)       | (2.0)       | (1.5)      |
|             | 4-pt. supported              | 10.0* (10.0*) | 7.6* (7.6*) | 5.4 (6.3*)  | 4.1 (5.0)   | 3.2 (4.0)   | 2.6 (3.1*) |
| 1.5         | non supported                | (6.5)         | (4.3)       | (3.1)       | (2.4)       | (1.9)       | (1.5)      |
|             | 4-pt. supported              | 11.5 (12.1*)  | 7.2 (8.7*)  | 5.2 (6.5)   | 3.9 (4.9)   | 3.1 (3.9)   | 2.6 (3.1*) |
| 0           | non supported                | (6.1)         | (4.1)       | (3.0)       | (2.3)       | (1.9)       |            |
|             | 4-pt. supported              | 9.2* (9.2*)   | 6.9 (8.8)   | 5.0 (6.3)   | 3.8 (4.8)   | 3.1 (3.8)   |            |
| -1.5        | non supported                | (5.8)         | (3.9)       | (2.9)       | (2.2)       | (1.8)       |            |
|             | 4-pt. supported              | 7.4* (7.4*)   | 6.7 (8.6)   | 4.9 (6.1)   | 3.8 (4.7)   | 3.0 (3.8)   |            |
| -3          | non supported                |               |             | (2.8)       |             |             |            |
|             | 4-pt. supported              |               |             | 4.8 (6.1)   |             |             |            |

**RECOMMENDED ATTACHMENTS**

|  |   |
|--|---|
| <b>LIFT HOOKS</b>                                | 10 t                                    |
| <b>TEREX® FUCHS<br/>CACTUS GRAB 0.4 m³</b>       | Open or half-closed shells              |
| <b>GRAB FOR LIGHTWEIGHT<br/>MATERIALS 0.6 m³</b> | Loose goods density up to<br>1400 kg/m³ |
| <b>MAGNET SYSTEM</b>                             | Terex® Fuchs magnetic plate             |

Capacity values are stated in metric tons (t). The pump pressure is 360 bar (5221 psi). The values, in accordance with ISO 10567, amount to 75% of the static tipping load or 87 % of the hydraulic lifting force (marked \*). They apply to slewing operations through 360° on a firm and level surface. Values in brackets apply to the longitudinal direction of the undercarriage. "Non-supported" values only apply when the load is hoisted above the front or rear axle. The weight of the attached hoisting equipment (grab, magnet, load hook) must be deducted from the capacity values. In accordance with CE guidelines, hose-rupture safety valves on the lift cylinders and an overload warning device are required for crane operations.

# WORKING RANGES/LIFTING CAPACITIES MHL331 D



**Reach 10.7 m  
with multi-purpose  
stick**

**Work equipment:**  
Box-type boom 6.5 m;  
Stick 4.0 m;  
Sorting grab



| HEIGHT<br>m | UNDERCARRIAGE<br>STABILIZERS | REACHES m    |             |             |            |           |
|-------------|------------------------------|--------------|-------------|-------------|------------|-----------|
|             |                              | 4.5          | 6           | 7.5         | 9          | 10.5      |
| 9           | non supported                |              | (5.0)       | (3.4)       |            |           |
|             | 4-pt. supported              |              | 6.4* (6.4*) | 5.0* (5.0*) |            |           |
| 7.5         | non supported                |              | (4.9)       | (3.4)       | (2.4)      |           |
|             | 4-pt. supported              |              | 6.4* (6.4*) | 5.4 (5.7*)  | 4.0 (4.0*) |           |
| 6           | non supported                | (7.7)        | (4.8)       | (3.3)       | (2.4)      |           |
|             | 4-pt. supported              | 8.3* (8.3*)  | 6.8* (6.8*) | 5.4 (5.9*)  | 3.9 (4.9)  |           |
| 4.5         | non supported                | (7.1)        | (4.5)       | (3.2)       | (2.3)      |           |
|             | 4-pt. supported              | 9.8* (9.8*)  | 7.5 (7.6*)  | 5.2 (6.3*)  | 3.9 (4.8)  |           |
| 3           | non supported                | (6.4)        | (4.2)       | (3.0)       | (2.2)      | (1.7)     |
|             | 4-pt. supported              | 11.4 (11.8*) | 7.1 (8.4*)  | 5.0 (6.3)   | 3.8 (4.7)  | 2.9 (3.7) |
| 1.5         | non supported                | (5.8)        | (3.9)       | (2.8)       | (2.1)      | (1.7)     |
|             | 4-pt. supported              | 7.6* (7.6*)  | 6.8 (8.7)   | 4.8 (6.1)   | 3.7 (4.6)  | 2.9 (3.6) |
| 0           | non supported                | (5.6)        | (3.7)       | (2.7)       | (2.1)      |           |
|             | 4-pt. supported              | 6.3* (6.3*)  | 6.6 (8.5)   | 4.7 (6.0)   | 3.6 (4.5)  |           |
| -1.5        | non supported                |              |             | (2.7)       |            |           |
|             | 4-pt. supported              |              |             | 4.6 (5.9)   |            |           |

Capacity values are stated in metric tons (t). The pump pressure is 360 bar (5221 psi). The values, in accordance with ISO 10567, amount to 75% of the static tipping load or 87% of the hydraulic lifting force (marked \*). They apply to slewing operations through 360° on a firm and level surface. Values in brackets apply to the longitudinal direction of the undercarriage. "Non-supported" values only apply when the load is hoisted above the front or rear axle. The weight of the attached hoisting equipment (grab, magnet, load hook) must be deducted from the capacity values. In accordance with CE guidelines, hose-rupture safety valves on the lift cylinders and an overload warning device are required for crane operations.

**PURPOSE  
BUILT**



## **SIMPLE TO OPERATE. VERSATILE IN USE.**

### **MHL331 D. The talented all-rounder with turbo efficiency**

With its versatility and almost legendary manoeuvring speed, the MHL331 D really gets the recycling business moving. The robust undercarriage provides a stable space when loads of several tons need to be moved with a reach of up to 12 metres. In such situations it is essential that neither speed nor precision is compromised; the slewing motor and slewing gear are designed with this in mind and the lift and stick cylinders are fitted with special end-cushioning.

The MHL331 D incorporates the most up-to-date drive and cooling technology. The separate cooling systems, consisting of a hydrostatically driven fan for the oil cooler and a visco-clutch driven fan for liquid intercooling, combine excellent cooling power with quiet performance, enabling the machine to be used at ambient temperatures of up to 50°C. Optional features are available for use in sorting sheds; these include smoke particle filters and a sealed cab with pressurized cabin system.

The clean and quiet 114 kW/153 hp turbo diesel engine with EMR-3 control meets Tier III emissions standards (Com III/ EPA III); noise and emissions when used indoors are minimal. Ergonomics and safety are also high on the Terex® Fuchs list of priorities. The operator has perfect visibility and control, aided by the height-adjustable cab with panoramic windows and the modern function monitor which makes comprehensive operating information available at a glance. Ergonomically arranged controls and a back-friendly comfort seat are among the standard fittings.