



# ROAD CONSTRUCTION & SPECIAL-PURPOSE VEHICLES

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## MATERIAL HANDLERS





## MATERIAL HANDLERS

### CATALOGUE



APPLICATIONS  
Metallurgical industry  
Timber industry  
Sea and river ports  
Waste treatment  
Agriculture  
Construction



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At global and local markets of mining and processing, timber procurement and public utility industries there exist such fields where material handling is the priority part of the work process. Due to their design, the existing road construction machines, while being capable of performing this function, cannot always ensure the required level of safety at a construction or a production site. For this reason, up-to-date high tech and safe material handlers are ready to perform their functions.

Model and parameters of working tools are thoroughly selected to suit a certain industry. For instance, material handler E19OWH performs effectively at a small railway station, next to a local timber factory. More powerful handler E23OWHE with an increased outrigger footprint is capable to operate steadily on both hard, and running soils. And handler E35OWH, with its boom of almost 10 m, can handle materials in river and sea ports.

4 Wheeled material handler **E19OWH**

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6 Wheeled material handler **E23OWH**

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8 Wheeled material handler **E23OWHE**  
with increased outrigger footprint

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10 Wheeled material handler **E28OWH**

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12 Wheeled material handler **E35OWH**

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14 Crawler material handler **E200CH**

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16 Crawler material handler **E245CH**

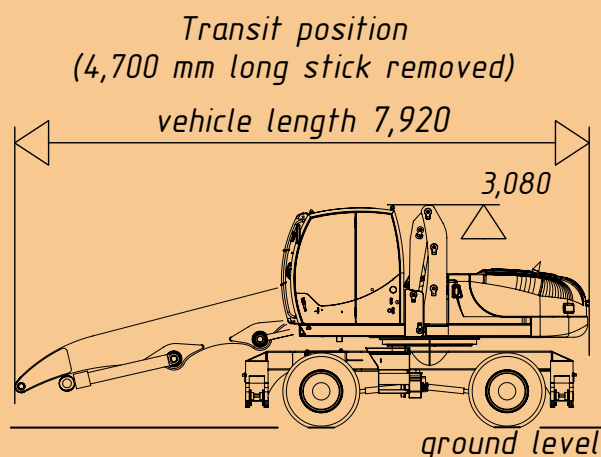
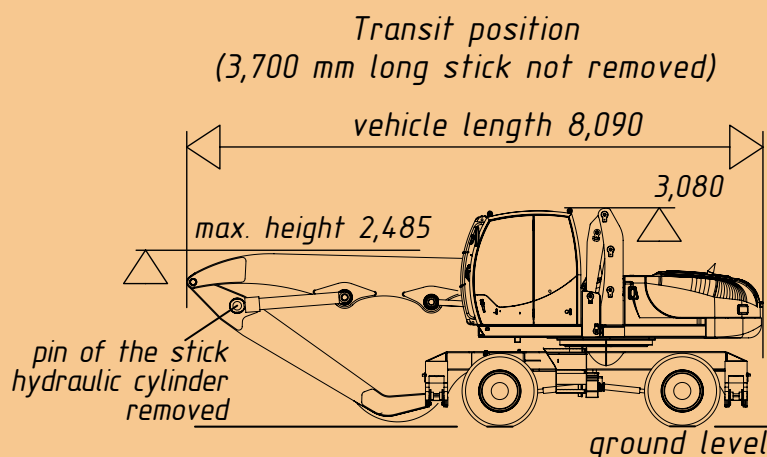
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18 Attachments

# WHEELED MATERIAL HANDLER E190WH

| Specifications: Winter Version  |                | Units                               | E190WH   |
|---|----------------|-------------------------------------|--|
| Operating weight (stick 3,700/4,700 mm)                                   |                | t                                   | 18.5/18.6  |
| ENGINE  |                |                                     |  |
| Engine Model  |                |                                     | Deutz BF 4M 2012 C   |
| Engine Power  | kW (HP)        |                                     | 87 (117) @ 2,100 rpm<br>90 (122) @ 2,200 rpm   |
| Rated speed   | rpm            |                                     | 2,100  |
| UNDERCARRIAGE   |                |                                     |  |
| Axles, transmission   |                |                                     | ZF (Germany)   |
| Undercarriage type  |                |                                     | Outriggers+outriggers  |
| Ground clearance  | mm             |                                     | 350  |
| 1st speed   | km/h           |                                     | 5.5  |
| 2nd speed   | km/h           |                                     | 20   |
| Braking system  |                |                                     | Hydraulic oil-immersed multi-disc brakes   |
| Parking brake   |                |                                     | Wet transmission-integrated disc brake, spring-applied with hydraulic release  |
| Transmission  |                |                                     | Two-speed manual power shift gearbox   |
|   |                |                                     | Divided propeller shaft  |
| Basic configuration   |                |                                     | Protective casing of outrigger hydraulic cylinders<br>LH footrest-toolbox and an additional RH footstep on flexible suspension |
| TIRES   |                |                                     |  |
| Wheels (standard)   |                |                                     | Twin wheels of the front and rear axles, polyurethane-filled   |
| Wheels (optional)   |                |                                     | Solid twin wheels of the front and rear axles 10.00-20 (coupled)   |
| TURNTABLE   |                |                                     |  |
| Rotation speed  | rpm            |                                     | 5  |
| Swing radius  | mm             |                                     | 2,190  |
| Working cycle   | s              |                                     | 16   |
| Hydraulic system  |                |                                     | Bosch Rexroth  |
| Control hydraulic circuit   |                |                                     | LUDV circuit by Bosch Rexroth  |
| Overlapping operations per cycle  |                |                                     | All  |
| Max. pump unit displacement   | l/min          |                                     | 250+22+22  |
| Max. working pressure   | bar            |                                     | 320  |
| An option for mounting additional section of hydraulic distribution valve |                |                                     | available  |
| Max. consumption - implement circuit                                      | l/min          |                                     | 230  |
| SPECIFICATIONS  |                |                                     |  |
| Type of stick   |                | standard                            | optional   |
| Stick length  | m              | 3.7                                 | 4.7  |
| Max. depth  | m              | 5.35 *                              | 6.68 *   |
| Max. reach at ground level  | m              | 9.77 *                              | 10.55 *  |
| Max. dumping height   | m              | 8.04 *                              | 8.29 *   |
| Grab capacity   | m <sup>3</sup> | 0.6                                 | 0.4  |
| Cabin lift  | mm             |                                     | 2,000  |
| Cabin lift (above ground)   | mm             |                                     | 4,800  |
| DIMENSIONS  |                |                                     |  |
| Transit position with different sticks                                    | m              | 3.7                                 | 4.7  |
| - length  | mm             | 8,090                               | 7,920  |
| - width   | mm             | 2,520                               | 2,520  |
| - overall height to top of implement                                      | mm             | 2,485                               | 2,000  |
| (only 4.7 m stick is removed, attachment shall be removed as well)        |                | (pin of the stick cylinder removed) | (stick removed)  |
| - height to top of cab  | mm             | 3,080                               | 3,080  |

\* subject to grapple parameters



## EXCELLENT FIELD OF VIEW AND SAFETY

To ensure operator safety and avoid damage to the cabin due to impact or falling objects the cabin has guard grating. To prevent emergencies cabin lifting gear is equipped with hydraulic cylinders with brake valves having the following functions:

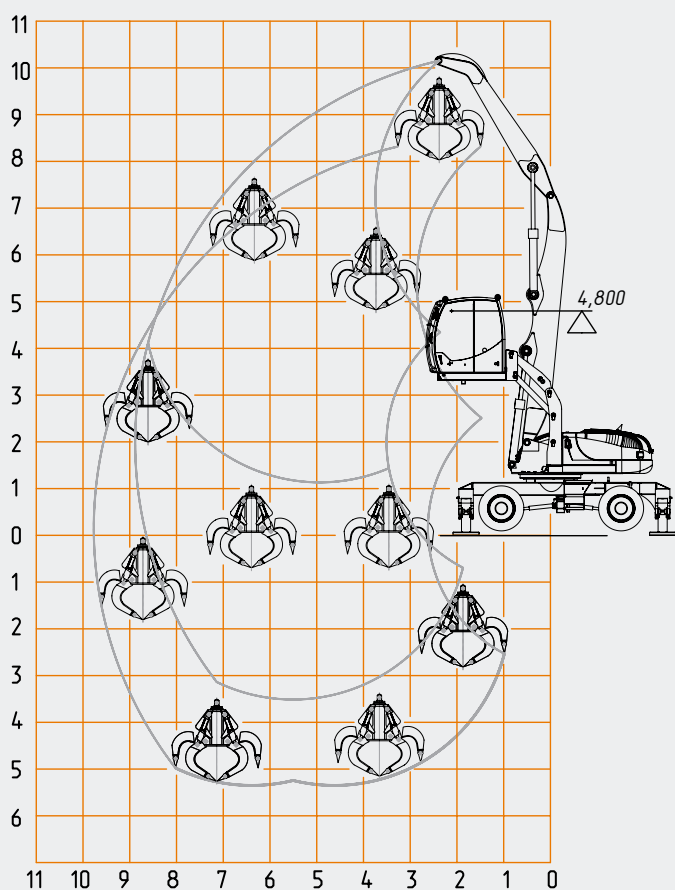
- Hydraulic lock that secures the hydraulic cylinder chamber, excludes cabin "sinking".
- Anti-shock valve ensures smooth lowering motion, makes impossible the acceleration under gravity and discontinuity of the hydraulic lines.
- Emergency valve secures against cabin lowering in case of HP-hose rupture.
- Valve restricting load capacity.

Swing support hydraulic cylinder guard available. Hydraulic cylinder leak-tightness depends on the shaft integrity. It has metal enclosure preventing damage resulting from possible falling metal fragments during scrap metal handling.

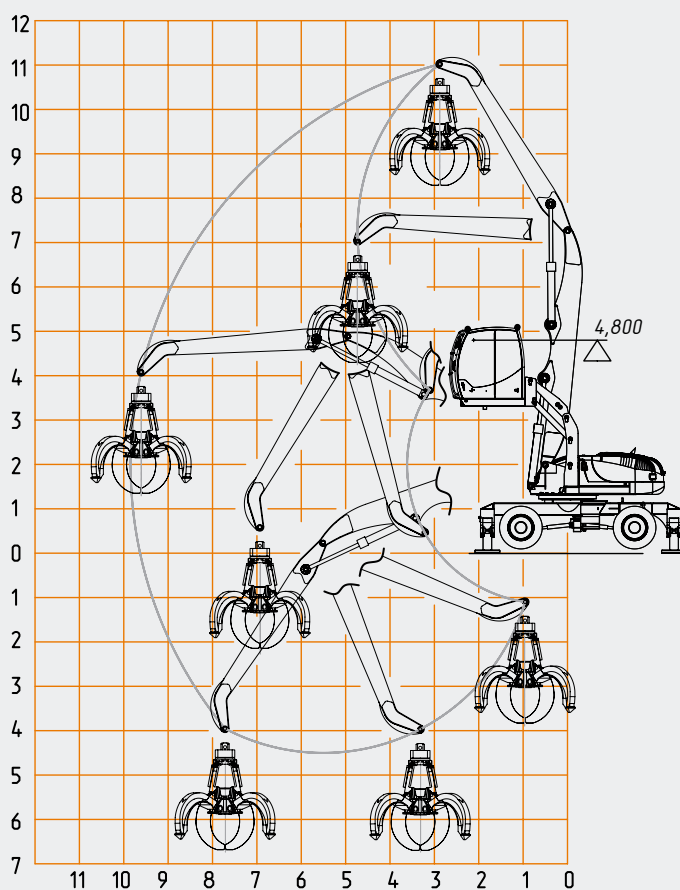
The mechanism used ensures operator safety at height of 5 m above ground at all times. When working, the operator not only has detailed control over the process, but also optimizes the working scenario.



Parametric diagram of E190WH with scrap equipment  
Basic stick 3,700 mm



Parametric diagram of E190WH with scrap equipment  
Basic stick 4,700 mm



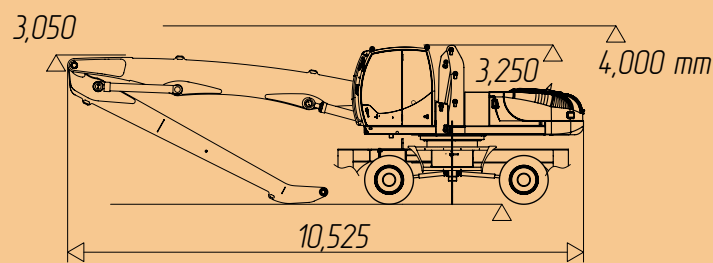
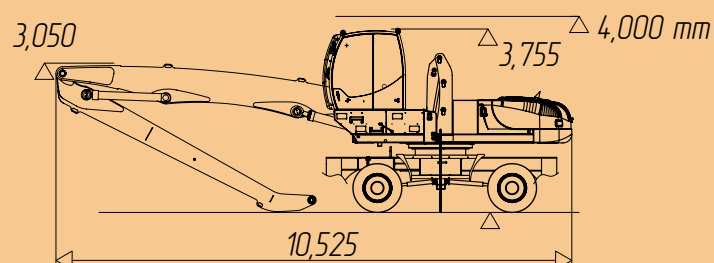
# WHEELED MATERIAL HANDLER E230WH

| Specifications: Winter Version   |                | Units    | E230WH  |
|--|----------------|----------|---|
| Operating weight (stick 4,700/5,700 mm)  |                | t        | 24.0/24.1   |
| ENGINE   |                |          |   |
| Model  |                |          | Deutz BF 6M 2012 C EMR2 **  |
| Power  |                | kW (HP)  | 131 (176) @ 2,100 rpm   |
| Rated speed  |                | rpm      | 2,100   |
| UNDERCARRIAGE  |                |          |   |
| Axles, transmission  |                |          | ZF (Germany)  |
| Transmission   |                |          | Two-speed manual power shift gearbox. Double-shaft driveline  |
| Undercarriage type   |                |          | Outriggers+outriggers   |
| Ground clearance   |                | mm       | 340   |
| 1st speed  |                | km/h     | 4.3   |
| 2nd speed  |                | km/h     | 18  |
| Braking system   |                |          | Hydraulic oil-immersed multi-disc brakes  |
| Parking brake  |                |          | Wet transmission-integrated disc brake, spring-applied with hydraulic release   |
| Wheels   |                |          | Solid twin wheels of the front and rear axles   |
| Basic configuration  |                |          | Protective casing of outrigger hydraulic cylinders<br>LH footrest-toolbox and an additional RH footstep on flexible suspension  |
| TIRES  |                |          |   |
| Wheels (standard)  |                |          | Set:<br>- twin wheels & resilient tire assembly 10.00-20/7.0 or 10.00-20/7.5<br>- wheel spacer  |
| Wheels (optional)  |                |          | - Resilient tire 10.00-20/7.5 or resilient tire 10.00-20/7.5 with no wheel spacers<br>- Resilient tire 10.00-20/7.5 or resilient tire 10.00-20/7.5 with wheel spacers |
| TURNTABLE  |                |          |   |
| Rotation speed   |                | rpm      | 6   |
| Swing radius   |                | mm       | 2,680   |
| Working cycle  |                | s        | 18  |
| Hydraulic system   |                |          | Bosch Rexroth   |
| Control hydraulic circuit  |                |          | LUDV circuit by Bosch Rexroth   |
| Overlapping operations per cycle   |                |          | All   |
| Max. pump unit displacement  |                | l/min    | 300+22+22   |
| Max. working pressure  |                | bar      | 320   |
| An option for mounting additional section of hydraulic distribution valve                |                |          | available   |
| Max. consumption - implement circuit   |                | l/min    | 250   |
| SPECIFICATIONS   |                |          |   |
| Type of stick  |                | standard | optional  |
| Stick length   | m              | 4.7      | 5.7   |
| Max. digging depth   | m              | 5.660 *  | 6.985 *   |
| Max. reach at ground level   | m              | 12.80 *  | 13.735 *  |
| Max. dumping height  | m              | 9.8 *    | 10.48 *   |
| Grab capacity  | m <sup>3</sup> | 0.6      | 0.4...0.6   |
| Cabin lift   | mm             |          | 2,000   |
| Cabin lift (above ground)  | mm             | 4,985    | 5,490   |
| DIMENSIONS   |                |          |   |
| Transit position with different sticks   | m              | 4.7      | 5.7   |
| - length   | mm             |          | 10,525  |
| - width  | mm             |          | 2,520   |
| - overall height to top of implement (stick not removed, only the attachment is removed) | mm             |          | 3,050   |
| - height to top of cab   | mm             |          | 3,250   |

\* subject to grapple parameters

\*\* model with EMR 2 engine ensures 300 kg higher load carrying capacity at maximum outreach

## Transit position





## ERGONOMICS

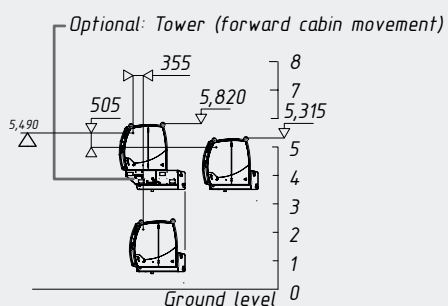
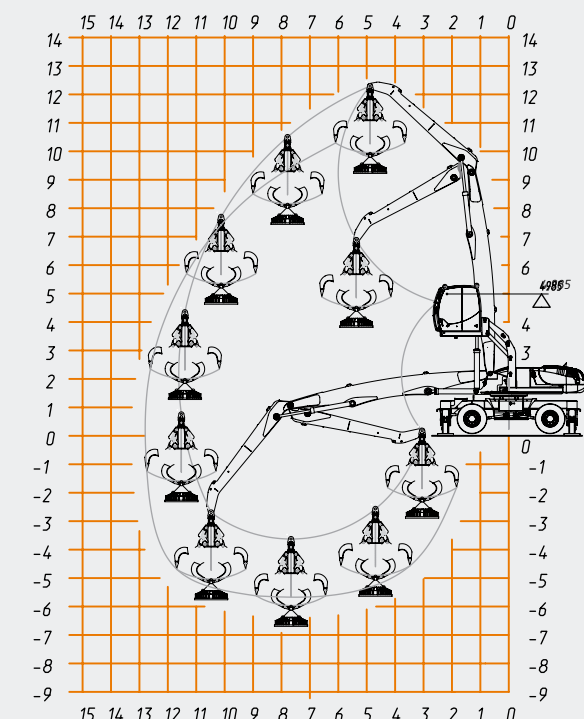
Cabin features new design with up-to-date interior, compact and ergonomic console, wide door with an integrated slide window, large glazed area providing full observability of the operation area, improved defroster duct system and cabin heating and air conditioning system. The basic configuration comprises climate control unit (heater-air conditioner), audio cables, ergonomic operator's seat with a safety belt.

There are comfortable additional compartments to store necessary tools or small-size equipment.

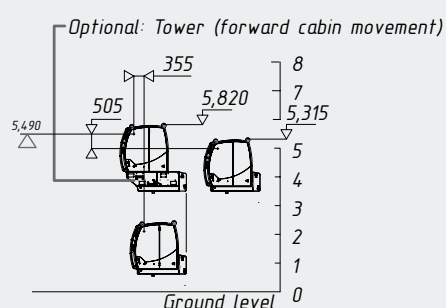
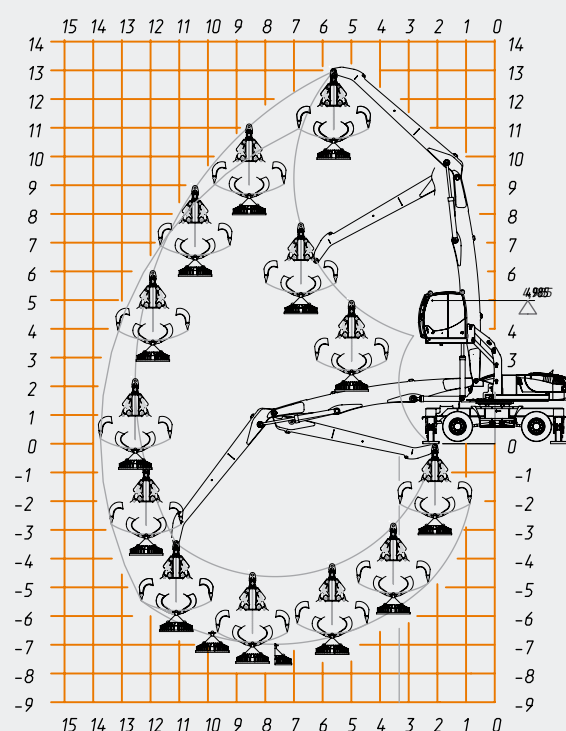
Color anti-glare LCD-screen with graphical user interface in Russian and English shows all necessary data on the key operation parameters of the vehicle. Fault and emergency indicator module ensures monitoring of the vehicle operation throughout a shift, and helps to select a secure and safe handling mode.



Parametric diagram of E230WH  
Boom 7,100 mm  
Main stick 4,700 mm



Parametric diagram of E230WH  
Boom 7,100 mm  
Main stick 5,700 mm



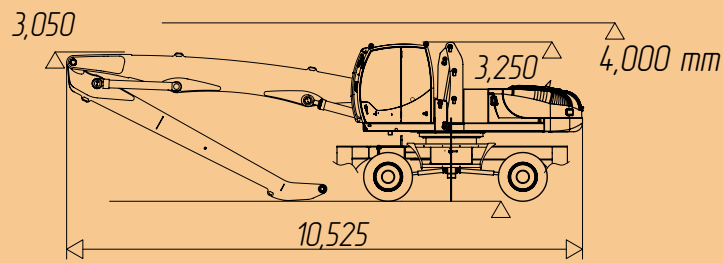
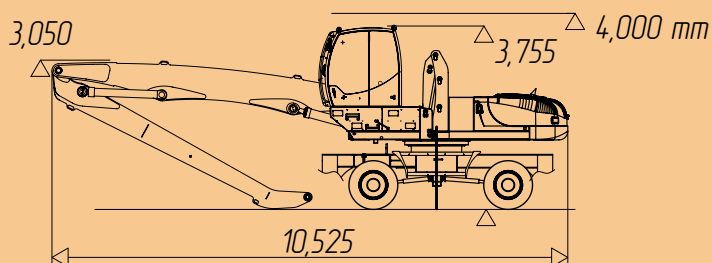
# WHEELED MATERIAL HANDLER E230WHE

WITH INCREASED OUTRIGGER FOOTPRINT

| Specifications: Winter Version   |  | Units   | E230WHE   |           |
|--|--|---------|---|-----------|
| Operating weight (stick 4,700/5,700 mm)  |  | t       | 24.5 / 24.6   |           |
| ENGINE   |  |         |   |           |
| Model  |  |         | Deutz BF 6M 2012 C EMR2   |           |
| Power  |  | kW (HP) | 131 (176) @ 2,100 rpm   |           |
| Rated speed  |  | rpm     | 2,100   |           |
| UNDERCARRIAGE  |  |         |   |           |
| Axles, transmission  |  |         | ZF (Germany)  |           |
| Transmission   |  |         | Two-speed manual power shift gearbox. Double-shaft driveline  |           |
| Undercarriage type   |  |         | Outriggers+outriggers   |           |
| Ground clearance   |  | mm      | 340   |           |
| 1st speed  |  | km/h    | 4.3   |           |
| 2nd speed  |  | km/h    | 18  |           |
| Braking system   |  |         | Hydraulic oil-immersed multi-disc brakes  |           |
| Parking brake  |  |         | Wet transmission-integrated disc brake, spring-applied with hydraulic release   |           |
| Wheels   |  |         | Solid twin wheels of the front and rear axles   |           |
| Basic configuration  |  |         | Protective casing of outrigger hydraulic cylinders<br>LH footrest-toolbox and an additional RH footstep on flexible suspension  |           |
| TIRES  |  |         |   |           |
| Wheels (standard)  |  |         | Set:<br>- twin wheels & resilient tire assembly 10.00-20/7.0 or 10.00-20/7.5<br>- wheel spacer  |           |
| Wheels (optional)  |  |         | - Resilient tire 10.00-20/7.5 or resilient tire 10.00-20/7.5 with no wheel spacers<br>- Resilient tire 10.00-20/7.5 or resilient tire 10.00-20/7.5 with wheel spacers |           |
| TURNTABLE  |  |         |   |           |
| Rotation speed   |  | rpm     | 6   |           |
| Swing radius   |  | mm      | 2,680   |           |
| Working cycle  |  | s       | 18  |           |
| Hydraulic system   |  |         | Bosch Rexroth   |           |
| Control hydraulic circuit  |  |         | LUDV circuit by Bosch Rexroth   |           |
| Overlapping operations per cycle   |  |         | All   |           |
| Max. pump unit displacement  |  | l/min   | 300+22+22   |           |
| Max. working pressure  |  | bar     | 320   |           |
| An option for mounting additional section of hydraulic distribution valve                |  |         | available   |           |
| Max. consumption – implement circuit   |  | l/min   | 250   |           |
| SPECIFICATIONS   |  |         |   |           |
| Type of stick  |  |         | standard  | optional  |
| Stick length   |  | m       | 4.7   | 5.7       |
| Max. digging depth   |  | m       | 5.660 *   | 6.985 *   |
| Max. reach at ground level   |  | m       | 12.80 *   | 13.735 *  |
| Max. dumping height  |  | m       | 9.8 *   | 10.48 *   |
| Grab capacity  |  | m³      | 0.6   | 0.4...0.6 |
| Cabin lift   |  | mm      | 2,000   |           |
| Cabin lift (above ground)  |  | mm      | 4,985   | 5,490     |
| DIMENSIONS   |  |         |   |           |
| Transit position with different sticks   |  | m       | 4.7   | 5.7       |
| - length   |  | mm      | 10,525  |           |
| - width  |  | mm      | 2,750   |           |
| - overall height to top of implement (stick not removed, only the attachment is removed) |  | mm      | 3,050   |           |
| - height to top of cab   |  | mm      | 3,250   |           |

\* subject to grapple parameters

Transit position





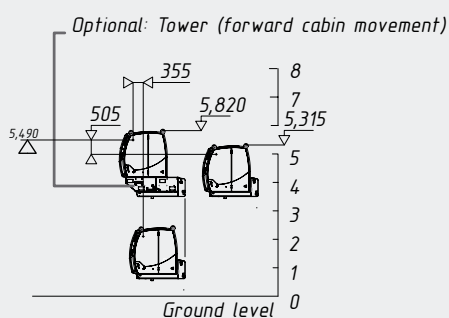
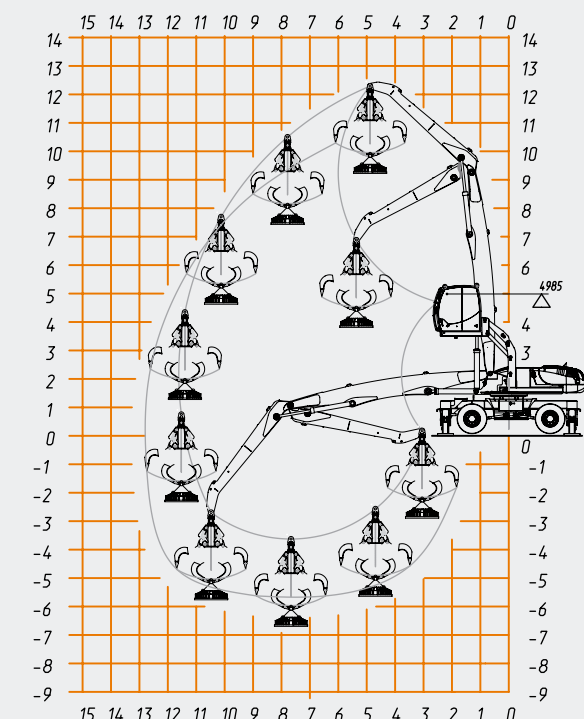
## ELECTRONIC DASHBOARD FOR MODELS E19OWH, E23OWH, E20OCH

Monitored parameters:

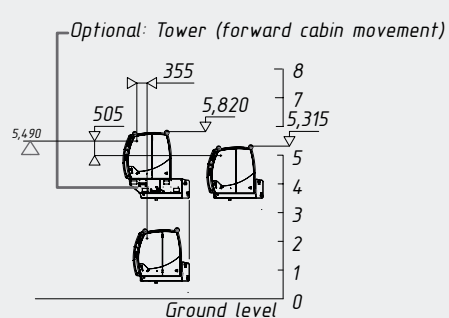
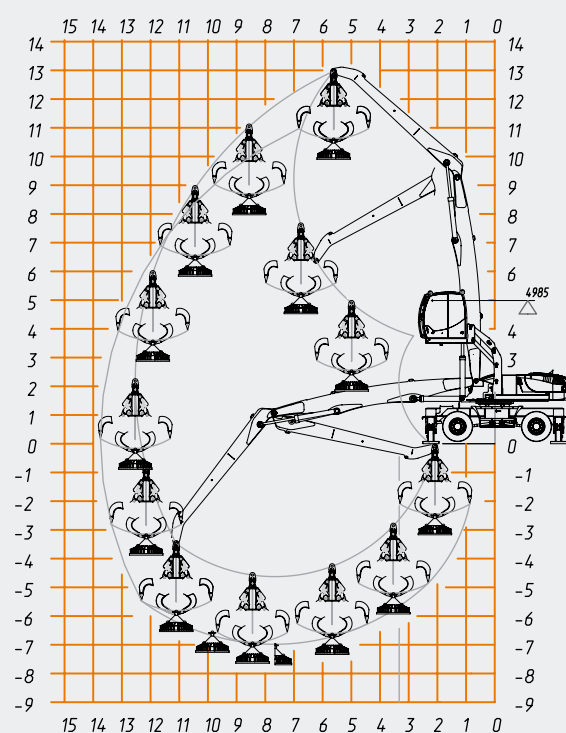
- Coolant temperature.
- Engine oil pressure.
- Vehicle system voltage.
- Hydraulic oil temperature.
- Running hours indicator.
- Load limitation warning.
- Coolant temperature warning.
- Hydraulic system locking warning.
- Engine oil pressure warning.
- "Parking brake" signal.
- Engine revolution number.
- Fuel level.
- Turn signal.
- Glow-plug indicator.



Parametric diagram of E23OWHE  
Boom 7,100 mm  
Main stick 4,700 mm



Parametric diagram of E23OWHE  
Boom 7,100 mm  
Main stick 5,700 mm



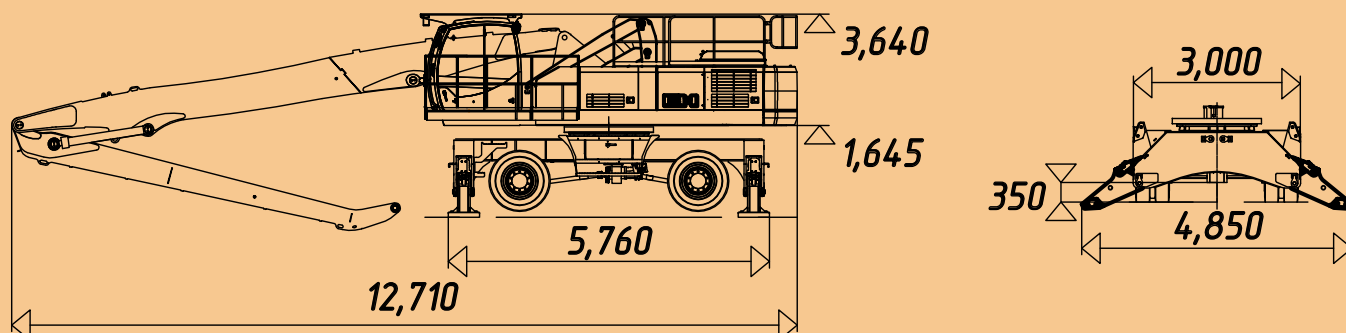
# WHEELED MATERIAL HANDLER E280WH

| Specifications: Winter Version   |  | Units          | E280WH   |
|--|--|----------------|--|
| Operation weight   |  | t              | 27.0 ** / 27.5   |
| ENGINE   |  |                |  |
| Model  |  |                | Deutz BF 6M 1013 FC  |
| Power  |  | kW (HP)        | 183 (245)  |
| Rated speed  |  | rpm            | 2,000  |
| UNDERCARRIAGE  |  |                |  |
| Axles, transmission  |  |                | ZF (Germany)   |
| Transmission   |  |                | Two-speed manual power shift gearbox. Double-shaft driveline   |
| Undercarriage type   |  |                | Outriggers+outriggers  |
| Ground clearance   |  | mm             | 340  |
| 1st speed  |  | km/h           | 4.3  |
| 2nd speed  |  | km/h           | 18   |
| Braking system   |  |                | Hydraulic oil-immersed multi-disc brakes   |
| Parking brake  |  |                | Wet transmission-integrated disc brake, spring-applied with hydraulic release  |
| Wheels   |  |                | Solid twin wheels of the front and rear axles  |
| Basic configuration  |  |                | Protective casing of outrigger hydraulic cylinders<br>LH footrest-toolbox and an additional RH footstep on flexible suspension |
| TIRES  |  |                |  |
| Basic configuration  |  |                | Resilient tire 12.00-20 with wheel spacer (twin type)  |
| TURNTABLE  |  |                |  |
| Rotation speed   |  | rpm            | 7  |
| Swing radius   |  | mm             | 3,350  |
| Working cycle  |  | s              | 18   |
| Hydraulic system   |  |                | Bosch Rexroth  |
| Control hydraulic circuit  |  |                | LUDV circuit by Bosch Rexroth  |
| Overlapping operations per cycle   |  |                | All  |
| Max. pump unit displacement  |  | l/min          | 380+20+20  |
| Max. working pressure  |  | bar            | 350  |
| An option for mounting additional section of hydraulic distribution valve                |  |                | available  |
| Max. consumption - implement circuit   |  | l/min          | 380  |
| SPECIFICATIONS   |  |                |  |
| Type of stick  |  |                | standard   |
| Stick length   |  | m              | 6.0  |
| Boom   |  | m              | 8.4  |
| Max. digging depth   |  | m              | 7.78 * until YOM2019, 6.6 / 6.45 * from YOM2019  |
| Max. reach at ground level   |  | m              | 15.65 * until YOM2019, 15.3 / 15.35 * from YOM2019   |
| Max. dumping height  |  | m              | 11.88 * until YOM2019, 12.48 / 13.05 * from YOM2019  |
| Grab capacity  |  | m <sup>3</sup> | 0.8 for scrap / 2.0 ***  |
| Cabin lift   |  | mm             | 2,685  |
| Cabin lift (above ground)  |  | mm             | 5,800 / 5,905 * from YOM2019   |
| DIMENSIONS   |  |                |  |
| Transit position with different sticks (implements at the ground level)                  |  | m              | 6.0  |
| - length   |  | mm             | 12,710   |
| - width  |  | mm             | 5,760  |
| - height to top of cab   |  | mm             | 3,640  |
| - overall height to top of implement (stick not removed, only the attachment is removed) |  | mm             | 1,645  |

\* subject to grapple parameters

\*\* magnetic generator installation not included

\*\*\* for materials with density 900 kg/m<sup>3</sup>



Climate control system which is installed in all UMG handlers is equipped with an air conditioner and a heater. Cabin filter provides clean air to the cabin. Duct system, cabin window defroster system, air flow distribution, and a wide adjustment range of the ventilation and heating system allow to create comfortable conditions for a handler operator, which is a key to efficient work. Due to the duct system, the heated (cooled) air goes to both the windows and the cabin floor. Ambient temperature range is from  $-40$  to  $+40$  °C.

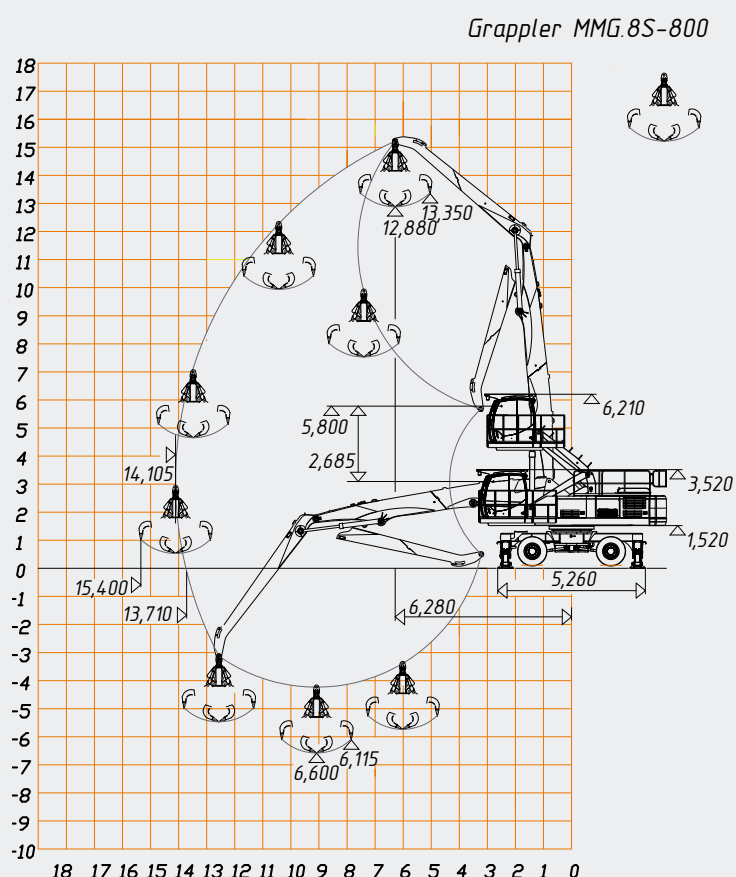
The hood design of the material handlers is unique and has no equivalents in Russia. It is patented under No. 73360 for the whole product range with weight of 14 to 29 t. The hood design allows full access to all units and components, which ensures convenient and quick maintenance. The hood design of models E28OWH and E35OWH is equipped with guards along their perimeter to ensure maximum safety during maintenance.

### PERFORMANCE

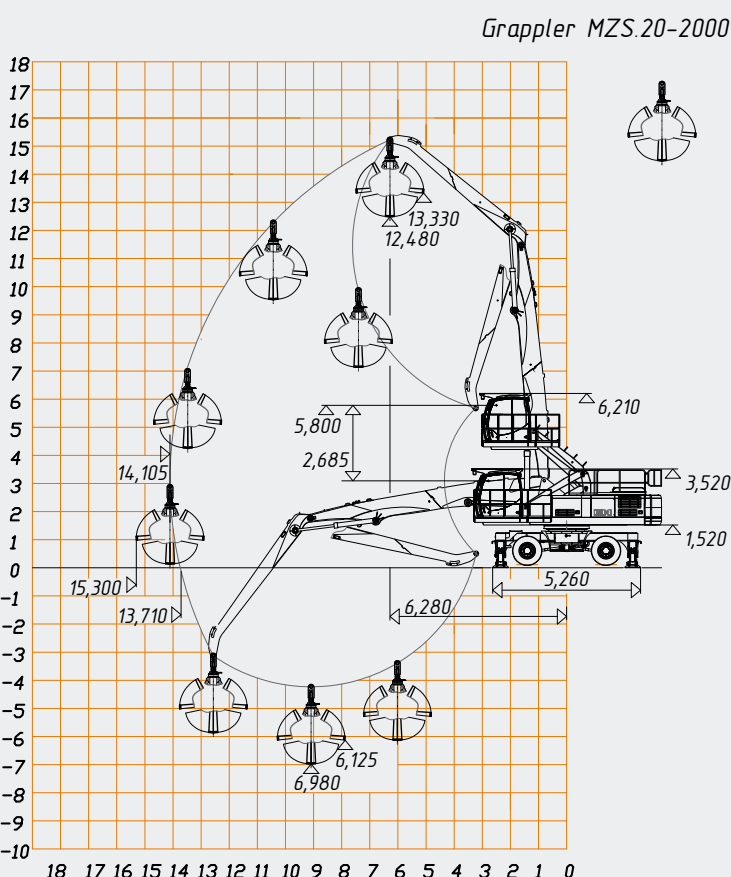
Due to optimized parametric diagram and distinctive, not applied earlier layout of the implements, we have obtained improved parameters of digging depth and ease of maintenance. By their technological functions, parametric and hydraulic diagrams, the handlers comply with the level of well-known manufacturers. All the vehicles are equipped with cost-efficient engines Deutz which meet the international emission standards.



Parametric diagram of E28OWH  
Boom 8,400 mm  
Main stick 6,000 mm



Parametric diagram of E28OWH  
Boom 8,400 mm  
Main stick 6,000 mm



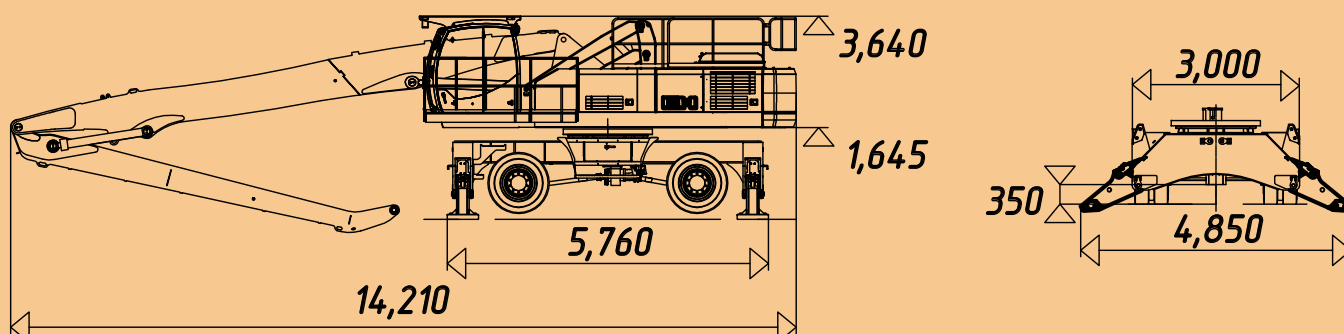
# WHEELED MATERIAL HANDLER E350WH

| Specifications: Winter Version  |  | Units   | E350WH   |                         |
|---|--|---------|--|-------------------------|
| Operation weight  |  | t       | 35.0 ** / 35.5   |                         |
| ENGINE  |  |         |  |                         |
| Model   |  |         | Deutz BF 6M 1013 FC  |                         |
| Power   |  | kW (HP) | 183 (245)  |                         |
| Rated speed   |  | rpm     | 2,000  |                         |
| UNDERCARRIAGE   |  |         |  |                         |
| Axles, transmission   |  |         | NAF (Germany)  |                         |
| Transmission  |  |         | Two-speed manual power shift gearbox. Double-shaft driveline   |                         |
| Undercarriage type  |  |         | Outriggers+outriggers  |                         |
| Ground clearance  |  | mm      | 350  |                         |
| 1st speed   |  | km/h    | 4.2  |                         |
| 2nd speed   |  | km/h    | 15   |                         |
| Braking system  |  |         | Hydraulic oil-immersed multi-disc brakes   |                         |
| Parking brake   |  |         | Wet transmission-integrated disc brake, spring-applied with hydraulic release  |                         |
| Wheels  |  |         | Solid twin wheels of the front and rear axles  |                         |
| Basic configuration   |  |         | Protective casing of outrigger hydraulic cylinders<br>LH footrest-toolbox and an additional RH footstep on flexible suspension |                         |
| TIRES   |  |         |  |                         |
| Basic configuration   |  |         | Resilient tire 12.00-20 with wheel spacer (twin type)  |                         |
| TURNTABLE   |  |         |  |                         |
| Rotation speed  |  | rpm     | 7  |                         |
| Swing radius  |  | mm      | 3,350  |                         |
| Working cycle   |  | s       | 18   |                         |
| Hydraulic system  |  |         | Bosch Rexroth  |                         |
| Control hydraulic circuit   |  |         | LUDV circuit by Bosch Rexroth  |                         |
| Overlapping operations per cycle  |  |         | All  |                         |
| Max. pump unit displacement   |  | l/min   | 380+20+20  |                         |
| Max. working pressure   |  | bar     | 350  |                         |
| An option for mounting additional section of hydraulic distribution valve     |  |         | available  |                         |
| Max. consumption - implement circuit  |  | l/min   | 380  |                         |
| SPECIFICATIONS  |  |         |  |                         |
| Type of stick   |  |         | standard   | optional                |
| Stick length  |  | m       | 6.9  | 6                       |
| Boom  |  | m       | 9.9  | 8.4                     |
| Max. digging depth  |  | m       | 7.59 / 7.71 *  | 6.58 / 6.45 / 6.85 *    |
| Max. reach at ground level  |  | m       | 17.59 / 17.42 *  | 15.18 / 15.35 / 15.31 * |
| Max. dumping height   |  | m       | 15.09 / 14.97 *  | 12.89 / 13.01 / 12.61 * |
| Grab capacity   |  | m³      | 0.8 for scrap / 1.5 ***  | 1.0 for scrap / 2.0 *** |
| Cabin lift  |  | mm      | 2,685  | 2,685                   |
| Cabin lift (above ground)   |  | mm      | 5,905  | 5,905                   |
| DIMENSIONS  |  |         |  |                         |
| Transit position with different sticks (implements at the ground level)       |  | m       | 6.9  | 6                       |
| - length  |  | mm      | 14,210   | 12,710                  |
| - width   |  | mm      | 3,000  | 3,000                   |
| - height to top of cab  |  | mm      | 3,575  | 3,575                   |
| - overall height to top of implement (stick not removed, only the attachment) |  | mm      | 3,420  | 3,420                   |

\* subject to grapple parameters

\*\* magnetic generator installation not included

\*\*\* for materials with density 900 kg/m³





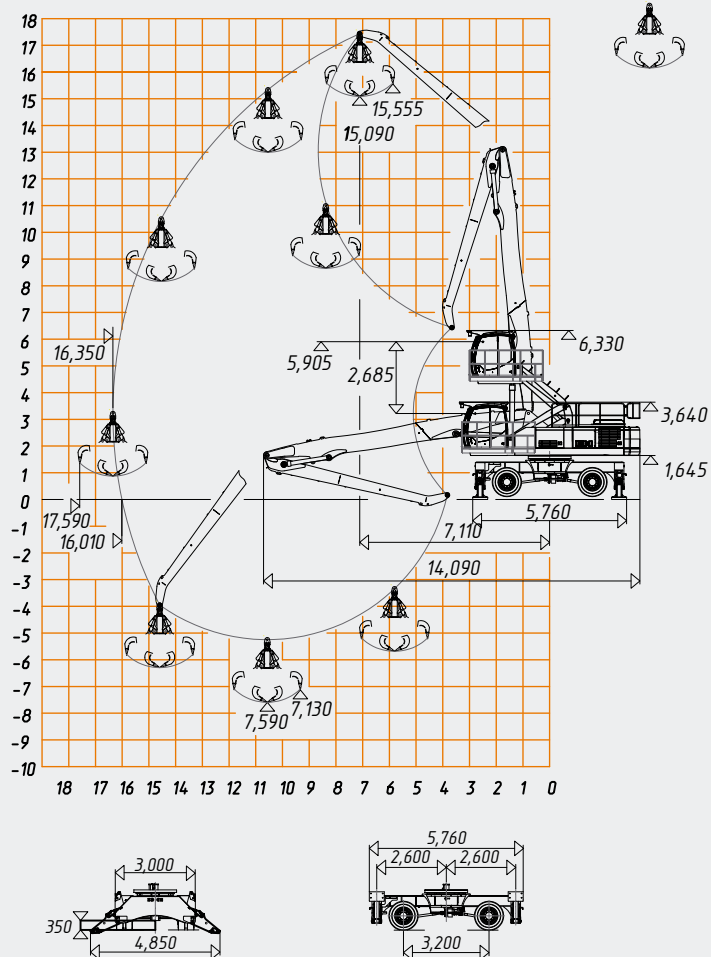
The LUDV hydraulic circuit used is implemented in main units of the hydraulic system made by Bosch-Rexroth. During operation, it demonstrates indisputable advantages as compared to throttle scheme due to unlimited number of overlapping operations per cycle, highly accurate operation, minimal loss of power and low fuel consumption.

Automated central lubrication system (ACLS) is used to lubricate equipment joints under a set algorithm. Because of complicated access to the joints, this function is essential for equipment performance and increasing service life of the entire mechanism. Lubrication is supplied in doses, which allows to economize the lubricant and extend service life of the units. Additionally, the time on daily routine maintenance is reduced.



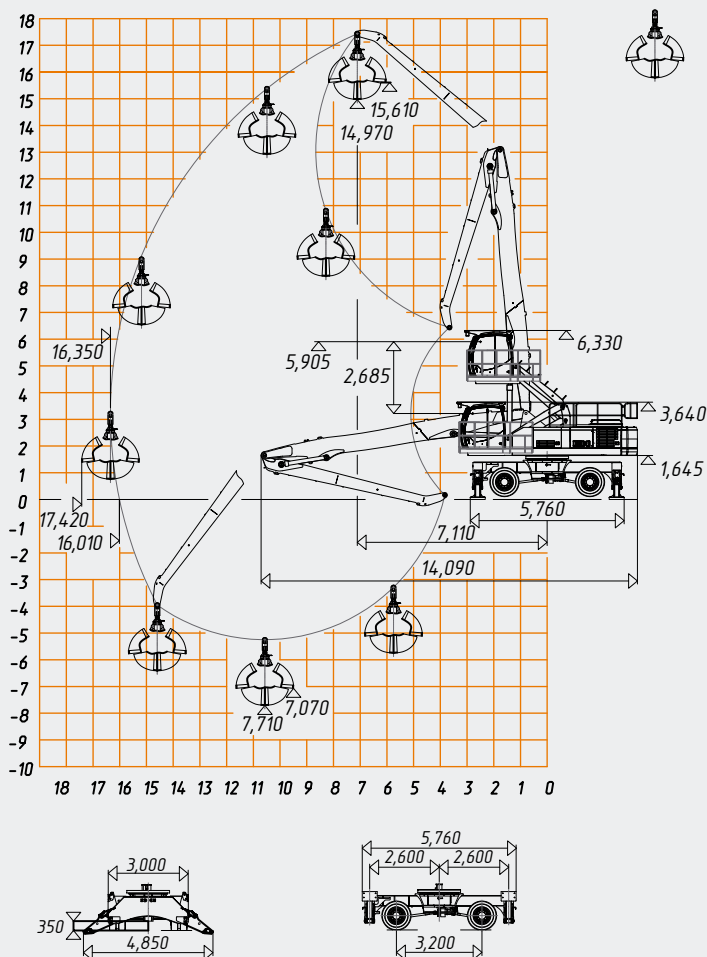
Parametric diagram of E350WH  
Boom 9,900 mm  
Main stick 6,900 mm

*Grappler MMG.8S-800*



Parametric diagram of E350WH  
Boom 9,900 mm  
Main stick 6,900 mm

*Grappler MZS.02-1500*





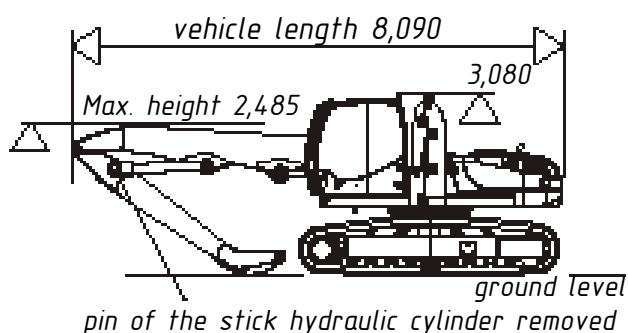
# CRAWLER MATERIAL HANDLER E200CH

| Specifications: Winter Version  |  | Units   | E200CH                                |                       |              |            |
|---|--|---------|---------------------------------------|-----------------------|--------------|------------|
| Operation weight  |  | t       | 20.7/20.8                             | 20.4/20.5 **          | 20.7/20.8 ** | 20.9/21 ** |
| ENGINE  |  |         |                                       |                       |              |            |
| Model   |  |         | Deutz BF 4M 2012 C                    |                       |              |            |
| Power   |  | kW (HP) | 87 (117) @ 2,100 rpm                  |                       |              |            |
| Rated speed   |  | rpm     | 90 (122) @ 2,200 rpm                  |                       |              |            |
|   |  |         | 2,100                                 |                       |              |            |
| UNDERCARRIAGE   |  |         |                                       |                       |              |            |
| Ground clearance  |  | mm      | 446                                   |                       |              |            |
| 1st speed   |  | km/h    | 1.7                                   |                       |              |            |
| 2nd speed   |  | km/h    | 3.4                                   |                       |              |            |
| An option for mounting a bottom guard   |  |         | available                             |                       |              |            |
| Track drive system  |  |         | Bosch Rexroth                         |                       |              |            |
| Sprocket, track adjuster, upper & lower rollers   |  |         | ITR, ITM (Italy)                      |                       |              |            |
| Track shoe width  |  | mm      | 1,000 (basic configuration)           | 800                   | 900          | 1,000      |
| Specific ground pressure  |  | kg/cm²  | 0.29                                  | 0.36                  | 0.32         | 0.29       |
| Basic configuration   |  |         | Track guards<br>Additional steps      |                       |              |            |
| TURNTABLE   |  |         |                                       |                       |              |            |
| Rotation speed  |  | rpm     | 5                                     |                       |              |            |
| Swing radius  |  | mm      | 2,190                                 |                       |              |            |
| Working cycle   |  | s       | 16                                    |                       |              |            |
| Hydraulic system  |  |         | Bosch Rexroth                         |                       |              |            |
| Control hydraulic circuit   |  |         | LUDV circuit by Bosch Rexroth         |                       |              |            |
| Overlapping operations per cycle  |  |         | All                                   |                       |              |            |
| Max. pump unit displacement   |  | l/min   | 250+22+22                             |                       |              |            |
| Max. working pressure   |  | bar     | 320                                   |                       |              |            |
| An option for mounting additional section of hydraulic distribution valve                             |  |         | available                             |                       |              |            |
| Max. consumption – implement circuit  |  | l/min   | 230                                   |                       |              |            |
| SPECIFICATIONS  |  |         |                                       |                       |              |            |
| Type of stick   |  |         | standard                              | optional              |              |            |
| Stick length  |  | m       | 3.7                                   | 4.7                   |              |            |
| Max. digging depth  |  | m       | 5.59 *                                | 6.92 *                |              |            |
| Max. reach at ground level  |  | m       | 9.77 *                                | 10.715 *              |              |            |
| Max. dumping height   |  | m       | 7.8 *                                 | 8.06 *                |              |            |
| Grab capacity   |  | m³      | 0.6                                   | 0.4                   |              |            |
| Cabin lift  |  | mm      | 2,000                                 |                       |              |            |
| Cabin lift (above ground)   |  | mm      | 4,570                                 |                       |              |            |
| DIMENSIONS  |  |         |                                       |                       |              |            |
| Transit position with different sticks (implements at the ground level)                               |  | m       | 3.7                                   | 4.7                   |              |            |
| - length  |  | mm      | 8,090                                 | 7,840                 |              |            |
| - track shoe width  |  | mm      | 1,000                                 | 800                   | 900          | 1,000      |
| - width   |  | mm      | 3,200                                 | 3,200 **              | 3,300 **     | 3,400 **   |
| - height to top of cab  |  | mm      | 3,080                                 |                       |              |            |
| - overall height to top of implement (only 4.7m stick is removed, attachment is removed in all cases) |  | mm      | 2,485 (pin of stick cylinder removed) | 2,000 (stick removed) |              |            |

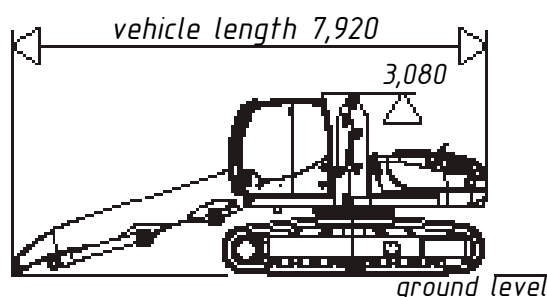
\* subject to grapple parameters

\*\* for undercarriage with larger contact surface

Transit position (3,700 mm long stick not removed)



Transit position (4,700 mm long stick removed)



## Fuel efficiency

Efficient diesel engine, advanced hydraulic system and perfectly compatible components reduce the fuel consumption by 8-12%, which means you can carry more material with one liter of fuel at lower operation cost.

## OPERATIONAL VERSATILITY

### Wheel drive

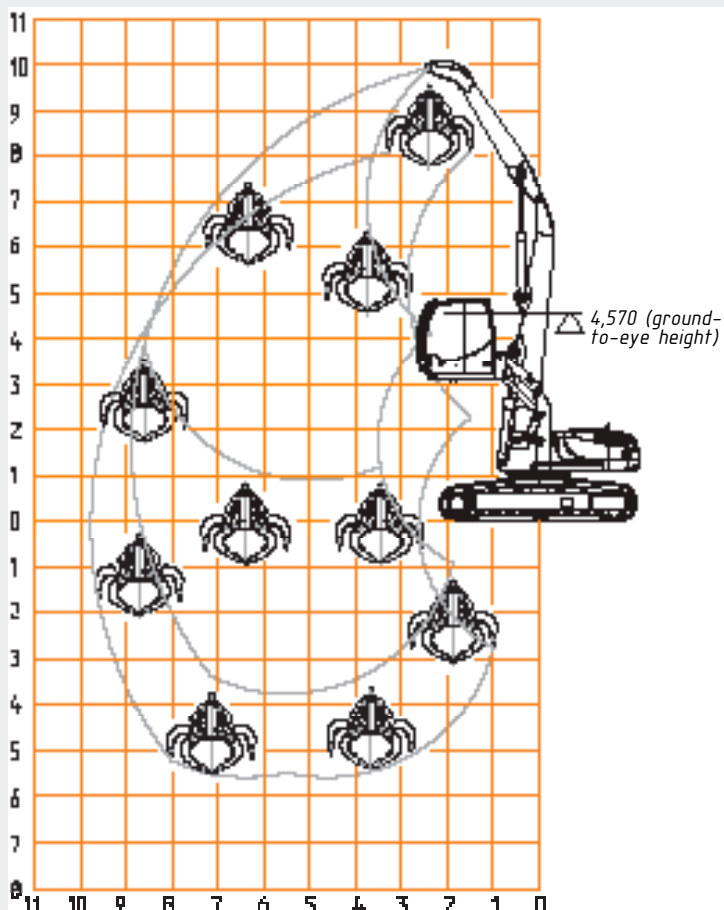
All wheel handlers has high-tech extra rigid frames with outriggers that ensure larger contact surface. All-wheel drive transmission with front steerable rocking axle and rigidly-mounted rear axle is reliable and time proved. The axles are equipped with effective brakes. Resilient tires meet the most severe operation requirements. Wheel spacer allows to avoid sticking of soil and rock during travel along unpaved and backfilled sites.

### Crawler track

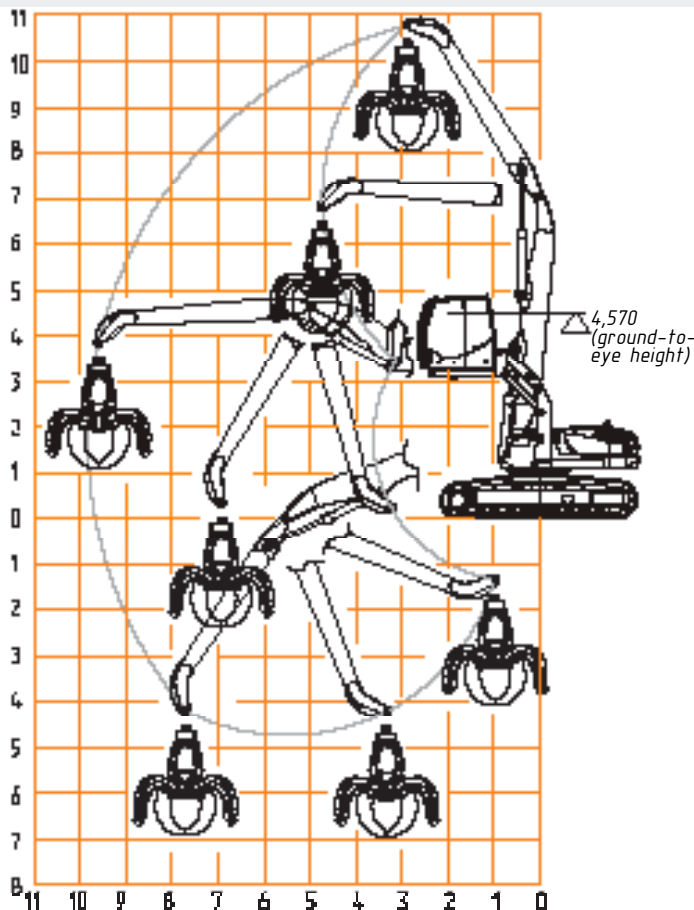
Crawler material handlers based on X-shape wheel frame with larger contact surface (track shoe width is 1,000 mm) feature excellent stability. The frame design featuring high stiffness and strength ensures good performance and safety of handling on unpaved and backfilled sites.



Parametric diagram of E200CH-01  
Stick 3,700 mm, track shoe 1,000 mm  
with scrap attachments



Parametric diagram of E200CH-02  
Stick 4,700 mm, track shoe 1,000 mm with  
scrap attachments of bigger radius



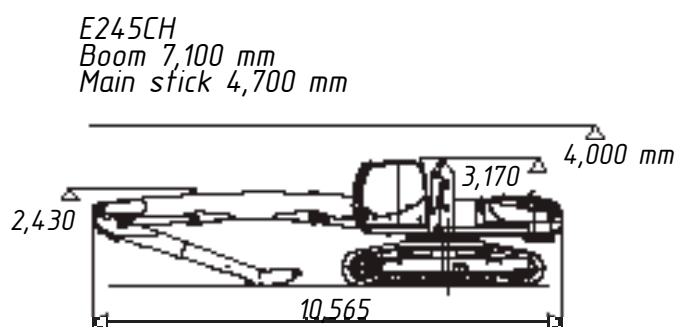
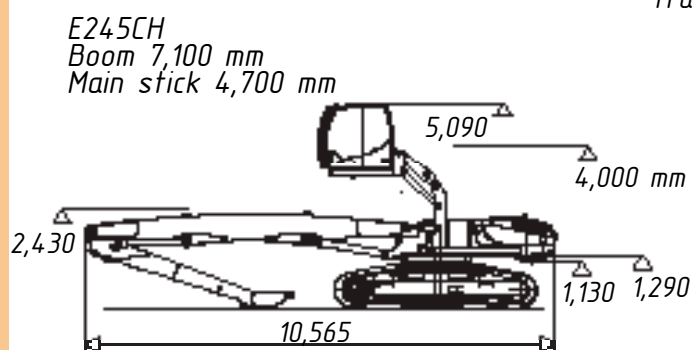
# CRAWLER MATERIAL HANDLER E245CH

| Specifications: Winter Version  |                    | Units | E245CH                           |
|---|--------------------|-------|----------------------------------|
| Operation weight  |                    | t     | 26.2                             |
| ENGINE  |                    |       |                                  |
| Model   |                    |       | Deutz BF 6M 2012 C               |
| Power   | kW (HP)            |       | 131 (176) @ 2,100 rpm            |
| Rated speed   | rpm                |       | 2,100                            |
| UNDERCARRIAGE   |                    |       |                                  |
| Ground clearance  | mm                 |       | 520                              |
| 1st speed   | km/h               |       | 1.9                              |
| 2nd speed   | km/h               |       | 3.8                              |
| An option for mounting a bottom guard                                     |                    |       | available                        |
| Track drive system  |                    |       | Bosch Rexroth                    |
| Sprocket, track adjuster, upper & lower rollers                           |                    |       | ITR, ITM (Italy)                 |
| Track shoe width  | mm                 |       | 1,000 **                         |
| Specific ground pressure  | kg/cm <sup>2</sup> |       | 0.37                             |
| Basic configuration   |                    |       | Track guards<br>Additional steps |
| TURNTABLE   |                    |       |                                  |
| Rotation speed  | rpm                |       | 5                                |
| Swing radius  | mm                 |       | 2,680                            |
| Working cycle   | s                  |       | 18                               |
| Hydraulic system  |                    |       | Bosch Rexroth                    |
| Control hydraulic circuit   |                    |       | LUDV circuit by Bosch Rexroth    |
| Overlapping operations per cycle  |                    |       | All                              |
| Max. pump unit displacement   | l/min              |       | 300+22+22                        |
| Max. working pressure   | bar                |       | 320                              |
| An option for mounting additional section of hydraulic distribution valve |                    |       | available                        |
| Max. consumption – implement circuit                                      | l/min              |       | 230                              |
| SPECIFICATIONS  |                    |       |                                  |
| Type of stick   |                    |       | standard                         |
| Stick length  | m                  |       | 4.7                              |
| Max. digging depth  | m                  |       | 6.36 *                           |
| Max. reach at ground level  | m                  |       | 12.79 *                          |
| Max. dumping height   | m                  |       | 9.56 *                           |
| Grab capacity   | m <sup>3</sup>     |       | 0.4...0.6                        |
| Cabin lift  | mm                 |       | 2,000                            |
| Cabin lift (above ground)   | mm                 |       | 4,800                            |
| DIMENSIONS  |                    |       |                                  |
| Transit position with different sticks (implements at the ground level)   |                    | m     | 4.7                              |
| - length  | mm                 |       | 10,565                           |
| - width (undercarriage with tracks / undercarriage w/o tracks)            | mm                 |       | 3,600/3,200                      |
| - height to top of cab  | mm                 |       | 3,170                            |

\* subject to grapple parameters

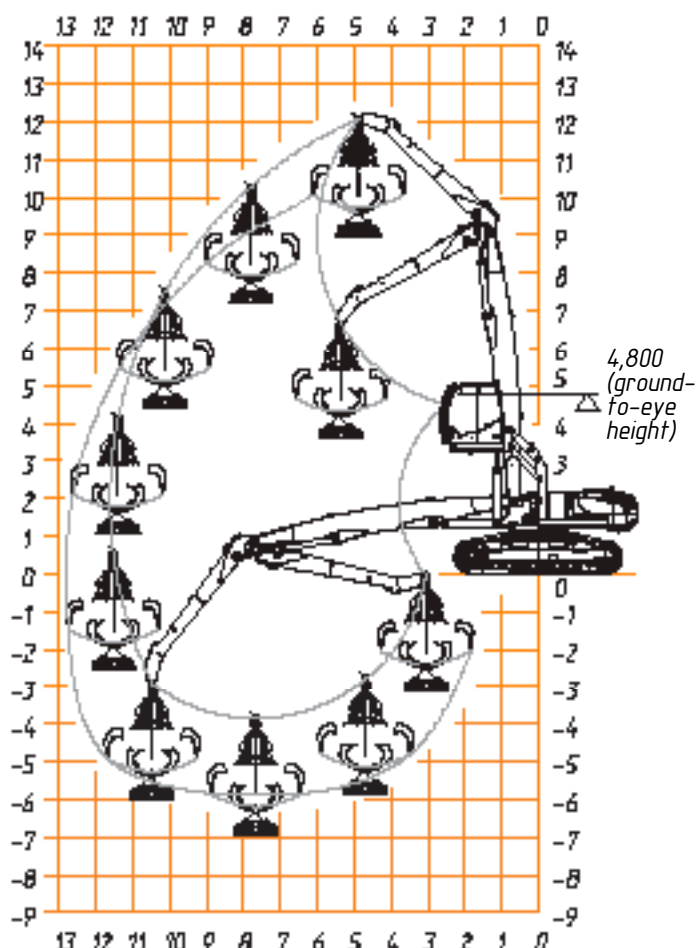
\*\* for undercarriage with larger contact surface

Transit position





Parametric diagram of E245CH  
 Boom 7,100 mm  
 Main stick 4,700 mm



Track guards and integrated parking disc brakes ensure safe movement and operation on uneven grounds with weak soil, and also provide vehicles stability at slopes.

The implements allow to handle large volumes of material around maximum possible working area, not at least due to unique design solution. Availability of different attachment types extends significantly the application field and improves performance of the vehicles. Due to the attachment design, vehicles can perform especially effectively with a grapple, and if the grapple suspension is stiff – solid earth can be moved. Attachments can be equipped with a rotor, which ensures 360° swing. This significantly increases equipment performance.

Types of the equipment used:

- 5-teeth orange peel grapple for metal scrap.
- Scrap magnet.
- Log grab / log grapple.
- Clamshell.
- Multi-purpose grapple.
- Rotator for attachments.

#### CUSTOM-TAILORED

We are ready to work with each customer individually to cope with all their needs regarding the purchased equipment:

- Customized design of vehicles involving modifications to their metalwork.
- Selection of various attachments.
- Engines with different emission classes (Tier2, Tier3): with both mechanic and electronic control.
- Equipment for cold weather start assist (liquid starting pre-heater, starting pre-heater 220 V, hydraulic oil heating element, fuel heating element).
- Central lubrication system equipment.
- Additional lights.
- Additional mirrors for working area visibility.
- Rear view camera.



# HOOK-UP ATTACHMENTS

Industrial multi-purpose wheel and crawler handlers are used not only in metal industry. Widest choice of attachments allows to use the handlers for handling operations with scrap, logs, tree trunks, various bulk cargo (sand, coal, fertilizers, etc.), and with construction and any other waste. Multiple attachments can be mounted on these vehicles.

**ORANGE-PEEL BUCKET**



**LOG GRAB**



**MAGNIFICATION SYSTEM**



**MULTI-SHELL LOADING GRAB**



## BASIC EQUIPMENT

- Reliable and efficient engine DEUTZ (Germany) / KAMA Cummins (Russia) compliant with Tier 2, Tier 3.
- Hydraulic drive according to LUDV circuit.
- Disc brakes with advanced hydraulic control design.
- Hydraulics by Bosch Rexroth.
- Axles and transmission by Carraro, NAF, ZF.
- Radiator block Orlandi Radiatori.
- Hydraulic cylinders from the leading international companies.
- Factory-installed hydraulic circuit for attachments.
- Twin front and rear wheels.
- Protective boots for blade and swing support hydraulic cylinders.
- Climate control unit heater-conditioner.
- The hood design of the excavators is unique, with no equivalents. It is patented under No. 73360 "Excavator Hood Design" (for the whole product range with weight of 14 to 29 t).
- Independent pre-heater for engine and cabin.
- Color anti-glare LCD-screen with graphical user interface in different languages.

## OPTIONAL EQUIPMENT

- Remote diagnostic system of the excavator.
- Remote monitoring of operation parameters (GPS, GLONASS).
- Roll over protection system (ROPS).
- Falling objects protection system (FOPS).
- Automated central lubrication system (ACLS).
- Additional lights on cabin / rear view lamps / rear view mirrors.
- Leveling system PME 2D.
- Height limit switch and 2D-monitoring of the working zone (not for turning) PME100.







MADE IN RUSSIA

15 Rochdelskaya st., bld. 1, Moscow  
8 (800) 250-49-55 (free across Russia)  
[www.umg-sdm.com](http://www.umg-sdm.com)



Materials, specifications may be changed without prior notification.  
The scope of standard equipment mountable to order can be changed.  
Equipment showed in the images may differ from that available in stock as of the order date.