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NEUSON**  
*all it takes!*

# Telehandlers

up to 5.5 m lifting height



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## Compact and powerful.

The electric-driven telehandler TH412e.

|                                   | TH412e          |
|-----------------------------------|-----------------|
| Payload (max.)                    | 1,250 kg        |
| Stacking height (max.)            | 4,301 mm        |
| Operating weight (standard)       | 2,750 –3,100 kg |
| Motor drive hydraulics (ECE R085) | 33.1 kW         |
| Motor work hydraulics (ECE R085)  | 21.2 kW         |

## Electric, environment-friendly, powerful – the TH412e.

The TH412e is the first all-electric telehandler by Wacker Neuson. Its performance features are comparable to those of a conventional diesel-driven machine. The installed 96 Volt lithium-ion battery is available in two power capacities so that it is possible to ideally coordinate the running and charging times to the work requirements. The TH412e works on-site completely exhaust free and with significantly lower noise emissions. For the end user, this means greater flexibility in application, environmental protection and significant savings with operating costs. In doing so, features such as the compact dimensions, all-wheel steering, low center of gravity, and excellent stability likewise apply to the electrically-driven machine.

### Performance

- Two separate electric motors, one for the drive system and one for the work hydraulics, allow for power to be accessed when needed and minimize power consumption
- The power of the TH412e corresponds to the power of the diesel-driven telehandler TH412
- Two maintenance-free lithium-ion battery versions available: standard battery (18 kWh gross battery capacity) and optional battery (28 kWh gross battery capacity)
- Travel speed up to 25 km/h (optional)
- VLS (Vertical Lift System) with three modes: bucket, stacking, and manual mode

### Safety

- Electric parking brake with auto-hold and hill-hold function for maximum safety and comfort
- Integrated Battery Management System (BMS) makes handling the machine extremely safe
- Low-drawn windows guarantee the best all-round visibility, the large roof window ensures an ideal view upwards
- LED headlights provide good illumination of the working area, even in the dark
- The blue safety light improves safety for other people and vehicles within the surrounding area



TH412e

### Comfort

- Completely enclosed cabin with a well thought-out heating design guarantees all-year-round application (e.g. even for winter service)
- Comfortable operator's seat, optional air suspension, and heated seat
- Integrated charger "on-board" and different charging plugs enable simple, flexible, and safe charging
- Type 2 plug on the machine (familiar from the automotive industry) for maximum compatibility with the existing charging infrastructure

### Efficiency

- Energy recovery through recuperation
- ECO mode for longer driving routes to extend the battery running time
- Compact dimensions
- Flexible intermediate charges possible at any time (no memory effect)
- Reduced service costs compared to the conventional diesel drive

## Power and sustainability combined.

With the same power as usual drive systems, the all-electric telehandler emits little noise and is 100% emission-free on-site. This protects the operator and the working environment.



## Sustainability meets performance: the electric-driven telehandler TH412e.



### Battery Management System (BMS).

The integrated Battery Management System (BMS) monitors and protects the 96 V lithium-ion battery, increases efficiency and safety, and excludes a deep discharge.



### On-board battery charger.

A 3 kW on-board battery charger is installed in the machine as standard. It is optionally possible to install a second 3 kW on-board battery charger to increase the power total to 6 kW. With this it is possible to achieve a clearly faster charging time.



### Optimized cabin.

The TH412e cabin enables comfortable, all-year-round use of the machine, e.g. even during winter service. It has been optimized to the requirements of the operator, provides many new features and enables a safe and comfortable working environment. Despite its compact design, it provides sufficient space for the operator and thanks to the low-drawn windows and the flat sloping engine hood the all-round view is excellent.



### Flexible charging options.

The charging flap is easily accessed on the rear of the machine. Behind this are the socket, activation switch, and the charge display. The charging cable (type 2 plug on the machine) is available with a number of different plugs: 230 V/10 A Schuko, 230 V/16 A CEE (blue, 3-pole), 400 V/16 A CEE (red, three-phase current, 5-pole), 400 V/16 A (type 2 plug wallbox, IEC 62196) and other adapter plugs.



## Small power package: the telehandler TH412.

|                        | TH412            |
|------------------------|------------------|
| Payload (max.)         | 1,250 kg         |
| Stacking height (max.) | 4,301 mm         |
| Engine output          | 18.4/33.3* kW    |
| Operating weight       | 2,750 – 2,900 kg |

\* optional

## Telehandler TH412: compact and powerful.

All-wheel steering, low center of gravity and excellent stability define the telehandler TH412. The integrated driver assistance system VLS (Vertical Lift System) ensures safety and also increases the operating comfort. The electronically regulated drive system with various drive modes enables extremely productive work with the machine.

### Comfort

- Cabin with generous provision of space and an optimized overview
- Ergonomic joystick
- Color-oriented operating concept and modern operating philosophy for fatigue-free working
- Even more comfort through features like the armrest with an integrated compartment, optimized heating and ventilations, as well as optional air-conditioning system

### Efficiency

- The electronic regulation reduces loss in the drive system and ensures a higher efficiency rate and increased efficiency
- The electric parking brake offers both an auto-hold function and a hill-hold function
- VLS (Vertical Lift System)
- 3 cylinder common rail standard engine (18.4 kW/25 hp) with high torque and without exhaust after-treatment
- 3 types of steering for maximum flexibility
- Optional trailer coupling



### Safety

- All operating elements are within reach
- The most important machine information is always in view with the ideally positioned display
- The switches and operating elements are categorized by color into different groups:
  - gray = electric, red = safety
  - blue/orange = drive system, green = hydraulics
- Excellent all-round visibility: cabin and window are constructed in such a way that the operator always has the load in view, even at maximum lift height

### Performance

- Optimized ratio of lift height, compact dimensions and powerful machine performance
- Optional engine (33.3 kW/45.3 hp) for professional application of power-demanding attachments. The emission standard stage V is implemented by installing a diesel particulate filter (DPF) in combination with a diesel oxidation catalyst (DOC). Urea solution (DEF) does not need to be added with this technology
- 30 km/h speed with optional engine version



## Ergonomics and comfort.

The cabin is captivating with its generous provision of space, optimized overview, and perfect ergonomics. The arrangement of the cabin elements consistently follows a modern operating philosophy for efficient and fatigue-free work. Features such as the armrest with its integrated storage compartment, sun-blind, optimized heating system and ventilation, as well as the optional air-conditioning system also ensure an extraordinary level of comfort.

**Compact and also extremely efficient.**  
The TH412 for high performance with small dimensions.



## Flexibility and efficiency.

More efficient electronically regulated drive system with various drive modes. Included as standard: In auto-mode, the machine makes 100 % of the performance available. The ECO mode optimizes the rpm for the greatest possible fuel-saving and reduction in noise. A further drive mode can also be optionally selected:

In Attachment mode, the performance of the attachment is constantly maintained with changing loads. In M-drive mode, the engine speed can be specified and the travel speed can be controlled using the drive pedal.



## Efficient lifting and lowering.

Work efficiently with the highest level of safety – with the operator assistance system VLS (Vertical Lift System) you can master this challenge with ease. The smooth and rapid lifting and lowering of the telescopic arm with its simultaneous semi-automatic telescopic movement allows even less-experienced operators to operate based on fluid working principles. The almost vertical lifting and lowering movement also makes the telehandlers very stable since the load does not reach the overload range.



## Optimum ease of servicing.

The engine hood can be opened wide with just one hand movement for regular servicing and maintenance works. Hydraulic oil tank, air filter, engine oil top-up, oil dipstick and coolant are therefore both easily and quickly accessible.





## Ready to do it all: the telehandler TH522.

|                        | <b>TH522</b> |
|------------------------|--------------|
| Payload (max.)         | 2,200 kg     |
| Stacking height (max.) | 5,156 mm     |
| Engine output          | 45 kW        |
| Operating weight       | 4,200 kg     |

## Telehandler TH522: Unites power and maneuverability.

The TH522 is characterized by the combination of strong engine output, high level of maneuverability and great lift height. Thanks to the all-wheel steering and the compact design the TH522 is very maneuverable. Stacking and transport work can therefore be managed quickly and safely, even in a small space.



### Efficiency

- The VLS (Vertical Lift System) is an operator assistance system, which semi-automates the retraction and extension of the telescopic arm when lifting without the need for the operator to also control the telescopic function.
- 3 steering modes: all-wheel steering, front axle steering, crab steering
- Thanks to the hydraulic quick-change system, attachments can be readily exchanged. Your machine is therefore always ready for use.

### Comfort

- The deep side window on the right and the high seat position combined with the sloping engine hood ensure optimum visibility of the attachment, working area, and the machine's surroundings
- The lighting can be adapted to different requirements depending on the model: halogen lights, lights accordance with StVZO (halogen or LED), LED lighting (normal or performance), rotating beacon and additional work lights on the telescopic arm.

### Performance

- The machine can be optionally equipped with high-flow high-power hydraulics. This enables the operation of front attachments, which require a high volume of oil
- Connectible 100% differential lock
- The machine reaches an optional speed of 30 km/h. This enables faster travel from A to B with a corresponding time-saving, therefore increasing productivity.

### Quality

- The long-life powder-coating guarantees value stability
- The telescopic arm is designed to be sturdy and stable, and is located in the center of the machine, which counteracts distortion. The parallel guidance takes place hydraulically and the sliding components in the inner tube of the telescopic arm are maintenance-free. This reduces wear and increases the service life of the machine.

## A multi-tool for different applications.

Regardless of whether transporting, sweeping, stacking or pushing: Thanks to the enormously large number of attachments, your telehandler will become a universal tool carrier.



## Ergonomics and work comfort that are captivating.



### Excellent all-round visibility.

The TH522 cabin provides an excellent overview of the attachment, the immediate working area, and the entire machine surroundings. The low side window on the right and the high seat position combined with the sloping engine hood ensure optimum visibility. This increases safety in the entire working area of the machine.

For even better overview, there is an optional cabin height raise by 200 mm for TH522. Thanks to the wide front and roof window, there is always an upward view of the attachment. This is particularly important when working effectively and safely at height with the telehandler.



### Suitable for trailer operation.

There are different attachment couplings optionally available: A simple self-recovery coupling, an automatic trailer coupling and the ball hitch K50 trailer coupling. This allows you to move trailers of up to 8 t. (Availability varies depending on the country; for more information, please contact your local Wacker Neuson distributor.)



### Ergonomic joystick.

Alongside the standard functions, like e.g. the selection of travel direction and the speed level, it is also possible to operate many other functions using the joystick, e.g. the differential lock of the 3rd and 4th control circuit, high-flow and all other electrical functions. This leads to comfortable handling of attachments with one hand and the operator therefore has the most important functions under control at all times. This increases the efficacy and ensures for fatigue-free working, even over a longer period of time.

## Attachments (selection).



**4-in-1 bucket**  
(with ripper teeth)



**Light materials bucket**



**Side dump bucket**



**Grab bucket**



**Stone bucket**



**Pallet fork**



**Pallet fork**  
(fold-over)



**Pallet fork**  
(hydraulically adjustable)



**Surface planer**



**Pot grabber**



**Sweeping machine**



**Mulcher**



**Hedge trimmer**



**V-shaped snowplow**



**Salt/gravel spreader**  
(110 l, 170 l)



**Sweeper**



**Fence mower**



**Earth auger**

Learn more about our attachments here:  
[www.wackerneuson.com/attachments](http://www.wackerneuson.com/attachments)

## Hydraulic equipment change directly from the operator's seat.



For all telehandlers from Wacker Neuson, many other attachment carriers are possible in addition to your own attachment carriers. You can therefore use different attachments. You can find more information at your Wacker Neuson distributor.

## Tire treads.

The right telehandler tires play an important role in specific applications. Everything runs perfectly if the tires are optimally matched to the ground surface and application area. Five treads are available for you to choose from.

The exact specifications and availabilities of tires differ depending on the model and country. Your Wacker Neuson partner is happy to help you.

### RP tread (turf)

- Gentle travel on the ground due to the large contact surface
- For application on lawns and green areas

### AS tread (tractor)

- Tapered lamellas
- For smeary and very dirty surfaces
- For earthworks, green areas (and loamy ground)

### EM tread (earth moving)

- Parallel-running lamellas
- Large contact surface and therefore good thrusting force transmission and high running smoothness on the street
- For earthworks, sand, gravel, crushed stone, asphalt



### MPT tread (industry)

- Very broad application spectrum
- Good traction in uneven ground conditions
- Allows for quick road crossings
- For asphalt, gravel, crushed stone, industry

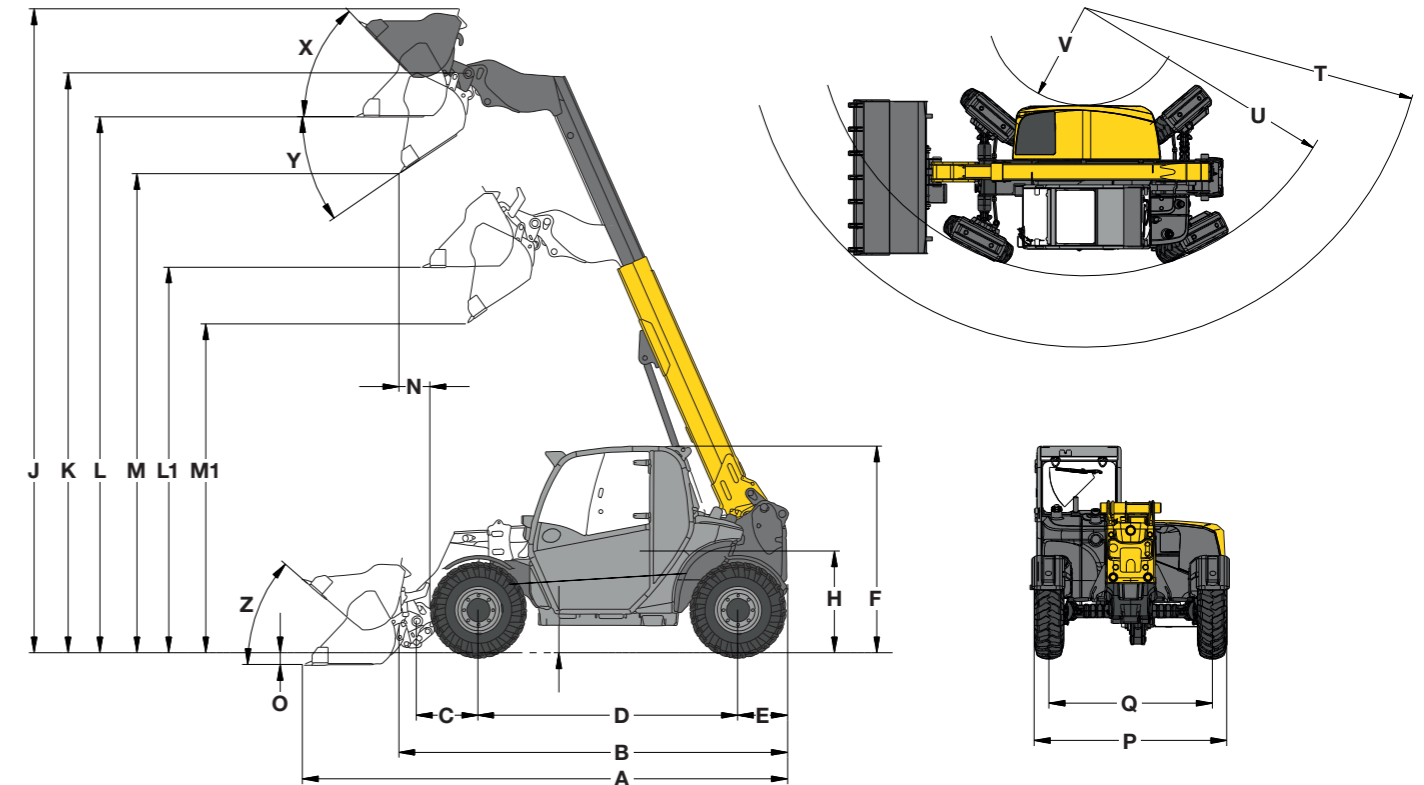
### SureTrax Tread

- Large contact area
- High load-bearing capacity
- Ideal for paved and other hard surfaces
- For asphalt, paving stones, hard and firm ground

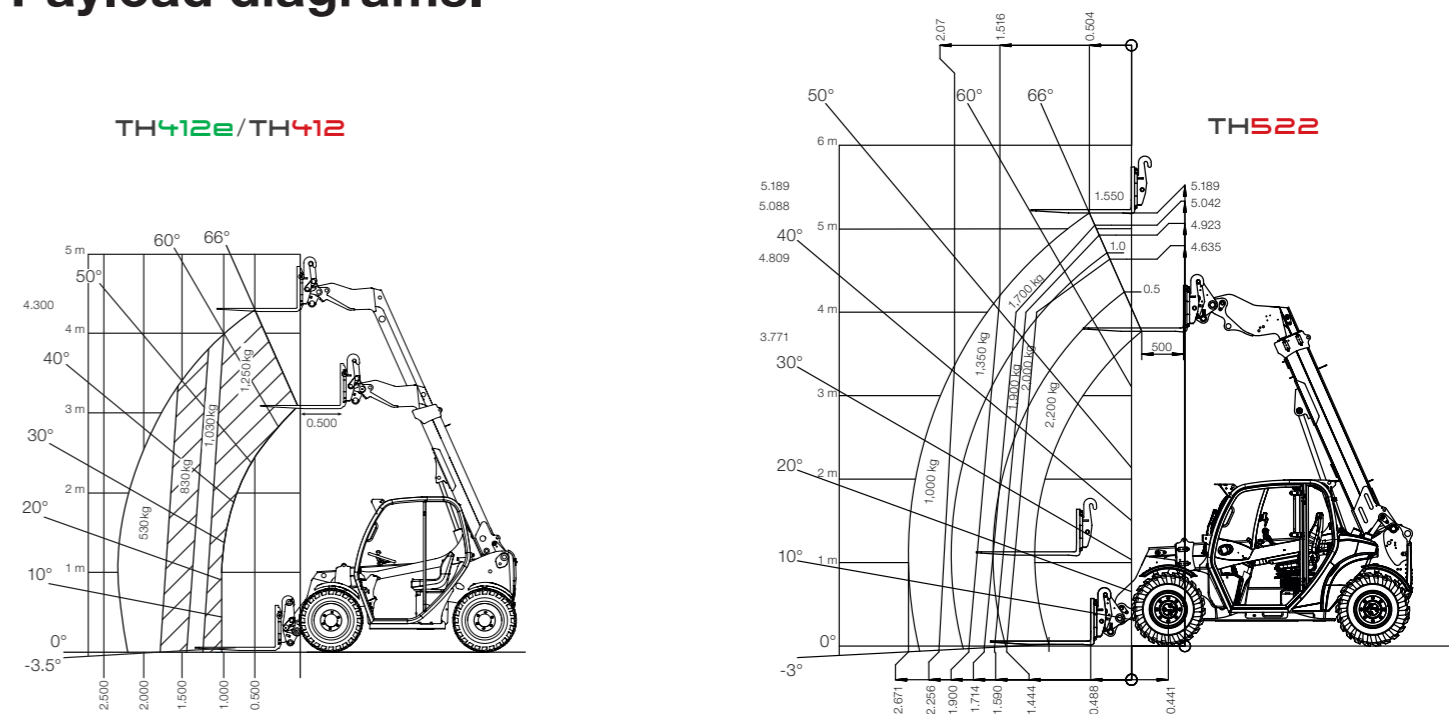
# Dimensions.

|  | Unit | TH412e          | TH412           | TH522             |
|--|------|-----------------|-----------------|-------------------|
| Standard tires   |      | 10.0/75-15.3 AS | 10.0/75-15.3 AS | 10.5/80-18 AS ET0 |
| <b>A</b> Overall length                                    | mm   | 3,944           | 3,944           | 4,576             |
| <b>B</b> Total length without bucket                       | mm   | 2,991           | 2,991           | 3,747             |
| <b>C</b> Bucket pivot point (to center of axle)            | mm   | 450             | 450             | 581               |
| <b>D</b> Wheel base  | mm   | 1,922           | 1,922           | 2,449             |
| <b>E</b> Rear overhang                                     | mm   | 427             | 427             | 472               |
| <b>F</b> Height with cabin, low                            | mm   | -               | -               | 1,950             |
| <b>F</b> Height with cabin, high                           | mm   | -               | -               | 2,150             |
| <b>F</b> Height with cabin                                 | mm   | 1,995           | 1,995           | -                 |
| <b>H</b> Seat height                                       | mm   | 983             | 978             | 962               |
| <b>J</b> Total working height                              | mm   | 5,280           | 5,280           | 6,074             |
| <b>K</b> Bucket pivotal point (max. lift height)           | mm   | 4,537           | 4,537           | 5,471             |
| <b>L1</b> Overhead loading height telescopic arm retracted | mm   | 2,949           | 2,949           | 3,638             |
| <b>L</b> Overhead loading height telescopic arm extended   | mm   | 4,163           | 4,163           | 5,056             |
| <b>M1</b> Dumping height telescopic arm retracted          | mm   | 2,415           | 2,415           | 3,103             |
| <b>M</b> Dumping height telescopic arm extended            | mm   | 3,630           | 3,630           | 4,520             |
| <b>N</b> Reach (with M)                                    | mm   | 557             | 557             | 293               |
| <b>O</b> Scraping depth                                    | mm   | 91              | 96              | 111               |
| <b>P</b> Overall width                                     | mm   | 1,564           | 1,564           | 1,808             |
| <b>Q</b> Track width                                       | mm   | 1,235           | 1,235           | 1,530             |
| <b>S</b> Ground clearance                                  | mm   | 233             | 294             | 256               |
| <b>T</b> Maximum radius                                    | mm   | 3,506           | 3,506           | 4,153             |
| <b>U</b> Radius on the outer edge                          | mm   | 2,695           | 2,695           | 3,281             |
| <b>V</b> Inside radius                                     | mm   | 951             | 951             | 1,193             |
| <b>X</b> Rollback angle at max. lift height                | °    | 52              | 52              | 47                |
| <b>Y</b> Tipping angle                                     | °    | 31              | 31              | 35                |
| <b>Z</b> Rollback angle on the ground                      | °    | 44              | 44              | 41                |

# Dimensions.



# Payload diagrams.



## Technical data.

|   | Unit          | TH412e                         |             |
|---|---------------|--------------------------------|-------------|
| <b>Electric motor</b>                     |               |                                |             |
| Engine drive hydraulics (ECE R085)        | <b>kW</b>     | 33.1                           |             |
| Engine work hydraulics (ECE R085)         | <b>kW</b>     | 21.2                           |             |
| <b>Battery</b>                            |               |                                |             |
|   |               | Standard                       | Option      |
| Battery type                              | –             | Lithium ion                    | Lithium ion |
| Battery voltage                           | <b>V</b>      | 96                             | 96          |
| Battery capacity (gross)                  | <b>kWh</b>    | 18.0                           | 28.0        |
| Battery weight                            | <b>kg</b>     | 186                            | 244         |
| Charging time                             | <b>h</b>      | 3.2–7.5*                       | 5.5–11.5*   |
| Best possible load time (from 20% to 80%) | <b>h</b>      | 1.8*                           | 2.7*        |
| Running time (uninterrupted)              | <b>h</b>      | Up to 3.1**                    | Up to 5.2** |
| <b>Weights</b>                            |               |                                |             |
| Operating weight                          | <b>kg</b>     | 2,750–3,100                    |             |
| Payload (max.)                            | <b>kg</b>     | 1,250                          |             |
| <b>Filling levels</b>                     |               |                                |             |
| Tank capacity for hydraulic oil           | <b>l</b>      | 36                             |             |
| <b>Drive system</b>                       |               |                                |             |
| Drive system                              | –             | Electrical                     |             |
| Travel speeds                             | –             | 2                              |             |
| Travel speed (optional)                   | <b>km/h</b>   | 0–15 (20, 25)                  |             |
| <b>Hydraulic system</b>                   |               |                                |             |
| Work hydraulics flow rate (max.)          | <b>l/min</b>  | 41.6                           |             |
| Work hydraulics working pressure (max.)   | <b>bar</b>    | 220                            |             |
| <b>Steering system</b>                    |               |                                |             |
| Steering type                             | –             | Hydrostatic all-wheel steering |             |
| Steering lock max.                        | °             | 2x38                           |             |
| Oscillating angle of the rear axle        | °             | +/- 7                          |             |
| Steering cylinder                         | –             | 2                              |             |
| <b>Noise characteristic values</b>        |               |                                |             |
| Average sound power level LwA             | <b>dB (A)</b> | 85.7                           |             |
| Guaranteed sound power level LwA          | <b>dB (A)</b> | 87                             |             |
| Specified sound pressure level LpA        | <b>dB (A)</b> | 73                             |             |

\* The charging time is dependent on the different charging options. On-board battery charger 3 kW (standard) with additional on-board battery charger, total 6 kW (option). The following plug options are available: 230 V/10 A Schuko, 230 V/16 A CEE (blue, 3-pole), 400 V/16 A CEE (red, three-phase current, 5-pole), 400 V/16 A (type 2 plug wallbox, IEC 62196) and other adapter plugs.

\*\* The running times of the battery are dependent on the respective application conditions, the job and the driving style. This may also mean that a longer running time can be achieved. The specified running times may also be undercut in extreme cases. The specified running times relate to uninterrupted operation and working with the machine.

## Technical data.

|  | Unit          | TH412                                  | TH522     |                                |
|--|---------------|--|-----------|--------------------------------|
| <b>Engine data</b>                       |               |  |           |                                |
|  |               | Standard                               | Option    |                                |
| Engine manufacturer                      | –             | Yanmar                                 | Yanmar    | Perkins                        |
| Type of drive                            | –             | 3TNV80FT                               | 3TNV86CHT | 404J-E22T                      |
| Engine output                            | <b>kW/hp</b>  | 18.4/25                                | 33.3/45.3 | 45/61                          |
| Cylinders                                | –             | 3                                      | 3         | 4                              |
| At max. rpm                              | <b>rpm</b>    | 2,600                                  | 2,600     | 2,800                          |
| Displacement                             | <b>cm3</b>    | 1,226                                  | 1,568     | 2,200                          |
| Type of coolant                          | –             | Water                                  | Water     | Water                          |
| Exhaust standard level                   | –             | V                                      | V         | V                              |
| Exhaust after-treatment                  | –             | –                                      | DOC/DPF   | DOC/DPF                        |
| <b>Weights</b>                           |               |  |           |                                |
| Operating weight                         | <b>kg</b>     | 2,750–2,900                            |           | 4,200                          |
| Payload (max.)                           | <b>kg</b>     | 1,250                                  |           | 2,200                          |
| <b>Filling levels</b>                    |               |  |           |                                |
| Tank capacity for fuel                   | <b>l</b>      | 33                                     |           | 70                             |
| Tank capacity for hydraulic oil          | <b>l</b>      | 36                                     |           | 55                             |
| <b>Drive system</b>                      |               |  |           |                                |
| Drive system                             | –             | Hydrostatic (electronically regulated) |           | Hydrostatic                    |
| Travel speeds                            | –             | 2                                      |           | 2                              |
| Travel speed (optional)                  | <b>km/h</b>   | 0–20 (30)                              |           | 0–20 (30)                      |
| <b>Hydraulic system</b>                  |               |  |           |                                |
| Drive hydraulics working pressure (max.) | <b>bar</b>    | 380                                    |           | 450                            |
| Work hydraulics flow rate (max.)         | <b>l/min</b>  | 36.4 (41.6–70)                         |           | 70 (100)                       |
| Work hydraulics working pressure (max.)  | <b>bar</b>    | 220                                    |           | 225                            |
| <b>Steering system</b>                   |               |  |           |                                |
| Steering type                            | –             | Hydrostatic all-wheel steering         |           | Hydrostatic all-wheel steering |
| Steering lock max.                       | °             | 2x38                                   |           | 2x40                           |
| Oscillating angle of the rear axle       | °             | +/- 7                                  |           | +/- 8                          |
| Steering cylinder                        | –             | 2                                      |           | 2                              |
| <b>Noise characteristic values</b>       |               |  |           |                                |
| Average sound power level LwA            | <b>dB (A)</b> | 99                                     |           | 99.8                           |
| Guaranteed sound power level LwA         | <b>dB (A)</b> | 101                                    |           | 101                            |
| Specified sound pressure level LpA       | <b>dB (A)</b> | 85                                     |           | 77                             |

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Wheel loaders



Telehandlers



Dumpers



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09/2023 EN