WACKER NEUSON
all it takes!

zero emission

Our emission-free solutions.

zero emission

In many construction site situations, the use of battery-powered electric construction machines and construction equipment is the ideal solution. Always, for example, when exhaust emissions and sound levels have to be kept as low as possible – whether in the inner city, sensitive environments such as in the area of kindergartens or hospitals or due to working at night.

Wacker Neuson makes the technological change as easy as possible for you:
our zero emission portfolio ranges from the battery-powered rammer to the battery-powered electric excavator. This way, you can operate an entire construction site today without direct exhaust emissions and with significantly reduced sound levels – without compromising performance.

As a pioneer in the area of battery-powered electric construction machines, Wacker Neuson has been expanding its portfolio continually since 2013, never stopping with machine development. With its zero emission range, Wacker Neuson is working to cover the entire ecosystem for the customer: from charging infrastructure, services, financing offers and different usage models to a life cycle view of the battery. With additional products such as the Charging Box and Systainer Boxes for transporting batteries, Wacker Neuson offers simple solutions for switching to emission-free working. Ready to think differently? Then make the “switch” with Wacker Neuson.

Your challenges – Our answers

Mobile power supply?
The Charging Box.

Battery diagnostics and machine-information? EquipCare.

One battery for many units of construction equipment?
Battery One.

Handling?
Start at the push of a button.

Learn more about
Wacker Neuson
zero emissions at:

Contents.

Your declaration of independence.

How can one contribute towards protecting climate and health while continuing to work efficiently? Are changes related to the switch to alternative drive systems? What compromises do I need to make with battery-powered electric machines?

For years, Wacker Neuson has been working on a quick and easy answer to these challenges, and found it: zero emission. The idea behind this: where no exhaust emissions and almost no noise are generated in application, there is no need to review threshold values. And a technology that comes with efficiency and everyday usability will be adopted – actually achieving effects for everyone: users, contractors and the environment.

With a portfolio of about 20 zero emission construction machines and equipment, the vision of the “emission-free construction site” has meanwhile become reality. Besides zero emission products, Wacker Neuson supports you with solutions for charging infrastructure, customized financial solutions and much more around zero emission. Wacker Neuson is continuing on this journey with a stream of new developments – so that you can focus on your core business.

#switchtogreen

100% CO_2-free operation on the construction site: this means zero emission machines make a valuable contribution to climate protection. There is also less stress in the construction site environment, as machine operation is very quiet and there are no CO_2 emissions.

Five reasons why it’s worth switching.

#switchtosilence

Our zero emission products work at an extremely low noise level. 10 decibels less mean the sound level perceived is cut in half. The electric powered construction machines of Wacker Neuson are even up to 20 decibels quieter than conventional machines. This also has a solid economic advantage, as work must often be done in noise-sensitive areas or at night to meet deadlines on construction sites or not to interfere with daily business.

#switchtozero

The construction industry benefits from electric drive systems, just like the automotive industry. With many construction machines, there is great savings potential in terms of fuel, even when working under a full load. In order for our construction machines to be charged and thus provide full output, they are equipped with the most common power connections, such as Schuko/CEE and Type 2 plugs. Additionally, with Battery One and the Charging Box, we offer initial infrastructural solutions for e-construction sites.

#switchtoeasy

Our zero emission products are easy and intuitive to operate and can be charged at any socket or used immediately with a charged battery. The construction equipment starts in the truest sense with the push of a button. With all zero emission models, full performance is immediately available for use – and usually for an entire workday without having to recharge.

#switchtoeconomical

Electric motors are more efficient than combustion engines and particularly low-maintenance. This reduces the energy and operating costs. The expanded spectrum of applications also increases the utilization and thus the cost-efficiency of the machines. Even the CO_2-reduction has financial advantages, as in order to achieve climate goals set, many countries have already introduced a CO_2 tax.

A particularly green construction project.

On one kind of terrain, electric construction equipment isn't just your first choice, it's the only choice most of the time: that is, interiors. This is even truer in particularly sensitive environments, such as on a construction project for the National Garden Show in Erfurt, where, in the vicinity of exotic plants, work was being done.

The emission-free construction machines and equipment by Wacker Neuson not only work without exhaust emissions and extremely quietly, but were able to score points thanks to their compact dimensions even in the confined spaces of the work environment. The mini-excavator EZ17e was responsible for the excavation work and moving of natural stones. The electric wheel loader WL20e impressed with its versatility in material transport.

A battery-powered rammer and a battery-powered vibratory plate were used to compact the soil. This way, all the work was finished quickly and, especially, cleanly in the "green construction site" in both senses of the word.

Compacting, excavating, and transporting the environmentally friendly way.

The Danakil Desert and Jungle House of the National Garden Show 2021 in Erfurt showed the desert and jungle habitats and how the plants adapted to the respective environment. Building the Danakil House necessitated the implementation of a great variety of work steps with emission-free construction machines and equipment. Here, the broad product portfolio of Wacker Neuson scored points, as almost the entire zero emission range was used.

#switchto**green**

Even while setting up the garden show, all lights were green

Material transport without exhaust emissions.

The mini-excavator EZ17e, the latest addition to the zero emission series, was responsible for the excavation work in order to be able to put plants in the right places. Besides this, its tasks included moving natural stones. No problem for the 1.7 metric-ton electric excavator, as it has the same performance as the conventional model thanks to the high-quality lithium ion battery.

Transporting material efficiently, easily and emission-free – here, the electric wheel loader WL20e and the electric wheel dumper DW15e are at home. The wheel loader was used for a variety of applications in this project: For one, with a shovel volume of 0.2 cubic meters, it loaded the dumper with earth. For another, equipped with a pallet fork, it proved a worthy transport helper.

Emission-free, to protect the plants.

When planting the jungle house, it was particularly important that no exhaust emissions were created when the trees and flowers were being planted. Due to the sensitivity of the plants, opening windows or doors or using fans was not possible when planting. By using the electric wheel loader WL20e, the sensitive plants were not exposed to any exhaust emissions.

To prepare the paths in the Danakil House, the ground in particularly confined areas was compacted with a battery-powered rammer; a battery-powered vibratory plate was used in larger areas. Both units of compaction equipment can be operated with the same modular lithium-ion battery, which can be replaced in no time – specially designed for the hard work applications in the construction industry.

Psssst: The quiet night construction site.

How do you lay cables in the middle of a pedestrian zone without disturbing the residents? The astonishing answer: by working at night and in the early hours of the morning. The low-noise zero emission machines make it possible – like here in Copenhagen.

On the construction site, almost the entire zero emission portfolio by Wacker Neuson was put into use on excavating and filling, material transport and compaction. To have as little of an effect as possible on shop opening hours, work was mainly done at night. No problem with the whisper-quiet electric drive systems.

This way to all the zero emission videos:

A construction site process without CO_2 emissions!

Typical infrastructure measures in inner cities are connecting and replacing pipes. In Copenhagen too, this task was in the plan. First, the paving stones were broken up with the fully electric Zero Tail excavator EZ17e; then the soil was excavated. Here, the very compact design of the battery-powered machine also paid off: no tail overhang, which might have restricted freedom of movement.

#switchtosilence

A construction site in the middle of the pedestrian zone, here, zero emission is the best choice.

Material transport, quietly.

The excavated material was transported away by the electric wheel dumper DW15e with a 1.5-metric ton payload – and, thanks to its quiet and emission-free working principle, was barely noticed by the residents and pedestrians in the area surrounding the construction site. The dumper was also impressive in the area of performance. When braking the machine or when driving downhill, the energy is fed back into the battery and used to charge the battery, which minimizes energy consumption. The integrated battery charger is easily connected by plug to the power grid.

Also, the wheel loader WL20e was used for material transport on the construction site. The wheel loader is equipped with a high-quality lithium ion battery, which is characterized by particularly simple handling and low maintenance effort. With a variety of possible attachments, it is a flexible helper – for example, the pallet fork and a light materials bucket were ideal for the construction site in Copenhagen.

Cable laying in day-to-day business operations.

After the cables were laid, the soil was compacted. For larger areas, the battery-powered vibratory plate AP1850e was used, for confined spaces the battery-powered rammer AS50e. Both are operated with the same Battery One lithium-ion battery that is deployable as a module, which can be changed in no time. One battery charge is sufficient for typical applications in the course of a workday and, for the nighttime applications in Copenhagen, it provided enough energy.

Thus, the businesses in Copenhagen could keep running, the residents could sleep and the cables – almost unnoticeably – could be laid. A nice confirmation of this: the city of Copenhagen's noise measurements were unable to record noise emissions of any kind produced by the zero emission products – only garbage trucks with conventional engines driving past produced measurable values.

Impressive in practice.

Are battery-powered machines only for special applications? Far from it! In the inner city of Barcelona, the battery-powered compaction equipment and compact electric machines by Wacker Neuson are proving that they too are perfectly suited for daily practical use and ideal for teamwork.

In the heart of Barcelona, work was done on water pipelines – where exclusively machines that worked emission-free were used. This way, contaminating the sensitive areas with fuel, for example when refueling, could be avoided.

Sustainable pioneering work in Barcelona.

The city of Barcelona takes great interest in construction sites free of local CO_2-emissions and thus also in climate-friendly and sustainable operations. The e-machines and equipment by Wacker Neuson were used throughout the entire construction process: from breaking and excavating to backfilling and compacting. In Barcelona, a holistic infrastructure solution for e-construction sites was also tested for the first time.

#switchtozero
Repairs of water pipelines.

Mobile power supply with the Charging Box.

The EZ17e Zero Tail excavator was used for excavation and demolition work. Thanks to its generous battery capacity, the hydraulic functions are available for an entire workday long at full output. For material transport, the dumper DW15e was on site. It is equipped with one electric motor for the drive system and another for the work hydraulics, in order to take on output as required and minimize energy consumption.

For interim charges of the excavator EZ17e as well as the construction equipment such as the battery-powered rammer, the Charging Box – the “powerbank for the construction site”, was in use on the construction site in Barcelona. It allows flexible recharging or interim charging of construction equipment batteries but also compact machines on construction sites that have no access to the power grid.

The environment-friendly construction site.

Particularly practical: All battery-powered compaction equipment, including various models of vibratory rammers and vibratory plates, are operated with the same high-performance Battery One lithium ion battery. This saves investment costs as well as transport costs.

The construction site in Barcelona shows that it is possible, without a hitch, to operate an entire inner-city construction site with electric construction machines and equipment – with the usual performance and reliability.

Emission-free compaction made easy.

Wacker Neuson has, for every kind of soil compaction, the perfect equipment – also including many emission-free solutions. How does this work in practice? Like here, on a construction site in the heart of Stuttgart.

In the course of the renovations of the Stuttgart marketplace the e-machines by Wacker Neuson impressed in a field test. Beside electric compact machines such as excavators and dumpers, the entire portfolio of battery-powered compaction equipment was used. The different battery-powered rammer- and vibratory plate models and the internal vibrator-system for concrete consolidation have one thing in common: they are powered by the same ultra-modern lithium ion rechargeable battery. It is designed for the tough everyday work on construction sites: impact-proof, dirt-resistant and with a running time sufficient for all typical activities on a workday.

Renovation in the middle of the city.

In the heart of inner city Stuttgart, between Town Hall and the Collegiate Church, the marketplace was renovated to be brighter, friendlier and more modern. A challenge: the renovation should be done with as little noise and as emission-free as possible. For this reason, almost all the electric construction machines of the zero emission family were in use on site.

#switchto**easy**
All zero emission compaction equipment in use.

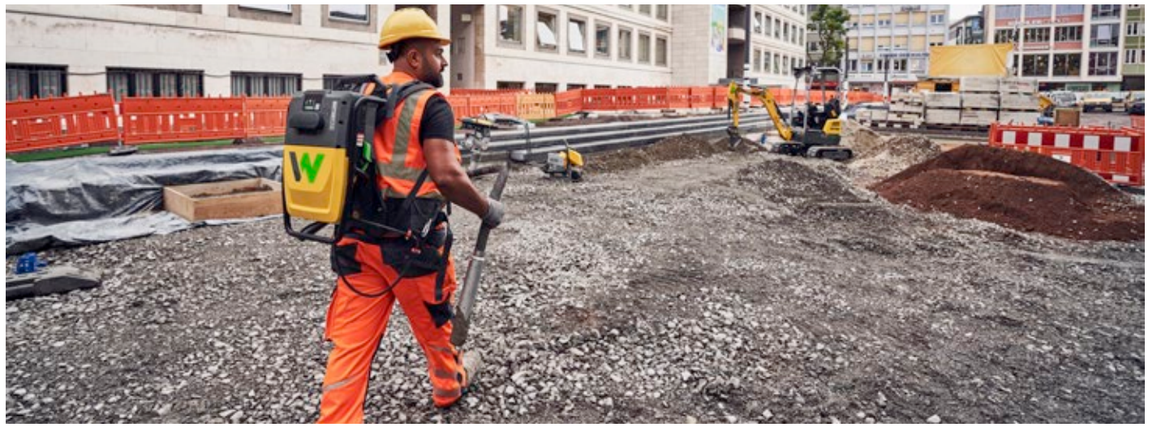
Whether it was vibratory plates or vibratory rammers, for every subbase there was the proper battery-electric construction equipment.

The battery-powered rammers that have been tried and tested as well as battery-powered plates from the APS series for soil compaction were used at the construction site in Stuttgart. Meanwhile, the three vibratory rammers and seven vibratory plates in the Wacker Neuson zero emission portfolio can be operated with the same high-performance and sturdy lithium ion battery, Battery One.

The idea: A battery standard simplifies construction site operations enormously, as only one battery and one charging system need to be considered in construction site logistics. The battery can be exchanged in no time at all or put into another model. The battery can be used not only in all battery-electric equipment from Wacker Neuson, but also in construction equipment from other manufacturers.

One battery for all makes working easier.

The Battery One battery can also be used in the internal vibrator backpack ACBe, which was used for smaller consolidation work in in-situ concrete at the Stuttgart marketplace. The DT10e track dumper, DW15e wheel dumper, and WL20e wheel loader enabled efficient transport of material without direct exhaust emissions and with extremely low noise emissions. Especially with brisk pedestrian traffic and businesses operating in the inner city, a relief for residents. The EZ17e Zero Tail excavator was available for excavation and demolition work. With its high-quality lithium-ion technology, the electric construction machine meets the high demands for performance, durability, and sturdiness.



#switchtoeconomical

Our zero emission machines impress in many areas – even costs.

Lower energy costs: electric motors are considerably more efficient than combustion engines. In practice, this means: energy cost savings of up to 65% on battery-powered rammers and up to 75% with our compact machines.

Lower maintenance costs: our time-tested and proven electric motors are particularly low-maintenance. Less motion by parts in the drive train creates less friction and heat loss in the overall system. This means less time spent in maintenance and more time remaining for productive applications.

Wider spectrum of application: electric machines can also be used in noise- and exhaust-sensitive environments. This way, you ensure additional lucrative jobs.

The higher procurement price is quickly amortized. So it's worthwhile to be on the move electrically!

Did you know?
Purchasing electrically-driven equipment machines is often eligible for financial awards or grants. Find out more from your local sales partner!

Battery One.

Battery One is a standardized and user-friendly battery system that focuses on CO_2-free and sustainable use of construction equipment. The battery can be used not only in all battery-electric equipment from Wacker Neuson, but also in construction equipment from other manufacturers. The idea: A battery standard simplifies construction site operations enormously, as only one battery and one charging system need to be considered in construction site logistics.

BATTERYONE

	Unit	BOB5	BOB10	BOB14
Installed capacity	**Wh**	504	1,008	1,425
Weight	**kg**	6.4	9.3	9.6

	Unit	BOC7	BOC13
Charging current	**A**	7	13
Charging time (BOB5 / BOB10 / BOB14)	**min**	90 / 160 / 255 min.	50 / 95 / 140 min.

Reversible battery-powered plate APU3050e: unbeatably efficient thanks to direct drive.

The emission-free drive and the low overall height make the APU3050e the ideal compaction equipment in trenches and shoring.

	Unit[2]	APU3050e
Local CO_2 emissions	**g / Bh**	0
Charging time, standard/fast battery charger	**h**	4.6 / 1.87
Battery running time[1]	**min**	35
Range per battery charge[1]	**m²**	333
Operating weight	**kg**	212
Centrifugal force	**kN**	30
Operating width	**mm**	500
Frequency	**Hz**	90
Engine		Electric motor

DIREX

DireX is the direct drive of the battery-electric vibratory plates and ensures more efficiency and a longer running time. Direct energy transmission without V-belt minimizes output loss, resulting in a longer running time for the machine.

Single-direction vibratory plates: real economic miracles.

Maintenance-free electric motor, up to 50% less energy costs and starts with a push of a button: compaction doesn't get any more comfortable or affordable.

	Unit[2]	AP2560e	APS1030e	APS1135e	APS1340e	APS1550e	APS2050e
Local CO_2 emissions	**g / Bh**	0	0	0	0	0	0
Charging time, standard/fast battery charger	**h**	4.6 / 1.87	4.6 / 1.87	4.6 / 1.87	4.6 / 1.87	4.6 / 1.87	4.6 / 1.87
Battery running time[1]	**min**	55	92	92	92	80	80
Range per battery charge[1]	**m²**	695	610	765	920	960	1,065
Operating weight (without/with water tank)	**kg**	133	51 / 53*	61 / 63*	73 / 75*	77 / 82	87 / 92
Centrifugal force	**kN**	25	10	11	13	15	20
Operating width	**mm**	600	300	350	400	500	500
Frequency	**Hz**	98	98	98	98	98	98
Engine		Electric motor					

* Weight depends on the additional options selected

Battery-powered rammers: from the inventor of the original.

Our vibratory rammers are writing history once again: compacting at full output, but without emissions – an invaluable advantage, especially in trenches.

	Unit[2]	AS30e	AS50e	AS60e
Local CO_2 emissions	**g / Bh**	0	0	0
Charging time, standard/fast battery charger	**h**	4.6 / 1.87	4.6 / 1.87	4.6 / 1.87
Battery running time[1]	**min**	70	40	30
Range per battery charge[1]	**m**	770	352	312
Ramming shoe size (width)	**mm**	150	280	280
Operating weight	**kg**	41.7	71	71
Stroke at ramming shoe	**mm**	40	44	61
Max. impact force	**(rpm)**	820	680	680
Type of drive	**kW**	Electric motor		

[1] Average reference value; the actual value can vary depending on application conditions.

[2] All information refers to the battery model BOB14.

Charging Box: The powerbank for the construction site.

The Charging Box expands the capacity of zero emission products, prevents peak loads on the power grid and can supply the power for the entire construction site.

CB250

	Unit	CB250
Weight	**kg**	650
Dimensions	**mm**	1,480 x 820 x 1,105
Class rating	**–**	IP54
Temperature range	**°C**	-20 – +40 ambient temperature
Cooling	**–**	Air cooled
Electr. frequency	**Hz**	50
Rated power	**kVA**	50
Charging time	**h**	< 4.5 (16 A)
Capacity	**kWh**	25

Battery converter backpack: goodbye to cables.

Our battery-powered internal vibrator can be easily connected to the battery-powered converter backpack ACBe, thus making concrete consolidation completely mobile.

	Unit[2]	ACBe
Local CO_2 emissions	**g/Bh**	0
Charging time, standard/fast battery charger	**min**	90/ 50
Battery running time[1]	**h**	up to 2
Noise emission reduced by[5]	**dB**	20
Operating weight with/without BOB5	**kg**	10.25/ 4.2
Operating weight with/without BOB10	**kg**	13.5/ 4.2
Rated current	**A**	20
Input/output voltage	**V**	51 (3~)/34 (3~)
Output performance	**kW**	0.79
Output frequency	**Hz**	200

ACBe

[1] Running time varies depending on the type of application.

[2] Information refers to the battery model BOB5.

Electric wheel loader: does everything, missing nothing.

Our wheel loaders have been versatile forever. Now they are also expanding your spectrum of application. And without sacrificing performance.

	Unit	WL20e
Local CO_2 emissions	**g/Bh**	0
Power of drive system/ work hydraulics	**kW**	6.5/ 8.5
Battery capacity	**kWh**	14.1/18.7/23.4
Battery charging time	**h**	3 to 10
Battery running time[1]	**h**	up to 6
Sound levels reduced by[5]	**dB**	9
Bucket capacity	**m^3**	0.19
Height x width	**mm**	1,939 – 2,336 x 1,052
Weight	**kg**	2,170–2,350*
Travel speed optional travel speed	**km/h**	7–15
Tipping load with bucket*	**kg**	1,550–1,620*
Pallet fork tipping load (horizontal loading frame – machine straight)	**kg**	1,110 - 1,160
Max. height of the bucket pivot point / max. dumping height	**mm**	2,710/ 2,017
Radius on the outer edge	**mm**	2,379

* Values with cab and optional equipment

WL20e

Tandem roller with electric drive: compaction power, fully electric.

The electric rollers RD24e and RD28e are, with an operating weight of barely 2.5–2.8 metric tons and a drum width of 111–125 centimeters, the all-rounders for the emission-free construction site.

	Unit	RD24e	RD28e
Local CO_2 emissions	**g/Bh**	0	0
Operating weight (max.)	**kg**	3,000	3,410
Drum width	**cm**	111	125
Max. travel speed	**km/h**	11	12
Centrifugal force, front Level I / Level II	**kN**	25/ 16	46/ 28
Battery capacity	**kWh**	16.8	24
Operating time under full load	**h**	3.5	3.5
Battery charging time 110 V/230 V/400 V	**h**	15/7.5/4	15/7.5/4
Projection, right/left	**mm**	55/55	55/55
Inside turning radius	**mm**	2,470	2,370
Axle center distance	**mm**	1,700	1,700

RD28e

[1] Running time varies depending on the type of application.

Electric excavators: prepared for anything.

Our mini-excavators can do more than operate electrically: for example, without rear projection, working directly at walls or operating stationary directly from the plug receptacle. Our mini-excavator 803 with diesel engine can optionally be operated emission-free with an electro-hydraulic HPU power unit.

	Unit	EZ17e
Local CO_2 emissions	**g/Bh**	0
Engine output	**kW**	16.5
Battery capacity	**kWh**	23.4
Battery charging time 110 V / 230 V / 400 V	**h**	15/7.5/4
Battery running time[1]	**h**	7.5
Battery voltage	**V**	48
Noise emission reduced by[2]	**dB**	9
Shipping weight min.	**kg**	1,681
Operating weight min.	**kg**	1,797
Length x width x height	**mm**	3,584/3,554* x 900–1,300 x 2,489
Max. dumping height	**mm**	2,439/2,553*
Digging depth	**mm**	2,323/2,483*
Digging radius	**mm**	3,900/4,050*
Break out force	**kN**	20.5

* Long dipper stick (option)

	Unit	803dualpower
Local CO_2 emissions	**g/Bh**	0
Engine output	**kW/hp**	9.6/13
Shipping weight min.	**kg**	932
Operating weight min.	**kg**	1,029
Length x width x height	**mm**	2,828 x 700–860 x 1,507*/2,261
Max. digging depth	**mm**	1,763
Max. digging radius	**mm**	3,090
Max. dumping height	**mm**	2,012
Break out force	**kN**	8.9

* Without ROPS frame

[1] Running time varies depending on the type of application.

[2] All decibel values in this brochure state the emission sound pressure level (LpA).
This states the sound level of the equipment at the place of work directly assigned to it, for example in the cabin.

Electric wheel dumpers: material transport with a soft tread.

Off-road capable thanks to articulated pendulum joint, quiet thanks to electric motors and enduring thanks to energy recovery – you're welcome!

	Unit	DW15e
Local CO_2 emissions	**g/Bh**	0
Engine output of drive system/ work hydraulics	**kW**	6.5/8.5
Battery capacity	**kWh/Ah**	14.4/300
Battery charging time	**h**	8
Battery running time[1]	**h**	6.5
Battery voltage	**V**	48
Battery weight	**kg**	470
Sound levels reduced by[2]	**dB**	20
Max. payload	**kg**	1,500
Shipping weight	**kg**	1,940
Length x width x height	**mm**	3,300/3,214* x 1,322 x 2,550
Gradeability (theoretical)	**%**	45
Bucket (struck/piled)	**l**	650/800

Basic machine with high tip skip *swivel tip skip option

Electric track dumpers: leave the wheelbarrow at home.

Our electric track dumpers take on material transport in interiors and noise-sensitive areas.

	Unit	DT05e	DT10e
Local CO_2 emissions	**g/Bh**	0	0
Engine output	**kW**	5.5	2
Voltage / capacitance	**V/Ah**	3.6/72	12/55
Battery charging time	**h**	8	7.5
Battery running time[1]	**h**	4–5	4–9
Sound levels reduced by[2]	**dB**		14
Max. payload	**kg**	500	1,000
Shipping weight	**kg**	540***	815–995
Length x width x height	**mm**	1,670* x 589 x 759*	1,803*/1,685** x 830* x 1,270
Travel speed	**km/h**	3	4
Gradeability when loaded	**max. %**	36	36
Skip capacity (struck)	**l**	273	367*/240**
Skip capacity (heaped)	**l**	313	427*/280**
Skip capacity (volume of water)	**l**	142	166*/195**

*Front-tipping skip **High-tipping skip ***With SLE (self-loading equipment)

[1] Running time varies depending on the type of application.

[2] All decibel values in this brochure state the emission sound pressure level (LpA).
This states the sound level of the equipment at the place of work directly assigned to it, for example in the cabin.

Wacker Neuson – zero emission series.

Concrete technology

Vibratory rammers

Vibratory plates

Rollers

Generators

Excavators

Wheel loaders

Dumpers

Financial solutions

Repair & maintenance

Academy

EquipCare & EquipCare Pro

Rental

Concrete specialists

eStore

Spare parts

Used machines

ConcreTec

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