

**BUCHER**  
municipal



**VE652**  
100% electric truck mounted sweeper



## Extraordinary results from our highly regarded sweepers

The V Range has established itself as our most reliable and dependable truck mounted sweeper. The Latest V Range sweepers have been developed from over 60 years of evolution and continuous improvement to meet the requirements of our customers.

With tailored machines in your chosen field, Bucher Municipal offer a wide choice of products and options, which ensures maximum performance is always achieved.



FS 674870



EMS 533329



OHS 543760



ENMS 623042

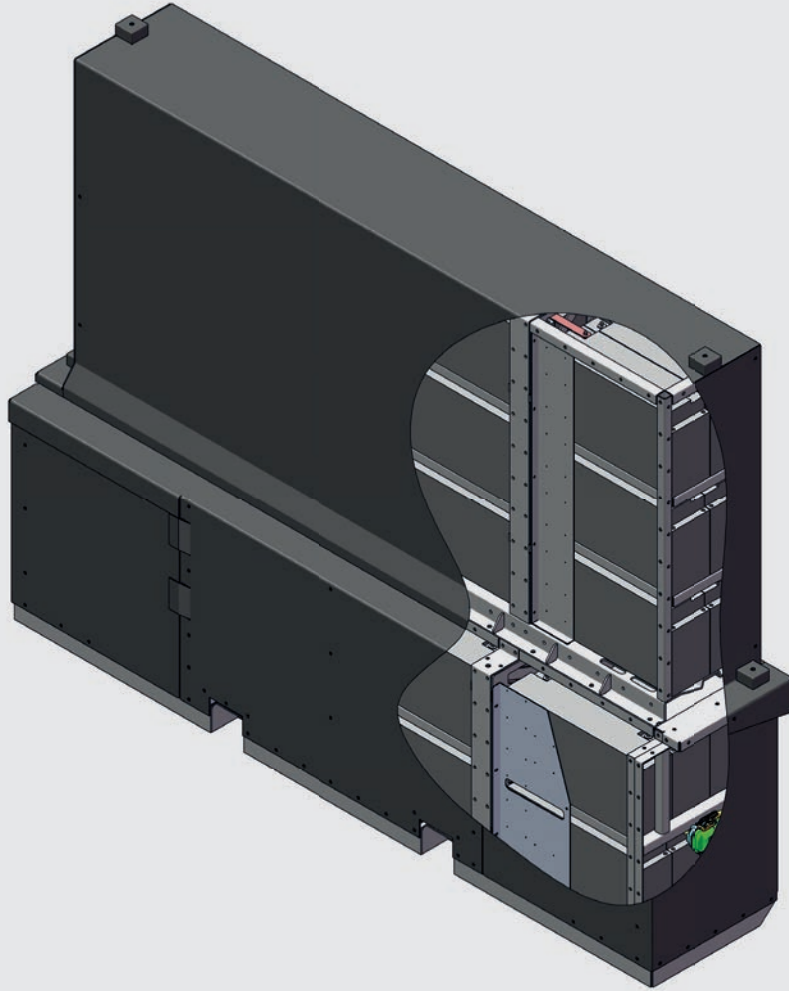
## Engineered to last, designed to perform

The VE652 is a 100% electric truck mounted sweeper offering zero emissions sweeping combined with longer on-station time, ease of use and low operational costs.

The VE652 excels in each of these areas:

- **High performance**
- **High productivity**
- **Lower cost of ownership**
- **Environmental impact**
- **Safety**
- **Operator experience**





## High performance

Matching battery capacity and power to provide an IC engine sweeper performance is the goal and Bucher Municipal achieve this with a large 200kWh battery pack mounted behind the chassis cab. The lithium ion phosphate battery provides 2,000 full charging cycles and an on-board Battery Management system constantly monitors and maintains the temperature and health of all battery cells, balancing them without the need for liquid cooling.

The VE features regenerative braking meaning when the accelerator pedal is released the traction motor will switch to regenerative braking mode recharging the batteries (when battery capacity is less than 90%).



### Packs

48 x 12v battery packs



### Type

Lithium Ion Phosphate - LiFePO<sub>4</sub>



### Voltage

600V



### Capacity

200kWh



## Charging

The VE652 is fitted with two 22kW on-board chargers, giving a charging capacity of 44kW with fastest possible charging time of 4 to 5 hours. 32A, or 63A 3 Phase 5 Pin charging cables are available as optional equipment with onboard storage provided.

The AC charging connector on the sweeper is a Type 2, capable of charging from any supply, including motorway services or street side chargers.



**63A 3 Phase 5 Pin Cable /  
44kWh charging 10 - 100%**

Charge Time: 4 - 5 hours



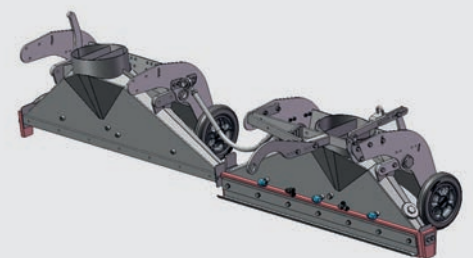
**32A 3 Phase 5 Pin Cable /  
22kWh charging 10% - 100%**

Charge Time: 8 - 9 hours



## High productivity

Productivity is driven by reliability and dependability through fewer breakdowns or service interventions. Combine this with great suction performance, quick engage options, ease of onsite adjustments and consumable replacements and your working time increases. The V Range delivers great productivity with standard features and a wide range of options to match your operational needs.



Full Width Nozzle\*

- Data-capture is standard via the JVM providing service and sweeper performance information. Data can be downloaded via a USB stick and uploaded onto a spreadsheet showing sweeping time and if fitted with a tachograph, distance travelled and distance swept.
- Every VE652 is equipped with remote diagnostics hardware allowing improved technical support. Sweeper fault codes can be investigated via the cloud to help reduce downtime.
- Rotatilt option adjusts the angle of the channel brush from the cab to clean crevasses and cambered roads.\*
- Powasave/Thrust now independently controlled; reduce brush wear and boosts pressure to channel brushes in heavily soiled channels.\*
- Powascrub provides full pressure to the wide sweep brush for scrubbing and road cleaning operations.\*
- Simultaneous sweep allows both brushes and vacuum nozzles to operate at the same time.\*
- Variabrush allows the operator to maintain a safe and consistent distance from the pavement, by adjusting the channel brush position to follow the kerb line; enhancing the functionality of the sweeper.\*
- Variagap gives the operator infinitely variable control of the nozzle aperture maximising suction performance whilst collecting bulky items or debris.\*
- Interchangeable full width suction nozzles can be installed for Fluid Recovery, Chipping Recovery or standard for increased suction width.\*

\* Optional equipment



### Up to 6,000kg payload

With an 16,000kg GVM.  
\*options dependant



### 3,260mm wheelbase

With 1554 litre water capacity.  
(a 2000 litre option).



### Up to 8 hours sweeping

Or a transit range of up to 200Km.



### 6.5m<sup>3</sup>

Hopper capacity.



### SmartLink

With SmartLink you are informed. Tracking, performance and service data can be viewed through an account based portal.



### Up to 3600mm

Up to 3600mm swept brush width on simultaneous sweep.



Rotatilt\*



Littasnatch\*



Simultaneous Sweep\*

- Supawash with chisel jets cleans roads and kerb lines and the hand lance with 15 metre hose can be used to clean street furniture and the sweeper itself. \*
- Line cleaning jets and detergent injection can enhance the supawash option.\*
- With a hopper strainer, the hopper can be filled with water to increase the flushing capacity up to 4200 litres.\*

**The VE652 can do more when it's moving and more when it's stationary.**

- The top mounted wanderhose with 280 degree rotation, available in a 150mm diameter with water injection, can be used to empty gullies down to 1570mm safely from the kerb side.\*
- Powaboom provides power assisted lift and lower functions to the wanderhose. \*
- A gully pack option provides a solution to servicing gullies on building sites, stowing the top mounted wanderhose on the side of the sweeper to reduce the time needed to move in-between pots.\*
- Low pressure washdown hose can be used to top up water tanks on plant as well as washing down the sweeper equipment or watering town centre planters.\*

- Heavy duty, rear mounted wanderhose is also available to allow gully emptying. The single piece rear hose provides fast deployment with a max cleaning depth of 1475mm.\*
- A rear 160mm diameter lightweight littasnatch can collect litter up to 7 metres away from the sweeper.\*
- Broom and shovel stowage keep cleaning tools out of the cab.\*
- With the Anti-skid material dispensing options, bulk bags can be loaded via the pneumatic operated roof hatch and emptied via the rear door mounted anti-skid iris valves.\*
- Pneumatically operated mesh shakers remove leaves and litter trapped in the screens without the need for the operator to open the rear door.\*
- Load de-watering screens allow the removal of wet waste prior to tipping.\*
- Easiclean option can connect to a hydrant to flush the inside of the hopper, cleaning the roof duct and behind the inlet tubes.\*

\* Optional equipment



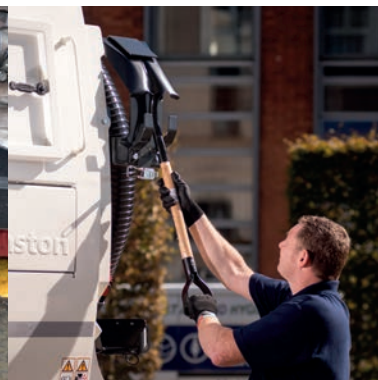
Anti skid\*



Rear Mounted Wanderhose\*



Nozzle line cleaner jets\*



Shovel Stowage\*





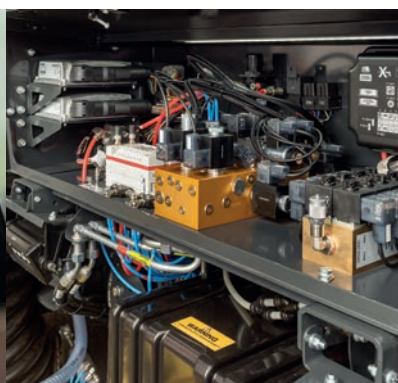
## Lower cost of ownership

Capital cost is only part of the operational expenditure of the sweeper. Lower power consumption, maintenance costs and resale values can outweigh the initial purchase price offering better value in the longer term.

- The VE652 features a 4mm thick 1.4003 stainless steel hopper and integrated water tank. A 2mm thick mild steel engine cowl is standard with optional stainless steel. Stainless steel mesh screens are also available if required.
- The powder painted process features a pre-treatment to create a clean and adhesive surface for the primer and paint layers. This creates a highly effective barrier against corrosion and this increases durability of the sweepgear keeping them looking better for longer.
- The rear door features heavy duty stiffeners and the rear chute is made from stainless steel for extended durability.
- Corten inlet tubes and seats reduce wear even in the harshest of environments.
- Trailing brush arms have a kickback function as standard protecting both the sweeper and street furniture.
- Optional heavy duty nozzle box wheels and bumpers reduce damage and extend wheel life. Nozzle adjustment is also easier with easiadjust. \*
- Bolted replaceable rubber seals and quick change brushes reduce downtime for consumable replacements.
- JVM system with 7" colour screen provides fault diagnosis and operational feedback.
- As standard, the VE652 sweeper features a Pressadrain water purging system so that when freezing weather conditions are anticipated, water is easily and conveniently drained from the sweeper.



JVM screen



Systems locker



Kick back feature



Supawash Hose\*

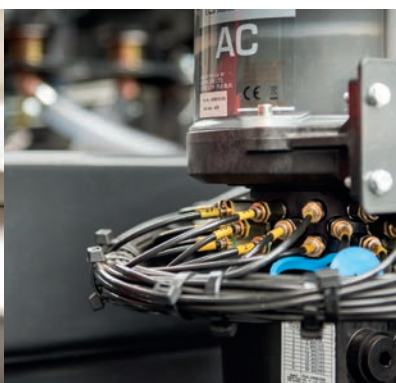
- Water jets in the nozzle boxes are self-cleaning which extends the life of the components.
- The Supawash hose has a short lead with a connector attached to the 15 metre hose. This allows the full length hose to be replaced quickly in the event of damage. \*
- The Preference plus option extends the functionality of the sweeper further to allow additional features and warnings. This includes allowing a pause function on the sweep gear; if the sweeper reaches its weight limit, runs out of water or has low fluid levels. It also allows you to customise your sweeper's functionality. \*
- The electronic nodes, hydraulic adjustments and pneumatic systems are centralised in the systems locker complete with convenient LED strip light, making repairs and fault finding easier and faster.

- A roof access door allows for easy cleaning of the air duct above the mesh screens. \*
- Wear plates are held in place with retention hooks to reduce the time to replace them.
- Rear door heavy duty twin locking mechanism with minimal proximity switches, to ensure a tight seal and prevention of leakage.

\* Optional equipment.



Door locking mechanism



Autolube\*



4" Rear Door Drain Valve\*

Easiadjust Nozzle



## Low environmental impact

Road sweepers are the only vehicles on the road that reduce harmful emissions by trapping particulate matter collected from the road surface in the hopper. The VE652 is cleaner and cheaper to operate with the lowest environmental impact Bucher Municipal can design.



### Low noise

The V Range sweepers are equipped with noise suppression hoods, encapsulating the suction fan and fan casing. Noise attenuation vanes are installed as standard in the air exhaust system. Noise at the driver's ear is less than 75 dB(A) at maximum revs, creating a safer operating environment for both the driver and pedestrians. The fan speed can be set to lower revs for night sweeping which reduces the noise levels by up to 50%.



### High dust suppression

Debris is sucked in a direct route from the vacuum nozzle into the hopper, reducing wear and tear as well as maintenance. Once debris is in the hopper, the cyclonic airflow helps separate debris, and the clean air is released into the atmosphere. Dust is suppressed by low pressure water jets via a front spray bar and jets around the nozzle box. The dampened debris is swept from the centre of the road and the kerb line via the wide sweep brush and channel brush into the nozzle. Water jets at the bottom of the nozzle wet the debris with options to add additional water at the rear of the nozzle and/or at the top to soak the debris entering into the hopper.



### Zero emissions

Producing zero tailpipe emissions and low noise makes the VE652 ideal for municipal sweeping and with a driving range of 200 km on a single charge means that it operates at less than 1kWh per kilometre.



### Low water usage

The V Range uses as standard yellow mist atomising jets to reduce water usage by 20% or red nozzle jets, with higher flow are available for heavier applications.



### Easiclean system

The Easiclean option allows the operator to connect a hydrant to the water system and flush out the air duct above the mesh screens and the areas behind the inlet tubes.



## Safety

Safety is everyone's responsibility and Bucher Municipal has considered all areas of human interaction when designing the VE652 sweeper.



High Tipping Angle Door

**Automatic Body Prop**

The highly visible, self-engaging body prop provides the operator and service personnel with a safe working environment. As it is disengaged via the radio controlled remote pendant, there is no need for anyone to work under an unsecured body.

**Radio Controlled Pendant**

The VE652 features a radio controlled remote pendant allowing the operator to walk completely around the sweeper without having wires to contend with. The operator can adjust the wide sweep brush easily and can check the surroundings before opening the hopper or tipping.

**Working Lights**

The VE652 can be supplied with a wide range of optional LED work lights to make sweeping safer and easier.

- Double or triple sweep gear work lights illuminate the side of the sweeper and kerb. \*
- Rear mounted work lights offer an illuminated area behind the sweeper for reversing and working. \*
- Rear mounted reverse lights provide other site traffic with a highly visual reverse indicator which can be set to flash when reversing for added safety. \*
- High visibility brush plates and hose sleeves make it easier for the operator to see the brush position and alerts pedestrians, cyclists and other vehicles to the position of the brushes.

**Hazard Warning Lights**

Being seen is a necessity on many sites and highways, Bucher Municipal offer several options to suit customer needs.

The VE652 is supplied with an LED cab mounted beacon and two rear LED beacons mounted at the back of the hopper. Operated from the JVM, these beacons flash in sync to ensure the sweeper is clearly visible.

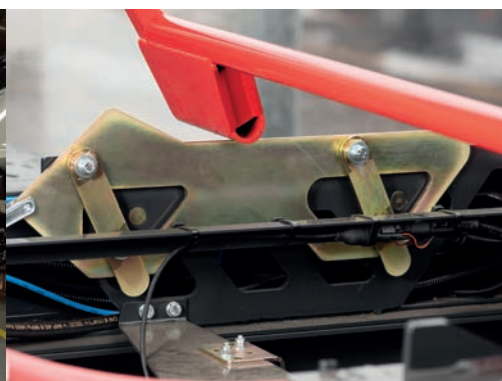
Optional beacons can be supplied to increase the awareness of the sweeper:

- LED cab roof bar beacons.
- Four LED flashers mounted on the rear door.
- An LED light board can be fitted with programmable messaging.
- An LED LP13 Signboard can be installed for highways contracts.

\* Optional equipment



LP13 Signboard\*



Body Prop



Triple Work Light\*

### Camera Options

The VE652's JVM screen provides information on the sweeper's performance and doubles up as the camera screen, reducing the requirement for additional screens in the cab and improving the direct vision for the driver.

The built in camera system offers up to 4 optional cameras all visible on the JVM:

- Rear view, mounted at the top of hopper, comes on automatically in reverse.
- Offside brush gear, to provide the driver with brush position when sweeping on the opposite side.
- Near side brush gear, added vision for standard sweeping.
- Offside road view, providing additional vision for potential blind spot.
- 360 degree recording cameras can also be fitted on request (separate screen required, not integrated with JVM).\*

### Improved Direct Vision

The VE652 now comes with an adjustable JVM screen. This allows the operator to adjust the JVM screen and control box to suit their driving position.

An updated door controller keypad with improved information and LED lights indicate which sweeping functions are on so the operator reduces the number of times they have to look away from the road.

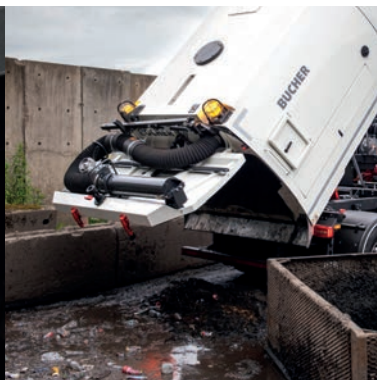


- 2 USB charging ports
- Cup holders
- Front handle for position adjustment
- Dedicated regulator positions for independent LH/RH Powasave / thrust option
- Dedicated regulator position for in-cab mesh shaker option

\* Optional equipment



Offside camera\*



Discharge mode



Top Mounted Wanderhose \*



Hi-Visibility Brush Plates





# Operator experience

The VE652 sweeper has been cleverly thought through with the operator in mind. Ease of use, great suction performance, minimal effort required to set-up, clean and operate, often makes the V Range the operators' first choice sweeper.

## JVM Display

- The centre console, featuring cup holders and USB charging points, can be adjusted to suit the operator's preferred position.
- The control box supports up to three optional regulators. These are used for independent powathrust/save. The controls feature a gauge to allow the operator to see how much pressure is being applied. A 3rd regulator is used for cab operated mesh screen shakers.
- The JVM screen is mounted on an articulated arm allowing tilt angle and rotation to be adjusted without the need for any tools.
- The JVM has a wide range of settings that can be tailored to suit the operational needs. Features available include slewing the wide sweep brush to the opposite angle for sweeping planings. Warning notifications can be programmed to sound an alarm or pause the sweep gear when overloaded, out of water or powerpack capacity levels are low.

\* Optional equipment

## Door Controller

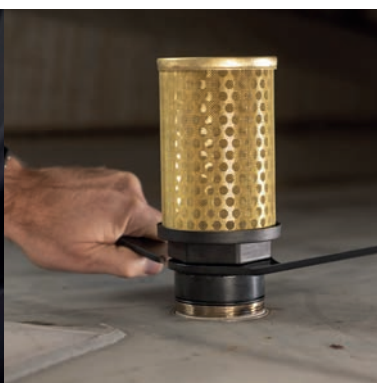
The ergonomic door controller can be used for all the sweeping operations, brush position, pressure, speed, nozzle aperture and water jets. A heavy duty pause button allows the operator to lift all the sweep gear until depressed again. This allows the operator to change from sweeping to transit in a quick and easy way, and easily back again to sweeping. The VE652 remembers the last sweeping settings used each time.

## Side Door Lockers

The VE652 has two lockable large side lockers for storing wanderhose extensions and standpipes.

## Cleaning

- The VE652 features a sloping hopper floor; this allows leaves and debris to slide out of the hopper easily, reducing the amount of cleaning required.
- The mesh screens are locked and released from the retention hooks on the rear door reducing the effort required to open and clean.
- The VE652 now offers an Easyclean system which flushes the air duct and behind the inlet tubes. \*
- An automated water purging system uses the air from the pneumatic system to clear water from the pipes to reduce the risk of frost damage.



JVM

Water Strainer\*

Mesh retention hooks

USB Charging Points



- The Supawash hand lance system, when supplied, can be fitted with detergent injection for cleaning inside the hopper and the sweeper. \*
- The discharge chute is made from 1.4301 stainless steel and the locking mechanism features spring flaps which close when the door is opened reducing the amount of debris that falls onto the rear of the chassis.

### Set up

- The nozzle box is adjusted via the easiadjust system, reducing the time needed prior to operation. The widesweep brush is adjusted using the radio controlled pendant without the need for tools.
- The channel brushes are easily changed when worn and the wide sweep brush can be supplied as a single piece stock, negating the need for segments to be changed.
- Daily checks are completed electronically through the JVM system, reducing the need to do a physical check.

\* Optional equipment



Radio controlled pendant



Side Access Door



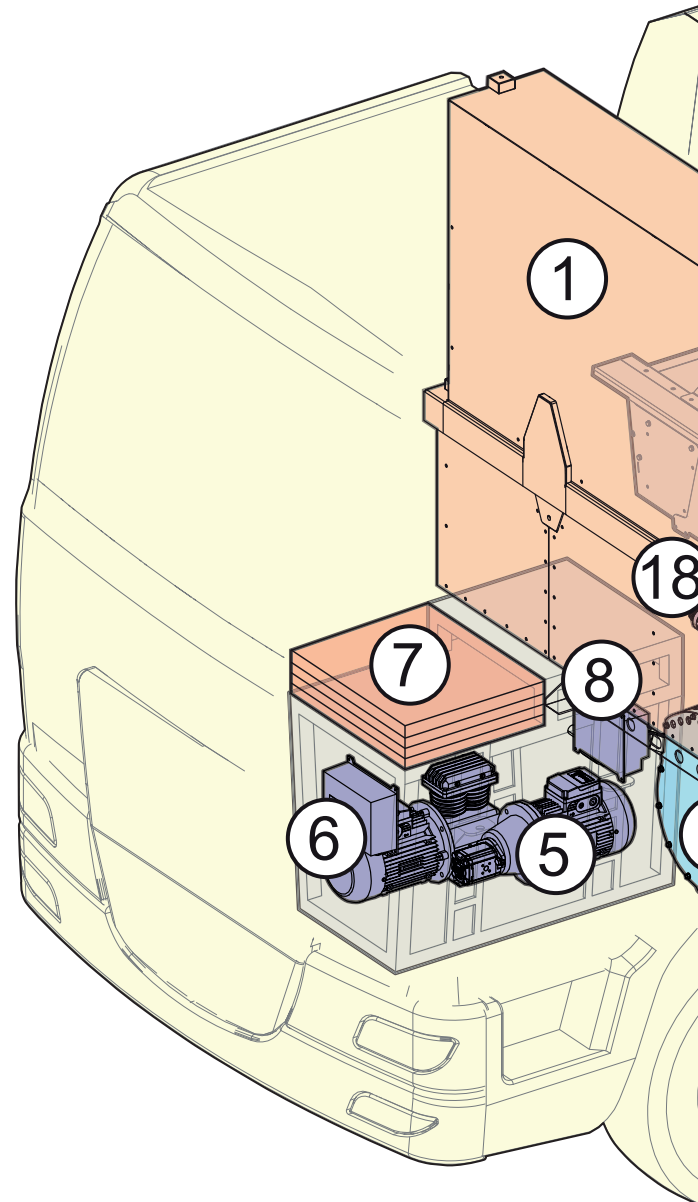
Easiclean\*



Door controller

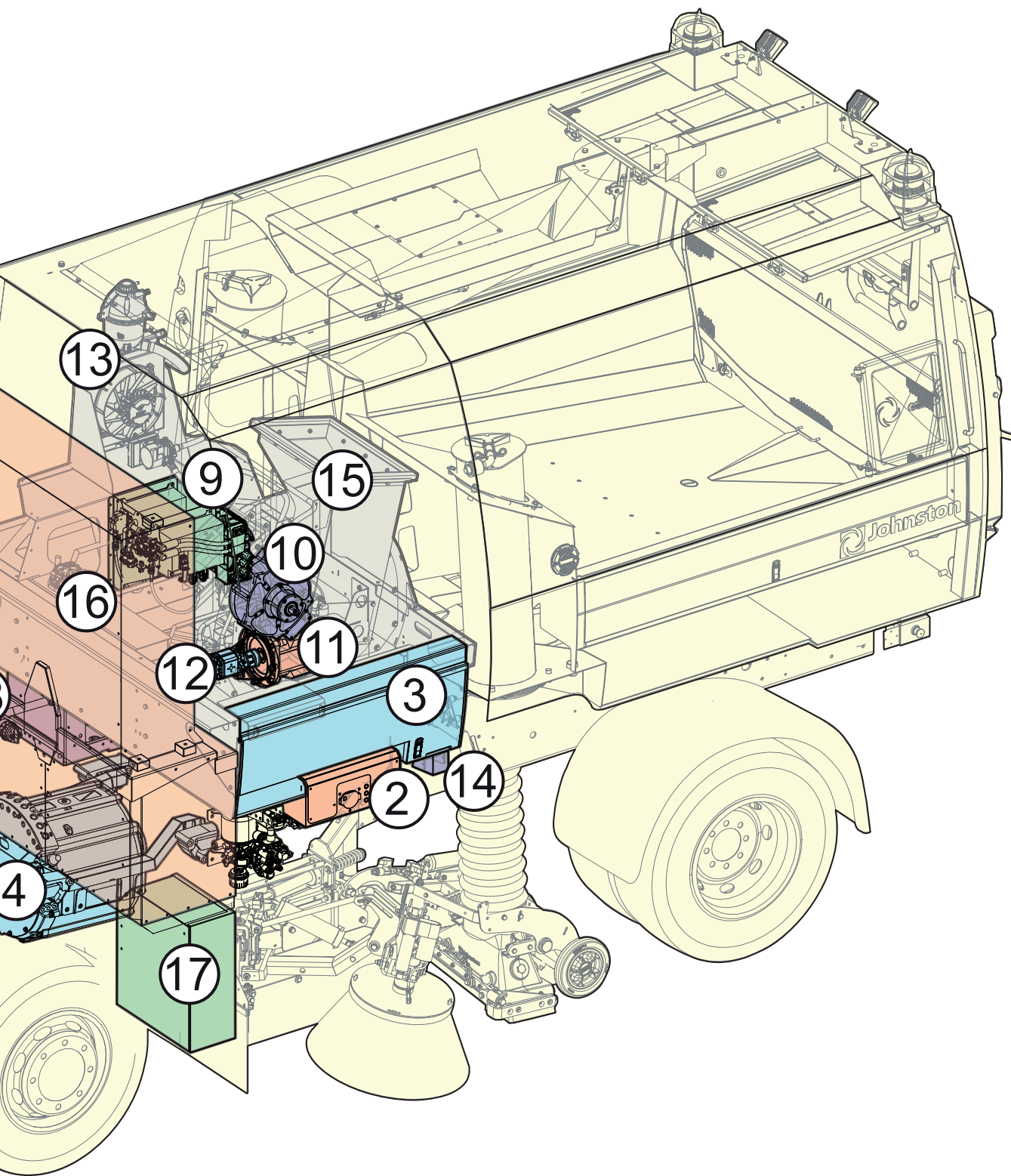
## VE652 Configuration

- |   |  |
|---|--|
| 1. Battery pack                             | 10. Suction fan motor                            |
| 2. Type 2 charge inlet socket               | 11. Hydraulic pump motor                         |
| 3. Cable storage locker                     | 12. Hydraulic pump                               |
| 4. Traction motor                           | 13. Power electronics cooler                     |
| 5. Air compressor                           | 14. High voltage emergency stop                  |
| 6. Power steering motor and pump            | 15. Suction fan case                             |
| 7. On board charger (44 kW)                 | 16. Hydraulic oil reservoir                      |
| 8. Traction inverter                        | 17. Driveline battery packs emergency switch off |
| 9. Sweepgear inverters and distribution box | 18. 24V chassis battery isolation                |



## Air flow

The wearsafe impeller fan spins up to 3000 rpm and creates a vacuum inside the hopper. Debris is sucked up through the nozzle box, the top mounted wand/hose or littasnatch. Debris entering the nozzle box passes up the 10 inch inlet tube to the wear plates inside the hopper. The wear plates are designed to swirl the air inside the hopper ensuring the soaked debris falls to the hopper floor, trapping all dust and particulate matter in the hopper. The remaining air is then extracted through the mesh screens, through the impeller fan and out into the atmosphere.



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**BUCHER**  
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Bucher Municipal reserves the right to alter  
specifications without prior notice.  
VE652/PRE/500/0120