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# V RANGE

VT502	VS502	VM502
VT652	VS652	VM652
VT802	VS802	VM802

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## Extraordinary results from our highly regarded sweepers

The V Range has established itself as Johnston's 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, Johnston Sweepers offer a wide choice of products and options, which ensures maximum performance is always achieved.

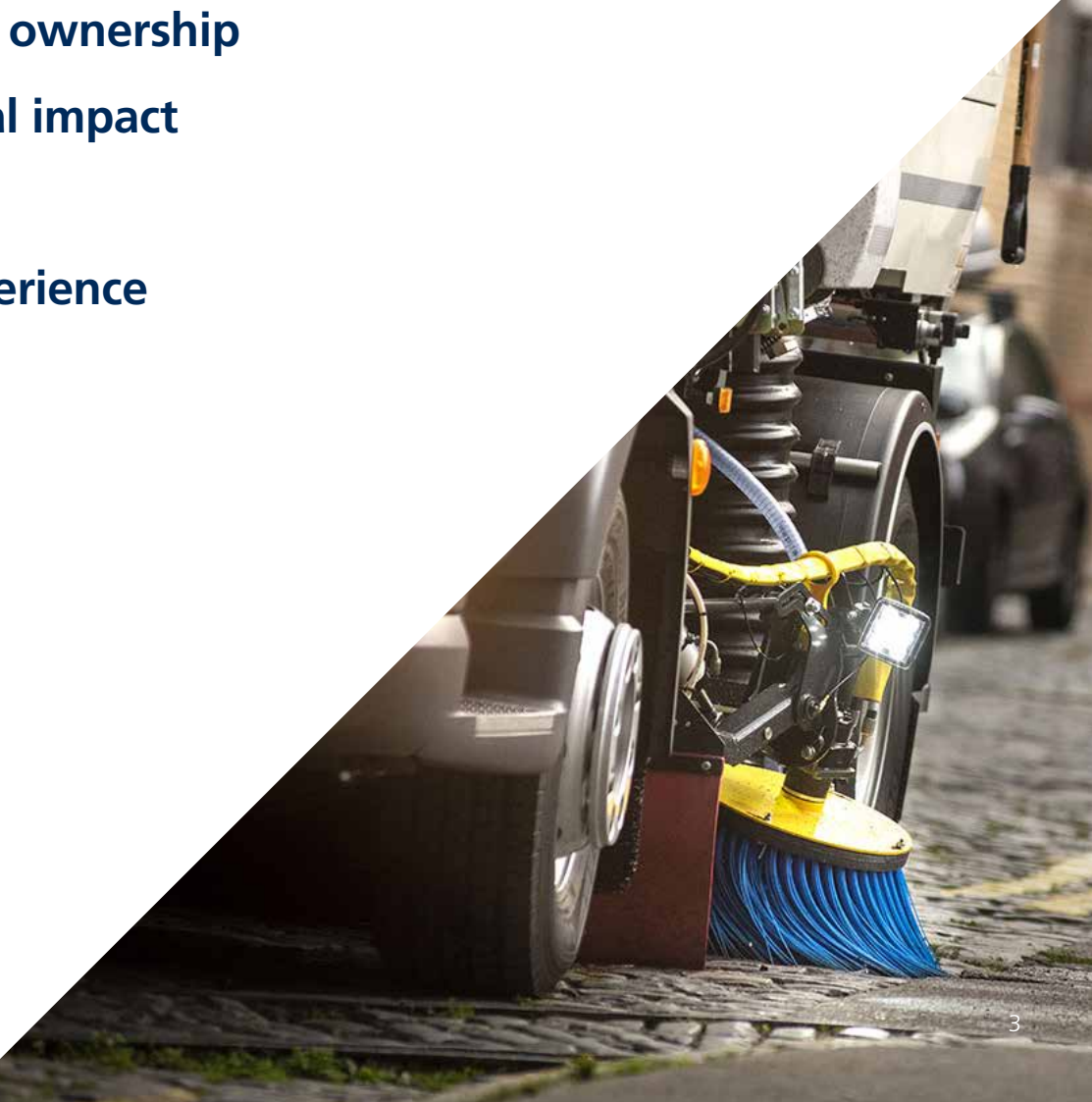


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# Engineered to last, designed to perform

The V Range truck mounted road sweeper has been developed to provide longer on-station time with the lowest environmental impact, combined with ease of use and low operational costs. The V Range excels in each of these areas:

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

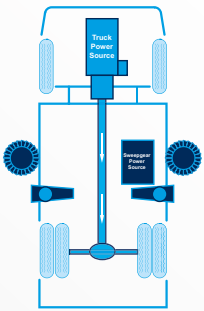


# High performance

The V Range is supplied with a choice of three hopper capacities and a range of power packs to tailor the sweeper to the operation. A wide range of options extends the functionality further to provide a truly versatile machine.

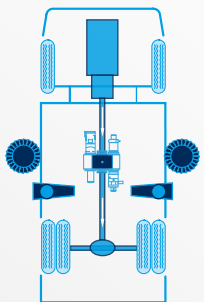
Maximising on-station time requires a balance of having enough water capacity to minimise refills, having enough hopper capacity to cope with large volumes of leaves or debris, having a payload great enough to meet the demands of a workday and being able to carry enough fuel to reduce non-productive travel.

Over years of development, Johnston feel we have achieved a near perfect balance of the requirements to provide possibly the best performance road sweeper.



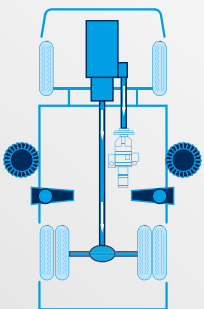
## VT Range (Auxiliary)

VT Range – a twin engine sweeper provides the greatest flexibility. The sweeping operations are totally independent from the chassis and therefore can offer the lowest fuel consumption on low revs or best possible suction performance on maximum revs. The auxiliary engine can be fuelled by tax free diesel where permitted, allowing significant cost savings.



## VS Range (Hydrostatic)

VS Range – the Johnston patented hydrostatic gearbox can work with large chassis engines up to 280hp. Being 300kg lighter than a twin engine sweeper, the VS offers a 5% greater payload on average than the VT. In hydrostatic drive, the sweeper offers infinitely variable speed control and can transit up to 40kph. It can also be supplied with cruise control.



## VM Range (Mekavac)

VM Range – an engine PTO (power take off) is used to drive all the sweeping functions, offering the best weight advantage with a 10% better payload than the VT. Due to the minimum PTO torque required, the VM is limited to a selection of chassis brands.



## Up to 7,000kg payload

With an 18,000kg GVM.



## Up to 3,450 litres

Standard water capacities from 1375 litres on the 502 to 2000 litres on the 652 and 802, with optional 700 litre additional water tank and/or 750 litres of water recirculation.



## 175-190 litre fuel tank

The VT Range auxiliary engine uses only 4.14 litres per hour (+ 1.75 litres for the chassis) making it an excellent choice.



## 5, 6.5 or 8m<sup>3</sup>

5m<sup>3</sup>, 6.5m<sup>3</sup> or 8m<sup>3</sup> hopper options.



## SmartLink

With Johnston SmartLink you are informed. Tracking, performance and service data can be viewed through an account based portal. Review KPI's such as fuel consumption, engine rpm, hours worked and more.



## Up to 3600mm

Up to 3600mm swept brush width on simultaneous sweep (with an optional side slide brush increasing swept brush width to 4200mm).



# High productivity

Productivity is driven by reliability and dependability through fewer breakdowns or service interventions. Combine this with great suction performance, quick engage options and an ease of onsite adjustments or consumable replacements and your time working increases.

The V Range delivers great productivity with standard features and a wide range of options to match your operational needs.

- ▶ 500 hours between routine services on JCB engines.
- ▶ Shortest wheelbases designed with major chassis manufacturers to improve turning circles.
- ▶ 650mm or 500mm channel brushes with an optional side slide brush arm for weed ripping or extended swept width.
- ▶ The V Range dual sweep can sweep both near side and offside kerbs and change from one to the other simply via a single button.
- ▶ The VT Range has a JCB 55Kw gear driven, push rod, industrial engine, designed for operating in dusty environments. Providing 400Nm of Torque at 1250 rpm the Stage 3b engine is ideally suited for road sweeping operations whilst offering low fuel consumption (EU28 only).
- ▶ A JCB 93Kw engine is available offering a max torque of 550Nm at 1500 rpm for applications where higher suction is required; for example more arduous road construction operations (EU28 only). An Optional JCB 85kw 3a engine is available outside of the EU offering a max torque of 440Nm at 1300 rpm.

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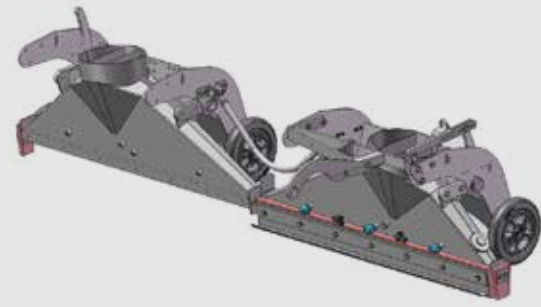
## 500 hours

between routine services  
on JCB engines

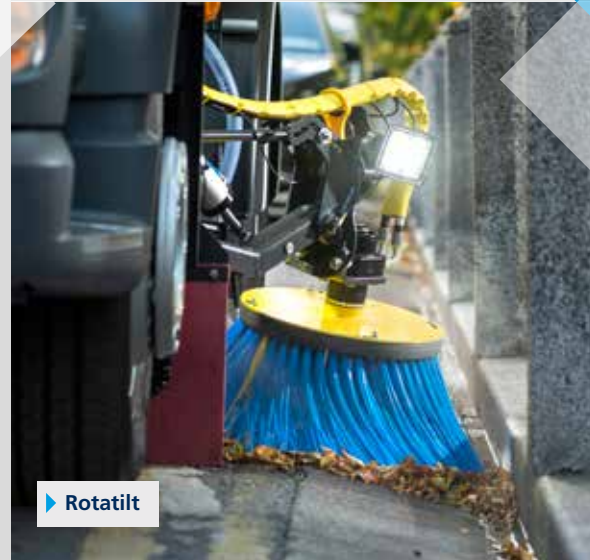
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- ▶ Data-capture is standard via the JVM providing data on service information and the sweeper. Data can be downloaded via a USB stick and uploaded onto a spreadsheet showing engine revs, fuel consumption, sweeping time and if fitted with a tachograph, distance travelled and distance swept.
- ▶ Every V Range is equipped with remote diagnostics hardware allowing improved technical support from your Johnston dealer. Sweeper and engine fault codes can be investigated via the cloud to help reduce downtime and improve repair times.
- ▶ Rotatilt option adjusts the angle of the channel brush from the cab to clean crevasses and cambered roads. \*
- ▶ Powersave/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



▶ Full Width Nozzle



▶ Rotatilt



▶ Littasnatch



▶ Simultaneous Sweep

▶ Anti skid



▶ Rear Mounted Waderhose



▶ Nozzle line cleaner jets



▶ 700l additional water/fuel tank

- ▶ 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 (8m<sup>3</sup> hopper plus extra water tank). \*
- ▶ Water recirculation extends on-station time by up to 4 hours and reduces the non-productive time refilling. \*

**The V Range 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 or 200mm 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 and has external throttle controls allowing fan speed to be adjusted from the hose. \*
- ▶ A gully pack option provides a solution to servicing gullies on building sites, stowing the top mounted wander hose 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. \*
- ▶ A 700 litre additional water tank or fuel tank can extend the range of the sweeper. \*



- ▶ 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. \*

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## 280° rotation top mounted wander hose

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\* Optional equipment



# Lower cost of ownership

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

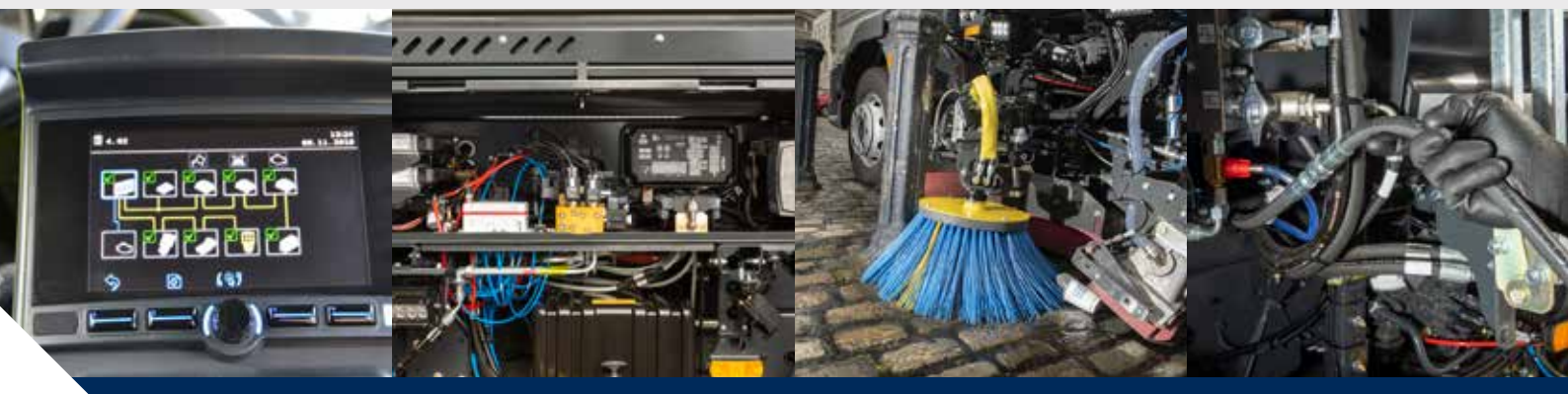
- ▶ The V Range has been designed to last, perform at lower revs and have more durable wearing parts.
- ▶ The V Range features a 4mm thick 1.4003 Cromwell stainless steel hopper and integrated water tank. Full stainless steel is also available as an option. A 2mm thick mild steel engine cowl is standard with options of Cromwell or full stainless steel. Stainless steel mesh screens are also available if required.
- ▶ The powder coated paint process features a polymer adhesive coating prior to the undercoat being applied. This increases durability of the sweep gear components and keeps 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 easyadjust. \*
- ▶ Bolted replaceable rubber seals and quick change brushes reduce downtime for consumable replacements.
- ▶ Johnston JVM system with 7" colour screen provides fault diagnosis and operational feedback for the sweeper including engine codes.
- ▶ As standard, the V Range sweeper features a Pressadrain water purging system so that when freezing weather conditions are anticipated, water is easily and conveniently drained from the sweeper.
- ▶ 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. This allows you to customise your sweeper's functionality. \*

▶ JVM screen

▶ Systems locker

▶ Kick back feature

▶ Supawash Hose



- ▶ 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.
- ▶ The VS and VM sweepers use load sensing pumps to control the fan speed providing efficient hydraulic power and reducing the power required from the engine.
- ▶ The VT has the Johnston Z-Drive stepped gearbox. This provides a higher fan speed at lower revs, reducing engine wear and fuel consumption.
- ▶ The 55kW JCB engine combined with a typical 250hp chassis uses 8.5 litres of fuel per hour in work mode at 1400 rpm which can be up to 43% lower than alternative drive systems.
- ▶ The combi-cooler radiator is separated for easy cleaning and reducing overheating.
- ▶ Heavy duty twin locking mechanism with minimal proximity switches, to ensure a tight seal and prevention of leakage.

\* Optional equipment



▶ Door locking mechanism

▶ Autolube

▶ Combi-Cooler Radiator

▶ Easyclean



# 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 V Range does this with the lowest environmental impact Johnston can design.



## Low noise

The V Range sweepers are equipped with noise suppression hoods, encapsulating the auxiliary engine and fan casing and 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 (chassis dependant), creating a safer operating environment for both the driver and pedestrians. The engine can be set to lower revs for night sweeping which reduces the noise levels by 50%.



## Low fuel consumption

The VT Twin engine sweeper uses less fuel at lower revs than the VS or VM single engine sweepers in the majority of applications. At maximum revs the VT will use more fuel but will have better suction. Johnston has 4 power pack options to allow the best balance of fuel consumption, cost and power to match the application.



## 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. The optional Water Recirculation System can save up to 900 litres of water per day extending the on-station time and reducing the risk of dust going through the fan.



## 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 Johnston cyclonic airflow helps separate debris, and the clean air is released into the atmosphere.



## Eunited 4 star certified

PM10 and PM2.5. Optional microtrap dust suppression system for additional particulate matter control.



## HVO compatible

All JCB auxiliary engines are HVO (Hydrotreated Vegetable Oil) compliant. HVO has the equivalent productive output as diesel but with none of the harmful properties, burning cleaner and with significantly lower damaging emissions up to 90% less Carbon Dioxide (CO<sub>2</sub>) and 30-70% less NOX (nitrogen oxides). A non fossil fuel, HVO can be used 100% or with any EN590 diesel mix without modification or change in servicing requirements.



## Powapack options

- JCB 55kW - Stage 3L Industrial
- JCB 85kW - Stage 3a - 24v only Not EU
- JCB 93kW - Stage 4 (with Adblue)
- VS - Hydrostatic Gearbox
- VM - PTO drive



## CNG compatible

The VS Range can be installed on an suitable CNG sweeper packed chassis, offering the same compact wheelbase as the diesel version.

# Safety

Safety is everyone's responsibility and Johnston has considered all areas of human interaction when designing the V Range sweepers.

## 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 from the radio controlled remote pendant, there is no need for anyone to work under an unsecured body.

## Radio Controlled Pendant

The V Range 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 V Range 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 or the road planing kit. \*
- ▶ 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 makes 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, Johnston offer several options to suit customer needs.

The V Range is supplied with a cab mounted beacon and two rear 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:

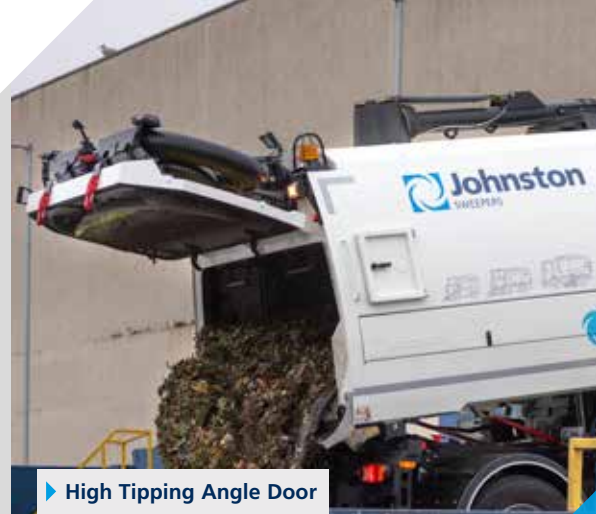
- ▶ LED cab roof bar beacons.
- ▶ Four LED flashers mounted on the rear door.
- ▶ LED beacons rooftop mounted for improved reliability.
- ▶ An LED light board can be fitted with programmable messaging.
- ▶ An LED LP13 Signboard can be installed for highways contracts.
- ▶ Additional tailored light options can also be added. The V-Range features additional relays in the systems locker for distributors or customers to add lights, which can be controlled by the JVM.

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## Four LED flashers mounted on the rear door

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\* Optional equipment



▶ High Tipping Angle Door



▶ LP13 Signboard



▶ Body Prop



▶ Triple work light option

▶ Offside camera



▶ Disengage mode



▶ Handwash



▶ Brush plates



### Camera Options

The V Range'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 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 V Range 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.



### Engine bay access

The engine bay access is via a wide folding ladder with three points of contact. Hand rails provide safer access and regress in the engine bay area. The hydraulic tank provides a wider platform for the operator to stand on whilst carrying out minor inspections and checks.

### JVM daily checks

Daily checks are carried out via the JVM so the operator has no need to check the fluid levels manually. The JVM auto updates for the life of the sweeper.

Highly visible brush plates and hoses provide a greater awareness for the operator, pedestrians and other road users as to the position of the brushes, preventing potential accidental contact with the channel brushes.

An electric hand wash option with removable bowl can be fitted to provide heated water for washing. \*

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## Four cameras

### all visible on the JVM

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\* Optional equipment



# Operator experience

The V Range 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 has three 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. The 3rd regulator is used for either a 3rd brush arm pressure or in 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 fluid levels are low.

## Door Controller

The ergonomic door controller can be used for all the sweeping operations, brush position, pressure, speed, nozzle aperture, engine revs and water jets. A heavy duty pause button allows the operator to lift all the sweep gear and put the engine in tick over 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 V Range remembers the last sweeping settings used each time.

## Side Door Lockers

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

## Cleaning

- ▶ The V Range 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 released and locked from the retaining clips via the door opening mechanism reducing the effort required to open and clean.
- ▶ When fitted with water recirculation or load dewatering, the rear door screen is simple to hinge from the door and clean.\*
- ▶ The V Range now offers an Easiclean 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



▶ Supawash hose



- ▶ The Supawash 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.

### Cruise control

On selected chassis and power options, cruise control can be supplied, achieving a consistent sweep speed regardless of elevation (VS only). \*

### Set up

- ▶ The nozzle box is adjusted via Johnston's easyadjust 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

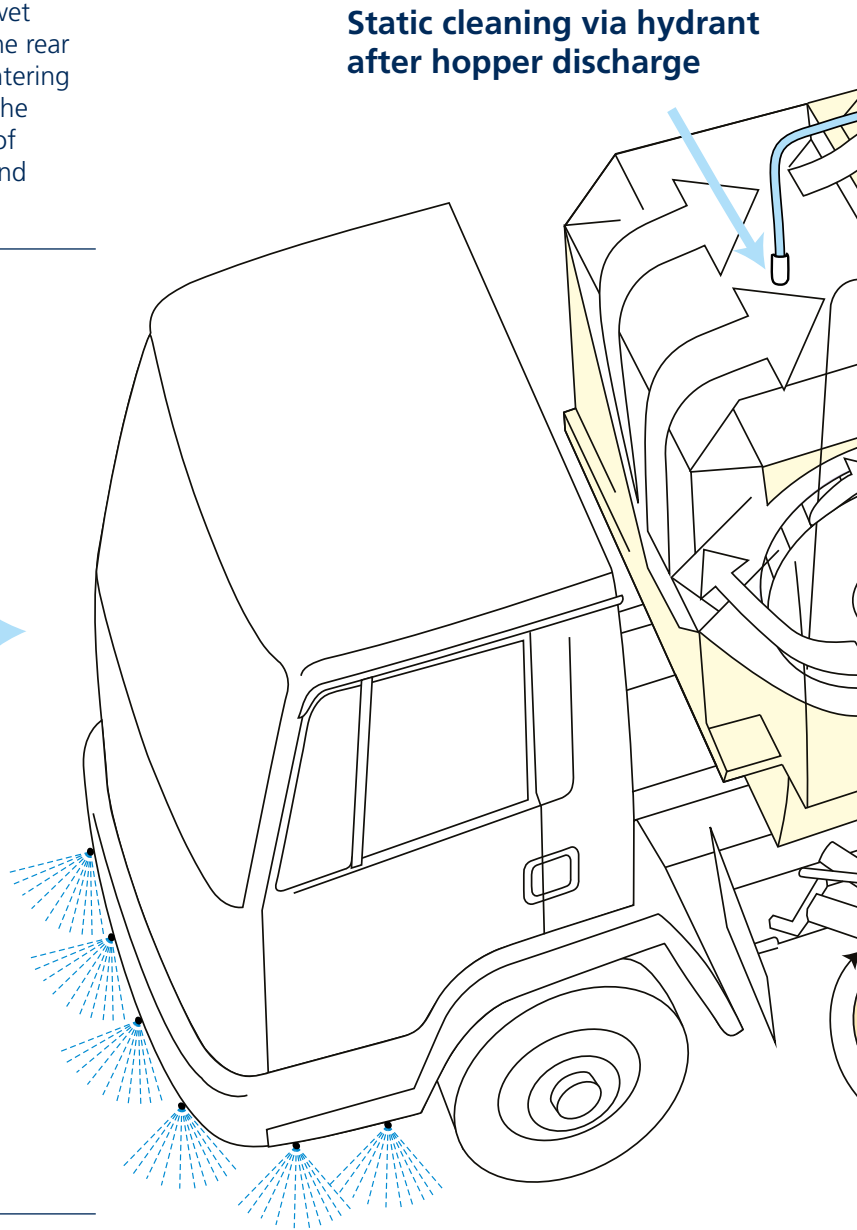


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## Water recirculation

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 box. Water jets at the bottom of the nozzle wet the debris with options to add additional water at the rear of the nozzle or/and at the top to soak the debris entering into the hopper. Optional water recirculation filters the water in the hopper which is then fed into the rear of the nozzle box adding additional dust suppression and provides a drier load.

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## 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 wander 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.

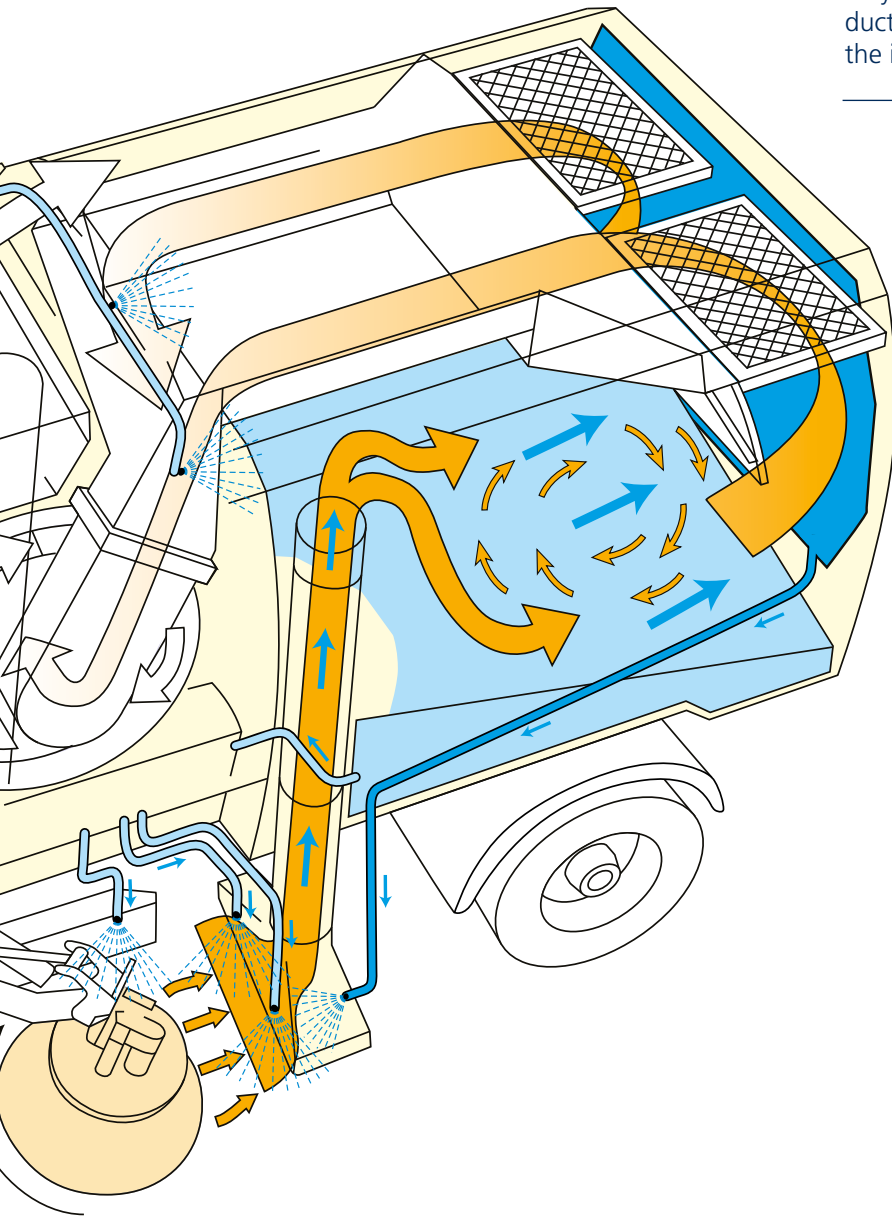
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## Easyclean system

The Easyclean 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.

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# Call us to book your demonstration

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## General Enquiries

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