



The airport range

High speed runway sweeper
Multi-task sweeper washer

The Beam airport range

Based in Denmark, Beam manufactures a range of high performance sweeping, cleaning and high pressure washing equipment.

Our machines are designed to tackle a number of applications and are split into two groups:

A9500

- A high speed runway sweeping machine with speeds of up to 40km/h

A7000 – A12000

- A multi-task sweeper washer, constructed from a menu of modular options delivering multiple applications from one machine, including
 - Stand cleaning
 - Rubber removal
 - Runway and apron sweeping (up to 20 km/h)
 - Liquid pick-up (glycol recovery)

This brochure provides information on each of these applications.



Far left and left
A9500 high speed runway sweeper

Below
A12000 multi-task sweeper washer

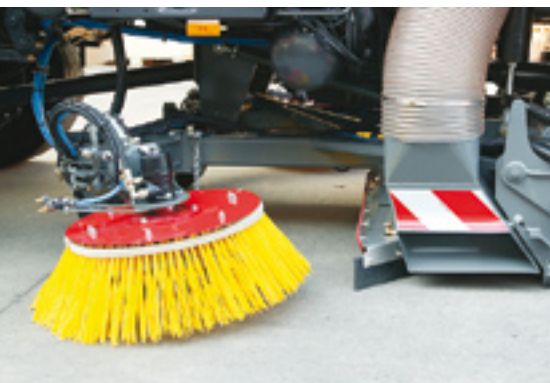
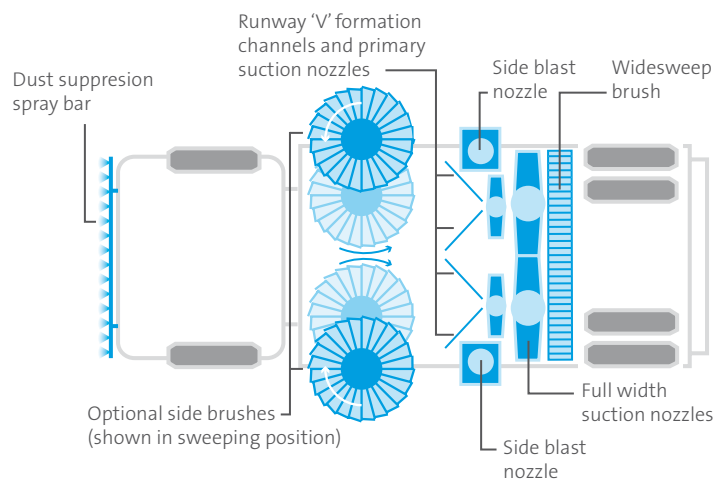


High speed runway sweeping – A9500

up to 40 km/h

The highly specialised high speed runway sweeping machine utilises special V-formation channels directing debris under the primary suction nozzles for the collection of larger FOD (foreign object debris). These primary suction nozzles are followed by a set of full width suction nozzles and a widesweep brush that pick up the finer debris.

This innovative sweeping system allows sweeping speeds of up to 40 km/h.



Far left
Sweepgear (shown with optional side brush)

Left
In-cab control panel

Technical data – A9500

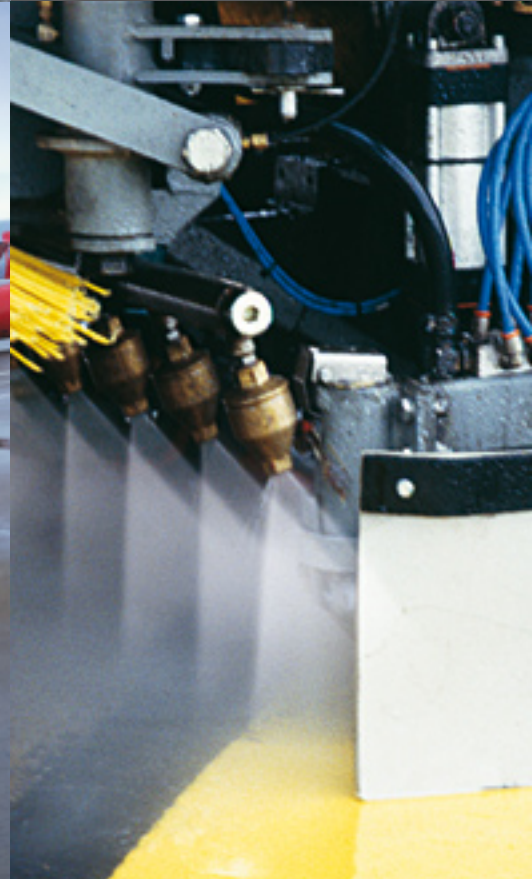
Chassis	18 tonne
Wheelbase	4500mm (minimum)
Power pack	MB OM 906 LA (205 kW) Euro MOT IIIA
Hopper capacity	9.5m ³
Tilt angle	50°
Water tank capacity	Up to 2000 litres
Working speed	40 km/h
Working width	2300mm 3400mm (with optional side brushes)
Theoretical performance	92,000m ² /h 136,000m ² /h (including side brushes)
Wide sweep brush	Ø 400mm
Optional side brush	Ø 900mm
Optional front mounted magnet	2300mm length
Optional front mounted snow plough	3200mm length
Optional front mounted snow brush	3000 to 4000mm length
Dimensions	L = 8400mm, W = 2500mm, H = 3300mm*
Weight	14,400kg (empty)

Multi-task sweeper washer Stand cleaning

One of the primary functions of the multi-task sweeper washer is the cleaning of oil and grease from aircraft parking stands which, when wet can become dangerous and slippery. Our multi-task sweeper washer quickly cleans and de-greases the surface making it ready for immediate use.



- Far left**
Detergent dispersal
- Left**
Scrubbing the detergent
- Below**
High pressure jet rinsing
- Below left**
Full width suction





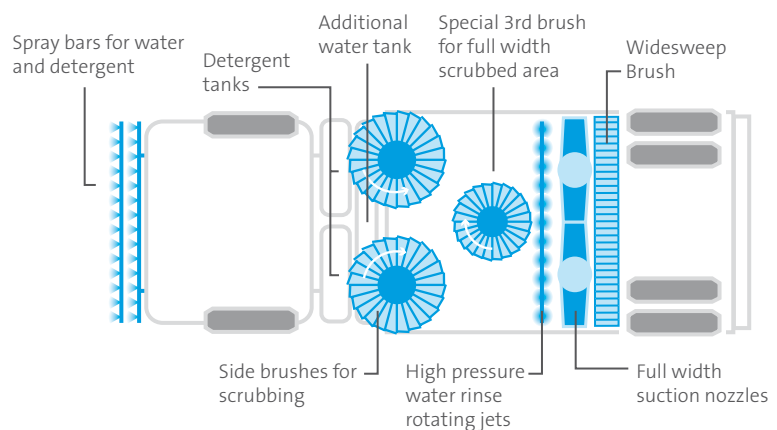
Above
Multi-task sweeper washer

Left
Runway and apron sweeping

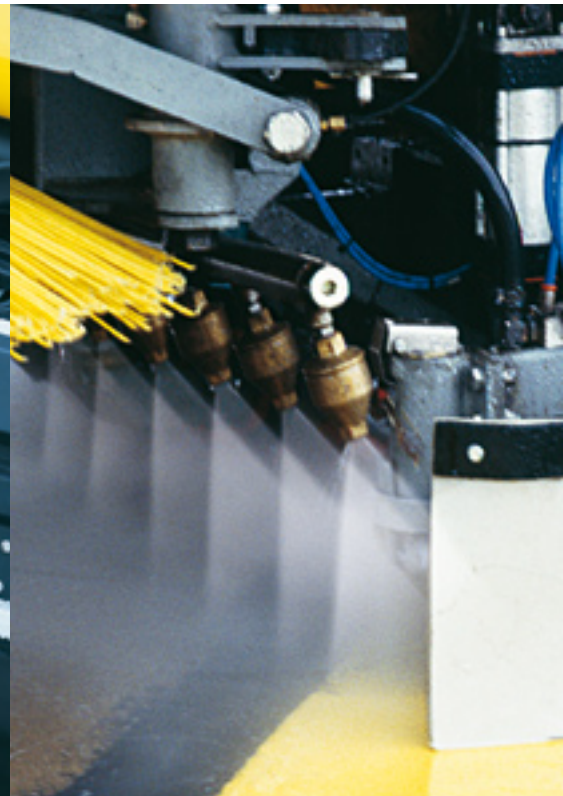
Far left
Glycol recovery machine

Typical modular option:

- 8 or 12m³ hopper in normal or stainless steel
- Additional water tanks
- 170 or 205kW power pack
- Detergent dispersal system
- 150 or 200 bar @ 100 l/min high pressure water
- Spray bar in front of full width suction with rotating jets
- Additional front spray bar, hand lance and hose reel (hand lance and hose reel are standard with all high pressure systems)
- Two Ø1100mm side brushes plus special 3rd Ø750mm brush for stand scrubbing
- Full width mid mounted suction nozzles with full width brush behind



Typical 8m³ configuration



Above left
Chemical dispersal

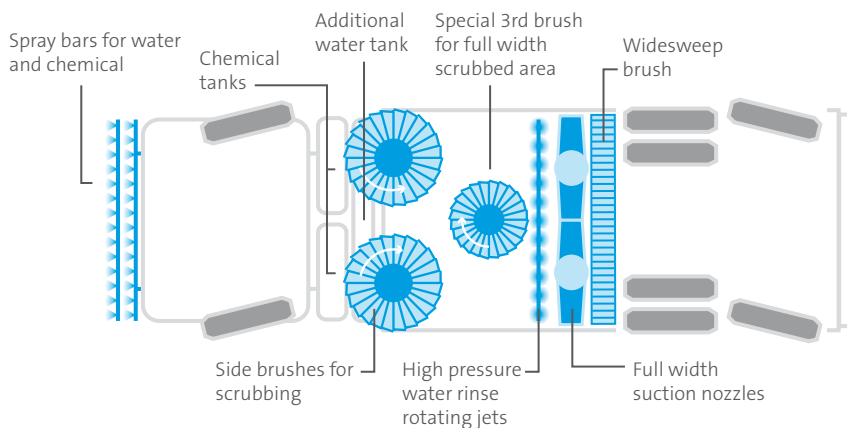
Far left
Agitating the chemical

Above
High pressure jet rinsing

Left
Full width suction

Multi-task sweeper washer Runway rubber removal (chemical)

Removing rubber deposits from the runway touch down zone (TDZ) is critical to meet runway friction requirements. This method of rubber removal avoids damaging the runway surface and collects the rubber residue for safe disposal.



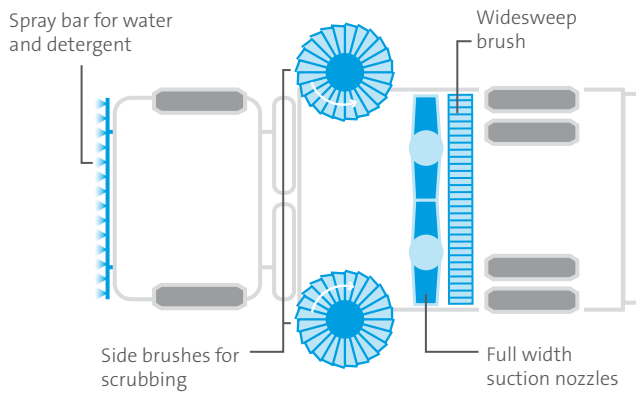
Typical 12m³ configuration

Typical modular options:

- 8m³ to 12m³ hopper in normal or stainless steel
- Additional water tanks
- 170kW power pack
- Chemical dispersal system
- 200 bar @ 100 l/min high pressure water
- Spray bar in front of full width suction with rotating jets
- Additional front spray bar, hand lance and hose reel
- Two 1100mm diameter side brushes plus special 3rd brush for rubber removal
- Full width mid mounted suction nozzles with full width brush behind

Multi-task sweeper washer

One machine – multiple tasks



Typical 8m³ configuration

Common tasks:

- Apron sweeping
- Runway sweeping up to 20 km/h
- Liquid pick-up with full width brush behind



- Far left**
Runway sweeping
- Left**
Optional front mounted magnet
- Below left**
Apron sweeping
- Below**
Optional side blast
- Bottom**
Liquid pick-up



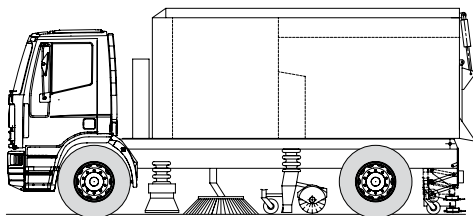
Multi-task sweeper washer

Modular options

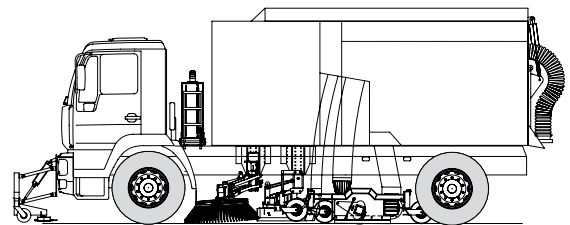
Multi-task machines are constructed from a menu of hopper, power pack, washing and sweeping modular options.

Hopper modular options

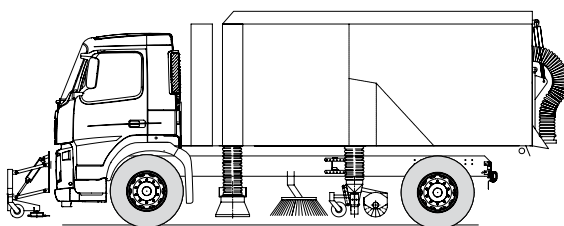
With a choice of materials and capacities, the hopper is the starting point for the sweeper specification. Each hopper is made up of 3 primary parts – the engine cowl, the hopper body and the integral water tanks. Other features include a rear screen shaker, inspection hatch ladder, beacons, single colour paint finish on the exterior of the hopper, dirt inlet to the hopper via replaceable rubber coated wear plates, marker lights and boards and the safety prop.



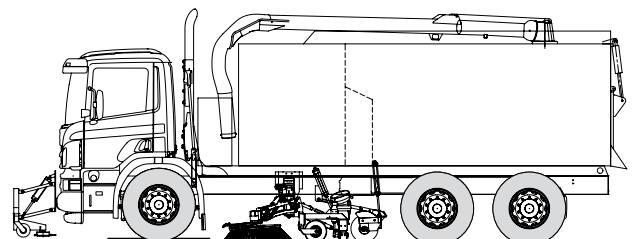
A7000	
Voided air volume:	7m ³
Typical chassis GVW:	18 tonne
Typical chassis layout:	4x2
Water volume standard:	1880 litres
Water volume with rear suction:	1480 litres



A8000	
Voided air volume:	8m ³
Typical chassis GVW:	18 tonne
Typical chassis layout:	4x2
Water volume standard:	2160 litres
Water volume with rear suction:	1760 litres



A9000	
Voided air volume:	9m ³
Typical chassis GVW:	18 tonne
Typical chassis layout:	4x2
Water volume standard:	2420 litres
Water volume with rear suction:	2020 litres



A12000	
Voided air volume:	12m ³
Typical chassis GVW:	26 tonne
Typical chassis layout:	6x2*4
Water volume standard:	3230 litres
Water volume with rear suction:	2830 litres

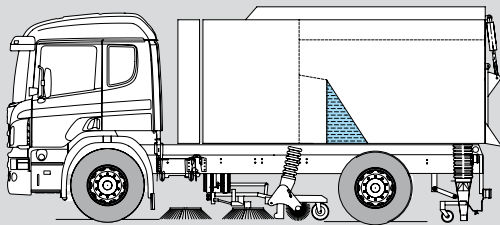
Water tank modular options

The multi-task machines have 2 linked water tanks located either side of the hopper for optimum weight distribution and balance. An additional water tank inside the hopper can be either 600 or 1000 litres and an external water tank can also be installed between the cab and the hopper. Tanks can be produced from normal steel (internally painted with a special marine coating) or stainless steel, type 1.4301 (304) or 1.4401 (316).

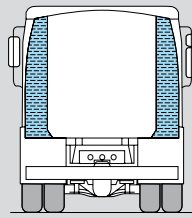
Model	Additional water tanks (litres)				
	In hopper (See note 1)		Behind cab (See note 2)		
A7000	600	1000	1100	1500	2000
A8000	600	1000	1100	1500	2000
A9000	600	1000	1100	1500	2000
A12000	600	1000	1100	1500	2000
Dimension 'a' (mm)			315	450	650

Notes:

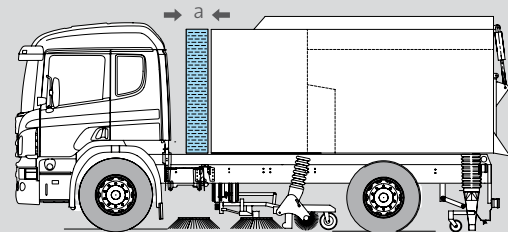
1. In hopper water tanks reduce voided volume
2. A weight calculation is required to ensure axles are not overloaded



Additional tanks in hopper (600 or 1000 litre)



Standard tanks



Additional tanks between cab and hopper

Power pack modular options

The power pack uses a choice of Mercedes auxiliary engines with power ratings up to 205kW. Power is transmitted to the dynamically balanced fan via a belt drive system and fluid flywheel. The multi-task machines are designed to deliver exceptional performance at very low engine rpm keeping noise and fuel consumption to a minimum.

Hydrostatic transmission – for ultimate speed control from 0 km/h, we offer a hydrostatic transmission driven from the chassis engine. This transmission can also be used to power the entire sweeper washer function from the chassis engine.

Note:

Typical operating speed for normal sweeping is 1200 rpm.



	MB904	MB906	MB906
Capacity (cc):	4250	6370	6370
Operating revs (RPM):	900 – 1800	900 – 1800	900 – 1800
Power output (kW @ RPM):	130 @ 2200	170 @ 2200	205 @ 2200
Max torque (Nm):	675	810	1100
Fuel consumption (l/hour):	5 – 18	7 – 20	7 – 20

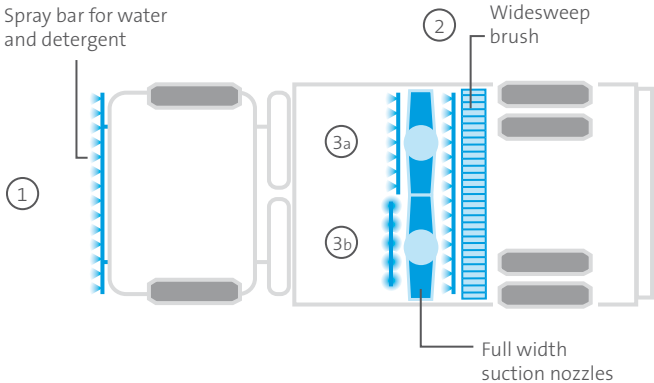
High pressure water modular options

A wide range of high pressure systems is available up to 300bar @ 100 l/min. Water may be applied to the surface through a selection of spray bars via either V jets or, for deep cleansing, rotary jets.

Typical applications

From vehicle wash down to cleaning runway lights, from cleaning taxiway markers to deep cleansing of aircraft stands.

System	Pump type	Minimum engine size
140 bar @ 42 l/min	Membrane	130 kW
150 bar @ 100 l/min	Piston	130 kW
200 bar @ 100 l/min	Piston	130 kW
250 bar @ 100 l/min	Piston	205 kW
300 bar @ 100 l/min	Piston	205 kW
240 bar @ 150 l/min	Piston	205 kW



Note: Wide suction can be mounted behind rear axle as well as between axles

Ref Spray bar position

- 1 Front mounted, fixed
- 1 Front mounted, manual pivot
- 1 Front mounted, pneumatic pivot
- 2 Behind suction nozzle with V-jets
- 3a In front of wide suction with V-jets
- 3b In front of wide suction with rotating jets



Left
High pressure hand lance

Below
High pressure rotary jets

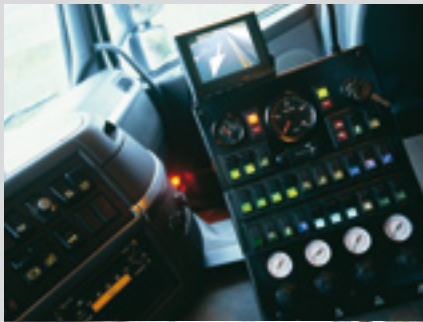


Detergent options

Detergent system options for grease and oil spill removal.

Left
Front mounted detergent spray bar

Far left
Detergent dosing system



In-cab control systems

The sweeping controls are located in the cab.

Top left
Standard control panel

Left
Integrated controls are an optional extra

Bottom left
Ergo switch mounted on arm brace

Bottom right
Manual water control valves inside the cabin



Wanderhoses

There are nine different wanderhose options mounted either at the rear or on top of the vehicle – ideal for clearing out gulleys at the edge of the runways or taxiways or for tough to reach areas.

Type	Mount	Hose dia	Elevation
Electro/pneumatic	Rear	170mm	2m
Electro/pneumatic	Rear	170mm	3m
Electro/pneumatic	Rear	200mm	2m
Spring relieved	Rear	170mm	2m
Spring relieved	Rear	200mm	2m
Spring relieved	Top	150mm	N/A
Spring relieved	Top	200mm	N/A
Hydraulic	Top	200mm	N/A
Hydraulic	Top	150mm	N/A



Above
Rear mounted wanderhose

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Due to continuous product development Beam A/S reserves
the right to alter specifications without prior notice.
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