AS 990

Airport sweeper

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Zero-compromise cleaning whatever the challenge

The AS 990 delivers perfect results when sweeping large areas, while also moving safely throughout the entire airport premises. Equipped with two optional circular brushes, a rear-mounted sweeping unit and a high-power suction fan, the machine covers large areas quickly in a single work step. The AS 990 offers a hygienic solution thanks to its blast nozzles, rear-mounted standard sweeping unit and its optional quick-change liquid suction vehicle. The mounted sweeper can be fitted to all lorry models with the relevant specifications – a unique concept that's highly flexible and versatile.

The AS 990 delivers outstanding results and also impresses by:

- Removing FOD hazards (foreign object debris) – possible damage to the aircraft that may be caused by dislodged objects
- Collecting large quantities of water from runways
- Collecting de-icer (glycol)
- Removing dirt, grass and leaves with blast nozzles
- Removing smaller quantities of snow with blast nozzles
- Cleaning more intensively to remove oil residue (ACS 990)

Ultimate comfort and convenience

- All functions can be activated using the control panel (CAN control)
- Separate remote control with flexible cable for tipping the hopper
- The hopper can be tilted without starting the auxiliary engine
- The control panel can be connected directly to the electrical control cabinet for servicing or training purposes
- Free access to all key assemblies

Cleanliness and power made simple

- Equipped with a cutting-edge drive unit
- Environmentally friendly thanks to compatibility with the latest emissions ratings
- Mercedes-Benz OM 926 LA, 6-cylinder
- Deutz TCD 7.8 L6, 6-cylinder
- Rust-free polyethylene (PE) water tank

Modular concept for added flexibility

Rear suction vehicle

- Two suction nozzles, each measuring 1,150 mm/3.7 ft wide
- Brush roller behind the suction nozzle
- Brush roller is powered directly by a hydraulic motor
- Built-in cover for bulky debris (pneumatic)
- Sweeping unit with three built-in wheels allowing for ideal adjustment to different floors
- Rear suction vehicle is lifted automatically while reversing

Liquid suction vehicle

- Two suction nozzles, each measuring 1,250 mm/4.1 ft wide
- Central joint for ideal adjustment to different flooring
- Built-in cover for bulky debris (pneumatic)
- Wheels can be swivelled, offering optimum steering and adjustment to different flooring
- Rear suction vehicle is lifted automatically whilst reversing

100% quality

- High-quality branded components
- Excellent reliability
- Cost-effective operation
- Low wear
- Long-term value retention

A clean performance

with the powerful suction and sweeping unit

SRS rear suction vehicle with full-length suction nozzle brush roller, sweeping width 2,300 mm/7.5 ft

In addition to the two suction nozzle jets, a brush roller that stretches over the entire sweeping width is also used for faster sweeping (mechanical sweeping). The unit can reach sweeping speeds of up 40 km/h/25 mph.

The sweeping unit is attached to the rear using a flexible lifting device that is separate from the chassis. This allows it to be adjusted to different flooring even whilst sweeping. The high-quality wheels with built-in reset mechanism ensure that the suction vehicle runs reliably across its route.

Options

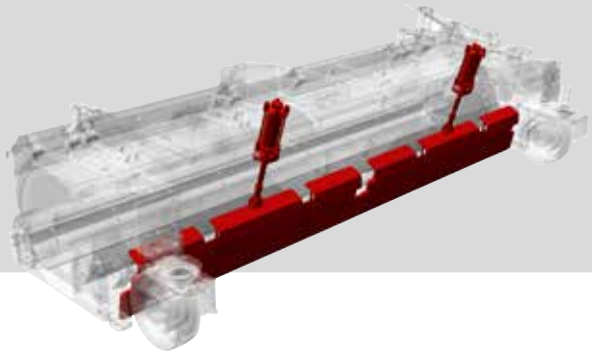
- Quick-release coupling mechanism for swapping the sweeping unit and liquid suction vehicle
- Liquid gate to improve the collection of liquids

SRS rear suction vehicle: You benefit from

- Two suction nozzles (width: 2 x 1,250 mm/4.1 ft) – streamlined design with premium hot-vulcanised rubber coating on the interior as standard for lower friction and less wear and tear
- Symmetrical load distribution
- Roller brushes that lift up when they encounter obstacles (rubber buffer)
- Easily accessible cable duct
- Smooth adjustment of sweeping pattern, accessible from the outside
- One central sweeping pattern adjustment mechanism with colour-coded scale to indicate level of wear

Cover for bulky debris

The standard version of the suction vehicle includes a built-in cover for bulky debris. The pneumatic cover can be operated from the driver's cab to collect larger pieces of debris.



Liquid suction vehicle

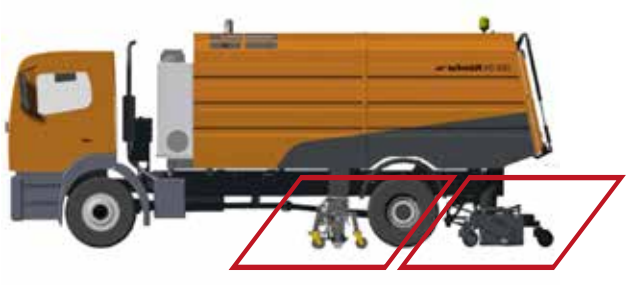
The liquid suction vehicle is specifically designed to collect liquids such as water or de-icer (e.g. glycol) as effectively as possible.

Quick-change system

Thanks to the optional quick-change system, you can switch between the SRS rear suction vehicle and the liquid suction vehicle in a matter of minutes without needing any tools. A dual version (inter-axle liquid and rear-mounted suction vehicle) is also available as an option.

Liquid suction vehicle (rear-mounted design)

Liquid suction vehicle (inter-axle version)

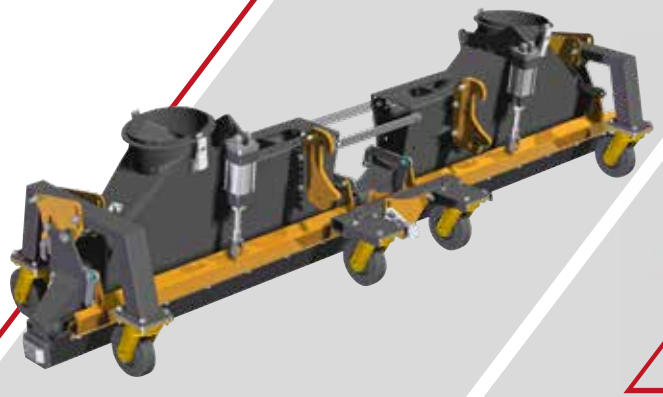


Dual version: Standard rear suction vehicle (SRS) (rear-mounted version) and liquid suction vehicle (inter-axle version)

Quick-change system:
SRS rear suction vehicle/
liquid suction vehicle

Liquid suction vehicle: You benefit from

- Two suction nozzles (width: 2 x 1,150 mm/4.1 ft): Streamlined design with premium hot-vulcanised rubber coating on the interior as standard for low friction and less wear and tear
- Collection of liquids – **up to 100% performance**
- Optional collection of glycol – **96% to 99%**
- Rear-mounted or inter-axle version plus dual mounted version available



The experts at Aebi Schmidt recommend the following configuration:
Magnet bars/circular brushes/
blast nozzles/rear suction vehicle

Impressive suction performance thanks to fast air flow

Hydraulic suction fan drive

The suction performance can be adapted to suit the amount of dirt. The hydraulic drive is fitted with a speed sensor to monitor the suction fan's power. The suction fan can be adjusted steplessly. The speed of the suction fan is regulated using hydraulics and can be adjusted from the control panel. No maintenance required when compared to conventional V-belt/toothed belt drives. The impeller and sheathing in the housing are made from premium wear-resistant metal.

You benefit from

- A **water tank** with 2,000 l/528 gal (US) capacity made from polyethylene (plastic) – rust-free/extra water tank with 2,000 l/528 gal (US) capacity (optional, please check wheelbase)
- A **hydraulically powered water pump** – max. 10 bar at 37 l/min/145 PSI at 9.7 gal (US), dry-run safe
- **Winter mode** – automatic evacuation of the entire water system (anti-frost function)
- **Dust binding** – water jets installed upstream of the suction vehicle in the suction nozzle and tube as well as on the circular brushes

Arrows point in the direction of the air flow:

- Air mixes with dirt
- Clean air (air separated from the dirt)

Large hopper with a gross capacity of 9.5 m³/335 ft³
Large hopper for large quantities of debris (tank volume as per DIN EN 15429/7.4 m³/261 ft³). The base of the standard hopper is made from stainless steel. The hopper is equipped with a hydraulic tipping mechanism, allowing it to be emptied safely thanks to the large tilt angle of 52°.

The hopper can be tipped using a separate remote control with a long, flexible cable. The hand-held control panel is housed in a waterproof storage case. The hopper can be tilted without starting the auxiliary engine.

Separate, rust-free water tank 2,000 l/528 gal (US) made of plastic (PE)
The water tank is installed between the driver's cab and the auxiliary engine with suction fan to reduce noise levels and is equipped with an easily accessible cleaning flap. An extra water tank with a capacity of 2,000 l/528 gal (US) is available as an option.

Special version: the ASC 990

The ASC 990 cleans aircraft parking bays by applying a mixture of detergent and water. The cleaning solution is applied to the area to be cleaned by the spray bar in front of the circular brushes. The surface is then treated and roughened by the circular brushes. Any dislodged material is then collected in the tank by the rear-mounted sweeping unit. The aircraft bay cleaning model is particularly suited to intensive cleaning of transport areas and collecting substances such as oil.

A modular concept

SRS rear suction vehicle with built-in roller brush, rear-mounted liquid suction vehicle or inter-axle liquid suction vehicle. Options: Dual version (inter-axle liquid suction and rear suction vehicle).

High-pressure cleaning equipment with rotating nozzles

An efficient high-pressure cleaning bar can be installed in front of the liquid suction vehicle, delivering up to 200 bar and 70 l/min/2,900 PSI and 18.5 gal (US). As a result, the model can clean intensively over a width of approx. 2.4 m/7.8 ft, whilst also sucking up all the water and dirt at the same time. This option enhances the results delivered by the ASC 990 even further.

Most of the options available for the AS 990 are also available for the ASC 990.

Enhance operational capability. Increase efficiency.

1. One blast nozzle on the left and right
For both summer and winter cleaning. The blast nozzles provide a strong blower performance over the entire width of the unit as well as next to the truck, ensuring the best possible cleaning results. Also available with pneumatic height adjustment.

2. Circular brushes on the left and right
For sweeping gutters or increasing the sweeping width. Pneumatic adjustment of ground bearing pressure and rinse pressure. Water jets installed to bind dust.

3. Hose reel with cleaning hose
For general cleaning after emptying. 10-metre/32-ft hose with adjustable jet. Water supply with a pressure level of 10 bar at 37 l/min/145 PSI at 9.7 gal (US) through the hydraulically powered water pump with dry-run safe mechanism.

4. Hand-held suction hose
For cleaning gullies, drains, etc. Mounted on the rear tank flap. Hose diameter: 200 mm/7.8 inches. Control unit installed directly on the hand-held suction hose.

5. VKS 4.2-34-H

A robust brush roller for sweeping large items of debris and snow or slush. The height-adjustable wheels equipped with pneumatic tyres ensure the ideal bearing pressure in any situation, thus delivering premium results.

6. PMB 2400 (permanent magnet bar)

The magnet bar mounted on the front picks up magnetic objects, keeping your runways safe. Two large wheels help to keep it stable. Designed for quick installation on the mounting plate.

7. Snow plough

- The Tarron range with clearing widths from 4,070 mm to 4,750 mm/13.3 ft to 15.5 ft
- The SNK range with clearing widths from 2.940 mm to 3.180 mm/9.6 ft to 10.4 ft

Broaden your sweeping horizons

Water outlets on the rear gate
These fittings allow any excess water or de-icer to be drained before the hopper is emptied completely.

Cold-start function
The cold-start function for the auxiliary engine ensures a reliable start even under the toughest conditions, including temperatures as low as -20°C/-4°F.

Rear area monitoring
A camera is mounted on the tank flap. It is switched on automatically as soon as reverse is engaged. The image is streamed directly to the operating unit.

Marker spray units
The optional marker spray units can be installed on the left and right of the sweeper, helping the user to keep track of which areas have been swept to avoid doing the same sections twice.

Retractable suction nozzles on the left and right
Two suction nozzles on the left and right installed in front of the rear axle, increasing the suction width by 500 mm/1.6 ft. on each side. The two suction nozzles can also work at the same time if needed. The suction nozzles are operated pneumatically and can be adjusted by 320 mm/1 ft. to the side. The sucking action can be applied regardless of whether the side suction nozzle is extended or retracted. The built-in water jets allow for effective dust binding.

Exhaust diffuser (recommended)
The two suction nozzles suck in air containing debris and collect it in the hopper. Inside the hopper, debris is separated using gravity. Exhaust air is fed out of the hopper at the top. A diffuser can be installed in the top of the hopper to calm the air. This diffuser can be swivelled in or out pneumatically for automatic cleaning.

8. Leaf screen cleaning unit in the tank
Making the machine easier to clean. A tube equipped with water jets for cleaning the leaf screen and the area above it make the machine easier to clean with more effective results. (Optional)

Technical data

	AS 990	ASC 990
Main body		
Approx. tank capacity	9.5 m³/ 335 ft³	
Tank tilt angle	52°	
Approx. length	5,910 mm/19.3 ft	6,490 mm/21.3 ft
Approx. height	2,380 mm/7.8 ft	
Drive system/auxiliary engine		
Mercedes-Benz OM 906 LA; EuroMot III A	205 kW (278 hp) @ 2,300 rpm 6.37 l/1.6 gal (US) capacity, 6-cylinder, 1,100 Nm	
Deutz TCD 7.8 L6; EuroMot V	250 kW (340 hp) @ 2,100 rpm 7.8 l/2 gal (US) capacity, 6-cylinder, 1,400 Nm	
Sweeper/suction vehicle		
Rear suction vehicle (with built-in roller brush) Rear-mounted liquid suction vehicle Inter-axle liquid suction vehicle	Available	Available
Dual version (inter-axle liquid + rear suction vehicles)	Optional	Optional
Quick-change mechanism for rear suction vehicles	Optional	Optional
Retractable side inter-axle suction nozzles	Optional	Optional
Suction hose (internal)	Ø 250 mm/9.8 inches	
Suction nozzle width in rear suction vehicle	2 x 1,150 mm/3.7 ft	
Suction nozzle width in liquid suction vehicle	2 x 1,250 mm/4.1 ft	
Approx. speed of roller brush in rear suction vehicle	max. 550 rpm	
Circular brushes	Optional	Standard
Diameter of circular brushes Approx. speed	Ø 1,000 mm/3.2 ft max. 120 rpm	Ø 1,200 mm/3.9 ft max. 120 rpm
Brush material	Steel or plastic	
Rear suction vehicle	2,300 mm/7.5 ft	
Liquid suction vehicle (suction width)	2,500 mm/8.2 ft	
Water system		
Approx. water tank volume Water tank material	2,000 l/528 gal (US), PE (polyethylene, optional 4,000 l/1,056 gal (US))	3,000 l/792.5 gal (US), aluminium
Detergent tank (in ASC 990)	–	700 l/184.9 gal (US)

	AS 990	ASC 990
Water spray bar + detergent spray bar in front of circular brushes	–	6 water jets 6 jets for detergent
Water jets	4 in the suction vehicle 2 in the suction tube 7 on the spray bar (2 per circular brush)	
Water pump (powered by the hydraulic motor)	Max. approx. 10 bar at 37 l/min/145 PSI at 9.7 gal (US)	
Cleaning hose/rinsing device	Hose 6 m/19.6 ft with jet	
Fan		
Approx. air flow rate (free flow)	32,000 m³/h/18,823 cfm	
Max. approx. vacuum	1,070 mm/ 3.5 ft WS (0.105 bar/1.5 PSI)	
Max. approx. speed	3,300 rpm	
Drive system	Hydraulic motor	
Blast nozzles	Optional	
Direction of flow	Left or right (including under the lorry)	
Approx. air speed (at jet outlet)	85 m/s/278.8 ft/s	
Speeds		
Transport (depending on chassis)	Up to 90 km/h/55.9 mph	
Permanent use of sweepers Short-term	Up to 25 km/h/15.5 mph Up to 40 km/h/24.8 mph	
Recommended chassis (example)		
Gross vehicle weight	18 – 20 t/39,682 – 44,092 lb (US)	
Approx. wheelbase	≥ 4,500 mm/14.7 ft	≥ 4,800 mm/15.7 ft
Frame overhang (behind rear axle)	1,500 mm/4.9 ft	
Sample figures for entire vehicle		
Approx. length	8,250 mm/27 ft	8,550 mm/28 ft
Approx. width	2,500 mm/8.2 ft	
Approx. height	3,360 mm/11 ft	
Approx. overhang	2,230 mm/7.3 ft	
Approx. body weight (standard version)	6,000 kg/13,227 lb (US)	7,000 kg/15,423 lb (US)
Approx. payload	6,300 kg/13,889 lb (US) (with 18 t/39,682 lb (US) chassis)	

‘The first Schmidt vehicle has been in use at London Stansted since 2011. Schmidt has embodied the values of safety and reliability ever since. The most important feature of these special Schmidt vehicles is that they work efficiently. Our drivers particularly like the simple, intuitive operating principle and the standard operating/machine concept. The past few years have confirmed that Schmidt vehicles really are incredibly reliable. The latest member of the Schmidt family, the ASC 990, helps us to offer top-class service for airlines and their passengers.’

Giles Peeters,
Airside Operations Duty Manager, London Stansted Airport