TJS / TJS-C

Jet sweeper

The towed Schmidt TJS jet sweeper is hard to beat in terms of performance and flexibility. A clearing width of up to eight metres, excellent manoeuvrability and high working speed enable very fast and highly efficient snow clearance at airports. The modern and intuitive driver assistance system of the TJS allows the driver to concentrate on the essential tasks of the clearing operation and is prepared for automated and autonomous operations.

Highlights

- The technical **concept with modular design can** be flexibly adapted to any specific application concept.
- The clearing and brush width and blower performance are available **in three basic versions and many options**, including a compact version.
- The TJS is equipped with the **latest generation of engines** as standard and can also run on biodiesel, biogas or HVO thanks to **dual-fuel options.**
- The TJS can be used with a variety of **brush systems and automatic settings.**
- **Over 500 TJS jet sweepers** are in use around the world in a variety of application concepts. The practical experience gained at many airports has been continuously incorporated into product development over the past few decades, including explicitly in patents for sweeping pattern adjustment and transport safety.

Your benefits

- A clearing width of up to eight metres allows you to **clear areas efficiently with** just a small fleet and **minimal manpower.**
- The high working speed allows **fast clearing** without compromising on reliability.
- With its robust design and in combination with digital assistance systems, the TJS offers **maximum convenience for safe operations.**
- The modular technology allows **you to choose the right system** for the right truck. A system that can also be adapted to changing needs at any time.
- The Schmidt TJS has a state-of-the-art, high-precision driver assistance system and is **prepared for automated and autonomous operations** - tested in practice, not just in theory.

Performance features

Highly efficient clearing process

The TJS jet sweeper combines three steps into one single operation and brings your runway quickly back to blacktop. Whereas the snow plough clears the majority of the snow to the side, the brush clears the remaining snow and slush while the blower unit generates a powerful air flow across the entire sweeping width to remove any remaining moisture. Here you are with more details of the three units:

Snow plough

Clean and aggressive clearance is achieved with the Schmidt MS Tarron airport snow ploughs, such as the MS 56.2 NA. These are designed for fast snow clearance at airports and offer outstanding performance with optional fine clearing bar, ejection stop or low blade shape.

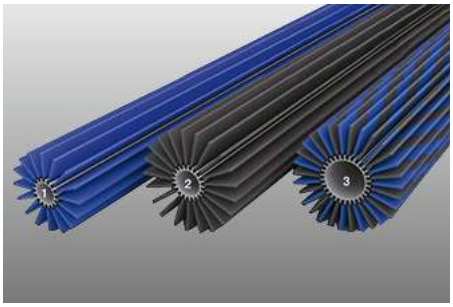
Sweeping unit

The hydraulically-driven brush is mounted to a supporting frame and suspended via a parallelogram lifting system, so that it rests on the surface regardless of vehicle movement and uneven ground. The brush's automatic and stepless sweeping pattern adjustment is carried out hydraulically and determined by the height adjustment of twin castors. During operation, the brush speed is adjusted automatically to suit the driving speed and shown on the control panel's display. A long brush service life is possible – thanks to the wear-dependent brush speed adjustment.

The twin castors offer very quiet, vibration-free and smooth sweeping performance, while level snow ejection and the cleanest fine clearing ensure maximum safety. This is achieved thanks to aerodynamic spoiler guidance, automatic spoiler adjustment and wear-dependent brush speed adjustment. This permits the jet sweeper to deliver a specific fine clearing result, while the robust design offers both optimum operational capability and maximum safety.

Optimum brush life

Optimum brush life is achieved with a 21-piece cassette brush set with the longest bristle length. This type of brush is the most economical based on the number of cassettes to brush cost ratio – a recommendation we are happy to share with you. Depending on your requirements, you can choose between plastic (polyurethane) bristle materials [1], steel [2] or mixed (polyurethane/steel) [3].



Blower unit

The blower unit of the TJS/TJS-C is located directly behind the sweeping unit. The blower removes any remaining water and slush from the clearing area, ensuring optimum friction values and better braking action on runways. The blower is driven hydraulically by the auxiliary engine via a variable displacement pump. Since the air flow is emitted directly above the ground, there is hardly any performance loss. In addition, the blower speed can be regulated in two stages. The aerodynamic air flow in the air duct ensures optimum blowing air performance over the entire clearing area. A constant air speed ensures uniform clearing of the snow-covered area.

Drive

The drive motor drives the hydraulic pumps for operating and controlling the sweeping unit and blowing unit. The snow plough is controlled by a hydraulic system driven by the carrier vehicle's engine. The TJS/TJS-C's hydropneumatic chassis offers the operator additional comfort in the field.

The TJS-C's environmentally-friendly drive technology

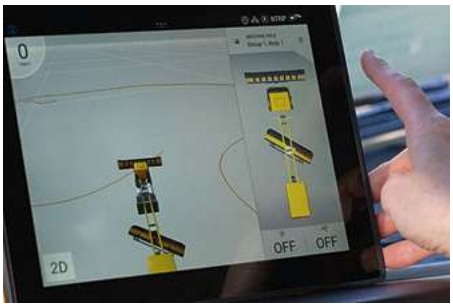
The importance of environmental and climate protection also presents airports with growing challenges. In order to achieve the balance between the required performance of a snow clearing machine and environmentally responsible fuel consumption, we use Volvo's CO_2-neutral dual-fuel engines, which run on a mixture of biogas and biodiesel. Depending on the required power, 60 to 80% of the biodiesel can be substituted with biogas. As a result, the engines make an important contribution to the positive environmental balance of any airport. As an alternative fuel variant, HVO (Hydrated Vegetable Oil) can also be used.

Motion control

Both pulse control and synchronous control are possible for the snow plough, sweeping unit and blower, i.e. all components can be controlled individually or synchronously. On the one hand, this makes the clearing process particularly efficient (synchronous control), while on the other hand, pulse control (manual) can be used to react to special situations (e.g. readjustment of the snow plough).

Operating concept

State-of-the-art control technology is an important step in the safe and efficient clearing of airport tarmac. Logical and intuitive menu navigation and automatically controlled processes help to support drivers by ensuring that concentration remains focused on the clearing operation. The display indicates the operating hours data when the machine is at a standstill; information about the engine speed, brush speed and blower output can be called up when the engine is running. The display also provides a comprehensive overview of fault or error messages.



AirfieldPilot

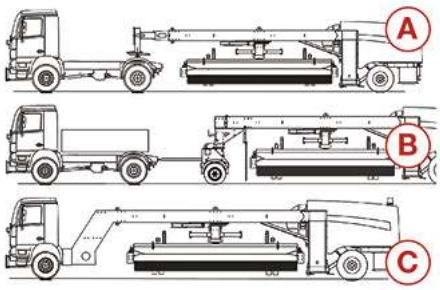
The high-precision AirfieldPilot driver assistance system, which takes into account the individual characteristics of an airport and has been successfully tested in practice, makes it possible to significantly increase the performance of a clearing fleet. Furthermore it saves costs, allows you to plan more flexibly and leads to greater safety during operations - especially for your staff. In addition, the system reduces operational risks and the probability of occurrence of damage. Another equally important factor is the ecological aspect. By optimising fuel consumption, it contributes to more environmentally friendly operation. The AirfieldPilot can be used for various automated or autonomous deployment concepts:

- As a classic **driver assistance system** with navigation, route guidance, equipment guidance and communication between vehicles (V2V)
- For **supervised automated operations**, in which the carrier vehicle and the jet sweeper are controlled automatically, taking into account the topographical and geographical features, but a driver in the cab remains responsible for the operation and can intervene at any time
- For fully **automated operations**, including the increased safety requirements for such concepts

Difference between TJS and TJS-C

The TJS includes an all-wheel-drive towing vehicle with front-mounted snow plough and a jet sweeper with integrated coupling system – either as a semi-trailer or as a trailer. The auxiliary engine, which drives both the sweeping unit and the blower unit hydraulically, is located in the rear engine compartment. On the other hand the compact TJS-C has a powerful tractor unit, including a snow plough, plus the same options for the brush roller and blower unit as the TJS. The compact attachment to the tractor unit makes the TJS-C a compact and particularly manoeuvrable machine.

Towing vehicles and connections



With different coupling systems, we offer a wide selection of jet sweepers that are perfectly tailored to your individual requirements. By using a modular system that includes various TJS versions, working widths and clearing capacities, a customised TJS/TJS-C can be configured to meet your exact requirements. Within the coupling systems, we distinguish between three different variants:

Semi-trailers (A): For the semi-trailer version, all commercially available truck chassis can be used as a towing vehicle, including MAN, Mercedes-Benz, Volvo or other vehicles with fifth wheel coupling, ideally a 4x4 chassis.
4-wheel TJS with towbar (B): All commercially available chassis or tractors, ideally a 4x4 chassis, can be used for the 4-wheel TJS with towbar.
TJS-C: tractor unit (C): For the tractor unit version, we offer a Volvo with articulated steering or a Mercedes. This makes the TJS-C both compact and manoeuvrable.

Smart Service Concept

The Smart Service Concept equals easier maintenance. It allows free access to all important components and low service time due to the ease of access to the components. In addition, the TJS / TJS-C has a practical mounting bracket for the control panel on the control cabinet for service and workshop use. The optimised wiring harness layout ensures high quality standards and reduced service requirements. At the same time, the air intake underneath the bonnet ensures less air filter contamination.

Multitude of variants

The modular concept allows the TJS/TJS-C to be customised to suit your individual requirements and to fit any towing or carrier vehicle. Based on the basic variants 420, 560 and 630, which are determined by the brush width, the following options are available to you:

- Parking position for both the brush and the sweeping unit
- Different brush fill materials
- Additional blower unit in front of the brush
- Combination with airport snow plough from the Tarron-MS series with plough widths between 5,600 mm and 8,000 mm
- Additional rear axle steering for maximum manoeuvrability
- Traction weights for towing vehicle
- Engine: Hood can be tilted backwards; electro-hydraulic, manually operated unit for opening the engine hood; upward exhaust orientation possible
- Safety: Additional lighting; rear area monitoring; 270°/360° camera

Gallery

Variants

TJS 420

The broom length is 4,200 mm.

TJS 560

The broom length is 5,600 mm.

TJS 630

The broom length is 6,300 mm.

TJS-C 420

The broom length is 4,200 mm.

TJS-C 560

The broom length is 5,600 mm.

TJS-C 630

The broom length is 6,300 mm.

Related products

CJS

Jet sweeper

CJS-DI

Jet sweeper

Technical data

	TJS 420	TJS 560	TJS 630
Sweeping unit			
Brush length	4,200 mm	5,600 mm	6,300 mm
Working speed			
Working speed up to	60 km/h	60 km/h	60 km/h
Drive system - auxiliary engine			
Motor type	Mercedes Benz OM 936 LA	Mercedes Benz OM 936 LA	Mercedes Benz OM 936 LA
Exhaust emission	EuroMot IIIA (Downgrade EFP) EuroMot V	EuroMot IIIA (Downgrade EFP) EuroMot V	EuroMot IIIA (Downgrade EFP) EuroMot V
Performance	260 kW (354 HP) @ 1,800 1/min	280 kW (380 HP) @ 1,800 1/min	280 kW (380 HP) @ 1,800 1/min
Fuel tank	600 l	600 l	600 l
Drive system - auxiliary engine 2			
Motor type	Volvo TAD1382VE	Volvo TAD1382VE	Volvo TAD1382VE
Exhaust emission	EuroMot V/Tier 4 final	EuroMot V/Tier 4 final	EuroMot V/Tier 4 final
Performance	285 kW (388 HP) @ 1,900 1/min	315 kW (428 HP) @ 1,900 1/min	315 kW (428 HP) @ 1,900 1/min
Fuel tank	600 l	600 l	600 l
Drive system - auxiliary engine 3			
Motor type	–	Volvo TAD1352VE	Volvo TAD1352VE
Exhaust emission	–	EuroMot IIIA (Downgrade EFP) / China III	EuroMot IIIA (Downgrade EFP) / China III
Performance	–	315 kW (428 HP) @ 1,900 1/min	315 kW (428 HP) @ 1,900 1/min
Fuel tank	–	600 l	600 l
Dimensions			
Total length (semitrailer)	10,950 mm	12,230 mm	12,930 mm
Length king pin to middle of rear axle	8,160 mm	9,560 mm	10,260 mm
Transport width, in parking position	2,550 mm	2,550 mm	2,550 mm
Example dimensions			
Sweeping width at 32° positioning angle	3,560 mm	4,750 mm	5,340 mm
Weights			
Total weight	11,700 kg with full tank	12,100 kg with full tank	13,000 kg with full tank
Axle load in transport position	8,500 kg	8,500 kg	8,800 kg
Support weight on kingpin	3,500 kg	3,700 kg	4,000 kg

	TJS-C 420	TJS-C 560	TJS-C 630
Sweeping unit			
Brush length	4,200 mm	5,600 mm	6,300 mm
Working speed			
Working speed up to	60 km/h	60 km/h	60 km/h
Drive system - auxiliary engine			
Motor type	Mercedes Benz OM 936 LA	Mercedes Benz OM 936 LA	Mercedes Benz OM 936 LA
Exhaust emission	EuroMot IIIA (Downgrade EFP) EuroMot V	EuroMot IIIA (Downgrade EFP) EuroMot V	EuroMot IIIA (Downgrade EFP) EuroMot V
Performance	260 kW (354 HP) @ 1,800 1/min	280 kW (380 HP) @ 1,800 1/min	280 kW (380 HP) @ 1,800 1/min
Fuel tank	600 l	600 l	600 l
Drive system - auxiliary engine 2			
Motor type	Volvo TAD1382VE	Volvo TAD1382VE	Volvo TAD1382VE
Exhaust emission	EuroMot V/Tier 4 final	EuroMot V/Tier 4 final	EuroMot V/Tier 4 final
Performance	285 kW (388 HP) @ 1,900 1/min	315 kW (428 HP) @ 1,900 1/min	315 kW (428 HP) @ 1,900 1/min
Fuel tank	600 l	600 l	600 l
Drive system - auxiliary engine 3			
Motor type	–	Volvo TAD1352VE	Volvo TAD1352VE
Exhaust emission	–	EuroMot IIIA (Downgrade EFP) / China III	EuroMot IIIA (Downgrade EFP) / China III
Performance	–	315 kW (428 HP) @ 1,900 1/min	315 kW (428 HP) @ 1,900 1/min
Fuel tank	–	600 l	600 l

	TJS-C 420	TJS-C 560	TJS-C 630
Dimensions			
Total length - TJS-C with articulated steering	–	Cassette brush: 15,720 mm	Cassette brush: 16,420 mm Wafer brush: 17,330 mm
Length middle of front axle to middle of rear axle	–	Cassette brush: 10,500 mm	Cassette brush: 11,250 mm Wafer brush: 12,150 mm
Transport width, in parking position	–	Cassette brush: 2,950 mm	Cassette brush: 2,950 mm Wafer brush: 3,060 mm
Height (without beacon)	–	Cassette brush: 3,760 mm	Cassette brush: 3,760 mm Wafer brush: 3,760 mm
Sweeping width at 32°	–	Cassette brush: 4,750 mm	Cassette brush: 5,340 mm Wafer brush: 5,340 mm
Example dimensions			
Sweeping width at 32° positioning angle	3,560 mm	–	–

aebi schmidt group

Aebi Schmidt Holding AG
Lindbergh-Allee 1
CH-8152 Glattpark, Switzerland
Phone: +41 44 308 58 00
www.aebi-schmidt.com

© Aebi Schmidt Group
All rights reserved.
Technical data is subject to change.
Illustrations are not binding.
Errors and amendments excepted.

Document created on 10 JUL 2026