TJS / TJS-C

Jet sweeper

The powerful TJS and TJS-C jet sweepers quickly and efficiently clear snow from airport runways, taxiways and aprons. They are characterised by a large clearing width, high working speed and good manoeuvrability. Logical and intuitive menu navigation and automatically controlled processes help support drivers by ensuring that concentration remains focused on the clearing operation. The jet sweepers are available as towed machines (TJS) or as compact units (TJS-C).

Highlights

- **Unsurpassed** runway **clearance performance**
- **Highest reliability**
- **Modular concept**

Your benefits

- Quick and reliable clearing at speeds of **up to 60 km/h**
- **More flexibility** thanks to modular design
- **Environmentally friendly operation.** The **latest engine technology** reduces particulate emissions and the Eco mode permits **additional fuel savings of up to 5%.**
- A machine that is **tested worldwide** and **in all winter conditions**.

Performance features

Clearing process

Back to blacktop in a single work step.

Three process steps combined in a single operation:

1. The snow plough clears the majority of the snow to the side.
2. The brush clears away the remaining snow and slush.
3. The blower unit generates a powerful air flow across the entire sweeping width, removing any remaining moisture. And, with that, the runway is ready for flight operations.

Sweeping unit

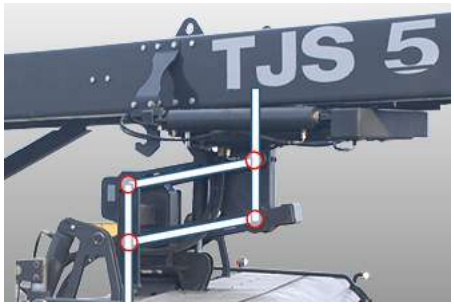
The hydraulically-driven brush is mounted to a supporting frame and suspended via a parallelogram lifting system, so that it rests on the surface regardless of vehicle movement and uneven ground. The brush's automatic and stepless sweeping pattern adjustment is carried out hydraulically and determined 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.

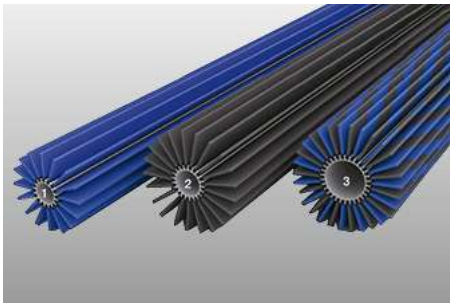
Optimum brush life

Otimum 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.

Another plus:

Depending on your requirements, you can choose between plastic (polyurethane) bristle materials [1], mixed (polyurethane/steel) [3] or steel [2].





- Reduction of running costs due to long brush service life
- Automatic sweeping pattern adjustment and automatic broom transport lock (patented)
- Brush tailored to your needs
- Maximum blowing performance thanks to aerodynamic airflow
- Proven control technology, diverse options and intelligent assistance systems

Blower unit

The blower unit of the TJS/TJS-C is located directly behind the sweeping unit. There is next-to-no performance loss, since the air flow is dispersed directly above the ground. 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, and blower speed can be regulated in two stages, making optimum use of performance. The aerodynamic air flow also offers optimum blower performance over the entire clearing area. A constant air speed across the entire working width ensures uniform clearing of the snow-covered area.

Difference between TJS and TJS-C

The TJS – where you choose the towing vehicle.

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.

The TJS-C – the perfect choice if you need a complete solution.

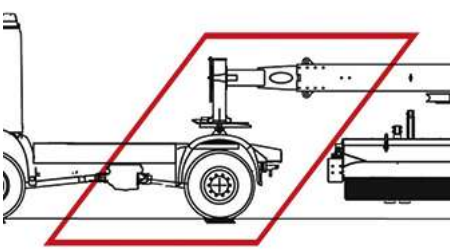
The compact TJS-C has a powerful tractor unit, including a snow plough, plus the same options for the brush roller and blower unit as the TJS. The compact attachment to the tractor unit makes the TJS-C a compact and particularly manoeuvrable machine.

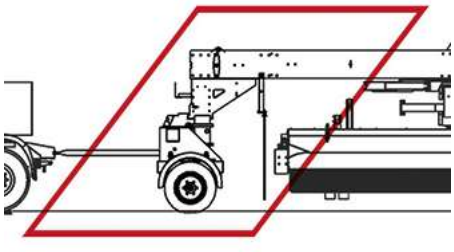
The TJS-C's environmentally-friendly drive technology.

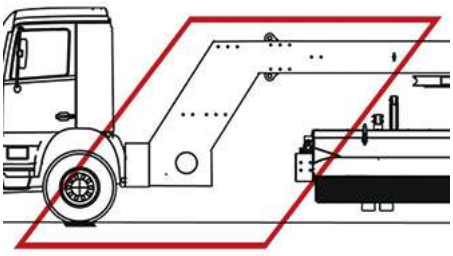
Airports are facing growing challenges due to environmental and climate protection, which is why we focus on innovations that avoid pollutants and CO_2 emissions in the development of our machines. The use of environmentally-friendly engines for the TJS series is an excellent example of this approach. To match the required performance with low fuel consumption, we use Volvo's dual fuel, CO_2-neutral engines, powered by a mixture of biogas and biodiesel. The dual fuel system means the engines make an important contribution to an airport's positive environmental assessment. With biogas, 60%-80% of the biodiesel can be substituted depending on the load, while HVO (hydrated vegetable oil) can be used as an alternative fuel.

Towing vehicles and vehicle connections

With three different coupling systems, we offer a jet sweeper that suits your individual requirements. We use our modular kits – featuring a wide range of TJS versions, working widths and clearing capacities – to configure a tailor-made jet sweeper just for you.







Semi-trailers

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

All commercially available chassis or tractors, ideally a 4x4 chassis, can be used for the 4-wheel TJS with towbar.

TJS-C: tractor unit

For the tractor unit version, we offer a Volvo with articulated steering or a Mercedes. This makes the TJS-C both compact and manoeuvrable.

Multitude of variants

The modular concept allows us to build the TJS/TJS-C fully in line with your specific needs, from TJS/TJS-C 420 to 630.

- Towing or carrier vehicle that suits your preferences perfectly
- Various bristle materials
- Brush width (4 200 mm – 6 300 mm)
- Supporting frame: with or without parking position for sweeping unit
- Customer-specific options
- Tarron MS series airport snow plough, blade width (5 600 mm – 8 000 mm)
- Other customer-specific options possible

Control system

State-of-the-art control technology is an important step in the safe and efficient clearing of airport operation areas. Logical and intuitive menu navigation and automatically controlled processes help to support drivers by ensuring that concentration remains focused on the clearing operation.
Both impulse and synchronous control are possible for the snow plough, sweeping unit and blower, so all components can be controlled individually or synchronously. On the one hand, this allows particularly efficient clearing processes (synchronous control). On the other, it also allows response to specific situations, such as adjustment of the snow plough, by means of manual control (impulse).
The display indicates the operating hours when the machine is at standstill; information about the engine speed, brush revolution speed and blower performance can be called up when the engine is running. The display also provides a comprehensive overview of fault or error messages.

- Control panel that can be used to control all relevant functions from the driver's cab
- Relevant machine information shown on the colour display
- Graphical displays for a quick overview and intuitive operation

Smart Service Concept

- Free access to all important components
- Short service time, since components are arranged optimally
- Useful holder for the control panel on the switch cabinet for service and workshop use
- Optimised harness installation ensures a high quality standard and lower service costs
- Air intake underneath engine compartment translates into less air filter contamination

Gallery





Additional information

TJS, TJS-C options

- Rear axle steering for best manoeuvrability
- Parking position for sweeping unit
- Engine hood can be tilted backwards and exhaust upwards
- Electro-hydraulic unit for opening engine hood (with manual hand pump)
- Counter weights for towing vehicle
- Additional blower unit in front of the brush
- Additional lighting
- Rear view camera
- 360°/270° camera
- Other

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
Working hours, depending on the operating conditions	10 h	10 h	10 h
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
Working hours, depending on the operating conditions	10 h	10 h	10 h
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
Working hours, depending on the operating conditions	–	10 h	10 h
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 with full tank	11,700 kg	12,100 kg	13,000 kg
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
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Fuel tank	600 l	600 l	600 l

	TJS-C 420	TJS-C 560	TJS-C 630
Working hours, depending on the operating conditions	10 h	10 h	10 h
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
Working hours, depending on the operating conditions	–	10 h	10 h
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	–	–

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