

SCHMIDT

Supra

Self-Propelled Snow Cutter Blower



German
Design Award

SPECIAL
MENTION 2015

The self-propelled snow cutter blower Supra: An innovation by Schmidt that sets new standards worldwide.

The self-propelled snow cutter blowers of the Supra series combine maximum efficiency, excellent operational convenience and high environmental compatibility, providing a complete package that offers unrivalled performance worldwide! With its many groundbreaking technical details, the Supra is the ideal choice for all those who require highest standards of economic efficiency and safety.

Maximum performance in any amount of snow – designed specifically for operation at airports and on high-altitude roads.

The Supra high-performance snow-clearing machines have been designed specifically for the removal of large amounts of snow. Used across the globe, these snow cutter blowers deliver powerful results both at airports and on roadways. One outstanding feature is the articulated steering that continuously provides the machine with consistent propulsion.

The Supra: Another groundbreaking product concept by Schmidt.

Like most Schmidt products, the Supra is the result of decades of experience and close cooperation with customers: Being an innovative system provider, it is our philosophy to develop products for our customers that meet their specific requirements and challenges. Our commitment to offering customised solutions for practical application has created an extensive range of products and experience that you can only expect from a global leader in this industry.

In addition to high-performance special-purpose vehicles, we design and produce a wide range of attachments and mounted machines as well as modular demountable systems. The name Schmidt also stands for comprehensive consulting and training competencies, such as workshops, driver training courses and a customer-oriented after-sales service.

Schmidt: Reliable in every way. And a safe partner for any of your goals.

Since 2007, Schmidt has been an integral part of the Switzerland-based Aebi Schmidt Group. By merging two equal partner companies, we have consolidated diverse competencies and have gained additional entrepreneurial strength – a strength that will be there to support you every step of the way in accomplishing your goals.

Whether it's at snow-stricken airports or on public roads: You can always count on a Supra to clear the way!

Heavy snow across large areas – a perfect job for a Schmidt Supra! Whether it's wet, powdery, hard-packed or icy, the snow's consistency is never a problem. A Supra snow cutter blower always provides precise and reliable performance. The Supra comes in two different models, the 4002 and 5002 series. The two machines have different clearing capacities, but are both designed to take on the full range of snow removal tasks.

A spot landing at any airport.

Whether it's Shanghai, Moscow, Stockholm or Frankfurt: Airport operations are not only about safety, but mostly about efficiency. Flight delays or cancellations can have considerable economic consequences. This is why you should rely on an experienced partner with innovative and reliable products that have provided a winning combination of safety and cost-effectiveness for 95 years.

Our snow cutter blowers are tried and tested and ideally equipped for high-performance snow removal on runways, taxiways and aprons. The Supra 5002 with a clearing capacity of up to 5,000 t/h is a recommended choice for airports. Like the 4002 series (3,500 t/h clearing capacity), the machine can carry fuel for at least eight hours of continuous operation, which is absolutely essential in situations where every second counts. The Supra can additionally be equipped with hydraulically moveable front-mounted flaps designed specifically for airport operation. This increases the clearing width and makes it possible to flexibly adjust it to the width of a given snow bank, enabling particularly clean snow removal.

In addition to its cutting technique's great clearing efficiency, the Supra's manoeuvrability is another major benefit in practical application, especially when navigating tighter areas such as those around sensitive flight equipment.

Smooth sailing on all public roads.

Whether it's on roads at sea level or at high altitudes, an ordinary snow plough is not capable of effectively removing very large amounts of snow from road surfaces and roadsides. Only exceptionally powerful rotating snow-clearing technology can provide an efficient and reliable solution in such a situation. Whether there are very large amounts of snow due to heavy precipitation, snowdrifts or hard-packed piles of snow such as those caused by repeated snow plough operations, the Supra high-performance snow cutter blower can take on whatever winter sends your way!

Traffic safety is not the only priority on public roads and open spaces: Fully or partially snow-covered roads can cause considerable economic damage that needs to be prevented using efficient and reliable technology – a Supra pays off.



Self-Propelled Snow Cutter Blower - Components

The Supra 4002 and 5002:

Unique in many details, unparalleled in every way.

The Supra stands out with many technical highlights that have been combined to create an unparalleled innovation. Self-propelled snow cutter blowers employ a special design that includes articulated steering and a high-performance clearing head.

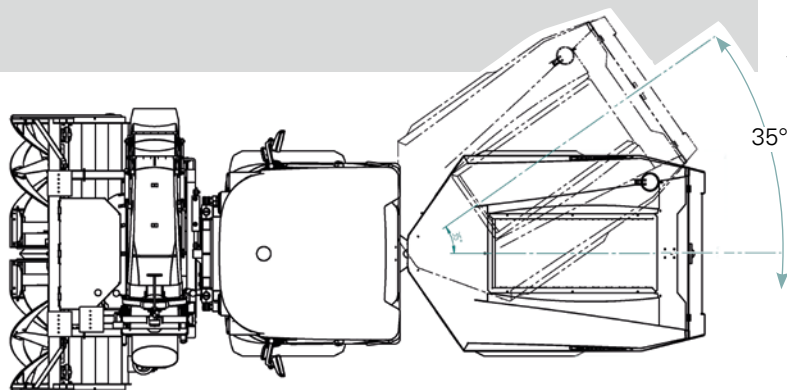
Articulated steering

Articulated steering makes it possible to continuously transmit the four-wheel drive's feeding power precisely in the clearing head's direction of travel. This allows the rear vehicle, which accommodates the engine, to exactly follow the front vehicle regardless of the curve radius, keeping it in the clearing path and preventing it from getting stuck in high snow banks.



Great manoeuvrability – articulated steering

- Optimum guidance of the rear vehicle following the clearing head's track
- Cutting tight corners even in hard snow
- The feeding power is transmitted in the clearing head's direction of travel at any steering angle, supplying the clearing head with maximum power
- Minimal cover required for the clearing head. 2,400-mm clearing head can be used in high snow
- No high-wear steering components



High-performance clearing head

The Supra is equipped with a cutter blower unit that is suitable for removing any type of snow on any road, open space or airport. Its design also makes it possible to efficiently load snow onto trucks whenever necessary. Two clearing head models are available:

Supra 4002

with a clearing capacity of up to 3,500 t/h

Supra 5002

with a clearing capacity of up to 5,000 t/h.

Supra

- Special-purpose vehicle with articulated steering for high-performance snow removal
- Exceptional clearing capacity under any operating conditions
- Comfortable, relaxed and safe handling

Self-Propelled Snow Cutter Blower - Components

Comfortable driver's cab

The Supra series comes equipped with a completely redesigned driver's cab that is spacious enough for comfortable two-man operation. The working environment and all control elements are ergonomically designed. The clearing head is controlled using a convenient joystick featuring easy-to-use buttons.



Reliable drive unit

The vehicle is driven by a powerful and sophisticated diesel engine (including cooling system). This tried and tested machine delivers eco-friendly performance in compliance with the latest emission standards while also being fuel-efficient at a comparatively low noise level.

Hydrostatic drive for:

- Infinitely adjustable driving and operating speed permitting optimum performance control
- Two speed ranges for operation and transport
- Fully reversible drive
- Load-dependent feed rate
- Fuel-saving eco mode to reduce engine speed during operation and transport, enabling fuel savings of up to 20%

	Supra
Clearing width	2,400 / 2,600 / 2,800 mm
Cutter drum diameter	1,100 mm
Blower wheel diameter	1,150 mm
Clearing capacity Supra 4002	up to 3,500 t/h
Clearing capacity Supra 5002	up to 5,000 t/h
Ejection distance	up to 40 m
Operating speed	up to 40 km/h
Drive	hydrostatic
Maximum output	330 kW / 440 kW

The drive unit is **hydrostatic and fully reversible**. The infinitely adjustable driving and operating speed is set via a variable displacement pump and variable engine, permitting the engine to run at a steady speed and use its full capacity in any situation.

Operating speed

0 – 15 km/h
(optionally 0 – 40 km/h for airports)

Driving speed

0 – 40 km/h
(optionally 0 – 50 km/h for airports)



Saving fuel in eco mode

The eco mode reduces the engine speed by 300 rpm and enables additional fuel savings of up to 20% - while permitting the same high driving speed and a consistently high clearing capacity. A

lower engine speed also significantly reduces noise levels. Two speed ranges can be set for operation and transport.

The tank capacity of approx. 530 l makes up to 8 hours of uninterrupted operation possible!

Self-Propelled Snow Cutter Blower - Components

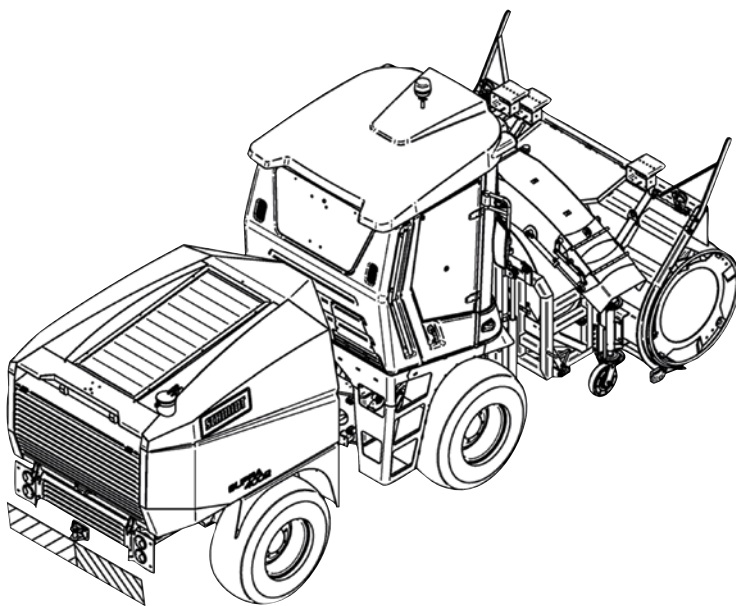
A strong concept – superior in every way!

Employing a special design with permanent four-wheel drive, the Supra is a high-performance machine developed specifically for tough operations under maximum load conditions. To enable uncompromising performance in any situation, our snow cutter blower offers you further unique technical advantages.

Maximum ruggedness thanks to a sturdy chassis

A torsion-resistant rigid frame and the extremely sturdy articulated joint between the vehicle's front and rear vehicle ensure effortless absorption of any occurring forces, enabling your machine to take on any challenge with ease!

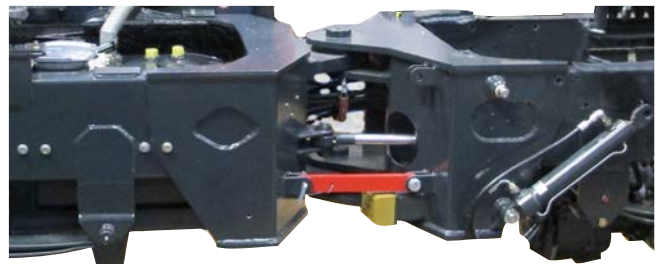
- Torsion-resistant rigid frame absorbs all occurring forces
- Extremely sturdy articulated joint between front and rear vehicle
- Optimum weight distribution for smooth layer-cutting
- Rigid, hub-reduction axles and switchable differential lock
- Leaf springs for tough operating conditions and great ride quality
- Wide tyres for low surface pressure, suitable for all types of snow



Stability

thanks to innovative articulated steering

Articulated steering permits a steering angle of about 35° to the right and the left, making it possible to continuously transmit the four-wheel drive's maximum feeding power precisely in the high-capacity clearing head's direction of travel. This allows the rear vehicle, which accommodates the engine, to exactly follow the front vehicle regardless of the curve radius, keeping it in the clearing path and preventing it from getting stuck in high snow banks. Articulated steering also allows for cutting tight corners in hard snow. Compared to the steering points on steering axles, this technology provides a noticeable increase in mechanical stability while eliminating high-wear components.



High load capacity

thanks to suspended rigid axles

The Supra series employs extremely sturdy rigid axles, which offer a clear advantage over steering axles. Since they have no pivot joints, they do not require any maintenance and are completely wear-free. Rigid axles also have a considerably higher payload.

Great ride quality thanks to leaf spring suspension

Despite short suspension travel, a suspension with parabolic leaf springs offers excellent ride quality, even with high axle loads and under tough operating conditions: Your drivers will be pleasantly surprised.



**Reliable traction
thanks to strong tyres**

The Supra series is equipped with tyres of the size 405/70 R 20 MPT. The front and rear axles are fitted with identical tyres featuring a special winter tread for best snow traction. These wide, high-grip tyres also offer a well-balanced ride. Snow chains are employed to additionally increase power transmission when clearing layers.

**Great flexibility
thanks to optionally available crawler tracks**

Crawler tracks are optionally available for operations in Alpine regions. The vehicle's tyres can be replaced with crawler tracks within half a day to provide maximum safety and efficiency when cutting layers. Crawler tracks serve to increase the machine's contact surface on the ground, preventing it from sinking in when cutting layers.



Self-Propelled Snow Cutter Blower - Clearing Head Drive Unit

Systematic clearing technology:

Power, efficiency and safety in all of your challenges!

Tried and tested in practice, Supra clearing technology is carefully thought-out in every detail – offering everything you need for smooth and profitable operations.

Technology that moves you forward

The powerful mono-block snow clearing unit incorporating a cutter drum and a downstream blower wheel enables consistently high snow-clearing capacity. The FS-type cutter blower front end consists of a generously dimensioned drum drive and a blower wheel with a blower housing that can be hydraulically swivelled to the right and the left. The clearing head is equipped with adjustable sliding shoes to set the distance between the ground and the cutting edge. Adjustable castor wheels are optionally available.

The Supra 4002's reversible clearing head drive unit is integrated directly into the clearing head itself. The Supra 5002 has an even more powerful two-speed gearbox that optimally transforms its higher drive power into snow-clearing capacity at any ejection distance.

Feeding flaps

The Supra can additionally be equipped with hydraulically moveable front-mounted flaps, specifically for airport operations. This increases the clearing width and makes it possible to flexibly adjust it to the width of a given snow bank, making particularly clean snow removal possible.

- Sturdy mono-block cutter blower front end
- High snow-clearing capacity through optimum interaction between blower wheel and cutter drums
- Resistant to obstacles because of open cutter drum design
- Extremely wear-resistant Hardox components used for high-wear areas, including blower wheel, blower wheel casing, cutter drums and supporting shell
- FS front end designed for high-performance snow clearing at airports



Self-Propelled Snow Cutter Blower - Clearing Head Drive Unit

Precise and speedy snow removal

The Schmidt Supra 5002 vehicles accurately throw the removed snow up to 40 metres to the left or right. Thanks to their individually adjustable chute and hydraulically operated blower housing, the ejection distance can be adjusted in two steps from minimum to maximum even under full load.

A hydraulic slewing mechanism (225° slewing range) mounted on the cutter blower front end can be fitted with either a short ejection chute or a loading chute including a hydraulic ejection flap.

If snow contaminated with de-icing material needs to be transported, it is also possible to load trucks in quick succession. A retractable folding chute is optionally available to facilitate loading trucks with high tail-gate lifts. The entire chute is hydraulically retractable at the push of a button as a standard feature for transport operations.

The GPS guidance system:

Mapping the route during summer makes it possible to clear it in winter, preventing damage to traffic barriers or the machine and ensuring personal safety.

Hydrostatic clearing head drive unit (Supra 4002)

- Infinitely adjustable ejection distance from 5 to 40 m at full clearing capacity
- Hydraulic motor flanged directly to the clearing head drive unit, eliminating the need for a drive shaft
- High-performance hydraulics optimised for increased performance
- Fully reversible direction of rotation for removal of any foreign objects
- Split-second automatic hydraulic shut-off of the drive unit in the event of overload due to obstacle contact
- Mechanical overload protection through shear pin on cutter drums (mechanical shut-off couplings optional)

Well-thought-out safety features

The open cutter drums have a very rugged design that makes them resistant to damage from obstacles. Kerb defectors are fitted as standard to protect the clearing head from lateral impacts.

The safety of the Supra 4002's cutter blower unit is ensured by split-second automatic hydraulic shut-off of the drive unit and a shear pin lock. The clearing head of the Supra 5002 is protected against overload by a shear pin in front of the blower wheel gearbox as well as by the shear pins on the cutter drum.



Self-Propelled Snow Cutter Blower - Operational Convenience

An ergonomically optimised working environment in every respect

In order to enhance both operational safety and the driver's performance, the Supra features a great number of comfort elements – Schmidt's principle of inseparably combining efficiency and safety is true here as well.

- Driver's seat with mechanical or air suspension and seat heater
- Passenger's seat with mechanical or air suspension and seat heater
- Air-conditioning system
- Rear view monitoring camera

Plenty of space for more convenience

The Supra features a 2-seat driver's cab that absorbs vibration and noise. Owing to the special noise-absorbing materials, the noise level in the driver's cab is merely 75 dB(A). The driver's and passenger's seats are additionally equipped with mechanical or air suspension and seat heater. An air-conditioning system is available as an option.

Maximum visibility – maximum safety!

The generously dimensioned, heated front and side windows permit excellent all-round view. In order to prevent accumulation of snow, the front window has a negative angle of inclination. The driver's cab can be hydraulically lifted by 700 mm for even more optimised visibility in specific individual cases.

All **control elements** are arranged logically and ergonomically. The control panel with graphics-enabled **TFT colour display and keypad** within the driver's field of view is movable and can thus be adapted to his personal needs.

The display shows all vehicle, engine and clearing head parameters as well as various joystick functions in a straightforward manner. There are different menu levels available for drivers as well as workshop and maintenance staff, offering maximum guidance – the keyboard layout can be set as needed.



Self-Propelled Snow Cutter Blower - Operational Convenience

The folding, ergonomically adjustable armrest equipped with a joystick is designed for the single-handed operation of all clearing head and driving functions. The assignment of keys can also be set as needed. In addition, there is an ergonomically positioned rotary switch with LED indicators for ejection distance, eco mode and load reduction on the front end.

Easy filling and maintenance

The Supra also provides easy access to the hydraulic components, since not only the engine hood but also the cab hood can be lifted. For easy and convenient filling of fuel, AdBlue and cooling water, the machine additionally features an easily accessible maintenance opening.



- Good accessibility of all components due to liftable cab and engine hoods
- Maintenance opening for easy and quick access for filling in fuel, AdBlue and cooling water



We have also had the machine's vibration level tested: The hand-arm vibration is below 2.5 m/s^2 , the whole-body vibration during transport and operation below 0.5 m/s^2 – very low values, which help to reliably avoid driver fatigue.

The noise level for the driver(s) is 75 dB (A) (indoors). The external noise level has been measured according to EC 2000/14/EC and EN ISO 3744 and amounts to 114 dB – which is why the machine is also eminently suitable for application in urban areas.





Self-Propelled Snow Cutter Blower - Environment

Efficient and environmentally friendly operation

We pay particular attention to the reduction of noise and fuel emissions, in addition to using alternative fuels. Our self-propelled vehicles can already be optionally fuelled with biofuel.

Needless to say, we are committed to the highest quality standards while manufacturing all components. Special importance is attached to low-wear and durable products. We also set great store by the environmental compatibility of materials and processes: Our quality management is easy on both resources and the budget.

We take special care to only use components and materials from suppliers who share our high standards without reservations.



Low-emission drive

The engines we use comply with the regulations of the latest emission standards EuroMot IV, in countries outside the EU EuroMot IIIA.

In **eco mode**, our machines permit fuel savings of approx. 20% in both operating and driving mode. We have additionally optimised the hydraulic system to reduce the required drive power in the aggregate. Upon customer request, the Supra can also be operated with biofuel.

High-quality corrosion protection

- Highly wear-resistant Hardox components in high-wear areas
- Closed profiles provide protection against corrosion
- High-quality paint finish conforming to prevailing regulations
- Elaskon protective paint for exposed components
- Elaskon full sealing is optionally available

Corrosion protection

Efficient corrosion protection allows for economical material consumption, thus protecting the environment. The required paint finish is carried out in compliance with prevailing regulations (blasting, priming, two layers of finish coat). Exposed components are treated with **Elaskon protective paint** – Elaskon full sealing is also possible. Highly wear-resistant Hardox components are used in areas subject to particularly high stress. Wherever possible, closed profiles are used, additionally reducing corrosion to a considerable extent.



ASH Services

Service at Aebi Schmidt:

As comprehensive and as much as you like!

True service is not just a promise, but something that has to prove its worth in practice – especially in your individual practice. At Schmidt, you are therefore free to choose whether you would like to make use of our general services or wish to benefit from our “TLC” service programme.

Our one-of-a-kind “Total Lifetime Care” (TLC) service programme, which enables us to precisely adapt our services to your individual challenges, constitutes an important pillar. With “Total Lifetime Care”, you have an extensive spare parts warranty as well as guaranteed reliable procurement. Schmidt has a global, highly efficient spare parts management system and always has more than 96,000 spare parts in stock – benefit from our emergency service, individual service agreements, professional employee trainings and many more: We will be happy to assist you – any time!



Service at ASH Aebi Schmidt also means:

Individual solution competence from problem analysis to product design

ASH Aebi Schmidt is not only a supplier of powerful machines but also a forward-looking source of ideas and your innovative partner. The intensive cooperation with our customers is the decisive prerequisite for providing efficient solutions to help you with individual problems and optimise your operations in a goal-oriented manner.

Our service portfolio comprises the wide-ranging technical potentials of our machines, your logistics operations regarding snow clearing and effective de-icing as well as the development of an efficient clearing concept – in terms of economy, safety and ecology. Rely on our worldwide experience and benefit from our keen sense of future developments and new fields of activity.

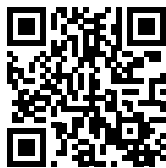
ASH Aebi Schmidt stands for first-rate service competence – throughout the world.

Our international trading and service network is certified and guarantees constant, reliable service worldwide. Our employees and our worldwide traders on site are at your disposal for any questions – we look forward to receiving your request!



	Supra 4002	Supra 5002
Dimensions: (mm)		
Length	approx. 6,640	approx. 6,790
Width without clearing head	approx. 1,940	approx. 1,940
Height (without warning beacon)	approx. 3,450	approx. 3,450
Ground clearance	approx. 300	approx. 300
Track width	1,500	1,500
Wheelbase	2,315	2,315
Turning circle diameter	approx. 9 m	approx. 9 m
Weights:		
Weight with clearing head	10,780 kg (FS 26)	approx. 11,200 kg (FS 26)
Total permissible weight	11,500 kg	11,500 kg
Permissible axle load	front 7,500 kg rear 6,000 kg	front 7,500 kg rear 6,000 kg
Engine:		
Type	6-cylinder, 90° V engine direct injection (PLD), exhaust turbo charger, intercooler	8-cylinder, 90° V engine direct injection (PLD), exhaust turbo charger, intercooler
Manufacturer / Emission standard	Deutz TCD 12,0 V 6 (Euromot IV) Mercedes Benz Typ OM 501 LA (Euromot IIIA)	Deutz TCD 16,0 V 8 (Euromot IV) Mercedes Benz Typ OM 502 LA (Euromot IIIA)
Output	330 kW (448 HP) at 1,800 rpm 320 kW (435 HP) at 1,800 rpm	440 kW (598 HP) at 1,800 rpm 420 kW (571 HP) at 1,800 rpm
Cubic capacity	11,950 cm ³	15,930 cm ³
Max. torque	2,100 Nm at 1,300 rpm	2,700 Nm at 1,200 rpm
Nominal speed	1,800 rpm	2,000 rpm
Cooling system	water recirculation	water recirculation
Control system	fully electronic engine management	fully electronic engine management
Tank capacity:		
Hydraulic system	100 litres	110 litres
Fuel tank	530 litres	530 litres
Electric system:		
Generator	28 V, 100 A	28 V, 100 A
Starter	24 V, 5.8 kW	24 V, 6.2 kW
Batteries	2 x 12 V, 180 Ah each	2 x 12 V, 180 Ah each
Lighting	conforming to StVZO (German Road Vehicle Registration Regulation)	conforming to StVZO (German Road Vehicle Registration Regulation)
Steering:		
Steering type	articulated steering	articulated steering
Steering angle	articulation angle 35°	articulation angle 35°
Steering power transmission	hydrostatic	hydrostatic
Driver's cab:		
2-seat	right-hand drive	right-hand drive
Windows	heated (front/sides)	heated (front/sides)
Drive:		
Type	hydrostatic/automotive with variable displacement pump and variable engine, manual two-speed gearbox, eco mode	hydrostatic/automotive with variable displacement pump and variable engine, manual two-speed gearbox
Variable displacement pump	pump capacity 175 cm ³ /U maximum pressure 500 bars	pump capacity 175 cm ³ /U maximum pressure 420 bars
Variable engine	displacement 140 cm ³ /U maximum pressure 500 bars	displacement 140cm ³ /U maximum pressure 420 bars
Driving speed	40 km/h (option for airport application 50 km/h)	40 km/h (option for airport application 50 km/h)
Clearing head drive:		
Clearing capacity	up to 3,500 t/h	up to approx. 5,000 t/h
Ejection distance	5 – 40 m	8 – 40 m
Clearing width	2,400 or 2,600	2,400, 2,600, 2,800
Drive	hydraulic	manual two-speed gearbox
Variable displacement pump	pump capacity 280 cm ³ /U maximum pressure 500 bars	—
Variable engine	displacement 215 cm ³ /rev. maximum pressure 500 bars	—

Aebi Schmidt Holding AG
Marketing and Communication



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ASH Group on YouTube

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We will be happy to help you!