

Product Specifications



A8000

Regenerative Air Power Sweeper



Competitive Advantages of the Schwarze A8000

The Schwarze model A8000 is a heavy duty, chassis-mounted, regenerative air sweeper with a 5.8 cubic yard hopper. Its basic design has had 15 years of successful operation throughout the United States and around the world. As one of the largest, most powerful air sweepers in existence, the Schwarze A8000 is an ideal choice for use in a wide range of demanding road sweeping applications.

The A8000's blower system generates a high velocity air column that is

propelled into the top of the sweeping head through a 14-inch blast tube. The air is first pressurized in the upper chamber of the sweeping head, then expelled into the head's lower chamber through what is called a 'blast orifice.'

This is a slot in the sweeping head that forces the air against the pavement at an angle, creating a 'peeling' or 'knifing' effect. This high volume air blast loosens the debris from the pavement surface, then transports it across the width of the sweeping head and lifts it into the containment hopper via a 14-inch suction tube. To assure debris transfer with minimal fugitive dust escapement, double-belted curtains on the front and rear of the sweeping head contain the circulating air flow.

Unlike mechanical broom sweepers, the A8000 collects the micron-sized contaminants that accumulate on roads and streets. This highly efficient system ensures that even hard-to-reach particles hidden deep within pavement cracks and irregularities are removed. Recent studies emphasize the importance of removing these fines, called 'PM-10s', because of the heavy metals and other non-point source pollutants they add to the stormwater runoff stream.

California's South Coast Air Quality Management District (AQMD) has certified the A8000 to be efficient and capable in the removal of this PM-10, small-micron particulate matter.

Using the regenerative air Schwarze A8000 sweeper results in a cleaner street and a cleaner environment.

The model A8000 has several industry-leading features that position it at the head of its class. These include Schwarze's patent-pending *WhisperWheel*SM fan system, which lets Schwarze air sweepers run over 70% quieter and with less fuel consumption. The A8000 also includes the Schwarze *Sweeps-In-Reverse*SM sweeping head, which allows it to operate equally well in both forward and reverse.

In addition to the model A8000, Schwarze Industries offers a variety of other air and mechanical broom sweepers for municipal, contracting and parking area applications. There is also a sweeper designed specifically for airport runways, and Schwarze Industries manufactures the most effective pavement cleaners in existence, the Schwarze EV-series of particulate management machines. These efficiently remove standard and small-micron pavement debris, need no water for dust suppression, and filter exhaust to 2.5 microns - 1/28 the width of a human hair.

The Schwarze Industries Team is known around the world for manufacturing efficient, dependable, and easy-to-operate pavement sweepers, then backing them with the best customer service in the industry.





Commercial Chassis –

Schwarze A8000 sweepers are mounted on standard production, commercial chassis that meet OSHA requirements for ride and comfort, and have a proven track record in safety and reliability. This allows A8000 sweepers to travel at normal highway speeds, which saves time and allows more actual sweeping per shift. A minimal parts supply needs to be kept in stock by owners, since parts and service are readily available at local commercial chassis distributors. The entire unit is much easier to work on than a sweeper mounted on a 'purpose-built' chassis. Often, the A8000 can even be mounted on a chassis currently in the owner's fleet, so that operator training and other costs may be reduced. The added familiarity of a standard production chassis also contributes to a higher level of operator comfort and productivity.



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Auxiliary Engine –

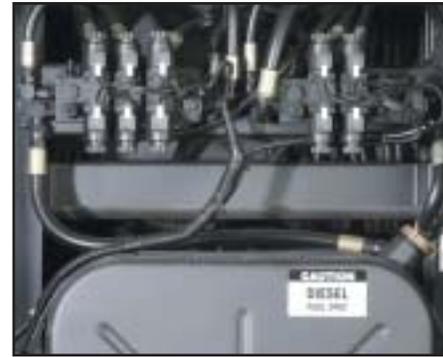
The A8000's sweeping components – hydraulic, dust control, and blower systems – are powered by a 115 horsepower, turbocharged, John Deere Powertech® auxiliary engine. This powerful auxiliary engine allows the A8000 to be operated at a lower rpm than most competitors. When combined with the efficiency and quiet operation of **Schwarze's exclusive, patent-pending Whisper-WheelSM** blower system, this factor reduces operating noise level and increases expected engine life. To ensure a cleaner supply of air, the auxiliary engine has a 2-stage, dry type air filter with a centrifugal



precleaner, and the air intake is positioned at the top of the sweeper. An automatic shutdown system eliminates the potential for engine damage due to high coolant temperature, low coolant level or low oil pressure. These factors help ensure a long service life for the Schwarze A8000's John Deere diesel auxiliary engine.

Hydraulic System –

The A8000's hydraulic system features direct drive, gear-driven tandem pumps. This allows the A8000 to perform one-pass sweeping even under extreme conditions. And, to ensure hydraulic system protection, preset bypass relief valves are



built-in. Standard operation produces a combined fluid flow rate of 13.6 gallons per minute. The 25-gallon hydraulic reservoir has a 12,500 BTU cooler, which decreases oil temperature and extends the life of the hydraulic pumps, torque motors, hoses and fittings.

Standard on the A8000 is a 12 volt backup hydraulic system. This has several important environmental and safety benefits. In areas where fugitive dust containment is a concern, the 12 volt hydraulic system may be used to lower the sweeping head prior to starting the auxiliary engine, as well as to raise the head when sweeping is finished. The 12 volt backup hydraulics may also be used to dump the hopper.

By utilizing these features, Schwarze A8000 operators are able to minimize the output of fugitive dust and flying debris.

In the event a primary hydraulic system failure occurs, the A8000's 12 volt backup hydraulic system also allows the sweeping head and gutter brooms to be raised so the truck can be driven.

Gutter Brooms –

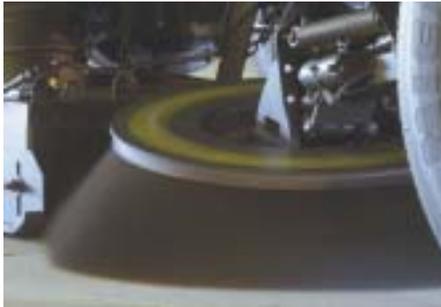
The A8000's vertical, steel-digger gutter brooms measure 44 inches in diameter and are driven hydraulically. Their free-floating design allows them to follow the contour of the pavement and gutter, while a spring impact protection system enables an inward swing of the broom(s) when an immovable object is encountered. These features help to eliminate excessive wear, and prevent the possibility of gutter broom breakage due to striking an obstacle.

The use of two gutter brooms extends the total sweeping width of the Schwarze A8000 to 138 inches.



For improved sweeping performance, simple controls in the cab provide a full range of broom adjustment. The A8000's optional, in-cab, adjustable broom tilt allows thorough sweeping of gutters located below pavement height.

Schwarze's industry-leading **Gutter Broom Extension OverrideSM (GEOSM)** system enables the brooms to scrub the pavement directly in front of the sweeping head.



This 'inboard agitation' by the steel gutter brooms removes an increased amount of compacted material from the roadway. The Schwarze **GEOSM** system ensures excellent transfer of debris to the suction tube even in very heavy debris conditions.

3 The Schwarze-Exclusive **WhisperWheelSM**

Schwarze Industries' exclusive, patent-pending **WhisperWheelSM** design utilizes the most advanced steel blower fan system in the pavement sweeping industry.

The industry-leading Schwarze **WhisperWheelSM** blower system is amazingly quiet and efficient. Designed using advanced computer

flow modeling, this patent-pending fan system provides a high pressure vacuum capability at low decibel noise output and with reduced horsepower demands. This allows the A8000 to retain its sweeping ability at lower, quieter engine speeds, while delivering significant fuel savings.

For a longer service life, the fan is constructed of 3/16-inch thick T-42 steel and has an easily replaceable rubber lining. The A8000 is equipped



with an air flow adjustment system, so it can accommodate the variations between light and heavy sweeping conditions. Connecting the fan system to the sweeping head are 14-inch diameter blast and suction tubes constructed of wire-reinforced, 3/8-inch thick molded rubber. To help ensure long fan life, the blast air goes through a self-dumping dust separator prior to re-entering the fan housing.



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Sweeping Head –

The Schwarze sweeping head design is one of the keys to the A8000's superior sweeping ability. A choice of two sweeping heads is offered on the A8000 model. Excellent sweeping performance is provided by the



standard head, which features dual air chambers and an angled blast orifice. As the airstream enters the sweeping head's upper chamber it is compressed, and then forced into the lower chamber and across the entire head width. Because the blast orifice is angled, it creates an even distribution of the air blast across the head. The sweeping head's angled design also provides an increasing amount of space for the debris as it's collected into the airstream and moved toward the intake tube. This 'across-the-head' sweeping ability contributes to the superior performance of Schwarze A-series sweepers.

Schwarze Industries' Patented* **Mechani-Pneumatic PowerhoodSM**

For handling extremely heavy debris and specialty applications, the A8000 may be optionally outfitted with Schwarze's industry-leading **Mechani-Pneumatic PowerhoodSM**.

This patented innovation is a broom-assist pickup head designed with a simple, common sense addition: an angled, windrowing broom is



positioned *ahead of* the air blast to thoroughly brush the pavement surface. This broom-forward head design is ideal for loosening debris and moving it across the head. The 66-inch long, 12-inch diameter broom transfers debris toward the 14 inch suction tube, leaving the finer materials for the high pressure blast orifice.



The **Mechani-Pneumatic PowerhoodSM** option puts the A8000 in direct competition with mechanical broom sweepers for most sweeping applications. However, the A8000 is more economical to operate and provides superior removal of the PM-10 fines that are targeted as pollutants by the EPA and other agencies.

* Patent number 5,884,359

Both Schwarze A8000 sweeping heads are spring-balanced and measure 90 inches in length by 36 inches wide. Each is equipped with double-wide carbide drag shoes which have a 2 year/2000 hour limited warranty. The increased height of Schwarze sweeping heads provides significant advantages over competitive models because it allows bulky debris, such as dry leaves, to be picked up more efficiently.

Both of the A8000 sweeping heads incorporate Schwarze's exclusive Sweeps-In-ReverseSM capability. Being able to sweep while backing up saves time, and allows operators to maintain precise control of the sweeping operation. Reverse sweeping can also provide important environmental and safety benefits, since fugitive dust emissions are substantially reduced as a result of the sweeping head retaining a secure seal when the sweeper is reversed.

Hopper –

The A8000 hopper features a 5.8 cubic yard volumetric capacity. This large size requires less dumping, thereby maximizing sweeping time. The A8000's hopper is constructed of durable 10-gauge steel that is further reinforced to gain additional strength.



To provide fast and complete unloading, the A8000's hopper doors are full height, full width, and they unlatch and open hydraulically. These features make interior hopper maintenance easier and safer for the operator.

The A8000's patent-pending, two-step dumping system is quick and stable. First, the hopper is raised to the desired variable dump height, from about 36" up to a maximum of 118". Then, the hopper is tilted to a 45° dumping angle. The raising and dumping of the hopper are both controlled from inside the cab. A floor vibrator is standard equipment to assure a clean dump every time.

An inspection door is located at the rear of the A8000's hopper to provide convenient access for hopper inspection and cleaning. An optional drain hose allows water to empty out underneath the hopper, leaving more room for solid debris.



As an aid to hopper clean-out that's thorough and complete, Schwarze's **Hopper DelugeSM** internal washdown system is also available as an option. For those who insist on maximum hopper life, Schwarze also offers its **4 Point ProtectionSM** package. This consists of a stainless steel debris hopper with an extra durable interior coating.



The exterior is first covered with a two-part urethane primer. Then, another two-part urethane top coat of DuPont Imron[®] 5000 is added.

Dust Suppression and Water System –

Larger debris particles are separated from the airstream by the Schwarze-exclusive sawtooth dust separation screen.

Its design ensures efficient air flow and reduced plugging. The A8000's self-dumping dust separator then



uses the centrifugal action of the fan to eject most smaller particles from the sweeper's air flow.

Finally, the finest dust is removed from the airstream by the A8000's water-based dust suppression system. This features in-cab controls, with 11 water nozzles located as follows: 5 on the sweeping head, 2 at each gutter broom, and 2 inside the hopper. A spray bar is also available for the front bumper. Water is stored in a 250-gallon polyethylene tank. Another 220- or 350gallon water tank may be added to sweepers mounted on a cabover chassis.

Water pressure is supplied by a hydraulically-driven pump. For operator convenience, an in-cab indicator light signals when the water supply is becoming depleted and an automatic shutoff eliminates the risk of pump damage due to running dry. Refilling the water tank is quick and convenient using the A8000's 25-foot fill hose, with its quick-detach NST hydrant coupling. A standard washdown hose makes it possible to clean the screens, as well as the blast and suction tubes, on the jobsite.

Control/Instrument Panel –

The Schwarze A8000's user-friendly control panel features circuit breakers (instead of fuses) for ease of resetting.



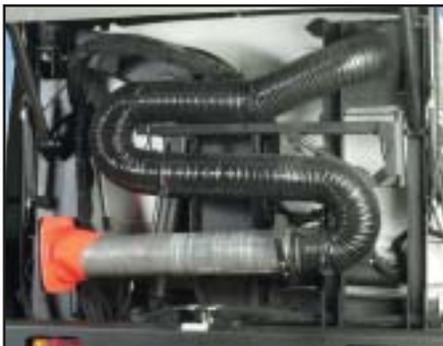
All controls are easy to reach from both the standard and optional operating positions, feature internationally recognized symbols and are well lighted for nighttime use. The panel has individual rocker switches



for the safety lights, optional controls and each sweeper function. The panel also includes a tachometer, an hourmeter and gauges for water temperature and oil pressure.

Auxiliary Hand Hose –

An optional, rear-mounted auxiliary hand hose is available for the A8000. It's ideal for catch basin cleanout, or for any other application where debris is inaccessible to the sweeping head.



The optional hand hose has an eight inch diameter, and extends a full twelve and a half feet. This makes it ideal for a wide range of remote cleaning applications.



The auxiliary hose, with its optional electric controls for the hose's support boom and a four foot extension tube, makes the A8000 one of the most versatile and cost-effective pieces of cleaning equipment in the marketplace.



Schwarze A8000 Equipment

STANDARD EQUIPMENT:

- Schwarze-Exclusive, Patent-Pending *WhisperWheel*SM Fan System
- Sweeps-In-Reverse*SM Sweeping System
- DC Auxiliary Hydraulic Pump
- Rear Door-Mounted Amber Strobe Light with Limb Guard
- High Level Brake Light
- Amber Flashing Warning Lights
- Rear Flood Lights
- 3-Point Automatic Auxiliary Engine Shutdown System
- Washdown System
- Hydrant Wrench
- Fire Extinguisher
- Backup Alarm
- Resettable Circuit Breakers
- Road Flare Kit
- Rear-Mounted Arrowboard With In-Cab Controls

OPTIONAL EQUIPMENT:

- Patented* *Mechani-Pneumatic Powerhood*SM (Broom Assist Head)
- Single or Dual Gutter Brooms
- In-Cab Tilt Control for Gutter Brooms
- Gutter Broom Extension Override*SM (*GEO*SM) System
- Twin Remote Cameras With In-Cab Video Monitor
- Dual Steering
- Hopper Shaker
- Cab-Mounted Barlight Beacon
- Safety Beacon with Limb Guard
- Spray Bar for Front Bumper, Hopper
- Hopper Deluge*SM (Hopper Washdown System)
- Extra 220- or 350-Gallon Polyethylene Water Tank (Cabover only)
- Hopper Drain System
- 8" Auxiliary Hand Hose
- 4 Point Protection*SM (Stainless Steel Hopper Package)
- Magnet Bar
- Spare Tire and Wheel
- Spare Parts Package
- Special Paint for Sweeper and Chassis
- Electric or Spring System for Hand Hose
- Other Options Available



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* Patent number 5,884,359

Schwarze A8000 Specifications

SWEEPING PATH:

Pickup head only	90" (2,286 mm)
Pickup head and one gutter broom	114" (2,896 mm)
Pickup head and two gutter brooms	138" (3,505 mm)

CHASSIS:

Mounts on various chassis to meet requirements.

SWEEPER BODY:

Construction	Welded 10-gauge steel plate with 3/16" steel hopper floor
Safety Prop	Pin in knuckle joint

INSTRUMENTATION:

Sweeper Engine Tachometer, hourmeter, voltmeter, temperature gauge and oil pressure gauge

STANDARD ENGINE:

Model / Type	4045T/ In-line 4 cylinder
Aspiration	Turbocharged diesel
Manufacturer	John Deere
Displacement	276 cu. in. (4.5 L)
Brake Horsepower	115 (86 kW) @ 2,500 rpm
Torque	291 ft-lb (395 Nm) @ 1,400 rpm
Air Cleaner	Sy-Klone® centrifugal precleaner; dry-type with dual safety elements and restriction indicator
Oil Filter	Full-flow/Spin-on
Stroke	5.00" (127 mm)
Bore	4.19" (106 mm)
Compression Ratio	17.0 to 1
Safety Shutdown	Three point; automatic
Throttle Control	Electronic

ELECTRICAL SYSTEM:

Voltage	12 Volt
Sweeper Engine Alternator	65 Amperes

DUST CONTROL SYSTEM:

Type	High pressure/ Low volume
Water Tank Capacity	250 gallons (946 liter)
Tank Construction	Polyethylene
Filter	200 mesh, cleanable
Fill Diameter	2.5" (63.5 mm)
Fill Hose	25 foot (7620 mm)
Controls	Electric; in-cab

BLOWER SYSTEM:

Type	Patent-pending <i>WhisperWheel</i> ™
Drive	Direct via a 5 groove, banded power belt
Construction	T-42 steel
Housing Lining	Bolt-in corded rubber
Mounting	2 regreaseable sealed bearings
Vacuum Enhancer	For heavy/ light material

PICKUP HEAD:

Type	Dual chambered full-width blast orifice
Operating Direction	Forward and reverse
Suspension	Adjustable spring balanced
Length	90" (2,286 mm)
Pressure Hose Diameter	14" (355.6 mm)
Suction Hose Diameter	14" (355.6 mm)
Hose Construction	3/8" (9.5 mm) wire-reinforced molded rubber
Head Area	3,240 sq. in. (20,903 cm²)
Controls	Hydraulic raise and lower
Skids	Double wide tungsten carbide
Construction	T-42 steel inlet and outlet transitions

HYDRAULIC SYSTEM:

Pump Capacity	6.5 gpm @ 1800 rpm (24.6 L/min.)
Drive	Direct gear
Maximum Pressure	2,500 PSI (172 bar.)
Reservoir	25 gallons (94 liters)
Filter	10 micron, spin-on
Protection	Pressure relief valve
Controls	Electro-hydraulic

AUXILIARY HYDRAULIC SYSTEM:

Type	Gear type, driven by electric motor
Function	Raise/lower hopper, open/close hopper door, raise brooms and pickup head

DEBRIS HOPPER:

Volumetric Capacity	5.8 cu. yds. (4.43 m³)
Dump Angle	45°
Dump Height	36" to 118" (914 mm to 2997 mm)
Floor Angle	0°
Dust Separator	Self-cleaning centrifugal
Tilting	Twin tandem hydraulic cylinders
Hopper Dump Door ...	Open/close/lock hydraulically
Inspection Doors	1 on rear of hopper

SIDE BROOMS:

Type	Vertical steel digger
Location	Right and left, forward of pickup head
Diameter	44" (1,118 mm)
Drive	Hydraulic torque motor with relief valve
Suspension	Torque-sensing spring
Wear Adjustment	Automatic
Pressure	Manual
Speed	Variable, non-reversing
Segments	5 each side, disposable, tempered steel wire filled
Tilt Angle Adjustment	Manual

PAINT:

One coat of sealer/primer and two coats of DuPont Imron 5000® polyurethane in standard white color.

WARRANTY:

The Schwarze A8000 sweeper is guaranteed to be free from defects due to faulty materials and/or workmanship for a period of 12 months, or 1200 hours. Liability is limited to replacement of defective parts at factory or authorized dealer. The standard warranties of chassis and sweeper engine manufacturers shall apply. Optional extended warranties are also available.



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Website: www.schwarze.com
Email: support@schwarze.com

*'New Ideas From The Company
That's Sweeping The Earth'™*

Note: Specifications are subject to change without notice.

Other Schwarze Models Available



The Schwarze A7000 – America's Performance Leader

- 8.4 cubic yard capacity debris hopper
- 115 hp John Deere diesel auxiliary engine
- Optional dual gutter brooms with optional tilt
- Optional *Gutter Broom Extension Override*SM (GEOSM)
- Patent-pending *WhisperWheel*SM fan system
- Environmentally-friendly regenerative air
- Schwarze *Sweeps-in-Reverse*SM capability
- Standard 220-gallon water system (Additional 220- or 350-gallon tank optional)
- Cabover or conventional mounting



The Schwarze M5000 – America's Millings Leader

- 5 cubic yard high dumping hopper
- *Gutter Broom Extension Override*SM (GEOSM)
- Center-loading elevator system
- Full-floating main broom
- Commercial chassis mounting
- Unsurpassed sweeper for milling cleanup



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M6000TE
Twin Engine

M6000SE
Single Engine

The Schwarze M6000 – Mechanical Broom Excellence

- Choice of single or dual engine design!
- 5 cubic yard hopper—Proven sweeping system
- Variable-height side dump from 16" to 11' 6"
- Forward-facing, digger-type curb brooms
- Squeegee-type elevator system

The Schwarze EV-series – Top Choice for NPDES and Environmental Compliance

- Rated #1 sweeping system by many independent studies
- Pavement cleaning to 2.5 microns
- Secure containment and off-load
- Ideal for toxic material cleanup
- Two models available
- Lifetime fan warranty
- Positively-pressurized cab (EV1 only)
- Patented fan, pickup and filter cleaning system
- Highly effective, 100% waterless dust suppression system



The Schwarze A4000 – No CDL Required

- 4.3 cubic yard hopper capacity (67" dump)
- Environmentally-friendly regenerative air
- Patent-pending *WhisperWheel*SM fan system
- *Gutter Broom Extension Override*SM (GEOSM)
- Schwarze *Sweeps-in-Reverse*SM capability
- 130-gallon capacity dust suppression system



Your Authorized Schwarze Dealer

*"New Ideas From The Company That's Sweeping The Earth"*SM