

620 HAUL ROAD SWEEPER

SPECIALISED SUPPORT EQUIPMENT

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ETT HAUL ROAD SWEEPER

The ETT 620 Sweeper is a purpose-built heavy-duty road sweeper designed to operate in the harsh mining environment. The six-metre brush covers a wide area to efficiently clear large haul roads of debris.

A 20 000-litre water tank is integrated into the main structure. This water is used for dust suppression by the brush head, as well as for applying water and dust suppressing additives to haul roads.

FEATURES

1 LARGE FILLING CHUTE

- 1.2 m x 1.2 m filling area
- Hinged trash grate
- Grating can be locked

2 SWEEPER BRUSH

- 6 metre length
- 840 mm diameter
- Durable nylon bristles
- Easy brush replacement

3 MAIN WATER TANK

- 12 000 L Tank Capacity
- Feeds to rear spray system
- Internal baffles reduce surge

4 BRUSH WATER TANK

- Separate from main tank
- Contains water for dust suppression in front of brush

5 HEAVY DUTY BALL HITCH

- Large steel ball hitch
- Zero maintenance
- Jackknife warning sensor



HAUL TRUCK INTEGRATION

The 620 Sweeper integrates with any 40 Ton articulated truck chassis platform by converting the truck to a four-wheeled drive hauler configuration.

- The rear axle of the truck is re-purposed as the rear axle of the sweeper unit.
- The centre, or through drive, axle of the truck is re-purposed as the rear axle of the hauler unit.
- The inter-axle differential on the axle is locked out, and a high-capacity hydraulic piston pump is mounted to the rear frame and coupled for drive to the rear output yoke of the axle.
- Coupling is via a propeller shaft.
- The wheel rims on the trailer axles are offset 100mm per side to provide the required commute stability.

HYDRAULIC SYSTEM

The hauler hydraulic system is connected to the sweeper system to provide power to the following systems:

- Articulation
- Lifting
- Brush rotation drive motors
- Water Pump drive motor

The hydraulic pump mounted on the rear of the hauler axle provides supplementary hydraulic power to deliver ground speed dependent rotational speed of the brush. This system ensures that the brush tip velocity is matched to ground speed. This is essential for effective operation of the brush at all ground speeds.

BRAKE SYSTEM

The brake cooling system of the truck is reconfigured to circulate cooling oil to the trailer axle. All OEM axle cooling performance and pressure parameters are maintained within OEM specifications. The braking system is re-certified by a registered Professional Engineer to comply with all relevant safety and performance standards.



BRUSH ASSEMBLY

The sweeper brush automatically adapts to road surface conditions. By measuring the resistance on the brush, the intelligent control system adjusts the brush trim by raising and lowering the two trim wheels. The intelligent trim system allows the sweeper to maintain optimal sweeping performance of different road conditions automatically without operator intervention.

Automated Brush Control System:

- Brush Pressure
- Brush left and right-side trimming
- Lead compensation
- Brush wear compensation
- Speed compensation
- Road surface compensation

BRUSH DESIGN

The segments of the 840mm brush are stacked onto two brush cores. A brush set on a brush core assembly can be changed in under three hours. A recommended pair of brush sets in reserve will allow fast changeover in under one hour when brushes are worn. The drive units on the brush boom can be hydraulically extended to quickly release the brush sets, allowing a brush change in under one hour.

BRUSH HEAD

The brush head has two trailing wheel assemblies that allow for precise trimming to adjust for road undulations, and to adjust brush pressure depending on the sweeping application. Adjusting the brush pressure also allows for optimisation on brush life. Brush head attitude can also be adjusted by offsetting the leading edge of the brush to compensate for roadway crowning. The brush head is controlled via a graphic user interface mounted in the cab and can be raised and rotated to lie longitudinally for stowing during long commutes. The caster wheels and flexible dust skirt are located on a frame separate to the brush carrier, and this frame can be manually adjusted to cater for brush wear.

BRUSH TRIMMING

Brush trimming is done automatically according to the sweeping mode selected. The sweeping modes can be optimised to suit on site conditions. Up to three pre-set sweeping modes can be set according to mine management's preference for adjustment and control they wish to allow the operator.

BRUSH DUST SUPPRESSION

The brush head dust suppression is achieved by means of several high-pressure nozzles that spray water along the front of the brush. The system utilises nozzles and valves with an aperture design that is less prone to clogging. The pump and plumbing have in-line filtration to separate debris that could clog the nozzles. The water tanks have self-filling capability with Perrot couplings for filling product and water tanks. Product tank also has a top filling chute with safety mesh, 1200mm x 1200mm.

PERFORMANCE

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AUTOMATED BRUSH CONTROL SYSTEM

- Brush Pressure
- Brush left and right side trimming
- Lead compensation
- brush wear compensation
- Speed compensation
- Road surface compensation



REAR SPRAY AND PRODUCT APPLICATION

The rear spray bar is fitted with dual spray heads and one-inch brass nozzles. The spray can be activated from inside the cab and can operate during and without sweeping.

The operator can also switch from the regular spray bar to the penetration spray bar. The penetration spray bar sits low to the ground and its spray width is close to the same width as the haul truck.

SPRAY SYSTEM SPECS

- 15 Metre Spray Width
- Dual Spray Heads
- 1 000 Litres/min
- 12 000 L water tank
- Remotely activated from cab
- Penetration spray bar same width as truck





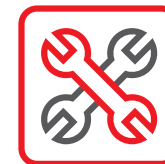
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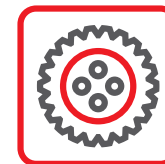
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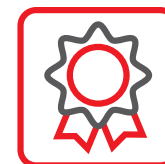
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