

2. *Intended Use*

HAMMEL Shredder Model VB 950 DK

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2.1. Description of the shredder

The HAMMEL VB 950 DK Shredder is a hydraulically powered recycling machine with two slowly rotating shafts. Material is inserted into the hopper directly onto the shafts; it is pulled in by the aggressive ripping hooks and blades of the two specially intermeshing tools. The material to be shredded is ripped apart and broken up, and falls directly onto the horizontal conveyor. The hydraulic system is automatically switched into reverse if difficult material causes the hydraulic pressure to rise to its limit. The shafts then rotate in the opposite direction, cleaning themselves and separating the material. After a selectable time, the shafts switch to forward running again and resume the normal breaking process.

The broken up material is ejected on the discharge conveyor.

The machine is driven by a diesel engine.

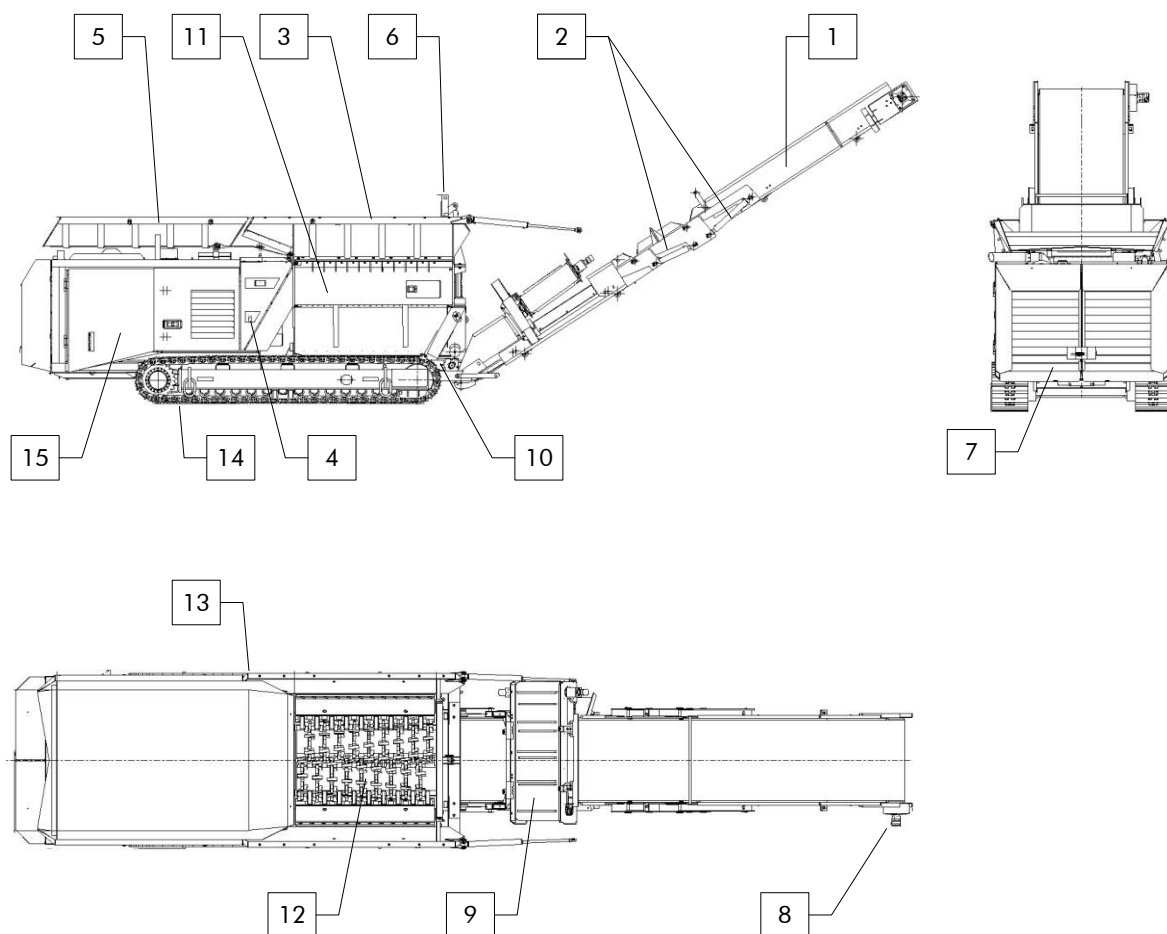
The HAMMEL Shredder is equipped with a radio remote control which enables the user to operate the shredder in complete safety in normal shredding mode.

The shredder may be optionally equipped with an over band magnet and a water sprinkler.

- The over band magnet (option) removes ferrous metal from the shredded material. A strong magnet (usually a permanent magnet) attracts the metal from the shredded material, which is then ejected to the side by a conveyor belt.
- The water sprinkler binds the dust raised by the shredding.

The shredder has been designed for semi-mobile use in recycling areas and can be moved around the area on its crawler tracks. On public roads, it must be transported on a low-loader.

The following drawing shows the most important components of the shredder:



- | | |
|---|--------------------------------------|
| 1 Discharge conveyor | 9 Overbelt magnet |
| 2 Hydraulic cylinder conveyor fold in/out | 10 Horizontal conveyor |
| 3 Main hopper | 11 Shredder housing with tool shafts |
| 4 Buttons <Emergency stop> (on both sides) | 12 Tool shafts |
| 5 Tipping hopper | 13 Control panel |
| 6 Hopper flap | 14 Tracked undercarriage |
| 7 Sound-absorbing register, behind it main cooler | 15 Fuel tank door, behind it engine |
| 8 Discharge conveyor drive | |

2.2. Approved applications



Operating safety of this machine can only be guaranteed for the approved application.



It is forbidden to operate the machine in zones at risk of explosion and/or to load the machine with material at risk of explosion.



The machine and its surroundings must be regularly cleared of dust and other adhering materials.



The operating company must ensure that the ventilation and venting are adequate to prevent the formation of explosive atmospheres.

The HAMMEL Shredder was exclusively designed for shredding:

Wood waste, green waste, household waste, industrial and bulky refuse, light aluminium scrap and profiles (not massive parts), light metal scrap

to a particle size suitable for further use.

Unauthorised use of the machine is forbidden. If the machine is used for material other than the above mentioned, danger can occur.

Examples of such **inappropriate use** (of the shredder) are e.g. shredding:

- loading with disturbing components, e.g.
 - car batteries
 - gas cylinders
 - fire extinguishers
 - ammunition or explosives
 - pressure containers
 - cans with flammable materials etc.
- objects, bodies and similar items made of massive iron or non-iron metal as well as metal sheets of a thickness of more than 3 mm;
- stones, concrete, quartz etc.;
- electric motors and other devices;
- radioactive sources, oil barrels, toxic materials and other materials and objects which are hazardous to the environment.

Vehicle bodies can only be shredded with special equipment, and this requires the agreement of the manufacturer. Please note the following:

- Crushing vehicle bodies leads to an increased wear of the shredder, especially the shredding shafts and rake sheets
- The vehicle bodies may not contain
 - compact iron components, like the engine, the gears, wheel axles leads the an increased wear of the shredder, especially the shredding tools and counter rakes et al,
 - fuel and oil tanks,
 - airbags and other explosive components.
- The vehicle bodies must be fat and oil free.
- You must clean the studded belt of the discharge conveyor with a powerful jet of water every day after work has finished.

Stones, railroad crossties with plates, paper rolls from a diameter of 1 m and aluminium can only be shredded with special equipment, and this requires the agreement of the manufacturer.

Source of ignition may be occurring during shredding as a result of mechanically generated sparks, electrostatic discharges and hot surfaces.

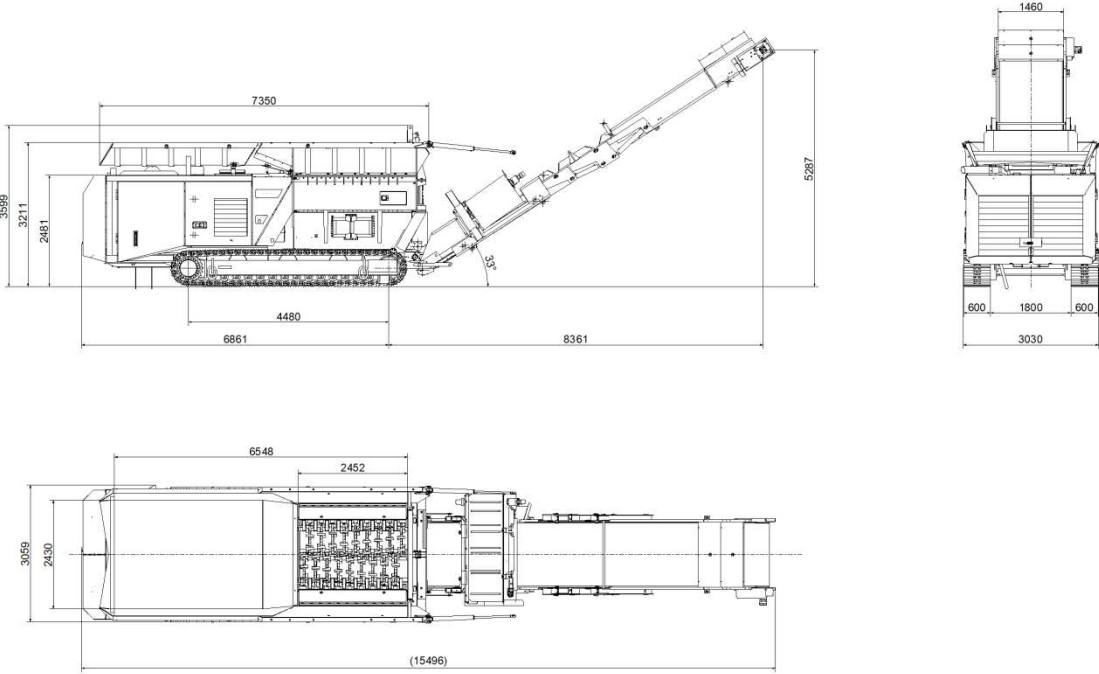
The shredder may only be operated by daylight. If the shredder is also to be used during the night or inside a building, the operator must provide adequate lighting (good visibility of the operator controls and for feeding the material).

The shredder may only be operated at ambient temperatures between -10°C (14°F) and +45°C (113°F).

The shredder is designed for a maximum of 16 hours a day. If you want to operate the shredder for more than 16 hours a day, please contact HAMMEL Recyclingtechnik GmbH beforehand.

Heavy operations of the shredder and/or operating times of more than 16 hours require the agreement of the manufacturer and may require the use of special operating fluids (see chapter "8.3. Operating fluids").

2.3. Technical data

Technical data		
Specification		Mobile machine mounted on tracks
	Colour	RAL 3020 (red)
Weight	Weight of the machine	approx. 44000 kg
	Weight of the over band magnet	approx. 3000 kg
Dimensions	Total height (without discharge conveyor and hopper extension)	approx. 3600 mm
	Total width	approx. 3050 mm
	Total length	
	Discharge conveyor folded out	approx. 15500 mm
	Discharge conveyor folded in	approx. 11400 mm
	Total height with lifted tipping hopper (without hopper extension)	approx. 6000 mm
		
Drive	Engine	Caterpillar C-18 Tier4final
	Performance	563 kW / 766 PS
	Tickover revs	approx. 850 rpm
	Operating revs	approx. 1800 rpm
	On-board voltage	24 V

Technical data		
Shafts	Specification	6 tools 8/8 discs (metal)
	Shafts diameter	approx. 870 mm
	Shafts working length	approx. 2370 mm
	Shafts speed in automatic mode without material	approx. 21 rpm
Horizontal conveyor	Width, Length	1400 mm, 6450 mm
	Type	Smooth belt
Discharge conveyor	Width, Length	1400 mm, 19065 mm
	Type	Gallery belt
	Change of the discharge height	hydraulically
Overbelt magnet	Type	GAUSS SMN 100.120 NS B MI
Radio remote control	Type	NOVA-L PROP-2K RX-ES-CAN 434 MHz
Tracked undercarriage	Type	IVA B4 (U-C-4-1-873)

2.4. Noise levels

The following noise levels apply (measured to DIN 45635 Part 1) on nominal speed, in automatic mode (with discharge conveyor, without material):

Noise Levels		
Measured noise level	$L_{WA} =$	ca. 113 dB(A)
Guaranteed noise level	$L_{pAmax} =$	ca. 114 dB(A)
Sound pressure at one meter distance (without material):	$L_{pAmax} =$	ca. 87 dB(A)