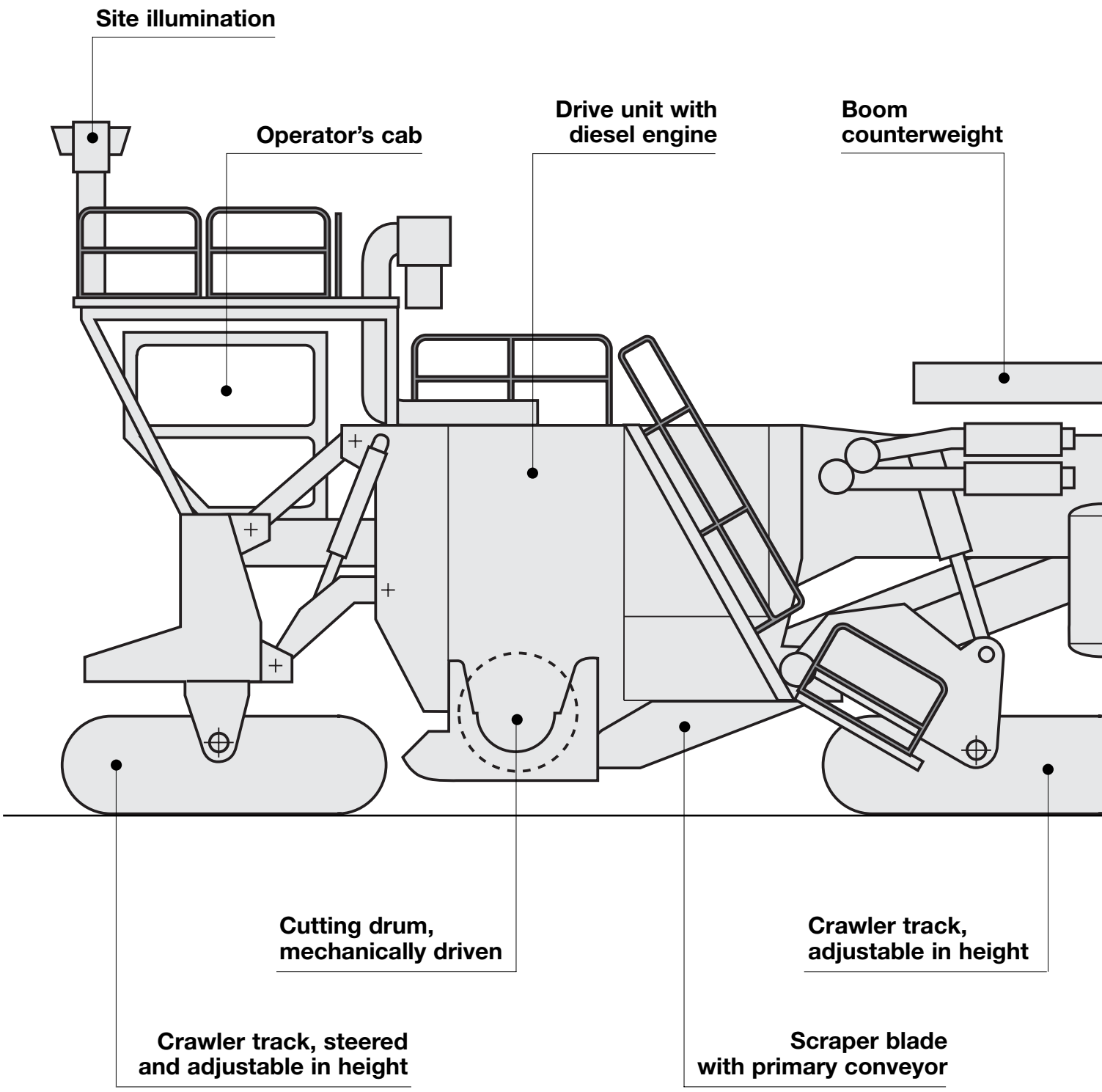
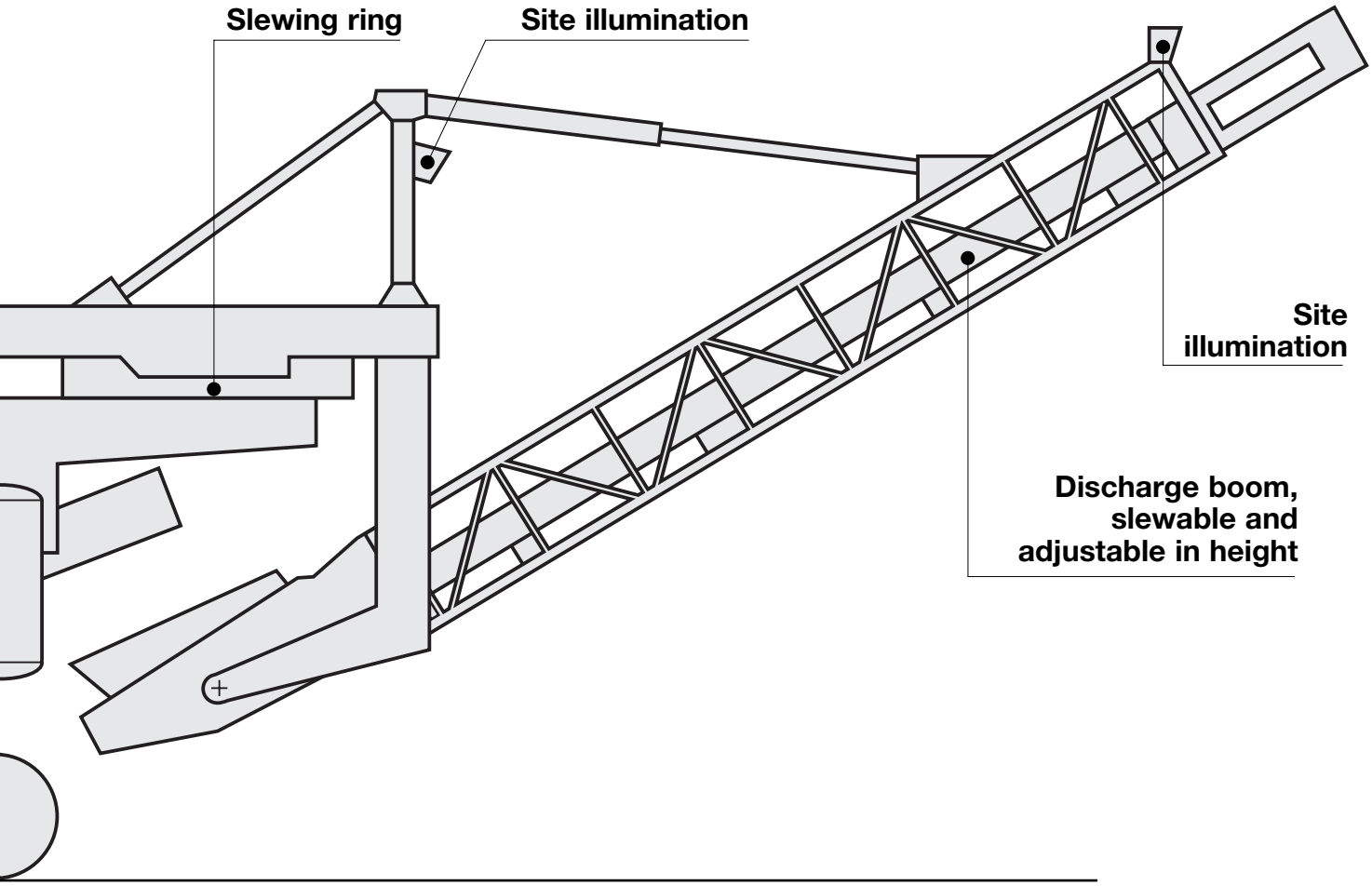
Surface Miner 3700 SM

Technical specification

Surface Miner 3700 SM

For cutting rock (< 120 MPa)



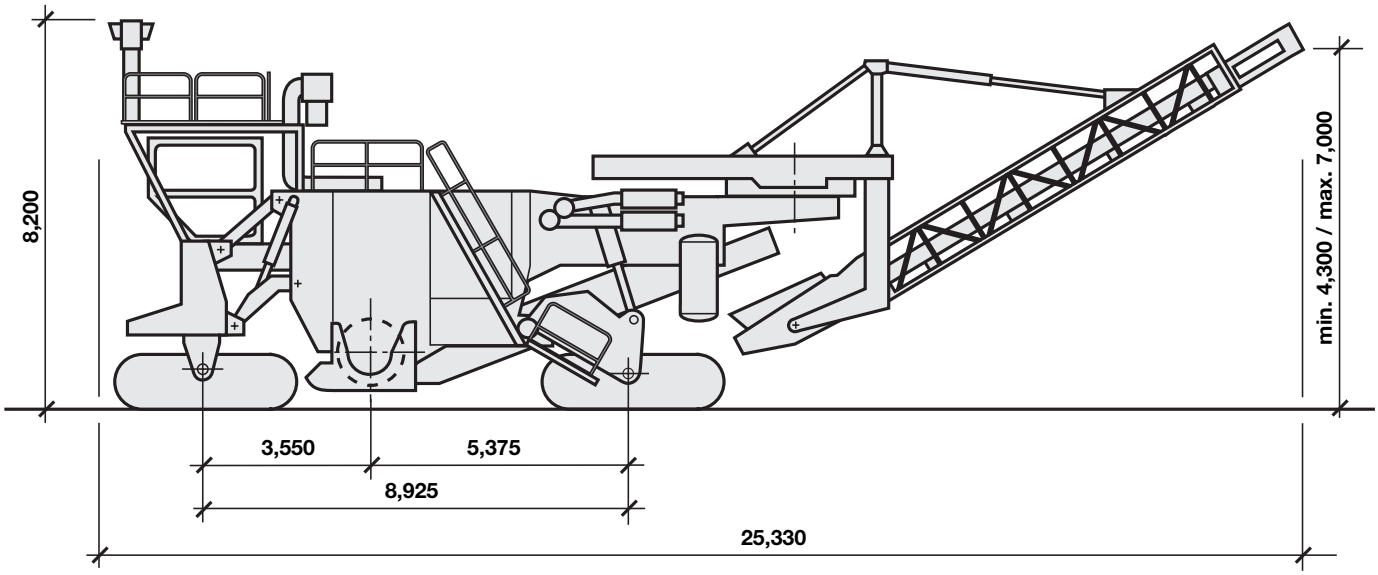

Slewing ring
Site illumination
Site illumination
Discharge boom, slewable and adjustable in height

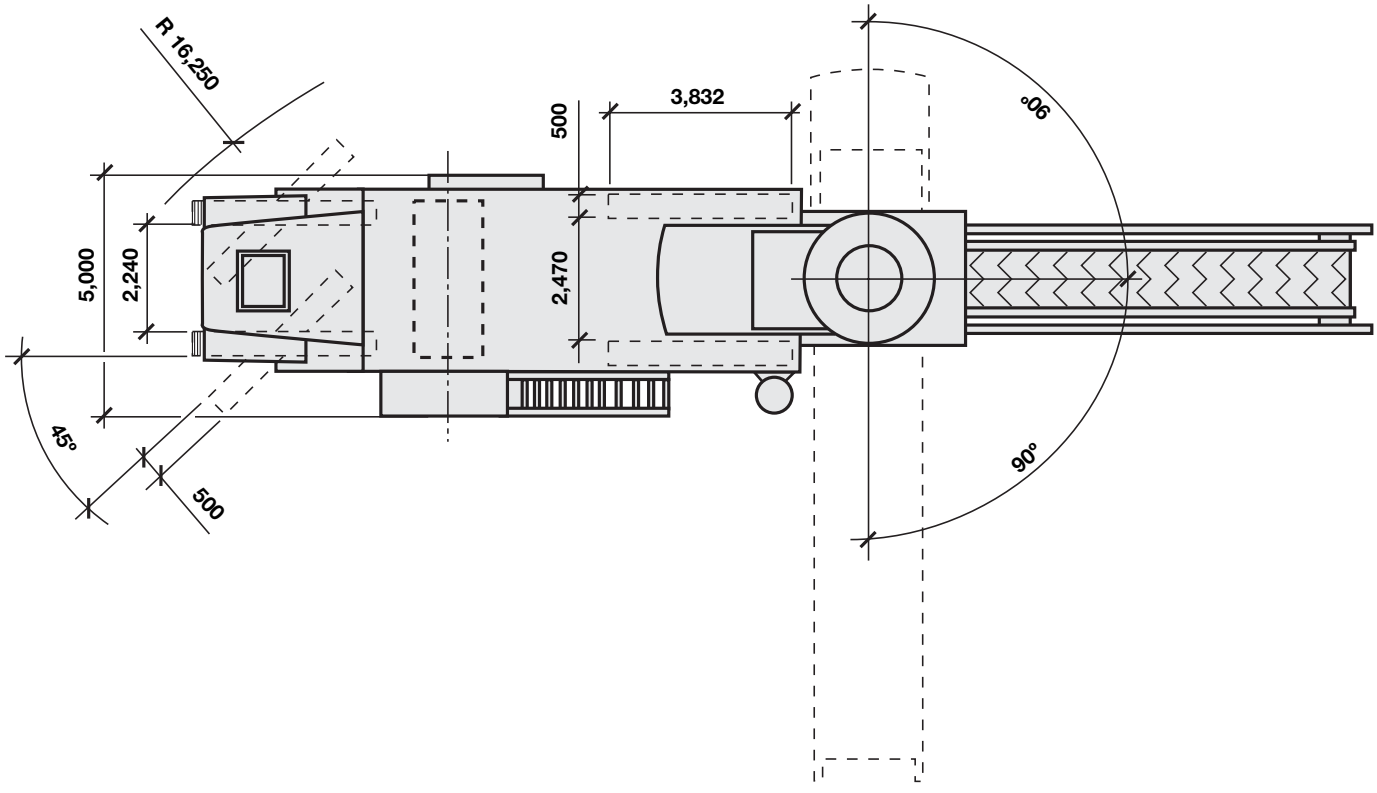
Technical specification

		Surface Miner 3700 SM	
Cutting drum			
Cutting width max.	mm	3,700	
Cutting depth	mm	0 – 600	
Cutting drum diameter with tools	mm	1,400	
Number of cutting tools on drum		Depending on machine application	
Engine			
Make		Cummins	
Type		KTA 50	
Cooling		Water	
No. of cylinders		16	
Output	kW/HP/PS	1,194/1,600/1,623	
Fuel consumption: 1/1 load	l/h	284	
Fuel consumption: 2/3 load	l/h	189	
Speed / Gradeability			
Operating speed	m/min	0 – 20	
Travel speed	km/h	0 – 2.5	
Gradeability	%	20	
Max. transverse gradient	%	8	
Weights / Loads *1			
Front axle load	daN (kg)	59,000	
Rear axle load	daN (kg)	98,000	
Own weight	daN (kg)	157,000	
Operating weight, full tanks	daN (kg)	176,000	
Crawler tracks			
Front crawlers (L x W x H)	mm	3,880 x 500 x 1,200	
Rear crawlers (L x W x H)	mm	3,880 x 500 x 1,200	
Tank capacities			
Fuel tank	l	2,900	
Hydraulic fluid tank	l	800	
Water tank	l	15,000	
Electrical system			
Control	V	24	
Lighting	V	220	
Spotlights		10 x 400 W each	
Conveyor system			
Width of primary belt	mm	1,800	
Length of primary belt	mm	7,000	
Width of discharge belt	mm	1,800	
Length of discharge belt	mm	12,000	
Theoretical discharge belt capacity	m^3/h	2,400	

*1 = All weights refer to basic machine without any additional equipment.

Dimensions in mm





Technical description

Basic design

Surface Miner for cutting rock (< 120 MPa) with mechanically driven cutting drum and two-part loading conveyor. Can also cut material > 120 MPa in exceptional cases.

Frame

Rigid, welded honeycomb design with integrated tanks for diesel and water.

Crawler unit suspension

The four crawler tracks are free-floating and connected to supporting arms which are linked to the frame via a moving parallelogram made up to two strut constructions in each case. The tracks are fitted with double grouser track shoes.

Cutting depth control

The height is adjusted via hydraulic cylinders. The rear crawler suspensions are controlled via an automatic cutting depth control unit.

Travel drive

Each crawler unit is driven by a planetary gearing with hydraulic motor. Each of the front and rear travel drive motors is fed by a hydraulic variable displacement pump. The advance speed can be infinitely adjusted from zero to maximum in both travel gear and operating gear.

Brake system

Operating brake via a closed-loop hydrostatic system. Parking brake for each crawler unit with spring-loaded multiple disc brakes.

Scraper blade

The drum chamber is sealed by a hydraulically actuated scraper blade behind the cutting drum, thus ensuring a clean cutting surface.

Cutting drum

The cutting drum rotates in an up-cutting direction. The cutting tools are mounted in toolholders welded onto the body of the drum. The tools used depend on the machine's momentary use and on the properties of the material being cut.

Cutting drum drive

The cutting drum is driven via a mechanical clutch on the flywheel side of the diesel engine, as well as transmission belts and a planetary gearing installed in the cutting drum. The cutting speed can be adjusted in line with the momentary application by replacing the pulleys for the transmission belts.

Steering

The machine is steered via two hydraulic cylinders on each of the front crawler tracks.

Water spraying system

The water spraying system largely prevents the generation of dust while cutting material and reduces the degree of wear on the cutting tools. The spray nozzles can easily be removed for cleaning. Spray nozzles are additionally installed for the loading conveyors.

Soundproofing

The engine, cooling unit and hydraulic system are soundproofed to reduce the noise level and protect both the operator and the environment.

Operator's cab

Enclosed cab, soundproofed and mounted on vibration-damping elements. Rotating driver's seat with armrests into which all the most important controls have been integrated. The cab is equipped with air-conditioning and heating.

Conveyor system

The conveyor system comprises a wide primary belt which picks up the cut and comminuted material at the cutting drum, as well as a discharge conveyor to discharge the material onto trucks. The discharge conveyor can be adjusted in height and slewed to both sides. The conveyor speed can be varied.

Lighting system

Complete lighting system with generator and halogen spotlights for nighttime operations.

Safety equipment

Comprehensive safety equipment with five Emergency OFF switches.

Pneumatic system

Compressor and accumulators for starting the diesel engine, as well as auxiliary functions.

Tool kit

Complete tool kit for maintenance and repairs.

Central lubrication system

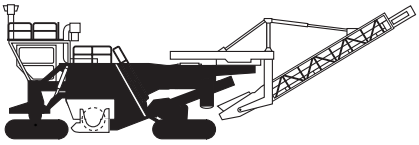
The Surface Miner is equipped with a central lubrication system which supplies all the most important bearing points with grease.

Optional equipment

Optional equipment	Surface Miner 3700 SM
Cold starting facility	●
Additional diesel tank (800 litres)	●
Cab heating independently of the diesel engine	●
Cutting depth control with laser sensor	●
Cutting depth control with sensor wire	●
Cutting depth control with multiplex unit	●
Cutting depth control with non-contacting triple sensor for surfaces which have not been finely graded	●
Radio	●
Water filling pump (hydraulically driven)	●
Extended tool kit	●
Service package	●

Surface Miner 3700 SM
Disassembly for transport

1 Frame

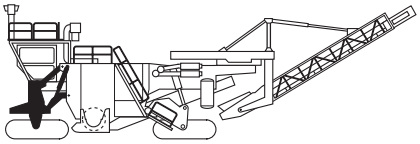


Dimensions L x W x H
15.70 x 5.00 x 4.00 m

Unit weight
99,500 kg

Overall weight
One part = 99,500 kg

1,1 Front crawler brackets

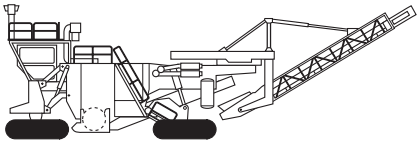


Dimensions L x W x H
2.40 x 1.20 x 3.10 m

Unit weight
6,200 kg

Overall weight
Two parts = 12,400 kg

1,2 Crawler tracks

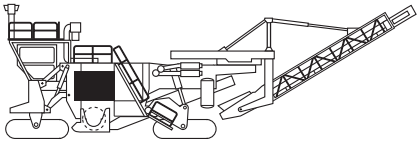


Dimensions L x W x H
3.80 x 0.90 x 1.20 m

Unit weight
6,250 kg

Overall weight
Four parts = 25,000 kg

1,3 Drive station

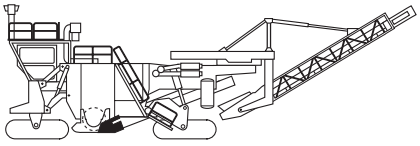


Dimensions L x W x H
2.60 x 4.90 x 2.25 m

Unit weight
12,000 kg

Overall weight
One part = 12,000 kg

1,4 Scraper blade

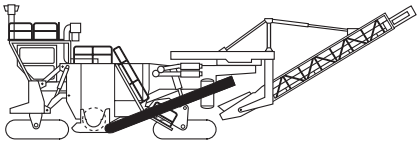


Dimensions L x W x H
3.80 x 2.20 x 1.00 m

Unit weight
1,700 kg

Overall weight
One part = 1,700 kg

1,5 Primary conveyor

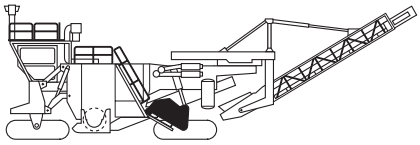


Dimensions L x W x H
9.00 x 2.50 x 1.30 m

Unit weight
5,500 kg

Overall weight
One part = 5,500 kg

1,6 Rear crawler brackets

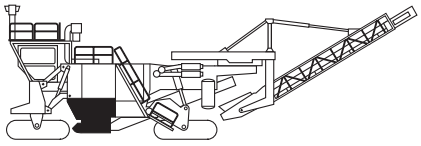


Dimensions L x W x H
2.75 x 1.50 x 0.85 m

Unit weight
4,000 kg

Overall weight
Two parts = 8,000 kg

2 Drum unit

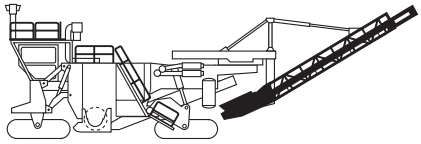


Dimensions L x W x H
2.90 x 5.00 x 2.00 m

Unit weight
27,700 kg

Overall weight
One part = 27,700 kg

3 Discharge boom

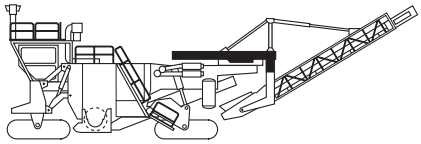


Dimensions L x W x H
13.70 x 2.50 x 1.95 m

Unit weight
7,500 kg

Overall weight
One part = 7,500 kg

4 Belt suspension, top

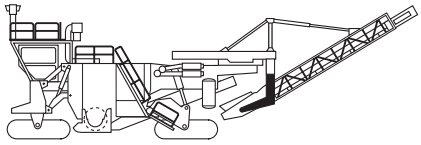


Dimensions L x W x H
4.50 x 3.00 x 2.00 m

Unit weight
6,700 kg

Overall weight
One part = 6,700 kg

5 Belt suspension, bottom

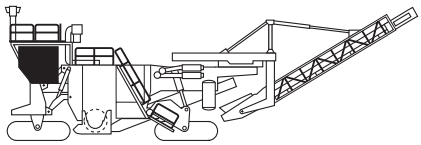


Dimensions L x W x H
3.20 x 1.60 x 0.33 m

Unit weight
550 kg

Overall weight
Two parts = 1,100 kg

6 Operator's cab

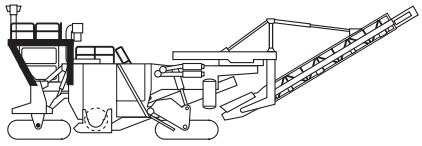


Dimensions L x W x H
2.72 x 2.30 x 3.05 m

Unit weight
2,000 kg

Overall weight
One part = 2,000 kg

7 Protective canopy for cab

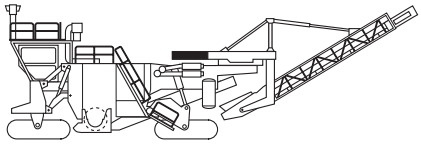


Dimensions L x W x H
3.90 x 2.80 x 0.80 m

Unit weight
1,800 kg

Overall weight
One part = 1,800 kg

8 Counterweight



Dimensions L x W x H
3.10 x 2.60 x 0.80 m

Unit weight
9,100 kg

Overall weight
One part = 9,100 kg

Plus miscellaneous wooden crates containing: railings, buffers, air filters, steps, lamps, etc. Total weight approx. 5,000 kg.

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