



# Cat<sup>®</sup> HW300

## HIGHWALL MINING SYSTEM

### FEATURES:

- **Maximum Extraction** – Low cost coal to traditional mining methods.
- **Safe Operation** – The entire mining cycle is completed by a three- or four-man crew, with no personnel going underground at any time.
- **Excellent Mobility** – The highwall miner trams easily from entry to entry and discharges coal in tight spaces.
- **Operator Comfort** – The air-conditioned cab offers an ergonomic workplace where all controls are within the operator's reach.
- **Easy Equipment Relocation** – The highwall mining system can be taken apart in modules – sized for transport using regular public roads.

## Specifications

### Environmental and Operational Conditions

The Cat HW300 is designed for following environmental and operating conditions:

Mine Application	Trench Application Open Pit Mining Contour Mining
Ambient Temperature	–30° C to +35° C (–22° F to 95° F) Arctic and Tropical Packages are optional
Pit Floor Gradient	8 degrees nominal in any direction, 10 degrees maximum in any direction for traveling
Maximum Seam Gradient	8 degrees down dip relative to horizontal (Level side-to-side, pit floor prepared at 3 degrees)

### Power and Consumption

Electric Power (Installed) 995 VAC, 50/60 Hz Mid Seam Cutter Module Rear Discharge Machine

Function	Qty	Volts	Power (ea)		Total Power	
			kW	Hp	kW	Hp
Cutting Motors	2	995	179	240	350	470
Gathering Motors	2	995	33.5	45	100	134
Horizontal Auger Motors	2	995	298	400	597	800
Hydraulic Pump Motor	1	995	224	300	224	300
Base Frame Conveyor Motor	1	995	75	100	75	100
Right Angle Conveyor Motor	1	995	75	100	75	100
Stacking Conveyor Motor (Customer Equipment)	1	995	75	100	75	100
Cooling Fan Motors	4	480	1.5	2	6	8
Water Circulating Pump Motor	1	480	7	10	7	10
Hydraulic Oil Circulating Pump Motor	1	480	11	15	11	15
Water Spray Pump Motor	1	480	5.5	7.5	5.5	7.5
Air Compressor Motor	1	480	4	5	4	5
<b>TOTAL</b>					<b>1525</b>	<b>2,045</b>

# HW300 Highwall Mining System

## Power for the Miner

A self-contained generator system provides electrical power to the highwall mining system in remote locations where connection to a utility grid is not practical.



## Water Consumption

Water is not used in the coal-cutting process, however, some is required for dust-suppression purposes. Water consumption during the mining operation is an average of 1000 L (264 gal) per hour (estimate).

## General Specifications

General Specifications	All dimensions and weights are approximate and depending on final specification.
Machine Dimensions while Mining	
Width:	11.7 m (38.5 ft)
Height:	8.7 m (28.7 ft)
Length:	LPCM: 20.3 m (66.5 ft) Mid-Seam CM: 21.3 m (70 ft)
Machine Dimensions while Trimming	
Width:	7.7 m (25.3 ft) Track Width
Height:	9.1 m (30 ft)
Length:	LPCM: 20.3 m (66.5 ft) Mid-Seam CM: 21.3 m (70 ft) Minimum road width for overhanging structure: 9.2 m (30.1 ft) with right-angle conveyor removed.
Weight	
HWM without cutter head:	225 000 kg (495,665 lb)
Weight:	5,150 kg (11,353.8 lb) – 50 pieces

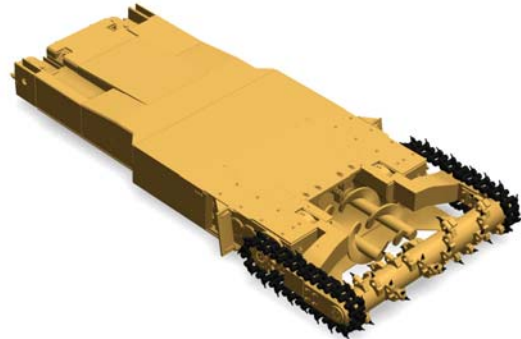
## Optional

Navigation and Steering	An internal navigation device can be mounted in the cutter module for accurate heading and tracking of the position of the cutter module. It can also be controlled left and right by two steering cylinders.
Natural Gamma Sensor	Natural gamma sensors can be mounted to the top and/or the bottom of the cutter module. These sensors enables the operator to leave coal on the roof and/or floor to improve the coal quality or to enhance roof support in weak strata conditions.
Electric Controls	Electrical switch gears for the cutting motors is mounted in the Electrical Control Module of the HW300 System. Electronic controls are housed Electrical Enclosures aboard the Cutter Module.
Hydraulic Controls	Hydraulic valves are, where possible, integrated in a block. The valves are provided with explosion proof solenoids according to ATEX Ex classification.

## Low Profile Cutter Modules

The low profile cutter module is specifically designed to work with the Cat HW300

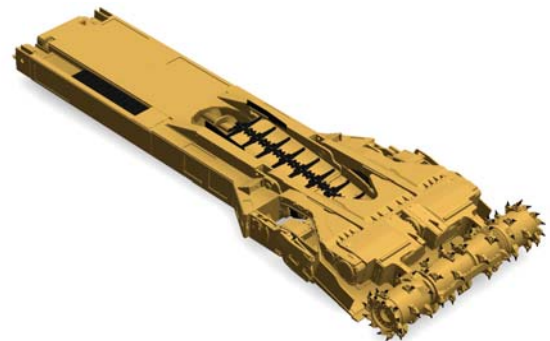
Cutter Drum Diameter – two options	65.1 cm (25 5/8 in) Diameter 71.12 cm (28 in) Diameter
Cutting Width	2.95 m (116 in)
Drum Drive	(2) 123 kW (165 hp)/ 995 VAC/60 Hz Electric Motors
Maximum Cutting Height	1.6 m (63 in)
(2) Hydraulic cylinders with integrated liner transducers to measure cutting height.	
Gathering System	Coal gathered by augers



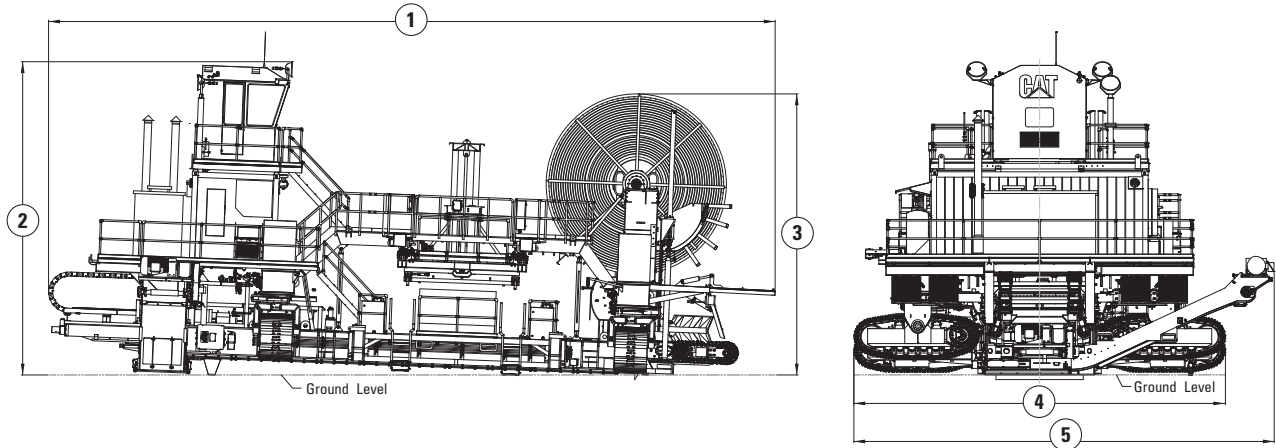
## 331 Cutter Modules

The mid cutter module is a Cat design that employs a CM235 Cutting Boom and gathering pan assembly.

Cutter Drum Diameter	965 mm (38 in)
Drum Width	3.5 m (11 ft 6 in)
Drum Drive	(2) 175 kW (235 hp)/ 995 VAC/60 Hz
Gathering System	CLA System

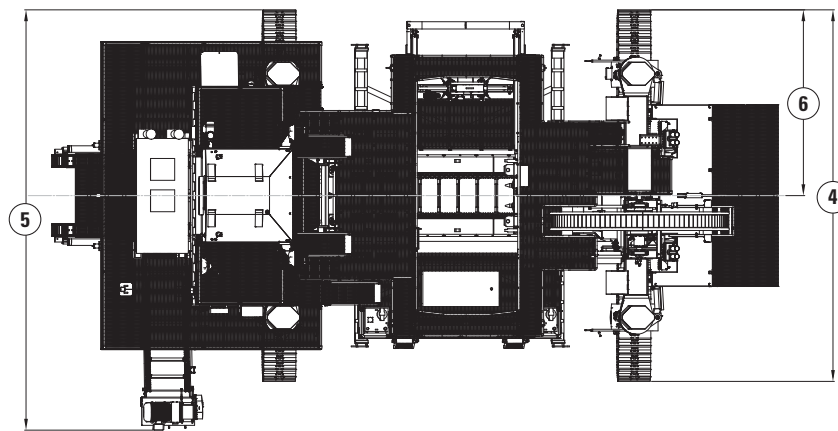


# HW300 Highwall Mining System



Right Side View

Rear View



Top View

## Dimensions (All dimensions are approximate.)

	HW300	
1 Overall Length	20 278 mm	66.5 ft
2 Overall Height	8743 mm	28.7 ft
3 Hose Reel Height	7844 mm	25.7 ft
4 Track Width	10 369 mm	34.0 ft
5 Overall Width	11 730 mm	38.5 ft
6 Half Track Width	5185 mm	17.0 ft

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## OPTIONAL EQUIPMENT

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### GAMMA DETECTION SYSTEM

- Used to guide the cutter module through the coal seam, leaving predetermined amounts of coal in the roof and floor. This system also allows the mining of coal in soft roof and/or soft floor situations.

### TROPICAL PACKAGE

- For hot-climate applications, this package extends the operating temperature of the equipment up to 55° C (131° F).

### ARCTIC PACKAGE

- For extreme-cold climates, this package extends the operating temperature to -40° C (-40° F).

### RIGHT-ANGLE DISCHARGE

- This feature discharges coal to the right or left of the machine.

### PUSH BEAM GRAPPLE

- This tool is mounted to the front of a wheel loader to provide safe and efficient transportation of push beams to and from the highwall mining system.

### GENERATOR SET

- A self-contained generator system provides electrical power to the highwall mining system in remote locations where connection to a utility grid is not practical.