

Cat[®] 7495 with HydraCrowd™

ELECTRIC ROPE SHOVEL

Specifications

Dimensions

Dipper payload (Available dipper payloads up to 109 tonnes [120 tons] when specified)	100 tonnes	110 tons
Dipper capacity	30.6-61.2 m ³	40-80 yd ³
Length of boom	20.4 m	67 ft
Effective length of dipper handle	10.9 m	35 ft 10 in
Overall length of dipper handle	14.3 m	47 ft

Weights

Working weight, with dipper and standard links	1 382 400 kg	3,047,670 lb
Net weight, domestic, without ballast or dipper	999 182 kg	2,202,820 lb
General purpose dipper 56 m ³ (73 yd ³)	80 603 kg	177,700 lb
Ballast (furnished by customer)	302 614 kg	667,150 lb

- These weights will vary slightly depending upon dipper and optional equipment selection.

Main Structures

Crawler Mounting

Overall width 200.7 cm (79 in) treads, standard	11 m	36 ft
Overall length of mounting	11.43 m	37 ft 6 in
Overall width 259.1 cm (102 in) treads	13.5 m	44 ft 3 in
Total effective bearing area (200.7 cm/79 in treads)	36.1 m ²	388.6 ft ²
	374 kPa	54.2 psi
Total effective bearing area (259.1 cm/102 in treads)	46.6 m ²	501.7 ft ²
	289 kPa	50 psi
Number and diameter of rollers		
Lower (16)	78 cm	30.7 in
Lower rear (2)	106.7 cm	42 in
Upper	Slides	
Take-up tumblers diameter	162 cm	63.8 in
Number and pitch of treads (94)	50.8 cm	20 in

Planetary Propel

- Dual-motor independent drive.

Revolving Frame (Center Section)

Welded, impact-resistant steel		
Length	8.38 m	27 ft 6 in
Width	3.68 m	12 ft 1 in

Main Structures (cont'd)

Turntable

Forged rim, alloy steel swing rack pitch diameter	5.26 m	17 ft 3 in
Teeth external cut (face)	24.13 cm	9.5 in
Tapered, forged alloy steel roller rails diameter	4.52 m	14 ft 10 in
Number of tapered rollers	50	
Tapered rollers diameter	27.31 cm	10.75 in

Swing

- Two planetary gearboxes, each driven by a vertically mounted motor, are mounted on either side of the revolving frame. Dual-output pinion shafts from each gearbox engage the swing rack.

Hoist

- A planetary gearbox with dual-output pinions provides the hoist torque transfer from the electric motor to the hoist drum gear.

Lube System

- Single-line system applies lubricant and grease via the PLC.
- 6 pumps (4 for lubricant and 2 for grease) located in an insulated, double-walled lube room.

Electrical

Drive

- IGBT Acutrol drive system.

Power Requirements

Voltage	3 phase, 50/60 Hz, 7,200V
Average 15-minute demand	926-1297 kW
Peak power	3706 kW

- Other voltage options available to suit customer requirements.

Distribution System Requirements

Machine on separate system	4000 kVA
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Main Electrical Systems

System voltage (nominal)	50/60 Hz, 7,200V
Trail cable (furnished by customer)	SHD-3-#1/0 at 8,000V
Transformer, auxiliary	350 kVA, 7,200V primary
Lighting transformer	25 kVA, 120/240V secondary



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Lights

- HPS lights on boom feet, top of A-frame, machinery house, lube room, control room, and utility room.
- Incandescent lights for ground lights and on walkways.

Front End

Boom

Boom	welded, impact-resistant steel	
Boom point sheaves	twin-grooved, flame-hardened	
Boom point sheave diameters	243.84 cm	96 in
Handle diameter	86.36 cm	34 in
Wall thickness (nominal)	7.62 cm	3 in

Front End (cont'd)

Rope Data

	No.	Diameter	Type	Construction
Hoist	2	69.8 mm (2.75 in)	twin dual	8 × 37
Boom susp.	4	82.6 mm (3.25 in)	equalized	struct. strand
Dipper trip	1	19.1 mm (0.75 in)	single	7 × 25

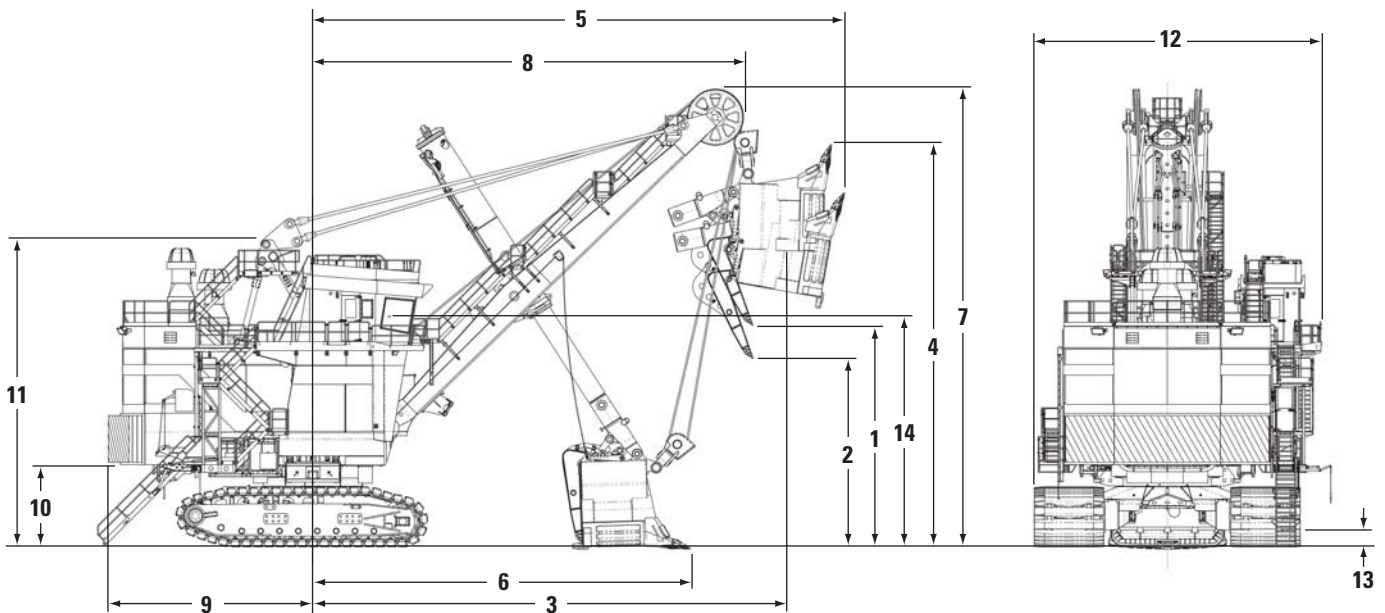
Crowd

- HydraCrowd™, hydraulic power skid, located at the front center of the revolving frame deck, powers a large hydraulic cylinder to move the dipper handle fore and aft.

Hydraulic cylinder bore diameter (nominal) 35.6 cm 14 in

Hydraulic cylinder rod diameter (nominal) 25.4 cm 10 in

- (Optional) Rope Crowd, the crowd machinery is located at the front center of the revolving frame, consisting of motor, brake, drum and gearing. Plastic-coated crowd and retract ropes are used to move the dipper handle fore and aft.



Optimal Working Ranges

1 Dumping height	10.06 m	33 ft 0 in	8 Clearance radius (boom point sheaves)	19.65 m	64 ft 5 in
2 Dumping height at maximum electric crowd limit	8.61 m	28 ft 3 in	9 Clearance radius (revolving frame) (max.)	9.34 m	30 ft 8 in
3 Dumping radius (maximum)	21.64 m	71 ft 0 in	10 Clearance under frame (to ground)	3.76 m	12 ft 4 in
4 Cutting height (maximum)	17.8 m	58 ft 5 in	11 Height of A-frame	14 m	46 ft 0 in
5 Cutting radius (maximum)	25.2 m	82 ft 8 in	12 Overall width	13.11 m	43 ft 0 in
6 Radius of level floor	17.47 m	57 ft 4 in	13 Clearance under lowest point in truck frame/propel gearcase	0.90 m	2 ft 11.5 in
7 Clearance height (boom point sheaves)	20.87 m	68 ft 6 in	14 Operator's eye level	10.61 m	34 ft 10 in

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