

Cat[®]

7495 HF

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 | 1 442 274 kg | 3,179,670 lb |
| Net weight, domestic, without ballast or dipper | 1 059 056 kg | 2,334,820 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 317.5 cm (125 in) treads, standard | 12.73 m | 41 ft 9 in |
| Overall length of mounting | 11.43 m | 37 ft 6 in |
| Overall width 355.6 cm (140 in) treads | 13.5 m | 44 ft 3 in |
| Total effective bearing area (317.5 cm/125 in treads) | 57.1 m ² | 615 ft ² |
| | 248 kPa | 35.9 psi |
| Total effective bearing area (355.6 cm/140 in treads) | 64 m ² | 689 ft ² |
| | 221 kPa | 32.1 psi |
| Number and diameter of rollers | | |
| Lower (16) | 79.4 cm | 31.25 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 | 945-1322 kW |
| Peak power | 3778 kW |

- Other voltage options available to suit customer requirements.

Distribution System Requirements

| | |
|----------------------------|----------|
| Machine on separate system | 4000 kVA |
|----------------------------|----------|

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 | 2 at 25 kVA, 120/240V secondary |

7495 HF with HydraCrowd Electric Rope Shovel

Lights

- HPS lights on boom feet, top of A-frame, machinery house, lube room, control room, utility room and flood lights.
- Incandescent lights on ground lights, walkways and operator's cab.

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

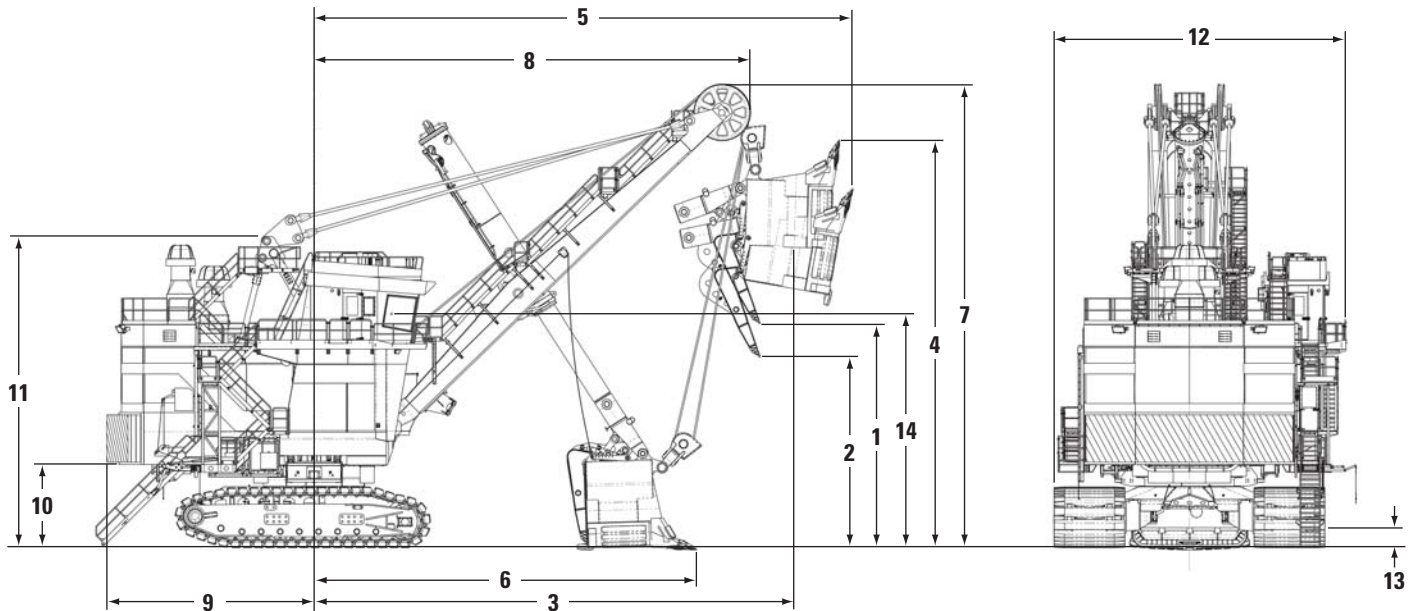
| | No. | Diameter | Type | Construction |
|-------------|-----|-------------------|-----------|----------------|
| Hoist | 2 | 69.8 mm (2.75 in) | twin dual | 8 × 37 |
| Boom susp. | 4 | 82.6 mm (3.25 in) | equalized | struct. strand |
| Dipper trip | 1 | 19.1 mm (0.75 in) | single | 7 × 25 |

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) | 24.5 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 | 13.96 m | 46 ft 1 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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AEHQ6519-01 (02-13)
Replaces AEHQ6519

