

JUMBO

BARRENACIÓN

DPIN-1-HED



CANNON MINING
LATIN AMERICA



DPIN-1-HE/HED

DE-RATED ENGINE SPECIFICATION GUIDE



PURPOSE:

This document is intended to ensure the selection of an appropriate engine for use in our Jumbo Drills at elevations up to and including 14,764 ft (4500 m).

WARNING:

1. Ambient temperatures can affect the horsepower rating of an engine. These recommendations are based upon an ambient temperature of 68° F (20° C). Consult engineering if an application requires an engine to operate within 1640 ft (500 m) of the maximum recommendation specified below or if the ambient temperature exceeds the 83° F (28° C). If any requirements/environments are not covered by this guide consult engineering with appropriate specifications before selecting an engine.
2. On HE type machines, it may be possible to utilize an engine at a lower horsepower than shown if the grades that the machine must traverse are low. Consult engineering with specific mine applications to determine if this is possible.

DRILL JUMBO ENGINE SELECTION CHART

Model Configuration	Required Hp Available	CAT C4.4 (130 Hp)	Cummins QSB 4.5 (160 Hp)	Mercedes 904 (173 Hp)	CAT C7 (225 Hp)	CCAT C11 (350 Hp)
HE (tram only)	100 Hp (75 kW)	<12,697 ft (3870 m)	<14,764 ft (4500 m)	<13,533 ft (4125 m)	<14,764 ft (4500 m)	N/A
HED/HD Single Boom w/Minewater System	100 Hp (75 kW)	<12,697 ft (3870 m)	<14,764 ft (4500 m)	<13,533 ft (4125 m)	<14,764 ft (4500 m)	N/A
HED/HD Single Boom w/150 CFM Pelletizing System	145 Hp (108 kW)	N/A	<8202 ft (2500 m)	<8409 ft (2563 m)	<14,764 ft (4500 m)	N/A
HED/HD Single Boom w/185 CFM Pelletizing System	149 Hp (111 kW)	N/A	<6972 ft (2125 m)	<7792 ft (2375 m)	<14,764 ft (4500 m)	N/A
HED/HD Double Boom w/Minewater System	188 Hp (140 kW)	N/A	N/A	N/A	<12,054 ft (3675 m)	<14,764 ft (4500 m)
HED/HD Double Boom w/400 CFM Pelletizing System (DPH Only)	317 Hp (236 kW)	N/A	N/A	N/A	N/A	<11,073 ft (3375 m)

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SPECIFICATION

DRIFTER

CH38060150

Frequency	6,000 bpm
Power	27 Hp (20 kW)
Impact Rate	100 Hz
Impact Energy	150 ft-lbs (203 N-m)
Operating Pressure	3300 psi (228 bar)
Drill Rotation Speed	0-320 rpm
Drill Torque	310 ft-lb (420 N-m)
Sound (at operator station)	94 dB(A)
Sound Lwa	130 dB(A)

AIR COMPRESSOR

Manufacturer	Boss Engineered Air System
Drive Type	Hydraulic
Flow	40 cfm (18.9 l/s)

ELECTRICAL SYSTEM

Voltage	380-575 VAC
Frequency	50 Hz / 60 Hz
Batteries	2 x 12 Volt
Thermal Overload Protection	Current Overload
Ground Fault Indication	Optional
Phase Sequence Indication	Yes
Hour Meter	Yes
Volt / Ampere Meter	On Electrical Cabinet
Battery Charger	Yes

FEED

Use with Drill Steel Length	12 ft - 16 ft (3.05 m - 4.27 m)
Feed Force	2690 lb (16.4 kN)

BOOM

PRB-37 / PRB-50

Stinging Distance	6 ft (1.8 m) / 6 ft (1.8 m)
Boom Extension	3.5 ft (1.1 m) / 5.1 ft (1.6 m)
Parallel (vertical/horizontal)	Both
Feed Roll	360 deg
Lift Angle	+60 -30 deg
Swing Angle	+/- 50 deg
Face Coverage	19 ft x 25 ft / 22 ft x 31 ft (5.79 m x 7.62 m) / (6.71 m x 9.45 m)

WATER PUMP

Manufacturer	Grundfos CR3-15
Flow	14 gpm @ 150psi (0.9 l/s @ 10.3 bar)
Minimum Inlet Pressure	15 psi (1 bar)

HYDRAULIC SYSTEM

Pumps	1 x 3 Section Gear Pump
Pump Unloaded for Start	No, Open Center Hydraulics
Max System Pressure	3300 psi (228 bar)
Tank Volume	30 gal (113 l)
Hydraulic Oil	ISO 100
Pressure Filtration	3 micron
Filling Pump	Yes (electric)
Oil Temp Meter	Switch and Dial on Tank
Oil Filter Plugged Indication	Yes
Low Oil Level Indication	Switch for High, Low, and Shutdown

ENGINE

Other engs may be avail upon request	Standard	Optional	
Model	Cat C4.4	Mercedes 904	Cummins QSB 4.5
Number of Cylinders	4	4	4
Power	134 bhp (100kW) @ 2200 rpm	174 bhp (130kW) @ 2200 rpm	160 bhp (119kW) @ 2200 rpm
Torque	390 lb-ft (529 N-m) @ 1400 rpm	420 lb-ft (569 N-m) @ 1500 rpm	459 lb-ft (622 N-m) @ 1500 rpm
Emissions	Tier III	Tier III	Tier III

CHASSIS

Controls	Direct Hydraulic Controls
Steering Articulation	+/- 38 degrees
Four Wheel Drive	Yes
Transmission	6000 psi (414 bar) Closed loop Pump/Motor
Front Axle	DANA 123 w/ internal wet disk brake
Rear Axle	DANA 123
Tires	900 X 20 Premium Composite
Front Jacks	2x Butterfly / Optional 2x Extendable Jacks
Rear Jacks	2 x Vertical Can Style
Fuel Tank Volume	55 gal (208 l)
Fuel Gauge	Sight Gauges on Tank
Exhaust Catalyser	Optional
Exhaust Muffler	Yes
Tram Lighting	Low Current Draw LED (2 x Front and 2 x Rear)
Drill Lighting	Low Current Draw LED (6X)
Maintenance Lighting	Low Current Draw LED (3 x Flood)
Horn / Back-Up Alarm	Yes
Fire Extinguisher	Optional
Central Lubrication	Axle Oscilation and Steering Cylinders
Drill Lube Warning	Sight Glass in cab
Max Tram Speed	>5.2 mph (>8.4 kph)
Speed up 12.5% Grade	>1.9 mph (>3.0 kph)

Max Grade	20%
Machine Weight	38,000 lbs (17,236 kg)
Machine Width	81 in (2.06 m)
Machine Width-Jacks Out	126 in (3.20 m)
Wheelbase	123.5 in (3.14 m)
Min Ground Clearance	7 in (0.18 m)
Height- Canopy Up	114.25 in (2.90 m)
Minimum Tram Height	86 in (2.19 m)

BRAKES

Service Brakes	Hydrostatic / Internal Wet Disk Brake in Front Axle
Emergency Brakes	SAHR Disk on front axle input

OPTIONS

- 10# Fire Extinguisher
- 20# Fire Extinguisher
- Manual Ansul Fire Supression
- Enclosed Cab with Air Filtration
- + Standard Cab - 104" height
- + Low Cab - 97" height
- + High Visibility Slant Cab - 119" height
- Electrical Ground Failure Device (operator Protection)
- Machine Trailing Cable
- SST Feed Wear Strips / Urethane Gibs
- Manual Grease System
- Auto Grease System
- Powered Front Centralizaer
- ADS 300 Single Plane Indicator
- ADS 400 Dual Plane Angle Indicator
- ADS 500 Face Simulation System
- Air Conditioning
- Air Conditioning/Heater
- High displacement Tram Motor
- Rear Axle with Internal Disk Brake
- Electro - Hydraulic Controls
- Automatic Ansul Suppression

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