



KTA50 Land-Based Drilling Power Module.



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Cummins Land-Based Drilling Power Modules are designed and tested based on oil-field customer requirements to provide optimum performance, reliability and versatility. These modules deliver world-class uptime and a low total cost of ownership through high fuel efficiency and long life-to-overhaul.

The entire power module is designed, developed, assembled and tested at the Cummins Oil and Gas Center of Excellence, and is delivered with the full force of Cummins behind it. This means that the entire power module is fully supported with parts and service available worldwide. Drilling contractors can expect seamless, consistent support wherever the rig operates.

Features.

Cummins diesel engine – The legendary KTA50 four-stroke diesel engine provides reliable power, low emissions and fast response to load changes.

Alternator – Form-wound stator, designed, tested and sized for reliable drill rig service.

Control system – Engine monitoring and shutdown functions with easy-to-read analog gauges for critical parameters, and a digital display for alarm and status messages.

Warranty and service – Backed by a standard Cummins factory warranty that is valid globally everywhere Cummins-authorized service is available through our network of over 600 Cummins distributors.

Ratings

Model	KTA50-DPM
Frequency	50/60 Hz
Voltage	600 V
Speed	1500/1200 RPM
Engine Power	1750/1470 HP (1305-1096 kW)
Emissions	Noncertified
Alternator Rating	1900/1750 kVA (1330/1225 kW)

Drilling Power Module output varies with cooling system.

General Specifications

Engine Type	Cummins KTA50 V-16, Four-Stroke Diesel
Bore	159 MM
Stroke	159 MM
Displacement	50.3 L
Aspiration	Turbocharged and Aftercooled
Governor	Electronically Actuated Mechanical Governor
Cooling System	Horizontal or Remote Vertical Discharge
Weight w/o Radiator	29,500 LB (13,381 KG)
Lube Oil Capacity	72 GAL (273 LITERS)
Base Design	Three-Point Mounting
Alternator Rotor Design	Two-Bearing
Alternator Insulation	Class H

Custom Options.

Standard specifications and options are shown. The Cummins Oil and Gas Center of Excellence can provide custom factory packages.

Standard Equipment.

Air Intake System

- Factory-installed heavy-duty air cleaner
- Factory-installed air inlet shutoff valve

Control System

- Package-mounted control-and-monitoring system provides warning or engine shutdown protection for the power module
- Emergency push-button engine stop
- Control panel features include:
 - Hour meter
 - Engine speed
 - Oil pressure
 - Exhaust temperatures (left and right banks)
 - Water temperatures
 - Air cleaner restriction warning
 - Warning, shutdown and fault history information

Fuel System

- Reliable and robust Cummins PT[®] fuel system
- Skid-mounted fuel filters
- Pre-filtering system available

Lube Oil System

- High-capacity structural oil pan
- Secondary bypass oil filter

Cooling System

- Dual core base-mounted or generator set-mounted radiator
- Horizontal and remote vertical discharge systems available
- Radiator options available for up to 55° C
- Thermostat-controlled outlets

Starting System

- Air starter – Ingersoll-Rand[®] (90-150 psi)

Mounting Arrangement

- Three-point-mounted to sub-base
- Isolation pads at mounting points
- Lift provisions on base

Alternator

- Two-bearing, 600 V, three-phase, 0.7 pf, six-wire, WYE-connected
- Brushless type
- Standard anti-condensation heater
- Standard winding and bearing RTDs
- Custom alternator specification available upon request

Standard specifications and options are shown. The Cummins Oil and Gas Center of Excellence can provide custom factory packages.

Alternator Specifications

Design	Brushless, Four-Pole, Revolving Field
Rotor	Two-Bearing
Insulation System	Class H
Temperature Rise	80°C Over 50°C
Alternator Cooling	Direct-Drive Centrifugal Blower Fan
Efficiency @ 0.7 PF	95.45
Subtransient Reactance	(X"d, Unsaturated = 0.105 P.U.)
Subtransient Reactance	(X"d, Saturated = 0.104 P.U.)

Technical Data

Frequency	50/60 Hz
Rating	1900/1750 kVA (1330/1225 kWe)
Power Factor	0.70
Voltage (Line-Neutral/Line-Line)	347/600 V
Current	1828/1605 A
Poles	4/6
Speed	1500/1200 RPM
Overspeed Limit (60 Seconds)	125%
Enclosure	IP23 With Air Inlet Filter

Dimensions And Weights (Without Cooling System)

MODEL	DIM "A" MM (IN)	DIM "B" MM (IN)	DIM "C" MM (IN)	SET DRY WEIGHT* KG (LB)	SET WET WEIGHT* KG (LB)
KTA50	5,159	2,040	1,756	13,154	14,061
DPM	(203.1)	(80.3)	(69.1)	(29,000)	(31,000)

Note: Weights represent a set of standard features. See outline drawings for weights of other configurations.

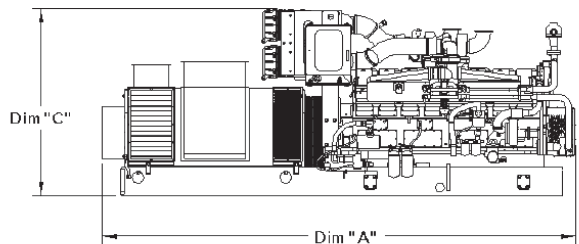
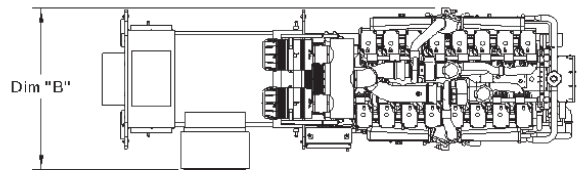
Engine Specifications

Engine Manufacturer	Cummins Inc.
Model	KTA50
Design	Four-Stroke, V-Block, Turbocharged and Aftercooled
Cylinder Block Configuration	Cast Iron, 60°V, 16-Cylinder
Aspiration	Turbocharged and Low-Temperature Aftercooled
Gross Engine Power Output	1750/1470 HP (1305/1096 kWe)
Displacement	50.3 LITER (3,087 In. ³)
Injection System	Cummins PT Fuel System
Engine Speed	1500/1200 RPM

Cooling

Ambient Design Standard 50°C, Optional 55°C

This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number. Do not use for installation design.



Cummins is a pioneer in product improvement. Thus, specifications may change without notice. Illustrations may include optional equipment.



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