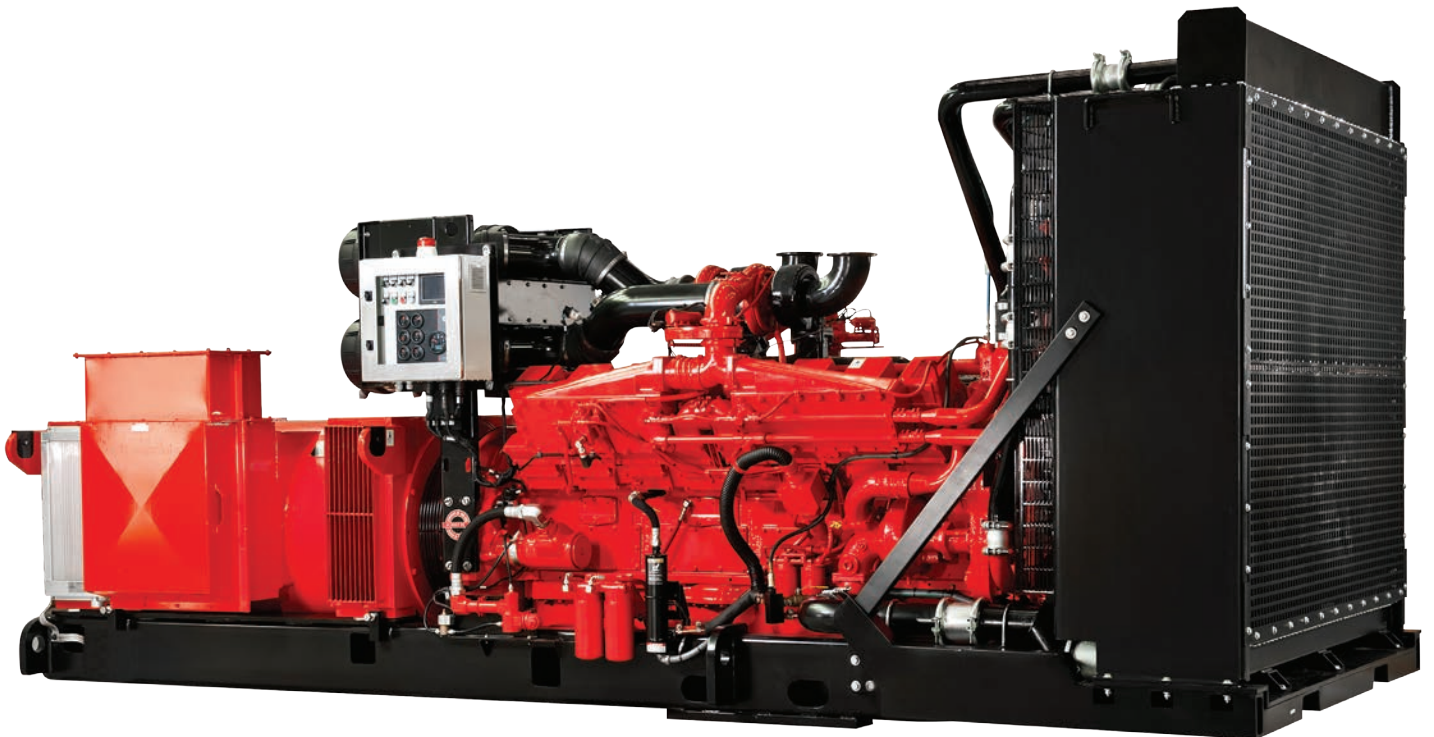

KTA50

DRILLING POWER MODULE



CUMMINS LAND-BASED DRILLING POWER MODULES ARE DESIGNED AND TESTED BASED ON OIL-FIELD CUSTOMER REQUIREMENTS TO PROVIDE OPTIMUM PERFORMANCE, RELIABILITY AND VERSATILITY.

These power modules deliver world-class uptime and a low total cost of ownership through high reliability and long life-to-overhaul.

The entire power module is designed, developed, assembled, tested, and 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.



CUSTOM OPTIONS

Standard specifications and options are shown. Cummins also can provide custom factory packages.

FEATURES

- **Cummins diesel engine** — The legendary KTA50 four-stroke diesel engine provides reliable power, and delivers fast response to load changes.
- **Alternator** — Form-wound stator and rotor, designed, tested and sized for drill rig service; low waveform distortion with nonlinear loads; fault-clearing short-circuit capability.
- **Control system** — Full-authority electronic controls that provide complete engine monitoring and automatic adjustment for peak performance, and full diagnostics and prognostics.
- **Warranty and service** — Backed by a global standard Cummins factory warranty and supported by over 600 worldwide Cummins-authorized service locations.

50HZ RATINGS			
Model	KTA50-DPM	Engine power	1750 hp (1305 kWm)
Frequency	50 Hz	Alternator rating	1900 kVa (1305 kW _e)*
Voltage	600 V	Emissions	Noncertified
Speed	1500 rpm		

* Drilling Power Module output varies with cooling system.

60HZ RATINGS			
Model	KTA50-DPM	Engine power	1470 hp (1096 kWm)
Frequency	60 Hz	Alternator rating	1750 kVa (1225 kW _e)
Voltage	600 V	Emissions	Noncertified
Speed	1200 rpm		

GENERAL SPECIFICATIONS			
Engine type	Cummins KTA50 V-16, Four-Stroke Diesel	Weight w/o radiator	29,500 lb (13,381 kg)
Bore	6.26 in (159 mm)	Lube oil capacity	72 gal (273 liters)
Stroke	6.26 in (159 mm)	Base design	Three-point mounting
Displacement	3,082 in ³ (50.3 liters)	Alternator rotor design	Two-bearing
Aspiration	Turbocharged and aftercooled		
Governor	Electronically actuated mechanical governor	Alternator insulation	Class H
Cooling system	Horizontal or remote vertical discharge		

Standard Equipment

AIR INTAKE SYSTEM

- Factory-installed heavy-duty air cleaners
- Factory-installed air inlet shutoff valves

CONTROL SYSTEM

- Package-mounted control-and-monitoring system provides warning and shutdown protection for the engine
- Simple Control Panel:
 - Provides warning and engine shutdown protection
 - Monitors and protects all critical engine functions

FUEL SYSTEM

- Dual stage filtration system with integrated water separation
- Cummins PT Fuel System

LUBE OIL SYSTEM

- High-capacity structural oil pan
- Service-free open crankcase ventilation system
- Centrifuge oil filtration option available

COOLING SYSTEM

- Dual-core base-mounted radiator
- Mechanical fan drive system
- Horizontal and remote vertical discharge systems available
- Radiator options available for up to 55°C
- Thermostat-controlled outlets

STARTING SYSTEM

- Air starter

MOUNTING ARRANGEMENT

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

ALTERNATOR

- Two-bearing, 600 V, 50/60 Hz, three-phase, 0.7 pf, six-wire, WYE-connected
- Brushless type
- Standard anti-condensation heater
- Standard winding and bearing RTDs
- Custom alternator specifications available on request

Standard specifications and options are shown. Cummins can provide custom factory packages.

ALTERNATOR SPECIFICATIONS

Design	Brushless, four-pole, revolving field	Alternator cooling	Direct-drive centrifugal blower fan
Rotor	Two-bearing	Efficiency @ 0.7 pf	95.45
Insulation system	Class H	Subtransient reactance	(X"d, unsaturated = 0.105 p.u.)
Temperature rise	80°C/50°C	Subtransient reactance	(X"d, saturated = 0.104 p.u.)

DIMENSIONS AND WEIGHTS (WITHOUT COOLING SYSTEM)

Model	Length	Width	Height	Set dry weight kg (lb)	Set wet weight kg (lb)
KTA50 DPM	5,159 (203.1)	2,040 (80.3)	1,756 (69.1)	13,154 (29,000)	14,061 (31,000)

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

50HZ TECHNICAL DATA

Rating	1428 kVA (1000 kWe)	Poles	4
Power factor	0.70	Speed	1500 rpm
Voltage (line-neutral/line-line)	347 V	Overspeed limit (60 seconds)	125%
Current	1828 A	Enclosure	IP23 with Air Inlet Filter
Frequency	50 Hz		

60HZ TECHNICAL DATA

Rating	1714 kVA (1200 kWe)	Poles	6
Power factor	0.70	Speed	1200 rpm
Voltage (line-neutral/line-line)	600 V	Overspeed limit (60 seconds)	125%
Current	1605 A	Enclosure	IP23 with Air Inlet Filter
Frequency	60 Hz		

ENGINE SPECIFICATIONS

Engine manufacturer	Cummins Inc.	Gross engine power output	50Hz - 1750 hp (1305 kWm) 60Hz - 1470 hp (1096 kWm)
Model	KTA50	Displacement	3,087 in ³ (50.3 liters)
Design	4-stroke, V-block, turbocharged and aftercooled	Cylinder block configuration	Cast iron, 60° V, 16-cylinder
Injection system	Cummins PT Fuel System	Engine speed	1500 rpm 1200 rpm
Aspiration	Turbocharged and low temperature aftercooled		

COOLING

Ambient design	Standard 55°C
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Cummins is a pioneer in product improvement. Thus, specifications may change without notice. Illustrations may include optional equipment.



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