POWERICA
A PROMISE FOR POWER

Diesel Generator Set
QSK50 Series

1750-1825kVA

Leading the Change
5 YRS ENGINE CRITICAL PARTS WARRANTY

Reliable and Durable

Cummins® 'QSK50 series' diesel engine is a V 16 cylinder engine with a 50 litr e displacement. Cummins heavy-duty engine, Robust Platform - Rugged 4-cycle, industrial diesel delivers r eliable power , low emissions and fast r esponse to load changes. High pr essur e fuel pump, Modular Common Rail fuel System (MCRS) and state of the art integrated electr onic contr ol system provide superior diagnostics. Enhanced r eliability of the engine thr ough a mor e powerful filtration system. This Quantum series utilizes sophisticated electr onics and premium engineering to pr ovide outstanding performance levels, r eliability and versatility. Each component has been specifically developed and rigorously tested for G-Drive products, ensuring high performance, durability and reliability.

Unmatched Warranty

Cummins® 'QSK50 series' diesel engine generating sets are a truly cost ef fective solution to long term power need backed by industry best, 2 years / 5000 hrs warranty for Prime Rated Gensets and 2 years / 1000 hrs (500 hrs/year) for Standby Rated Gensets.

Cummins Advantage

Special featur es of Cummins ® 'QSK50 series' engines like full authority electronic injection, low temperatur e aftercooler, optimised turbocharging and pr ecision injection timing make these engines the ultimate in exceptional fuel efficiency all across the operating range.

Single Source Power Assurance

Design, manufactur e and testing of engine, alter nator and other accessories is done by Cummins Gr oup of companies for optimum performance and is backed by
a countrywide pr oduct support network with a single sourc e r esponsibility for the entir e package.

Standard Scope

Engine: Cummins ® 'QSK50 series' dir ect injection, water cooled engine, 16 cylinder , 4 str oke, rated at 1500 RPM, conforming to ISO 3046 / IS 13018 has the following specifications:

- Cummins Full Authority electr onics
- Cummins MCRS - Fuel System
- Cummins turbocharger , pulse tuned exhaust manifold,
  stainless steel exhaust flexible connections (2 Turbos)
- Plate type lube oil coolant inhibitor
- Outboar d after coolers
- Full flow paper element filters - fuel, lube oil
- Dry type replaceable paper element air cleaner with restriction indicator
- Flywheel housing & flywheel to suit single / double
  (optional) bearing alter nator
- Starting motor – Electric
- Battery charging alter nator
- Cummins PowerCommand ® microprocessor based
  genset contr oller
- First fill of lube oil and coolant

Alternator: Stamfor d brushless alter nator

- Seperately excited, self-r egulated
- Salient pole r evolving field
- Single / double bearing
- VPI epoxy impregnated insulation technology
- Re-gr easable deep gr oove Single bearing
- Excitation - PMG based brushless

Accessories:

- Silencer suitably optimized to r educe noise
- Sturdy base rail
- 990 ltrs. fr ee standing fuel tank
- Batteries with connecting leads and terminals

Optionals

Engine: PHE, No Cool

Alternator: Space heater , RTDs (Std. for HT), BTDs, Double Bearing

Control Panel: PC3.3- Bargraph for PC3.3 Panel with kW, Power factor , Frequency ,Current, Voltage - Remote HMI AMF control panel, Battery charger , Remote/Auto start panel, Auto/ Manual synchronizing panel, Audio/Visual annunciation for faults, Auxilary Output relays

Control panel: PowerCommand® PC 3.3

The PowerCommand ® control system is an integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing.

AmpSentry™ – Includes integral AmpSentry ™ protection, which provides a full range of alternator protection function which are matched to the alternator provided.

Power Management – Control function provides battery monitoring, testing and a smart starting control system.

Advanced Control Methodology – Three phase sensing, FET based full wave rectified voltage regulation and a PWM output for stable operation with all load types.

Communications Interface – Control comes standard with PCCNet and Modbus interface.

Regulation Compliant – Prototype tested: UL, CSA and CE compliant.

Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Reliable Design – For reliable operations in harsh environment.

Multi-language support

Independent of PC/ laptop for setting up

Operator panel features

Operator Panel Features – The operator panel, in addition to the alternator, displays the Utility/ AC Bus data.

Operator/ Display Functions

- 320 x 240 pixels graphic LED backlight LCD with bar graph for displaying electrical parameters
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling Control Functions

- Digital frequency synchronization and voltage matching
- Isochronous kW and kvar load sharing controls
- Droop kW and kvar control
- Sync check
- Extended paralleling (Peak Shave/Base Load)
- Digital power transfer control (AMF) provides load transfer operation in open or closed transition or soft (ramping) transfer mode

Alternator Data

- Line-to-neutral and line-to-line AC volts
- 3-phase AC current
- Frequency
- kW, kvar, power factor kVA (three phase and total)

Engine Data

- DC voltage
- Engine speed
- Lube oil pressure
- Coolant temperature/ low level
- Comprehensive FAE data (where applicable)

Other Data

- Genset model data
- Start attempts, starts, running hours, kW hours
- Load profile (operating hours at % load in 5% increments)
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital Governing

- Integrated digital electronic isochronous governor
- - Temperature dynamic governing

Digital Voltage Regulation

- Integrated digital electronic voltage regulator
- 3-phase, 4-wire line-to-line sensing
- Configurable torque matching

AmpSentry™ AC Protection

- AmpSentry ™ protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse var shutdown
- Field overload

Engine protection

- Battery voltage monitoring, protection and testing
- Over speed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (over crank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown

Telematics Offerings

- Fault Code Alerts on Email & SMS
- Advisory Services
- Fuel Level Monitoring on Email & SMS
- Multiple Gensets Central Monitoring
- Automatic Reports Generation

Technical Data

Generator set specification

Model	C1750D5P (Rad)/ C1825D5P (HE)
Rating	Prime
Power Rating kV A/Kwe	1750/ 1400 (Rad) 1800/ 1440 (HE)
Output Voltage and Fr equency	415 V olts- 50 Hz
Power Factor	0.8 (lag)
No. of phases	3

Engine specifications

Make	Cummins
Model	QSK 50 G10
No. of cylinders	16 'V ee'
Aspiration	Turbocharged-After cooled
Bore and Str oke	159 mm x 159 mm
Displacement	50 liters
Output	2000 BHP (1491KWm)
Fuel consumption @ 75% load	257 lph (HE)
Fuel consumption @ 100% load	341 lph (HE)
Total wet weight (DG Set- Open)	Max 10709 kgs
Length x W idth x Height (DG set- Open)	6115 mm X 2167 mm X 2483 mm
Compression Ratio	15:1
Piston Speed	7.95 m/s
Gover nor / Class	Electronic/A1
Lubricating oil sytem capacity	235 liters
Coolant capacity (Engine only)	140.1 lits.
Combustion air intake @100 % load (+/- 5%)	4017 cfm / 114 m ^{3}/min
Fan air flow across radiator	RTF
Exhaust T emperatur e	484.4 ^{0}C

Alternator specifications

Make	Stamfor d-LT
Frame size / Model No.	PI734E
Voltage Regulation	+ 0.5%
Insulation	Class H
Standar d Enclosur e	IP 23
Winding Pitch	2 / 3 Pitch
Stator W inding	Double Layer lap, form wound
Rotor	Dynamically balanced with grade 2.5
Wave form distortion	No load 1.5% non-distorting, balanced linear load <5%
Telephone interfer ence Factor	Better than 50
Total Harmonic Factor	Better than 2%

**- With External Cooling system*

RTF- Refer to Factory

Conformance standards

IS 4722, BS 5000, IS 1460, ISO 8528, ISO 13018, ISO 3046

Rating definitions

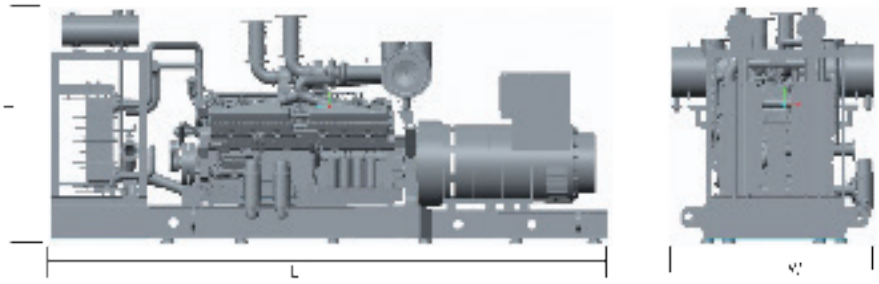
Prime Power (PRP):
Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accor dance with ISO 8528. T en percent overload capability is available in accor dance with ISO 3046.
Standby power: Applicable for supplying power to varing electical load for duration of power interrupting of a r eliable utility sour ce.
Emergency Stanby Power (ESP) is in accor dance with ISO 8528. Fuel stop power in accor dance with ISO 3046, AS 2789, DIN 6271 and ISO 13018.

- Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460
- Fuel consumption tolerance is +5%

Typical Enclosed Genset Dimensions

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Wet Weight## (kg)	Standard Fuel Tank Capacity - External
C1750D5P/ C1825D5P*	1750/1825	6115	2167	2483	12543	990

Approximate Weight



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"Our energy working for you."

PSBU/021/QSK50 1750-1825kVA/HD/MP/Revision- 4 (03/201 9)

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