

Specification sheet



Diesel Generator Set K19 Series

400 kWe, 500 kVA Prime
416 kWe, 520 kVA Standby



Lowest life cycle cost

'K19 series' design features has made Cummins® diesel generator sets, the standard for comparison of operating economy, reliability and long life. When all cost factors like initial purchase, fuel, lube oil, maintenance etc. are considered, the bottom line will show that this Cummins® 'K19 series' will deliver the lowest life cycle cost.

Heavy duty, durable and emission compliant

Cummins® 'K19 series' diesel engine comes with heavy duty features, optimum size camshaft, optimized turbo-matching, electrical STC injectors and is yet compact in size with optimum power to weight ratio making it the obvious choice for your long-term power needs.

This genset powered by the reliable Cummins® 'K19 series' diesel engine meets stringent exhaust emission tests as per CPCB norms without sacrificing fuel efficiency at normal operating loads.



Silent Power

Cummins® 500 kVA & 520 kVA enclosures are designed so as to have optimum performance and serviceability over the complete operating range. The enclosures are compact with integral fuel tank and are designed for ease in maintenance. The powder coated enclosures are manufactured on latest CNC machines to ensure superior finish and durability.

Single source power assurance

Design, manufacture and testing of engine, alternator and other accessories is done by Cummins Group of companies for optimum performance and is backed by a countrywide product support network with a single source responsibility for the entire package.

Standard scope

Engine: Cummins® 'K19 series' direct injection, water cooled engine, 6 cylinder, in-line, 4 stroke, rated at 1500 RPM, conforming to ISO 3046 / BS 5514 has the following specifications:

- Cummins PT fuel pump
- Electrical Step Timing Control (ESTC) injector
- Optimised turbocharger
- Pulse tuned exhaust manifold
- Stainless steel exhaust flexible connection
- Radiator or heat exchanger
- Plate type lube oil cooler
- Spin-on filters - fuel, lube oil and by-pass
- Dry type replaceable paper element air cleaner with restriction indicator
- Flywheel housing and flywheel to suit single bearing alternator
- Starting motor – Electric, battery charging alternator
- First fill lube oil and coolant

Alternator: Stamford brushless alternator

- Self-excited, self regulated
- Class 'H' insulation
- Salient pole revolving field
- Single bearing
- Automatic voltage regulator

Our energy working for you.™

PGBU/CIL/009/K19 500-520 kVA/CPG/90deg./Apr. 2014/xxxx

www.cumminspower.com

Accessories:

- Silencer suitably optimized to meet stringent sound emission standards as laid down by MOEF / CPCB
- Base rail with integral fuel tank is provided with a drain plug, air vent, inlet and outlet connections, level indicator, manhole etc.
- Sub-base fuel tank of 700 litres capacity
- 2 x 12 V dry, uncharged batteries with connecting leads and terminals

Control Panel: The control panel is manufactured with 14/16 gauge CRCA sheet and is powder coated for weather-proof and long lasting finish.



The control panel consists of the following parts:

- PC 1.2 Controller
- Aluminum bus bars with suitable capacity with in/outgoing terminals
- Instrument fuses duly wired and ferruled
- MCCB of suitable rating with overload and short circuit protections

Genset controller PC 1.2

- Basic stand-alone Genset control system
- Feature laden modular Genset control system
- Part of our modular and interchangeable control product line

PMG compatibility and extra inputs and communication capability (ModBus & CAN), are the major advantages.

Features:

- Digital voltage regulation
- SAE J1939 Interface to Full Authority Electronic (FAE) engines
- Engine Metering: Oil Pressure, Coolant Temperature, Battery Voltage, Engine Speed
- AC Alternator Metering: L-L Voltage and N voltage (phase and average), Current (phase and total), Volt-Amperes (phase and total), and Frequency.
- Engine Protection: Low Lube Oil Pressure, High Coolant Temperature, Over speed, DC Over/Under/Weak Volts, Fail to Crank/Start, Sensor Failure.
- AC Alternator Protection: Over/Under Voltage, Over/Under Frequency, Over Current & Loss of AC Sensing.
- Fault Codes and Description on HMI
- Data Logging: Engine Hours, Engine Starts and 10 Fault Codes
- Control Set-Up without PC-based tool (InPower)
- Configurable Glow Plug Control as an optional
- Configurable Cycle Cranking
- 12 and 24 Volt DC Operation
- Easy Wiring connectors for factory connections, terminal blocks for field connections

- Configurable Time Delay Start/Stop
- Sleep Mode Low power in Off and/or Auto
- Programmable I/O (2 inputs and 2 outputs) expandable with AUX101/102 modules
- Low Fuel Level Fault Inputs
- Self-Configuring PCCNet Network
- InPower Compatible (PC based service tool)
- NFPA110 Level 1 Compliant
- ISO8528-4:1993 Compliance
- CE Compliant

Acoustic enclosure:



- Specially designed to meet stringent MOEF/ CPCB norms of 75 dBA @ 1mtr at 75% load under free field conditions
- Designed to have optimum serviceability
- Air inlet louvers specially designed to operate at rated load even at 50 deg C air inlet temp.
- Made on special purpose CNC machines for consistency in quality and workmanship
- Powder coated for long lasting service life and superior finish
- With UV resistant powder coating, can withstand extreme environment
- Use of stainless steel hardware
- Insulation material meets exacting IS 8183 specs for better attenuation

Optionals

Engine: Heavy duty air cleaner, lube oil / coolant heater with thermostatic switch

Alternator: Thermistors, PMG excitation, space heater

Control panel: "PowerCommand® Control Panel (PC 3.3)" for microprocessor based governing, regulation, metering, monitoring and auto synchronising control system. AMF control panel, battery charger, remote/ auto start panel, auto/ manual synchronizing panel and audio/ visual annunciation for faults.

Others: Mobile sets with canopy

Technical data

Generator set specifications

Model	C500 D5P	C520 D5S
Prime Power Rating kVA	500	520
Output Voltage and Frequency	415 Volts, 50 Hz	415 Volts, 50 Hz
Power Factor	0.8 (lag)	0.8 (lag)
No. of phases	3 phase	3 phase

Engine specifications

Make	Cummins	Cummins
Model	KTAA19-G10	KTAA19-G11
No. of cylinders	6, in line	6, in line
Aspiration	Turbocharged, Charged air cooled	Turbocharged, Charged air cooled
Bore x Stroke	159 mm x 159 mm	159 mm x 159 mm
Displacement	18.9 ltrs	18.9 ltrs
Output - Prime	400 kWm	416 kWm
Fuel consumption @ 75% load with Radiator & Fan	84.28 ltr/hr	88 ltr/hr
Fuel consumption @ 100% load with Radiator & Fan	109 ltr/hr	114 ltr/hr
Typical lube oil consumption @ 100% load	0.12 ltr/hr	0.12 ltr/hr
Total wet weight (engine + radiator and fan)	2300 kg	2300 kg
Length x Width x Height (engine)	1598 x 987 x 1242 mm	1598 x 987 x 1242 mm
Compression Ratio	16.7 : 1	16.7:1
Piston Speed	7.95 m/s	7.95 m/s
Governor / Class	Electronic / A1	Electronic / A1
Lubricating oil sytem capacity	50 ltrs	50 ltrs
Coolant capacity (engine + radiator)	80 ltrs	80 ltrs
Combustion air intake @ 100% load (+/- 5%)	37 m3/min	37 m3/min
Fan air flow across radiator	20111 CFM	20111 CFM
Exhaust Temperature	468°C	468°C

Alternator specifications

Make	Stamford	Stamford
Frame size / Model No.	HC5D	HC5D
Voltage Regulation	1.00%	1.00%
Insulation	Class H	Class H
Standard Enclosure	IP 23	IP 23
Winding Pitch	2 / 3 Pitch	2 / 3 Pitch
Stator Winding	Double layer lap	Double layer lap
Rotor	Dynamically balanced	Dynamically balanced
Wave form distortion	No load < 1.5%, non distorting balanced linear load < 5 %	No load < 1.5%, non distorting balanced linear load < 5 %
Telephone Interference Factor	Better than 50	Better than 50
Total Harmonic Factor	Better than 2%	Better than 2%

Conformance standards

IS/IEC 60034-1, IS 1460, ISO 8528, ISO 3046, IS 13018

Rating definitions

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

- Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460
- Oil consumption data is based on oil having specific gravity of 0.89 and meeting CH4 API categories
- Fuel consumption tolerance is +5%

Standby Power (SP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Full Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

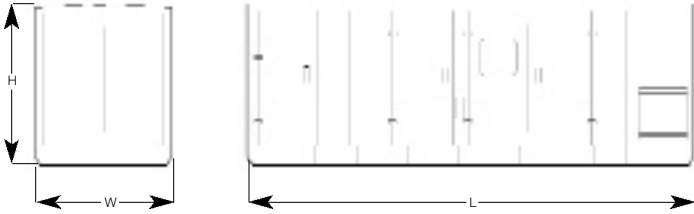
Our energy working for you.™

PGBU/CIL/009/K19 500-520 kVA/CPG/90deg./Apr. 2014/xxxx

www.cumminspower.com

Typical enclosed genset dimensions*

Genset Model (kVA)	Rating (mm)	Length (mm)	Width (mm)	Height (mm)	Std. Fuel Tank Capacity (Ltrs)
C500 D5 P	500 kVA	6000	2000	2250	700
C520 D5 S	520 kVA	6000	2000	2250	700



Cummins Power Generation Offices

Bengaluru: Tel.: (080) 2363 1160, 2363 7859
Fax: (080) 2363 4552

Chandigarh: Tel.: (0172) 224 0371-73
Fax: (0172) 224 0372

Chennai: Tel.: (044) 2446 8110 / 2446 8113
Fax: (044) 2491 1120

Gurgaon: Tel.: (0124) 391 0900-01
Fax : (0124) 391 0916

Hyderabad: Tel.: (040) 2340 9970 / 2340 9980
Fax. (040) 2340 9990

Jaipur: Tel.: (0141) 236 4944
Fax: (0141) 403 8794

Kolkata: Tel.: (033) 2287 8065 / 2287 2481
Fax: (033) 2290 3839

Lucknow: Tel.: (0522) 230 5049 / 230 5059
Fax: (0522) 230 5035

Mohali: Tel.: (0172) 224 0371 / 72 / 73
Fax: (0172) 224 0371 / 72 / 73

Vadodara: Tel.: (0265) 233 0627 / 3053627
Fax: (0265) 234 0623

Cummins India Limited
Cummins India Office Campus
Power Generation Business Unit
6th floor, S. No. 21, Balewadi,
Pune 411 045. India

Tel.: (91) 020-6706 7000, 3019 7000, 3965 1000
Fax: (91) 020-6706 7011

Our energy working for you.™

©2014 Cummins Power Generation Inc. All rights reserved.
Cummins Power Generation and Cummins are registered trademarks of Cummins Inc.
PowerCommand, AmpSentry, InPower and "Our energy working for you." are trademarks of Cummins Power Generation.
Other company product or service names may be trademarks or service marks of others.
Specifications are subject to change without notice.
PGBU/CIL/009/K19 500-520 kVA/CPG/90deg./Apr. 2014/xxxx

Authorised
Representative

