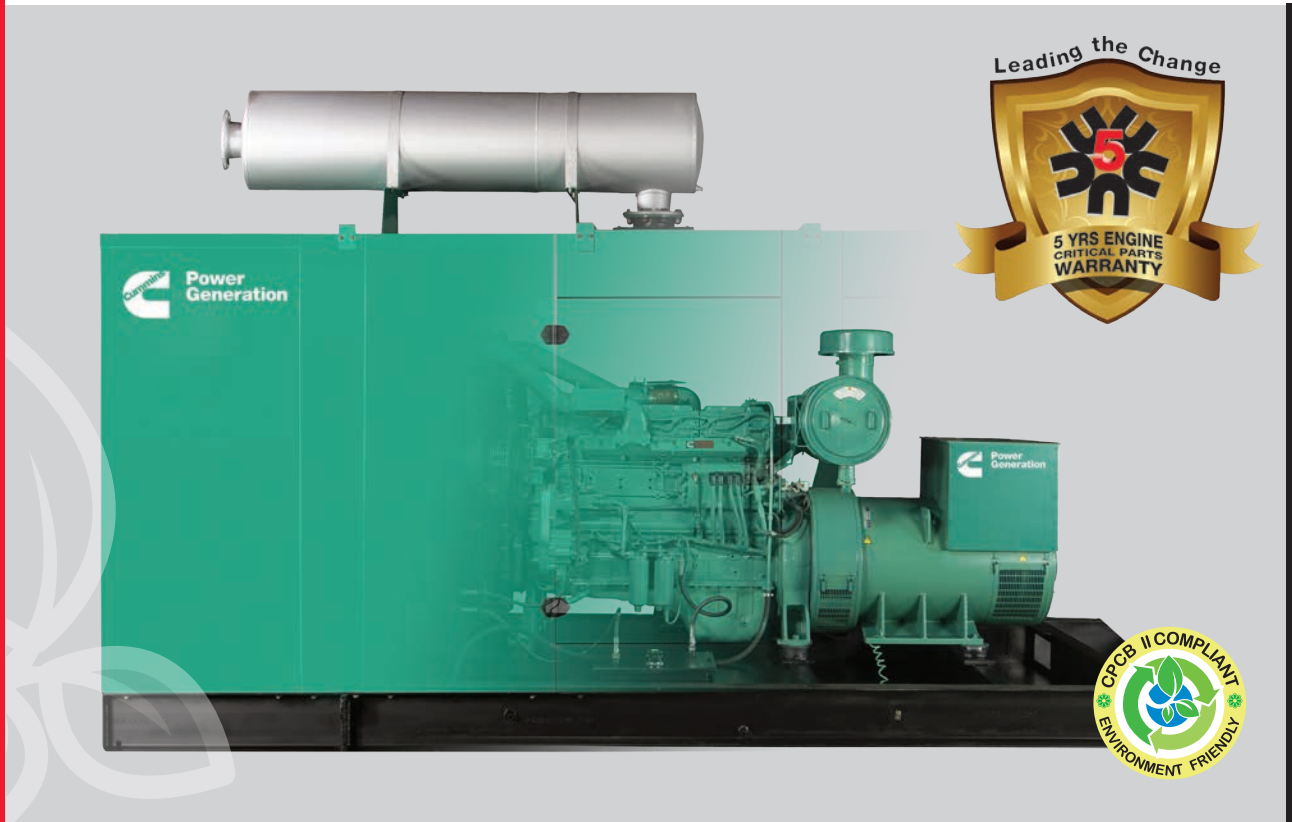


Diesel Generator Set

QSN14 Series

380 kVA, 304 kW_e Prime



Latest Technology Product With Global Cummins Platform

- The Cummins® QSN14 series heavy-duty engine and world class Stamford alternator powered diesel generator set
- Class defining Quantum engine technology with fully integrated subsystems
- Advanced in-cylinder technology to meet latest emission norms without any after-treatment device
- Smart aesthetic and superior finish
- Compact in size with optimum power to weight ratio

Environment Friendly Power

- Class defining technology engine is designed to meet stringent exhaust emission tests as per revised MoEF norms, thus offering environment friendly power.
- The Cummins® diesel generator sets are available with the lowest noise levels in its range

Lowest Operating Cost And Comprehensive Warranty

- Highly reliable and durable product
- All elements are designed to work together to maximize efficiency even at part loads, offering the advantage of lowest operating costs.
- 500 Hours / 1 year service interval
- Industry acknowledged best-in-class comprehensive warranty on the entire package including rubber components

Single Source Power Assurance

- All the major components – the engine, alternator, control system and canopy are designed, manufactured and tested by Cummins India.
- Best and largest customer support network in India, capable of providing round-the-clock service and spares support
- All these things put together, Cummins® offers you SINGLE SOURCE POWER ASSURANCE

Engine

- Cummins® QSL9 series, 6 cylinder, In-line 4 stroke, radiator cooled engine
- Full Authority Electronic Engine
- Well designed air handling system with
 - Dry type, replaceable paper element air cleaner with restriction indicator
 - Air to air aftercooling
 - Optimised turbocharger for increased altitude capabilities
- Best in class fuel economy with
 - Bosch HPCR fuel system with A1 class electronic governing
 - Dual fuel filter system: Pre filter including water separator and Water In Fuel (WIF) sensor and main filter
- Electrical lift pump for faster response
- Standard integral set-mounted radiator system, designed and tested for 50°C ambient temperature
- Full flow spin on lube oil filter
- Plate type lube oil cooler
- First fill of lube oil and coolant
- Electrical starter motor with soft start engagement feature
- Battery charging alternator
- 2 x 12 V DC batteries



Alternator

- STAMFORD HC4 alternator frames from Cummins Generator Technologies
- Brushless type, Screen protected, Revolving field, Self excited alternator conforming to IS/IEC 60034-1
- 3 Phase reconnectable winding with 12 terminals brought out for connection
- Better motor starting capability
- Best in class efficiency
- Compact design with sealed bearings for longer life and lesser maintenance
- Impregnation on all wound components for better mechanical strength
- Automatic Voltage Regulator

PS0602 Features

Cummins® PowerStart™ PS0602 control is a microprocessor based generator set monitoring, metering and control system with LCD display designed to meet the demands of today's engine driven generator sets



- AMF Functionality
- Electronic Governing
- CAN (J1939) Compatible
- Sync Compatible (Capable to accept external speed signal from 3rd party sync controller)
- Intuitive operator interface which includes LED backlit 128X64 pixel graphic display with tactile feel soft- switches & generator set status LED lamps.
- Remote start-stop
- **Engine Metering:** Oil pressure, Engine temperature, battery voltage, Engine running hours
- **AC Alternator Metering:** L-L Voltage and L-N Voltage, Current (phase and total), kVA (phase and total), Frequency, kWh, kW and kVA (phase and total), PF, Utility Voltage and Freq.
- **Engine Protection:** Low lube oil pressure, High/ Low coolant temperature, Battery Over/ Under/ Weak Volts, Fail to Crank/ Start, Sensor failure, Cranking lockout.
- **AC Alternator Protection:** Over/ Under Voltage, Over/ Under Frequency, Loss of AC Sensing, Over speed, Over Current.
- **Data Logging:** Engine Hours, Control Hours and upto 5 recent fault codes
- Configurable glow plug control
- 12/24 Volt DC operation
- Sleepmode
- Mod bus interface (RS485 RTU)
- InPower compatible (PC based service tool)
- **Certifications - meets the requirement of relevant ISO, EN, Mil Std. and CE standards Maintenance due alarm based on Engine Run Time and due date**
- Exerciser scheduler

Silencer

- Hospital grade silencer suitably optimised to meet stringent noise emission standards laid down by MoEF / CPCB

Mounting Arrangement

- Engine and alternator are mounted on a common MS fabricated base frame with AVM pads.
- Base frame with integral fuel tank is provided with drain plug, air vent, inlet and outlet connection, level indicator and provision for cleaning

Optional

- **Engine:** Coolant heater, Oil Heater
- **Alternator:** PMG.
- **Control Panel:** - PC3.3
 - Bargraph for PC3.3 Panel with kW, Power factor, Frequency, Current, Voltage.
 - Remote HMI.

Acoustic Enclosure

- Specially designed to meet stringent MoEF/ CPCB norms of 75 dBA @ 1mtr at 75% load under free field conditions
- The acoustic enclosure is made of CRCA sheets in munsel green shade and a structural/ sheet metal base frame painted in black.
- High quality noise absorbant and fire-retardant grade acoustic insulation material (Rockwool) complying to IS 8183
- Air inlet louvers specially designed to operate at rated load

- Base lifting for easy handling at customer site
- Designed to have optimum serviceability
- Made on special purpose CNC machines for consistency in quality and workmanship
- 11 tank pretreatment process and UV resistant powder coating of all parts to withstand extreme environment
- Use of special hardware for longer life
- Flush styling - no projections
- Fluid drains for lube oil and fuel
- Fuel filling arrangement inside the enclosure

Technical Data

Generator set specification

Model	C380D5P
Duty	Prime
Power Rating kVA / kW	380/304
No. of Phases	3
Output Voltage and Frequency (V and Hz)	415 V, 50 Hz
Power Factor	0.8 (lagging)
Current (A)	528
RPM	1500

Engine Specification

Make	Cummins
Model	QSN14-G2
MoEF Certified Power (hp)	487
Required Power for Rated kVA (hp)	457
Cooling	Liquid Cooled (EG Completeat 50:50)
Aspiration	Turbocharged, Charge Air cooled
No. of cylinders	6, In-line
Bore (mm) x Stroke (mm)	140 x 152
Compression ratio	16.5: 1
Displacement (litre)	14
Fuel	High Speed Diesel
Fuel consumption @75% load with radiator and fan* (litre/hr)	63.5
Fuel consumption @100% load with radiator and fan* (litre/hr)	83.21
Performance class of generator set	ISO 8528-5 G2
Starting system	24 V DC Electrical
Lube oil specification	CI4+ 15W40
Lube oil sump capacity, High-Low level (litre)	36-28.4
Total lubrication system capacity (litre)	38.6
Lube oil consumption @ full load** (litre/hr)	0.084
Total coolant capacity (litre)	51
Exhaust pipe size (inch)	6
Total wet weight (Engine+Radiator)### (kg)	1706
Length x Width x Height (Engine) (mm)	1502 x 888 x 1219
Mean Piston speed (m/s)	7.5
Combustion air intake @100% load (±5%) (cfm)	985
Exhaust Temperature (°C)	472

Alternator Specification

Make	Stamford (CGT)
Alternator frame	HCI444E
Enclosure	IP23
Voltage regulation (Max.)	±1%
Class of Insulation	H Class
Winding Pitch	2/3
Stator Winding	Double layer lap
Rotor	Dynamically Balanced
Waveform distortion/ Total Harmonic Distortion	No load < 1.5 %, Non distorting balanced linear load < 5 %
Maximum Unbalanced Load across phases#	< or equal to 25%
Telephonic Harmonic factor	< 2%

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

** Oil consumption data is based on oil having specific gravity of 0.89 and meeting CI4+ API categories

With the condition that none of the phases exceeds its rated current

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.

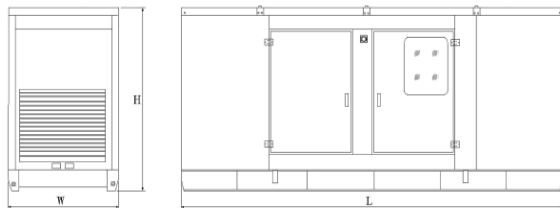
Conformance Standards

- IS/IEC 60034-1 ■ IS 1460 ■ ISO 8528
- ISO 3046 ■ ISO 9001 ■ IS 13018

Typical Enclosed Genset Dimensions

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Wet Weight ^{##} (kg)	Standard Fuel tank Capacity (litre)
C380D5P	380	5500	1900	2150	6165	450

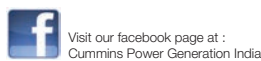
^{##} Approximate weight



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“Our energy working for you.”

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