

Diesel generator set B series



Specification sheet
60-112 kWe, 75-140 kVA Prime



Our energy working for you.™

Silent, compact and light weight

The **Cummins® 'B series'** DG sets are smaller and lighter than any other DG set in its class, thus giving you the advantage of optimising your valuable space.

Environment friendly power

The **Cummins® 'B series'** base DG sets are available with the lowest noise levels in its range and are CPCB certified for emissions compliance, thus offering you environment friendly power.



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

Unmatched warranty

The **Cummins® 'B series'** DG sets are backed by the industry acknowledged best-in-class comprehensive warranty on the entire package including rubber components.

Lowest operating costs

All elements of the **Cummins® 'B series'** DG sets are designed from the start to work together to maximize efficiency, even at part loads, thus offering you the advantage of lowest operating costs.

Single source power assurance

The rugged and reliable **Cummins® 'B series'** DG sets are unique, because all the major components – the engine, alternator, control system and canopy are designed, manufactured and tested by Cummins India.

This, complemented by the largest customer support network in India, capable of providing round-the-clock service and spares support, offers you **SINGLE SOURCE POWER ASSURANCE** from the world leaders in power generation.

Standard scope

Engine: Cummins® 'B series' diesel generating sets, powered by Cummins® 'B series' engines, are rated at 1500 RPM and conform to ISO 8528 specifications. The engines are radiator cooled, four stroke and multi-cylinder, conforming to BS 5514 / ISO 3046.

The scope of supply includes:

- Electrical starter motor 12V DC
- Battery charging alternator
- MICO fuel system with mechanical governor
- Dual spin-on fuel filter
- Turbocharger
- Residential silencer
- Dry type air cleaner
- Shut-off coil with safeties for LLOP/HWT/Overspeed
- Flywheel and flywheel housing
- Engine instrument panel with - starting switch and key - indication for battery voltage, water temp., lube oil pressure, engine speed, engine hour counter, battery voltmeter, indication for safety switch
- First fill of lube oil and coolant
- Electronic governor for 140 kVA

Alternator: Synchronous alternator of Stamford make suitable for continuous operation at 1500 RPM, 415 Volts, 0.8 pf (lag) suitable for 50 Hz, 3 phase, 4 wire system, conforming to BS 5000 / IS 4722. The Alternator is brushless type, screen protected, revolving field, self excited, self regulated through an AVR. The alternator has the following features:

- ± 1.0 % Voltage regulation (max) in static conditions
- IP: 23 protection with insulation class H
- Permissible overload of 10% for one hour in 12 hours of operation

Mounting arrangement: Engine and alternator are mounted on a common MS fabricated base frame with AVM pads.

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

The control panel consists of the following parts:

- Aluminum busbars of suitable capacity with incoming and outgoing termination
- Indicating lamps for "Load On" and "Set Running"
- Instrument fuses duly wired and ferruled

For 75-125 kVA:

- Instrument cluster displaying water and lube oil temperature, lube oil pressure, engine RPM, running hours, battery voltage with LED Indications for battery charging failure, high water temperature and low lube oil pressure
- MCCB of suitable rating with overload and short circuit protection
- Combined meter for voltage, amps and frequency
- Current transformers

Genset controller: (For 140 KVA)

Cummins **PowerCommand**® **PCC 1301** microprocessor based integrated generator set monitoring, metering, protection and control system with built-in torque matched Volts/Hz overload control.



Single control for all genset functions:

- Digital governing
- Digital voltage control
- Engine control
- Operator interface
- Protection
- Advanced control functions

Standard features of genset controller:

Engine

Metering	Protection
- RPM	- Low lube oil pressure - Fail to crank
- Battery voltage	- High water temp. - Fail to start
- Lube oil pressure	- High /low DC voltage - Sensor failure
- Coolant temp.	- Weak battery
- Running hours	- Overspeed

Alternator

Metering	Protection
- 3 phase voltage (L-L and L-N)	- Under voltage - Field overload
- 3 phase current	- Over voltage
- Frequency	- Over current
- kVA	- Under/ over-frequency
	- Loss of sensing

Others

- Battle switch function
- Delay start/ stop
- Configurable cranking cycle
- Sleep mode time

Acoustic enclosure:

The acoustic enclosure is made of 1.6/ 2 mm thick CRCA sheets and structural/ sheet metal base frame painted in Munsel green shade. The walls of the enclosure are insulated with fire retardant foam so as to comply with the 75 dBA at 1mtr sound levels specified by Ministry of Environment & Forest.

The enclosure has the following features:

- Specially designed to meet stringent MOEF/ CPCB norms of 75 dBA @ 1mtr at 75% load under free field conditions
- Single point lifting for easy handling at customer site
- Designed to have optimum serviceability
- Air inlet louvers specially designed to operate at rated load - 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 environments
- Use of special hardware for longer life
- Insulation material meets exacting IS 8183 specifications for better sound attenuation
- Flush styling - no projections
- Fluid drains for lube oil and fuel
- Fuel filling point



Others:

- Fuel tank suitable for 8 hours of operation

Optionals

- Heavy duty air cleaner
- Microprocessor / relay based AMF control panel
- Trolley mounted mobile sets
- Cold starting kit
- Electronic governor
- Lube oil heater

Our energy working for you.™

www.cumminsindia.com

© 2006 | Cummins Power Generation | Specifications subject to change without notice
 Accessories shown are not part of standard equipment
 PGBU/CIL/001/B 75-140 kVA/CPG/90Deg./December 2006/1000



Technical data

Generator set specifications

Model	C 75 D5 P / C 82.5 D5 P	C 100 D5 P	C 125 D5 P	C 140 D5 P
Prime Power Rating kVA / kW	75/60 / 82.5/66	100/80	125/100	140/112
Current (Amps)	104 / 115	139	174	195
No. of Phases	3 Phase	3 Phase	3 Phase	3 Phase
Power Factor	0.8 (lag)	0.8 (lag)	0.8 (lag)	0.8 (lag)

Engine specifications

Make	Cummins	Cummins	Cummins	Cummins
Model	6BT5.9G1	6BTA5.9G1-I	6BTA5.9G2-I	6BTAA 5.9G1-I
BHP	105	124	154	170
Cooling	Water Cooled	Water Cooled	Water Cooled	Water Cooled
Aspiration	Turbocharged	Turbocharged Aftercooled	Turbocharged Aftercooled	Turbocharged Charged Air Cooled
No. of Cylinders	6	6	6	6
RPM	1500	1500	1500	1500
Bore (mm) x Stroke (mm)	102 x 120	102 x 120	102 x 120	102 x 120
Compression Ratio	17.6:1	17.6:1	17.6:1	17.6:1
Displacement (Ltrs.)	5.88	5.88	5.88	5.88
Fuel	HSD	HSD	HSD	HSD
Fuel Consumption (Ltr/hr) @ 75% Load with Radiator & Fan	14.3	16.9	20.8	22.9
Governor	Mechanical	Mechanical	Mechanical	Electronic
Starting System	12 V Electrical	12 V Electrical	12 V Electrical	12 V Electrical
Lube oil Specification	CF4 15W40	CF4 15W40	CF4 15W40	CF4 15W40
Lube oil Sump Capacity (Ltrs.)	14.3	14.3	14.3	14.3
Lube oil consumption (LPH)	0.04 / 0.047	0.026	0.03	0.04
Total Coolant Capacity (Ltrs.)	22	24.5	24.5	24.5
Exhaust Pipe Size (mm)	100	100	100	100
Battery Capacity / Rating	150 AH 12 V	150 AH 12 V	150 AH 12 V	150 AH 12 V

Alternator specifications

Voltage	380 / 415	380 / 415	380 / 415	380 / 415
RPM / Frequency	1500 / 50 Hz	1500 / 50 Hz	1500 / 50 Hz	1500 / 50 Hz
Enclosure	IP 23	IP 23	IP 23	IP 23
Voltage Regulation (max)	+/- 1%	+/- 1%	+/- 1%	+/- 1%
Class of Insulation	H Class	H Class	H Class	H Class
Recommended Cable size x Runs (Al Armoured 3 1/2 core)	95 x 1	120 x 1	185 x 1 or 95 x 2	240 x 1 or 120 x 2

Conformance standards

IS 4722, BS 5000, IS 1460, ISO 8528, BS 5514, ISO 3046

Rating definition

- Prime power rating is applicable for supplying continuous electric power (at variable load) in lieu of commercially purchased power.
- Prime power is available for an unlimited number of hours per year in a variable load application.
- 10% overload is available for 1 hour in every 12 hours of operation.
- Rating definition is as per ISO 3046 / 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%

Our energy working for you.™

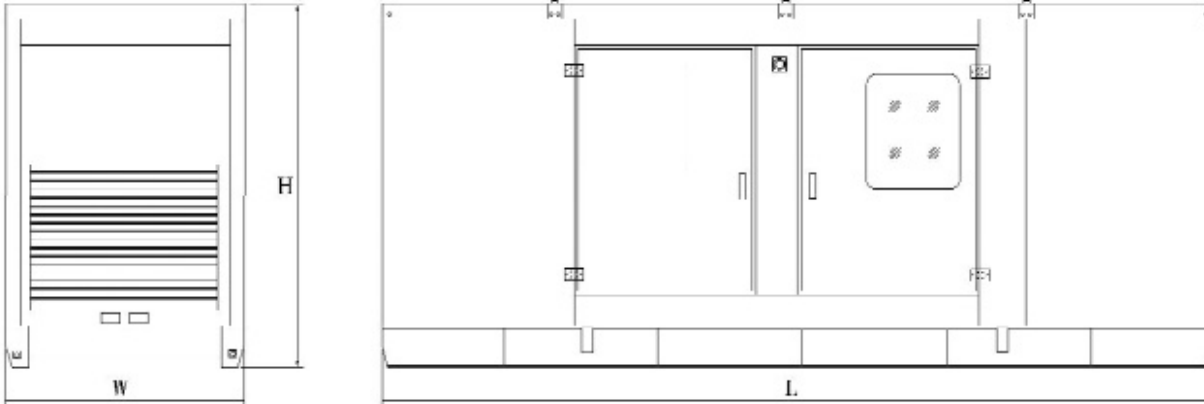
www.cumminsindia.com

© 2006 | Cummins Power Generation | Specifications subject to change without notice
PGBU/CIL/001/B 75-140 kVA/CPG/90Deg./December 2006/1000



Typical enclosure dimensions*

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)
C 75 D5 P / C 82.5 D5 P	75 kVA / 82.5 kVA	3850	1150	1700
C 100 D5 P	100 kVA	4000	1150	1700
C 125 D5 P	125 kVA	4000	1150	1700
C 140 D5 P	140 kVA	4000	1150	1700



Typical diesel generator set dimensions

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Weight (kgs.) (Dry)
C 75 D5 P / C 82.5 D5 P	75 kVA / 82.5 kVA	2100	950	1420	1250
C 100 D5 P	100 kVA	2230	950	1430	1350
C 125 D5 P	125 kVA	2230	950	1430	1350
C 140 D5 P	140 kVA	2350	950	1450	1400

Cummins Power Generation Offices:

Location:	Tel:	Fax:	Location:	Tel:	Fax:
Bangalore:	080-23613831/23611958	080-23614552	Hyderabad:	040-55612932/27678891	040-27678892
Chandigarh:	0172-2622535/2663087	0172-2663087	Jaipur:	0141-2370201/2370356	0141-2363746
Chennai:	044-24416429/24423412	044-24911120	Kolkata:	033-22878065/22816790	033-22903839
Coimbatore:	0422-2430197/2436947	0422-2445904	Lucknow:	0522-2786718/2787704	0522-2787880
Delhi:Telefax:	011-41618357/58/59/60/61		Vadodara:	0265-2330627	0265-2340623

Cummins India Limited
 Power Generation Business Unit
 35A/1/2, Erandawana,
 Pune 411 038 - India
 Tel.: (91) 020-6602 7525
 Fax: (91) 020-6602 8090

Authorised
 Representative

Our energy working for you.™

www.cumminsindia.com

© 2006 | Cummins Power Generation | Specifications subject to change without notice
 Cummins and PowerCommand are registered trademarks of Cummins Inc.
 *Dimensions of the enclosure are excluding the silencer
 Information contained in this publication is typical only and does not form part of any
 contractual commitment
 PGBU/CIL/001/B 75-140 kVA/CPG/90Deg./December 2006/1000

