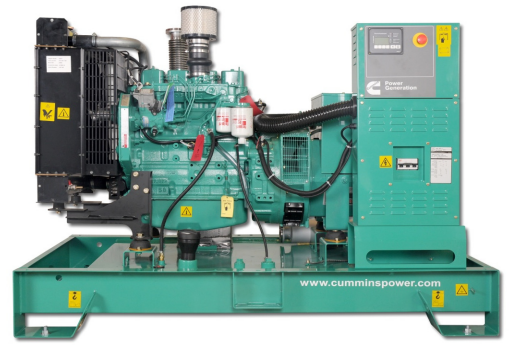


# Diesel Powered Generating Sets



## C45D5

Our energy working for you.™



### Standard Genset Features

Cummins water cooled Diesel engine.  
 Oil and fuel filter fitted, water separator.  
 Lube-oil drain valve fitted.  
 Electric starter and Charge alternator 12 VDC.  
 Mechanical governor,  
 Normal duty air filter.  
 Single bearing alternator.  
 Set mounted starting battery.  
 Engine, Alternator, Chassis and Control Command House color: Munsell Jade Green.  
 Radiator and Guarding in color: Black.  
 Packing under shrunk plastic film.  
 Operation and Maintenance manual.  
 Standard set of labels.  
 Fuel tank in skid - day tank.

### Optional

#### PMG (Permanent Magnet Generating)

Offers enhanced motor starting, good performance with non-linear loads and faultclearing short circuit capability.

### Exhaust

Exhaust silencer - Industrial 09 dB(A)  
 Exhaust silencer - Residential 29 dB(A)

### Warranty

Warranty 5 years extended - (Standby)  
 Warranty 2 years extended or 6000 hours - (Prime)

### Fuel consumption

Ratings	Standby				Prime			
	42 kVA		34 kW		39 kVA		31 kW	
Load	Full	3/4	1/2	1/4	Full	3/4	1/2	1/4
Consumption (L/hr)	10	8	6	3	9	7	5	3

### Observation:

The engine above was tested according to the ISO-3046 respecting the following conditions:

Barometric Pressure = 100 kPa (29.83 in Hg)

Altitude above sea level = 110 m (316 ft)

Ambient temperature = 25° c (77° F)

Relative humidity = 30%

### Generator Set Performance

#### Voltage Regulation

Maintains voltage output within  $\pm 1,0\%$  in the following conditions:

1. At any power factor between 0.8 and 1.0
2. At any load level from no load to full load.
3. At speed droop variations up to 4,5%.

#### Frequency Regulation

Isochronous under any load, from no load to 100% full load when electronic governor is fitted.

#### Random Frequency Variation

Will not exceed  $\pm 0,25\%$  of rated frequency value for constant loads, no load to full load.

### Compliance Standards

To BS4999/5000 pt 99,  
 VDE 0530, UTE5100,  
 NEMA MG1-22, CEMA,  
 IEC 34, CSA A22.2,  
 AS1359, BSS 5514,  
 ISO 3046 and ISO 8528

### Generator Set Options

#### Options

Coolant heater  
 Battery Charger  
 Automatic Transfer Switches - GTEC  
 Silencer Enclosures  
 Eletronic governor  
 External Tank  
 Heavy Duty air filter

### Alternator Specification

#### Type

Brushless single bearing, revolving field, four pole.  
 Protection from water (dripping).  
 Class H Insulation, IP23 Protection.  
 Vacuum impregnation.  
 IC 01 cooling system.  
 Fully interconnected damper winding.  
 AC exciter and rotating rectifier unit.  
 Epoxy coated stator winding.  
 Rotor and exciter impregnated with polyester resin appropriate to the tropical climate, resistant to oil and acids.  
 Rotor balanced dinamically BS 5625 2,5 degrees.  
 Rotor wound in layers and with mechanics coins.  
 Permanent lubricant ball bearing

#### Exciter

Triple dipped in varnish resistant to oil and acid and coated with anti-tracking varnish.

#### Winding

Low reactance 2/3 pitch windings; low waveform distortion with non-linear loads, fault clearing short-circuit capability.  
 Engine/alternator direct coupling for perfect alignment.

### Voltage Connections - 50 Hz

480/277 V 380/220 V 220/127 V  
 440/254 V 240/139 V 208/120 V  
 416/240 V

## Technical Data

<b>Model</b>	<b>C45D5</b>	<b>Alternator voltage regulation</b>	± 1,0%
<b>Standby Rating</b>	42 kVA / 34 kW	<b>Alternator insulation class</b>	H
<b>Prime Rating</b>	39 kVA / 31 kW	<b>IP Protection</b>	IP 23
<b>Engine Make</b>	Cummins	<b>Fuel consumption (Standby)</b>	10 l/h
<b>Engine Model</b>	4B3.9-G2	<b>Fuel consumption (Prime)</b>	9 l/h
<b>Cylinders</b>	4 cylinders	<b>Lubrication system oil capacity</b>	10,9 liters
<b>Engine Build</b>	In line	<b>Coolant capacity (only engine)</b>	7,2 liters
<b>Standard Governor/Class</b>	Mechanical	<b>Coolant capacity (engine and radiator)</b>	17,3 liters
<b>Aspiration and cooling</b>	Naturally aspirated	<b>Exhaust temperature (Prime)</b>	543°C
<b>Bore and stroke</b>	102 mm x 120 mm	<b>Exhaust gas flow (Prime)</b>	106 l/s
<b>Compression Ratio</b>	17,3 : 1	<b>Exhaust gas back pressure max</b>	76 mm Hg
<b>Cubic capacity</b>	3,92 liters	<b>Air flow radiator</b>	2,0 m³/s
<b>Starting/Min °C</b>	Unaided / -12°C	<b>Intake air flow</b>	50 l/s
<b>Battery capacity</b>	(1x) 75 A/h	<b>Minimum air opening to room</b>	0,5 m²
<b>Gross Engine output – Standby</b>	41 kWm	<b>Minimum discharge opening</b>	0,3 m²
<b>Gross Engine output – Prime</b>	37 kWm	<b>Radiated heat to ambient</b>	12 kWm
<b>Speed</b>	1500 rpm	<b>Tank incorporated in the base capacity</b>	200 liters

### STANDBY POWER RATING (ESP)

The Standby Power Rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload, utility parallel or negotiated outage operation capability is available at this rating. In installations served by unreliable utility sources (where outages last longer or occur more frequently), where operation is likely to exceed 200 hours per year, the prime power rating should be applied.

### PRIME POWER (PRP)

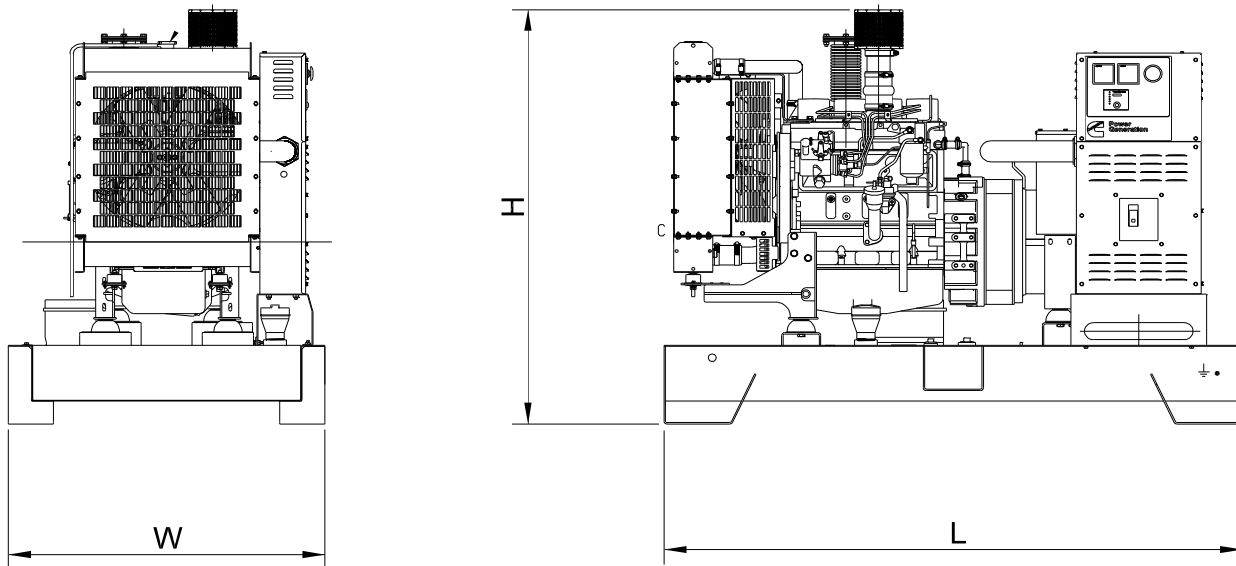
Prime power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO8528-1. A 10% overload capability is available for a period of 1 hour within a 12-hour period of operation.

### All ratings are based on the following reference conditions:

- Ambient temperature: 27°C

- Altitude above sea level: 150 meters

- Relative humidity: 60%



This outline drawing is for reference only. Do not use for installation design

### Dimensions and Weights

Genset	Length (mm) L	Width (mm) W	Height (mm) H	Set weight dry (kg)	Set weight wet (kg)*
Open Set	1920	1050	1450	869	1070
Enclosed Set - F190	2730	1090	1865	1353	1553

\*Set weight wet represents a set with oil, fuel and coolant liquid.



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the  
**Power**  
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See your distributor for more information.

