

# PowerTech™ E

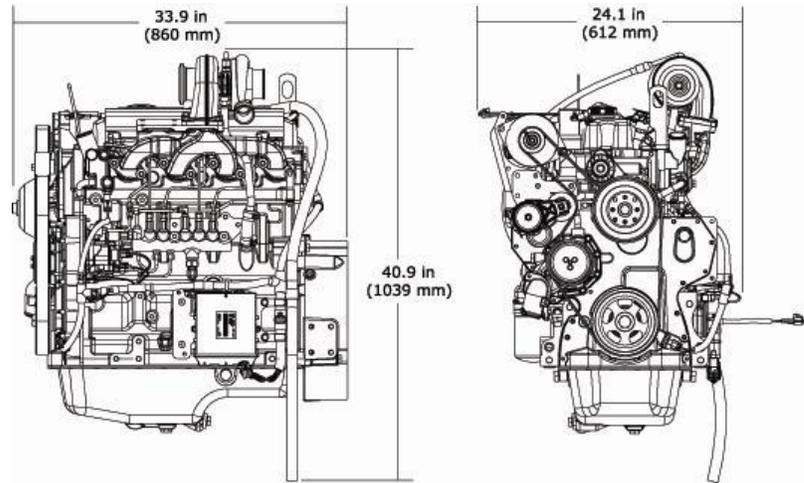
## 4045HF285 Diesel Engine

Generator Drive Engine Specifications



4045HF285 shown

### Dimensions



### Certifications

CARB  
EPA Tier 3

### General data

Model	4045HF285	Aspiration	Turbocharged and air-to-air aftercooled
Number of cylinders	4	Length - mm (in)	860 (33.9)
Displacement - L (cu in)	4.5 (275)	Width - mm (in)	612 (24.1)
Bore and Stroke-- mm (in)	106 x 127 (4.17 x 5.00)	Height-- mm (in)	1039 (40.9)
Compression Ratio	19.0:1	Weight, dry-- kg (lb)	491 (1082)
Engine Type	In-line, 4-cycle		

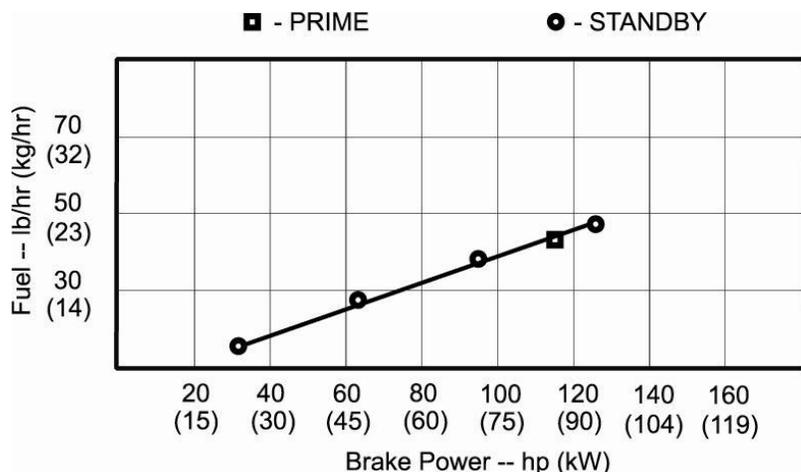
### Performance data

Prime power at 60 Hz (1800 rpm)	86 kW (115 hp)
Standby power at 60 Hz (1800 rpm)	94 kW (126 hp)

The prime power gen-set engine rating is the nominal power an engine is capable of delivering with a variable load for an unlimited number of hours per year with normal maintenance intervals observed. This rating incorporates a 10% overload capability which is available for up to 2 hours at a time. Operating time between 100% and 110% of the prime power rating is not to exceed 8% of the total engine operating time. This rating conforms to ISO 8528-1 "prime power (PRP)". The permissible average power for the prime or PRP rating is not to exceed 70% of rated prime power when calculated per ISO 8528-1.

The standby gen-set engine rating is the nominal engine power available at varying load factors for up to 200 hours per year with normal maintenance intervals observed. No overload capability is available for this rating. This rating conforms to ISO 8528-1 "Emergency Standby Power (ESP)". The permissible average power for the standby or ESP rating is calculated per ISO 8528-1.

## Performance curve



## Performance data

Hz (rpm)	Generator efficiency %	Rated fan power		Power factor	Calculated generator set output			
		kW	hp		Prime		Standby	
					kWe	kVA	kWe	kVA
60 (1800)	88-92	5.2	7.0	0.8	71-74	89-93	78-82	98-103

## Features and benefits

### 2-Valve Cylinder Head

- Cross-flow head design provides excellent breathing from a lower-cost 2-valve cylinder head

### High Pressure Common Rail Fuel System (HPCR) and Engine Control Unit (ECU)

- The HPCR fuel system provides variable common-rail pressure, multiple injections, and higher injection pressures, up to 1600 bar (23,000 PSI). It also controls fuel injection timing and provides precise control for the start, duration, and end of the injection

### Fixed Geometry Turbocharger

- Fixed geometry turbochargers are precisely matched to the power level and application

### Air-to-Air Aftercooled

- This is the most efficient method of cooling intake air to help reduce engine emissions while maintaining low-speed torque, transient response time, and peak torque. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs

### Multiple Injection Strategy

- The new HPCR fuel system and engine control unit (ECU) allow for multiple fuel injections. The number of fuel injections, based on speed and load, help contribute to lower combustion temperatures, which reduce the formation of NOx and particulates. The multiple injection strategy also provides an added benefit of noise reduction

### John Deere Electronic Engine Controls

- Electronic engine controls monitor critical engine functions, providing warning and/or shutdown to prevent costly repairs and eliminate the need for add-on governing components, all lowering total installed costs.

### Compact Size

- Mounting points are the same as Tier 2/Stage II engine models

### Engine Performance

- Block loading capability provided with standard electronic governor control

### Additional Features

- Self-adjusting poly-vee fan drive
- Forged-steel connecting rods
- Replaceable wet-type cylinder liners
- Either-side service
- 500-hour oil change