

PowerTech™

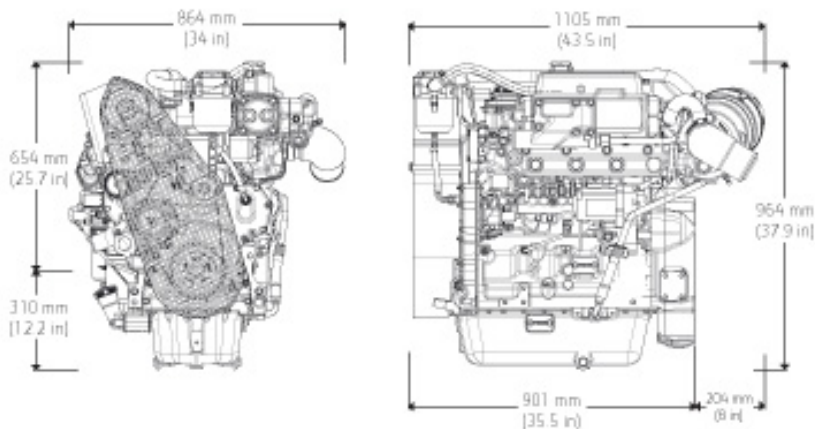
4045AFM85 Diesel Engine

Marine Generator Drive Engine Specifications



4045AFM85 shown

Dimensions



Dimensions shown in mm (in) may vary according to options selected. Contact your distributor for more information.

Emissions

EPA Commercial Marine Tier 3

IMO MARPOL Annex VI Tier II Compliant

Marine China Stage I †

† Available on 89 kW (120 hp) generator drive

General Data (Based on Standard Option Configuration)

Model	4045AFM85
Number of cylinders	4
Displacement - L (cu in)	4.48 (273)
Bore and Stroke-- mm (in)	107 x 127 (4.21 x 5.00)
Engine Type	In-line, 4 Cycle
Aspiration	Turbocharged and air-to-coolant aftercooled

Length maximum - mm (in)	1119 (44.1)
Height - mm (in)	964 (37.9)
Height, crankshaft centerline to top - mm (in)	653 (25.7)
Height, crankshaft centerline to bottom - mm (in)	311 (12.2)
Weight, dry - kg (lb)	578 (1274)

Classification Societies

ABS,BV,CCS,CRS,DNV-GL,LR

*SOLAS and other accessories available. Contact your distributor for details.

Features and Benefits

Optional Low RPM Operation

- A lower speed option provides the user the ability to start the engine without going to the gen-set rated speed and allows the user to clutch in an accessory that may be driven by the engine.

4-Valve Cylinder Head

- Excellent airflow through 4-valve cylinder head delivers greater low-speed torque and better transient response time.

High-pressure Common-rail (HPCR)

- The HPCR fuel system provides variable common-rail pressure, multiple injections, and higher injection pressures. It also controls fuel injection timing and provides precise control for the start, duration, and end of injection. Electronic transfer pump is self-priming for ease of maintenance. Provides high performance, excellent fuel economy, and low emissions.

Electronic Engine Control Unit (ECU)

- Advanced fault code diagnostics and customizable engine protections ensure reliability and uptime. Provides highly customizable features and trim to integrate your vessel.

Integrated Heat Exchanger

- Integrated expansion tank, heat exchanger, and exhaust manifold reduce the chance of leaks. High-capacity heat exchanger provides reliable operation in adverse conditions.

Keel-cooled or Heat Exchanger

- Closed cooling system in keel-cooled engine option eliminates the need for a sea strainer, seawater pump, or anodes. Heat exchanger option offers a lighter, more compact, and simpler engine installation.

Features and Benefits

Water-cooled Exhaust Manifold

- Integrated components eliminate external hoses and fittings that can leak or break. Wet exhaust manifold creates a cooler and quieter environment for passengers and crew.

Replaceable Cylinder Liners

- Replaceable wet-type cylinder liners are precision-machined and hardened for long life. Allows engine to be rebuilt to original specifications.

Internal Balancers

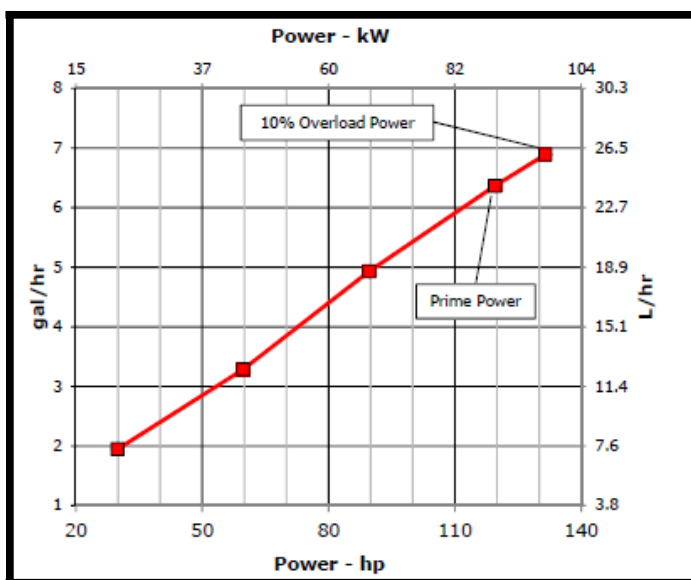
- Internal balancers reduce engine noise and vibration for crew comfort. NOTE: John Deere 4045 engines only.

Multiple Service Options

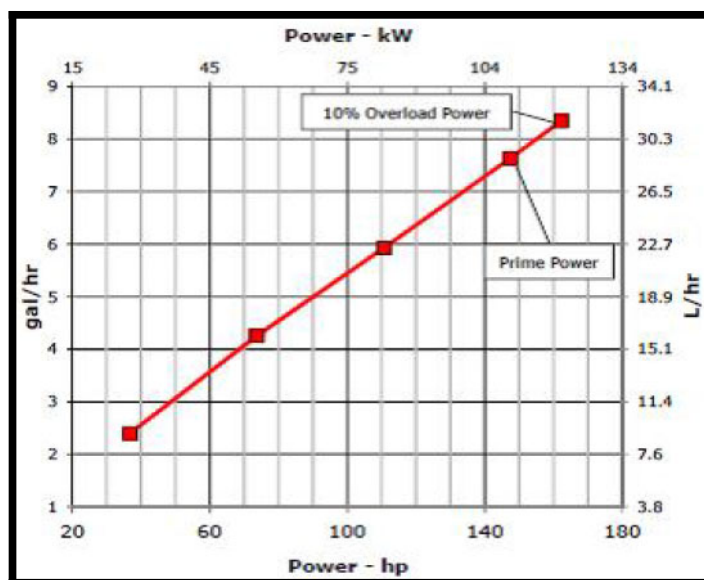
- Either-side oil fill/dipstick combinations and remote oil and fuel filter options are available for easier service access.

Performance Curves

50Hz (1500 rpm)



60Hz (1800 rpm)



Performance data points shown at 25%, 50%, 75%, 100% (prime), and 110% (overload) power.

Calculated Generator-Set Rating

Rated speed Hz (rpm)	Generator efficiency %	Engine power		Power factor	Calculated generator set rating	
		Prime*			Prime*	
		kW	hp		kWe	kVA
50 (1500)	88-92	89	119	0.8	78-82	98-103
60 (1800)	88-92	110	148	0.8	97-101	121-126

*Prime power is the normal power an engine is capable of delivering with a variable load for an unlimited number of hours per year. This rating conforms to ISO 3046 and SAE J1995. This rating incorporates a 10 percent overload capability, and conforms to ISO 8528 prime power.

See your John Deere Power Systems engine distributor or marine dealer for more detailed performance information.