

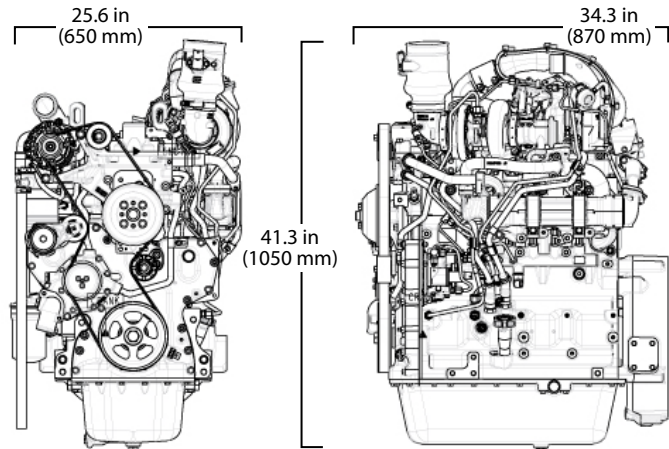
PowerTech™ PWL 4045HFC04 Diesel Engine

Industrial Engine Specifications



4045HFC04 shown

Engine dimensions



*4045HFC09 shown

Dimensions may vary according to options selected. Call your distributor for more information.

Certifications

- CARB
- EPA Tier 4
- EU Stage IV

General data

Model	4045HFC04	Length – mm (in) to rear of block	870 (34.3)
Number of cylinders	4	Width – mm (in)	650 (25.6)
Displacement – L (cu in)	4.5 (275)	Height – mm (in)	1050 (41.3)
Bore and stroke – mm (in)	106 x 127 (4.2 x 5.0)	Weight, dry – kg (lb)	~ 553 (1220)
Engine type	In-line, 4-cycle		
Aspiration	Turbocharged and air-to-air aftercooled		

Performance data range

Application ratings	Intermittent	Heavy Duty	Continuous
Rated power/Rated speed	100 – 104 kW (135 – 140 hp) @ 2200 – 2400 rpm	86 – 93 kW (115 – 125 hp) @ 2200 – 2400 rpm	63 – 84 kW (85 – 100 hp) @ 2200 – 2400 rpm
Peak power	104 kW (139 hp) @ 2200 rpm	86 – 94 kW (115 – 125 hp) @ 1900 – 2400 rpm	63 – 80 kW (84 – 107 hp) @ 1900 – 2400 rpm
Power bulge	0-4% @ 2200 rpm	0%	0 – 8% @ 2000 – 2200 rpm
Peak torque	540 N.m (398 ft-lb) @ 1600 rpm	461 – 536 N.m (340 – 395 ft-lb) @ 1600 rpm	333 – 427 N.m (246 – 315 ft-lb) @ 1600 rpm
Torque rise	20 – 36%	33 – 36%	30 – 33%

The Industrial Intermittent engine power rating is for applications that operate at varying loads and speeds, and do not fit the Industrial Heavy-Duty rating definition.

Some applications require Industrial Heavy-Duty engine power ratings. Please contact your John Deere Power Systems engine distributor for more information.

The Industrial Continuous engine power rating is for applications that operate with constant load and speed, except for short periods during startup or shutdown.

Power output is within + or – 5% at standard SAE J 1995 and ISO 3046.

Exhaust filter dimensions

Size	2
Diameter – mm (in)	260.71 (10.26)
Length – mm (in)	572.59 (22.54)
Weight – kg (lb)	19.96 (44)

SCR catalyst dimensions

Size	3
Diameter – mm (in)	322.58 (12.7)
Length – mm (in)	673.1 (26.5)
Weight – kg (lb)	34.02 (75)

See your John Deere Power Systems engine distributor for more information on available filter size options.

Features and benefits

Wastegated turbocharger

- Wastegated turbochargers are designed to develop more airflow at lower engine speeds to improve low-speed torque. The wastegate control device bleeds off a portion of the exhaust flow at higher engine speeds. Wastegated turbos deliver improved transient response and higher peak torque without compromising engine envelope size. They also provide the lowest installed cost across a given power range.

Cooled exhaust gas recirculation (EGR)

- EGR cools and mixes measured amounts of cooled exhaust gas with incoming fresh air to lower peak combustion temperatures, thereby reducing NOx.

Diesel oxidation catalyst (DOC)

- PowerTech PWL 4.5L engines for Final Tier 4/Stage IV produce near-zero levels of particulate matter (PM) without a filter, thanks to an optimized combustion system and engine calibration. Remaining PM and other hydrocarbons are oxidized passively in a flow-through DOC without the need for regeneration.

Selective catalytic reduction (SCR)

- John Deere engines feature an SCR system that utilizes a urea-based additive, sometimes referred to as diesel exhaust fluid (DEF). The ammonia in the urea mixes with engine exhaust gases in the SCR catalyst to reduce NOx — converting it to nitrogen and water vapor.

High-pressure common-rail (HPCR) and engine control unit (ECU)

- The HPCR fuel system provides variable common-rail pressure and higher injection pressures up to 1,975 bar (29,000 psi). It also controls fuel injection timing and provides precise control for the start, duration, and end of injection.

4-valve cylinder head

- The 4-valve cylinder head provides excellent airflow resulting in greater low-speed torque and better transient response time by utilizing a cross-flow design.

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.

Compact size

- Simplifies installation
- Mounting points are the same as previous models

Engine performance

- Multiple rated speeds to further reduce noise and improve fuel economy
- Higher level of peak torque
- Optional power bulge equal to or better than Interim Tier 4/Stage III B

John Deere electronic engine controls

- Faster engine control unit (ECU) manages both the engine and the aftertreatment system
- Four times the memory, twice the RAM, and double the processing speed
- The input/output capability has increased 40%
- Premium software option integrates with equipment or vehicles to reduce engineering and installation costs

Additional features

- Gear-driven auxiliary drives; 500-hour oil change; self-adjusting poly-vee fan drive; optional factory installed variable-speed fan drive improves fuel economy and reduces noise levels; R.H. and L.H. engine-mounted final fuel filters; optional low-pressure fuel system with electrical transfer pump and “auto-prime” feature.

John Deere Power Systems
3801 W. Ridgeway Ave.
PO Box 5100
Waterloo, IA 50704-5100
Phone: 800.553.6446
Fax: 319.292.5075

John Deere Power Systems
Usine de Saran
La Foulonnerie - B.P. 11.13
45401 Fleury les Aubrais Cedex
France
Phone: 33.2.38.82.61.19
Fax: 33.2.38.82.60.00

All values at rated speed and power with standard options unless otherwise noted. Specifications and design subject to change without notice.

