# PowerTech ™ PVX 4045HFC93 Diesel Engine

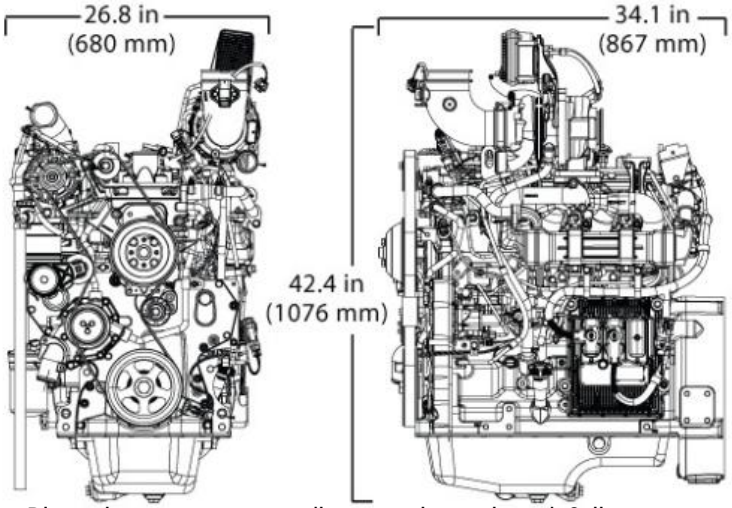
Industrial Engine Specifications

4045HFC93 shown

## Certifications

| |
|---|
| CARB |
| EPA Interim Tier 4 |
| EU Stage III B |

## Engine dimensions




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

## General data

| | | | |
|---|---|---|---|
| Model | 4045HFC93 | Length - mm (in) | 867 (34.1) |
| Number of cylinders | 4 | Width - mm (in) | 680 (26.8) |
| Displacement - L (cu in) | 4.5 (275) | Height-- mm (in) | 1076 (42.4) |
| Bore and Stroke-- mm (in) | 106 x 127 (4.17 x 5.00) | Weight, dry-- kg (lb) | 566 (1248) |
| Compression Ratio | 16.5 : 1 | | |
| 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 | 116-129 kW(156-173 hp) @2200-2400rpm | 104 kW(139 hp) @2200-2400rpm | 93-104 kW(125-139 hp) @2200-2400rpm |
| Peak power | 117-129 kW (157-173 hp) @2100-2400rpm | 107-112 kW (143-150 hp) @1900-2200rpm | 96-106 kW (129-142 hp) @1900-2200rpm |
| Power bulge | 0% @ NA rpm | 2-8% @ 2000-2200rpm | 1-2% @ 2000-2200rpm |
| Peak torque | 645 N.m (476ft-lb) @1600rpm | 552-601 N.m (407-443ft-lb) @1600rpm | 537-552 N.m (396-407ft-lb) @1600rpm |
| Torque rise | 26-28% | 33% | 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 information.

Some applications r equire 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.

Photographs may show non-standard equipment.

## Exhaust Filter Dimensions

| | |
|---|---|
| Size | 8 |
| Diameter - mm (in) | 307.18 (12.1) |
| Length - mm (in) | 636.95 (25.1) |
| Weight - kg (lb) | NA |

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

## Features and benefits

### Variable Geometry Turbocharger (VGT)

- Varies exhaust pressure based on load and speed to ensure proper EGR flow. The combination of the cooled EGR and VGT provide low-speed torque, quicker transient response, higher-peak torque, and world-class fuel economy.

### 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.

### Exhaust Filters

- These engines utilize a catalyzed exhaust filter that contains a diesel oxidation catalyst (DOC) and a diesel particulate filter (DPF). The DOC reacts with exhaust gases to reduce carbon monoxide, hydrocarbons, and some particulate matter (PM). The downstream DPF traps and holds the remaining PM. Trapped particles are oxidized within the DPF through a continuous cleaning process called passive regeneration. Passive regeneration occurs during normal operating conditions when heat from the exhaust stream and catalysts within the exhaust filter trigger the oxidation of the trapped PM. If passive regeneration cannot be achieved due to low temperature, load, or speed, then PM is removed using active regeneration an automatic cleaning process controlled by the exhaust temperature management system. Engines below 130 kW (174 hp) use an in-cylinder dosing system for active regeneration, while larger engines use an external dosing system.

### 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 lo w-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

### John Deere Electronic Engine Controls

- Faster engine control unit (ECU) manages both the engine and the exhaust filter; Four times the memory, twice the RAM, and double the processing speed; Input/output capability has increased 40%; JDLink ™ lets you monitor, protect, and maintain your equipment 24/7; Premium software option integrates with equipment or vehicles to reduce engineering and installation costs

### Additional Features

- Glow plugs; 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

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