PowerTech M 4.5L

G-Drive Non-Certified Diesel engine **80 kVA**

JOHN DEERE

Description

PowerTech M 4.5L is a premium heavy-duty Generator Drive Diesel engine aimed at non-emissions regulated markets, as well as stationary applications in EU.

Available in either bare or power unit configuration, this engine platform covers 80, 100 & 120 kVA prime nodes in dual frequency ratings.

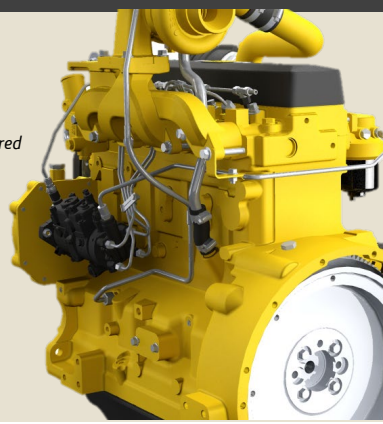
Based on simple, straight-forward technology, PowerTech M 4.5L is designed and manufactured in France (facility certified to ISO 9001). It also complies with RoHS 2 directive and CE certification.

Dual Frequency Ratings

Designed and manufactured in facility certified to ISO 9001& ISO 140001

Engine meets EU Directive 2011/65/EU

Compatible with John Deere PowerAssist™ app



Performance data

Power node (prime)		80 kVA prime/90 kVA stand-by					100 kVA prime/110 kVA stand-by					120 kVA prime/130 kVA stand-by				
Speed	Operation	Engine		Gen drive rating			Engine		Gen drive rating			Engine		Gen drive rating		
		kW (Gross)	Fan power	Gen eff.	kVA	KWe	kW (Gross)	Fan power	Gen eff.	kVA	KWe	kW (Gross)	Fan power	Gen eff.	kVA	KWe
1500 rpm – 50 Hz	Prime power	75	4.1	90%	**81**	65	93	5.1	90%	**101**	81	111	6.1	90%	**121**	97
	Standby power	82	4.1	90%	**90**	72	102	5.1	90%	**111**	89	122	6.1	90%	**133**	107
1800 rpm – 60 Hz	Prime power	85	4.7	90%	**92**	74	103	5.7	90%	**112**	89	123	6.8	90%	**134**	107
	Standby power	93	4.7	90%	**102**	81	113	5.7	90%	**123**	99	135	6.8	90%	**147**	118

Features & Benefits

PERFORMANCE WITHOUT COMPROMISE

- **Exceptional load acceptance**
  Unrivaled block loading capability. Class G2 (ISO 8528-5). Turbocharging and air to air after cooling provides high power density and fuel efficiency.
- **Performance in extreme conditions**
  Superior cold starting, high-altitude capability, two-stage fuel filtration with water detection.
- **Dual frequency ratings**
  50 Hz/60 Hz switchable. Fits all regions of the world.
- **RoHS 2 compliant**
  Engine meets EU Directive 2011/65/EU (Restriction of Hazardous Substances).

RELIABLE UPTIME

- **Day-to-day reliability**
  PowerTech heavy duty design, oversized components, replaceable (wet) cylinder liners, engine made in France. Injection system compatible with high-sulfur fuel.
- **Extensive worldwide service network**
  4000+ service locations worldwide, 1 500+ service locations in Europe, qualified service technicians.
- **Fast delivery of maintenance & replacement parts**
  Worldwide parts distribution system, with overnight delivery in most regions.
- **John Deere warranty: confidence is built in**
  Best-in-class coverage. Standard warranty 2 years/2000 hours. Extended warranty up to 5 years/5000 hours.

LOW OPERATING & OWNERSHIP COST

- **Long haul durability**
  Engine proven by John Deere heavy duty applications.
- **Long service interval**
  500-hour maintenance interval (oil & fuel filters). 4000-hour coolant drain interval.
- **Easy maintenance**
  Self-adjusting poly-V belt, washable air filter, replaceable (wet) cylinder liners for easy engine overhaul, maintenance-free gear timing.
- **Single side service option**
  All maintenance-related options located on right-hand side (oil filter, oil dipstick, oil filler, oil drain, fuel filter).

EASY INTEGRATION

- **High power density**
  Platform covers 80, 100 & 120 kVA nodes. 120 kVA downsized from 6 to 4-cylinder platform.
- **Single side service option**
  All maintenance-related options located on right-hand side (oil filter, oil dipstick, oil filler, oil drain, fuel filter).
- **High flexibility of integration**
  Wide option & accessories selection. Factory-mounted power unit available, designed for tropical conditions. Includes radiator, front feet, radiator bracket & air filter.
- **Ready Spec available**
  Ready-to-go specification available with reduced 6-week lead-time.

General Data

Model (Bare/Power Unit)	4045TFG20 / 4045TFU20
Configuration	4 cylinders, in-line
Type	4-stroke
Displacement	4.5L
Bore and stroke	106 x 127 mm
Compression ratio	17.0 : 1
Rotation	Counterclockwise
Injection type	Mechanical, comp. with e-gov
Aspiration	Turbocharged
Starter	3.2 kW, 12V
Alternator	75 amp, 12V
Total lubricating capacity	12L
Service	Right hand side
Flywheel housing	SAE 3
Flywheel	11.5"
Cooling system	Water-cooled

Power Unit data

Model (Power Unit)	4045TFU20
Cooling system design	Radiator/CAC
Radiator material	Copper
Coolant ratio	50% ethylene glycol - 50% water
Engine coolant capacity	9L
Radiator coolant capacity	16.3L
Air filter	Dry type

Fuel consumption (kg/h)

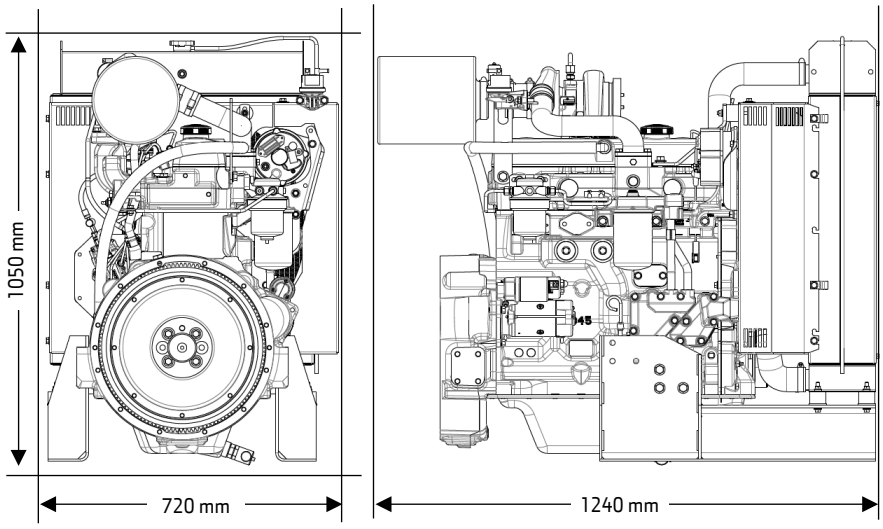
Frequency	Operation	25%	50%	75%	100%
1500 rpm – 50 Hz	Prime power	4.9	8.9	12.9	17.0
	Standby power	5.4	9.8	14.2	18.3
1800 rpm – 60 Hz	Prime power	6.0	10.8	15.0	19.7
	Standby power	6.6	11.8	16.5	21.3

Optionality (Bare engine only)

		Standard	Optional
General	Voltage	● 12V	❍ 24V
	Default speed (dual frequency ratings)	● 1500 rpm	❍ 1800 rpm
	Belt tensioner	● Automatic	❍ Manual
	Crankshaft pulley (damper)	● Included	❍ Not included
	Paint	● Industrial tan	❍ Black, yellow, green, white
	Shipping stand	● Skid with film	❍ Skid/Skid with plastic bag
Cooling system	Fan pulley	● 140 mm	❍ 154/168/184/203 mm
	Fan height	● 290 mm	❍ 290/338/402 mm
	Fan	● Not included	❍ Blower, 21"/23"/26"/28"
Air system	Air filter	● Not included	❍ Light duty/Medium duty
	Air restriction indicator	● Not included	❍ Mounted on air filter
	Crankcase Ventilation system	● With vent hose	❍ Without vent hose
Integration	Exhaust adapter	● Not included	❍ Steel/Cast iron
	Coolant pump inlet	● Downward orientation	❍ Forward orientation
	Coolant temperature sensor	● Not included	❍ Single/dual contact
	Oil pressure sensor	● Not included	❍ Single/dual contact
Starting aids	Cold start aid	● Not included	❍ Air inlet heater, 110V/220V
	Block heater	● Not included	❍ Coolant heater, 110V/220V

Physical data

Dimensions	Bare	Power Unit
Length	1072 mm	1240 mm
Width	714 mm	720 mm
Height	1032 mm	1050 mm
Weight, dry	396 kg	590 kg



Ratings definitions

Prime power is the nominal 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.

Standby power is the nominal engine power available at varying load factors for up to 500 hours per year. This rating conforms to ISO 3046 and SAE J1995. The calculated generator set rating range for standby applications is based on minimum engine power (nominal -5%) to provide 100% meet-or-exceed performance for assembled standby generator sets.

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