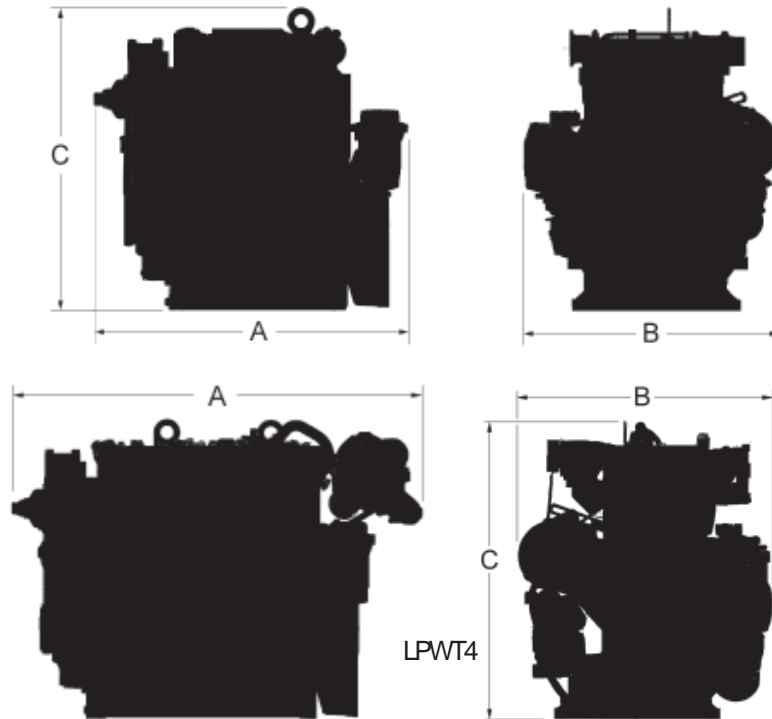
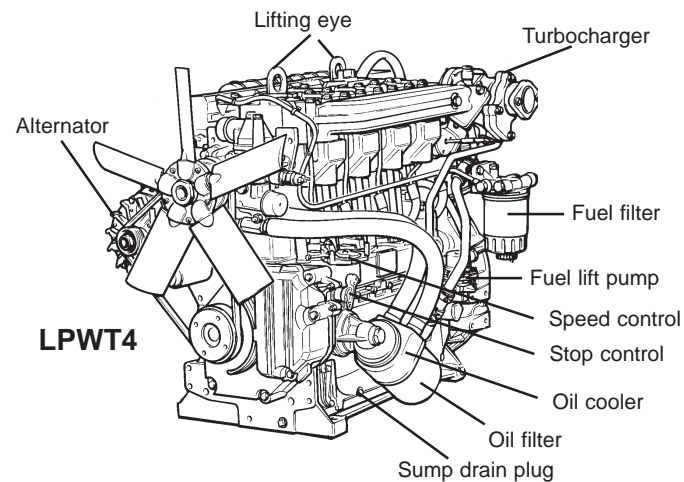
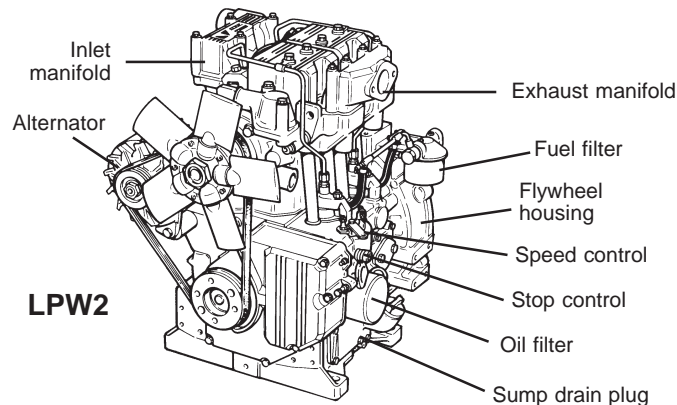


## Approximate Weight and Dimensions

		LPW2	LPW3	LPW4	LPWT4
Dry weight	kg	112	150	180	186
	lb	247	330	396	409
Length (A)	mm	496	596	696	786
	in	19.5	23.5	27.4	30.9
Width (B)	mm	470	470	470	480
	in	18.5	18.5	18.5	18.9
Height (C)	mm	574	574	574	574
	in	22.6	22.6	22.6	22.6



## Typical Engine Features



# LPW Series

Power Range: 10 - 54 hp

7.5 - 41 kW

Full Load Speed Range: 1500-3000r/min

## Industrial Engine Data Sheet

### Characteristics

#### Nomenclature

- LPW - 2, 3 and 4 cylinder, liquid-cooled, direct injection diesel engines.
- LPWT4 - 4 cylinder, liquid-cooled, direct injection, turbocharged diesel engine.

#### Rotation

- Anti-clockwise, looking on the flywheel end.

#### Cooling

- Coolant pump driven by a polyvee belt.
- Thermostatically controlled.
- Cooling systems available for ambients up to 52°C (125°F).

#### Lubrication

- Full flow spin-on cartridge oil filter.
- Gear-driven lubricating oil pump.
- Up to 30° operating angles.
- 500 hour service intervals.

#### Fuel System

- Individual injection pumps.
- Self-vent system.

#### Starting

- 12 volt starter motor.
- 12 volt, 55 Amp alternator.
- 12 volt glow plugs.

#### Mechanical Governing

- Variable speed - 900-3000r/min.
- Fixed speed - 1500, 1800 and 3000r/min.



LPW4

## Standard Equipment and Options

### Standard Equipment

- Flywheel suitable for automotive clutch.
- Flywheel housing with SAE5 flange.
- Fuel lift pump.
- Inlet and exhaust manifolds.
- Lubricating oil filter.
- Tapping for speed detection.
- Self-vent fuel system.
- Heater plugs.
- Turbocharger - LPWT4
- Lubricating oil cooler - LPWT4
- Operators Handbook - various languages.
- Paint - various colours.

### Options

- A comprehensive range of options allows the customer to select a specification which matches the requirement.

### Distributors Address



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## Technical Data

		LPW2	LPW3	LPW4	LPWT4
Nominal cylinder bore	mm	86.0	86.0	86.0	86.0
	in	3.38	3.38	3.38	3.38
Stroke	mm	80.0	80.0	80.0	80.0
	in	3.15	3.15	3.15	3.15
Cylinder capacity - total	litre	0.930	1.395	1.860	1.860
	in <sup>3</sup>	56.75	85.13	113.50	113.50
Compression ratio		18.5:1	18.5:1	18.5:1	16.2:1
Firing order - (Number 1 cylinder is at the gear end)		1 - 2	1 - 2 - 3	1 - 3 - 4 - 2	
Lubricating oil pressure at 3000r/min and with the oil at 110°C (230°F)	bar	2.0	2.0	2.0	2.5
	lbf/in <sup>2</sup>	29.0	29.0	29.0	36.3
Lubricating oil pressure at idle	bar	1.0	1.0	1.0	1.0
	lbf/in <sup>2</sup>	14.5	14.5	14.5	14.5
Oil pressure relief valve setting	bar	2.6 - 3.2	2.6 - 3.2	2.6 - 3.2	2.6 - 3.2
	lbf/in <sup>2</sup>	37.7 - 46.4	37.7 - 46.4	37.7 - 46.4	37.7 - 46.4
Idling speed	r/min	900	900	900	900
Minimum full load speed	r/min	1500	1500	1500	1500
Fuel lift pump maximum lift	mm	3048	3048	3048	3048
	in	120	120	120	120
Fuel lift pump maximum head	mm	600	600	600	600
	in	23.6	23.6	23.6	23.6
Radiator fan ratio - variable speed engines		1:1	1:1	1:1	1:1
Maximum continuous crankshaft end thrust	kgf	180	180	180	180
	lbf	400	400	400	400
Maximum permissible intake restriction at full load	mbar	25	25	25	25
	in H <sub>2</sub> O	10.0	10.0	10.0	10.0
Maximum permissible exhaust backpressure	mbar	75	75	75	50
	in H <sub>2</sub> O	30.0	30.0	30.0	20.0
Maximum top hose temperature	°C	114°C	114°C	114°C	114°C
	°F	237°F	237°F	237°F	237°F
Fuel filter nominal rating		5 - 7 micron	5 - 7 micron	5 - 7 micron	5 - 7 micron
Crankcase Vacuum:	mbar	1.0	1.0	1.0	1.0
	in WG	0.4	0.4	0.4	0.4
- minimum up to 1800r/min	mbar	2.0	2.0	2.0	2.0
	in WG	0.79	0.79	0.79	0.79
- minimum above 1801r/min	mbar	2.0	2.0	2.0	2.0
	in WG	0.79	0.79	0.79	0.79
Number of flywheel ring gear teeth		96	96	96	96
Charge alternator output	12 volts	55 Amps	55 Amps	55 Amps	55 Amps
Gear end power take-off load (subject to Lister Petter approval)	kW	12.0	12.0	12.0	12.0
	bhp	16	16	16	16
- maximum inline	kW	0.8	0.8	0.8	0.8
	bhp	10.7	10.7	10.7	10.7
- maximum side load using a drive belt	kW	0.8	0.8	0.8	0.8
	bhp	10.7	10.7	10.7	10.7

## Fuel Consumption

In the following table the 100% load figures are subject to 5% tolerance but all other figures are approximate and not guaranteed.

		1500	1800	2000	2500	3000
LPW2	litre/hr	1.9 (1.5)	2.3 (1.8)	2.5 (2.0)	3.2 (2.5)	3.9 (3.1)
	US gal/hr	0.5 (0.39)	0.6 (0.47)	0.67 (0.53)	0.84 (0.66)	1.03 (0.82)
LPW3	litre/hr	2.8 (2.2)	3.4 (2.7)	3.8 (3.0)	4.7 (3.7)	5.9 (4.6)
	US gal/hr	0.75 (0.59)	0.9 (0.71)	1.0 (0.79)	1.25 (0.99)	1.55 (1.22)
LPW4	litre/hr	3.8 (2.9)	4.6 (3.6)	5.0 (3.9)	6.3 (4.9)	7.8 (6.1)
	US gal/hr	1.0 (0.79)	1.2 (0.95)	1.33 (1.05)	1.67 (1.32)	2.07 (1.63)
LPWT4	litre/hr	4.9 (3.7)	6.0 (4.6)	7.1 (5.5)	8.8 (6.9)	10.6 (8.3)
	US gal/hr	1.29 (0.9)	1.58 (1.21)	1.87 (1.45)	2.32 (1.82)	2.79 (2.19)

## Power and Torque Performance to ISO 3046

### LPW2

Variable Speed	r/min	1500	1800	2000	2500	3000
Fuel Stop Power (IOFN)	kW	7.5	9.4	10.6	13.0	14.7
	bhp	10.0	12.6	14.2	17.4	19.7
Torque - Fuel Stop Power (IOFN)	Nm	47.7	49.8	50.6	49.7	46.8
	lbf ft	35.2	36.7	37.3	36.7	34.5

Fixed Speed	r/min	1500	1800	3000
Continuous Power (ICXN)	kW	7.5	9.3	13.4
	bhp	10.1	12.5	18.0
Prime Power (IC5N)	kW	7.9	9.8	14.1
	bhp	10.2	13.1	18.9
Fuel Stop Power (ICFN)	kW	8.2	10.2	14.7
	bhp	11.0	13.7	19.7

### LPW3

Variable Speed	r/min	1500	1800	2000	2500	3000
Fuel Stop Power (IOFN)	kW	11.3	14.1	15.9	19.5	22.1
	bhp	15.1	18.9	21.3	26.1	29.6
Torque - Fuel Stop Power (IOFN)	Nm	71.9	74.9	75.9	74.5	70.4
	lbf ft	53.0	55.2	56.0	54.9	51.9

Fixed Speed	r/min	1500	1800	3000
Continuous Power (ICXN)	kW	11.3	13.9	20.1
	bhp	15.2	18.6	26.9
Prime Power (IC5N)	kW	11.9	14.6	21.1
	bhp	16.0	19.6	28.3
Fuel Stop Power (ICFN)	kW	12.4	15.3	22.1
	bhp	16.6	20.5	29.6

### LPW4

Variable Speed	r/min	1500	1800	2000	2500	3000
Fuel Stop Power (IOFN)	kW	15.0	18.7	21.2	26.0	29.5
	bhp	20.1	25.1	28.4	34.9	39.5
Torque - Fuel Stop Power (IOFN)	Nm	95.5	99.2	101.2	99.3	93.8
	lbf ft	70.4	73.2	74.6	73.2	69.3

Fixed Speed	r/min	1500	1800	3000
Continuous Power (ICXN)	kW	15.0	18.6	26.8
	bhp	20.1	24.9	35.9
Prime Power (IC5N)	kW	15.8	19.5	28.1
	bhp	21.2	26.1	37.7
Fuel Stop Power (ICFN)	kW	16.5	20.5	29.5
	bhp	22.1	27.5	39.5

### LPWT4

Variable Speed	r/min	1500	1800	2000	2500	3000
Fuel Stop Power (ICFN)	kW	22.3	28.5	31.0	36.7	40.2
	bhp	29.9	38.2	41.5	49.2	53.9
Torque - Fuel Stop Power (IOFN)	Nm	142.0	151.2	148.0	140.2	128.0
	lbf ft	104.7	111.5	109.2	103.4	94.4

## Engine Rating Definitions to ISO 3046

### Standard ISO Conditions

Barometric pressure ..... 100kPa  
Relative humidity ..... 30%  
Air inlet temperature ..... 25°C

### Fuel Stop Power (IOFN):

The maximum power in kW that the engine is capable of delivering intermittently at the stated crankshaft speed for a period not exceeding one hour in any period of twelve hours continuous running, immediately after working at the Continuous Power, under the ISO standard conditions specified above.

The maximum fuel is limited so that the fuel stop power cannot be exceeded.

### Prime Power (IC5N):

The power rating in kW that the engine is capable of delivering intermittently during a variable power sequence, which may be run for an unlimited number of hours under the ISO standard conditions specified above. Up to 5% additional power is available for governing purposes.

The Prime Power rating applies to engines without radiator fan intended for generators with a Prime Power rating to ISO 8528. The average permissible power over a 24-hour period is the continuous power (95% of the Prime Power).

### Continuous Power (ICXN):

The power in kW, that the engine is capable of delivering continuously at the stated crankshaft speed, under ISO standard conditions, measured at the flywheel without radiator fan or other power absorbing accessories. Provided that the engine is correctly serviced and maintained in good operating condition and that fuel to BS 2869 Class A2 or BS EN 590 and lubricating oils to the correct performance specification and viscosity classification as recommended by Lister Petter, are used.

### LPWT4

Fixed Speed	r/min	1500	1800	3000
Continuous Power (ICXN)	kW	19.1	23.8	37.5
	bhp	25.6	31.9	50.3
Prime Power (IC5N)	kW	20.1	25.0	39.4
	bhp	27.0	33.5	52.8
Fuel Stop Power (ICFN)	kW	21.1	26.2	41.3
	bhp	28.3	35.1	55.4