

# LPW4 G BUILD ENGINE

## LPW4

*Power ranges: 15.0-29.5 kW; 20.1-39.5 bhp  
Fixed speeds: 1500, 1800, 3000, 3600 r/min*

**DURABLE, RELIABLE, EASY TO MAINTAIN LIQUID COOLED, G BUILD DIESEL ENGINE**

### SPECIAL ATTRIBUTES

- 500-hour service intervals
- designed for continuous operation in ambient temperatures up to 52°C (122°F)
- cold start capability down to -32°C (-25.6°F)

### BASIC ENGINE CHARACTERISTICS

- diesel fuelled
- direct injection
- 4 cylinders
- liquid cooled
- naturally aspirated

### DESIGN FEATURES AND EQUIPMENT

- heavy duty air cleaner\*
- Polyvee fan/alternator drive belt\*
- inlet and exhaust manifolds\*
- inlet manifold heater plugs
- fuel lift pump
- self-vent fuel system with individual fuel injection pumps
- fuel filter/agglomerator
- gear-driven positive displacement type lubricating oil pump
- spin-on lubricating oil filter
- 12V starter motor\*
- 12V battery charge alternator\*
- safety switches\*
- fuel control solenoid (energised to run)\*
- mechanical governing
- radiator with fan and belt guard\*
- flywheel with ring gear; 7.5" heavy flywheel for 1500/1800 r/min
- SAE 5 flywheel housing (SAE 4 optional)

**LPW4 G BUILD ENGINE**



- standard skid base packing
- operators' handbook
- deep sump (3600 r/min only)

### EMISSIONS

Models under 19 kW output power comply with EU Stage 3A emissions regulations.

### OPTIONAL ITEMS

- oil cooler
  - 24V battery charge alternator
  - increased oil sump capacity (deep sump)
- See also items with asterisk under Design Features and Equipment.

A range of options allows you to select a specification that matches your requirements; please consult your Lister Petter Power Systems distributor.

POWER OUTPUTS <sup>1</sup>					
Power	r/min	1500	1800	3000	3600*
Continuous	kW	15.0	18.6	26.8	28.0
	bhp	20.1	24.9	35.9	37.5
Fuel Stop	kW	16.5	20.3	29.5	N/A
	bhp	22.1	27.2	39.5	

\* Engines operating at 3600rpm are offered for standby duty only. For further information and approval please contact Lister Petter Power Systems Applications Department.

**Key to Emissions Compliance**

EU Stage 3A only	
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**RATING DEFINITIONS, TO ISO 3046**

**ISO Standard Conditions**

Barometric pressure 100 kPa  
 Relative humidity 30%  
 Ambient temperature at air inlet manifold 25°C

**Fixed speed power: continuous power (ICN)**

The power in kW which the engine is capable of delivering continuously at the stated crankshaft speed, under ISO standard conditions, measured at the flywheel without power-absorbing accessories, provided that the engine is overhauled and maintained in good operating condition and that fuel to BS EN 590 Class A1 or A2, and lubricating oils to the correct performance specification and viscosity classification as recommended by Lister Petter Power Systems Limited, are used.

**Fixed speed power: overload power (ICXN)**

The maximum power in kW which 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 ISO standard conditions and with the provisions specified for continuous power above.

**Fixed speed power: continuous power, standby**

This rating is applicable for supplying emergency power in variable load applications. Overload is not allowed.

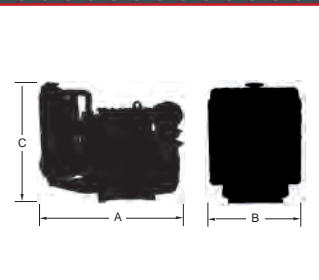
**De-rating**

For non-standard site conditions, reference should be made to relevant BS, ISO and DIN standards.

**Notes:** 1. Power ratings measured at the flywheel apply to a fully run-in, non derated engine without a radiator and fan fitted, and without power absorbing accessories or transmission equipment.  
 2. The overload capability applies to a fully run-in engine. This is normally attained after a running period of about 50 hours.  
 3. Excluding radiator.

TECHNICAL DATA		
Type of fuel injection	Direct	
Number of cylinders	4	
Aspiration	Natural	
Direction of rotation (flywheel end)	Anti clockwise	
Nominal cylinder bore	mm	86.0
	in	3.39
Stroke	mm	80.0
	in	3.15
Total cylinder capacity	litre	1.860
	in <sup>3</sup>	113.50
Compression ratio	18.5:1	
Firing order (number 1 cylinder is at the gear end)	1 - 3 - 4 - 2	
Number of flywheel ring gear teeth	96	
Maximum continuous crankshaft end thrust	kgf	180
	lbf	400
Maximum permissible intake restriction at full rated speed and load	mbar	25
	in	10
Maximum permissible exhaust back pressure	mbar	75
	in	30
Lubricating oil pressure at 3000r/min and with the oil at 110°C (230°F)	bar	2.0
	lbf/in <sup>2</sup>	29

**APPROXIMATE DIMENSIONS AND WEIGHT <sup>1</sup>**

	Dry weight	kg	219
		lb	483
	Length (A)	mm	909
		in	35.8
	Width (B)	mm	512
		in	20.2
	Height (C)	mm	685
		in	27

**Note:** These weights are for a fully dressed G build configured engine.

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**DISTRIBUTOR ADDRESS**

Lister Petter Power Systems have made efforts to ensure that the information in this data sheet is accurate but reserve the right to amend specifications and information without notice and without obligation or liability.