



# ALPHA Series

# LPW4 G-Build Engine

**LPW4**

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

*Durable, reliable, easy to maintain liquid-cooled G-Build diesel engine*

### Special Attributes

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

### 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)
- standard skid base packing
- operators' handbook



### 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 distributor.

\* Optional items standard on most builds.

## ALPHA Series: LPW4 G-Build Engines Technical Data Sheet

Power Outputs				
Power	r/min	1500	1800	3000
Continuous	kW	15.0	18.6	26.8
	bhp	20.1	24.9	35.9
Intermittent (Fuel Stop)	kW	16.5	20.3	29.5
	bhp	22.1	27.2	39.5

### 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 Limited, are used.

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

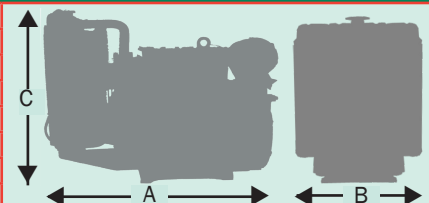
The maximum power in kW which the engine is capable of delivering intermittently at the stated crankshaft speed for a period not exceeding one hour in any period of twelve hours' continuous running, immediately after working at the continuous power, under ISO standard conditions and with the provisions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

#### 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.

Approximate Dimensions and Weight		
Dry weight	kg	180
	lb	396
Length (A)	mm	909
	in	35.8
Width (B)	mm	512
	in	20.2
Height (C)	mm	685
	in	27



Technical Data		
Type of fuel injection	Direct	
Number of cylinders	4	
Aspiration	Natural	
Direction of rotation (flywheel end)	Anticlockwise	
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

### Distributor's Address

Lister Petter 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.



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