

LPW LONG RUNNING ENGINES

LPW2LR, LPW3LR, LPW4LR, LPWT4LR

Power ranges: 7.5-41.3 kW; 10.1-55.4 bhp

Fixed speeds: 1500, 1800, 3000 r/min

**G BUILD ENGINES, 1500/1800 R/MIN FOR UP TO 2000 HOURS UNATTENDED RUNNING
3000 R/MIN FOR UP TO 1000 HOURS UNATTENDED RUNNING**

SPECIAL ATTRIBUTES

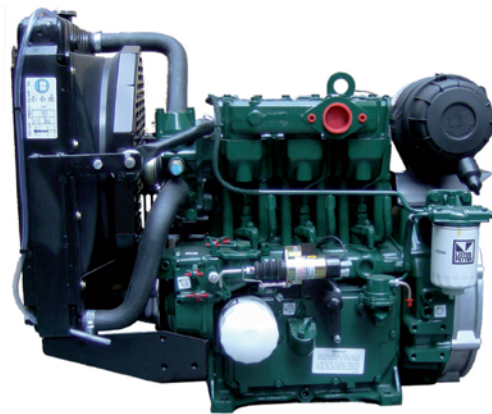
- engines running at 1500/1800 r/min configured for 2000 hrs unattended running
- engines running at 3000 r/min configured for 1000 hrs unattended running
- designed for continuous operation in ambient temperatures up to 52°C (122°F)
- cold start capability down to -32°C (-25.6°F)

BASIC ENGINE CHARACTERISTICS

- diesel fuelled
- direct injection
- 2, 3 or 4 cylinders
- liquid cooled
- naturally aspirated or turbocharged (LPWT4LR)

DESIGN FEATURES AND EQUIPMENT

- external engine connections for connecting to remote oil tank
- heavy duty bypass oil filter
- radiator fitted with expansion bottle and fan and belt guard
- oil distribution block
- increased capacity heavy duty air cleaner
- increased capacity fuel filter/agglomerator
- increased capacity spin-on lubricating oil filter
- 12V electric oil supply pump, 3000 r/min
- 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
- gear driven positive displacement type lubricating oil pump
- 12V starter motor*
- 12V battery charge alternator*



LPW3LR G BUILD ENGINE

- safety switches*
- fuel control solenoid (energised to run)*
- mechanical governing
- 7.5" flywheel with ring gear
- heavy flywheel for 1500/1800 r/min **
- SAE 5 flywheel housing (SAE 4 optional)
- standard skid base packing
- operators' handbook

EMISSIONS

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

OPTIONAL ITEMS

- 24V electrics

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.

* Optional items standard on most builds

** LPW2 - Please refer to Applications Department for cyclic irregularity implications

ALPHA SERIES: LPW LONG RUNNING ENGINES TECHNICAL DATA SHEET

TECHNICAL DATA					
Model		LPW2 LR	LPW3 LR	LPW4 LR	LPWT4 LR
Type of fuel injection		Direct	Direct	Direct	Direct
Number of cylinders		2	3	4	4
Aspiration		Natural	Natural	Natural	Turbocharged
Direction of rotation (flywheel end)		Anti clockwise	Anti clockwise	Anti clockwise	Anti clockwise
Nominal cylinder bore	mm	86.0	86.0	86.0	86.0
	in	3.39	3.39	3.39	3.39
Stroke	mm	80.0	80.0	80.0	80.0
	in	3.15	3.15	3.15	3.15
Total cylinder capacity	litre	0.930	1.395	1.860	1.860
	in ³	56.75	85.13	113.50	113.50
Compression ratio		18.5:1	18.5:1	18.5:1	18.5:1
Firing order (number 1 cylinder is at the gear end)		1 - 2	1 - 2 - 3	1 - 3 - 4 - 2	1 - 3 - 4 - 2
Number of flywheel ring gear teeth		96	96	96	96
Maximum continuous crankshaft end thrust	kgf	180	180	180	180
	lbf	400	400	400	400
Maximum permissible intake restriction at full rated speed and load	mbar	25	25	25	25
	in	10	10	10	10
Maximum permissible exhaust back pressure	mbar	75	75	75	50
	in	30	30	30	20
Lubricating oil pressure at 3000 r/min and with the oil at 110°C (230°F)	bar	2.0	2.0	2.0	2.0
	lbf/in ²	29	29	29	29

POWER OUTPUTS ¹					
Power		1500 r/min			
		LPW2 LR	LPW3 LR	LPW4 LR	LPWT4 LR
Continuous	kW	7.5	11.3	15.0	18.9
	bhp	10.1	15.2	20.1	25.3
Fuel Stop	kW	8.2	12.4	16.5	20.8
	bhp	11.0	16.6	22.1	27.8
Power		1800 r/min			
		LPW2 LR	LPW3 LR	LPW4 LR	LPWT4 LR
Continuous	kW	9.3	13.9	18.6	23.8
	bhp	12.5	18.6	24.9	31.9
Fuel Stop	kW	10.2	15.3	20.3	26.2
	bhp	13.7	20.5	27.2	35.1
Power		3000 r/min			
		LPW2 LR	LPW3 LR	LPW4 LR	LPWT4 LR
Continuous	kW	13.4	20.1	26.8	37.5
	bhp	18.0	26.9	35.9	50.3
Fuel Stop	kW	14.7	22.1	29.5	41.3
	bhp	19.7	29.6	39.5	55.4

- Power ratings measured at the flywheel and fuel consumptions, apply to a fully run-in, non derated engine without a radiator and fan fitted and other power absorbing accessories or transmission equipment.
- The overload (intermittent) capability applies to a fully run-in engine. This is normally attained after a running period of about 50 hours.

Key to Emissions Compliance

EU Stage 3A only	
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APPROXIMATE DIMENSIONS AND WEIGHT ¹

		Model	LPW2 LR	LPW3 LR	LPW4 LR	LPWT4 LR
			Dry weight	kg	112	150
	lb		247	330	396	498
Length (A)		mm	699	809	909	930
		in	27.5	31.9	35.8	36.6
Width (B)		mm	512	512	512	565
		in	20.2	20.2	20.2	22.2
Height (C)		mm	647	685	685	685
		in	25.5	27.0	27.0	27.0

RATINGS DEFINITIONS, TO ISO 3046

ISO Standard Conditions

Barometric pressure

100 kPa

Relative humidity

30%

Ambient air temperature at the inlet manifold

25 C

1. Fixed Speed - Continuous Power (ICN)

The power in kW which the engine is capable of delivering continuously at the stated crankshaft speed, under ISO 3046 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.

2. Fixed Speed (Fuel Stop) - 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 of continuous running, immediately after working at the continuous power, under ISO 3046 standard conditions and with the provisions specified for continuous power in item (1) above, but with the fuel limited so that the fuel stop power cannot be exceeded.

Derating

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



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