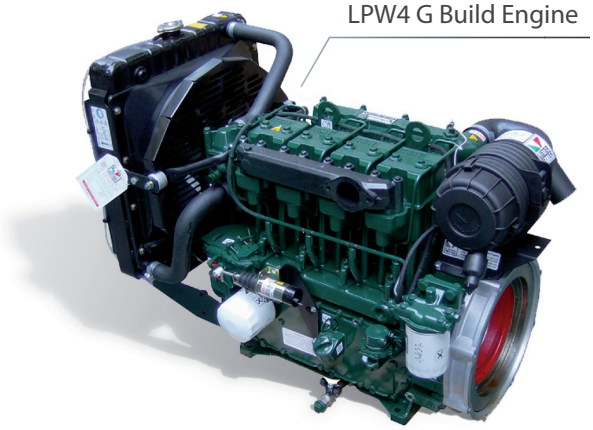
ALPHA SERIES

LPW G Build Engines

LPW2 | LPW3 | LPW4 | LPWT4

fixed speeds
1500 | 1800 | 3000 | 3600 r/min

7.5 - 37.5 kW | 10.1 - 50.3 bhp



LPW4 G Build Engine

OVERVIEW

The G Build engine is specifically designed as a Power generating engine suitable for use in unregulated emissions territories. It is durable, reliable and easy to maintain with oil and filter changes up to 500 hours, dependant on operational conditions. It is designed for continuous operation in ambient temperatures up to 52° (122°F) and a cold start capability down to -32° (-25.6°F).

Note:
This engine does not comply with Harmonised International Regulated Emissions Limits.

* Optional items standard on most builds.

BASIC ENGINE CHARACTERISTICS

- diesel fuelled and approved for operation on biodiesel, that conforms with ASTM D6751 and EN14214, concentrations of up to 20%
- direct fuel injection
- 2, 3, 4 cylinders
- liquid cooled
- naturally aspirated and turbocharged 4 cylinder

DESIGN FEATURES AND EQUIPMENT

- inlet and exhaust manifolds*
- fuel lift pump
- mechanical governing
- self-vent fuel system with individual
- fuel Injection pumps
- fuel filter/agglomerator
- thermostatically controlled cooling system with belt driven coolant pump
- radiator with pusher fan and belt guard*
- gear driven positive displacement type
- lubricating oil pump
- spin on full flow lubricating oil filter
- high inertia flywheel to SAE J620: 7.5" *
- SAE 5 flywheel housing *
- 12V Starter motor *
- 12V battery charge alternator *
- oil pressure and coolant temperature switches *
- fuel control solenoid (energised to run)*
- skid base packing
- operators hand book (English)*

OPTIONAL ITEMS

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

POWER OUTPUTS [1]

Speed, r/min	Power	Engine Power							
		LPW2				LPW3			
		Gross		Net		Gross		Net	
		kWm	bhp	kWm	bhp	kWm	bhp	kWm	bhp
1500	Continuous	7.5	10.1	7.16	9.60	11.3	15.2	10.96	14.69
	Fuel stop	8.2	11.0	7.86	10.54	12.4	16.6	12.06	16.17
1800	Continuous	9.3	12.5	8.68	11.64	13.9	18.6	13.28	17.80
	Fuel stop	10.2	13.7	9.58	12.84	15.3	20.5	14.68	19.68
3000	Continuous	13.4	18.0	12.20	16.36	20.1	26.9	18.9	25.34
	Fuel stop	14.7	19.7	13.50	18.10	22.1	29.6	20.9	28.02
3600	Continuous	12.7	17.0	10.60	14.20	19.1	25.6	17.0	22.80
	Fuel stop	14.0	18.8	11.90	19.95	21.0	28.1	18.9	25.34
Speed, r/min	Power	LPW4				LPWT4			
		Gross		Net		Gross		Net	
		kWm	bhp	kWm	bhp	kWm	bhp	kWm	bhp
1500	Continuous	15.0	20.1	14.66	19.66	18.9	25.3	18.56	24.89
	Fuel stop	16.5	22.1	16.16	21.67	20.9	28.1	20.56	27.57
1800	Continuous	18.6	24.9	17.98	24.11	24.2	32.4	23.58	31.60
	Fuel stop	20.3	27.2	19.68	26.39	26.9	36.0	26.28	35.20
3000	Continuous	26.8	35.9	25.60	34.33	33.7	45.2	32.50	44.00
	Fuel stop	29.5	39.5	28.30	37.95	37.5	50.3	36.30	48.60
3600	Continuous	25.4	34.1	23.35	31.31	N/A	N/A	N/A	N/A
	Fuel stop	28.0	37.5	25.90	34.73	N/A	N/A	N/A	N/A

TECHNICAL DATA

Type of fuel injection		Direct	Direct	Direct	Direct
Number of cylinders		2	3	4	T4
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	113.5	113.5
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	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 H_2O	10	10	10	10
Maximum permissible exhaust back pressure	mbar	75	75	75	75
	in H_2O	30	30	30	30
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

RATING DEFINITIONS TO ISO 3046

ISO Standard Conditions

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

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 powerabsorbing 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 (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.

Fixed Speed: Continuous Power, Standby

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

Derating

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

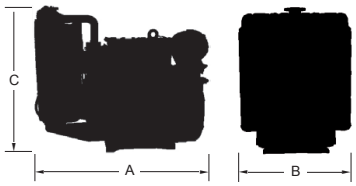
Notes:

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 FUEL CONSUMPTION

Speed, r/min	Load, %	LPW2		LPW3		LPW4		LPWT4	
		g/kWh	l/h	g/kWh	l/h	g/kWh	l/h	g/kWh	l/h
1500	100	224.0	2.0	261.0	3.2	253.2	4.1	208.9	4.7
	75	224.0	1.5	261.0	2.4	255.3	3.1	207.4	3.5
1800	100	247.1	2.5	242.8	3.7	237.2	4.8	211.7	6.1
	75	250.4	1.9	245.0	2.8	237.2	3.6	212.9	4.6
3000	100	244.5	3.9	246.6	5.9	246.6	7.8	264.2	10.6
	75	242.4	2.9	245.2	4.4	245.2	5.9	265.9	8.0
3600	100	310.9	4.7	329.8	7.5	327.4	9.9		
	75	308.7	3.5	328.4	5.6	328.4	7.4		

APPROXIMATE DIMENSIONS AND WEIGHT [1]



		LPW2	LPW3	LPW4	LPWT4
Dry weight	kg	158	179	219	224
	lb	348	395	483	494
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

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

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