



# New ALPHA Series LPWST4 G-Build Engines

## LPWST4

Power range: 18.9–26.2 kW; 25.3–35.1 bhp  
Fixed speed; full-load speeds: 1500 and 1800 r/min

### Emission-compliant liquid-cooled turbocharged G-Build diesel engine

#### Special Attributes

- ✓ fully emission compliant (see below)
- ✓ designed for continuous operation in ambient temperatures up to 52°C (122°F)
- ✓ cold-start capability down to -32°C (-25.6°F)

#### Design Features and Equipment

- heavy-duty air cleaner
- inlet and exhaust manifolds
- inlet manifold heater plugs
- combustion-chamber glow 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
- low oil-pressure switch
- 12V electric start
- flywheel with ring gear
- SAE 5 flywheel housing
- operators' handbook

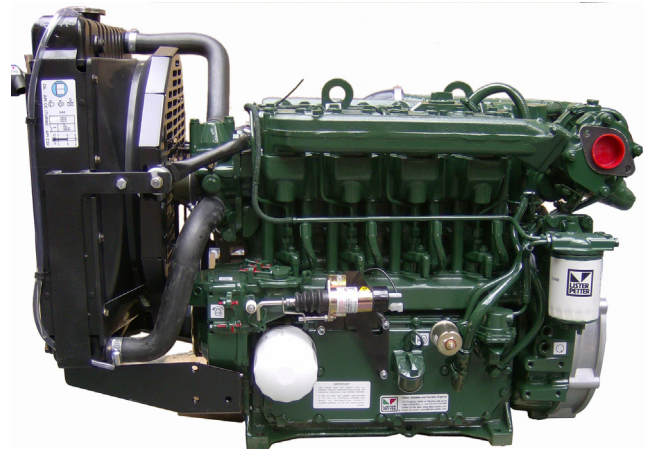
#### Emissions

LPWST4 engines are compliant with the following:

- ✓ EU Stage 3A
- ✓ USA EPA Interim Tier 4

#### Optional Items

- radiator options with choice of pusher or puller fan and full guarding
- oil cooler



Technical Data		
Number of cylinders		4
Fuel		Diesel
Cooling		Liquid
Fuel injection		Indirect
Aspiration		Turbocharged
Direction of rotation, looking on flywheel		Anticlockwise
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		22 : 1
Firing order		1–3–4–2
Minimum full-load speed	r/min	1500
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 H <sub>2</sub> O	10
Maximum permissible exhaust back pressure	mbar	50
	in H <sub>2</sub> O	20
Lubricating oil pressure with the oil at 110° C (230° F): 1800 r/min	bar	2.0
	lbf/in <sup>2</sup>	29

**New ALPHA Series: LPWST4 G-Build Engines Technical Data Sheet**

Power Outputs			
Power	r/min:	1500	1800
Continuous	kW	18.9	23.8
	bhp	25.3	31.9
Intermittent (Fuel Stop)	kW	20.8	26.2
	bhp	27.8	35.1

Approximate Dimensions and Weight		
Dry weight	kg	226
	lb	498
Length (A)	mm	930
	in	36.6
Width (B)	mm	565
	in	22.2
Height (C)	mm	685
	in	27

Emissions Compliance: Key to Colour Coding	
	Compliant with EU Stage 3A legislation only.
	USA EPA Interim Tier 4 only

- 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 without power absorbing accessories or transmission equipment.
- The overload capability applies to a fully run-in engine. This is normally attained after a running period of about 50 hours.

**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.

**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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