

# LPWX2/3/4 LONG RUNNING ENGINES

## LPWX2/3/4LR

Power ranges: 8.3-24.3 kW; 11.1-32.6 bhp  
Fixed speeds: 1500, 1800 r/min

**G BUILD DIESEL ENGINES, FOR UP TO 2000 HOURS UNATTENDED RUNNING**

### OVERVIEW

The LPWX Series has been developed to deliver a compact, high power density engine with improved fuel consumption. Through development and use of the Lister Petter Power Systems HRCS advanced combustion system additional attributes have also been achieved. These combine to give a smoother, quieter and more powerful engine coupled with our world famous reliability.

### SPECIAL ATTRIBUTES

- LP-HRCS (High Re-Entrant Combustion System)
- multi-hole fuel injection system
- hydro-honed injector hole conditioning
- increased power density
- reduced fuel consumption and noise
- configured for up to 2000 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

### 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 belt guard
- oil distribution block
- increased capacity 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

**LPWX4LR  
G BUILD ENGINE**



- increased capacity fuel filter/agglomerator
- gear-driven positive displacement type lubricating oil pump
- increased capacity spin-on lubricating oil filter
- 12V starter motor\*
- 12V battery charge alternator\*
- safety switches\*
- fuel control solenoid (energised to run)\*
- mechanical governing
- 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

### 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

\*\* LPWX2 - Please refer to Applications Department for cyclic irregularity implications

| POWER OUTPUTS <sup>1</sup> |       |          |          |          |          |          |          |
|----------------------------|-------|----------|----------|----------|----------|----------|----------|
| Power                      | r/min | 1500     |          |          | 1800     |          |          |
|                            |       | LPWX2 LR | LPWX3 LR | LPWX4 LR | LPWX2 LR | LPWX3 LR | LPWX4 LR |
| Continuous                 | kW    | 8.3      | 12.5     | 17.7     | 10.3     | 15.5     | 22.1     |
|                            | bhp   | 11.1     | 16.7     | 23.7     | 13.8     | 20.7     | 29.6     |
| Fuel Stop                  | kW    | 9.1      | 13.7     | 19.5     | 11.3     | 17.0     | 24.3     |
|                            | bhp   | 12.1     | 18.4     | 26.1     | 15.1     | 22.7     | 32.6     |

- 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.

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.

**Key to Emissions Compliance**

|                  |  |
|------------------|--|
| EU Stage 3A only |  |
|------------------|--|

**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.

**RATING DEFINITIONS, TO ISO 3046**

**ISO Standard Conditions**

|   |         |
|---|---------|
| Barometric pressure                           | 100 kPa |
| Relative humidity                             | 30%     |
| Ambient air temperature at the inlet manifold | 25oC    |

**1. Fixed Speed - Continuous Power (ICN)**


The power in kW which the engine is capable of delivering

**3. Derating**

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

| TECHNICAL DATA   |                     |                |                |                |
|--|---------------------|----------------|----------------|----------------|
| Model  |                     | LPWX2 LR       | LPWX3 LR       | LPWX4 LR       |
| Type of fuel injection   |                     | Direct         | Direct         | Direct         |
| Number of cylinders  |                     | 2              | 3              | 4              |
| Aspiration   |                     | Natural        | Natural        | Natural        |
| Direction of rotation (flywheel end)                                     |                     | Anti clockwise | Anti clockwise | Anti clockwise |
| Nominal cylinder bore  | mm                  | 86.0           | 86.0           | 86.0           |
|  | in                  | 3.39           | 3.39           | 3.39           |
| Stroke   | mm                  | 86.0           | 86.0           | 86.0           |
|  | in                  | 3.39           | 3.39           | 3.39           |
| Total cylinder capacity  | litre               | 0.999          | 1.499          | 1.998          |
|  | in <sup>3</sup>     | 60.96          | 91.47          | 121.93         |
| Compression ratio  |                     | 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  |
| Number of flywheel ring gear teeth                                       |                     | 96             | 96             | 96             |
| Maximum continuous crankshaft end thrust                                 | kgf                 | 180            | 180            | 180            |
|  | lbf                 | 400            | 400            | 400            |
| Maximum permissible intake restriction at full rated speed and load      | mbar                | 25             | 25             | 25             |
|  | in                  | 10             | 10             | 10             |
| Maximum permissible exhaust back pressure                                | mbar                | 75             | 75             | 75             |
|  | in                  | 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            |
|  | lbf/in <sup>2</sup> | 29             | 29             | 29             |

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

|            |    | Model   | LPWX2 LR   | LPWX3 LR | LPWX4 LR |
|------------|----|---|------------|----------|----------|
|            |    |  | Dry weight | kg       | 112      |
|            | lb |   | 247        | 330      | 396      |
| Length (A) |    | mm  | 699        | 809      | 909      |
|            |    | in  | 27.5       | 31.9     | 35.8     |
| Width (B)  |    | mm  | 512        | 512      | 512      |
|            |    | in  | 20.2       | 20.2     | 20.2     |
| Height (C) |    | mm  | 647        | 685      | 685      |
|            |    | in  | 25.5       | 27.0     | 27.0     |



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Skontaktuj się z nami w celu uzyskania profesjonalnej wyceny wdrożenia projektu, instalacji silnika, lub wymiany podzespołów. Nasz profesjonalny zespół szybko i sprawnie przygotowuje kompleksową ofertę usługi którą zrealizujemy w przystępnym odstępie czasowym. Posiadamy pełną dokumentację techniczną i szybki dostęp do części oraz materiałów eksploatacyjnych.

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