L Series

LT and LV Engines

LT1, LV1

Power ranges: 1.0—7.4 kW; 1.3—9.9 bhp
Variable speed builds, full load speed range: 1000—3000 r/min
Fixed speed builds: 1500 or 3000 r/min

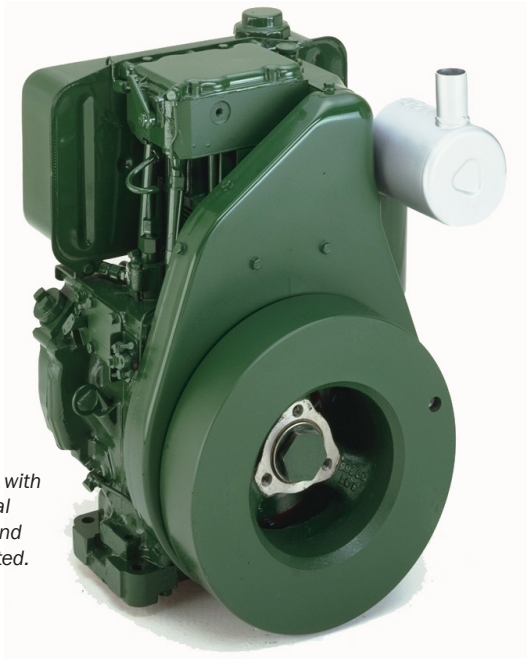
Durable, reliable, versatile single-cylinder air-cooled diesel engines

Special Attributes

- ✓ designed for continuous operation in ambient temperatures up to 52 °C (122 °F)
- ✓ oil cooling by means of air flow over deep crankcase finning
- ✓ clockwise and anticlockwise rotation builds available

Basic Engine Characteristics

- single cylinder
- diesel fuelled
- direct injection
- air cooled
- naturally aspirated



LT1 shown with the optional fuel tank and silencer fitted.

Design Features and Equipment

- air cleaner (type according to application)
- inlet and exhaust manifolds
- self-vent fuel system (LV1 only)
- self-regulating plunger type lubricating oil pump
- decompressor lever
- flywheel with cooling fan
- sheet metal or cast SAE 5 fan shroud depending on build
- mechanical governing
- hand start (electric optional)
- 250 hour service intervals
- operators' handbook

Emissions

Complies with EU Stage 3A emissions regulations.

Optional Items

- 12V electric start
- fuel tank (5 or 8 litre) with filter
- fuel filter
- silencer
- lifting eye (LV1 only)

A range of options allows you to select a specification that matches your requirements; please consult your Lister Petter distributor.

Power Outputs to ISO 3046								
Variable Speed		r/min	1000	1500	1800	2000	2500	3000
LT1	Continuous Power	kW	1.9	3.0	3.6	4.0	5.0	5.6
		bhp	2.5	4.0	4.8	5.4	6.7	7.5
	Intermittent Power	kW	2.1	3.3	4.0	4.4	5.5	6.2
		bhp	2.8	4.4	5.3	5.9	7.4	8.3
LV1	Continuous Power	kW	2.2	3.5	4.3	4.8	5.8	6.7
		bhp	2.9	4.8	5.8	6.4	7.8	9.0
	Intermittent Power	kW	2.4	3.9	4.7	5.3	6.4	7.4
		bhp	3.2	5.2	6.3	7.0	8.6	9.9

Torque to ISO 3046								
Variable Speed		r/min	1000	1500	1800	2000	2500	3000
LT1	Intermittent Power	Nm		20.9	21.0	21.0	20.9	19.5
		lbf ft		15.4	15.5	15.5	15.4	14.4
LV1		Nm	22.7	24.8	25.0	25.0	24.4	20.0
		lbf ft	16.8	18.3	18.5	18.5	18.0	14.8

In the above table the 100% load figures are subject to 5% tolerance but all other figures are approximate and not guaranteed.

Fuel Consumption								
Variable Speed		r/min	1000	1500	1800	2000	2500	3000
LT1	Continuous Power, 100% Load	litre/hr	0.6	1.0	1.1	1.3	1.7	2.2
		US gal/hr	0.17	0.25	0.30	0.34	0.44	0.58
LV1		litre/hr	0.5	1.1	1.3	1.5	1.9	2.4
		US gal/hr	0.13	0.35	0.39	0.49	0.59	0.64

Rating Definitions, to ISO 3046

1. Fixed speed power: continuous power (ICN)

The power in kW which the engine is capable of delivering continuously at the stated crankshaft speed, under conditions of 100 kPa barometric pressure, 30% relative humidity and 25°C air inlet temperature, 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.

2. 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 the conditions specified in (1) above.

3. Variable speed: fuel-stop power, continuous power (IFN)

The maximum power in kW which an engine is capable of delivering continuously at stated crankshaft speed, under the conditions as specified in item 1, with the fuel limited so that the fuel stop power cannot be exceeded.

4. Variable speed: fuel-stop power, intermittent power (IOFN)

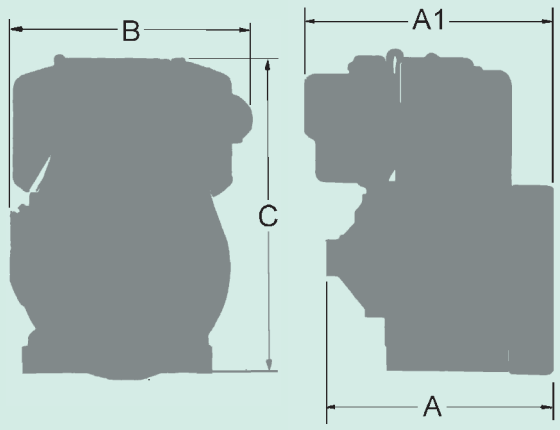
The maximum power in kW which an engine is capable of delivering intermittently at the stated crankshaft speed, for a period not exceeding 1 hour in any period of 12 hours continuous running immediately after running at the Continuous Fuel Stop Power rating.

5. De-rating

For non-standard site conditions, reference should be made to relevant BS, ISO and DIN standards.
The overload capability applies to a fully run-in engine. This is normally attained after a running period of about 50 hours .

Technical Data			
		LT1	LV1
Type of fuel injection		Direct	Direct
Number of cylinders		1	1
Aspiration		Natural	Natural
Direction of rotation looking on flywheel end		According to build	According to build
Nominal cylinder bore	mm	82.55	85.73
	in	3.25	3.375
Stroke	mm	76.20	82.55
	in	3.00	3.25
Total cylinder capacity	litre	0.4078	0.4765
	in3	24.89	29.08
Compression ratio	Compression ratio	16.4:1	16.2:1
Sump capacity with the engine level	litre	1.3	1.3
	pint	2.3	2.3
	US quart	1.4	1.4
Engine mounted fuel tank capacity	litre	8.25 / 13.5	13.5
	pint	14.5 / 23.7	23.7
	US quart	8.7 / 14.2	14.2
Maximum permissible crankshaft end thrust	kgf	68.0	68.0
	lbf	149.9	149.9
Lubricating oil pressure minimum	bar	0.4	0.4
	lbf ft^2	5.8	5.8

Approximate Dimensions and Weight



		Sheet metal fan shroud		Cast fan shroud	
		LT1	LV1	LT1	LV1
Dry weight	kg	83	83	92	92
	lb	183	183	203	203
Length (A) without fuel tank	mm	354	358	359	359
	in	13.9	14.0	14.1	14.1
Length (A1) with fuel tank	mm	404	398	403	403
	in	15.9	15.7	15.8	15.8
Width (B)	mm	371	394	424	424
	in	14.6	15.5	16.7	16.7
Height (C)	mm	503	503	503	503
	in	19.8	19.8	19.8	19.8

Distributor's Address

UK
Lister Petter Limited, Dursley, Gloucestershire
GL11 4HS England
Tel: +44 (0)1453 544141; fax: +44 (0)1453 546732
E-mail: sales@lister-petter.co.uk http://www.lister-petter.co.uk