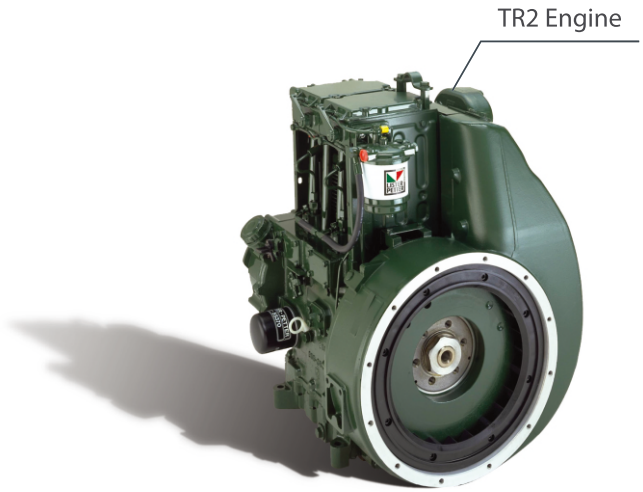
T SERIES

TR Air Cooled Engines

variable or fixed speed
1500 - 2500 r/min

5.5 - 28.5 kW | 7.4 -38.0 bhp

TR1 | TR2 | TR3



BASIC ENGINE CHARACTERISTICS

- diesel fuelled and approved for operation on biodiesel, that conforms with ASTM D6751 and EN14214, concentrations of up to 20%
- direct injection
- 1, 2 or 3 cylinders
- air cooled
- naturally aspirated
- hand start (electric optional)

DESIGN FEATURES AND EQUIPMENT

- medium duty air cleaner
- inlet and exhaust manifolds
- self vent fuel system with individual fuel injection pumps
- fuel filter
- self regulating plunger type lubricating oil pump
- spin-on lubricating oil filter
- decompressor levers
- flywheel
- flywheel housing with SAE4 flange
- 250 hour service intervals
- mechanical governing:
  - variable speed 900-2500 r/min
  - fixed speed 1500 and 1800 r/min
- operators' handbook

SPECIAL ATTRIBUTES

- variable and fi xed-speed builds available
- designed for continuous operation in ambient temperatures up to 40°C (104°F)
- oil cooling by means of air fl ow over deep crankcase finning

* TR1/2 -If operating at 1500/1800 rpm in a genset application, please refer to Applications Department for cyclic irregularity implications

OPTIONAL ITEMS

- 12V electric start
- heavy duty air cleaner

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

POWER OUTPUTS TO ISO3046

Speed, r/min	Power	Engine Power							
		TR1				TR2			
		Gross		Net		Gross		Net	
		kWm	bhp	kWm	bhp	kWm	bhp	kWm	bhp
1500	Continuous	5.5	7.4	5.5	7.4	11.0	14.8	11.0	14.8
	Fuel stop	6.1	8.2	6.1	8.2	12.1	16.2	12.1	16.2
1800	Continuous	6.7	9.0	6.7	9.0	13.1	17.6	13.1	17.6
	Fuel stop	7.4	9.9	7.4	9.9	14.4	19.3	14.4	19.3
2000	Continuous	7.3	9.8	7.3	9.8	14.5	19.4	14.5	19.4
	Fuel stop	8.0	10.7	8.0	10.7	16.0	21.5	16.0	21.5
2500	Continuous	8.6	11.5	8.6	11.5	17.3	23.2	17.3	23.2
	Fuel stop	9.5	12.7	9.5	12.7	19.0	25.5	19.0	25.5
Speed, r/min	Power	TR3							
		Gross		Net					
		kWm	bhp	kWm	bhp				
1500	Continuous	16.8	22.5	16.8	22.5				
	Fuel stop	18.5	24.8	18.5	24.8				
1800	Continuous	20.2	27.1	20.2	27.1				
	Fuel stop	22.2	29.8	22.2	29.8				
2000	Continuous	22.2	29.8	22.2	29.8				
	Fuel stop	24.4	32.7	24.4	32.7				
2500	Continuous	25.9	34.7	25.9	34.7				
	Fuel stop	28.5	38.2	28.5	38.2				

VARIABLE SPEED | TORQUE

Variable Speed		r/min	1500	1800	2000	2500
TR1	Fuel Stop	Nm	38.8	39.2	38.2	36.3
		lbf ft	28.6	28.9	28.2	26.8
TR2		Nm	77.0	76.4	76.4	72.6
		lbf ft	56.8	56.3	56.3	53.5
TR3		Nm	117.8	117.8	116.5	108.9
		lbf ft	86.9	86.9	85.9	80.3

* For fixed speed engines the powers at these speeds are the same.

Notes:

1. Power ratings (measured at the fl ywheel) and fuel consumptions, apply to a fully run-in, non-derated engine 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.

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 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 (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.

Variable Speed (Fuel Stop): Continuous Power (IFN)

The maximum power in kW which the engine is capable of delivering continuously at the stated crankshaft speed, under ISO 3046 standard conditions, and with the provisions specifi ed in item (1) above, but with the fuel limited so that the fuel stop power cannot be exceeded.

Variable Speed (Fuel Stop): Overload Power (IOFN)

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 (3) 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.

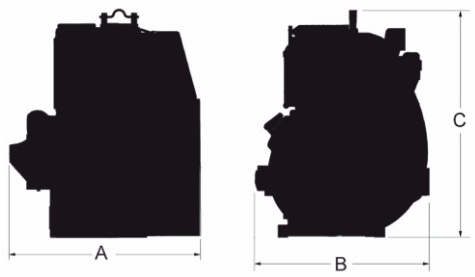
TECHNICAL DATA

		TR1	TR2	TR3
Type of fuel injection		Direct	Direct	Direct
Number of cylinders		1	2	3
Aspiration		Natural	Natural	Natural
Direction of rotation looking on flywheel end		Anti clockwise	Anti clockwise	Anti clockwise
Nominal cylinder bore	mm	98.42	98.42	98.42
	in	3.875	3.875	3.875
Stroke	mm	101.6	101.6	101.6
	in	4.0	4.0	4.0
Total cylinder capacity	litre	0.773	1.55	2.32
	in^3	47.17	94.35	141.52
Compression ratio		15.5:1	15.5:1	15.5:1
Minimum idling speed	r/min	850	850	850
Number of flywheel ring gear teeth		110	110	110
Crankshaft end thrust (maximum continuous)	kgf	132	132	132
	lbf	290	290	290
Crankcase vacuum (minimum)	mbar	2.0	2.5	3.0
	in H_2O	0.8	1.0	1.2
Crankcase vacuum (average)	mbar	3.5	4.6	7.5
	in H_2O	1.4	1.8	2.9
Lubricating oil pressure (mean) with the oil at 110°C (230°F)	bar	2.0	2.0	2.0
	lbf ft^2	29	29	29
Lubricating oil pressure at idle	bar	1.0	1.0	1.0
	lbf ft^2	14.5	14.5	14.5

APPROXIMATE FUEL CONSUMPTION | 100% LOAD

Speed, r/min	TR1		TR2		TR3	
	g/kWh	l/h	g/kWh	l/h	g/kWh	l/h
1500	229	1.5	237	3.1	230	4.6
1800	238	1.9	237	3.7	229	5.5
2000	242	2.1	238	4.1	231	6.1
2500	244	2.5	238	4.9	237	7.3

APPROXIMATE DIMENSIONS AND WEIGHT



		TR1	TR2	TR3
Dry weight	kg	153	185	230
	lb	337	408	507
Length (A) without fuel tank	mm	444	571	698
	in	17.5	22.5	27.5
Width (B)	mm	521	521	521
	in	20.5	20.5	20.5
Height (C)	mm	683	683	683
	in	26.9	26.9	26.9

Head Office
Lister Petter Engine Company Limited
Rutland House, Minerva Business Park,
Lynch Wood, Peterborough, PE26PZ.
T:+44(0)1778 394091

enquiry@listerpetter.com
www.listerpetter.com

MADE IN BRITAIN