

# TR3 G BUILD ENGINE

## TR3

Power range: 16.8-22.2 kW; 22.5-29.8 bhp

Fixed speeds: 1500, 1800 r/min

### RELIABLE, DURABLE THREE CYLINDER AIR COOLED G BUILD DIESEL ENGINE

#### SPECIAL ATTRIBUTES

- suitable for generating sets
- designed for continuous operation in ambient temperatures up to 52°C (122°F)
- oil cooling by means of air flow over deep crankcase finning

#### BASIC ENGINE CHARACTERISTICS

- diesel fuelled
- direct injection
- three cylinders
- air cooled
- naturally aspirated
- electric start (hand start optional)

#### DESIGN FEATURES AND EQUIPMENT

- medium duty air cleaner\*
- inlet and exhaust manifolds
- fuel injection pump and self-vent fuel system
- fuel filter
- fuel lift pump\*
- self-regulating plunger type lubricating oil pump
- spin-on lubricating oil filter
- decompressor lever
- flywheel with cooling fan\*\*
- SAE 4 flywheel housing\*\*
- mechanical governing
- 12V starter motor\*
- safety switches\*
- fuel control solenoid (energised to run)\*
- standard skid base packing
- 250 hour service intervals
- operators' handbook

#### EMISSIONS

- complies with EU Stage 3A emissions regulations



**TR3 ENGINE**

#### OPTIONAL ITEMS

- 12V battery charge windings
- SAE4:5 ventilated adaptor
- SAE4:4 ventilated adaptor
- 7.5" drive member

See also items with asterisk under Design Features and Equipment.


**NOTE:** T range genset engines are configured to accept dedicated single bearing alternators manufactured specifically to suit the TR bare flywheel arrangement. For alternators other than these it will be necessary to add to the specifications a ventilated adaptor (SAE4 or SAE5) and a drive member (TR3 - 7.5").

| POWER OUTPUTS |       |      |      |
|---------------|-------|------|------|
| Power         | r/min | 1500 | 1800 |
| Continuous    | kW    | 16.8 | 20.2 |
|               | bhp   | 22.5 | 27.1 |
| Fuel Stop     | kW    | 18.5 | 22.2 |
|               | bhp   | 24.8 | 29.8 |

**Notes:** 1. Power ratings measured at the flywheel 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. 3. Excluding radiator.

| TECHNICAL DATA  |                     |        |
|---|---------------------|--------|
| Type of fuel injection  | Direct              |        |
| Number of cylinders   | 3                   |        |
| Aspiration  | Natural             |        |
| Direction of rotation looking on flywheel end                 | Anti Clockwise      |        |
| Nominal cylinder bore   | mm                  | 98.42  |
|   | in                  | 3.875  |
| Stroke  | mm                  | 101.6  |
|   | in                  | 4.0    |
| Total cylinder capacity                                       | litre               | 2.32   |
|   | in <sup>3</sup>     | 141.52 |
| Compression ratio   | 15.5:1              |        |
| Minimum idling speed  | r/min               | 850    |
| Number of flywheel ring gear teeth                            | 110                 |        |
| Crankshaft end thrust (maximum continuous)                    | kgf                 | 132    |
|   | lbf                 | 290    |
| Crankcase vacuum (minimum)                                    | mbar                | 3.0    |
|   | in H <sub>2</sub> O | 1.2    |
| Crankcase vacuum (average)                                    | mbar                | 7.5    |
|   | in H <sub>2</sub> O | 2.9    |
| Lubricating oil pressure (mean) with the oil at 110°C (230°F) | bar                 | 2.0    |
|   | lbf ft <sup>2</sup> | 29     |

| APPROXIMATE DIMENSIONS AND WEIGHT <sup>1</sup> |    |      |
|--|----|------|
|  |    | TR3  |
| Dry weight                                     | kg | 230  |
|  | lb | 507  |
| Length (A) without fuel tank                   | mm | 698  |
|  | in | 27.5 |
| Width (B)                                      | mm | 521  |
|  | in | 20.5 |
| Height (C)                                     | mm | 683  |
|  | in | 26.9 |



**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 Power Systems 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.

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



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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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