Certificate No: LR2003952TA
Issue Date: 11/10/2019
Expiry Date: 10/10/2024

# Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

| | |
|---|---|
| **Manufacturer** | **SANDFIRDEN TECHNICS B.V.** |
| **Address** | Haventerrein 1, Den Oever, 1779 GS, Netherlands |
| **Place of Production** | AGCO POWER Oy<br>Linnavuorentie 8-10, Linnavuori, 37240, Finland |
| **Type** | Internal Combustion Engines |
| **Description** | Reciprocating, non-reversible, high speed, 4 cylinder, in-line oil engine, 4SCSA, common rail, direct injection, exhaust gas turbocharging, charge air cooling |
| **Trade Name** | 49 CTAG |
| **Application** | Prime movers for auxiliary power generation services and emergency genset |
| **Specified Standard** | LR Rules and Regulations for Classification of Ships, July 2019<br>LR Type Approval Specification No. 4, February2015 |

**Ratings**

| | | |
|---|---|---|
| Type | 49 CTAG-4V | |
| Output (MCR) | 118kW | 130kW |
| Speed at MCR | 1500rpm | 1800 rpm |

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**Matthijs Breel**

Lead Specialist Propulsion Systems and
Deputy to Lloyd's Register EMEA
A member of the Lloyd's Register Group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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| | | |
|---|---|---|
| Max. firing pressure | 157.5bar | 135.2 bar |
| MIP | 22.7bar | 20.8 bar |

**Other Conditions** Approval of this engine type is subject to maintaining Type Approval of the ancillaries listed on the Machinery General Design Appraisal with GA. Reg. No. ROT.14.M.003(E2).

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. NL4862900/RTS-ENG-140778, Issue 2 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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