



## 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.

<b>Manufacturer</b>	<b>Protea Limited</b>
<b>Address</b>	Unit 2 Venture Park, Stirling Way, Bretton, Peterborough, PE3 8YD, United Kingdom
<b>Type</b>	Gas analyser units
<b>Description</b>	Continuous Emission Monitoring Process Analyser (Infra-red) designed to provide in-situ analysis of up to six gas phase emission components. System comprises P2000 Analyser, Heater, Power Supply Unit and Control Unit.
<b>Trade Name</b>	P2000 Marine Analyser System
<b>Application</b>	Marine/Offshore applications (ENV3 category)
<b>Specified Standard</b>	LR Rules and Regulations for the Classification of Ships (July 2023) LR Test Specification No.1 December 2021 IMO Resolution MEPC. 340 (77) - 2021 Guidelines for Exhaust Gas Cleaning Systems IMO NOx Technical Code (2008) - Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines
<b>Ratings</b>	Power supply: 115/ 230V, 50 / 60 Hz, 100W (+1kW optional heater) Operating temperature -25°C to +70°C Sample temp up to +350°C Enclosure Aluminium alloy casting IP65 with grp cover

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Ranges NO 0-2000ppm, NO2 0-200ppm, CO2 0-10%, SO2 0-100ppm

### Other Conditions

The P2000 operates using an infra-red radiation measurement technique. According to Appendix 8, paragraph 2.1.1 of the NOx Technical Code the P2000 is subjected to the approval of the Administration as alternative analyser for Nitrogen Oxides (NOx) analysis

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.

**Previous Version:** LR21162986TA-03

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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