Certificate No: LR2610493QAES
Issue Date: 01/04/2024
Expiry Date: 31/03/2027

Quality Assurance Engineering Scheme Certificate

Manufacturer Grundfos A/S

Address	Poul Due Jensens Vej 7, Bjerringbro, 8850, Denmark
Scheme Type	**Quality Assurance Scheme for Machinery (QAM)**
Approval Number	**QAM 130 / A03**
Product Type	Centrifugal Pumps
Product Name	Centrifugal Pumps of CR-Type

This is to certify that the above named manufacturer has been approved by LR EMEA in accordance with the requirements set out in the Quality Assurance Scheme for Machinery (QAM) within the Lloyd's Register Rules and Regulations for the Classification of Ships.

The quality system and procedures at these works covering production methods, inspection and testing, quality control and general standards of workmanship have been examined and are approved for the manufacture of the undernoted product(s) at the stated place(s) of production.

Such items will be eligible for fitting in ships or other installations classed or intended for classification subject to satisfactory installation under the usual conditions of survey and testing.
This approval is conditional upon the product(s) manufactured and certified under this Scheme being in accordance with the relevant requirements of the Rules and Regulations for the Classification of Ships and the organisation and procedures being audited by the Surveyors at agreed intervals.

For details of the scope of approval see subsequent pages of this certificate.

This certificate is issued to the named manufacturer and is valid until the expiry date specified. Lloyd's Register is to be notified of any change that may affect the validity of this certificate and reserves the right to cancel or withdraw this certificate.

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Thomas Anhofer
Lead Specialist / QAES Scheme Coordinator 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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The Quality Assurance Scheme for Machinery is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations for the Classification of Ships are complied with.

Scope of products covered by the scheme:

1. Centrifugal Pumps of CR-Type

Pump Type	CR [bar]	CRI [bar]	CRN [bar]
1s, 1, 3, 5	25	25	25
10, 15, 20	25	25	25
32, 45, 64	40	--	40
5, 125, 155	30	--	40
185, 215, 255	40	--	40

Pumps are suitable for non-corrosive and non-flammable liquids

(Fresh Water System	- Pure Water,
Fire Fighting System	- Pure Water, Liquid Foam Solution,
Boiler Feed Water System	- Pure Water
Cooling Water System	- Water with Glycol or Ethanol
SCR [Selective Catalytic Reduction]	- Water with Urea, Glycol, Ethan).

Pump Types not listed (or medias) are excluded from QAM Scope and will be subject to direct survey.

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