Certificate No: LR22429590TA
Issue Date: 24/03/2022
Expiry Date: 23/03/2027

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	**Howden Turbo GmbH**
Address	Heßheimer Str. 2, Frankenthal, 67227, Germany
Type	Exhaust Gas Systems
Description	Direct Drive One-Stage Turbo Blower consisting of an asynchronous motor equipped with oil lubricated bearings. Blower unit with pre-set inlet guide vanes is suitable for variable frequency operation on site. All parts in contact with exhaust gas are made from corrosion resistant steel. A contact-free carbon floating ring sealing prevents exhaust gas escaping the blower casing. The impeller is mounted directly onto the shaft and supported by oil lubricated journal bearings. Oil, sealing air and cooling water supply pathways are integrated into the blower structure without additional piping. The blower inlet is prepared for flange mounting of the blower without any further supporting foundation.
Trade Name	EGR 10, EGR 22 Blower
Application	Exhaust gas recirculation blower for MAN Diesel & Turbo two stroke engines on ships classed or intended for Classification with Lloyd's Register.
Specified Standard	Lloyd's Register Rules and Regulations for the Classification of Ships, July 2022

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Ratings

Type:	EGR 10	EGR 22
Wire power:	max. 174 kW	max. 325 kW
Blower speed:	4000 to 9000 rpm	3500 to 7200 rpm
Capacity:	1.020 to 1.952 m^3/s	1.796 to 3.435 m^3/s
Inlet gas density:	2.5 to 5.5 kg/m^3	
Inlet temperature:	16 to 51°C	
Pressure ratio:	1.01 to 1.12	

Other Conditions The manufacturer's installation instructions are to be sought.

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: 17/20030(E1)

The Design Appraisal Document ENS 35878-18, Issue 2 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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