

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00006X6
Revision No:
1

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Inert gas system: Single components: inert gas blowers

with type designation(s)

Inert Gas Blowers, Types BK 10, BK 12.5, BK 16, BK 20, BK 21, BK 25, BK 28, BK 31.5, BK31.5-2S, BK35.5, BK37.5, BK 40, BK 45 and BK50

Issued to

Flebu International AS
Sandvika, Norway

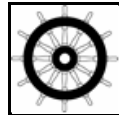
is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2021/1158,**

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-11-04.**

Issued at **Høvik** on **2021-11-11**

DNV GL local station:
Norway CMC, East-South



for **DNV AS**

Approval Engineer:
Ole Henrik Kverndal Pedersen

Notified Body
No.: **0575**

Sverre Olav Bergli
Head of Notified Body



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Job Id: **344.1-002541-7**
Certificate No: **MEDB00006X6**
Revision No: **1**

Product description

Centrifugal inert gas fans.

Arrangement 1: Impeller is mounted directly on to the motor shaft.

Arrangement 5: Impeller is mounted to a separate shaft with bearings and coupling.

Arrangement -2S : Bearings are installed on both sides of the fan.

Capacity range: 1000 to 25 000 m³/h

Pressure range: 1200 to 3000 mmWG

BK31,5-2S maximum capacity: 12 700 m³/h

BK31,5-2S pressure range: 1200 to 3300 mmWG

Application/Limitation

The requirements described in the following regulations of SOLAS 74 and the resolutions and circulars of the IMO shall be complied with:

Reg. II-2/4

IMO Res. A.567(14)

IMO Res. MSC.98(73)-(FSS code) 15

IMO MSC/Circ.353

IMO MSC/Circ.387

IMO MSC/Circ.485

IMO MSC/Circ.731

IMO MSC/Circ.1120

Job Id: **344.1-002541-7**
Certificate No: **MEDB00006X6**
Revision No: **1**

Type Examination documentation

| Drawing No. | Rev./Date | Drawing No. | Rev./Date |
|-------------|-----------|-------------|-----------|
| 32011-011 | 0 | 32010-335 | D |
| 32011-188 | A | 32011-374 | 0 |
| 32009-508 | 0 | 32009-413 | A |
| 32007-041 | A | 32005-197 | 0 |
| 22006-077 | 0 | 32007-353 | 0 |
| 32007-203 | 0 | 32007-228 | B |
| 32009-417 | 0 | 32010-060 | 0 |
| 32007-319 | A | 32009-508 | 0 |
| 32008-073 | 0 | 32009-413 | A |
| 32007-300 | 0 | 32003-494 | E |
| 32005-198 | 0 | 12004-031 | B |
| 12004-032 | E | 12004-033 | A |
| 22004-005 | B | 22004-006 | 0 |
| 32004-043 | E | 1K9308-208 | L |
| 1K9106-96 | L | 2K9609-65 | A |
| 1K9810-214 | B | 2K9308-44 | C |
| 32004-064 | A | 1K9308-208 | I |
| 1K9106-96 | M | 2K9609-65 | A |
| 1K9810-214 | B | 2K9308-44 | C |
| 32004-065 | A | 1K9308-208 | I |
| 1K9106-96 | L | 2K9609-65 | A |
| 1K9810-214 | B | 2K9308-44 | C |
| 32002-063 | C | 1K9308-208 | I |
| 1K9106-96 | L | 2K9609-65 | A |
| 1K9810-214 | B | 2K9308-44 | C |
| 32010-153 | A | 32020-009 | F |

Manufacturer's reports for the output measurement of fans.

Tests carried out

Function test.

Performance test report for BK31,5-2S including overspeed test. Dated 28.06.21

Job Id: **344.1-002541-7**
Certificate No: **MEDB00006X6**
Revision No: **1**

Marking of product

For traceability to this type approval, each unit is to be marked with;

- Manufacturer's name or trade mark
- Type designation
- Serial No.
- Mark of conformity (see below)

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a of Certificate Conformity.