

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Air Compressor**

with type designation(s)

BL-80, BL-100, BL-170, BL-200

Issued to

BumHan Ind. Co., Ltd.**Changwon-si Gyeongsangnam-do, Republic of Korea**

is found to comply with

DNV GL rules for classification – Ships**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Type	Max. working press.,:	Max power:
BL-80 (LT-25-30 A KE)	40 bar	19,1 kW
BL-100 (LT-30-30 A KE)	40 bar	25,0 kW
BL-170 (LT-40-30 A KE)	40 bar	36,3 kW
BL-200 (LT-50-30 A KE)	40 bar	46,4 kW

Issued at **Høvik** on **2017-02-17**This Certificate is valid until **2022-02-16**.for **DNV GL**DNV GL local station: **Gimhae MC & FIS**Approval Engineer: **Geir Olav Moen**

Oddvar Deinboll
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Air Cooled Reciprocating Air Compressor, 3 cylinders, 3 stages

Working pressure 30/40 bar (g), with safety valve setting 32/42 bar (g).

The compressor unit is driven by an electric AC-motor which is coupled to the compressor's crankshaft.

Type Approval documentation

Marking of product

The product shall be marked with manufacturer's name or trademark and type number identification.

Periodical assessment

For retention of the Type Approval, a DNV GL surveyor shall perform a survey every second year and before the expiry date of this certificate to verify that the conditions of the type approval are complied with.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued. The main scope of the Periodical Assessment will normally include:

- Verification of the Type Approval applicant's production and quality system w.r.t. ensuring continued consistent production of the Type Approved products at the Type Approval applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
- Review of the Type Approval documentation and that this is still used as basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking.

In cases where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore Periodical Assessment shall be carried out randomly at these companies.

When a Type Approved product is manufactured at other companies, the Type Approval applicant takes the sole responsibility for the conformity of the product to the applicable requirements.

Other conditions

The approval is valid for the compressors only, i.e. the approval does not cover attached equipment.

Tests carried out

Type test of compressor type BL-80(LT-25-30 A KE) serial no. BL80016 on 2017-02-07, with report no. QCR1702-015.

Delivery pressure = 40 bar, Rpm = 1770, Q = 85 m³/h, P = 19,1 kW

END OF CERTIFICATE