DNV·GL

Certificate No:
TAM0000072

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Air Compressor

with type designation(s)
D 12 H, D 12 S, D 17 L, D 24 H, D 24 S, D 28 L, D 36 H, D 36 S, D 46 L, D 62 H, D 62 S, D 75 L, D 98 H, D 98 S, D 152 H, D 152 S

Issued to
Aerzener Maschinenfabrik GmbH
Aerzen Niedersachsen, Germany

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.:	Operating media:
D 12 H	2,5 bar	Air, Nitrogen
D 12 S	2,5 bar	Air, Nitrogen
D 17 L	2,5 bar	Air, Nitrogen
D 24 H	2,5 bar	Air, Nitrogen
D 24 S	2,5 bar	Air, Nitrogen
D 28 L	2,5 bar	Air, Nitrogen
D 36 H	2,5 bar	Air, Nitrogen
D 36 S	2,5 bar	Air, Nitrogen
D 46 L	2,5 bar	Air, Nitrogen
D 62 H	2,5 bar	Air, Nitrogen
D 62 S	2,5 bar	Air, Nitrogen
D 75 L	2,5 bar	Air, Nitrogen
D 98 H	2,5 bar	Air, Nitrogen
D 98 S	2,5 bar	Air, Nitrogen
D 152 H	2,5 bar	Air, Nitrogen
D 152 S	2,5 bar	Air, Nitrogen

This Certificate is valid until **2021-05-31**.

Issued at **Hamburg** on **2016-06-01**

for **DNV GL**

DNV GL local station: **Magdeburg**

Approval Engineer: **Christian Kaemmer**

Olaf Drews
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.

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Job Id: **262.1-021533-1**
Certificate No: **TAM0000072**

Product description

Compressor unit DELTA HYBRID: Twin-shaft rotary piston machine, belt driven
Principle of positive displacement combined with internal compression.

The compressor unit consists of the main components compressor stage, base frame, inlet- and discharge silencer, safety valve, e-motor, v-belt drive and control panel.

Motor Power:	37 –400 kW
Flow Rate:	670 – 8.900 m3/h
Differential pressure:	1,5 bar max.

Materials

Housing:	EN-GJL-250
Main- and Auxiliary Rotor:	C45+N

Application/Limitation

Compressor units may be applied for general puposes on board DNVGL classified vessels except for functions as stipulated in DNV GL Rules 4 – 5 -4, item 1.1.

Type Approval documentation

Drawing No : 4000036565; 4000132879; 4000031541 ; 4000031540 ; Test instruction: Simplified test acc. to ISO 1217; P & ID-Diagram No: 4000061413; Quality management instruction No: QP00179; Techn. Data Sheet DELTA HYBRID; Parts list; Safety Valve Documentation No : 1ZG-4829 ; G4-002 B XT ; 151 112-3

Tests / Audits carried out

Initial assessment of QM-system, functional – and performance test, verification of blow-off capacity of safety valve.

Marking of product

The product shall be marked with manufacturer´s name, year of construction, effective suction rate [m3/h], discharge pressure [bar], speed [rpm], shaft power [kW], serial number.

Periodical assessment

For retention of the TA certificate in its validity period periodical assessments are to be carried out every second year. The objective of the periodical assessment is to verify that the conditions for the TA have not been altered.

The main scope of the periodical assessment will include:

— verification of the TA applicant’s production and quality system w.r.t. ensuring continued consistent production of the type approved products at the TA applicant’s own premises and at other companies that are given the responsibility for manufacturing of the products
— review of the TA 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