

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Refrigerant Compressor

with type designation(s)
4N-12.2, 4N-20.2

Issued to

Bitzer Kühlmaschinenbau Schkeuditz GmbH
Schkeuditz, Germany

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.5 Rotating machinery – driven units

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Type	Max. working press.:	Operating media
4N-12.2	28 bar	56,1 bar
4N-20.2	28 bar	56,1 bar

Issued at **Hamburg** on **2020-08-11**

This Certificate is valid until **2025-08-10**.

DNV GL local station: **Magdeburg**

for **DNV GL**

Approval Engineer: **Christian Kaemmer**

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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.



Product description

Refrigerant Compressor, reciprocating, semi-hermetic, belt driven

Type	4N-12.2	4N-20.2
Displacement [m ³ /h] @ 1450 [1/min]	56,1	56,1

Material:

Casing: Cast Iron with Flake Graphite EN-GJL-250
Screw Rotor: Cast Iron with Spheroidal Graphite EN-GJS-600-3 / EN-GJS-700-2

Usable Refrigerants

HCFC-refrigerants of the safety group A1 and Fluid Group 2 PED
HFC-single-component refrigerant of the safety group A1 and Fluid Group 2 PED
HFC-refrigerant blends of the safety group A1 and Fluid Group 2 PED
HFO-refrigerant of safety group A2L and Fluid Group 1 PED
HFO-refrigerant of safety group A2L and Fluid Group 2 PED
HFO/HFC refrigerant blends of safety group A1 and Fluid Group 2 PED

Note: Fluid Groups acc. to PED = Pressure equipment directive 2014/68/EU
Safety Groups acc. to EN DIN 378-1:2017-03

Production place

BITZER Kühlmaschinenbau Schkeuditz GmbH, Industriestr. 48, 04435 Schkeuditz/Germany.

Application

Air Conditioning, Provision Cooling, Cargo Refrigeration.

Tests to be carried out

Compressors for cargo refrigeration are subject to a performance test at the manufacturer's works under supervision of DNVGL and are to be presented for final inspection.

Type Approval documentation

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 Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNVGL-CP-0338, Sec.4.