

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pumps

with type designation(s)
HAMPRO 72

Issued to

Hammelmann GmbH
Oelde, Germany

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0505 – Type approval – Pumping units

Application :

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

Max. working press.: 1130 bar

Operating media: Diesel & Fuel oil, Ammonia, Liquefied Petroleum Gas (LPG), Methanol and its blends

Temperature range: -25°C up to +70°C

Issued at **Hamburg** on **2022-11-08**

This Certificate is valid until **2027-11-07**.

for **DNV**

DNV local station: **Essen**

Approval Engineer: **Christian Kaemmer**

Sven Klinger
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") 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.



Product description

Oscillating positive high-pressure displacement pump. Design: Triplex plunger pump.

Modular assembled with the following main components:
Crank section, gear, piston, pump head, suction-chamber, bellow.

Mounted on a frame to a unit (not part of this Type Approval Certificate).

Application/Limitation

The high-pressure pump HAMPRO 72 is type approved for the use in piping systems of pipe-class I, II and III.

It is type approved for high-pressure fuel injection for the following media:

Diesel- & Fuel oil, Ammonia, Liquefied Petroleum Gas (LPG), Methanol and its blends for fuel injection.

Pressure-range:

Flow rate [l / min] Discharge side	Plunger diameter [mm]	Crankshaft r.p.m. [min ⁻¹]	Required power rating [kW]		
			30	55	70
			Operating pressure [bar]		
26	22	625	600	1100	---
31	22	750	500	920	1130
32	24	625	500	920	---
38	24	750	420	770	950
38	26	625	430	800	---
45	26	750	360	660	810
50	30	625	320	600	---
60	30	750	270	500	610
69	35	625	240	430	---
82	35	750	200	360	450
90	40	625	180	330	---
109	40	750	150	280	340
113	45	625	140	260	---
136	45	750	120	220	270
140	50	625	120	210	---
168	50	750	100	180	220
169	55	625	100	180	---
203	55	750	80	150	180
	Min. operating pressure [bar]	Max. operating pressure [bar]	MAWP [bar]		
Suction side	1.5	10	16		
Oil lubrication system	2	16	16		

Components	
Suction chamber housing (pump housing)	
Sleeve / Casing	
Flange	
Valve housing (pump housing)	
Valve seat ring	
Bellow	

Refers to:

- DNV Rule Pt.4 Ch.6, Sec.1 – Table 1 (pipe classes I - III) & Table 3.
- DNV Rule Pt.4 Ch.6, Sec.2 – Table 3 (material certificates acc. to pipe classes)

Type Approval documentation

Tests carried out

Production testing

Each pump is subject in the manufacturers work-shop to a hydraulic pressure test of 1.5 times the PN.
The DNV Rules Ships Part 4 Chapter 6, Sec. 10; item 5.1 are to be observed.

Marking of product

For traceability to this type approval, the pumps are to be marked with:

- Manufacturer's name or trade mark
- Pump type designation
- Maximum design pressure and temperature
- Flow rate
- Delivery head / (or pressure)
- Speed of rotation

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>