Certificate no.:
TAP000031Z

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Pumps

with type designation(s)
DW400

issued to
Elephant Machinery Co., Ltd.
Yancheng, Jiangsu Province, **China**

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:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Max. working press.:	**25 MPa**
Operating media:	**see certificate**
Temperature range:	**-28°C ~+55°C**

Issued at **Hamburg** on **2025-08-20**
This Certificate is valid until **2030-08-19**.
DNV local unit: **Nantong**

for **DNV**

Approval Engineer: **Ana Cristina Do Carmo Insfran**

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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 USD 300 000.

Product description

DW400 reciprocating pump (hereinafter referred to as pump) is a multi-purpose horizontal five-cylinder reciprocating single-action plunger pump, with stepless variable frequency speed regulation and flow change function.

Technical specifications of reciprocating pump DW400:

Model	**Horizontal five-cylinder reciprocation single**
Stroke (mm)	95
Liner (mm)	70
Speed (r/min)	370
Flow rate (L/min)	650
Working pressure (MPa)	25
Max. input torque (N.m.)	2032,6
Input speed (r/min.)	1480
Electrical	380V
Suction inlet Φ	110
Discharge outlet Φ	55

Material:

Components	**Material**	**Standard**
Pump body	Spheroidal graphite cast iron (EN-GJS-450-10)	DIN EN 1563
Upper cover pressure plate, Pump head	Austenitic Steel (304)	ASTM A240/ ASTM A204M-04a

Application/Limitation

The reciprocating pump model DW 400 is type approval for class I piping applications and the tests are carried out acc. to DNV Pt.4 Ch. 6 Piping Components, Sec. 9 – Pumps and GB/T7784 – Test methods for Motor Driven Reciprocating Pumps and GB/T9234 – Motor Driven Reciprocating Pumps.
Not approved for operation of steering gear.
The pump is equipped with a safety relief valve.
Application medium: water, oily wastewater, emulsions, crude oil and petroleum products

Type Approval documentation

Tests carried out

Performance test, Capacity test, Hydraulic test, Noise test, Vibration test, Commissioning (no-load and load test).

Production Place

Elephant Machinery Co., Ltd.
No. 58 Guanghua West Road, Jianhu County, Jiangsu Province, China

Marking of product

For traceability to this approval the pump model DW400 is to be marked with:

Reciprocating pump (five piston type)			
Product type	DW400	Flow rate (m^3/h)	39
Inlet pressure (MPa)	0.02-1	Pressure (MPa)	25
Pump speed (r/min)	370	Motor Power (kW)	315
Efficiency of pump (%)	87	Medium Temperature (°C)	≤ 50
Pump medium	Clear water, oil, emulsion, etc	Pump weight (kg)	~2400
Diameter of plunger (mm)	70	Date of production	2025.07.04
Stroke (mm)	95	Manufacturer serial number	DW400YDDH001
大 象 **Jiangsu Elephant Machinery Co., Ltd.**		Outline dimension	
		~1630 x 1534x900	

Periodical assessment

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

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

End of Certificate