

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Pumps**

with type designation(s)
ECO pumps CNLe, DHBSe and DHBFe

Issued to

Iron Pump A/S
Søborg, Hovedstaden, Denmark

is found to comply with
DNV GL rules for classification – Ships
DNV GL class programme DNVGL-CP-0505 – Type approval – Pumping units

Application :

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

Max. working press.: 16 bar
Operating media: Sea and fresh water
Temperature range: 0 - 80 degrees Celsius

Issued at **Høvik** on **2020-01-07**

This Certificate is valid until **2025-01-06**.

DNV GL local station: **Denmark CMC**

for **DNV GL**

Approval Engineer: **Dag Harald Williksen**

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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

Vertical in-line centrifugal pump with single or double bearing arrangement between motor and pump for fresh and sea water systems such as cooling-, bilge-, fire fighting-, ballast- and scrubber systems.

Application/Limitation

ECO Pumps sizes as follows:

CNLe	DHBFe	DHBSe
CNLe 50-40/160	DHBFe 50-40/160	DHBSe 50-40/160
CNLe 65-50/160	DHBFe 65-50/160	DHBSe 65-50/160
CNLe 80-65/160	DHBFe 80-65/160	DHBSe 80-65/160
CNLe 100-80/160	DHBFe 100-80/160	DHBSe 100-80/160
CNLe 125-100/160	DHBFe 125-100/160	DHBSe 125-100/160
CNLe 50-40/200	DHBFe 50-40/200	DHBSe 50-40/200
CNLe 65-50/200	DHBFe 65-50/200	DHBSe 65-50/200
CNLe 80-65/200	DHBFe 80-65/200	DHBSe 80-65/200
CNLe 100-80/200	DHBFe 100-80/200	DHBSe 100-80/200
CNLe 125-100/200	DHBFe 125-100/200	DHBSe 125-100/200
CNLe 150-125/200	DHBFe 150-125/200	DHBSe 150-125/200
CNLe 80-65/250	DHBFe 80-65/250	DHBSe 80-65/250
CNLe 100-80/250	DHBFe 100-80/250	DHBSe 100-80/250
CNLe 125-100/250	DHBFe 125-100/250	DHBSe 125-100/250
CNLe 150-125/250	DHBFe 150-125/250	DHBSe 150-125/250
CNLe 200-150/250	DHBFe 200-150/250	DHBSe 200-150/250
CNLe 250-200/250	DHBFe 250-200/250	DHBSe 250-200/250
CNLe 100-80/315	DHBFe 100-80/315	DHBSe 100-80/315
CNLe 125-100/315	DHBFe 125-100/315	DHBSe 125-100/315
CNLe 150-125/315	DHBFe 150-125/315	DHBSe 150-125/315
CNLe 200-150/315	DHBFe 200-150/315	DHBSe 200-150/315
CNLe 250-200/315	DHBFe 250-200/315	DHBSe 250-200/315
	DHBFe 200-150/400	DHBSe 200-150/400
	DHBFe 200-200/400	DHBSe 200-200/400
	DHBFe 250-200/400	DHBSe 250-200/400
	DHBFe 250-250/400	DHBSe 250-250/400

Materials depending on application.

Casing	Cast iron, GJL-250	Ductile cast iron GJS400 or higher	Bronze CC492K (Standard)	Aluminium bronze C95800
Impeller	Aluminium bronze C95800 or Stainless steel AISI 329, SAF 2205			
Shaft	Stainless steel AISI 329			

Type Approval documentation

Drawing No	Rev	Title
	3	General description of Iron pumps v3
	1	Pump type families for DNVGL Quality Hydrostatic Test of Pump Casing std CNLe sheet

Job Id: **262.1-032699-1**
Certificate No: **TAP0000207**

ECO 250-200-315	PF Curve ECO 250-200-315
ECO 50-40-160	PF Curve ECO 50-40-160
ECO 150-125-250	PF Curve ECO 150-125-250
ECO 80-65-200	PF Curve ECO 80-65-200
	Dimension-Section_Drawings _CNLe-DHBe
	Capacity range DHBe
	Capacity range CNLe
	Manual CNLe
	Manual DHBe

Marking of product

The product to 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 an assessment after 2 years and after 3.5 years to verify that the conditions of the type approval are complied with.

In case 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.

END OF CERTIFICATE