DNV·GL

Certificate No:
TAP00001FB

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pumps

with type designation(s)
Centrifugal Pumps 3" - 6" HE/PE Dry Well Series

Issued to
Vaughan Company, Inc.
Montesano, WA, USA

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
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.

Issued at **Hamburg** on **2018-07-12**
This Certificate is valid until **2023-07-11**.
DNV GL local station: **Seattle**

Approval Engineer: **Christian Kaemmer**

for **DNV GL**

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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Product description

Horizontal or vertical (pedestal) dry well centrigugal pump for handling water, bilge water, sanitary drain water, oil sludge and fish processing waste materials. Solid materials are chopped and conditioned by cutter bars as an integrated part of the pumping action. Covered by 3 sizes the casing is available as either tangential casing, centreline casing or back pull-out casing. Connection type: ANSI Class 125, 150. Flange: 3”, 4”, or 6”. Main components are: Casing, Impeller, Cutter bar plate, Pump Shafting, Bearing, Pump mechanical seal.

Series	**Model**
3“ – 6“ HE Dry Well	HE3F/HE3G HE3L/HE3M HE3V/HE3W HE3P HE4K/HE4L HE4S/HE4T HE6W/HE6X
3“ – 6“ PE Dry Well	PE3F/PE3G PE3L/PE3M PE3P PE3V/PE3W PE4K/PE4L PE4S/PE4T PE4V PE6X/PE6W
Key Component Materials	**Materials**
Impeller, Cutter Nut / Upper Cutter	Cast alloy steel
Casing, Back Pull-Out Plate	Ductile cast iron
Mechanical Seal	Silicon carbide or tungsten carbide and stainless steel sleeve
Shaft	Heat treated alloy steel
Design Pressure	125 psig
Speed [rpm]	1170 / 1750 / 3510

Application/Limitation

The Vaughan Chopper-pumps are type-approved for class III-piping systems for:

- Water, Bilge water, sanitary drain water (human waste)
- Oil sludge
- Fish processing waste materials

Pump housings shall be hydrostatically tested at a pressure of 1.5 times the design pressure.
The design pressure shall be the design pressure head on the head-capacity curve.
Pumps listed in DNVGL Rules "Ships" - Part 4 Chapter 6 Sec.1 Table 4 shall be delivered with the DNVGL-product certificate.

Type Approval documentation

Marking of product

• Manufacturer`s name
• County of origin
• Serial number

Periodical assessment

For retention of the type approval certificate periodical assessments shall be carried out at production places by DNVGL surveyor. The objective of the periodical assessment is to verify that the design and production conditions for the type approval have not been altered.

Main scope of the assessment:
- verification of the production and quality control system
- review of quality control documentation of recent deliveries
- review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application
- verification of the product marking
- witness of burst testing on selected sizes from production.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.