

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Reduction Gear for Diesel Propulsion**with type designation(s)
G35F

Issued to

Finnøy Gear & Propeller AS
HARØY, Norwayis found to comply with
DNV GL rules for classification – Ships**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Input torque** **see page 2**
Input speed **see page 2**
Reduction ratio **see page 2**This Certificate is valid until **2021-05-08**.Issued at **Høvik** on **2016-05-09**DNV GL local station: **Kristiansund N**Approval Engineer: **Kristine Prøsch**for **DNV GL**-----
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

Single stage reduction gear with built in hydraulic operated clutch and servo cylinder for CP mechanism.

The type approval does not cover:

- The flexible coupling
- Ice class notations
- Electric wiring, instrumentation and automation
- Connection to external shaft components.
- Fastening and foundation of the gearbox including chocking calculations

Application/Limitation

The type approval is valid for the following main data:

Reduction ration [-]	Input speed [rpm]	Input Torque [kNm]	Output Torque [kNm]
4,09:1	1500	5,635	23,047
5,52:1	1800	3,553	19,613
6,05:1	1800	3,008	18,169

Application factor: 1,25
Clutch type: Ortlinghaus 0-002-831-55-000 (5.52:1, 6.05:1)
Max servo pressure: $5 T_0 + 2,25 \leq p \leq 6,4 T_0 + 2,25$
Clutch type: Ortlinghaus 0-002-333-63-000 (4.09:1, 6.05 :1)
Max servo pressure: $3,1 T_0 + 2,8 \leq p \leq 4,0 T_0 + 2,8$
To (kNm), p (bar)

Max temperature for lub.oil. 50 °C

Type Approval documentation

Marking of product

Marking of the product shall at least give the following information.

- Manufacturers name or trademark
- Type designation of the product under which it is type approved

Periodical assessment

For retention of the Type Approval, a DNV GL surveyor shall perform a survey every second year and before the expiry date of this certificate to verify that the conditions of the type approval are complied with. The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued.