



**DET NORSKE  
VERITAS**

# CERTIFICATE FOR REDUCTION GEAR

Form No. 71.00a

Certificate No.

ABG-A-86-767

Gear builder B&W Alpha Diesel A/S, Frederikshavn	Type 32V028
Licence from Own construction	Gear No. 767
Ordered by A/S Ove Christensen Maskinfabrik & Skibssmedie, Hirtshals	Order No. 190000767
Ship's name M/S "HAVLOT" ID NO 06941	Yard No. XXXXXX

Prime mover engine B&W Alpha Diesel, type 8L28/32 - M.E. No. 16048	Driven engine
-----------------------------------------------------------------------	---------------

TURBINE MACHINERY	HP+ IP-TURBINES			LP-TURBINE	
	1. stage	2. stage	3. stage	1. stage	2. stage
Maximum continuous input ahead on pinion (SHP)					
Maximum continuous revolutions ahead on pinion (RPM)					
Maximum continuous revolutions ahead on wheel (RPM)	—			—	
Output/revolutions on astern turbine (SHP/RPM)	—	—	—	—	

MOTOR MACHINERY	1. stage	2. stage
Maximum continuous input ahead on pinion ( <del>XXXX</del> kW)	2835	
Maximum continuous revolutions ahead on pinion (RPM)	775	
Maximum continuous revolutions ahead on wheel (RPM)	242	

The gear was finally marked:

N.V.

A B G

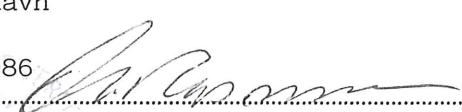
86-05-15 JEA

A-86-767

THIS ORIGINAL CERTIFICATE IS TO BE  
FORWARDED TO THE DET NORSKE VERITAS  
AND IN THE EVENT OF LOSS OR DAMAGE TO THE  
APPLICANT BY THE SHIPPER TO THE  
BOARD

The reduction gear has been built in accordance with the Rules of Det norske Veritas and may be installed in a vessel with machinery classified **✱MV**.

With regard to material certificates and drawings with dates of approval: See the reverse side.

Place Frederikshavn
Date 5th May 1986
 ..... Surveyor

for Jan E. Amundsen

Det norske Veritas has no liability for loss or damage caused by its officers, employees or others who act under assignment by the Foundation, whether or not such person has acted intentionally or negligently and whether or not the loss or damage has affected the owner of a ship, facility or system, or a shipyard or others who have requested the Foundation's assistance, or any third party who without having any contractual relations with the Foundation has acted or made arrangements in reliance on decisions made or information given by or on behalf of the Foundation. Nor, in cases as mentioned in the preceding paragraph, can the individual or individuals who have personally caused the loss or damage be held liable.

Marking and certificate number for the separate parts:

Gear Parts with tested Materials:

1 off gear wheel	DnV MCN 85-752
1 - pinion shaft	DnV MCN 85-753
1 - coupling shaft	ABS ESN 87476 - NV ABG 86-04-11 JEA
1 - thrust shaft	DnV ESN 26610 - - - 86-04-11 JEA
1 - coupling shell	DnV ESN 10-85 - 31376
1 - coupling flange	DnV MCN 12-85 - 31375

Oil Cooler:

1 off	NV ABG Tp 5 Bar 86-04-10 JEA
-------	------------------------------

Drawings with dates of approval:

No. 200 1649 - 3 - Type approved Cert. No. M-5086 - DnV Høvik 18-11-83