

209

Ship's Name

Port Dortmund

Gross tons

Date of completing rpt.

Rpt. No. 65/935

Place of survey, if different from above

No. of visits in shops

15

First date 13.4.65

Last date 10.8.65

Ship built by

Fa.C.Amels & Zn. Scheepswerf en Machinefabriek "Welgelegen" MAKKUM/Holland

Yard No. 287 276

Gearing made by

Lohmann & Stolterfont / Witten

Gear No. GUA 500 Year 1965

aff. JAW
31.1.66. Fee

DM 534

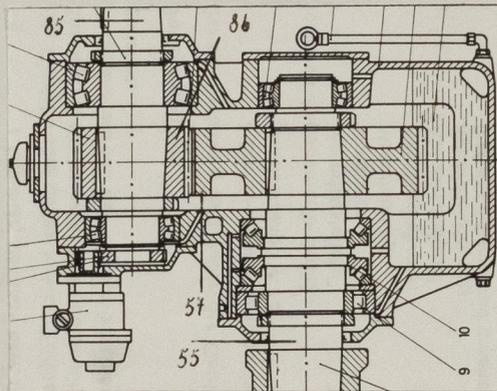
Expenses 525 502 / 1262

Description of gearing, including reversing arrangements and clutches, if any, and No. of sets. State if ball or roller bearings

The Navilus GUA is a Reduction-gearbox with helical, hardened and ground spur gears. The shafts are running in roller bearings. The propeller thrust will be absorbed by the installed axial spherical roller bearing. A flanged-on toothed-wheel oil pump is supplying the lubricating oil.

Type of engine with which gearing is to be used	Deutz RBV8M 545	Helix angle	Primary	10°
State if for Class 1 or 2 ice strengthening	---		Secondary	
If single helical, state type and position of gear thrust bearing	see sketch	Type of tooth form		20°
		Approved max. total S.H.P. each set	1320	PS
		Corresponding R.P.M. of main wheel	240	

DIAGRAMMATIC SKETCH SHOWING ARRANGEMENT OF GEARING



and PINIONS wheels	PRIMARY			SECONDARY		
	P. H.P. 86	M.P.	L.P.	P. H.P. 57	M.P.	L.P.
Max. S.H.P. to be delivered to primary pinions	1320			1320		PS
Corresponding R.P.M.	380			240		
Dia. of pitch circle	377.739			597.071		mm
No. of teeth	31			49		
Total width of face parallel to axis	200			200		mm
Width of gap	12			12		
Dia. of shaft at bearings	150/180			220/150		mm
No. of bearings	2			2		
Span between inner edges of bearings	409.5			584.0		mm
Min. approved tensile strength of material	80-110			80-110		kg/mm ²

PLEASE RETURN THIS REPORT WITH YOUR FIRST ENTRY.

Note:—The particulars in this report are to be given as fully and as clearly as possible. Where the answer is "NO" or "NONE" say so. Ticks and other signs of doubtful meaning are not to be used. Wording not applicable to be cancelled.

10/11/65

	PRIMARY			SECONDARY		
	P. H.P.85	M.P.	L.P.	P. H.P. 55	M.P.	L.P.
<u>QUILL SHAFTS</u>						
Diameter	170			210		mm
Min. approved tensile strength	60-72			60-72		kg/mm ²
<u>FLEXIBLE COUPLINGS</u>						
Type of coupling	VULKAN EZ 201					
Material, driving member						
Min. tensile strength						
Material, driven member						
Min. tensile strength						

Do couplings permit axial float of pinions ?	yes	Have floating parts of flexible couplings been dynamically balanced ?	unknown
Have primary pinions with half-couplings been dynamically balanced ?	no	Have secondary pinions been dynamically or statically balanced ?	no

see WHEELS pinions	PRIMARY			MAIN
	H.P.	M.P.	L.P.	
Dia. of pitch circle				
No. of teeth				
Rim material minimum approved tensile strength				
Dia. of shaft at bearings				
Dia. of shaft adjacent to thrust collar	_____	_____	_____	
Min. approved tensile strength				

Have wheels been statically or dynamically balanced? (State which)	no	What post-hobbing process was applied?	grinding
Are bodies of cast or welded construction?	---	Machine used for finishing process	Makers' name NILES
How are bodies connected to shafts?	cone		
Material of bodies	---	If teeth are surface hardened state method	case-hardening
Are rims shrunk, bolted or welded to bodies?	---	Which gears were cut under conditions of temperature control?	no
If shrunk, has the shrinkage allowance been checked and found as approved?	---		
No. and diameter of radial or axial dowels fitted		Is gearcase of cast or welded construction?	of cast
How were teeth cut?	hobbed	If welded, has it been stress-relieved?	---
If hobbed, state for hobbing machine	Makers' name LORENZ		
	Serial No. E 16		

Have trammels or other means been supplied for verifying that gearcase is free from distortion when secured in ship?

partly

Has gearing been run ~~high~~/loaded in the shop and the tooth contact found satisfactory? (State maximum R.P.M. reached)

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yes (380 RPM)

What is the backlash? (state whether measured circumferentially or normal to the teeth and if in no-clearance bearings)

57 - 86 = 0.34 mm

circumferentially
in no-clearance bearings
Foundation

Ship's Name

Port

Rpt. No.

If undulation records were taken, state maximum height from crest to trough and wave length and type of instrument used.

Pinions -----

Wheels

mesh

If maximum adjacent and accumulated pitch errors normal to the teeth were measured, give particulars

Pinions

57 - 0.009/0.005

86 - 0.006/0.009 mm

Wheels

DECLARATION TO BE SIGNED BY GEAR MAKERS

To the best of our knowledge this reduction gearing has been soundly constructed in conformity with the Rules, Regulations and requirements of Lloyd's Register of Shipping, and the foregoing particulars (as shown on Sheets 1 & 2) of reduction gearing are correct.

Lohmann & Stolterfoht

Aktiengesellschaft

Inspektion,

Signature
(signature)

10.8.1965

(date)

A previous similar case was for (name) --

Gear No. --

Port and Rpt. No.

DATES OF APPROVAL OF PLANS

4. Mai 1965

IDENTIFICATION MARKS. (Copies of certificates to be forwarded)

(continued overleaf)

- Primary pinions
- Primary quill shafts
- Secondary pinions
- Secondary quill shafts
- Flexible couplings
- Primary wheel rims
- Primary wheel shafts

see attached certificate



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IDENTIFICATION MARKS (continued)

Main wheel rims

Main wheel shaft

see attached certificate

The gear box has been stamped:

525502-0
GUA 500/1262
Lloyd's Dtm
HaK 10.8.65

* The reduction gearing reported above has been built under Special Survey in accordance with the Rules, approved plans and Secretary's letters. The materials and workmanship are good, the spare gear required by the Rules has been supplied and the gearing is eligible, in my opinion, to be fitted in a classed ship.



For Mr. Kiebling:

[Handwritten Signature]
Surveyor to Lloyd's Register of Shipping

* When gearing is made at a port other than the port of installation, the Surveyors at the former should send this report to Head Office as soon as possible after completion of the gearing for checking, after which it will be sent to the Surveyors at the port of installation who should attach it to their First Entry report on the machinery after completing and signing the Declaration below.

DECLARATION TO BE COMPLETED & SIGNED BY THE SURVEYOR AT THE PORT OF INSTALLATION

The above reduction gearing has been fitted on board the m.s. "BARTH"
at Lemmer, Holland. in a fit and proper manner and found
satisfactory when tested on (date) 7-12-65 under full-power conditions for 8 hours
and when examined subsequently

[Handwritten Signature]
W. Th. Putting
Surveyor to Lloyd's Register of Shipping

Date of Committee

FRIDAY 11 FEB 1966

Minute

See Rpt. 1.



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NOTE.—Where existing gearing is submitted for classification, the circumstances are to be explained as fully as possible, and the recommendation should be suitably amended.