

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/HollandYard No. 287 296

Gearing made by

Lohmann & Stolterfont / Witten

Gear No. GUA 500 Year 1965

31.1.66. Fee DM 534525 502 / 1262
Expenses

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 usedDeutz
RBV8M 545

Helix angle

Primary

10°

Secondary

State if for Class 1 or 2
ice strengthening

Type of tooth form

20°

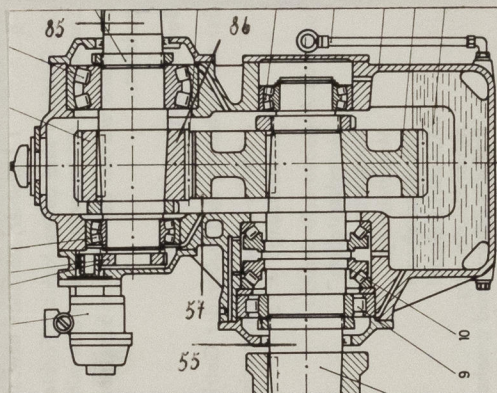
If single helical, state type and
position of gear thrust bearing

see sketch

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

	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		Serial No. 1959 1187005-01
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 ?	---	Is gearcase of cast or welded construction ?	of cast
No. and diameter of radial or axial dowels fitted		If welded, has it been stress-relieved ?	--
How were teeth cut ?	hobbed		
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 ?

Has gearing been run ~~light~~ ^{partly} loaded in the shop and the tooth contact found satisfactory ? (State maximum R.P.M. reached)

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

57 - 86 = 0.34 mm

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yes (380 RPM)

circumferentially, in no-clearance bearings
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Ship's Name

Port

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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.

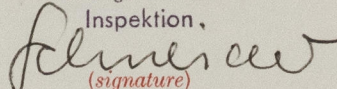
Lohmann & Stolterfoht

Aktiengesellschaft

Inspektion,

10.8.1965

(date)



(signature)

A previous similar case
was for (name)

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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. Kießling:

[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

[Signature]
H. 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.