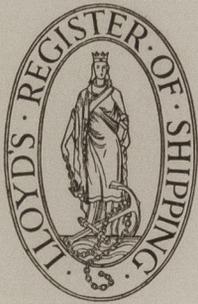


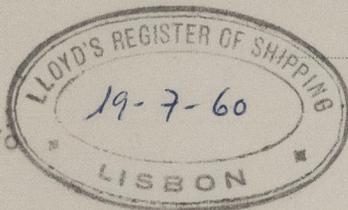
# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER



Port MANNHEIM

13th July, 1960.



Works No. 909 270  
Order No. 2132

This is to Certify that

Ulrich Schüller

the undersigned Surveyor to this Society did at the request of

Messrs. Motoren - Werke Mannheim AG. of Mannheim

attend at their works for the purpose of examining and testing one auxiliary diesel engine, made to the order of Messrs. Wimmer & Co., Lissabon, intended for Estaleiros Sao Jacinto S.A.R.L., Sao Jacinto. **GENERAL**

Particulars of the engine are as follows:-

Engine Number..... 10056/212/328  
 Type ..... KD 412 Z  
 Number of Cylinders ..... 2  
 Diameter of Cylinders..... 105 mm  
 Stroke ..... 120 mm  
 Maximum Pressure ..... 60 kg/cm<sup>2</sup>  
 Mean Indicated Pressure..... 6.85 kg/cm<sup>2</sup>  
 Brake Horse Power ..... 20 PS  
 Revolutions per Minute ..... 1500  
 Span of Bearings..... 127.5/155.5 mm  
 Diameter of Journals ..... 85 mm  
 Diameter of Crankpins..... 73 mm  
 Breadth of Webs ..... 116 mm  
 Thickness of Webs ..... 35 mm  
 Crankcase volume: 0.040 m<sup>3</sup>

This engine has been built under Special Survey, in accordance with the Approved Plans and Rules of the Society, materials and workmanship being good.

On completion, the above machinery was tried in the shops under working conditions with satisfactory results.

( see test report attached.)

For purposes of identification the cylinder block and crankshaft were stamped thus:-

Crankcase:

Crankshaft:(Augsburg cert. F 60/876)

LLOYD'S TEST///  
 Mhm 328  
 TP.10 kg/cm<sup>2</sup>  
 US 14.6.60 US  
 HH 1.7.60 HH

LLOYD'S TEST///  
 No. AUG. 22728  
 HKS AL 15 12.5.60

*Ulrich Schüller*  
 Engineer Surveyor to

Lloyd's Register of Shipping.

Fee:— £

This Certificate is issued upon the terms of the Rules and Regulations of the Society, which provide that:-

"While the Committees of the Society use their best endeavours to ensure that the functions of the Society are properly executed, it is to be understood that neither the Society nor any Member of any of its Committees is under any circumstances whatever to be held responsible for any inaccuracy in any report or certificate issued by the Society or its Surveyors, or in any entry in the Register Book or other publication of the Society, or for any error of judgment, default, or negligence of any of its Committees or any Member thereof, or the Surveyors, or other Officers or Agents of the Society."