



CERTIFICATE NUMBER	23-2474040-PDA
EFFECTIVE DATE	06-Dec-2023
EXPIRY DATE	05-Dec-2028
ABS TECHNICAL OFFICE	Yokohama Engineering Services

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

CYGNUS INSTRUMENTS LIMITED

located at

**CYGNUS HOUSE, 30 PRINCE OF WALES ROAD, DORCHESTER,
United Kingdom, DT1 1PW**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Tightness Detection System**
Model: **MKII-HLD**
Endorsements:
Tier: **3 - Type Approved, unit certification not required**

This Product Design Assessment (PDA) Certificate remains valid until 05/Dec/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Motohiro Tamura,Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

CYGNUS INSTRUMENTS LIMITED

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Tier: 3 - Type Approved, unit certification not required

Product: Tightness Detection System

Model: MKII-HLD

Endorsements:

Intended Service:

Weather and water tightness testing system used on ABS vessels and offshore units. Primary function is to test cargo hatch cover for water tightness but can also be used to check tightness of doors, windows, ramps and bulkheads.

Description:

The portable system comprises a battery operated micro-processor controlled receiver and a transmitter, both operating at 40 kHz to produce a uniformly distributed omni-directional ultrasound field, connects to a 12 mm diameter inspection microphone mounted on a telescopic arm with cables. This unit allows tightness measurements to be taken in dB or open hatch values. A rotary switch with five position selections is implemented on the transmitter. The function of the rotary switch is to allow the user to adjust different power outputs, which could be used for testing such as internal water tight doors.

Rating:

Power supply: Transmitter 6 Rechargeable NiMH (or 6 disposable) AA batteries or external 12-24 DC V Power source, Receiver: 1 PP3 9V battery;
Enclosure rating: Transmitter:IP40; Receiver: IP65

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. Not suitable to be used in hazardous environment.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Drawing No. NA, Expanded Technical Explanation, Revision: 1, Pages: 1

Drawing No. Cygnus Hatch Sure Technical Specifications, Cygnus Hatch Sure Technical Specifications, Revision: 2
Pages: 2

Drawing No. M1-HLD-M-ENG, Cygnus Hatch Sure Operating Manual, Revision:11, Pages: 62

Drawing No Cygnus Hatch Sure Technical Specifications v3, Cygnus Hatch Sure Technical Specifications v3,
Revision:0, Pages: 2, dated 19 October 2023,

Drawing No M1-HLD-M-ENG, Ultrasonic Hatch Cover / Watertight Door Testing Operating Manual, Revision:0,
Pages: 60, dated 3 November 2022,

Terms of Validity:

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STANDARDS

ABS Rules:

2023 Rules for Conditions of Classification - Part 1, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:
2023 Rules for Building and Classing Marine Vessel Rules: 4-1-1/3.3, 4-8-3/1.11.1
2023 Rules for Conditions of Classification - Light and High Speed Craft (Part 1), 1-1-4/11.9, 1-1-A2, 1-1-A3, which covers the following:
2023 Rules for Building and Classing High Speed Craft: 4-1-1/3.3, 4-6-1/15
2023 Rules for Conditions of Classification, Offshore Units and Structures (Part 1), 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:
2023 Rules for Building and Classing Mobile Offshore Units: 4-3-1/15
2023 Rules for Building and Classing Facilities on Offshore Installation: 1-6-3, 3-6/Table 1A & 1B

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA