CERTIFICATE NUMBER
14-gd1300007-PDA

DATE
18 Dec 2014

ABS TECHNICAL OFFICE
Gdynia Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

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

ALWO SPOLKA Z.O.O

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: **Fan, Axial Series, Non-sparking**

Model: **WMOR and WMOR-EX**

This Product Design Assessment (PDA) Certificate 14-gd1300007-PDA, dated 18/Dec/2014 remains valid until 01/Jan/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

ABS GDYNIA

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Tier: 3 - Type Approved, unit certification not required

Product: **Fan, Axial Series, Non-sparking**

Model: **WMOR and WMOR-EX**

Intended Service:
Fans for marine and offshore applications in non-hazardous and hazardous areas.

Description:
Marine axial-flow WMOR and WMOR-EX fans are destined for operation in ventilation systems of seagoing ships with unrestricted cruising area as well as offshore objects. The fans may be used as an exhaust or supply fans and be installed inside the compartments and on weather decks.
The fans can have non-sparking construction and, in applications with certified safe electric motors and equipment, can be installed in the hazardous areas.

Rating:
Nominal diameters: 200, 250, 315, 400, 500, 560, 630, 710, 800, 900, 1000, 1120, 1250, 1400, 1600.
Executions:
- L - light, made of steel sheet 3-10mm and with flanges of normal number of holes;
- C - heavy, made of steel sheet 10mm and with flanges of double number of holes.

Types: N - supply, W - exhaust.
Door opening: l - to the left, p - to the right.
Non-spark: additional sign Ex.
Housing material: steel pipe ended with drilled flanges, welded.
Air guide material: steel sheet, welded.
Impeller material: sea water resistant aluminum alloys.

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.

Comments:
The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
1)For non-sparking fan applications:
- the electric motor and other electrical equipment are to be of certified safe type in accordance with 4-8-3/27 of ABS Steel Vessel Rules;
- the brass lining of suitable thickness is to be fitted on inner surface of housing in way of impeller in accordance with 4-8-3/11.3.3(iii) of ABS Steel Vessel Rules.

2)Protection screens of not more than 13mm (0.5 in) square mesh are to be fitted in the inlet and outlet of the ventilation openings either by fan vendor or shipyard, as per 4-8-3/1.1.2 of ABS Steel Vessel Rules.

Notes/Drawing/Documentation:
Drawing No. 55/KT/2012, Quality Certificate, Revision: -, Pages: 1
Drawing No. ALWO A1-01, MARINE AXIAL FLOW FANS WMOR and WMOD, Revision: -, Pages: 1
Drawing No. DTR II 250-12/13, MANUAL INSTRUCTION Marine Axial- Flow Fans B, Revision: -, Pages: 1
Drawing No. W2781 00-00, WMOR 315, Revision: 0, Pages: 1
Drawing No. W2781 01-00, WMOR 315, Revision: 0, Pages: 1
Drawing No. W2781 02-00, WMOR 315, Revision: 0, Pages: 1
Drawing No. W2781 03-00, WMOR 315, Revision: 0, Pages: 1
Drawing No. W2781 03-01, WMOR 315, Revision: 0, Pages: 1

Terms of Validity:
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STANDARDS

ABS Rules:
ABS Rules for Building and Classing Steel Vessels (2014) 1-1-4/7.7, 1-1-A 3 & 4, 4-8-3/11, 4-8-3/13.1;
ABS Rules for Building and Classing Offshore Support Vessels (2014) 1-1-4/7.7, 1-1-A 3 and 4, 4-8-3/11, 4-8-3/13.1;
ABS Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length (2014) 1-1-A 3 and 4, 4-6-3/11.7, 4-6-3/11.3.1;
ABS Rules for Building and Classing Mobile Offshore Drilling Units (2014) 1-1-4/9.7, 1-1-A 2 and 3, 4-3-3/9.7, 4-3-3/9.3.1
ABS Rules for Building and Classing Facilities on Offshore Installations (2014) 1-1-4/9.7, 1-1-A 2 and 3, 3-6/15, 3-6/17;
ABS Rules for Building and Classing Steel Barges (2014) 1-1-A 3 & 4, 4-1-3/1.

National:
NA

International:
IACS Req., Rev.6 - F29.3.3(iii) Non-Sparking Fans

Government:
NA

EUMED:
NA

OTHERS:
NA