



CERTIFICATE NUMBER

05-LD108402/3-PDA

DATE

01 November 2012

ABS TECHNICAL OFFICE

London Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
DUVALCO B.V. - DORDRECHT

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: **Valve, Butterfly**

MODEL: **LT - Full wafer lug type butterfly valve**
LT/S55 Full wafer lug type butterfly valve

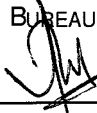
This Product Design Assessment (PDA) Certificate 05-LD108402/3-PDA, dated 01/Nov/2012 remains valid until 31/Oct/2017 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

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


Mohammed K.M. Abbas
Engineer

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 the terms and conditions as contained in ABS Rules 1-1-A/3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

DUVALCO B.V.

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Product: Valve, Butterfly

Model: LT - Full wafer lug type butterfly valve
LT/S55 Full wafer lug type butterfly valve

Intended Service:

Ballast water, Crude Fuel transfer, Crude Oil, Fire water and foam, Fresh cooling water, Fresh water hydrophore, Produced water, Pumphouse bilge, Seawater cooling, Seawater lift, Slop tank, Bunkering, Diesel Oil Deck Wash, Sewage, Open/closed Drain, Lubricating oil, Inert Gas System.

Description:

LT/S55 Wafer, lug type steel butterfly valve with centric disc and bonded liner in the range 50 mm to 600 mm.
LT Wafer, lug type steel butterfly valve with centric disc and bonded liner in the range 550 mm, 650 mm up to and 1200mm

Ratings:

PN10, PN16 & ANSI class 150 lb, PN20.

Service Restrictions:

1. Wafer and unthreaded lug type valves are not to be used for any connections to the vessel's shell.
2. Valve materials to be suitable for the fluid service.
3. Unit certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances must be clearly defined.

Comments:

1. All valves are to be hydrostatically tested by the Manufacturer and are to bear the trademark of the Manufacturer legibly stamped or cast on the exterior of the valves as well as the primary pressure rating.
2. Valves intended for installation on the side shell or below the deepest load waterline, including those at sea chests, are to be hydrostatically tested in the presence of the Surveyor, before installation, to a pressure of at least 5 bar.g.
3. The connection arrangements for shell valves are to ensure that the valve remains in position should the piping inboard side be removed.
4. Applications other than those listed above are subject to individual approval.

Notes / Drawings / Documentation:

- 1) Fire test report numbers 043638-R001 & 043638-R002
- 2) This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity:

This Product Design Assessment (PDA) Certificate 05-LD108402/3-PDA, dated 01/Nov/2012 remains valid until 31/Oct/2017 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.

STANDARDS

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ABS Rules:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. The Rules applicable to this assessment are 2012 Steel Vessel Rules 1-1-4/7.7, 4-6-2/5.11, 4-6-2/7.3.2 & 4-6-2/9.13.2

National:

NA

International:

NA

Government Authority:

NA

EUMED:

NA

Others:

ISO 5211/1, BS EN593, API 609, BS5155