



CERTIFICATE NUMBER

03-LD362989/2-PDA

DATE

09 June 2009

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
**EMERSON PROCESS MANAGEMENT, DAMCOS A/S -
NAESTVED**

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. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Hydraulic Actuator, Remotely Controlled

MODEL: BRC and BRCF 125 - 16000 & BHH and BHHF 125 - 16000

ABS RULE: 2008 Steel Vessel Rules 1-1-4/7.7, 4-4-1/A1.5, 4-6-7/3.5.5

OTHER STANDARD:

AMERICAN BUREAU OF SHIPPING

John L. Morgan
Engineering Type Approval Co-ordinator

EMERSON PROCESS MANAGEMENT, DAMCOS A/S

MARINE SOLUTION DAMCOS A/S

AADERUPVEJ 41

NAESTVED

DK-4700

Denmark

Telephone: 45-55-787200

Fax: 45-55-787272

MA Certificate No. 08-EG1046730

Product: Hydraulic Actuator, Remotely Controlled

Model: BRC and BRCF 125 - 16000 & BHH and BHHF 125 - 16000

Intended Service:

Remote controlled valve operation

Description:

BRC & BHH - Hydraulic double-acting balanced rotary actuator 90° rotation.

BRCF & BHHF - Hydraulic single-acting balanced rotary actuator 90° rotation, fail safe (spring acting).

Ratings:

BRC and BRCF & BHH and BHHF 125, 250, 500, 1000, 2000, 4000, 8000 and 16000 - Maximum Working Pressure 135 bar, Temperature -20°C to 80°C.

Service Restrictions:

1. Limited by aforementioned product ratings.
2. 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:

Duplicate PDA issued to "Emerson Process Management Marine Solutions Korea."

Notes / Drawings / Documentation:

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:

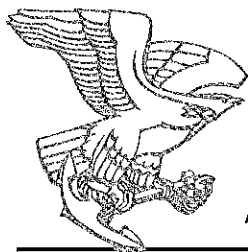
This Design Assessment Certificate number 03-LD362989/2-PDA, dated 09/Jun/2009 will expire on 26/Jun/2013 or at an earlier date should there be alterations to the product's design or changes to the referenced ABS Rules and other specifications, which affect the product. Product use on or after 1 January 2010, will be subject to compliance with the ABS Rules or specifications in effect when the vessel, MODU or facility is contracted. The product's acceptability on board ABS-classed vessels or facilities is defined in the service restrictions of this certificate.

STANDARDS

ABS Rules:

2008 Steel Vessel Rules 1-1-4/7.7, 4-4-1/A1.5, 4-6-7/3.5.5





CERTIFICATE NUMBER

03-LD362989/2-PDA/DUP

DATE

09 June 2009

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
**EMERSON PROCESS MANAGEMENT MARINE SOLUTIONS
KOREA - BUSAN**

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. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Hydraulic Actuator, Remotely Controlled

MODEL: BRC and BRCF 125 -16000 & BHH and BHHF 125 - 16000

ABS RULE: 2008 Steel Vessel Rules 1-1-4/7.7, 4-4-1/A1.5, 4-6-7/3.5.5

OTHER STANDARD:

AMERICAN BUREAU OF SHIPPING

John L. Morgan
Engineering Type Approval Co-ordinator

EMERSON PROCESS MANAGEMENT MARINE SOLUTIONS KOREA

#530 SHINPYUNG-DONG
SAHA-KU
BUSAN
Korea, Republic of
Telephone: +82 51 602 55 55
Fax: +82 51 602 55 51

MA Certificate No. 05-BK644441-X

Product: Hydraulic Actuator, Remotely Controlled

Model: BRC and BRCF 125 -16000 & BHH and BHHF 125 - 16000

Intended Service:
Remote controlled valve operation

Description:
BRC & BHH - Hydraulic double-acting balanced rotary actuator 90° rotation.
BRCF & BHHF - Hydraulic single-acting balanced rotary actuator 90° rotation, fail safe (spring acting).

Ratings:
BRC, BRCF, BHH and BHHF 125, 250, 500, 1000, 2000, 4000, 8000 and 16000 - Maximum Working Pressure 135 bar, Temperature -20°C to 80°C.

Service Restrictions:
1. Limited by aforementioned product ratings.
2. 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:
Original Equipment Manufacturer "Emerson Process Management Marine Solutions Naestved."

Notes / Drawings / Documentation:
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 Design Assessment Certificate number 03-LD362989/2-PDA/DUP, dated 09/Jun/2009 will expire on 26/Jun/2013 or at an earlier date should there be alterations to the product's design or changes to the referenced ABS Rules and other specifications, which affect the product. Product use on or after 1 January 2010, will be subject to compliance with the ABS Rules or specifications in effect when the vessel, MODU or facility is contracted. The product's acceptability on board ABS-classed vessels or facilities is defined in the service restrictions of this certificate.

STANDARDS

ABS Rules:
2008 Steel Vessel Rules 1-1-4/7.7, 4-4-1/A1.5, 4-6-7/3.5.5





CERTIFICATE NUMBER

03-LD362989A/1-PDA/DUP

DATE

06 August 2009

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
Damcos Co., Ltd. - Shanghai

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. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

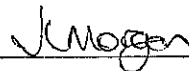
PRODUCT: Hydraulic Actuator, Remotely Controlled

MODEL: BRC and BRCF 125 - 16000 & BHH and BHHF 125 - 16000

ABS RULE: 2008 Steel Vessel Rules 1-1-4/7.7, 4-4-1/A1.5, 4-6-7/3 5.5

OTHER STANDARD

AMERICAN BUREAU OF SHIPPING



John L. Morgan
Engineering Type Approval Co-ordinator

Damcos Co., Ltd.
T3-7, The Second Avenue
5001 Huadong Road
Shanghai
201201
China

Product: Hydraulic Actuator, Remotely Controlled

Model: BRC and BRCF 125 - 16000 & BHH and BHHF 125 - 16000

Intended Service:

Remote controlled valve operation

Description:

BRC & BHH - Hydraulic double-acting balanced rotary actuator 90° rotation.

BRCF & BHHF - Hydraulic single-acting balanced rotary actuator 90° rotation, fail safe (spring acting).

Ratings:

BRC and BRCF & BHH and BHHF 125, 250, 500, 1000, 2000, 4000, 8000 and 16000 - Maximum Working Pressure 135 bar, Temperature -20°C to 80°C.

Service Restrictions:

1. Limited by aforementioned product ratings.
2. 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:

Original Equipment Manufacturer (OEM) Emerson Process Management - Naestved

Notes / Drawings / Documentation:

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/model is covered under Product Design Assessment (PDA) Certificate # 03-LD362989A/1-PDA/DUP, dated 06/Aug/2009. This PDA Certificate expires 05/Nov/2009. It will remain valid for 5 years from date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first). It is valid for all vessels contracted on or before the date of the Rules used in this evaluation.

STANDARDS

ABS Rules:

2008 Steel Vessel Rules 1-1-4/7.7, 4-4-1/A1.5, 4-6-7/3.5.5

National:

NA

International:

NA

Government Authority:

NA

EUMED:

NA

Others:

NA

