

QS - CERTIFICATE OF ASSESSMENT - EC (MODULE D)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Quality System for the products

with type designation(s) as specified in the Appendix to this Certificate

Issued to

KSB Seil Co., Ltd.
Busan, Republic of Korea

is found to comply with the applicable requirements.

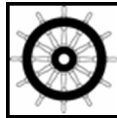
The quality system has been assessed with respect to the procedure of conformity assessment described in Annex II, Module D in the directive 2014/90/EU and regulation (EU) 2019/1397.

This Certificate is valid until **2025-05-11**.

Issued at **Høvik** on **2020-05-12**

DNV GL local station:
Gimhae Station

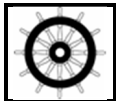
Approval Engineer:
Erik Istad



Notified Body
No.: **0575**

for **DNV GL AS**

.....
Roald Vårheim
Head of Notified Body



0575/yyyy

0575: Notified Body number undertaking quality surveillance
yyyy: The year in which the mark is affixed



The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate authorizes the manufacturer in conjunction with the valid EC Type Examination (Module B) Certificate(s) of the equipment listed before to affix the Mark of Conformity (wheelmark) to the product described herein. This certificate loses its validity if the manufacturer makes any changes to the approved quality system which have not been notified to and agreed with the notified body named on this certificate. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. The Manufacturer has to apply for periodical audits to verify the maintenance and application of the quality system every 12 months.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.





CERTIFICATE NUMBER
17-BK1611053-PDA

DATE
21 Mar 2017

ABS TECHNICAL OFFICE
Busan Engineering Services

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of
KSB SEIL CO., LTD.

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: **Hydraulic Actuator, Remotely Controlled**

Model: **HQ 10/25/50/100/200/400/800/1600**

This Product Design Assessment (PDA) Certificate 17-BK1611053-PDA, dated 21/Mar/2017 remains valid until 20/Mar/2022 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

Hyun-Dae Lee

Hyun-Dae Lee

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 the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).



Marine & Offshore

Certificate number: 11159/D0 BV

File number: ACM 166/1908/001

Product code: 2259H

This certificate is not valid when presented without the full attached schedule
composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

KSB SEIL CO., LTD.
BUSAN - KOREA (REPUBLIC OF)

for the type of product

HYDRAULIC ACTUATORS
Hydraulic Actuators series HQ

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate is a renewal of certificate N° 11159/C0 BV expiring on 01/06/2021

This certificate will expire on: 01 Jun 2026

For Bureau Veritas Marine & Offshore,

At BV PUSAN, on 27 May 2021,

Chang-Uk HONG



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarpm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=kpw80gxcqw>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Hydraulic Actuator for Valve (Not Hydraulic Motor)**

with type designation(s)

HQ10, HQ25, HQ50, HQ100, HQ200, HQ400, HQ800 and HQ1600

Issued to

**KSB Seil Co., Ltd.
Busan 11, Republic of Korea**

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Dsgn. press./Torque 160 bar / 219 - 55251 Nm (see cert.)**Issued at **Høvik** on **2017-10-26**for **DNV GL**This Certificate is valid until **2022-06-30**.DNV GL local station: **Gimhae Station**Approval Engineer: **Mehdi Rowshan****Marianne Spæren Marveng
Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Type Approval Certificate Extension

This is to certify that Certificate No. 04/10020(E3) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	KSB Seil Co., Ltd.
PLACE OF PRODUCTION	76, Noksansaneopbuk-ro, 313 beon-gil, Ganseo-gu, Busan, Korea, Republic of.
DESCRIPTION	Hydraulic actuator for quarter turn valves
TYPE	HQ10, HQ25, HQ50, HQ100, HQ200, HQ400, HQ800 and HQ1600
APPLICATION	Marine, offshore and industrial use
DESIGN CODE STANDARD	Lloyd's Register (LR) Rules and Regulations for the Classification of Ships, Part5, Chapter12,13 and 15 and Part6, Chapter1 (July 2018)
RATINGS	Maximum output torque (Nm) : 219 to 55,251 Maximum working pressure (bar) : 160
PERFORMANCE TESTS	Representative samples of the actuators tested in accordance with the agreed test programme. The following tests have been carried out:- 1) Hydraulic pressure test 2) Hydraulic operation test 3) Torque test 4) Burst pressure test

Certificate No.	18/40049(E4)
Issue Date	27 August 2018
Expiry Date	26 August 2023
Sheet	1 of 3



Busan Technical Support Office
Lloyd's Register Asia

LR031.1.2016.06

Y. D. Kong

Busan Technical Support Office
Lloyd's Register Marine & Offshore

Lloyd's Register Asia,
119, Daegyo-ro, Jung-gu, Busan, Republic of Korea