Confirmation of Product Type Approval

Company Name: KOBELT MANUFACTURING CO. LTD.

Address: 8238 129TH STREET V3W 0A6 Canada

Product: Hydraulic Steering Gear Cylinder

Model(s): 25B and 35B Cylinder.

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	19-HS1861436-PDA	18-JUN-2019	06-JUN-2024
Manufacturing Assessment (MA)	18-VA3490578	08-MAY-2018	14-MAY-2023
Product Quality Assurance (PQA)	NA	NA	NA

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Intended Service
Marine & Offshore Steering Cylinders.

Description
Balanced Hydraulic Cylinder for Marine Steering Application.

25 Cylinder:

Bore Diameter: 2.50", Rod Diameter: 1.25", Pin Diameter: 1.25",

Stroke: 10" (Model 2510), 12" (Model 2512), 14" (Model 2514).

35 Cylinder:

Bore Diameter: 3.50", Rod Diameter: 1.75", Pin Diameter: 1.75",

Stroke: 12" (Model 3512), 15" (Model 3515), 18" (Model 3518.

Ratings
Max Allowable Working Pressure: 2000 psi

Design Temperature: 32°F (0°C) to 122°F (50°C).

Service Restrictions
Unit Certification is 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.

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

- Each Cylinder is to be affixed with a permanent nameplate or marking bearing the Manufacturer's Name or Trademark and the Maximum Allowable Working Pressure and Temperature in accordance with 4-6-7/3.5.5 of the ABS Marine Vessels Rules.

- Material Testing as per 4-3-4/3 of the ABS Marine Vessels Rules. Parts may be accepted on the basis of a review of mill certificates by the Surveyor.

- Each unit is to be hydrostatically tested to 1.5 times the maximum allowable working pressure as per 4-3-4/19 of the ABS Marine Vessels Rules.

Notes, Drawings and Documentation
25 Cylinder Design Book, April 2019, Pages 17;

Dwg. No. 7802-0009, 2510B Cylinder GA, Rev. A, Pages: 1;

Dwg. No. 7802-0010, 2512B Cylinder GA, Rev. A, Pages: 1;

Dwg. No. 7802-0011, 2514B Cylinder GA, Rev. A, Pages:1;

Dwg. No. 7800-0054, Cylinder 2510B, Rev. A, Pages:1;

Dwg. No. 7800-0056, Cylinder 2512B, Rev. A, Pages:1;

Dwg. No. 7800-0058, Cylinder 2514B, Rev. A, Pages:1;

Dwg. No. 7800-0053, 2510 Piston Rod Sub Assembly-Balance, Rev. A, Pages:1;

Dwg. No. 7800-0055, 2512 Piston Rod Sub Assembly-Balance, Rev. A, Pages:1;

Dwg. No. 7800-0057, 2514 Piston Rod Sub Assembly-Balance, Rev. A, Pages:1;

Dwg. No. 7800-0061, 25 Cylinder Foot Sub-Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0059, 25 Cylinder End Sub Assembly-Balance, Rev. A, Pages:1;

Dwg. No. 7800-0024, 25 Cylinder Head Sub Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0025, 25 Rod End Assembly, Rev. B, Pages:1;

Dwg. No. 7800-0027, 25 Cylinder Seal Retainer Sub Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0060, 25 Cylinder Seal Retainer Sub Assembly- Balance, Rev. A, Pages:1;

Dwg. No. 7801-0051, 2510 Tube, Rev. A, Pages:1;

Dwg. No. 7801-0054, 2512 Tube, Rev. A, Pages:1;

Dwg. No. 7801-0057, 2514 Tube, Rev. A, Pages:1;

Dwg. No. 7801-0052, 2510 Tie Rod, Rev. A, Pages:1;

Dwg. No. 7801-0055, 2512 Tie Rod, Rev. A, Pages:1;

Dwg. No. 7801-0058, 2514 Tie Rod, Rev. A, Pages:1;

Dwg. No. 7801-0092, 25 Cylinder Piston -Balance, Rev. A, Pages: 1;

Dwg. No. 7801-0097, 2510 Piston Rod-Balance, Rev. A, Pages:1;

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Dwg. No. 7801-0098, 2512 Piston Rod-Balance, Rev. A, Pages:1;

Dwg. No. 7801-0099, 2514 Piston Rod-Balance, Rev. A, Pages:1;

Dwg. No. 7800-0100, 25 Cylinder Piston Pin, Rev. A, Pages:1;

Dwg. No. 7801-0101, A 25 Cylinder Foot-Balance; Rev. A, Pages:1;

Dwg. No. 7801-0101-P, Foot-Profile 25 Cylinder Balance, Rev. A, Pages:1;

Dwg. No. 7801-0102, 25 Cylinder Bearing Retainer, Rev. A, Pages:1;

Dwg. No. 7801-0095, 25 Cylinder End-Balance, Rev. A, Pages:1;

Dwg. No. 7801-0046, 25 Cylinder Head, Rev. B, Pages:1;

Dwg. No. 7801-0048, 25 Bearing Sleeve, Rev. A, Pages:1;

Dwg. No. 7801-0049, 25 Cylinder Rod End, Rev. B, Pages:1;

Dwg. No. 7801-0049-P, Profile, Rod End 25 Cylinder, Rev. A, Pages:1;

Dwg. No. 7801-0050, 25 Seal Retainer, Rev. B, Pages:1;

Dwg. No. 7801-0096, 25 Seal Retainer-Balance, Rev. A, Pages:1;

35 Cylinder Design Book -35 Cylinder Calculations, April 2019

Dwg. No. 7800-0048, Cylinder 3512B, Rev. A, Pages:1;

Dwg. No. 7800-0050, Cylinder 3515B, Rev. A, Pages:1;

Dwg. No. 7800-0052, Cylinder 3518B, Rev. A, Pages:1;

Dwg. No. 7800-0047, 3512 Piston Rod Sub Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0049, 3515 Piston Rod Sub Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0051, 3518 Piston Rod Sub Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0038, 35 Cylinder Foot Assembly, Rev. C, Pages:1;

Dwg. No. 7800-0035, 35 Cylinder End-Sub-Assembly Balance, Rev. A, Pages:1;

Dwg. No. 7800-0002, 35 Cylinder Head Sub Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0003, 35 Rod End Assembly, Rev. B, Pages:1;

Dwg. No. 7800-0005, 35 Cylinder Seal Retainer Sub-Assembly, Rev. A, Pages:1;

Dwg. No. 7800-0037, 35 Cyl. Seal Retainer Sub-Assembly - Balance, Rev. A, Pages:1;

Dwg. No. 7801-0007, 3512 Tube, Rev. A, Pages:1;

Dwg. No. 7801-0010, 3515 Tube, Rev. A, Pages:1;

Dwg. No. 7801-0013, 3518 Tube, Rev. A, Pages:1;

Dwg. No. 7801-0008, 3512 Tie Rod, Rev. A, Pages:1;

Dwg. No. 7801-0011, 3515 Tie Ro, Rev. A, Pages:1;

Dwg. No. 7801-0014, 3518 Tie Rod, Rev. A, Pages:1;

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Dwg. No. 7801-0070, 35 Cylinder Piston-Balance, Rev. A, Pages:1;

Dwg. No. 7801-0086, 3512 Piston Rod-Balance, Rev. A, Pages:1;

Dwg. No. 7801-0087, 3515 Piston Rod-Balance, Rev. A, Pages:1;

Dwg. No. 7801-0088, 3518 Piston Rod-Balance, Rev. A, Pages:1;

Dwg. No. 7801-0075, 35 Cylinder Piston Pin, Rev. A, Pages:1;

Dwg. No. 7801-0073, 35 Cylinder Foot-Balance, Rev. A, Pages:1;

Dwg. No. 7801-0073-P, Foot Profile 35 Cylinder Balance, Rev. A, Pages:1;

Dwg. No. 7801-0074, 35 Bearing Retainer, Rev. B, Pages:1;

Dwg. No. 7801-0069, 35 Cylinder End Balance, Rev. C, Pages:1;

Dwg. No. 7801-0002, 35 Cylinder Head, Rev. B, Pages: 1;

Dwg. No. 7801-0004, 35 Bearing Sleeve, Rev. A, Pages:1;

Dwg. No. 7801-0005, 35 Cylinder Rod End, Rev. C, Pages:1;

Dwg. No. 7801-0005-P, Profile, Rod End, 35 Cylinder, Rev. B, Pages:1;

Dwg. No. 7801-0006, 35 Seal Retainer, Rev. B, Pages:1;

Dwg. No. 7801-0072, 35 Seal Retainer Balance, Rev. B, Pages:1;

Dwg. No. 7802-0007, 3515B Cylinder GA, Rev. A, Pages:1;

Dwg. No. 7802-0008, 3518B Cylinder GA, Rev. A, Pages:1;

Dwg. No. 7802-0006, 3512B Cylinder GA, Rev. A, Pages:1;

Term of Validity
This Product Design Assessment (PDA) Certificate 19-HS1861436-PDA, dated 07/Jun/2019 remains valid until 06/Jun/2024 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.

ABS Rules
2019 ABS Rules for Conditions of Classification, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2019 Marine Vessels Rules 4-3-4/3, 4-3-4/7, 4-3-4/19, 4-4-1/1.11.5, 4-4-1A1, 4-6-7/3.5.5

2019 Steel Vessels Rules 4-3-4/3, 4-3-4/7, 4-3-4/19, 4-4-1/1.11.5, 4-4-1A1, 4-6-7/3.5.5

2019 Steel Vessels Under 90 Meters Length Rules 4-3-3/3, 4-3-3/5.11, 4-3-3/15.1.1, 4-4-6/3.7

2019 ABS Rules for Conditions of Classification of Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2019 Mobile Offshore Drilling Unit Rules 6-1-1/1.1, 6-1-6/1.

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2019 Mobile Offshore Unit Rules 6-1-1/1.1, 6-1-6/1.

International Standards
NA

EU-MED Standards
NA

National Standards
NA

Government Standards
NA

Other Standards
NA

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 20-Aug-2019 9:14

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

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 prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.

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