



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): 25, 35 and 45 Cylinder

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	18-HS1782516-1-PDA	12-JUN-2019	07-OCT-2023
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

Unbalanced Hydraulic Cylinder for Marine Steering Application.

25 Cylinder:

Bore Diameter: 2.50", Rod Diameter: 1.25"

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

35 Cylinder:

Bore Diameter: 3.50", Rod Diameter: 1.75"

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

45 Cylinder:

Bore Diameter: 4.50", Rod Diameter: 2.25"

Stroke: 16" (Model 4516), 20" (Model 4520), 24" (Model 4524)

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.

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

Revision Documents:

Drawing No. 7802-0001, 35 Cylinder GA, Revision: C, Pages: 1

Drawing No. 7802-0003, 25 Cylinder GA, Revision: C, Pages: 1

Original Documents:

25 Cylinder Design Book, October 2018, Pages:15

Drawing No. 7800-0023, 2510 Piston Rod Sub Assembly, Rev. A, Pages: 1

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

Drawing No. 7800-0025, 25 Rod End Assembly, Rev. A, Pages: 1

Drawing No. 7800-0026, 25 Cylinder End Sub Assembly, Rev. A, Pages: 1

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

Drawing No. 7800-0028, Cylinder 2510, Rev. A, Pages: 1

Drawing No. 7800-0029, 2512 Piston Rod Sub Assembly, Rev. A, Pages: 1

Drawing No. 7800-0030, Cylinder 2512, Rev. A, Pages: 1

Drawing No. 7800-0031, 2514 Piston Rod Sub Assembly, Rev. A, Pages: 1

Drawing No. 7800-0032, Cylinder 2514, Rev. A, Pages: 1

Drawing No. 7801-0045, 25 Cylinder Piston, Rev. A, Pages: 1

Drawing No. 7801-0046, 25 Cylinder Head, Rev. A, Pages: 1

Drawing No. 7801-0047, 25 Cylinder End, Rev. A, Pages: 1

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

Drawing No. 7801-0049, 25 Cylinder Rod End, Rev. A, Pages: 1

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

Drawing No. 7801-0050, 25 Seal Retainer, Rev. A, Pages: 1

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

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

Drawing No. 7801-0053, 2510 Piston Rod, Rev. A, Pages: 1

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

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

Drawing No. 7801-0056, 2512 Piston Rod, Rev. A, Pages: 1

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

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

Drawing No. 7801-0059, 2514 Piston Rod, Rev. A, Pages: 1

Drawing No. 7801-0060, 25 Foot, Rev. A, Pages: 1

Drawing No. 7801-0060-P, Profile, Foot, 25 Cylinder, Rev. A, Pages: 1

Drawing No. 7801-0061, 25 Cylinder Pin, Rev. A, Pages: 1

Drawing No. 7801-0062, 25 Pin Keeper, Rev. A, Pages: 1

Drawing No. 7801-0063, 25 Spacer, Rev. A, Pages: 1

Drawing No. 7802-0003, 25 Cylinder GA, Rev. B, Pages: 1

35 Cylinder Design Book, June 2018, Pages: 15

Drawing No. 7800-0001, 3512 Piston Rod Sub Assembly, Rev. A, Pages: 1

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

Drawing No. 7800-0003, 35 Rod End Assembly, Rev. A, Pages: 1

Drawing No. 7800-0004, 35 Cylinder End Sub Assembly, Rev. A, Pages: 1

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

Drawing No. 7800-0006, Cylinder 3512, Rev. A, Pages: 1

Drawing No. 7800-0007, 3515 Piston Rod Sub Assembly, Rev. A, Pages: 1

Drawing No. 7800-0008, Cylinder 3515, Rev. A, Pages: 1

Drawing No. 7800-0009, 3518 Piston Rod Sub Assembly, Rev. A, Pages: 1

Drawing No. 7800-0010, Cylinder 3518, Rev. A, Pages: 1

Drawing No. 7801-0001, 35 Cylinder Piston, Rev. A, Pages: 1

Drawing No. 7801-0002, 35 Cylinder Head, Rev. A, Pages: 1

Drawing No. 7801-0003, 35 Cylinder End, Rev. A, Pages: 1

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

- Drawing No. 7801-0005, 35 Cylinder Rod End, Rev. A, Pages: 1
- Drawing No. 7801-0005-P, Profile, Rod End, 35 Cylinder, Rev. A, Pages: 1
- Drawing No. 7801-0006, 35 Seal Retainer, Rev. A, Pages: 1
- Drawing No. 7801-0007, 3512 Tube, Rev. A, Pages: 1
- Drawing No. 7801-0008, 3512 Tie Rod, Rev. A, Pages: 1
- Drawing No. 7801-0009, 3512 Piston Rod, Rev. A, Pages: 1
- Drawing No. 7801-0010, 3515 Tube, Rev. A, Pages: 1
- Drawing No. 7801-0011, 3515 Tie Rod, Rev. A, Pages: 1
- Drawing No. 7801-0012, 3515 Piston Rod, Rev. A, Pages: 1
- Drawing No. 7801-0013, 3518 Tube, Rev. A, Pages: 1
- Drawing No. 7801-0014, 3518 Tie Rod, Rev. A, Pages: 1
- Drawing No. 7801-0015, 3518 Piston Rod, Rev. A, Pages: 1
- Drawing No. 7801-0016, 35 Foot, Rev. A, Pages: 1
- Drawing No. 7801-0016-P, Profile, Foot, 35 Cylinder, Rev. A, Pages: 1
- Drawing No. 7801-0017, 35 Cylinder Pin, Rev. A, Pages: 1
- Drawing No. 7801-0018, 35 Pin Keeper, Rev. A, Pages: 1
- Drawing No. 7801-0019, 35 Spacer, Rev. A, Pages: 1
- Drawing No. 7802-0001, 35 Cylinder GA, Rev. B, Pages: 1

- 45 Cylinder Design Book, October 2018, Pages:15
- Drawing No. 7800-0012, 4516 Piston Rod Sub Assembly, Rev. A, Pages: 1
- Drawing No. 7800-0013, 45 Cylinder Head Sub Assembly, Rev. A, Pages: 1
- Drawing No. 7800-0014, 45 Rod End Assembly, Rev. A, Pages: 1
- Drawing No. 7800-0015, 45 Cylinder End Sub Assembly, Rev. A, Pages: 1
- Drawing No. 7800-0016, 45 Cylinder Seal Retainer Sub Assembly, Rev. A, Pages: 1
- Drawing No. 7800-0017, Cylinder 4516, Rev. A, Pages: 1
- Drawing No. 7800-0018, 4520 Piston Rod Sub Assembly, Rev. A, Pages: 1
- Drawing No. 7800-0019, Cylinder 4520, Rev. A, Pages: 1
- Drawing No. 7800-0018, 4524 Piston Rod Sub Assembly, Rev. A, Pages: 1
- Drawing No. 7800-0021, Cylinder 4524, Rev. A, Pages: 1
- Drawing No. 7801-0023, 45 Cylinder Piston, Rev. A, Pages: 1
- Drawing No. 7801-0024, 45 Cylinder Head, Rev. A, Pages: 1
- Drawing No. 7801-0025, 45 Cylinder End, Rev. A, Pages: 1

Drawing No. 7801-0026, 45 Bearing Sleeve, Rev. A, Pages: 1
Drawing No. 7801-0027, 45 Cylinder Rod End, Rev. A, Pages: 1
Drawing No. 7801-0027-P, Profile, Rod End, 45 Cylinder, Rev. A, Pages: 1
Drawing No. 7801-0028, 45 Seal Retainer, Rev. A, Pages: 1
Drawing No. 7801-0029, 4516 Tube, Rev. A, Pages: 1
Drawing No. 7801-0030, 4516 Tie Rod, Rev. A, Pages: 1
Drawing No. 7801-0031, 4516 Piston Rod, Rev. A, Pages: 1
Drawing No. 7801-0032, 4520 Tube, Rev. A, Pages: 1
Drawing No. 7801-0033, 4520 Tie Rod, Rev. A, Pages: 1
Drawing No. 7801-0034, 4520 Piston Rod, Rev. A, Pages: 1
Drawing No. 7801-0035, 4524 Tube, Rev. A, Pages: 1
Drawing No. 7801-0036, 4524 Tie Rod, Rev. A, Pages: 1
Drawing No. 7801-0037, 4524 Piston Rod, Rev. A, Pages: 1
Drawing No. 7801-0038, 45 Foot, Rev. A, Pages: 1
Drawing No. 7801-0038-P, Profile, Foot, 45 Cylinder, Rev. A, Pages: 1
Drawing No. 7801-0039, 45 Cylinder Pin, Rev. A, Pages: 1
Drawing No. 7801-0040, 45 Pin Retainer, Rev. A, Pages: 1
Drawing No. 7801-0041, 45 Spacer, Rev. A, Pages: 1
Drawing No. 7802-0002, 45 Cylinder GA, Rev. B, Pages: 1

Term of Validity

This Product Design Assessment (PDA) Certificate 18-HS1782516-1-PDA, dated 07/Jun/2019 remains valid until 07/Oct/2023 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 in 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

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



A handwritten signature in blue ink, appearing to read 'James J. White', is positioned above the printed name and title.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 20-Aug-2019 9:17

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.