



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 07-OCT-2023. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid 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.

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.

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.

Product Name: Hydraulic Steering Gear Cylinder
Model Name(s): 25, 35 and 45 Cylinder

Presented to:

KOBELT MANUFACTURING CO. LTD.
8238 129TH STREET
V3W 0A6
Canada

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)

Tier:

5

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 Steel Vessel Rules. - Material Testing as per 4-3-4/3 of the ABS Steel Vessel 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 Steel Vessel

Rules.

Notes / Documentation:

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. 7800-0018, 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-PDA, dated 08/Oct/2018 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:

2018 ABS Rules for Conditions of Classification of Marine Vessels and Structures 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: 2018 Steel Vessel 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 2018 Steel Vessels Under 90M Length Rules 4-3-3/3, 4-3-3/5.11, 4-3-3/15.1.1, 4-4-6/3.7 2018 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: 2018 Mobile Offshore Drilling Unit Rules 6-1-1/1.1, 6-1-6/1

- National Standards:**
- International Standards:**
- Government Authority:**
- EUMED:**
- Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	18-HS1782516-PDA	06-NOV-2018	07-OCT-2023



ABS Programs

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 was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. 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.