



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

23-2450530-1-PDA
23-Apr-2024
19-Sep-2028
Houston ESD - Ship Equipment

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

KOBELT MANUFACTURING CO. LTD.

located at

8238 129TH STREET, , SURREY, Canada, V3W 0A6

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 Steering Gear Cylinder
Model: 25, 35,45, 25B & 35B Cylinder
Endorsements:
Tier: 5 - Unit Certification Required

This Product Design Assessment (PDA) Certificate remains valid until 19/Sep/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

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 previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Mohamed C Boukamcha

Mohamed C Boukamcha,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 ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

KOBELT MANUFACTURING CO. LTD.

8238 129TH STREET

SURREY B.C.

Canada V3W 0A6

Telephone: 604-572-3935

Fax: 604-590-8313

Email: ekaterinaw@kobelt.com

Web: www.kobelt.com

Tier: 5 - Unit Certification Required

Product: Hydraulic Steering Gear Cylinder

Model: 25, 35,45, 25B & 35B Cylinder

Endorsements:

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).

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).

Rating:

Max Allowable Working Pressure: 2000 psi

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

Service Restriction:

1. Unit Certification is required for this product.
2. 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:

- 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/Drawing/Documentation:

* See attachment

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Tier: 5 - Unit Certification Required

Terms of Validity:

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This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2024 ABS Rules for Conditions of Classification, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:
2024 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

2024 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:

2024 Mobile Offshore Unit Rules 6-1-1/1.1, 6-1-6/1

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA



Attachment to PDA Ref. 23-2450530-1-PDA
Company: Kobelt Manufacturing Co. Ltd.

Product: Hydraulic Steering Gear Cylinder
Model: 25, 35, 45, 25B & 35B Cylinder

Drawing List:

Drawing Number	Revision	Drawing Title for 25/25B Type
7800-0023	B	2510 PISTON ROD SUB ASSEMBLY
7800-0024	B	25 CYLINDER HEAD SUB ASSEMBLY
7800-0025	C	25 ROD END ASSEMBLY
7800-0026	B	25 CYLINDER END SUB ASSEMBLY
7800-0027	B	25 CYLINDER SEAL RETAINER SUB-ASSEMBLY
7800-0028	D	CYLINDER 2510
7800-0029	B	2512 PISTON ROD SUB ASSEMBLY
7800-0030	D	CYLINDER 2512
7800-0031	B	2514 PISTON ROD SUB ASSEMBLY
7800-0032	D	CYLINDER 2514
7801-0045	A	25 CYLINDER PISTON
7801-0046	E	25 CYLINDER HEAD
7801-0047	E	25 CYLINDER END
7801-0048	A	25 BEARING SLEEVE
7801-0049	E	25 CYLINDER ROD END
7801-0049-P	C	PROFILE, ROD END, 25 CYLINDER
7801-0050	D	25 SEAL RETAINER
7801-0051	C	2510 TUBE
7801-0052	B	2510 TIE ROD
7801-0053	C	2510 PISTON ROD
7801-0054	C	2512 TUBE
7801-0055	B	2512 TIE ROD
7801-0056	C	2512 PISTON ROD
7801-0057	C	2514 TUBE
7801-0058	B	2514 TIE ROD
7801-0059	C	2514 PISTON ROD
7801-0060	B	25 FOOT
7801-0060-P	B	PROFILE, FOOT, 25 CYLINDER
7801-0061	C	25 CYLINDER PIN

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7801-0063	A	25 SPACER
7802-0003	D	25 CYLINDER GA
7801-0062	B	25 PIN KEEPER
7802-0009	A	2510B CYLINDER GA
7802-0010	A	2512B CYLINDER GA
7802-0011	A	2514B CYLINDER GA
7800-0054	B	CYLINDER 2510B
7800-0056	B	CYLINDER 2512B
7800-0058	B	CYLINDER 2514B
7800-0053	B	2510 PISTON ROD SUB ASSEMBLY BALANCE
7800-0055	B	2512 PISTON ROD SUB ASSEMBLY BALANCE
7800-0057	B	2514 PISTON ROD SUB ASSEMBLY BALANCE
7800-0061	B	25 CYLINDER FOOT SUB ASSEMBLY
7800-0059	B	25 CYLINDER END SUB ASSEMBLY - BALANCE
7800-0060	B	25 CYL. SEAL RETAINER SUB- ASS'Y - BALANCE
7801-0092	A	25 CYLINDER PISTON - BALANCE
7801-0097	C	2510 PISTON ROD - BALANCE
7801-0098	C	2512 PISTON ROD - BALANCE
7801-0099	C	2514 PISTON ROD - BALANCE
7801-0100	C	25 CYLINDER PISTON PIN
7801-0101	B	25 CYLINDER FOOT - BALANCE
7801-0101-P	B	FOOT PROFILE 25 CYLINDER BALANCE
7801-0102	C	25 BEARING RETAINER
7801-0095	C	25 CYLINDER END - BALANCE
7801-0096	D	25 SEAL RETAINER - BALANCE

Drawing Number	Revision	Drawing Title for 35/35B Type
7800-0001	B	3512 PISTON ROD SUB ASSEMBLY
7800-0002	B	35 CYLINDER HEAD SUB ASSEMBLY
7800-0003	C	35 ROD END ASSEMBLY
7800-0005	B	35 CYLINDER SEAL RETAINER SUB-ASSEMBLY
7800-0006	D	CYLINDER 3512
7800-0007	B	3515 PISTON ROD SUB ASSEMBLY
7800-0008	D	CYLINDER 3515
7800-0009	B	3518 PISTON ROD SUB ASSEMBLY
7800-0010	D	CYLINDER 3518
7801-0001	A	35 CYLINDER PISTON

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7801-0002	D	35 CYLINDER HEAD
7801-0003	D	35 CYLINDER END
7801-0004	A	35 BEARING SLEEVE
7801-0005	E	35 CYLINDER ROD END
7801-0005-P	C	PROFILE, ROD END, 35 CYLINDER
7801-0006	D	35 SEAL RETAINER
7801-0007	C	3512 TUBE
7801-0008	B	3512 TIE ROD
7801-0009	C	3512 PISTON ROD
7801-0010	C	3515 TUBE
7801-0011	B	3515 TIE ROD
7801-0012	C	3515 PISTON ROD
7801-0013	C	3518 TUBE
7801-0014	B	3518 TIE ROD
7801-0015	C	3518 PISTON ROD
7801-0016	B	35 FOOT
7801-0016-P	B	PROFILE, FOOT, 35 CYLINDER
7801-0017	C	35 CYLINDER PIN
7801-0018	D	35 PIN KEEPER
7801-0019	A	35 SPACER
7802-0001	C	35 CYLINDER GA
7802-0006	A	3512B CYLINDER GA
7802-0007	A	3515B CYLINDER GA
7802-0008	A	3518B CYLINDER GA
7800-0048	B	CYLINDER 3512B
7800-0050	B	CYLINDER 3515B
7800-0052	B	CYLINDER 3518B
7800-0047	B	3512 PISTON ROD SUB ASSEMBLY BALANCE
7800-0049	B	3515 PISTON ROD SUB ASSEMBLY BALANCE
7800-0051	B	3518 PISTON ROD SUB ASSEMBLY BALANCE
7800-0038	D	35 CYLINDER FOOT SUB ASSEMBLY
7800-0035	B	35 CYLINDER END SUB-ASS'Y - BALANCE
7800-0037	B	35 CYL. SEAL RETAINER SUB ASS'Y - BALANCE
7801-0070	A	35 CYLINDER PISTON - BALANCE
7801-0086	C	3512 PISTON ROD - BALANCE
7801-0087	C	3515 PISTON ROD - BALANCE
7801-0088	C	3518 PISTON ROD - BALANCE
7801-0075	D	35 CYLINDER PISTON PIN

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7801-0073	D	35 CYLINDER FOOT - BALANCE
7801-0073-P	B	FOOT PROFILE 35 CYLINDER BALANCE
7801-0074	D	35 BEARING RETAINER
7801-0069	E	35 CYLINDER END - BALANCE
7801-0072	D	35 SEAL RETAINER - BALANCE

Drawing Number	Revision	Drawing Title for 45 Type
7800-0012	B	4516 Piston Rod Sub Assembly
7800-0013	B	45 Cylinder Head Sub Assembly
7800-0014	B	45 Rod End Assembly, Rev. B
7800-0015	B	45 Cylinder End Sub Assembly
7800-0016	B	45 Cylinder Seal Retainer Sub Assembly
7800-0017	C	Cylinder 4516
7800-0018	C	4520 Piston Rod Sub Assembly
7800-0019	C	Cylinder 4520
7800-0020	C	4524 Piston Rod Sub Assembly
7800-0021	C	Cylinder 4524
7801-0023	A	45 Cylinder Piston
7801-0024	C	45 Cylinder Head
7801-0025	E	45 Cylinder End
7801-0026	A	45 Bearing Sleeve
7801-0027	D	45 Cylinder Rod End
7801-0027-P	B	Profile, Rod End
7801-0028	C	45 Seal Retainer
7801-0029	C	4516 Tube
7801-0030	B	4516 Tie Rod
7801-0031	C	4516 Piston Rod
7801-0032	C	4520 Tube
7801-0033	B	4520 Tie Rod
7801-0034	C	4520 Piston Rod
7801-0035	C	4524 Tube
7801-0036	B	4524 Tie Rod
7801-0037	C	4524 Piston Rod
7801-0038	B	45 Foot
7801-0038-P	B	Profile, Foot, 45 Cylinder
7801-0039	C	45 Cylinder Pin
7801-0040	A	45 Pin Retainer
7801-0041	A	45 Spacer
7802-0002	B	45 Cylinder GA

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