



Marine & Offshore

Certificate number: 13120/D1 BV

File number: APG 199/0

Product code: 6549I

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

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Kobelt Manufacturing Co. Ltd.

Surrey (BC) - CANADA

for the type of product

STEERING GEAR MISCELLANEOUS COMPONENTS

Steering Cylinders: 25, 25B, 35, 35B & 45 Series.

Helm Pump: 7003,7004,7005,7012,7031.

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 will expire on: 03 Jul 2023

For Bureau Veritas Marine & Offshore,

At BV PORT EVERGLADES CENTRE, on 16 Sep 2020,

Flavio Rosas



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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

1.1 - HYDRAULIC STEERING CYLINDERS

Steering hydraulic cylinders intended to be hand or power operated.

Hydraulic cylinders rating:

MODEL	Maximum working pressure (bar)	Cylinder bore (mm)	Stroke (mm)
2510/2510B	110	63.5	254.00 (10")
2512/2512B	110	63.5	304.80 (12")
2514/2514B	110	63.5	355.60 (14")
3512/3512B	110	88.9	304.80 (12")
3515/3515B	110	88.9	381.00 (15")
3518/3518B	110	88.9	457.20 (18")
4516	110	114.3	406.40 (16")
4520	110	114.3	508.00 (20")
4524	110	114.3	609.60 (24")

Material:

Cylinder tubes:

C1026, ASTM A513 Type 5, SR

St52.3 DIN 2393, SR (E355, EN10305-2, SR) as an alternative material.

End Cap & Rod end:

C1045 CF, ASTM A108

4140 HTSR, ASTM A434, Class BB, BC or BD or 1045 HR ASTM A576 as an alternative material.

Piston Rod:

C1045, Chrome Plated, ASTM A311

10V45 Chrome Plated, ASTM A920, Class 75 as an alternative material.

1.2 - HELM PUMPS

Helm pump are hydraulic variable or fixed displacement, manually operated.

Maximum working pressure 69 bar.

Helm Pump rating:

MODEL	Minimum & Maximum Delivery in ³ per turn	Observation
7003	1 to 3	Variable displacement
7005	2 to 6	
7012	4 to 12	
7004	3.4 & 4.5	Fixed displacement
7031	2 & 2.6	

Material:

Housing & Rotor: Bronze

Piston & pintol: Hardened Steel

Shaft: SS303

1.3 - MISCELLANEOUS COMPONENTS

7002 Header tank

7020 Safety and bypass valve

7143 Non-drain back valve

7144 Single solenoid adaptator base

7145 Dual solenoid adaptator base

7146 Autopilot and Jog lever interface

7148 Power follow-up

2. DOCUMENTS AND DRAWINGS:

See annex.

3. TEST REPORTS:

Test as per Intertek or Powertech testing service reports:

MODEL	Test report
HELM PUMP	
7003	
7005	
7012	473-5610
7004	
7031	

4. APPLICATION / LIMITATION:

- These above components may be used for steering gear of BV classed vessels.
- The steering gear installation drawings should be submitted for each application.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **Kobelt Manufacturing Co. Ltd.** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

5.4 - Hydraulic jacks are to be individually tested at works and delivered with their socket bearing.

5.5 - Cylinders and piston axis are to be supplied with at least a 3-1-B certificate as per EN 10204 Standard.

5.6 - For information, **Kobelt Manufacturing Co. Ltd.** has declared to Bureau Veritas the following production site(s):

Kobelt Manufacturing Co. Ltd.
8238 129th Street
V3W 0A6 Surrey (BC)
CANADA

6. MARKING OF PRODUCT:

Each component is to be marked as applicable with at least.

- Name of manufacturer
- Type
- Maximum working pressure
- Test pressure / date of test
- BV marks.

7. OTHERS:

7.1 - It is **Kobelt Manufacturing Co. Ltd.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate N° 13120/D0 BV issued on 14 December 2018 by the Society.

*** END OF CERTIFICATE ***

Annex for TAC 13120/D1

Drawing title for 25/25B type	Drawing reference	Rev. 25 cylinder	Rev. 25B cylinder
2510 PISTON ROD SUB ASSEMBLY	7800-0023	A	
25 CYLINDER HEAD SUB ASSEMBLY	7800-0024	A	A
25 ROD END ASSEMBLY	7800-0025	B	B
25 CYLINDER END SUB ASSEMBLY	7800-0026	A	
25 CYLINDER SEAL RETAINER SUB-ASSEMBLY	7800-0027	A	A
CYLINDER 2510	7800-0028	C	
2512 PISTON ROD SUB ASSEMBLY	7800-0029	A	
CYLINDER 2512	7800-0030	C	
2514 PISTON ROD SUB ASSEMBLY	7800-0031	A	
CYLINDER 2514	7800-0032	C	
25 CYLINDER PISTON	7801-0045	A	
25 CYLINDER HEAD	7801-0046	D	D
25 CYLINDER END	7801-0047	D	
25 BEARING SLEEVE	7801-0048	A	A
25 CYLINDER ROD END	7801-0049	C	C
PROFILE, ROD END, 25 CYLINDER	7801-0049-P	B	B
25 SEAL RETAINER	7801-0050	C	C
2510 TUBE	7801-0051	B	B
2510 TIE ROD	7801-0052	A	A
2510 PISTON ROD	7801-0053	B	
2512 TUBE	7801-0054	B	B
2512 TIE ROD	7801-0055	A	A
2512 PISTON ROD	7801-0056	B	
2514 TUBE	7801-0057	B	B
2514 TIE ROD	7801-0058	A	A
2514 PISTON ROD	7801-0059	B	
25 FOOT	7801-0060	1	
PROFILE, FOOT, 25 CYLINDER	7801-0060-P	A	
25 CYLINDER PIN	7801-0061	A	
25 SPACER	7801-0063	A	
25 CYLINDER GA	7802-0003	C	
25 PIN KEEPER	7801-0062	A	
2510B CYLINDER GA	7802-0009		A
2512B CYLINDER GA	7802-0010		A
2514B CYLINDER GA	7802-0011		A
CYLINDER 2510B	7800-0054		A
CYLINDER 2512B	7800-0056		A
CYLINDER 2514B	7800-0058		A
2510 PISTON ROD SUB ASSEMBLY BALANCE	7800-0053		A
2512 PISTON ROD SUB ASSEMBLY BALANCE	7800-0055		A
2514 PISTON ROD SUB ASSEMBLY BALANCE	7800-0057		A
25 CYLINDER FOOT SUB ASSEMBLY	7800-0061		A
25 CYLINDER END SUB ASSEMBLY - BALANCE	7800-0059		A

Annex for TAC 13120/D1

Drawing title for 25/25B type	Drawing reference	Rev. 25 cylinder	Rev. 25B cylinder
25 CYL. SEAL RETAINER SUB- ASS'Y - BALANCE	7800-0060		A
25 CYLINDER PISTON - BALANCE	7801-0092		A
2510 PISTON ROD - BALANCE	7801-0097		B
2512 PISTON ROD - BALANCE	7801-0098		B
2514 PISTON ROD - BALANCE	7801-0099		B
25 CYLINDER PISTON PIN	7801-0100		B
25 CYLINDER FOOT - BALANCE	7801-0101		A
FOOT PROFILE 25 CYLINDER BALANCE	7801-0101-P		A
25 BEARING RETAINER	7801-0102		B
25 CYLINDER END - BALANCE	7801-0095		B
25 SEAL RETAINER - BALANCE	7801-0096		C
25 cylinder calculation		April 2020	
25B cylinder calculation			April 2020

Drawing title for 35/35B type	Drawing reference	Rev. 35 cylinder	Rev. 35B cylinder
3512 PISTON ROD SUB ASSEMBLY	7800-0001	A	
35 CYLINDER HEAD SUB ASSEMBLY	7800-0002	A	A
35 ROD END ASSEMBLY	7800-0003	B	B
35 CYLINDER END SUB ASSEMBLY	7800-0004	A	
35 CYLINDER SEAL RETAINER SUB-ASSEMBLY	7800-0005	D	D
CYLINDER 3512	7800-0006	C	
3515 PISTON ROD SUB ASSEMBLY	7800-0007	A	
CYLINDER 3515	7800-0008	C	
3518 PISTON ROD SUB ASSEMBLY	7800-0009	A	
CYLINDER 3518	7800-0010	C	
35 CYLINDER PISTON	7801-0001	A	
35 CYLINDER HEAD	7801-0002	C	C
35 CYLINDER END	7801-0003	C	
35 BEARING SLEEVE	7801-0004	A	A
35 CYLINDER ROD END	7801-0005	D	D
PROFILE, ROD END, 35 CYLINDER	7801-0005-P	B	B
35 SEAL RETAINER	7801-0006	C	C
3512 TUBE	7801-0007	B	B
3512 TIE ROD	7801-0008	A	A
3512 PISTON ROD	7801-0009	B	
3515 TUBE	7801-0010	B	B
3515 TIE ROD	7801-0011	A	A
3515 PISTON ROD	7801-0012	B	
3518 TUBE	7801-0013	B	B

Annex for TAC 13120/D1

Drawing title for 35/35B type	Drawing reference	Rev. 35 cylinder	Rev. 35B cylinder
3518 TIE ROD	7801-0014	A	A
3518 PISTON ROD	7801-0015	B	
35 FOOT	7801-0016	A	
PROFILE, FOOT, 35 CYLINDER	7801-0016-P	A	
35 CYLINDER PIN	7801-0017	A	
35 PIN KEEPER	7801-0018	A	
35 SPACER	7801-0019	A	
35 CYLINDER GA	7802-0001	C	
3512B CYLINDER GA	7802-0006		A
3515B CYLINDER GA	7802-0007		A
3518B CYLINDER GA	7802-0008		A
CYLINDER 3512B	7800-0048		A
CYLINDER 3515B	7800-0050		A
CYLINDER 3518B	7800-0052		A
3512 PISTON ROD SUB ASSEMBLY BALANCE	7800-0047		A
3515 PISTON ROD SUB ASSEMBLY BALANCE	7800-0049		A
3518 PISTON ROD SUB ASSEMBLY BALANCE	7800-0051		A
35 CYLINDER FOOT SUB ASSEMBLY	7800-0038		C
35 CYLINDER END SUB-ASS'Y - BALANCE	7800-0035		A
35 CYL. SEAL RETAINER SUB ASS'Y - BALANCE	7800-0037		A
35 CYLINDER PISTON - BALANCE	7801-0070		A
3512 PISTON ROD - BALANCE	7801-0086		B
3515 PISTON ROD - BALANCE	7801-0087		B
3518 PISTON ROD - BALANCE	7801-0088		B
35 CYLINDER PISTON PIN	7801-0075		C
35 CYLINDER FOOT - BALANCE	7801-0073		C
FOOT PROFILE 35 CYLINDER BALANCE	7801-0073-P		A
35 BEARING RETAINER	7801-0074		C
35 CYLINDER END - BALANCE	7801-0069		D
35 SEAL RETAINER - BALANCE	7801-0072		C
35 cylinder calculation		April 2020	
35B cylinder calculation			April 2020

Annex for TAC 13120/D1

Drawing title for 45 type	Drawing reference	Rev.
4516 PISTON ROD SUB ASSEMBLY	7800-0012	A
45 CYLINDER HEAD SUB ASSEMBLY	7800-0013	A
45 ROD END ASSEMBLY	7800-0014	A
45 CYLINDER END SUB ASSEMBLY	7800-0015	A
45 CYLINDER SEAL RETAINER SUB-ASSEMBLY	7800-0016	A
CYLINDER 4516	7800-0017	A
4520 PISTON ROD SUB ASSEMBLY	7800-0018	A
CYLINDER 4520	7800-0019	A
4524 PISTON ROD SUB ASSEMBLY	7800-0020	A
CYLINDER 4524	7800-0021	A
45 CYLINDER PISTON	7801-0023	A
45 CYLINDER HEAD	7801-0024	B
45 CYLINDER END	7801-0025	D
45 BEARING SLEEVE	7801-0026	A
45 CYLINDER ROD END	7801-0027	A
PROFILE, ROD END, 45 CYLINDER	7801-0027-P	A
45 SEAL RETAINER	7801-0028	B
4516 TUBE	7801-0029	B
4516 TIE ROD	7801-0030	A
4516 PISTON ROD	7801-0031	B
4520 TUBE	7801-0032	B
4520 TIE ROD	7801-0033	A
4520 PISTON ROD	7801-0034	B
4524 TUBE	7801-0035	B
4524 TIE ROD	7801-0036	A
4524 PISTON ROD	7801-0037	B
45 FOOT	7801-0038	A
PROFILE, FOOT, 45 CYLINDER	7801-0038-P	A
45 CYLINDER PIN	7801-0039	A
45 SPACER	7801-0041	A
45 CYLINDER GA	7802-0002	B
45 PIN RETAINER	7801-0040	A
45 cylinder calculation		April 2020

HELM PUMP			
Model	Drawing title	Drawing reference	Rev.
7003	Helm pump 1-3 in3	D7003	B
7005	Helm pump 2-6 in3	D7005	F
7012	Helm pump 4-12 in3	D7012	G
7004	Helm pump 3.4&4.5in3	D-7004	J
7031	Helm pump 2 & 2.6 in3	C7031	D