



MARINE DIVISION

Certificate number: 13120/C1 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: 7030,7032,7040,7050,7065,7067,7080,7085,7087,7090, 7093,7093B, 7093U, 7094,7094D, 7094DL, 7095,7095D, 7096, 7096D, 7098,7100.

Full Power Follow-Up Cylinders: 7065S,7085S,7147.

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 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 2018

For BUREAU VERITAS,

At BV PORT EVERGLADES CENTRE, on 28 May 2014,

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. 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 Division 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 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.

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)	Observation
7030	69	31.75	203	For Outboard motor
7032			190	
7040	105	38.1	140/254	Balanced or unbalanced
7050		50.8	191/305	
7065		63.5	254/406	
7080		76.2	191/406	
7085		69	88.9	
7087	138	89	305/711	
7093	105	101.6	305/610	
7093B	105	101.6	305/610	
7095	69	127	305/610	
7095D	138	127	406/762	
7067	138	63	254/508	
7090		114	406/711	
7094		101.6	305/762	
7094D		101.6	305/762	
7094DL		101.6	305/762	
7096		152.4	406/914	
7096D		152.4	406/1067	
7098		203.2	914/1524	
7100		254	914/1829	
7065S		105	63.5	191/406
7085S	69	88.9	254/508	
7147		50.8	191/305	

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 in3 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	

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:
HYDRAULIC STEERING CYLINDERS**

MODEL	Designation	Drawing number	Material				
STEERING CYLINDER			Cylinder tubes	End Cap & Rod end	Piston Rod		
7030	Assembly	C-7030	Brass C33500	Brass C87800	SS303		
7032		D-7032 Rev A					
7040	Assembly	D-7040 Rev B	Brass C33500	Brass C87800	SS303		
7050		D-7050 Rev B					
7065	Assembly balanced Assembly unbalanced	D7065B Rev B D7065U Rev B	Brass C35000				
7080	Assembly	D-7080 Rev A	Brass C33500				
7085	Assembly balanced Assembly unbalanced	D7085B D7085U	Brass C33500				
7093B	Assembly balanced	D7093B Rev A	Steel ASTM A513 Grade 1026			Brass C86500	SS316
7093U	Assembly unbalanced	D7093U Rev A				Brass C87800	Alloy steel AISI 4140
7095	Assembly	D-7095 Rev C				Brass C86500	SS303
7095D		D-7095D Rev C				Brass C87800	Alloy steel AISI 4140
7094		D-7094 Rev B				Brass C86500	SS303
7094D		D-7094D Rev C		Brass C87800	SS303		
7094DL		D-7094DL Rev E		Brass C87800	Alloy steel AISI 4140		
7096		D-7096 Rev A		Brass C86500	SS303		
7096D		D-7096 Rev -		Brass C87800	Alloy steel AISI 4140		
7098		D-7098		Brass C86500	SS316		
7100		D-7100					
7065S		Assembly balanced	D7065-SB Rev A	Brass C33500	Brass C87800	SS303	
7085S	Assembly balanced Assembly unbalanced	D7085-SB Rev E D7085-SU Rev E					
7147	Assembly	D7147 Rev D					
7067	Assembly	C7067U	Steel ASTM A513 Grade ST52.3	Brass C87800	Alloy steel AISI 4140		
7087	Assembly balanced	D7087B					
	Assembly unbalanced	D7087U					
7090	Assembly	D7090U					
HELM PUMP			Housing & Rotor	Piston & pintol	Shaft		
7003	Helm pump 1-3 in3	D7003 Rev A	Bronze	Hardened Steel	SS303		
7005	Helm pump 2-6 in3	D7005 Rev B					
7012	Helm pump 4-12 in3	D7012 Rev C					
7004	Helm pump 3.4&4.5in3	D-7004 Rev F					
7031	Helm pump 2 & 2.6 in3	C7031 Rev B					

3. TEST REPORTS:

Test as per Intertek or Powertech testing service reports:

MODEL	Test report
STEERING CYLINDER	
7030	473-5610
7032	473-5610
7040	473-5610
7050	473-5610, 3022456
7065	473-6623
7080	473-5610
7085	473-5610, 484-1495
7087	18373-34-00
7093	473-6623
7095	
7095D	16707-34-00-3
7094	473-5610
7094D	0600756/1
7096D	18373-34-00
7096	
7098	473-5610
7100	
7065S	3030146,473-6623
7085S	484-1495
7147	473-5610
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 **Kobel 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.

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 understood that the herewith mentioned manufacturer will give the shipyards and related subcontractors all the relevant information for the proper fitting and uses of the product covered in this Type Approval Certificate. This information has to include the conditions stated in the Certificate.

It is also understood that Bureau Veritas remains rightfully entitled to perform any check or test on the product at any time.

7.2 - This Certificate supersedes the Type Approval Certificate N° 13120/C0 BV issued on 03 Jul 2013 by the Society.

***** END OF CERTIFICATE *****