



MARINE DIVISION

Certificate number: 21757/A0 BV

File number: MOT 179/32

Product code: 0210I

*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*

**Cummins, Inc.**

Charleston, SC - UNITED STATES OF AMERICA

*for the type of product*

**INTERNAL COMBUSTION ENGINES**

QSL 8.9

**Requirements:**

BUREAU VERITAS Rules for the Classification of Steel Ships.  
BUREAU VERITAS Rules for the Classification of Naval 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: 19 Oct 2014**

**For BUREAU VERITAS,**

At BV PORT EVERGLADES CENTRE, on 19 Oct 2009,

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 :

#### **QSL 8.9 Internal Combustion Engine**

6 Cylinders in line, 8.9 litre displacement diesel engine.  
 Electronically controlled.  
 Four stroke, Single acting, turbocharged and after cooled direct injection.  
 Bore X Stroke: 114 X 144.5 mm.

Approved ratings:

**Propulsion: 298 kW @ 2100 rpm, 209 kW & 246 kW @ 1800 rpm**

### 2. DOCUMENTS AND DRAWINGS :

Number of the reviewed drawings of the major components:

<b>Component Name</b>	<b>Drawing No</b>
Crankshaft	3965010
Cap, Main Bearing	3970955
Turbocharger CTT HX55W	4041661
Sheathed fuel system	ST15129/1
Duoline sheathed fuel pipe – Pipe 1 to 5	ST15124/1 to ST15128/1
Oilpan	4003819
Fuel Pump	4921431
Lube Pump	3991123
Fresh Water Pump	3973116
Seawater Pump	3964765

### 3. TEST REPORTS :

Type Approval based on Type Test performed on 25-26 August 2008 at Cummins premises in Charleston on engine serial number 46888707 QSL 8.9 (Rating 298 kW @ 2100 rpm).

### 4. APPLICATION / LIMITATION :

- 4.1 - Diesel engines intended for ship propulsion.
- 4.2 - These engines may be fitted on ships granted with an automation notation provided that all the requirements stated in our Rules are complied with.
- 4.3 - These engines must not be used when duplication of lubricating oil pump and cooling water pump is requested.
- 4.4 - This Certificate applies to bare engines. If required by the Rules, each attached piece of equipment is to be either type-approved or design-appraised on a case by case basis.
- 4.5 - The engines will be delivered with the relevant documentation for their maintenance and their operation.
- 4.6 - The initial survey made at the factory does not prejudice of any additional test or survey which may be required for some specific applications, in order to comply with the related Rules of the Society.

## **5. PRODUCTION SURVEY REQUIREMENTS :**

5.1 - The Internal Combustion Engine QSL8.9 is to be manufactured, examined and tested by **Cummins, Inc.** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel (Naval) Ships.

5.2 - Arrangements shall be made for a Society's Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme (BV Mode I) has been agreed. Relevant Bureau Veritas certificate will be issued after satisfactory completion of the procedure.

5.3 - Tests and trials as per the requirements of Part C, Chap. 1, Sec. 2 of BUREAU VERITAS Rules for the Classification of Steel (Naval) Ships, must be conducted.

5.4 - If required by the Rules, each attached piece of equipment is to be individually inspected at workshops by Society Surveyors. (See NR 266 DNC).

5.5 - The engine must be tested with all its final equipment accessories.

5.6 - The inspection made at the manufacturer premises does not prejudice of any additional equipment which may be required for some specific applications, in order to comply with the related Rules of the Society.

## **6. MARKING OF PRODUCT :**

- Serial number.
- Rated power and speed.
- Application.
- Date of workshop trial.
- Bureau Veritas' Marks.

## **7. OTHERS :**

7.1 - The engines shall be equipped with the parts listed in the manufacturer's Parts Catalog exclusively.

7.2 - The allowable angles of inclination (where equipped with the indicated oilpan) are:

Athwartships	Static and dynamic	22.5°
Fore-and-aft	Static and dynamic	7.5°

7.3 - The following information must be provided for each delivery:

- Actual rating
- List of actual attached equipment
- List of actual options.

7.4 - It is understood that the herewith mentioned manufacturer will give the shipyards and the 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.

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