

Type Approval Certificate

This is to certify that the undernoted product has been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER Volvo Penta, AB

PLACE OF PRODUCTION Gropegårdsgatan
SE-40508 Gothenburg
Sweden

DESCRIPTION Six cylinder, four stroke internal combustion engine

TYPE D13

APPLICATION Main and auxiliary propulsion in marine application

SPECIFIED STANDARDS Lloyd's Register's Rules and Regulations for the Classification of Ships, Part 5, Chapter 2;
Lloyd's Register's Rules and Regulations for the Classification of Special Service Craft, Part 10, Chapter 1

RATINGS

Function:	Propulsion				
Power (kW):	441	404	368	331	294
Speed (rpm):	1900	1900	1800	1800	1800
Max. press. (bar):	165	157	160	142	137
m.i.p. (bar):	21.8	20.0	19.2	17.3	15.3
	Auxiliary/Emergency				
Power (kW):	300	360	360	400	
Speed (rpm):	1500	1800	1500	1800	
Max. press. (bar):	146	154	176	170	
m.i.p. (bar):	19.0	19.0	23.0	21.0	

Certificate No. 11/00050

Issue Date 5 October 2011

Expiry Date 7 September 2016

Sheet 1 of 2



P.F. Moysey
London Design Support Office
Lloyd's Register EMEA

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OTHER CONDITIONS

To ensure the validity of this certificate, production facilities are to be inspected by an LR Surveyor who shall verify that the engines conform to the approval documentation referenced in the Design Appraisal Document that forms part of this certificate.

This Type Approval relates to the mechanical aspects of the engine only. The engine management system should be subject to its own independent LR Type Approval.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. .ENG 6451294 Issue 2 forms part of this Certificate.

Supplementary Type Approval Terms and Conditions

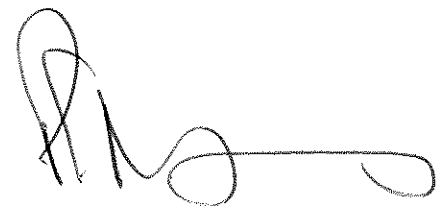
Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.

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