



Maritime &
Coastguard
Agency

Notified body authorised by the MCA



Marine Equipment Directive EC Type Examination Module B Certificate

This is to certify that TUV SUD BABT did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the Marine Equipment Directive (2014/90/EU) requirements under the following Implementing Regulation for the listed types of equipment

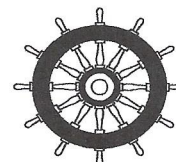
Implementing Regulation	(EU)2017/306
Certificate Holder and Manufacturer	Aquamate Products Limited T/a Echomax Champers Farm Bardfield End Green Thaxted Essex CM6 3PX United Kingdom,
Product(s)	EchoMax – Model EM230 Radar Reflector
Product Sector	Life-saving Appliances
Product Type	MED/1.33 Radar Reflector for lifeboats and rescue boats (passive)

and on the basis of the Technical Data and information detailed in the Annex to this certificate.

Valid from: 08 September 2017 (Signature)  Expiry Date: 07 September 2022

This certificate has been issued in accordance with the Certification Regulations of TUV SUD BABT (Notified Body Number 0168) and constitutes page 1 of the combined Certificate and Annex

The Conditions for the validity of this certificate are listed in the Annex.
For further details, related to this certification please contact BABT@TUV-SUD.co.uk



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Issued by TUV SUD BABT under document number BABT-MED000028 Issue 02

Page 1 of 3

Annex to

Marine Equipment Directive Module B Type Examination Certificate

Description of Equipment:

Radar Reflector for lifeboats and rescue boats.

Model: Echomax EM230 ^{Note 1}

System Components:

Reflector Unit EM230

Optional Components:

Deck Mount Bracket EM230DB
 Mast Mount Bracket EM230MB
 Base Mount Fixture EM230BM3

Variants:

Model: Echomax EM230BR– EM230BM3
 Identical Radar Reflector assembly housed in shortened radome casing.

System Components:

Reflector Unit EM230BR

Optional Components:

Deck Mount Bracket EM230DB(BR)
 Mast Mount Bracket EM230MB
 Base Mount Fixture EM230BM3

Compliance Matrix for MED (EU)2017/306 Item MED/1.33

IMO Resolutions	International Testing Standards	
Resolution A.384(X)	EN ISO 8729-1:1998	Ships and marine technology — Marine radar reflectors
Resolution A694(17)	IEC 60945:2002	General Requirements for Marine Navigation Equipment (Inc. Corr1:2008)

Note 1: This Radar Reflector does not meet the requirements of IMO Resolution MSC.164(78) and is certified under the provisional arrangements of the COSS Decision of 23rd April 2012 for use on lifeboats & rescue craft only.

Relevant Technical Documentation

Declaration(s) of Conformity: Declaration of Conformity 2017, 2017-09-07

User Guide: Lifeboat Mounting Instructions, 2012-09-05

Test reports: QinetiQ BS-EN-ISO 8729:1999 (inc. IEC 60945 Environmental) EM230-Reflective data analysis QinetiQ TT-03/03, 2003-04-03 RR-Assess-01/2012, Iss.1, 2012-08-24

Approved Hardware :

Reflective Array Assembly STD EM230/230BR array, 2012-08-22
Reflector, Bill of Materials EM230/230BR, 2012-08-18

Additional Information:

ISO 8729, 2nd Edition published November 1997 was published in Europe as EN ISO 8729:1998 and in the UK as BS EN ISO 8729:1999 - all technical content is identical.
The EM230 and EM230BR are rigid designs of radar reflector and require mounting arrangements suitable to hold them substantially upright agreed with the lifeboat or rescue craft manufacturer. The optional deck or mast mount brackets, or base mount fixture may be used where suitable structures are available. Mounting height should be at least 2m above sea level.

Conditions of Validity

This issue of the Annex to the referenced Marine Equipment Module B Certificate relates to Issue 2 of the Certificate.

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with TÜV SÜD BABT or a person appointed by TÜV SÜD BABT to perform that role.

Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be reapproved prior to it/them being placed on board vessels to which the amended regulations or standards apply.

The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX B of the Directive is fully complied with and controlled by a written inspection agreement with a notified body."

Signed: <u>T. J. Turynam</u>	Date: <u>8th September 2017</u>
on behalf of TÜV SÜD BABT	