

### Company Name Details

<b>Company Information</b>	<b>Additional Company / Plant Detail</b>	<b>Confirmation of Type Approval</b>
ABB ENGINEERING (SHANGHAI) LTD  NO. 4528 KANGXIN HIGHWAY, PUDONG NEW DISTRICT  China  Tel +862120953266, +862120953296  Fax +86212161298444  Email: chrissie-xi@ca.abb.com  Website: www.abb.com		19-SQ1799377-PDA

Certificate Number	Category	Expiry Date
19-SQ3649941	RQS	21-APR-2024

<b>Product</b>	Monitoring System, Emissions
<b>Model</b>	GAA610-M
<b>Intended Service</b>	Emissions Measuring devices on Classed Vessels.
<b>Description</b>	Exhaust gas monitoring device for CO2, SO2, O2(Optional) Exhaust Gas Analyzer: Uras26

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<b>Ratings</b>	<p>Power supply:115/230 V, 50/60 HZ  Ambient Temperature: 45 Degree Celsius  Degree of Protection: IP 54  Measuring Ranges:  CO2: 0-20 vol. %  SO2: 0-250 ppm/ 0-500 ppm  O2(Optional): 0-25 Vol.%</p>
<b>Service Restrictions</b>	<p>Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.</p>
<b>Comments</b>	<ol style="list-style-type: none"> <li>1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.</li> <li>2. Each particular application and installation is to be specifically approved in conjunction with the relevant system. Equipment is not to be installed in weather exposed areas.</li> <li>3. Installation, calibration and operation is to be in accordance with manufacturer's instruction.</li> <li>4. Requirements of MEPC.259(68), Chapter 6.6 and 6.7 regarding SO2 losses have to be observed.</li> <li>5. Data recording and processing device is not covered by this certificate.</li> <li>6. Compliance with the ABS Guide for Exhaust Emission Abatement has not been reviewed.</li> <li>7. The subject system is assigned to the appropriate computer-based system Category II.</li> </ol>
<b>Notes, Drawing and Documentation</b>	<p>Drawing No. 12, dwg 3, Revision: 0, Pages: 1  Drawing No. 2, dwg 2, Revision: 0, Pages: 1  Drawing No. 2nd generation IOM, IOM, Revision: 0, Pages: 1  Drawing No. ABB GAA610M Test Report, Test Report, Revision: 0, Pages: 1(Testing Laboratory: Unilab (Shanghai) Co.,Ltd, Report No:ULM04720180327001, Date: 18 May 2018)  Drawing No. Bundle Information, Information, Revision: 0, Pages: 1  Drawing No. Components Data Sheet, Data Sheet, Revision: 0, Pages: 1  Drawing No. Hook Up Drawing, Dwg, Revision: 0, Pages: 1  Drawing No. TEST RECORD, Test Report, Revision: 0, Pages: 1(Testing Laboratory: 704 Research Institute of China Shipbuilding Heavy Industries, Report No:S714-ZD(1)-2018, 5 January 2019)  Drawing No. SDLC, Document, Revision: 0, Pages: 1</p>

<b>Term of Validity</b>	<p>This Product Design Assessment (PDA) Certificate 19-SQ1799377-PDA, dated 05/Mar/2019 remains valid until 04/Mar/2024 or until the Rules or specifications used in the assessment are revised (whichever occurs first).</p> <p>This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.</p> <p>Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.</p> <p>Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.</p>
<b>ABS Rules</b>	<p>1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/9, 4-8-3/9.17, 4-1-1/Table 3, 4-9-3/11, 4-9-8/13 of Marine Vessels Rules (2019)</p> <p>1-1-4/7.7, 1-1-A3, 1-1-A4, 4-9-2/7, 4-9-3/5.1, 4-9-3/5.5, 4-9-3/7, 4-9-3/9, 4-9-3/11, 4-9-3/13.1, 4-9-6/19, 4-9-8/13.1 and 4-9-8/Tables 1 &amp; 2 of Steel Vessels Rules (2019)</p> <p>1-1-4/7.7, 1-1-A3, 1-1-A4, 4-7-2/5, 4-7-2/9, 4-7-2/Table 1, 4-7-4/3, 4-7-4/31, 4-7-4/Table 1 of Steel Vessels Under 90 Meters Length Rules (2019)</p> <p>1-1-4/7.7, 1-1-A3, 1-1-A4, 4-9-2/7, 4-9-3/5.1, 4-9-3/5.5, 4-9-3/7, 4-9-3/9, 4-9-3/11, 4-9-3/13.1, 4-9-6/17, 4-9-8/13.1 and 4-9-8/Tables 1 &amp; 2 of Offshore Support Vessels Rules (2019)</p> <p>1-1-4/7.7, 1-1-A3, 1-1-A4 of Steel Barge Rules (2019)</p> <p>1-1-4/11.9, 1-1-A2, 1-1-A3, 4-7-8/3, 4-7-8/5, 4-7-8/7, 4-7-8/9, 4-7-9/15, Table 9 &amp; 10 of High-Speed Crafts Rules (2019)</p> <p>1-1-4/9.7, 1-1-A2, 1-1-A3, 4-3-4/7.1 of Mobile Offshore Units (2019)</p> <p>1-1-4/9.7, 1-1-A2, 1-1-A3, 4-3-4/5 of Mobile Offshore Drilling Unit Rules (2019)</p> <p>1-1-4/9.7, 1-1-A2, 1-1-A3, 3-7/15 of Facilities on Offshore Installations Rules (2019)</p>
<b>National Standard</b>	NA
<b>International Standard</b>	MEPC. 259 (68) - 2015 Guidelines for Exhaust Gas Cleaning Systems
<b>Government Standard</b>	NA
<b>EUMED Standard</b>	NA

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<b>Others Standard</b>	NA
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<b>Model Certificate</b>	<b>Model Certificate #</b>	<b>Issue Date</b>	<b>Expiry Date</b>
PDA	19-SQ1799377-PDA	05-MAR-2019	04-MAR-2024