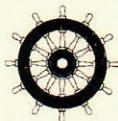


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This consists of 4 pages.
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by _____

Any person not a party to the contract pursuant which this document is delivered may not assert a claim against KRH for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgment, fault or negligence committed by personal of KRH in establishment or issuance of this document, and in connection with any activities for which it may provide. In this provision KRH shall mean the KR Hellas Ltd. as well as all its subsidiaries, directors, officers, employees and any other acting on behalf of KR Hellas Ltd.



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Attachment to EC Type Examination Certificate(1/3)

Product particulars:

	GTD-2000Tx	GTD-2000Ex	GIR-3000
Measuring Type	Diffusion Type	Diffusion Type	Diffusion Type
Measuring Gas	O ₂	Flammable	Flammable
Measuring Method	Electrochemical type	Catalytic type	Infrared type
Protection	IP66/67	IP66/67	IP66/67
Response Time	90% of full Scale in less than 45 sec	90% of full Scale in less than 15 sec	90% of full Scale in less than 10 sec
Accuracy	±3/Full scale	±3/Full scale	±3/Full scale
Power Supply	18~30V DC	18~30V DC	18~30V DC

Type examination documentation:

T.C.F.(Technical Construction File) including bellowing main document was reviewed and approved from Korean Resister of Shipping on 27th July 2012.

Document No.	Title	Version	Date
G-10001	Local flammable gas detector(GTD-2000Ex) layout	0	02.08.2012
G-10002	Local oxygen gas detector(GTD-2000Tx) layout	0	02.08.2012
G-10003	Local flammable gas detector(GIR-3000) layout	0	02.08.2012

Application/Note/Limitations of Use:

1. This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the notified body named on this certificate.
2. Intention to use : Oxygen detection (GTD-2000Tx)
Flammable gas detection (GTD-2000Ex, GIR 3000)
3. Instructions for installation, use and maintenance to be available in the ship's official language.
4. Periodic checking and calibration for gas detector shall be carried out in accordance with manufacturer's guideline with a calibration gas.
5. For safe use, operation and disassembly of a gas detector are prohibited except by permitted person.





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Attachment to EC Type Examination Certificate(2/3)

Test reports:

Report No.	Title of Report	Inspection & Test Institutes	Date
KOMERI-0311-18T0730/18T0731/18T0732	Type approval test report for EMC (GIR-3000, GTD-2000Ex, GTD-2000Tx)	Korea Marine Equipment Research Institute	27.03.2018
N 0568	Type approval test report for Flammable gas detector(GTD-2000Ex)	SIRA Environmental	03.2008
N 0569	Type approval test report for Flammable gas detector(GIR-3000)	SIRA Environmental	03.2008
KOMERI-CTA-12T1280	Type approval test report for Oxygen detector(GTD-2000Tx)	Korea Marine Equipment Research Institute	23.01.2013
KOMERI-CTA-12T1268/12T1266/12T1270	Type approval test report for Environmental test (GTD-2000Tx, GTD-2000Ex, GIR-3000)	Korea Marine Equipment Research Institute	09.01.2013
KOMERI-CTA-12T1269 / KOMERI-0311-12T1267 / 12T1271	Type approval test report for EMC (GTD-2000Tx, GTD-2000Ex, GIR-3000)	Korea Marine Equipment Research Institute	07.02.2013
KOMERI-0306-12T1566/12T1317/12T1567	Type approval test report for Enclosure protection test (GTD-2000Tx, GTD-2000Ex, GIR-3000)	Korea Marine Equipment Research Institute	25.10.2012
KOMERI-CTA-12T1467	Type approval test report for Oxygen detector(GTD-2000Tx)	Korea Marine Equipment Research Institute	18.01.2013
G1209-0004/0002	Visual Inspection & Functional test to equipment	GASTRON Co.,Ltd.	20.09.2012





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Attachment to EC Type Examination Certificate(3/3)

Application/Limitations of Use:

1. The products are to be manufactured in accordance with the approved production quality assurance system(Module D) or approved product assurance system (Module E), or are to be subjected to product verification (Module F) of the Council Directive 2014/90/EU on Marine Equipment.
2. If the Directive or the applied Standard(s) is amended, the product is to be re-approved in accordance with the amended requirements prior to it being supplied to vessels to which the amended Directive or Standard(s) apply. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid.
3. The Manufacturer must inform the "Notified Body" of all modifications which may affect compliance with the requirements.
4. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

Marking:

1. Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity  according to Chapter 2, Article 9, 10 of the Council Directive 2014/90/EU on marine equipment and issue a Declaration of Conformity, only when the module D or E or F of Annex B of the directive is fully complied with.

Place of production:

1. Manufacturer : GASTRON CO., LTD.
2. Address : 23, Gunpocheomdansaneop 1-ro, Gunpo-si, Gyeonggi-Do, 15881, Korea

Remark

1. Reissued on 25th May 2018.
- Renewal of existing certificate issued on 11th March 2013.

