



中国船级社
CHINA CLASSIFICATION SOCIETY

证书格式号/Form: Q01.02-
HQ000102

型式认可证书
CERTIFICATE OF TYPE APPROVAL

模式 A
Mode A

证书编号/Certificate No. SW18Q00002_01

兹证明本证书所述制造厂生产的下列产品能够满足下面列明认可标准的要求。

This is to certify that the following products produced by the manufacturer stated in the certificate can meet the requirements of the approval standards listed below.

认可产品/ Product Approved

变频器

FREQUENCY CONVERTER

制造厂/ Manufacturer

Vacon Oy

Runsorintie 7, FI-65380 Vaasa Finland

附加标志/ Notations

无/Nil.

认可标准/ Approval Standard

1. 中国船级社《钢质海船入级规范》(2018)及其修改通报第4篇第2、3章
Chapter 2&3, Part Four of China Classification Society Rules for Classification of Sea-going Steel Ships 2018 and its Amendments

证书有效期至/ This Certificate is valid until

2020年6月14日 / Jun. 14, 2020

发证机构 中国船级社斯德哥尔摩办事处
Issued by CCS Stockholm Office

签发日期 2018年12月18日
Date Dec. 18, 2018

本证书根据中国船级社《钢质海船入级规范》及有关程序规定签发。关于证书的有关规定见本证书背面的说明。当本证书包括多页纸张时，则所有证书页为一个整体，必须同时使用。每一页证书均须由本社盖章方为有效。证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。本认可证书不代表本社对个体产品质量的检验。有关各方对所持证书的真实性有疑问时，可以向本社检验机构咨询。
This Certificate is issued pursuant to the Rules for Classification of Sea-going Steel Ships and related procedures of the Society. Refer to the back of the certificate for detailed requirements of the certificate. When the certificate consists of more than one page, all pages of the certificate are taken as a whole and are used simultaneously. No certificate page is valid without bearing the stamp of the Society and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. This approval certificate does not constitute the inspection of the Society about the quality of the unit/batch product. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



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1. 证书适用条件

- 1.1 经 CCS 设计认可、型式认可或工厂认可的产品及其生产厂, CCS 将颁发产品设计认可、型式认可或工厂认可证书。当 CCS 规范要求产品证书的情况下, 认可证书不能替代产品证书。
- 1.1.1 设计认可系指 CCS 通过对产品图纸审查和原型/型式试验, 确认产品设计满足 CCS 规范要求和/或其他接受标准要求的评价过程。
- 1.1.2 型式认可系指 CCS 通过产品图纸审查、型式试验和现场审核, 以确认制造厂具备持续生产符合 CCS 规范要求和/或其他接受标准要求产品的能力和条件的评价过程。根据制造厂产品质量保证的能力和水平, 型式认可分为型式认可 A 和 B 两种模式。
- 1.1.3 工厂认可系指 CCS 通过文件/图纸资料审查、型式试验和现场审核, 以确认制造厂具备持续生产符合 CCS 规范要求和/或其他接受标准要求产品的能力和条件的评价过程。
- 1.2 入级和法定产品经 CCS 单件/单批检验完成后, CCS 将颁发产品证书或签署等效证明文件。
- 1.2.1 产品证书是由 CCS 验船师签发的文件, 以证明: a) 产品符合规范要求; b) 产品已进行规定的检验和试验; c) 检验样品取自检验产品本身; d) 产品的试验在验船师参加或根据特别商定的情况下进行。
- 1.2.2 等效证明文件是由制造厂出具并经 CCS 盖章和验船师签署的文件, 以证明: a) 产品符合规范要求; b) 产品已进行规定的检验和试验; c) 检验样品取自检验产品本身; d) 产品的试验在验船师参加或根据特别商定的情况下进行。
- 1.3 对于要求型式认可和/或工厂认可而不要求持有产品证书的入级和法定产品, 可由制造厂证明形式予以证明:
- 1.3.1 制造厂证明是由制造厂签发, 以证明: a) 该产品经 CCS 型式认可或工厂认可; b) 产品符合规范要求; c) 产品已进行规定的检验和试验; d) 检验样品取自检验产品本身; e) 产品的试验在制造厂授权部门代表在场的情况下进行。
- 1.4 规范和法定要求以外的产品经 CCS 单件/单批检验完成后, 由检验证书或试验证书予以记录和证明。
- 1.4.1 检验证书是由 CCS 验船师签署的文件, 以证明: a) 符合申请方确定的产品标准; b) 检验和试验经验船师见证和/或试验报告经验船师审查; c) 试验样品取自检验产品本身。
- 1.4.2 试验证书是由 CCS 验船师签署的文件, 以证明: a) 产品的试验在验船师在场下进行; b) 试验样品取自检验产品本身。

2. 证书的失效、暂停和撤销

CCS 通过认可、检验工作所签发的证书或相关的证明文件的失效、暂停和撤销, 见 CCS 《钢质海船入级规范》第 1 篇第 3 章第 1 节。

3. 责任

- 3.1 CCS 承担的认可/检验服务是在所涉及的产品设计方、制造方、拥有方、销售方、供应方、修理方、使用方以及其他方履行各自职责的基础上进行的。无论 CCS 及所属验船师采用何种认可/检验方式, 也不论在 CCS 名义下颁发、签署的任何报告、文件和证书在内容上如何, 均不意味着可减轻或解除上述任何一方应承担的任何责任。
- 3.2 CCS 签发的与认可/检验有关的任何文件, 只反映检验当时的技术状况, 并不表明被认可的工厂和产品的所有权和知识产权归属。与被认可的工厂和产品的所有权和知识产权有关的任何争议, 与 CCS 无关。
- 3.3 CCS 的认可/检验不影响、替代与 CCS 授权或检验无关的各方对上述工厂的认可和发证, 并且不对与 CCS 授权或检验无关的各方负责, 不承担其未经应允而承认、接受 CCS 认可/检验所导致的法律和经济责任。
- 3.4 CCS 仅对由于自身疏忽行为而直接造成的合同关系方的损失或损害承担责任, 在任何情况下, CCS 均不对合同关系方的间接损失或随后引发的附加损失或损害承担责任, 也不对非合同关系方的任何损失承担责任。
- 3.5 尽管有上述规定, 如依法判定合同关系方所遭受的损失或损害, 仅仅是由于 CCS 或其雇员、代理人或 CCS 其他代表方的疏忽行为造成的, CCS 将承担责任, 并将支付赔偿, 但此赔偿的数额不超过该项服务收费的 5 倍, 且最大不超过人民币 200 万元。但如该损失或损害系由如下行为造成, CCS 将不承担任何责任:
- 1) CCS 雇员超越其受雇权限的行为;
 - 2) CCS 代理人或其他代表方, 超越 CCS 对其书面授权范围的行为。
- 3.6 对 CCS 承担责任的损失或损害的索赔, 应以书面形式, 在损害最初发现或损失形成的 6 个月内提出, 否则将被视为彻底放弃索赔权。

4. 适用法律和仲裁

- 4.1 本证书条款的生效、解释、执行、争议的解决均适用中华人民共和国法律。
- 4.2 除与 CCS 另有约定外, 凡因与 CCS 提供的服务有关的任何争议, 均应提交中国海事仲裁委员会, 按照申请仲裁时该会现行有效的仲裁规则进行仲裁。仲裁裁决是最终的, 对争议当事双方均有约束力。

1. THE APPLICATION OF CERTIFICATES

- 1.1 After Approval, Certificate of Design Approval, Certificate of Type Approval or Certificate of Works Approval will be issued by CCS for the products and manufacturers. Where a product certificate is required by CCS rules, the Approval Certificate cannot replace it.
- 1.1.1 **Design Approval** means the evaluation process to confirm that the product design is in compliance with the requirements of CCS Rules and/or other accepted standards through plan approval and prototype/type test.
- 1.1.2 **Type Approval** means the evaluation process to confirm the approved manufacturer's capability of continuously producing products which are in compliance with the requirements of CCS Rules and/or other accepted standards through product plan approval, type test and on-site audit. Type approval consists of two modes, type approval A and type approval B, which shall be granted to the manufacturer according to manufacturer's ability and level in product quality assurance.
- 1.1.3 **Works Approval** means the evaluation process to confirm the manufacturer's capability of continuously producing products which are in compliance with the requirements of CCS Rules and/or other accepted standards through product plan approval, type test and on-site audit.
- 1.2 A unit/batch inspection of classed or statutory products is to be documented as Certificate of Product or Equivalent document by CCS:
- 1.2.1 **Certificate of Product** is issued by the Surveyor to show that: i) the product complies with rules; ii) required inspection and test have been carried out; iii) the sample is taken from the product to be inspected; iv) the product has been tested in the presence of the Surveyor or in a specially agreed condition.
- 1.2.2 **Equivalent Document** is issued by the manufacturer and endorsed by the Surveyor to show that: i) the product complies with rules; ii) required inspection and test have been carried out; iii) the sample is taken from the product to be inspected; iv) the product has been tested in the presence of the Surveyor or in a specially agreed condition.
- 1.3 The classed and statutory products of which the type approval and/or works approval is required but the products certificate is not required, may be certified as Manufacturer's document:
- 1.3.1 **The Manufacturer's Document** is issued by the manufacturer to show that: i) the product is type approved or works approved by CCS; ii) the product complies with rules; iii) required inspection and test have been carried out; iv) the sample is taken from the product to be inspected; v) the product has been tested in the presence of the department representative authorized by the manufacturer.
- 1.4 A unit/batch inspection Products other than those specified in rules or statutory requirements is to be documented as Inspection Certificate or Test Certificate:
- 1.4.1 **Inspection Certificate** is issued by the Surveyor to show that: i) the product standards as determined by the applicant have been complied with; ii) the inspection and test have been witnessed by the Surveyor and/or the test report has been reviewed by the Surveyor; iii) the sample is taken from the product to be inspected.
- 1.4.2 **Test Certificate** issued by the Surveyor to show that: i) the product has been tested in the presence of the Surveyor; ii) the sample is taken from the product to be inspected.

2. INVALIDATION, SUSPENSION AND CANCELLATION OF CERTIFICATE

Invalidation, suspension and cancellation of the certificates or equivalent documents issued by CCS by means of approval or certification are specified in Section 1, Chapter 3, Part 1 of CCS Rules for Classification of Sea-going Steel Ships.

3. LIABILITY

- 3.1 The service of approval / inspection undertaken by CCS is carried out on the basis that the designers, manufacturers, owners, sellers, suppliers, repairers, operators and other parties fulfill their respective responsibilities. The contents of any reports, documents and certificates issued by CCS cannot diminish any liability of any party mentioned above or absolve it therefrom, whatever the module of approval/inspection adopted by CCS and its surveyors.
- 3.2 Any approval/inspection-related documents issued by CCS only reflect the status at the time when the approval/inspection is carried out. They do not constitute the description for ownership and intellectual property rights of the approved/inspected factory and product. This Society should not be affected by any dispute over ownership and intellectual property rights of the approved/inspected factory and product.
- 3.3 The approval/inspection of CCS does not affect and replace any approval and certification of the manufacturer by any parties that bear no relation with this Society's authorization or survey and therefore takes no responsibility for these parties. CCS does not undertake any legal and economic liabilities arising from accepting this Society's certificate without prior permission from this Society.
- 3.4 CCS will be liable only for the loss or damage of contract parties resulting directly from its negligent act. In no event shall CCS be liable for any indirect or consequential losses or damage, and any loss of non-contract parties.
- 3.5 Notwithstanding the previous paragraph, CCS will be liable for the loss or damage due to negligent act judicially attributed exclusively to CCS and its employees, agents or other parties acting on behalf of CCS. And in no case shall the amount of this liability exceed five times the fee(s) charged by CCS in respect of the service(s) in question or 2,000,000 RMB in maximum. CCS liability for the loss or damage is specially excluded when such loss or damage arises out of an act:
- (1) by an employee of CCS acting outside the terms or scope of his/her employment; or
 - (2) by any agent or other parties acting on behalf of CCS, when such act exceeds the authority granted in writing by CCS to such agent or parties.
- 3.6 Any claim for any loss or damage set forth above is to be made in writing within six months of the date the damage first discovered or the loss occurred; failure of doing so will be deemed as an absolute waiver of this right.

4. APPLICABLE LAWS AND ARBITRATION

- 4.1 The laws of the People's Republic of China shall apply to the coming into force, explanation, implementing, and resolution of dispute of the clause of the certificate.
- 4.2 Unless otherwise agreed with CCS, any dispute of whatsoever nature in respect to the service(s) provided shall be referred to China Maritime Arbitration Commission and arbitrated in accordance with its arbitration rules effective at the time of request for arbitration. The arbitration award shall be final and binding upon both interested parties.

产品明细/ Product Description

变频器/FREQUENCY CONVERTER 型号/Type	: NXS, NXP, NXA, NXB (Brake-chopper unit), NXN, NXI (Inverter unit)
防护等级/Protect Class 冷却方式/Cooling way 额定电压/Rated Voltage	: IP00, IP21, IP54 : Air-cooled or Liquid cooled : Input: AC 208-690 V, DC 465-1100 V (applicable for NXI) Output: 0~Uin V
频率/Frequency	: Input: 45~66 Hz Output: 0~320 Hz
功率/Power	: 0.55~5300 kW

批准的图纸和设计计算书/ Approved Drawings and Design Calculations

图纸批准号/Drawings Approval No. : NP16A00074

产品认可试验报告/ Approval Test Report

试验报告编号/Test Report No.	: 10347418
试验报告日期/Test Report Date	: 2006-08-21
试验单位/ Laboratory	: Vacon Oy
试验单位地址/ Test Address	: Runsorintie 7, FI-65380 Vaasa, Finland
试验报告编号/Test Report No.	: VTT-S-00992-09
试验报告日期/Test Report Date	: 2009-02-13
试验单位/ Laboratory	: VTT
试验单位地址/ Test Address	: P. O. BOX 1000, FI-02044 Espoo Finland
试验报告编号/Test Report No.	: 10368261
试验报告日期/Test Report Date	: 2006-10-30
试验单位/ Laboratory	: CENTRIA
试验单位地址/ Test Address	: PL 62, Vierimaantie 7, FI-84101 Ylivieska Finland
试验报告编号/Test Report No.	: 228338-1
试验报告日期/Test Report Date	: 2003-05-16
试验单位/ Laboratory	: SGS Fimko Oy
试验单位地址/ Test Address	: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland
试验报告编号/Test Report No.	: 234713-1
试验报告日期/Test Report Date	: 2004-09-23
试验单位/ Laboratory	: SGS Fimko Oy
试验单位地址/ Test Address	: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland
试验报告编号/Test Report No.	: 231330-1
试验报告日期/Test Report Date	: 2004-02-12
试验单位/ Laboratory	: SGS Fimko Oy
试验单位地址/ Test Address	: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland
试验报告编号/Test Report No.	: 14450026, 14451070, 14454195, 14454404
试验报告日期/Test Report Date	: 2016-06-02
试验单位/ Laboratory	: Vacon Oy
试验单位地址/ Test Address	: Runsorintie 7, FI-65380 Vaasa, Finland

产品适用范围/ Application of the Product

- Intended for Ships and Offshore Installations.
- For limitation, refer to item "Others" in this certificate.



认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后, 如果产品及其重要零部件的设计、所用材料或制造方法有所改变, 且影响到产品的主要特性、特征; 或产品的性能指标有所更改, 且超过认可的范围, 则有关图纸和文件应经检验机构审批。并在检验机构认为必要时, 经本社检验人员见证有关试验和进行检查, 其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.

4. 在认可证书有效期内, 本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核, 以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 型式认可A证书获得者应接受本社每年一次的定期审核, 定期审核日为认可证书期满之日对应的每一周年日, 检查工作可在周年日的前后三个月内进行。

Those who have obtained the certificate of type approval A should be subject to periodical audit every year. The periodical audit should be carried out within 3 months before and after the anniversary date which corresponds to the date of expiry of the relevant.

认可后的产品检验方式/ Method of Product Inspection after Approval

认可后的产品检验由制造厂按本社批准的产品检验计划进行, 本社在文件审核合格后颁发船用产品证书。

After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society, and the Marine Product Certificate is issued by the Society upon satisfactory documents review.

对于原材料和零部件的检验要求/ Inspection Requirements for Materials and Components

产品如下原材料和零部件应由本社认可的制造厂生产/The following materials and components of the product should be manufactured by the factory approved by the Society:无/Nil.

产品如下原材料和零部件应经本社检验/The following materials and components of the product should be inspected by the Society:无/Nil.

产品如下原材料和零部件的制造厂清单, 经本社批准方可变更/The list of manufacturer for the following materials and components of the product should not be changed without the Society's approval:无/Nil

责任声明/Statement of Responsibility

本社的认可不影响、替代与本社授权或检验无关的各方对上述工厂的认可和发证, 并且不对与本社授权或检验无关的各方负责, 不承担其未经应允而承认、接受本社认可所导致的法律和经济责任。

The approval of the Society does not affect and replace any approval and certification of the manufacturer by any parties that bear no relation with this Society's authorization or survey and therefore takes no responsibility for these parties. The Society does not undertake any legal and economic liabilities arising from accepting this Society's certificate without prior permission from this Society.

其他/Others

1. Alternative manufacturing site:

Name: Vacon (China) Drives Co., Ltd. Haiyan Branch

Address: Building 6-7, No.339, North Xinqiao Road, Wuyuan Street, Haiyan County, 314300, Jiaxing City, Zhejiang Province, China.

2. For specific product description of certain type designation, please refer to user manual approved by CCS (No. NP16A00074).



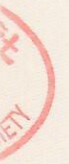
3. Temperature range in operation: 0 - 40 °C, For marine applications size of drive to be derated with respect to an ambient temperature of 40 °C (40 - 50 °C when derated 1,5% /°C, 50 - 55 when derated 2,5% /°C, refer to manual for details).
4. Fuses for protections against overload and short-circuit are not included.
5. 本社已审核了产品厂无石棉声明, 但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。
The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society.
However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.
6. 本证书由原型式认可证书 (No. SW16Q00003) 变更并替代原证书。
This Certificate is modified from and supersedes the previous Type Approval Certificate No. SW16Q00003.

中国船级社斯德哥尔摩办事处

CCS Stockholm Office



*****本证书正文完/ End of Text*****





中国船级社
CHINA CLASSIFICATION SOCIETY

证书格式号/Form: Q01.02-
HQ000102

型式认可证书
CERTIFICATE OF TYPE APPROVAL

模式 A
Mode A

证书编号/Certificate No. SW18Q00002_02

兹证明本证书所述制造厂生产的下列产品能够满足下面列明认可标准的要求。

This is to certify that the following products produced by the manufacturer stated in the certificate can meet the requirements of the approval standards listed below.

认可产品/ Product Approved

直流母联快速隔离设备

Fast DC Bus-Tie Breaker

控制电器

制造厂/ Manufacturer

Vacon Oy

Runsorintie 7, FI-65380 Vaasa Finland

附加标志/ Notations

无/Nil.

认可标准/ Approval Standard

1.中国船级社《钢质海船入级规范》(2018)及其修改通报第4篇第2、3章
Chapter 2&3, Part Four of China Classification Society Rules for Classification of Sea-going Steel Ships 2018 and its Amendments

证书有效期至/ This Certificate is valid until

2020年6月14日 / Jun. 14, 2020

发证机构 中国船级社斯德哥尔摩办事处
Issued by CCS Stockholm Office

签发日期 2018年12月18日
Date Dec. 18, 2018

本证书根据中国船级社《钢质海船入级规范》及有关程序规定签发。关于证书的有关规定见本证书背面的说明。当本证书包括多页纸张时,则所有证书页为一个整体,必须同时使用。每一页证书均须由本社盖章方为有效。证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。本认可证书不代表本社对个体产品质量的检验。有关各方对所持证书的真实性有疑问时,可以向本社检验机构咨询。
This Certificate is issued pursuant to the Rules for Classification of Sea-going Steel Ships and related procedures of the Society. Refer to the back of the certificate for detailed requirements of the certificate. When the certificate consists of more than one page, all pages of the certificate are taken as a whole and are used simultaneously. No certificate page is valid without bearing the stamp of the Society and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. This approval certificate does not constitute the inspection of the Society about the quality of the unit/batch product. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



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1. 证书适用条件

- 1.1 经 CCS 设计认可、型式认可或工厂认可的产品及其生产厂，CCS 将颁发产品设计认可、型式认可或工厂认可证书。当 CCS 规范要求产品证书的情况下，认可证书不能替代产品证书。
- 1.1.1 设计认可系指 CCS 通过对产品图纸审查和原型/型式试验，确认产品设计满足 CCS 规范要求和/或其他接受标准要求的评价过程。
- 1.1.2 型式认可系指 CCS 通过产品图纸审查、型式试验和现场审核，以确认制造厂具备持续生产符合 CCS 规范要求和/或其他接受标准要求产品的能力和条件的评价过程。根据制造厂产品质量保证的能力和水平，型式认可分为型式认可 A 和 B 两种模式。
- 1.1.3 工厂认可系指 CCS 通过文件/图纸资料审查、型式试验和现场审核，以确认制造厂具备持续生产符合 CCS 规范要求和/或其他接受标准要求产品的能力和条件的评价过程。
- 1.2 入级和法定产品经 CCS 单件/单批检验完成后，CCS 将颁发产品证书或签署等效证明文件。
- 1.2.1 产品证书是由 CCS 验船师签发的文件，以证明：a) 产品符合规范要求；b) 产品已进行规定的检验和试验；c) 检验样品取自检验产品本身；d) 产品的试验在验船师参加或根据特别商定的情况下进行。
- 1.2.2 等效证明文件是由制造厂出具并经 CCS 盖章和验船师签署的文件，以证明：a) 产品符合规范要求；b) 产品已进行规定的检验和试验；c) 检验样品取自检验产品本身；d) 产品的试验在验船师参加或根据特别商定的情况下进行。
- 1.3 对于要求型式认可和/或工厂认可而不要求持有产品证书的入级和法定产品，可由制造厂证明形式予以证明：
- 1.3.1 制造厂证明是由制造厂签发，以证明：a) 该产品经 CCS 型式认可或工厂认可；b) 产品符合规范要求；c) 产品已进行规定的检验和试验；d) 检验样品取自检验产品本身；e) 产品的试验在制造厂授权部门代表在场的情况下进行。
- 1.4 规范和法定要求以外的产品经 CCS 单件/单批检验完成后，由检验证书或试验证书予以记录和证明。
- 1.4.1 检验证书是由 CCS 验船师签署的文件，以证明：a) 符合申请方确定的产品标准；b) 检验和试验经验船师见证和/或试验报告经验船师审查；c) 试验样品取自检验产品本身。
- 1.4.2 试验证书是由 CCS 验船师签署的文件，以证明：a) 产品的试验在验船师在场下进行；b) 试验样品取自检验产品本身。

2. 证书的失效、暂停和撤销

CCS 通过认可、检验工作所签发的证书或相关的证明文件的失效、暂停和撤销，见 CCS 《钢质海船入级规范》第 1 篇第 3 章第 1 节。

3. 责任

- 3.1 CCS 承担的认可/检验服务是在所涉及的产品设计方、制造方、拥有方、销售方、供应方、修理方、使用方以及其他方履行各自职责的基础上进行的。无论 CCS 及所属验船师采用何种认可/检验方式，也不论在 CCS 名义下颁发、签署的任何报告、文件和证书在内容上如何，均不意味着可减轻或解除上述任何方应承担的任何责任。
- 3.2 CCS 签发的与认可/检验有关的任何文件，只反映检验当时的技术状况，并不表明被认可的工厂和产品的所有权和知识产权归属。与被认可的工厂和产品的所有权和知识产权有关的任何争议，与 CCS 无关。
- 3.3 CCS 的认可/检验不影响、替代与 CCS 授权或检验无关的各方对上述工厂的认可和发证，并且不对与 CCS 授权或检验无关的各方负责，不承担其未经应允而承认、接受 CCS 认可/检验所导致的法律和经济责任。
- 3.4 CCS 仅对由于自身疏忽行为而直接造成的合同关系方的损失或损害承担责任，在任何情况下，CCS 均不对合同关系方的间接损失或随后引发的附加损失或损害承担责任，也不对非合同关系方的任何损失承担责任。
- 3.5 尽管有上述规定，如依法判定合同关系方所遭受的损失或损害，仅仅是由于 CCS 或其雇员、代理人或 CCS 其他代表方的疏忽行为造成的，CCS 将承担责任，并将支付赔偿，但此赔偿的数额不超过该项服务收费的 5 倍，且最大不超过人民币 200 万元。但如该损失或损害系由如下行为造成，CCS 将不承担任何责任：
- 1) CCS 雇员超越其受授权限的行为；
 - 2) CCS 代理人或其他代表方，超越 CCS 对其书面授权范围的行为。
- 3.6 对 CCS 承担责任的损失或损害的索赔，应以书面形式，在损害最初发现或损失形成的 6 个月内提出，否则将被视为彻底放弃索赔权。

4 适用法律和仲裁

- 4.1 本证书条款的生效、解释、执行、争议的解决均适用中华人民共和国法律。
- 4.2 除与 CCS 另有约定外，凡因与 CCS 提供的服务有关的任何争议，均应提交中国海事仲裁委员会，按照申请仲裁时该会现行有效的仲裁规则进行仲裁。仲裁裁决是最终的，对争议当事双方均有约束力。

1. THE APPLICATION OF CERTIFICATES

- 1.1 After Approval, Certificate of Design Approval, Certificate of Type Approval or Certificate of Works Approval will be issued by CCS for the products and manufacturers. Where a product certificate is required by CCS rules, the Approval Certificate cannot replace it.
- 1.1.1 **Design Approval** means the evaluation process to confirm that the product design is in compliance with the requirements of CCS Rules and/or other accepted standards through plan approval and prototype/type test.
- 1.1.2 **Type Approval** means the evaluation process to confirm the approved manufacturer's capability of continuously producing products which are in compliance with the requirements of CCS Rules and/or other accepted standards through product plan approval, type test and on-site audit. Type approval consists of two modes, type approval A and type approval B, which shall be granted to the manufacturer according to manufacturer's ability and level in product quality assurance.
- 1.1.3 **Works Approval** means the evaluation process to confirm the manufacturer's capability of continuously producing products which are in compliance with the requirements of CCS Rules and/or other accepted standards through product plan approval, type test and on-site audit.
- 1.2 A unit/batch inspection of classed or statutory products is to be documented as Certificate of Product or Equivalent document by CCS:
- 1.2.1 **Certificate of Product** is issued by the Surveyor to show that: i) the product complies with rules; ii) required inspection and test have been carried out; iii) the sample is taken from the product to be inspected; iv) the product has been tested in the presence of the Surveyor or in a specially agreed condition.
- 1.2.2 **Equivalent Document** is issued by the manufacturer and endorsed by the Surveyor to show that: i) the product complies with rules; ii) required inspection and test have been carried out; iii) the sample is taken from the product to be inspected; iv) the product has been tested in the presence of the Surveyor or in a specially agreed condition.
- 1.3 The classed and statutory products of which the type approval and/or works approval is required but the products certificate is not required, may be certified as Manufacturer's document:
- 1.3.1 **The Manufacturer's Document** is issued by the manufacturer to show that: i) the product is type approved or works approved by CCS; ii) the product complies with rules; iii) required inspection and test have been carried out; iv) the sample is taken from the product to be inspected; v) the product has been tested in the presence of the department representative authorized by the manufacturer.
- 1.4 A unit/batch inspection Products other than those specified in rules or statutory requirements is to be documented as Inspection Certificate or Test Certificate:
- 1.4.1 **Inspection Certificate** is issued by the Surveyor to show that: i) the product standards as determined by the applicant have been complied with; ii) the inspection and test have been witnessed by the Surveyor and/or the test report has been reviewed by the Surveyor; iii) the sample is taken from the product to be inspected.
- 1.4.2 **Test Certificate** issued by the Surveyor to show that: i) the product has been tested in the presence of the Surveyor; ii) the sample is taken from the product to be inspected.

2. INVALIDATION, SUSPENSION AND CANCELLATION OF CERTIFICATE

Invalidation, suspension and cancellation of the certificates or equivalent documents issued by CCS by means of approval or certification are specified in Section 1, Chapter 3, Part 1 of CCS Rules for Classification of Sea-going Steel Ships.

3. LIABILITY

- 3.1 The service of approval / inspection undertaken by CCS is carried out on the basis that the designers, manufacturers, owners, sellers, suppliers, repairers, operators and other parties fulfill their respective responsibilities. The contents of any reports, documents and certificates issued by CCS cannot diminish any liability of any party mentioned above or absolve it therefrom, whatever the module of approval/inspection adopted by CCS and its surveyors.
- 3.2 Any approval/inspection-related documents issued by CCS only reflect the status at the time when the approval/inspection is carried out. They do not constitute the description for ownership and intellectual property rights of the approved/inspected factory and product. This Society should not be affected by any dispute over ownership and intellectual property rights of the approved/inspected factory and product.
- 3.3 The approval/inspection of CCS does not affect and replace any approval and certification of the manufacturer by any parties that bear no relation with this Society's authorization or survey and therefore takes no responsibility for these parties. CCS does not undertake any legal and economic liabilities arising from accepting this Society's certificate without prior permission from this Society.
- 3.4 CCS will be liable only for the loss or damage of contract parties resulting directly from its negligent act. In no event shall CCS be liable for any indirect or consequential losses or damage, and any loss of non-contract parties.
- 3.5 Notwithstanding the previous paragraph, CCS will be liable for the loss or damage due to negligent act judicially attributed exclusively to CCS and its employees, agents or other parties acting on behalf of CCS. And in no case shall the amount of this liability exceed five times the fee(s) charged by CCS in respect of the service(s) in question or 2,000,000 RMB in maximum. CCS liability for the loss or damage is specially excluded when such loss or damage arises out of an act:
- (1) by an employee of CCS acting outside the terms or scope of his/her employment; or
 - (2) by any agent or other parties acting on behalf of CCS, when such act exceeds the authority granted in writing by CCS to such agent or parties.
- 3.6 Any claim for any loss or damage set forth above is to be made in writing within six months of the date the damage first discovered or the loss occurred; failure of doing so will be deemed as an absolute waiver of this right.

4. APPLICABLE LAWS AND ARBITRATION

- 4.1 The laws of the People's Republic of China shall apply to the coming into force, explanation, implementing, and resolution of dispute of the clause of the certificate.
- 4.2 Unless otherwise agreed with CCS, any dispute of whatsoever nature in respect to the service(s) provided shall be referred to China Maritime Arbitration Commission and arbitrated in accordance with its arbitration rules effective at the time of request for arbitration. The arbitration award shall be final and binding upon both interested parties.

产品明细/ Product Description

控制电器 型号/Type	: Vacon DCGuard (Unit type: NXP)
额定电压/Rated Voltage	: DC 465 - 1100 V
额定电流/Rated Current	: 3 - 4140 A
额定功率/Rated Power	: 2 - 3410 kW
冷却方式/Cooling way	: Air-cooled or Liquid cooled

批准的图纸和设计计算书/ Approved Drawings and Design Calculations

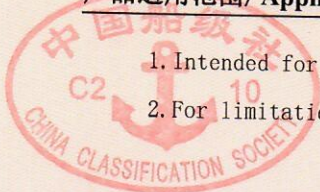
图纸批准号/Drawings Approval No. : NP18A00794

产品认可试验报告/ Approval Test Report

试验报告编号/Test Report No.	: 10347418
试验报告日期/Test Report Date	: 2006-08-21
试验单位/ Laboratory	: Vacon Oy
试验单位地址/ Test Address	: Runsorintie 7, FI-65380 Vaasa, Finland
试验报告编号/Test Report No.	: VTT-S-00992-09
试验报告日期/Test Report Date	: 2009-02-13
试验单位/ Laboratory	: VTT
试验单位地址/ Test Address	: P.O. BOX 1000, FI-02044 Espoo Finland
试验报告编号/Test Report No.	: 10368261
试验报告日期/Test Report Date	: 2006-10-30
试验单位/ Laboratory	: CENTRIA
试验单位地址/ Test Address	: PL 62, Vierimaantie 7, FI-84101 Ylivieska Finland
试验报告编号/Test Report No.	: 228338-1
试验报告日期/Test Report Date	: 2003-05-16
试验单位/ Laboratory	: SGS Fimko Oy
试验单位地址/ Test Address	: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland
试验报告编号/Test Report No.	: 234713-1
试验报告日期/Test Report Date	: 2004-09-23
试验单位/ Laboratory	: SGS Fimko Oy
试验单位地址/ Test Address	: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland
试验报告编号/Test Report No.	: 231330-1
试验报告日期/Test Report Date	: 2004-02-12
试验单位/ Laboratory	: SGS Fimko Oy
试验单位地址/ Test Address	: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland
试验报告编号/Test Report No.	: 14454195, 14454404
试验报告日期/Test Report Date	: 2016-06-02
试验单位/ Laboratory	: Vacon Oy
试验单位地址/ Test Address	: Runsorintie 7, FI-65380 Vaasa, Finland
试验报告编号/Test Report No.	: 00738584
试验报告日期/Test Report Date	: 2017-11-27
试验单位/ Laboratory	: Danfoss Drives
试验单位地址/ Test Address	: Gorinchem, Netherland

产品适用范围/ Application of the Product

1. Intended for Ships and Offshore Installations.
2. For limitation, refer to item "Others" in this certificate.



认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后, 如果产品及其重要零部件的设计、所用材料或制造方法有所改变, 且影响到产品的主要特性、特征; 或产品的性能指标有所更改, 且超过认可的范围, 则有关图纸和文件应经检验机构审批。并在检验机构认为必要时, 经本社检验人员见证有关试验和进行检查, 其结果应能证实仍符合认可条件。
After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.
2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并报告本社批准。
The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.
3. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 工厂应及时采取有效的纠正措施。
Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.
4. 在认可证书有效期内, 本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核, 以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。
Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.
5. 型式认可A证书获得者应接受本社每年一次的定期审核, 定期审核日为认可证书期满之日对应的每一周年日, 检查工作可在周年日的前后三个月内进行。
Those who have obtained the certificate of type approval A should be subject to periodical audit every year. The periodical audit should be carried out within 3 months before and after the anniversary date which corresponds to the date of expiry of the relevant.

认可后的产品检验方式/ Method of Product Inspection after Approval

认可后的产品检验由制造厂按本社批准的产品检验计划进行, 本社在文件审核合格后颁发船用产品证书。
After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society, and the Marine Product Certificate is issued by the Society upon satisfactory documents review.

对于原材料和零部件的检验要求/ Inspection Requirements for Materials and Components

产品如下原材料和零部件应由本社认可的制造厂生产/The following materials and components of the product should be manufactured by the factory approved by the Society:无/Nil.

产品如下原材料和零部件应经本社检验/The following materials and components of the product should be inspected by the Society:无/Nil.

产品如下原材料和零部件的制造厂清单, 经本社批准方可变更/The list of manufacturer for the following materials and components of the product should not be changed without the Society's approval:无/Nil

责任声明/ Statement of Responsibility

本社的认可不影响、替代与本社授权或检验无关的各方对上述工厂的认可和发证, 并且不对与本社授权或检验无关的各方负责, 不承担其未经应允而承认、接受本社认可所导致的法律和经济责任。

The approval of the Society does not affect and replace any approval and certification of the manufacturer by any parties that bear no relation with this Society's authorization or survey and therefore takes no responsibility for these parties. The Society does not undertake any legal and economic liabilities arising from accepting this Society's certificate without prior permission from this Society.

其他/Others

1. Alternative manufacturing site:

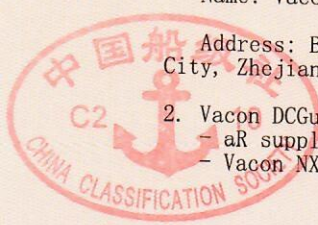
Name: Vacon (China) Drives Co., Ltd. Haiyan Branch

Address: Building 6-7, No. 339, North Xinqiao Road, Wuyuan Street, Haiyan County, 314300, Jiaxing City, Zhejiang Province, China.

2. Vacon DCGuard basic configuration consists of:

- aR supply fuses in each DC supply line, according to NXP inverter manual.

- Vacon NXP inverter. (Type approved with separate certificate No. SW18Q00002_01)



- di/dt filter, with ca 2% inductance.
- Vacon DCGuard application software, named: ADFIF102.

For specific product description of certain type designation, please refer to Vacon DCGuard Peer to Peer Topology Technical data(Document ID.00738653) approved by CCS (No.NP18A00794).

3. Limitation:

The DCGuard is a directional, fault current suppressor based on current interruption by switching of IGBT transistors. This type approval is applicable for a directional and bi-directional peer-to-peer configuration.

The device is used for fault current suppression and does not replace circuit breakers or switches for isolation. The system design of a specific application needs to be approved on a case by case basis.

4. aR fuse and di/dt filter are not included in this type approval certificate.

5. To ensure safe disconnection of the VACON DCGuard, a mechanical disconnecter is required in front of each VACON DCGuard.

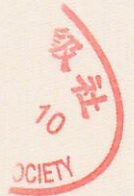
6. 本社已审核了产品厂无石棉声明,但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。
The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society.
However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

7. 本证书基于原型式认可证书 (No. SW18Q00002_01) 变更, 原证书保持有效。

This Certificate is modified from the previous Type Approval Certificate No. SW18Q00002_01, the previous certificate remains valid.



*****本证书正文完/ End of Text*****





CHINA CLASSIFICATION SOCIETY
Letter of Issuance of Approval Certificate
of Marine Products

Work control no. SW18Q00002

Vacon Oy (Client),

At the request of your Company, China Classification Society carried out audit of the quality system related to the design, purchasing, production and inspection of products for which application was submitted, in accordance with CCS rules and relevant procedures from 05/18 (mm/yy) to 12/18 (mm/yy); at the same time, CCS carried out review of drawings and technical documents and type test of marine products Frequency Converter, Fast Bus-Tie Breaker. The results of the review and test demonstrate that your Company's quality management system complies with CCS requirements for quality system, your Company has the capability and conditions to produce the above mentioned product and the product comply with the relevant requirements of Chapter 2 & 3, Part Four of China Classification Society Rules for Classification of Sea-going Steel Ships (2018) and its Amendments. It is granted to issue the type approval certificate. Please acknowledge one copy of approval certificate (No.SW18Q00002_01~02) issued by CCS and a set of documents and information stamped "Approved/Noted" by CCS, attached to this letter.

Your company shall comply with the following requirements or the approval certificate will be suspended or withdrawn:

1. After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.
2. The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.
3. Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.



4. Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. Those who have obtained the certificate of type approval A should be subject to periodical audit every year. The periodical audit should be carried out within 3 months before and after the anniversary date which corresponds to the date of expiry of the relevant.

6. Your Company shall actively assist clients in solving any dispute over the product quality, inform CCS in time, analyze causes, put forward improvement measures and cooperate with CCS in investigation.

7. After the approval, CCS will carry out inspection of your Company's products in accordance with approved quality control plan (product class notation 1)/inspection plan (including product class notation 2).

8. The approval certificate is valid from 18/12/18 (dd/mm/yy) to 14/06/20 (dd/mm/yy). During this period, relevant requirements of CCS Rules for Classification of Sea-going Steel Ships shall be complied with.

The approval does not affect or replace any approval, inspection and certification of the manufacturer carried out by other parties irrelevant to authorization and inspection by CCS. CCS carries out approval and inspection of the product in accordance with requirements of the rules, relevant standards and quality systems. CCS shall not be responsible for any party irrelevant to authorization and inspection carried out by CCS and shall not undertake any legal and economic responsibility due to acceptance of CCS approval and inspection without prior agreement and recognition from CCS.



- Annexes: 1. Approval Certificate
2. Products Inspection Plan



CHINA CLASSIFICATION SOCIETY

PRODUCTS INSPECTION PLAN

In accordance with the relevant requirements of China Classification Society Rules for the Classification of Sea-going Steel Ships, the marine products of the Client mentioned below have been approved by CCS. CCS will implement the inspections of products and certification according to the rules and standards of products and the product quality system of the Applicant and on basis of the following products inspection plan.

1. Client: **Vacon Oy**
2. No. of the approval certificate: **SW18Q00002**
3. Approved marine products: **Frequency Converter, Vacon DCGuard**
4. Basis for inspections of products:

Chapter 2&3, Part Four of China Classification Society Rules for Classification of Sea-going Steel Ships (2018) and its Amendments

5. Requirements for inspection of product

5.1 Products inspection items:

- 5.1.1 Test items to be witnessed by CCS/inspection items

- 5.1.2 Test items in test report submitted to CCS for examination

1) Protective conductor test; 2) High voltage insulation test; 3) Functional test;

4) Burn in; 5) Pressure test (liquid cooled types)

- 5.1.3 The relevant documents to be submitted to CCS for review:

1) Manufacturer's certificate of compliance;

2) Test report;

3) The product nameplate scanned in PDF;

4) Purchase order.

- 5.1.4 Quality Control Plan to be confirmed by CCS (if any)

5.2 Quality system audit items

- 5.2.1 The effective implementation of the quality system, control records of important nodes



- 5.2.2 The effective control of purchasing and subcontracting of raw material, components and parts
- 5.2.3 The type, specification, and source of raw material, components and parts consistent with documents approved by CCS
- 5.2.4 Acceptance records of purchasing and subcontracting of raw material, components and parts
6. Type of products certificates
- 6.1 Marine products certificate
- 6.2 Equivalent document
- 6.3 Manufacturer's document (products of which the type approval and/or works approval is required but the products certificate is not required) with copy of approval certificate attached
7. Procedure for application for inspections of marine products
- Request for Product Survey submitted to CCS Stockholm office – Surveyor assigned
– The relevant documents reviewed - CCS Product Certificate issued
8. Liability, disagreement and arbitration
- Liability, disagreement and arbitration of both parties are specified in Section 13, Chapter 2, PART ONE of CCS Rules for Classification of Sea-going Steel Ships
9. Other explanations
- N/A
10. Implementation and invalidity of products inspection plan
- 10.1 The plan is valid from December 18, 2018 to June 14, 2020.
- 10.2 Where the approval certificate of the Client is invalid, the inspection plan will automatically cease to be in force.
- 10.3 The products inspection plan shall be modified where any serious defects found by CCS in the product quality system of the Applicant affecting the product quality, and the Client shall be informed of it in writing.



 CHINA CLASSIFICATION SOCIETY
 STOCKHOLM OFFICE

Date: December 18, 2018

Note: Mark with × for "Applicable" or with "–" for "Not applicable".

(Rev.1 20180101-2 / 2)