



Type Approval Certificate

[Container Lashing Gear - Loose Gear]

Initial Approval 3 January 2025

Applicant MACGREGOR Finland Oy
Hallimestarinkatu 6 Kaarina 20780 FINLAND

Product Description Loose Gear

- Fully Automatic Twistlock : ACV-1F
(High Holding Securing / High Holding Twistlock)
- Fully Automatic Twistlock : ACV-1T

* Manufacturing site : Unicon International Corporation Ltd.
- Yuanda Road 18#, Guanlin town, Yixing City,
Jiangsu Province, China

See "Appendix 1"

Approval Condition See "Appendix 1"

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 7, Ch. 4, Art. 1002 of the Rules for Classification of Steel Ships.

This Certificate is valid until 2 January 2030

Issued at Busan, Korea on 3 January 2025



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME25000916375) and certificate No.(HMB04330-CL076).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

Note : 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 3 January 2025

A. Product Description

1. Product Specification

Item	Type	Kind of Load	S. W. L. (kN)	P. L. /B. L. (kN)
Fully Automatic Twistlock (HHS/HHT)	ACV-1F	Tension	250	375/750
		Shear	210	315/630
		Compression	1000	1500/2000
Fully Automatic Twistlock	ACV-1T	Tension	250	375/500
		Shear	210	315/420
		Compression	1000	1250/2000

* S. W. L. : Safety Working Load, P. L. : Proof Load, B. L. : Minimum Breaking Load

- 1) It has been confirmed that the vertical clearance of the Twistlocks at 250 kN is 15 mm or less.
- 2) Design value for lashing force calculation : 12.0 – 15.0 mm

2. Approved Drawings and Documents

- 1) Drawing Nos. for ACV-1F
: T108716 (Rev. D), T108772 (Rev. C), T108900 (Rev. A), T108774 (Rev. C), T108775 (Rev. C), T108776 (Rev. B) and T108613 (Rev. C)
- 2) Drawing Nos. for ACV-1T
: T108870 (Rev. A), T108898 (Rev. A), T108901 (Rev. A), T108774 (Rev. C), T108775 (Rev. C), T108776 (Rev. B) and T108613 (Rev. C)

3. Test Reports, etc.

- Test reports dated 08 Nov. 2024 witnessed by the surveyor

B. Approval Condition

1. Application & Limitation

- 1) Forgings or castings for container securing fittings are to be supplied by the approved manufacturers and are to be certified by this Society or to be satisfactory to the surveyor.
- 2) The ACV-1F can be applied to ships with the additional special notation 'HHS/HHT'.
- 3) The ACV-1F and ACV-1T are not approved for use at the bottom but are approved only as intermediate twistlocks.
- 4) The design value for lashing force calculation shall be agreed upon during the project phase.

2. Individual Product Cert. and Drawing Approval Requirement

- Individual Product Certification is required.

3. Marking

- The product or packing is to be marked with manufacturer name and type designation on a suitable position.

4. Others

- N/A

< End of certificate >