

MARINE DIVISION

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Certificate number: 03715/G1 BV

File number: ACM 166/1702/001-002

Product code: 2260I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

TYPE APPROVAL CERTIFICATE

This certificate is issued to

Rotork Sweden AB

Falun - SWEDEN

for the type of product

ACTUATORS

TWIN POWER Pneumatic and Hydraulic Actuators for Valves Type 114 and Type 214

Regulations and standards:

- Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of the Regulations and standards mentioned above.

This certificate is valid until: 13 Feb 2014

At Neuilly, on: 09 Mar 2009

For BUREAU VERITAS,
By order of the Secretary

L. COURREGELONGUE

Approval office



Local office: BV GOTHENBURG

Surveyor: M. Moller



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

TWIN POWER Pneumatic and Hydraulic Actuators for Valves Type 114 and Type 214

1.1 Design

These actuators consist of a drive unit with one or two motors fitted on the spindle of the valve.

The principal parts are:

- Pneumatic or hydraulic motor
- Cylinder for changing to opening or closing
- Indicator bridge for electrical or pneumatic position indication
- Special pilot valve

1.2 Rating

Actuating air pressure 7 bar

Actuating Hydraulic Pressure : 40 - 150 bar

Maximum torque with actuator type 114 : 340 Nm

Maximum torque with actuator type 214 : 780 Nm

Weight 25-30 kg for type 114 / 33-42 kg for type 214

1.3 Materials and/or components

Motor front diaphragm casing : SS 140717-12

Body : SS 0125 / DIN GG-25

Hub : SS-140125

2. DOCUMENTS AND DRAWINGS

- According to manufacturer's technical specification Inf. No. 1
- As per drawings:

Motor front diaphragm casing 51993 (A motor)

51973 (B motor) / 51983 (C motor) / 52023 (D motor)

Body RC1-1052V (Type 114)

RC1-1202N (Type 214)

Hub 000545C

Twin Power 114 Hydraul For DNV Drawing 009287-B

3. TEST REPORTS

Not applicable.

4. APPLICATION / LIMITATION

- 4.1 Each valve linked to the actuator is to be provided with local manual control (or equivalent).
- 4.2 The approval is also valid for ships to be granted with the notations: AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.
- 4.3 The pneumatic or hydraulic piping system for the remote control of the valves is to be submitted by the Shipyard for each application.
- 4.4 The approval does not cover the use in submerged conditions and does not include any operating gear for remote control of the valve linked to the actuator.
- 4.5 The actuator is to be installed according to manufacturer's instructions and Society's Rule requirements.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be manufactured, examined and tested by the manufacturer in accordance with the approved type described in this certificate and Bureau Veritas Rules and Regulations stated on the front page of this certificate. Arrangements shall be made for a Society's Surveyor to attend the tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme, BV Mode I, has been arranged, in order to issue the Bureau Veritas certificate for the approved type to be fitted on board ships classed with Bureau Veritas.

5.2 Production sites are to be recognized by Bureau Veritas as per NR 320 for IBV products. To this end, the manufacturer has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 The manufacturer has declared to Bureau Veritas that the products detailed in this certificate are manufactured at the production site stated on the front page of this certificate.

5.4 Each pneumatic or hydraulic actuator is to be leak tested under operational conditions, after completion on board, in presence of a Society's Surveyor.

6. MARKING OF PRODUCT

The valve is to be permanently marked with the following information:

- Manufacturer's name or trade mark
- Design Pressure
- Design Temperature
- Society's brand as relevant

7. OTHERS

7.1 This approval is given on the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper method of fitting and general maintenance of the actuators and of the conditions of this approval.

7.2 This certificate supersedes the Type Approval Certificate N° 03715/G0 BV issued on 13/02/2009 by the Society.

***** END OF CERTIFICATE *****