DNV·GL

Certificate No:
TAP0000061

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pneumatic Actuator

with type designation(s)
TDA, TSR, WMDA, WMSR: 2, 4, 8, 12, 20, 35, 55, 70, 100, 150, 250 and 400

Issued to
Wirematic Trutorq AB
VÄLLINGBY, Sweden

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Dsgn. press./Torque 2 - 10 bar/torque from 7 to 8260 Nm.

This Certificate is valid until **2020-06-30**.

Issued at **Høvik** on **2016-01-08**

for **DNV GL**

DNV GL local station: **Stockholm**

Approval Engineer: **Simon Ratcliffe**

Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-010904-2**
Certificate No: **TAP0000061**

Product description

Double acting (DA) and spring return (SR) type actuators.
Design approved according to DNV GL Ship Pt.4 Ch.7 Class III

Materials
Cylinder: Aluminium EN AW-6063 EN 573-3
Covers: Aluminium EN AC-46100 EN 1706

Manufactured by TruTorq Italia Srl, 25038 Rovato, Italia.

Application/Limitation

The applicable temperature range of the actuators is limited to the gaskets and O-ring materials:

	Temperature	
Material	**Min**	**Max.**
Nitrile (standard)	-30°C	70°C
Viton (special order)	-20°C	120C

Bilge valves must at any time be accessible and arranged for manual operation in addition to the remote control. Manual operation by means of a portable hand pump is not accepted.

These actuators can be accepted for use in submerged condition in topside tanks for water ballast. In case of emergency it must be possible to operate the actuators from a portable hand pump on deck.

These actuators can be used in submerged condition in systems where this is permitted according to the Rules.

Actuators used on remote controlled ship side valves are to have indicators that will function satisfactory even if the actuators accidentally should be submerged in water.

The maximum output torque from actuators used on butterfly valves must not exceed the limit at which the valve spindle or disc can be damaged if the disc is restrained in any position.

Type Approval documentation

Tests carried out
TSR-20M 200,000 cycle function test

Production testing
Each actuator is to be pressure tested to 1.1x the design pressure before delivery. No Leakage is permitted.

Certification
Actuators may be delivered with a manufacturer’s works certificate only.

Marking of product
For traceability to this type approval the products are at least to be marked with:

- Manufacturer's name or trade mark
- Type designation
- Max. air working pressure
- Part no.
- Serial no.

Periodical assessment
For retention of the Type Approval, DNV GL Surveyor shall perform a survey every second year, to verify that the conditions for the type approval are complied with.