



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **P-13923**

This is to certify that the
Pneumatic Actuator

with type designation(s)
Compact II series 4 piston spring return double action pneumatic actuator, Type designation C15, C20, C25, C30, C35, C45, C60 and C75

Manufactured by
Habonim Industrial Valves and Actuators
Kfar Hanassi, Israel

is found to comply with
Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' Offshore Standards

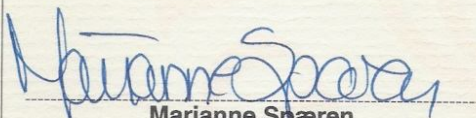
Application

Dsgn. press./Torque PN 6

Høvik, 2011-11-28
for **Det Norske Veritas AS**

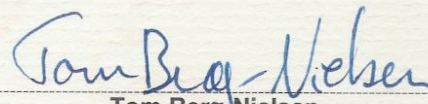


This Certificate is valid until
2015-12-31



Marianne Spæren
Head of Section

DNV local office:
Limassol



Tom Berg-Nielsen
Surveyor

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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Certificate No.: P-13923
File No.: 777.91
Job Id.: 262.1-012348-1

Product description

Pneumatic actuator with spring return consisting of 4 springs and pistons acting on 4 pitch racks turning a gear wheel 90 degrees.

Materials:

Body: Aluminum AL356-T6

Pistons: Aluminum AL356-T6

Application/Limitation

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.

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 to be subject for case by case approvals.

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

Each actuator to be pressure tested to 1, 5 times the maximum design pressure.

Type Approval documentation

- Manufacturers brochure "Product Data Sheet 4 Piston spring return pneumatic actuator"
- Burst test report dated August 24 2011 witnessed by DNV
- DNV Initial Survey report dated 2011-09-02

Tests carried out

Burst test of the body

Marking of product

For traceability to this type approval the products are marked with:

- Habonim Product Code
- Habonim work order number
- Pressure rating
- Habonim Purchase Order traceability

Certificate Retention Survey

For retention of the Type Approval, a DNV Surveyor shall perform a survey - every second year and before the expiry date of this certificate - to verify that the conditions for the type approval are complied with.