



Certificate No:
TAP00002NC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pneumatic Actuator

with type designation(s)
YSZ-A

Issued to

Zhejiang Yongsheng Technology Co., Ltd
Hangzhou, China

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2023-02-08**

This Certificate is valid until **2028-02-07**.

DNV local unit: **Shanghai**

for **DNV**

Approval Engineer: **Christian Kaemmer**

Sven Klinger
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2022-12

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Product description

Type Pneumatic actuator YSZ-A-Series.

Rack and pinion pneumatic actuator with double piston & symmetrical structure design

to be used for 90° rotation / to operate a valve.

Single action (SR) or double acting (DA) actuators, of the same specification use the same cylinder-body and end cover.

Spring-loaded return - or double action mode.

Action mode (SR or DA) is changed by adding or removing springs.

Supply media:	Air, non-corrosive gas or oil
Scope of pressure:	0.1~1 Mpa
Temperature range:	-20°C ~+80°C with NBR O-ring -40°C ~+80°C with Silicone O-ring -20°C ~+150°C with Fluororubber O-ring
Rated stroke / actuator rotation angle:	90° +/- 4°

Main parts:

Cylinder housing
Gear shaft
Cover
Piston
Seals

Materials:

6005-T5 or 6005-T6
20# or 45#
ADC12or ZL104
ADC12or ZL104
PTFE

Configuration and output torque at 04. ~0.7 MPa working pressure:

Model Code / Series	Cylinder diameter	Torque	Stroke
	[mm]	[N/m]	[mm]
YSZ-A 063	63	20.9	19
YSZ-A088	88	46	22
YSZ-A100	100	98.4	25
YSZ-A125	125	156.8	34
YSZ-A145	145	257.9	47
YSZ-A160	160	417	55
YSZ-A190	190	586	62
YSZ-A210	210	719	62
YSZ-A240	240	1050	70
YSZ-A270	270	1490	84

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.

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.

The pneumatic actuators are not type-approved to be used for systems for steering gear, systems for remote control of seawater valves, systems for remote control of fuel oil service tanks, systems for remote control of valves in bilge and fuel oil systems, systems for remote control of fire extinguishing.

Each actuator to be pressure-tested to 1.5 times the design pressure.

Type Approval documentation

Tests carried out

Visual inspection, no-load test, air-tightness test / seal test, pressure test, load test / output torque.

Marking of product

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

- Tag. No.
- Model
- Output Torque / Thrust
- Working Pressure
- Manufacturing No
- Manufacturing Date

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>