Certificate no.:
TAP00002YN

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Pneumatic Actuator

with type designation(s)
2055 Series Rack and, Pinion Actuators

issued to
Burkert Fluid Control Systems (Jiangsu) Co., Ltd.
Taicang City, Jiangsu Province, China

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV rules for classification – Ships Pt.4 Ch.7 Pressure equipment

Application:

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

Type	Dsgn. press./Torque
2055 Series Rack and Pinion Actuators	max.8 bar/ see manufacture's instruction

Issued at **Hamburg** on **2024-11-28**

This Certificate is valid until **2028-12-31**.

for **DNV**

DNV local unit: **Shanghai**

Approval Engineer: **Ana Cristina Do Carmo Insfran**

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 USD 300 000.

Product description

Pneumatic actuator 2055 series rack and pinion actuators to be used for 90° rotary valve, which are equipped with solenoid valve, valve positioner, booster relay, quick exhaust valve, position transmitter and other accessories.

Optional additional mounting parts such as position sensors, solenoid valves, positioners are excluded from this type approval.

Technical Data:

2055 Series Rack and Pinion Actuator 2055-X-X-X-XX-X-XX-XX-XXXX

Flange size: F 03 up to F 25
Pressure range: 2 - 8 bar
Working temperature range: -20°C (1) to + 80°C
Stoke: 0（±6°）～90 (±6°)
Working medium: The operating medium shall have a dew point equal to – 20 °C (1) or to be at least, 10 °C below the ambient temperature (ISO 8573-1, Class 3). The maximum particle size shall not exceed 40 µm (ISO 8573-1, Class 5). see manufacturer's technical data sheet.

Actuator Parts	Materials / Standard
Pinion	Steel, C45E4 acc. to ISO683-1
Cylinder	Aluminium alloy, 6005-T5 acc. to ISO 209:2007
Piston/ End cap	Cast aluminium, ADC12 acc. to JIS H 5302-2006
Spring	Stainless steel, 61SiCr7 acc. to ISO 683-14

Note (1): The product can be used at -40°C, the product structure has not been changed, it is consistent with the original product, the seal material is NBR70GL.

Application

Approved for application and mounting on remote operating solenoid valve, valve positioner, booster relay, quick exhaust valve.
The selection of a suitable actuator for a specific valve type including operation and service conditions shall be carried out according to the technical instructions of the manufacturer.

Limitation

Actuators with housing cap and piston fabricated of aluminium shall not be mounted on valves installed in piping systems and areas subjected to potential hazards caused by fire.
The materials to be used in piping system shall be suitable for the medium and service intended according to DNV Rules Pt. 4, Ch 6 Piping Systems, Section 2 - Materials.

Type Approval documentation

Tests carried out

Test Standards:
DNV Pt. 4 Ch.6 – Piping systems; Pt. 4 Ch.7 – Pressure equipment

- Pressure test witnessed by DNV Surveyor.
  Test pressure in amount of 1,5 times the design pressure
- Functional test

Marking of product

For traceability to this type approval the pneumatic 2055 series rack and pinion actuators are to be marked with:

- Manufacturer's name or trade mark
- Model number
- S/N number
- MAP (only cylinder): xx bar
- Temp. Range: xx °C
- Weight: xxx Kg
- Cylinder Volume: xx L
- Tested Date:
- Production Date
- Working pressure: xx bar

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNV-CP-0338, Sec.4.

The certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE