



Certificate No:  
**TAP00002C9**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Pneumatic Actuator**

with type designation(s)

**3238910010, 3230201100, R417000184, 323009XXXX, 323027XXXX, R417002734**

Issued to

**Aventics GmbH**

**Laatzen, Niedersachsen, Germany**

is found to comply with

**DNV GL 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.**

| Type              | Design pressure |
|-------------------|-----------------|
| <b>3238910010</b> | <b>8 bar</b>    |
| <b>3230201100</b> | <b>7 bar</b>    |
| <b>R417000184</b> | <b>7 bar</b>    |
| <b>323009XXXX</b> | <b>10 bar</b>   |
| <b>323027XXXX</b> | <b>8 bar</b>    |
| <b>R417002734</b> | <b>8 bar</b>    |

Issued at **Hamburg** on **2021-07-06**

This Certificate is valid until **2026-07-05**.

DNV local station: **Essen**

for **DNV**

Approval Engineer: **Christian Kaemmer**

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**Olaf Drews**  
**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: 2021-03

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## Product description

### Type:

323891001:

Pneumatic positioning cylinder. Stroke adjustment dependent upon inlet pressure.

3230201100 & R417000184:

Servo Positioner. Equipped with lever. Lever position (angle) dependent upon inlet pressure.  
Position will be controlled pneumatically.

3230090000; 3230090010; 3230090020; 3230090620; 3230090600; 3230090610:

Pneumatic Actuator with or without Stop-Cylinder. Equipped with lever. Lever position (angle) dependent upon inlet pressure.

3230270100; 3230270140; 3230270160; 3230270200; 3230270300; 3230270800; 3230270940:

Pneumatic Actuator with or without Stop-Cylinder. Equipped with lever. Lever position (angle) dependent upon inlet pressure. Stroke is adjustable.

R417002734:

Positioning Unit 100D – 100H – 15/24V. Equipped with solenoid valves and displacement sensor.  
Piston-rod position dependent upon input current. Piston rod position is adjustable.

### Technical data:

| Type No                  | Max. Operating Pressure | Stroke             | Control Pressure                         | Material                                                                                                 | Force at lever / Power at lever | Ambient Temperature  |
|--------------------------|-------------------------|--------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------|----------------------|
| 3238910010               | 8 bar                   | 2*40 mm            | 0.5 – 5.5 bar                            | Cylinder-Tube:<br>Steel -Tube with<br>Ni-coating.<br>Piston-rod:<br>X14CrMoX17                           | - - -                           | -20°C up to<br>+70°C |
| 3230201100<br>R417000184 | 7 bar<br>7 bar          | 180 mm<br>172 mm   | 0.5 – 5.0 bar<br>0.5 – 5.0 bar           | Casing: ENAC-<br>AlSi10Mg-KT64<br>Lid: Aluminium diecast<br>Lever: 1.0037.07<br>-ST37-2K<br>Gaskets: NBR | 840 N<br>510 N                  | -20°C up to<br>+70°C |
| 323009XXXX               | 10 bar                  | 63 mm              | 0.5 – 6.0 bar                            | Casing: Aluminium-<br>sandcasting<br>Lid: AlSi10Mg<br>Rod: X12CrMoS17                                    | 100 Ncm –<br>5,6 Nm             | -20°C up to<br>+70°C |
| 323027XXXX               | 8 bar                   | 62 mm /<br>(31 mm) | 0.5 – 6.0 bar                            | Casing: Aluminium-<br>sandcasting<br>Lid: AlSi10Mg<br>Rod: X12CrMoS17                                    | 100 Ncm                         | -20°C up to<br>+70°C |
| R417002734               | 8 bar                   | 99 mm              | Solenoid<br>valve<br>24 V DC /<br>4-20mA | Cylinder-Tube:<br>RN AW-6060 AlMgSi<br>Cylinder-Soil:<br>ENAW-6082-AlSi1Mg<br>Piston-Rod:<br>X10CrNiSi89 | 1250 N                          | -10°C up to<br>+60°C |

### Production place

- Emerson Automation Solutions, Bánki donát utca3, Eger 3300, Hungary

### Responsibility

Aventics GmbH, Laatzen takes the responsibility that the design and production of pneumatic actuators are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

### Application/Limitation

Type Approved for the use in compressed air systems, lubricated or non-lubricated.

### Type Approval documentation

### Production testing

All products shall be subject to a function & performance test.

### Tests carried out

Operating sequence test, Function check, Leakage check, Visual Inspection.

### Marking of product

For traceability to this Type Approval, the products are to be marked with:

|                                      |
|--------------------------------------|
| Manufacturer's trade-mark "AVENTICS" |
| Material Number                      |
| Max. Operating Pressure              |
| Manufacturing Date                   |
| Country of Origin                    |

### Periodical assessment

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

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