Physical-Technical Testing Institute
Ostrava - Radvanice

Type Examination Certificate

about verification of non-electrical apparatus for potentially explosive atmospheres according to the scheme in Annex VIII of the Directive 2014/34/EU

Type Examination Certificate number:

FTZÚ 21 Ex 0004

Product: **Butterfly valves, type series 500**

Manufacturer: **ABO valve, s.r.o.**

Address: **Dalimilova 285/54, 783 35 Olomouc, Czech Republic**

This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

Physical-Technical Testing Institute, Certification Body No.3051, accredited by ČAI o.p.s, Prague according to EN ISO/IEC 17065:2012 certifies that this product has been found to comply with requirements of the following standards:

EN ISO 80079-36:2016, EN IEC 60079-0:2018

Manufacturer listed in this certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in this certificate and for successful performance of all specified routine tests and verification.

This certificate relates only to the verification of non-electrical apparatus for potentially explosive atmospheres. Further requirements can be applied to the manufacturing process and supply of this product. These are not covered by this certificate.

This certificate is valid till: **31.12.2026**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV, s.p. • OSTRAVA-RADVANICE •

Date of issue: 17.12.2021

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Description of product:

The 500 series butterfly valves (hereinafter referred to butterfly valves) are straight valves sizes DN50 to DN400, designed for shutting of and regulating the flow of liquid and gaseous media in areas with a risk of explosion of flammable gases, vapors and dusts.

The main components of the butterfly valves are: a two-part body with a flange, a closing disk, a sealing sleeve, a shaft and a pin of the closing disk.

The valves body is a ductile iron casting 0.7043 or a casting made of carbon steel 1.0625 or stainless steel 1.4408. The shaft with the pin and the closing disc are made of stainless steel 1.4469, the closing disc can alternatively be coated with conductive PTFE. The shaft and pin seal with steel disc springs ensures that the sealing sleeve presses against the closing disc.

The sealing sleeve is made of conductive PTFE-based material. The valves body can be coated with a non-conductive epoxy paint with a maximum thickness of 120 µm, alternatively with a conductive paint applied according to the manufacturer's instructions IMS-851-28. The butterfly valves body is equipped with a terminal for connecting the earth conductor.

The basic construction and material design of the butterfly valves is enshrined in their code marking.

More detailed material specification of individual valve components is given in the manufacturer's documentation supplied with the product.

The maximum operating temperature range of the butterfly valves is -40 °C to + 200 °C.

Code marking and approved design variants of butterfly valves:

5 x x x x xx

- **xx** — Coating variant:
  - Without index … coating ROKOPOX MASTIC RK301-R
  - IIIC … conductive coating ALEXIT DECKLACK 412-11
- **x** — DN (50 to 400)
- **x** — Body variant:
  - B … Wafer type
  - T … Lug type
- **x** — Sealing sleeve material:
  - 8 … PTFE conductive
- **x** — Disk material:
  - 7 … Stainless steel 1.4469
  - 8 … Stainless steel 1.4469 with PTFE conductive coating
- **5** — Type series designation 500

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Product marking in relation to its variants:

i) product variants 5xxxx:
II 1G Ex h IIC T6 ... T3 Ga
II 1D Ex h IIIB T40°C ... T200°C Da

ii) product variants 5xxxxIIIC (product variants with conductive coating):
II 1G Ex h IIC T6 ... T3 Ga
II 1D Ex h IIIC T40°C ... T200°C Da

To determine the surface temperature of the product T in relation to its service temperature $T_{service}$, the following applies:
$T_{service} \leq +40°C$: T=40°C
$T_{service} > +40°C$: T= $T_{service}$

Assignment of the temperature class in relation to the temperature T:
T6 ... T ≤ +85°C
T5 ... T ≤ +100°C
T4 ... T ≤ +135°C
T3 ... T ≤ +200°C.

Test report No.: 21/0004

Specific Conditions of Use: none

Conditions for use in explosive atmospheres:

1. The valve maximum temperature does not depend on the product itself, but on its operating conditions, in particular the operating medium temperature and ambient temperature. The valve maximum surface temperature in relation to the ignition temperature of explosive atmosphere will by comply with the general requirements of EN 1127-1, cl. 6.4.2
2. The valve will be grounded through its earthing clamp. Grounding will meet the requirements of CLC/TR 60079-32-1, cl. 13.
3. Other essential safety requirements are covered by the standards listed on the title page of this document.

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List of documentation:

Number	Version	Sheets	Date	Description
-	-	8	03.05.2021	Document „Provozní návod pro uzavírací klapky ABO série 500“
IMS-851-28	-	9+14	29.11.2021	Guideline „Specifické požadavky na nátěrové systémy“
IMS-852-23	Rev.1	1	10.12.2021	Drawing „Dodatkový štítek pro uzavírací klapky ABO s. 500_ATEX“
IMS-852-05a	-	1	14.09.2020	Drawing „Štítek pro uzavírací klapky ABO série 500_PN“
IMS-852-05b	-	1	15.09.2020	Drawing „Štítek pro uzavírací klapky ABO série 500_class“
578XXXX00	-	1	15.12.2021	Drawing „UZAVÍRACÍ KLAPKA“
588XXXX00	-	1	15.12.2021	Drawing „UZAVÍRACÍ KLAPKA“
588X08000	-	1	23.08.2021	Drawing „UZAVÍRACÍ KLAPKA“
B0315X	-	1	22.03.2021	Drawing „PRUŽINA TALÍŘOVÁ“
70166-1	-	1	22.03.2021	Drawing „Šroub pro klapky Atex“
40531A1	-	1	22.03.2021	Drawing „PODLOŽKA PŘÍTLAČNÁ“
40530A1	-	1	22.03.2021	Drawing „SEDLO KROUŽKU“
40521x7	-	1	22.03.2021	Drawing „KROUŽEK“
40520x7	-	1	22.03.2021	Drawing „ELEMENT PRUŽÍCÍ“
40436C2	-	1	25.05.2021	Drawing „MOTÝL, HŘÍDEL A MANŽETA“
40435A2	-	1	25.05.2021	Drawing „MOTÝL, HŘÍDEL“
40416A2	-	1	22.03.2021	Drawing „TĚLESO (DOLNÍ Č.)“
40415A2	-	1	22.03.2021	Drawing „TĚLESO (HORNÍ Č.)“
40410C2	-	1	25.05.2021	Drawing „MOTÝL, HŘÍDEL A MANŽETA“
40400A2	-	1	22.03.2021	Drawing „TĚLESO“

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