IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

UNIT VERIFICATION

Certificate No.: IECEx SIQ 19.0006X

Issue No: 0

Certificate history:
Issue No. 0 (2019-04-03)

Status: **Current**

Date of Issue: **2019-04-03**

Applicant: **Alba, d.o.o.**
Celjska cesta 41, 3212 Vojnik
Slovenia

Equipment: **Dosing Systems, types MD - 2/0.5 and MD - 20/0.5**

Serial number(s) or Unique Identification: **A1904001 (type MD - 2/0.5) and A1904002 (type MD - 20/0.5)**

Type of Protection: **Intrinsic safety "ib", Protection by enclosure "tb", Assembly**

Marking:

Ex 60079-46 IIIC T135°C Db/-

Ex ib IIIC T135°C Db

Ex tb IIIC T90°C Db

Approved for issue on behalf of the IECEx Certification Body: Igor Likar

Position: Managing director

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Slovenian Institute of Quality and Metrology (SIQ)
Trzaska cesta 2
SI-1000 Ljubljana
Slovenia

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Manufacturer:	**Alba, d.o.o.** Celjska cesta 41, 3212 Vojnik **Slovenia**	

Additional Manufacturing location(s):

This Unit verification certificate is issued as verification that the Apparatus identified on page 1, was assessed and tested and found to comply with the IEC Standard list below. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC TS 60079-46 : 2017 Edition:1.0	Explosive atmospheres - Part 46: Equipment assemblies

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

The Apparatus listed has successfully met the examination and test requirements as recorded in

Test Report:

SI/SIQ/ExTR19.0006/00 SI/SIQ/ExTR19.0007/00 SI/SIQ/ExTR19.0008/00
SI/SIQ/ExTR19.0009/00 SI/SIQ/ExTR19.0010/00

Quality Assessment Report:

As this is a Unit Verification Certificate, no QAR is applicable as this certificate is specific to the items listed by serial number or other unique identification.

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

1. Dosing Systems, type MD - 2/0.5, ser. No. A1904001, and type MD - 20/0.5, ser. No. A1904002

Dosing System, types MD - 2/0.5 and MD - 20/0.5, is an assembly of electrical Ex Equipment, which is listed in List of Ex Equipment. Ex Equipment of the assembly comply with IECEx scheme rules and standards. Installation of the Ex Equipment is in accordance with IEC 60079-14 : 2013.

Dosing System meet the requirements for EPL Db and dust group IIIC, except weighting terminal and barrier unit which are intended for installation in non-hazardous area.

Dosing System is intended for dosing of the specified quantity (mass) of dust material.

Technical data:

Ambient temperature range: from -20°C to +40°C,
Supply voltage: 230 V a.c.
Capacity of the weighting unit: 2 g (type MD - 2/0.5) and 20 g (type MD - 20/0.5)
Volume of the hopper: 0.5 l

List of Ex Equipment in assemblies: See Annex.

2. Ex Equipment which is also covered by this certificate:

2.1 Junction box, type MD01, ser. No. 190401 and 190406

Junction box, type MD01, is designed in type of protection "Ex tb". It has three entries with cable glands U.I. Lapp GmbH, type SKINTOP MSR-M ATEX, M12x1.5, Certificate No. IECEx IBE 13.0026X. In junction box are four terminals Wago, type 222.412, for connection of the cable with diameter from 3 mm to 7 mm and conductors of cross-section 0.75 mm^2. Junction box has a fixing hole on the side of the enclosure intended for connection to earth as well.

Technical data

Ambient temperature range: from -20°C to +40°C
Maximum voltage: 12 V
Maximum current: 1 A
Frequency: up to 100 Hz
Conductor sizes: 0.75 mm^2
Degree of ingress protection: IP65

2.2 Housing with coil, type MD02, ser. No. 190402, 190403, 190407 and 190408

Housing with coil, type MD02, is intended to be used in equipment Dosing system, type MD - mm/VV. It is designed in type of protection "Ex tb". A coil is included in interior of the housing. Housing with coil has one entry with cable gland U.I. Lapp GmbH, type SKINTOP MSR-M ATEX, M12x1.5, Certificate No. IECEx IBE 13.0026X, for introduce a permanently connected cable with diameter from 3 mm to 7 mm and conductors of cross-section 0.75 mm^2. Housing with coil has a fixing hole on the side of the enclosure intended for connection to earth as well.

Technical data

Ambient temperature range: from -20°C to +40°C
Maximum voltage: 12 V
Maximum current: 400 mA
Frequency: from 1 Hz to 100 Hz (rectangular shape)
Degree of ingress protection: IP65

2.3 High-resolution load cell, type HR20GU, ser. No. 190404

High-resolution load cell, type HR20GU, is intended for use in a scale. Load cell works on principle of deformation of the resistance elements which are attached to block made of aluminium. Resistance elements are connected in Wheatstone bridge and they are sealed with silicone rubber. Load cell has permanently connected cable and it is protected by cylindrical metal enclosure. Insulation between intrinsically safe circuit and metal part of the load cell withstands dielectric strength test with at least 500 V a.c.

Technical data

Dimensions (width × length × height): 5 mm × 70 mm × 9 mm
Connection: permanently connected cable (4-core) with total length up to 3.0 m
Maximum ambient temperature range: -20°C ≤ T_{amb} ≤ +40°C

Intrinsically safe parameters:
U_i = 15 V
I_i = 350 mA
P_i = 1.3 W
C_i = 0.9 nF
L_i = 4.5 µH

2.4 High-resolution load cell, type HR02, ser. No. 190409

High-resolution load cell, type HR02, is intended for use in a scale. Load cell works on principle of deformation of the resistance elements which are attached to block made of aluminium. Resistance elements are connected in Wheatstone bridge and they are sealed with silicone rubber. Load cell has permanently connected cable. Insulation between intrinsically safe circuit and metal part of the load cell withstands dielectric strength test with at least 500 V a.c.

Technical data

Dimensions (width × length × height):
10 mm × 110 mm × 33 mm … type HR02
Connection: permanently connected cable (4-core) with metal screen of length from 0.5 m to 3.0 m
Maximum ambient temperature range: -20°C ≤ T_{amb} ≤ +40°C

Maximum intrinsically safe parameters:
U_i = 15 V
I_i = 350 mA
P_i = 1.3 W
C_i = 0.9 nF
L_i = 4.5 µH

SPECIFIC CONDITIONS OF USE: YES as shown below:

Dosing System, types: MD - 2/0.5 and MD - 20/0.5

- Weighting terminal and barrier unit shall be installed in non-hazardous area.
- Cleaning of the assembly shall be performed according to User manual.
- Dosing system must be connected by earth.

Junction box, type MD01

- Junction box shall be installed in location which corresponds to the low risk of mechanical danger.
- Junction box shall be earthed.

Housing with coil, type MD02

- Housing with coil shall be installed in location which corresponds to the low risk of mechanical danger.
- Housing with coil shall be earthed.

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EQUIPMENT (continued):

Annex:

Annex_to_IECEx_SIQ_19.0006_Issue_0.pdf

List of Ex Equipment in aseemblies:

Type: MD - 2/0.5, serial number: A1904001

Product	Manufacturer	Type	Ser. No.	Ex-marking	Certificate	Ambient temperature range
EPL db:						
Junction box	Alba, d.o.o.	MD01	190401	Ex tb IIIC T90°C Db	IECEx SIQ 19.0006X	-20°C … +40°C
Housing with coil	Alba, d.o.o.	MD02	190402 190403	Ex tb IIIC T90°C Db	IECEx SIQ 19.0006X	-20°C … +40°C
High-resolution load cell	Alba, d.o.o.	HR20GU	190404	Ex ib IIIC T135°C Db	IECEx SIQ 19.0006X	-20°C … +40°C
Non-electrical parts of the equipment (weighting/rolling mechanism and dosing part) does not have its own potential ignition sources.						
Non-hazardous area:						
Barrier	Pepperl + Fuchs GmbH	Z040	/	[Ex ia Ga Da] IIIC	IECEx BAS 09.0142	-20°C … +60°C
Barrier	Pepperl + Fuchs GmbH	Z042	/	[Ex ia Ga Da] IIIC	IECEx BAS 09.0142	-20°C … +60°C
Weighting terminal	SysTec Gmbh	IT6000E-AC	/	/	/	/

Type: MD - 20/0.5, serial number: A1904002

Product	Manufacturer	Type	Ser. No.	Ex-marking	Certificate	Ambient temperature range
EPL db:						
Junction box	Alba, d.o.o.	MD01	190406	Ex tb IIIC T90°C Db	IECEx SIQ 19.0006X	-20°C … +40°C
Housing with coil	Alba, d.o.o.	MD02	190407 190408	Ex tb IIIC T90°C Db	IECEx SIQ 19.0006X	-20°C … +40°C
High-resolution load cell	Alba, d.o.o.	HR02	190409	Ex ib IIIC T135°C Db	IECEx SIQ 19.0006X	-20°C … +40°C
Non-electrical parts of the equipment (weighting/rolling mechanism and dosing part) does not have its own potential ignition sources.						
Non-hazardous area:						
Barrier	Pepperl + Fuchs GmbH	Z040	/	[Ex ia Ga Da] IIIC	IECEx BAS 09.0142	-20°C … +60°C
Barrier	Pepperl + Fuchs GmbH	Z042	/	[Ex ia Ga Da] IIIC	IECEx BAS 09.0142	-20°C … +60°C
Weighting terminal	SysTec Gmbh	IT6000E-AC	/	/	/	/