

**EURASIAN ECONOMIC UNION (EAEU)
CERTIFICATE OF CONFORMITY**

№ EAEU RU C-IT.AA87.B.00799/21

Series RU № 0344052

CERTIFICATION BODY Certification body of explosion protected and mining equipment (CB CCVE) of the Limited Liability Company “Center for certification of explosion protected and mining equipment” (LLC NANIO CCVE). Legal entity registered office: Russian Federation, 140004, Moscow region, Luberetskiy district, Lyubertsy city, VUGI settlement, EKOMASH plant, Letter B, Object 6, floor 3, Office 26. Address of the accreditation activity: The Russian Federation, 140004, Moscow region, Luberetskiy district, Lyubertsy city, VUGI settlement, EKOMASH plant, Letter B, Object 6, floor 3, Office 26/3, 26/4, 26/5, 27/6, 30/1, 32. Certificate № RA.RU.11AA87 of July 20, 2015. Telephone: +7 (495) 558-83-53, +7 (495) 558-82-44.

E-mail: ccve@ccve.ru

APPLICANT: Limited Liability Company “Pro Consulting”

Legal entity registered office and place of business address:

Russia, 600000, Vladimir region, city of Vladimir, 22 Oktyabrskiy Avenue, office 36.

OGRN 1153328000836, Telephone: +7 (4922) 400-207. E-mail: pro-konsalting@mail.ru

MANUFACTURER PERONI POMPE SpA.

Legal entity registered office: Via Tacito 4 - 20094 Corsico (Milano), Italy

Address of the products manufacturing site: Via Mariano Mandolesi, 18 - 04024 Gaeta (Latina), Italy

PRODUCTS Reciprocating pumping units Titano, PTO, PQO, PSO, Vesuvio, Vulcano, PQR, PTR, PIR, PD with Ex-marking according to Annex (refer to forms 0827208, 0827209, 0827210).

The documents, according to which the products are manufactured – refer to Annex, form № 0827207. Series production

EAEU HS Code 8413 50 6900

CONFORMS TO THE REQUIREMENTS OF

TR CU 012/2011 “On safety of equipment for operation in explosive atmospheres”

THE CERTIFICATE OF CONFORMITY HAS BEEN ISSUED BASED ON

Test certificate № 308.2021-T of October 20, 2021 issued by the Testing laboratory of the technical devices of the Independent Non-Profit Organization “National testing and research institute of equipment for explosive atmospheres” (Ex NII) (certificate № POCC RU.0001.21 MIII19 issued on October 16, 2015); Production audit certificate №59-ДА/21 of July 19, 2021 issued by Certification body of explosion protected and mining equipment (CB CCVE) of the Limited Liability Company “Center for certification of explosion protected and mining equipment (LLC NANIO CCVE); the documents presented by the applicant by way of evidence of the products conformity to TR CU 012/2011 (refer to Annex, form № 0827207). Certification scheme – 1c.

SUPPLEMENTARY INFORMATION

The list of the standards used on a voluntary basis to comply with TR CU 012/2011 (refer to Annex, form № 0827207). The storage conditions and period are specified in the operating documentation. The design service life is 20 years. The production audit was carried out through distant assessment

VALID FROM OCTOBER 22, 2021 TO OCTOBER 21, 2026 INCLUSIVE.

Head (authorized person) of the certification body
Expert (audit expert) (experts (audit experts))
Official Stamp affixed

/signed/ Zalogin Aleksander Sergeevich
/signed/ Antipin Alexander Vasilievich

EURASIAN ECONOMIC UNION (EAEU)

**ANNEX TO
CERTIFICATE OF CONFORMITY**

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Sheet 1

Series RU № 0827207

**1. THE LIST OF THE STANDARDS APPLIED ON A VOLUNTARY BASIS TO COMPLY
WITH TR CU 012/2011 "ON SAFETY OF EQUIPMENT FOR OPERATION IN EXPLOSIVE
ATMOSPHERES"**

Notation of standards	Name of standards
GOST 32407-2013 (ISO/DIS 80079-36)	Explosive atmospheres. Part 36. Non-electrical equipment for use in explosive atmospheres. Basic method and requirements
GOST ISO/DIS 80079-37-2013	Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"
GOST 31610.0-2019 (IEC 60079-0:2017) cl. 29.3, 29.4, 29.5	Explosive atmospheres. Part 0. Equipment. General requirements

**II. DOCUMENTS PROVIDED BY THE APPLICANT IN EVIDENCE OF THE PRODUCTS
CONFORMANCE TO THE REQUIREMENTS OF TR CU 012/2011**

Installation, operation and maintenance manuals:

Reciprocating pumping units of series PQR, PTR, PIR. № IOM-68002-C01.RU (20.05.2021),

Reciprocating pumping units of series VULCANO № IOM-68002-E01.RU (20.05.2021),

Reciprocating pumping units of series PD № IOM-68002-D01.RU (20.05.2021),

Reciprocating pumping units of series VESUVIO № IOM-68002-F01.RU (20.05.2021),

Reciprocating pumping units of series TITANO № IOM-68002-A01.RU (20.05.2021),

Technical file. Reciprocating pumping units of series TITANO, series PTO, PQO, PSO, series PO, series PQR, PTR, PIR, series VESUVIO, series VULCANO. № ATEX 01/04/ST (10.09.2020);

Drawings №№: 383RB8-SEZ, 383RB8-NGR (18.06.2019), 9220IM-NGR, 9220IM-SEZ (10.02.2016), 463600-SEZ, 463600-NGR (15.01.2020), 3545F1-SEZ, 3545F1-NGR (10.05.2013), 514YS7-NGR, 514YS7-SEZ (05.12.2017), 4714AA-SEZ, 4714AA-NGR (20.01.2020);

List of the standards – refer to cl. 1 above.

III. THE DOCUMENTS, ACCORDING TO WHICH THE PRODUCTS HAVE BEEN MADE

Drawings №№: 383RB8-SEZ, 383RB8-NGR (18.06.2019), 9220IM-NGR, 9220IM-SEZ (10.02.2016), 463600-SEZ, 463600-NGR (15.01.2020), 3545F1-SEZ, 3545F1-NGR (10.05.2013), 514YS7-NGR, 514YS7-SEZ (05.12.2017), 4714AA-SEZ, 4714AA-NGR (20.01.2020)

Head (authorized person) of the certification body

/signed/ Zalugin Aleksander Sergeevich

Expert (audit expert) (experts (audit experts))

/signed/ Antipin Alexander Vasilievich

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EURASIAN ECONOMIC UNION (EAEU)

ANNEX TO CERTIFICATE OF CONFORMITY

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Sheet 2

Series RU № 0827208

1. SCOPE AND FIELD OF APPLICATION

The reciprocating pumping units of series Titano, PTO, PQO, PSO, Vesuvio, Vulcano, PQR, PTR, PIR, PD (hereinafter the reciprocating pumping units) are intended for pumping the fluids.

The field of application are explosive zones of classes 1, 2, 21, 22 according to Ex-marking and to other normative documents regulating the application of equipment in explosive gas and dust atmospheres.

2. MAIN TECHNICAL SPECIFICATIONS

2.1 Ex-marking 1Ex h IIB/IIC T4/T3/T2/T1 Gb X or Ex h IIB/IIC T135°C/T200°C/T300°C/450°C Db X or 2Ex h IIB/IIC T4/T3/T2/T1 Gc X or Ex h IIB/IIC T135°C/T200°C/T300°C/450°C Dc X

2.2 Ambient temperatures range, °C

-16...+40/-50...+55

2.3 The main technical specifications:

Reciprocating pumping units	Design pressure, MPa	Capacity, m ³ /h	Pumping fluid temperature, °C
Titano	4,2 ... 100	0,05... 350	0...400
PTO, PQO, PSO	16,4...100	1,8...450	0...400
Vesuvio	0,85... 4,5	4,9 ... 117	0...400
Vulcano	5...13	3,2...18,5	0...400
PD	2,5...24	3...5	0..180
PQR, PTR, PIR	7,7... 100	0,005... 4	0...400

2.4 The list of the explosion-proof equipment as part of the reciprocating pumping units with specification of manufacturers, Ex-marking according to GOST 31610.0-2014 (IEC 60079-0:2011), GOST 31441.1-2011 (EN 13463-1:2001) and the certificates of conformity to the requirements of TR CU 012/2011 is given in the table 1.

Table 1

№	Name and type of the explosion-proof equipment	Manufacturers	Ex-marking	Certificates of conformity to the requirements of TR CU 012/2011
1	Low-voltage motors for explosive zones of types M3JP 80 - M3JP 400, M3KP 80 - M3KP400	ABB Oy Motors and Generators	IEx d IIB T3... T6 Gb X or IEx d IIC T3... T6 Gb X or IEx d e IIB T3... T6 Gb X or IEx d e IIC T3... T6 Gb X and Ex tb IIIA T80... T150°C Db or Ex tb IIB T80... T150°C Db or Ex tb IIC T80... T150°C Db	EAЭC RU C-FI.EX01.B.00013/19
2	Gearboxes of series A, E, G, H, EP	Rossi S.p.A	II Gb c k b T4 X/III Db c k b T135°C X or II Gb c k T4 X/III Db c k T135°C X or II Gb c k b T3 X/III Db c k b T200°C X or II Gb c k T3 X/ III Db c k T200°C X	EAЭC RU C-IT.HA65.B.01181/21
3	Resistance thermal converters Rosemount 0065, 0068, 0078, 1067, 214C, 0085 and thermal electric converters Rosemount 0183, 0185, 1067, 214C	Rosemount Inc.	IEx db IIC T6... T1 Gb X Ex tb IIC T130°C Db X 0Ex ia IIC T5,T6 Ga X	EAЭC RU C-US.EX01.B.00120/19

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Sheet 3

Series RU № 0827209

№	Name and type of the explosion-proof equipment	Manufacturers	Ex-marking	Certificates of conformity to the requirements of TR CU 012/2011
4	Level detectors 5300	Rosemount Inc.	0Ex ia IIC T4 ... TI Ga X. Ga/Gb Ex ia/ib IIC T4 ... TI X, Ga/Gb Ex db ia IIC T4...TI X, Ex ia IIIC T79°C Da X. Ex ia IIIC T69°C Da X, Da/Db Ex ia/ib IIIC T69°C X, Da/Db Ex ia/ib IIIC T79°C X, Ex ta IIIC T69°C Da X, Ex ta IIIC T79°C Da X	TC RU C-SE.AA87.B.00802
5	Pressure gauges of series 7	WLK.A Alexander Wiegand SE & Co. KG	II G b c II X III Db c III X	EAЭC RU C-DE.AA71.B.00162/19
6	Electric heaters of models E÷800/3÷395	F.A.T.I. S.r.l.	I Ex e IIC T4 ...T2 Gb X	EAЭC RU C-IT.AA87.B.00520/20
7	Junction boxes FXL, XL, SL Control cabinets GL, FXL, XL	PEPPERL+ FUCHS GmbH	1Ex e II T4 Gb or 0Ex x ia IIC T4 Ga X 1Ex e II T5 Gb or 0Ex ia IIC T5 Ga X 1Ex e II T3 Gb or 0Ex ia IIC T3 Ga X 1Ex ib IIC T4 Gb X or 1Ex db e IIC T4 Gb 1Ex ib IIC T5 Gb Xor 1Ex db e IIC T5 Gb	EAЭC RU C-DE.BH02.B.00574/20
8	Cable inlets of series TE****	CMP Products LTD	1Ex d IIC Gb X 1Ex e IIC Gb X 2Ex nR IIC Gc X Ex ta IIIC Da X	TC RU C-GB.AA87.B.00487
9	Flexible steel couplings of types RP, RPA, RPD, RSP	Ru-Steel Italia S.r.L	II Gb c T*X III Db c T*X	EAЭC RU C- IT.BH02. B.00532/20

Note: it is permitted to use similar equipment with the respective field of application and having a valid certificate of conformity to TR CU 012/2011.

3. DESCRIPTION OF THE DESIGN AND EXPLOSION PROTECTION SUPPORTING TOOLS

The reciprocating pumping units have the following types: TITANO: 3110, 3120, 3120 i or 3120r, 3130, 3130n, 3130m, 3140, 3140m, 3140Q, 3140Qm, 3140S, 3140Sm, 3150; series PTO/PQO/PSO: PTO3/160, PTO160, PTO190, PTO240, PQO160, PQO190, PSO190, PTO190m, PQO190m, PQO240; series VESUVIO: 42.40, 42.50, 42.70, 42.72, 42.75, 46.10, 46.20, 46.30, 46.40, 46.50; series VULCANO: 47.10, 47.20, 47.30; series PD: PD-B, PD-C, PD-K, PD-2D, PD-3D. The reciprocating pumping units are mounted on the steel frame with pumps, motor, gearbox, crankshaft, cylinder assembly installed. The pumps can be piston-type, diaphragm or both types. The pumps are driven from electric or diesel engines or from air-driven or electrically-driven turbine. The detailed description is given in the installation, operation and maintenance manuals set out in the section II of the present annex to the certificate.

In the reciprocating pumping units designed to operate at the pumping media (fluid) temperatures over +180°C, it is required to use the gaskets of thermal-resistant materials. In the reciprocating pumping units manufactured to be used in the classified explosive zones it is compulsory to use heavy-duty bearings with special purpose grease, and, moreover, the control over lube oil temperature is mandatory to prevent dry running of the crank gear or its operation at the elevated temperatures.

Explosion-protection of the reciprocating pumping units is ensured by complying with GOST ISO/DIS 80079-37-2013, GOST 32407-2013 (ISO/DIS 80079-36).

Head (authorized person) of the certification body
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Series RU № 0827210

Sheet 4

4. MARKING

The marking applied to the reciprocating pumping units should include the following:

- trademark or name of the manufacturer;
- type of product;
- manufacturing number and year of manufacture;
- range of the ambient temperatures values;
- Ex-marking according to GOST 31610.0-2019 (IEC 60079-0:2017) cl. 29.3, 29.4, 29.5;
- special explosive safety symbol;
- warning notices and signs;
- name of the certification body and number of a certificate,

and other details, which the manufacturer should specify on the marking, if the technical documentation requires so.

5. SPECIAL APPLICATION CONDITIONS

Sign **X** put after Ex-marking means that, during operation of the reciprocating pumping units, it is required to meet the following special conditions:

during installation and operation of the reciprocating pumping units it is required to implement the requirements set out in the installation, operation and maintenance manuals in the section II of the present annex to the certificate as well as for electric protective devices of the reciprocating pumping units;

manufacturer, based on the calculations and verification tests as stated in the technical documentation, should determine the maximum temperature of the equipment surface or/and temperature class in the Ex-marking and indicate the obtained data on the nameplate;

electric devices, electric motors and gearboxes of the reciprocating pumping units should be chosen with due regard to operating conditions, ambient and process fluid temperature range, for which the reciprocating pumping units are designed and certified to comply with TR CU 012/2011 for explosive zones of classes according to Ex-marking of the reciprocating pumping units;

for safe operation of the reciprocating pumping units all the electric protective devices of the reciprocating pumping units should be adjusted for correct setting of the tripping thresholds and to be tested on a regular basis;

once the controlling electric protective devices of the reciprocating pumping units are actuated, it is prohibited to restart the electric motor until its shutdown cause has been cleared.

it is prohibited to operate the reciprocating pumping units, if the pumping fluid temperature exceeds the maximum temperature, for which the operation of the reciprocating pumping units is designed;

the drive belts can be applied on the reciprocating pumping units with equipment protection levels Gb or Db, except for subgroup IIC;

to prevent ignition of the brush discharges the thickness of nonconductive materials layers on the earthed metallic surfaces capable of accumulating electrostatic charges, should not exceed 2mm (subgroup IIB) and 0,2mm (subgroup IIC).

The special application conditions, marked with X, should be reflected in the supporting documentation subject to compulsory delivery complete with every reciprocating pumping units.

Introduction of changes in the design of the reciprocating pumping units is possible only subject to agreement with the certification body of the “Center for certification of explosion protected and mining equipment”

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