



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.:	IECEX EUT 16.0006X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2020-09-24) Issue 0 (2016-09-22)
Date of Issue:	2022-06-28		
Applicant:	Zenit Italia S.r.l. Via dell'industria, 11 – 41018 San Cesario sul Panaro (MO) Italy		
Equipment:	Submersible electropumps, Series BLUE 90 and BLUE 107		
Optional accessory:			
Type of Protection:	Type of protection "ec", liquid immersion "h" and sealed device "nC"		
Marking:	Ex ec h IIC T3 Gc (version without thermal protection device) or Ex ec nC h IIC T3 Gc (version with thermal protection device)		

Approved for issue on behalf of the IECEx
Certification Body:

Dionisio Bucchieri

Position:

Head of IECEx CB

Signature:
(for printed version)

Date:
(for printed version)

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Via Cuorgnè
n.21 - 10156 Torino
Italy

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Manufacturer: **Zenit Italia S.r.l.**
Via dell'industria, 11 – 41018 San Cesario sul Panaro (MO)
Italy

Manufacturing locations: **Zenit pumps (China) Co., Ltd**
26 Wupu Road, Shengpu District, SIP
Jiangsu, P.R. China
Post Code: 215216
China

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment 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](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-15:2017](#) Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

[ISO 80079-36:2016](#) Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
Edition:1.0

[ISO 80079-37:2016](#) 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"
Edition:1.0

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

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[IT/EUT/ExTR16.0004/02](#)

Quality Assessment Reports:

[CN/PCET/QAR22.0002/00](#)

[NO/DNV/QAR10.0002/07](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The electropumps series BLUE are suitable for professional use, heavy duty with clean and dirty water. They have the types of protection "Ex ec" and "Ex h" and are suitable for gas group IIC; models with thermal protectors also have type of protection "Ex nC".

The equipment is manufactured with cables permanently connected to it.

General electrical characteristics:

Rated supply: 230 V (Single phase) and 400 V (three phase)

Rated power: 0.28 kW to 1.5 kW

Rated frequency: 50/60 Hz

Insulation class: F (155°C)

Duty type. S1

Degree of protection: IP 68 (10m – 168 h)

Maximum immersion depth: 7 m

Ambient temperature. from 0 to +40 °C

Temperature of the liquid from 0 to +40 °C

The equipment is not intended to be supplied through inverter.

See annex for further description

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The submersible pump shall operate only completely submersed. A suitable separate protection device shall be installed to prevent the pump from operating when not fully submersed.
- The cable shall be protected against the risk of damage due to mechanical stresses. Do not use the feeding of the floating switch cable to move the pump.
- Do not expose permanently the plastic enclosure of the electropump to light of the sun or luminaires
- The end connection of the feeding cables shall be made in safe area or in according to a type of protection listed in IEC 60079-0 standard suitable for the installation hazardous area.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Change of the descriptive document "Technical note" regarding the following points:

- Three phases models have now the possibility to remote the thermal sensors connection through a cable entry
- Layout marking labels modified
- Product code designation modified
- Description of the motor stator and insulation system better detailed
- A new model of thermal protector introduced
- The float switch available as ancillary equipment is defined by its general characteristics and not by model and certificate number

Change in the safety instructions: the instructions manual has been formally modified as "Master" document to be modified on the basis of the version of the pump

Annex:

[Annex to CoC.pdf](#)

The equipment are identified by a code as follows:

The identification code of the equipment consists of 2 parts, the "Type" and the "Version". The meaning of each field is described by the example and the tables below

Type example DG BLUEPRO 50/2 /G40V A 1 B M 5
 1 2 3 4 5 6 7 8 9

		Code	Description
1	Hydraulic Family	DG	DRAGA
		DR	DRENO
		GR	GRINDER
		AP	HIGH PRESSURE
2	Electromechanical Series	BLUE	BLUE
		BLUEPRO	BLUE Professional
3	Motor power (HPx100)/motor poles	40/2	Complete list of allowed power and poles available below
*4	Outlet type	/G32V	Gas thread, diameter 32 mm (G 1" 1/4), Vertical orientation
		/G40V	Gas thread, diameter 40 mm (G 1" 1/2), Vertical orientation
		/G40H	Gas thread, diameter 40 mm (G 1" 1/2), Horizontal orientation
		/G50V	Gas thread, diameter 50 mm (G 2"), Vertical orientation
*5	Hydraulic model	A	Hydraulic model design "A"
		B	Hydraulic model design "B"
		...	Other (sequential values)
*6	Version	0.. to n	Sequential number. Refers to the pump evolution/versioning
7	Motor size	B	90
		C	107
8	Motor phases	M	Single phase
		T	Three phase
9	Frequency	5	50 Hz
		6	60 Hz

* not relevant for -Ex protection concept

Version example: TC 10 AU 230 D EX NN
 10 11 12 13 14 15 16

		Code	Description
10	Electrical variant	NAE	No electrical accessory
		T	Thermal protection
		TC	Thermal protection and Capacitor
		TCD	Thermal protection, Starting and Run Capacitor
		TCG	Thermal protection, Capacitor and Float switch
		TCDT	Thermal protection, Starting and Run Capacitor, Overload protection
		TCDGT	Thermal protection, Starting and Run Capacitor, Float switch and Overload protection
*11	Cable length	10	10m
		...	Other
*12	Plug type	AU	Australian plug
		NN	No plug
		...	Other
13	Rated Voltage	400	400V
		230	230V
*14	Type of connection	D	DOL (Direct On Line connection)
15	Cerification	EX	ATEX and IECEX
		CX	IECEX
*16	Customer variant	NN	Standard Zenit
		...	Other

* not relevant for -Ex protection concept

Electrical characteristics

Rated supply: 230 V (Single phase) and 400 V (three phase)

Rated power: 0.28 kW to 1.5 kW
 Rated frequency: 50 Hz or 60 Hz
 Insulation class: F (155°C)
 Duty type: S1
 Degree of protection: IP 68 (10m – 168 h);
 Maximum immersion depth: 10 m
 Ambient temperature: From 0 to +40 °C
 Temperature of the liquid: From 0 to +40 °C

The equipment is not intended to be supplied through inverter.

BLUE 90 STANDARD and PROFESSIONAL series (stator Ø = 90 mm)

Pump type	DR/DG BLUE DR/DG BLUEPRO 40/2		DR/DG BLUE DR/DG BLUEPRO 50/2		DR/DG BLUE DR/DG BLUEPRO 75/2		DR/DG BLUE DR/DG BLUEPRO 100/2	
	Rated power [kW] (50/60Hz)	0.30/0.28		0.37		0.55		0.74
N° of phases	1		1	3	1	3	1	3
Connection	-		-	Y	-	Y	-	Y
Rated voltage [V]	230		230	400	230	400	230	400
Current absorbed [A]	2.3		2.8	1.15	4.1	1.45	5.6	2.15
Ia/In (50/60 Hz)	1.9/2.3		1.9/2.7	3.2/4.2	2.0/2.3	3.5/4.5	2/2.1	3.4/3.9
Capacitor (50/60 Hz)[µF]	10/10		10/10	-	14/14	-	20/20	-
Rated frequency [Hz]	50/60							
rpm (50/60 Hz)	2900/3400							
Insulation class	F							

BLUE 107 STANDARD and PROFESSIONAL series (stator Ø = 107 mm)

Pump type	GR/AP BLUEPRO 100/2		DR/DG BLUEPRO GR*/AP BLUEPRO 150/2		DR/DG BLUEPRO GR*/AP BLUEPRO 200/2	
	Rated power [kW]	0.74		1.1		1.5
N° of phases	1	3	1	3	1	3
Connection	-	Y	-	Y	-	Y
Rated voltage [V]	230	400	230	400	230	400
Current absorbed [A]	5.5	2.7	7.5	3.2	10	4.3
Ia/In (50/60 Hz)	2.3/2.7	3.6/4.8	2.4/3.1	4.5/5.7	1.9/2.5	4.3/5.7
Capacitor (50/60 Hz)[µF]	25/25		30/40		30/40	
Rated frequency [Hz]	50/60					
Rpm (50/60 Hz)	2900/3400					
Insulation class	F					



The electropumps with type of protection Ex ec nC h IIC T3 Gc are equipped with encapsulated thermal protection devices installed within the stator winding. These protection device do not work during the standard expected operation of the pump but they interrupt the power supply only in conditions of overheating of the motor when abnormal operation occurs. The temperature T3 assigned to the equipment are not depending by the thermal protector device operating.

The equipment (single-phase) can also be provided with a float switch (subject to a suitable separate IECEx full compliance certificate) that controls the operation of the motor; the float switch has nC type of protection, a cable suitable for the cable gland size, it is approved at least for immersion up to 10 m (168 h) and it is suitable for the pumped liquid; it must have ratings (current and voltage) aligned with the ratings of the pump.

* GR BLUEPRO single phase version has an 80 μ F external starting capacitor which works in parallel to the standard inner capacitor. Positioning and connection on the starting capacitor is provided by the user and must be performed in a safe area according to manufacturer's instructions.

Mounting

The equipment is intended to be installed in vertical position.

Warning label

None

Routine tests:

The manufacturer shall carry out the routine dielectric tests prescribed at clause 7.1 of IEC 60079-7:2015.