



# 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](http://www.iecex.com)

Certificate No.: **IECEX EUT 20.0008X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 2 [Issue 1 \(2022-06-15\)](#)  
[Issue 0 \(2020-09-24\)](#)  
Date of Issue: 2023-07-27  
Applicant: **Zenit Italia S.r.l.**  
Via dell'Industria, 11  
I - 41018 San Cesario sul Panaro (MO)  
**Italy**  
Equipment: **Submersible electropumps series Grey**  
Optional accessory:  
Type of Protection: **Flameproof "Ex db", liquid immersion and constructional safety "Ex h"**  
Marking: Ex db h IIB T4 Gb

Approved for issue on behalf of the IECEx  
Certification Body:

**Omar Galasso**

Position:

**Deputy Head of IECEx Certification Body**

Signature:  
(for printed version)

Date:  
(for printed version)

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Certificate issued by:

**Eurofins Product Testing Italy S.r.l.**  
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**Italy**

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

Manufacturing locations: **Zenit Italia S.r.l.**  
Via dell'Industria, 11  
I - 41018 San Cesario sul Panaro (MO)  
**Italy**

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 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[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/ExTR20.0008/02](#)

Quality Assessment Report:

[NO/DNV/QAR10.0002/08](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The equipment, series Grey, is a range of submersible electric pumps for pumping sewage and waste water. The equipment has the type of protection "Ex db" and "Ex h" with EPL Gb. It is suitable for gas Group IIB. The enclosures of the motors can have the same diameter but different height: S=short, M=medium, L=long.

The equipment consists of the following parts:

- Metallic enclosure EN-GJL 250 (the paint used does not exceed 2 mm);
- Electrical motor;
- Pump;
- Cable and Cable gland

## Code designation

See the annex of this certificate

## Ratings

Maximum supply voltage: 700 Vac for three phase version / 250 Vac for single-phase version

Rated frequency: 50 Hz or 60 Hz

Rated power: 0.55 kW to 18.5 kW

Insulation class: H (180°C)

Duty (submerged application): S1

Duty (partially emerged/dry application): S3 (refer to the following tables for duty percentage details)

Degree of protection: IP 68 (20 m depth 4 hours - according to IEC 60079-0 and IEC 60034-5)

Maximum immersion height: 20 m

Ambient temperature: From 0 °C to +40 °C

Maximum liquid temperature: 40 °C

The equipment is provided with three bimetallic thermal protectors in the stator windings with a nominal switching temperature of 150 °C; as alternative, bimetallic protectors can be replaced by PTC thermistors or PT100 sensors.

The equipment is provided with a leakage probe to detect the entrance of water in the oil chamber.

## Mounting

The equipment is intended to be installed in vertical position or horizontal position.

As indicated in the marking label, when the submersible pump is completely submerged it is designed to operate in service S1, in all other cases (partially submerged installation or dry installation) the service is restricted to S3 as detailed in the tables included in the annex of this certificate.

## Cable entries

The cable entries, integrated in the motor body, are part of this certification.

## Warning label

Flameproof joints cannot be repaired

See safety instruction

## Routine tests

None

## SPECIFIC CONDITIONS OF USE: YES as shown below:

- Supply through inverter: thermal protectors must be properly connected to control panel in order to shut down the power supply in the event of overheating (see safety instructions).
- The electropump can operate in continuous duty service (S1) only when it is completely submerged. In dry applications, the equipment must only be powered in intermittent periodic service (S3). At least two level sensors (in redundancy) must be used to shut down the power supply when the liquid to be pumped is below the minimum level (see safety instruction).
- The leakage probe must be electrically connected in accordance with safety instructions.
- For replacement purpose, the fasteners shall be Class A2-70, A2-80, A4-70 or A4-80 (see safety instructions)



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

- A new pump model (CP, CT) with multi-channel impeller and chopper system has been added
- The stainless steel models have been removed
- The maximum frequency in case of use with supply converter has been better formalized
- Some small modification in the assembly drawings have been done (always maintaining the consistence with the already tested items)
- The labels have been updated by including some modifications that do not directly impact with ATEX/IECEX requirements
- The manufacturers documents have been updated to take into account the previous modifications

## **Annex:**

[Annex to CoC IECEx EUT 20.0008 X Issue N. 2.pdf](#)



**Annex to certificate:** IECEX EUT 20.0008 X Issue N. 2

**Code designation**

The equipment is identified by a code as follows:

<p><b><u>DR</u> <u>G</u> <u>750/2</u> / <u>80</u> <u>A</u> <u>0</u> <u>F</u> <u>T</u> <u>5</u></b></p> <p style="text-align: center;"> <span style="margin: 0 5px;">①</span> <span style="margin: 0 5px;">②</span> <span style="margin: 0 5px;">③</span> <span style="margin: 0 5px;">④</span> <span style="margin: 0 5px;">⑤</span> <span style="margin: 0 5px;">⑥</span> <span style="margin: 0 5px;">⑦</span> <span style="margin: 0 5px;">⑧</span> <span style="margin: 0 5px;">⑨</span> </p>	
<p><b>1. Impeller type</b>            DG = Vortex            DR = Channels            GR = Grinder            AP = High head            CP = Channels with chopper system type CP            CT = Channels with chopper system type CT</p> <p><b>2. Series</b>            G = GREY pumps</p>	<p><b>3. Motor power</b>            [HP * 100] / motor poles</p> <p><b>4. Outlet diameter</b>            [mm]</p> <p><b>5. Hydraulic model</b></p> <p><b>6. Version number</b></p> <p><b>7. Motor size</b></p> <p><b>8. Motor phases</b>            M = Single – phase            T = Three – phase</p> <p><b>9. Supply voltage frequency</b>            5 = 50 Hz            6 = 60 Hz</p>

Detailed information are defined in the manufacturer’s safety instructions document.

The fields ②, ③, ⑦ and ⑧ identify the motor model on the basis the series, power (P2) and poles, code of motor size and number of phases; the details are indicated in the tables below:

Single phase version				
Enclosure description (drive unit)	Rated power P2 (power on the shaft) [kW]	N° poles	Duty cycle in service S3	Commercial description (_code 2 & code 3 _code7 & code 8_)
G05M	0.55	2	N.A. – Equipment must be powered only if completely submerged	_G 75/2_AM_
	0.75	2		_G 100/2_AM_
G05L	1.1	2		_G 150/2_AM_
	1.5	2		_G 200/2_AM_
G06L	1.8	2		_G 250/2_EM_
	2.2	2		_G 300/2_EM_
	3	2		_G 400/2_EM_
G07S	4	2		_G 550/2_FM_
G07L	5.5	2		_G 750/2_FM_
G08L	7.5	2		_G 1000/2_GM_



Three phase version				
Enclosure description (drive unit)	Rated power P2	N° poles	Duty cycle in service S3	Commercial description (_code 2 & code 3 _code7 & code 8_)
	(power on the shaft) [kW]			
G05M	0.55	2	50%	_G 75/2_AT_
	0.75	2	50%	_G 100/2_AT_
G05L	1.1	2	30%	_G 150/2_AT_
	1.5	2	30%	_G 200/2_AT_
	1.8	2	20%	_G 250/2_AT_
	0.75	4	15%	_G 100/4_AT_
	1.1	4	15%	_G 150/4_AT_
	1.5	4	15%	_G 200/4_AT_
G06S	2.2	2	20%	_G 300/2_ET_
	1.5	4	20%	_G 200/4_ET_
G06L	3	2	20%	_G 400/2_ET_
	1.8	4	20%	_G 250/4_ET_
	2.2	4	20%	_G 300/4_ET_
	3	4	15%	_G 400/4_ET_
G07S	4	2	20%	_G 550/2_FT_
	5.5	2	15%	_G 750/2_FT_
	5.5	6	20%	_G 750/6_GT_
G07L	7.5	2	10%	_G 1000/2_FT_
	4	4	15%	_G 550/4_FT_
	5.5	4	15%	_G 750/4_FT_
G08L	9	2	15%	_G 1200/2_GT_
	11	2	15%	_G 1500/2_GT_
	13	2	10%	_G 1750/2_GT_
	7.5	4	15%	_G 1000/4_GT_
G10S	15	2	10%	_G 2000/2_HT_
	9	4	15%	_G 1200/4_HT_
	11	4	10%	_G 1500/4_HT_
	7.5	6	10%	_G 1000/6_HT_
G10L	18.5	2	15%	_G 2500/2_HT_
	15	4	15%	_G 2000/4_HT_
	9	6	15%	_G 1200/6_HT_
	11	6	15%	_G 1500/6_HT_
	13	6	15%	_G 1750/6_HT_
M08S	3	6	20%	_G 400/6_GT_
M08L	4	6	20%	_G 550/6_GT_
	5.5	6	20%	_G 750/6_GT_