

CESI



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Schema di certificazione

CESI-ATEX

CERTIFICATE



[1] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 02 ATEX 014X / 11

[4] **Product:** Solenoids (standard types) **OA-*; OAB-*; OZA-A*; OZA-T*; OZAB-A*;
MZA-A*; MZAB-A*; OA/O-*; OAB/O-*; OA/WP-*;
OAB/WP-*; OA/O/WP-*; OAB/O/WP-*** (others types available)

[5] **Manufacturer:** **ATOS S.p.A.**

[6] **Address:** **Via alla Piana, 57 – 21018 Sesto Calende (VA) - Italy**

[7] This supplementary certificate extends EC-Type Examination Certificate **CESI 02 ATEX 014X** to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-B9020226.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II 2 G Ex db IIC T6, T4, T3 Gb
 II 2 D Ex tb IIIC T85°C, T135°C, T200°C Db

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Date 15.10.2019 - Translation issued the 15.10.2019

Prepared
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Verified
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CESI S.p.A.

Testing & Certification Division
Business Area Certification
Il Responsabile

(Roberto Piccin)

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 014X / 11**

[15] **Description of the variation to the product**

Variation 1.1: The explosion proof solenoids, originally assessed in compliance with EN 60079-0:2012/A11:2013 and EN 60079-1: 2007 have been re-assessed on the basis of the standard EN IEC 60079-0: 2018 and EN 60079-1:2014.

Variation 1.2: Ex marking concerning the flameproof enclosure protection type has been updated to “db” for EPL Gb, according to latest edition of standard EN 60079-1:2014. Ex marking on the nameplate has been updated.

Variation 1.3: Integration of explosion proof solenoid with position transducer type E-THA-* certified separately by CESI 02 ATEX 015X. The solenoid, where position transducer is integrated as accessory are called OZA-T-*; OZAX-T-*; OZAXS-T-*; OZAXW-T-* as better described in the technical documentation.

Description of equipment

The explosion proof solenoids in subject are used to drive direction control, flow control and pressure control valves. In the following are summarized the models and the relevant description.

The following version with the relevant model code is available:

Standard version:

OA-*, OZA-A-*, MZA-A-*, OZA-T-* (with inductive sensor type E-THA-* integrated)

Standard version, T.Amb. -60°C:

OAB-*, OZAB-A-*, MZAB-A-*

Standard version, horizontal cable entrance:

OA/O-*, OZA-A-*/O, MZA-A-*/O

Standard version, horizontal cable entrance, T.Amb. -60°C:

OAB/O-*, OZAB-A-*/O, MZAB-A-*/O

Standard version, with protect manual override:

OA/WP-*, OZA-A-*/WP

Standard version, with protect manual override, T.Amb. -60°C:

OAB/WP-*, OZAB-A-*/WP

Standard version, with protect manual override, horizontal cable entrance:

OA/O/WP-*, OZA-A-*/O/WP

Standard version, with protect manual override, horizontal cable entrance, T.Amb. -60°C:

OAB/O/WP-*, OZAB-A-*/O/WP

Stainless steel version:

OAX/WP-*, OAKX/WP-*, OZAX-A-*/WP; MZAX-A-* OZAX-T-* (with inductive sensor type E-THA-* integrated)

Stainless steel version T.Amb. -60°C:

OABX/WP-*, OABKX/WP-*, OZABX-A-*/WP; MZABX-A-*

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Stainless steel version with horizontal cable entrance:

OAX/O/WP-*, OAKX/O/WP-*, OZAX-A-*/O/WP; MZAX-A-*/O

Stainless steel version with horizontal cable entrance T.Amb. -60°C:

OABX/O/WP-*, OABKX/O/WP-*, OZABX-A-*/O/WP; MZABX-A-*/O

External stainless-steel version with standard internal parts:

OAXS/WP-*, OAKXS/WP-*, OZAXS-A-*/WP, MZAXS-A, OZAXS-T-* (with inductive sensor type E-THA-* integrated)

External stainless steel version with standard internal parts, T.Amb. -60°C:

OABXS/WP-*, OABKXS/WP-*, OZABXS-A-*/WP, MZABXS-A-*

External stainless-steel version with standard internal parts, horizontal cable entrance:

OAXS/O/WP-*, OAKXS/O/WP-*, OZAXS-A-*/O/WP, MZAXS-A-*/O

External stainless steel version with standard internal parts, horizontal cable entrance, T.Amb. -60°C:

OABXS/O/WP-*, OABKXS/O/WP-*, OZABXS-A-*/O/WP, MZABXS-A-*/O

Internal stainless-steel version, external standard:

OAXW/WP-*, OAKXW/WP-*, OZAXW-A-*/WP, MZAXW-A, OZAXW-T-* (with inductive sensor type E-THA-* integrated)

Internal stainless steel version, external standard, T.Amb. -60°C:

OABXW/WP-*, OABKXW/WP-*, OZABXW-A-*/WP, MZABXW-A-*

Internal stainless-steel version, external standard, horizontal cable entrance:

OAXW/O/WP-*, OAKXW/O/WP-*, OZAXW-A-*/O/WP, MZAXW-A-*/O

Internal stainless steel version, external standard, horizontal cable entrance, T.Amb. -60°C:

OABXW/O/WP-*, OABKXW/O/WP-*, OZABXW-A-*/O/WP, MZABXW-A-*/O

Low power version 3,5W:

OA/3-*, OA/3/O-*, OA/3/WP-*, OA/3/O/WP-*, OAX/3/WP-X, OAX/3/O/WP-X, OAXS/3/WP-*, OAXS/3/O/WP-*, OAXW/3/WP, OAXW/3/O/WP-*

Low power version 3,5W, T.Amb. -60°C:

OAB/3-*, OAB/3/O-*, OAB/3/WP-*, OAB/3/O/WP-*, OABX/3/WP-X, OABX/3/O/WP-X, OABXS/3/WP-*, OABXS/3/O/WP-*, OABXW/3/WP, OABXW/3/O/WP-*

Electrical characteristics

All electrical characteristics remain unchanged, are shown below:

Rated voltage: 12 / 220 Vdc, 12/ 240 Vac (depending of the models)

Rated power: 3,5 / 35 W (depending of the models)

Ambient temperature range: from -60°C / -40°C to + 40° / +45°C / + 50°C / +55°C / +60°C / + 70°C

Degree of protection: IP 66/67 (EN 60529)

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Relation between the max ambient temperature, temperature class, surface temperature, connecting cable temperature:

Solenoid type (for Min T.Amb -40°C)		T amb. Max ambient temperature (°C)	Connecting cable temperature (°C)	Temperature class / surface temperature
OA, OA/3, OA/O, OA/3/O, OA/WP, OA/3/WP, OA/O/WP, OA/3/O/WP	OAX/WP, OAX/3/WP OAX/O/WP, OAX/3/O/WP OAXS/WP, OAXS/3/WP OAXS/O/WP, OAXS/3/O/WP OAXW/WP, OAXW/3/WP OAXW/O/WP, OAXW/3/O/WP	70	90	T4 / T135°C
		45	-	T6 / T85°C
	OAKX/WP OAKX/O/WP OAKXS/WP OAKXS/O/WP OAKXW/WP OAKXW/O/WP	70	130	T3 / 200°C
		60	120	
		50	110	
OZA-A OZA-A/O OZA-A/WP OZA-A/O/WP	OZAX-A/WP OZAX-A/O/WP OZAXS-A/WP OZAXS-A/O/WP OZAXW-A/WP OZAXW-A/O/WP	70	120	T3 / 200°C
		55	110	T4 / T135°C
		45	95	
		40	90	
MZA-A MZA-A/O	MZAX-A, MZAX-A/O, MZAXS-A, MZAXS-A/O, MZAXW-A, MZAXW-A/O	70	120	T3 / 200°C
		45	90	T4 / T135°C
		55	110	T3 / 200°C
OZA-T	OZAX-T, OZAXS-T, OZAXW-T	70	120	T3 / T200 °C
		40	90	T4 / T135 °C
Solenoid type (for Min T.Amb -60°C)		T amb. Max ambient temperature (°C)	Connecting cable temperature (°C)	Temperature class / surface temperature
OAB, OAB/3, OAB/O, OAB/3/O, OAB/WP, OAB/3/WP, OAB/O/WP, OAB/3/O/WP	OABX/WP, OABX/3/WP OABX/O/WP, OABX/3/O/WP OABXS/WP, OABXS/3/WP OABXS/O/WP, OABXS/3/O/WP OABXW/WP, OABXW/3/WP OABXW/O/WP, OABXW/3/O/WP	70	90	T4 / T135°C
		45	-	T6 / T85°C
	OABKX/WP OABKX/O/WP OABKXS/WP OABKXS/O/WP OABKXW/WP OABKXW/O/WP	70	130	T3 / 200°C
		60	120	
		50	110	
OZAB-A OZAB-A/O OZAB-A/WP OZAB-A/O/WP	OZABX-A/WP OZABX-A/O/WP OZABXS-A/WP OZABXS-A/O/WP OZABXW-A/WP OZABXW-A/O/WP	70	120	T3 / 200°C
		55	110	T4 / T135°C
		45	95	
		40	90	
MZAB-A MZAB-A/O	MZABX-A, MZABX-A/O, MZABXS-A, MZABXS-A/O, MZABXW-A, MZABXW-A/O	70	120	T3 / 200°C
		45	90	T4 / T135°C
		55	110	T3 / 200°C

Detailed characteristics of each solenoid model are reported in the descriptive documents annexed to the certificate.

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 014X / 11**

Marking

The equipment shall be marked as follows:



II 2G Ex db IIC T6, T4, T3 Gb



II 2D Ex tb IIC T 85°C, T 135°C, T200°C Db

Cable entries

The cable entry devices used on the enclosure shall be suitably certified according to the applicable standards. For the equipment with dust protection “tb” the accessories used for cable entries and for unused holes shall guarantee the degree of protection IP66/67 according to EN 60529 standard.

Warning label

“Warning – do not open when energized”

“For the correct selection of connecting cable temperatures see safety instructions”

[16] **Report n. EX-B9020226**

Routine tests

Solenoids in subject are exempted from overpressure routine test since they have been submitted, with the static method and positive result, to an overpressure test at a pressure corresponding to 4 times reference pressure related to an ambient temperature of -40 °C or -60°C (function of the model).

The actuators are submitted to an individual overpressure test to verify the functionally suitability at the rated operating pressure.

[17] **Special conditions for safe use**

- The flame paths are specified in the manufacturer drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- The characteristics of the connecting cables and of the accessories used for cable entries shall be suitable for the use in the ambient/operating temperature of the solenoid. For the selection of the operating temperature of the cable depending on the model of the solenoid and the relevant installation and / or operation temperatures, refer to the Safety Instructions provided by the Manufacturer.
- Use screws property class A4-70 UNI 5931 with yield stress ≥ 450 MPa.
- Information relating to use, installation, repair and maintenance of the equipment are included within the safety instructions.

[18] **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements has been assured by compliance to the following standards:

EN IEC 60079-0:2018	Explosive atmospheres – Part 0: Equipment - General requirements;
EN 60079-1: 2014	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”;
EN 60079-31: 2014	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 014X / 11**

[19] **Descriptive documents (prot. EX-B9020251)**

- Technical Note No. SAS-555-D/1 (2 pg.)		dated	25.09.2019
- Drawing No. 6-MZA-230000-I	Rev.2	dated	02.10.2019
- Drawing No. 6-MZAX-230000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-MZAXS-230000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-MZAXW-230000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-MZAB-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-MZABX-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-MZABXW-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OA-220000-I	Rev.2	dated	02.10.2019
- Drawing No. 6-OAX-220000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-OAXS-220000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-OAXW-220000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-OZA-220000-I	Rev.2	dated	03.10.2019
- Drawing No. 6-OZAT-220000-I	Rev.0	dated	08.10.2019
- Drawing No. 6-OZATX-220000-I	Rev.0	dated	08.10.2019
- Drawing No. 6-OZATXS-220000-I	Rev.0	dated	08.10.2019
- Drawing No. 6-OZATXW-220000-I	Rev.0	dated	08.10.2019
- Drawing No. 6-OA-220100-I	Rev.1	dated	08.10.2019
- Drawing No. 6-OAX-220100-I	Rev.1	dated	08.10.2019
- Drawing No. 6-OA-221500-I	Rev.3	dated	03.10.2019
- Drawing No. 6-OA-223000-I	Rev.2	dated	02.10.2019
- Drawing No. 6-OAX-223000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-OAXW-223000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-OAB-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OABX-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OABXS-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OZAB-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OZABX-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OZABXS-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OZABXW-100000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OAB-103000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OABX-103000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OABXS-103000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OABXW-103000-I	Rev.1	dated	07.10.2019
- Drawing No. 6-OZAX-120000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-OZAXW-120000-I	Rev.2	dated	07.10.2019
- Drawing No. 6-OAB-100050-I	Rev.3	dated	08.10.2019
- Safety Instructions No. TT-291-D/4 (15 pg.)		dated	25.09.2019
- EU Declaration of Conformity No. TT186/9		dated	25.09.2019

One copy of all documents is kept in CESI files.

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 014X / 11**

Certificate history

Issue N°	Issue Date	Summary description of variation
11	15/10/2019	Updating standards EN IEC 60079-0:2018, EN 60079-1:2014, protection type “db”, Integration of explosion proof solenoid with position transducer type E-THA-*
10	30/01/2015	Updating standards EN 60079-0:2012/A11:2013, EN 60079-31:2014, multi-certification nameplate, T.amb.: -60°C, constructive variants.
09	15/03/2012	Standard updating
08	19/06/2009	Reduced power
07	16/09/2009	Solenoids models OZA-A; MZA-A
06	04/06/2008	Solenoids models XS* and XW*
05	07/09/2007	Constructive variations, new electrical characteristics.
04	16/02/2007	Constructive variants for horizontal entries.
03	07/02/2007	Constructive variant for low temperature -40°C.
02	12/02/2005	Constructive variations, new electrical characteristics, new models OAX/WP-*, OZAX-A-*/WP, MZAX-A-* e OAKX/WP*
01	14/06/2003	Constructive variations.
00	27/02/2002	First Issue of the Certificate