



# [1] EU-TYPE EXAMINATION CERTIFICATE

## [2] Equipment or Protective System intended for use in potentially explosive atmospheres - Directive 2014/34/EU – Annex III MODULE B: EU-TYPE EXAMINATION

[3] EU-type Examination Certificate number: **IMQ 22 ATEX 020 X**

[4] PRODUCT: **Electrical parts of solenoid valves**  
TYPE/SERIES: **495900..; 495905..; 495905.05.. (STANDARD models)**  
**496555..; 496560.. (CPR models)**  
**496700..; 496800..; 496700.02..; 496800.02.. (OFFSHORE models)**

[5] MANUFACTURER: **Parker Hannifin Manufacturing S.r.l.**

[6] ADDRESS: **Via Sebastiano Caboto 1, Palazzina A, 20094 Corsico (Milano) - Italy**

[7] This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documents therein referred to.

[8] IMQ, notified body N° 0051, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product 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 Report No.: **AT18-0022961-01/A**


[9] Compliance with Essential Health and Safety Requirements, except in respect of those listed at item 18 of the annex, has been assured by compliance with:

**EN IEC 60079-0:2018; EN 60079-1:2014; EN 60079-18:2015; EN 60079-18:2015/A1:2017;  
EN 60079-31:2014**

[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 and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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

 **II 2G Ex db mb IIC T4/T5/T6 Gb**  
 **II 2D Ex tb IIIC T130°C/T95°C/T80°C Db**

THIS CERTIFICATE IS COMPOSED OF 7 PAGES INCLUDING 1 ANNEX.

FIRST ISSUE	2023/10/31
CURRENT ISSUE	2023/10/31
PREVIOUS ISSUE	-
EXPIRING DATE	2033/10/30

B.U. PRODUCT CONFORMITY ASSESSMENT  
CERTIFICATION SECTOR - MANAGER

This Certificate may only be reproduced in its entirety and without any change. It is subject to the general rules for assessing conformity to community directives for which IMQ operates as notified body n°. 0051 and to the special requirements for Directive 2014/34/EU (ATEX) "Equipment and protective systems for potentially explosive atmospheres" annex III - MODULE B - EU Type-examination.



PRD N° 005 B

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC Signatory of EA, IAF and ILAC Mutual Recognition Agreements

[13] **Annex**

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[15] **Description of product:**

The equipment is an electrical part for solenoid valves, which is made by an encapsulated coil for mounting on different models of mechanical parts (which are not part of this certificate) and a connection compartment inside a flame proof non-metallic enclosure.

The equipment is made in "Ex db mb" and "Ex tb" execution.

The "Ex d" and "Ex t" enclosure for connection compartment has an internal volume < 10 cm<sup>3</sup> (about 8.5 cm<sup>3</sup>) and can withstand an internal pressure of 58 bar. It has a degree of protection IP66/67 granted by an o-ring. It contains:

- a case of thermoplastic material
- a cover of the same material as the case, to which it is fixed by 4 special screws threaded into co-moulded metallic inserts forming a flanged joint. The internal free space for connection compartment is isolated from the underlying electronic circuit by a cemented joint made by potting material, which also acts as an encapsulant for the Ex m part protection mode. All Ex d joints present are in accordance to IEC/EN 60079-1 standard.
- for STANDARD and CPR models, an integrated cable gland, composed by (i) a M20 x 1.5 gland nut made of thermoplastic material screwed directly into the case, (ii) a cylindro-conical rubber seal with inner diameter depending on the cable diameter range (5÷11 mm), (iii) a metallic washer in between.
- for OFFSHORE models, a co-moulded stainless steel cable gland housing, suitable for mounting of an "Ex d" already certified cable gland M20 x 1.5 or ½" NPT (not provided with the equipment).

The "Ex m" coil compartment contains:

- an encapsulated coil made of thermoplastic material
- a non-resettable thermal fuse, calibrated in accordance to coil models
- a potting encapsulating the electronic circuit, mentioned also in the description above.

[15.1] **Models/Series Identification:**

Three different series:

STANDARD models: 495900..; 495905..; 495905.05..  
 CPR models: 496555..; 496560..  
 OFFSHORE models: 496700..; 496800..; 496700.02..; 496800.02..  
 .. stand for coil voltage according to table below:

DC voltages		AC voltages	
C1	12 VDC	A2	24Vac/50Hz
C2	24 VDC	A4	48 Vac /50 Hz
C4	48 VDC	E5	115 Vac /50 Hz
C5	110 VDC	F4	230 Vac /50 Hz
N7	28 VDC	K8	115 Vac /60 Hz
-	-	B8	240 Vac /60 Hz
-	-	P0	24 Vac /50-60 Hz
-	-	S4	48 Vac /50-60 Hz
-	-	P2	110 Vac /50-60 Hz
-	-	P9	230 Vac /50-60 Hz

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[15.2] **Ratings:**

**STANDARD models:**

Model			495900 DC	495900 AC	495905 & 495905.05
Thermal fuse rating			108 °C ( ELCUT X2E )	108 °C ( ELCUT X2E )	115 °C ( ELCUT X22 )
Power	DC	Pn (hot)	2 W	-	8 W
		P (cold) 20°C	2,5 W	-	9 W
	AC	Pn (holding)	-	2,5 W	8 W
		Attraction cold	-	3W	9 W
Nominal voltage ( DC )			12 to 110V DC	-	12 to 110V DC
Nominal voltage ( AC )			-	24 to 240V AC	24 to 240V AC
Voltage tolerance			± 10 % of the nominal voltage		
Solenoid duty			Continuous duty ( ED 100% )		
Coil Insulation Class			H ( 180 °C )		

**CPR models:**

Model			496555	496560
Thermal fuse rating			108 °C ( ELCUT X2E )	108 °C ( ELCUT X2E ) for AC 115°C ( ELCUT X22 ) for DC
Power	DC	Pn (hot)	6 W	8 W
		P (cold) 20°C	7,5 W	10,5 W
	AC	Pn (holding)	6 W	8 W
		Attraction cold	7,5 W	10,5 W
Nominal voltage ( DC )			24 to 110V DC	24 to 110V DC
Nominal voltage ( AC )			24 to 230V AC	24 to 230V AC
Voltage tolerance			± 10 % of the nominal voltage	
Solenoid duty			Continuous duty ( ED 100% )	
Coil Insulation Class			H ( 180 °C )	

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**OFFSHORE models:**

Model		496700 & 496700.02	496800 & 496800.02
Thermal fuse rating		108 °C ( ELCUT X2E )	108 °C ( ELCUT X2E ) for AC 115°C ( ELCUT X22 ) for DC
Power	DC	Pn (hot)	6 W
		P (cold) 20°C	7,5 W
	AC	Pn (holding)	6 W
		Attraction cold	7,5 W
Nominal voltage ( DC )		24 to 110V DC	24 to 110V DC
Nominal voltage ( AC )		24 to 230V AC	24 to 230V AC
Voltage tolerance		± 10 % of the nominal voltage	
Solenoid duty		Continuous duty ( ED 100% )	
Coil Insulation Class		H ( 180 °C )	

[15.3] **Safety ratings:**  
None

[15.4] **Ambient temperature and temperature classes:**

**STANDARD models:**

Model	495900 DC	495900 AC	495905 & 495905.05
T class – Gas	T4 / T5 / T6	T4 / T5 / T6	T4
Tclass – Dust	T130°C / T95°C / T80°C	T130°C / T95°C / T80°C	T130°C
Ambient temperature	-40°C to 80°C / 65°C / 55°C	-40°C to +80°C / 60°C / 40°C	-40°C to +80°C

**CPR models:**

Model	496555	496560
T class – Gas	T4 / T5 / T6	T4
Tclass – Dust	T130°C / T95°C / T80°C	T130°C
Ambient temperature	-40°C to 65°C / 50°C / 35°C	-40°C to +65°C

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**OFFSHORE models:**

Model	496700 & 496700.02	496800 & 496800.02
<b>T class – Gas</b>	T4 / T5 / T6	T4
<b>Tclass – Dust</b>	T130°C / T95°C / T80°C	T130°C
<b>Ambient temperature</b>	-40°C to 65°C / 50°C / 35°C	-40°C to +65°C

[15.5] **Degree of protection (IP code):**  
IP 66/67

[15.6] **Warnings:**  
 "Do not open when energized".  
 "Clean with a damp cloth to avoid electrostatic discharge".  
 "Cable temperature rating: see instructions".

[16] **Report:** AT18-0022961-01/A

[16.1] **Routine (factory) tests:**  
 The manufacturer shall carry out the routine test prescribed at clauses 27 of the EN 60079-0 and:  
 - the visual inspection in compliance to clause 9.1 of EN 60079-18;  
 - the dielectric routine test prescribed at clause 9.2 of the EN 60079-18 standard, the applied voltage shall be at least:  
 • 500 Vac for at least 1 s (when the r.m.s. working voltage "U" does not exceed 90 V);  
 • (1 000 + 2\*U) Vac or 1 500 Vac for at least 1 s, whichever is greater, where "U" exceed 90 V;  
 Alternatively, the test can be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.

[16.2] **Conformity with the documentation:**  
 The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.  
 Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:  
 • the equipment has been constructed in accordance with the applicable requirements of the relevant standards in safety matters;  
 • the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **Installation conditions:**  
 Above referred equipment is foreseen to be installed in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of EN 60079-0.  
 Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals request special considerations and additional measures by the side of installer or user. These should be specified to the manufacturer by the user.  
 It is not a required by applicable standard listed in [9] that the certification body confirm suitability for the adverse conditions.  
 Installation of equipment shall be done according to EN 60079-14 Standard requirements.  
 The user has to connect the free extremity of cable either in non-explosive atmosphere or in an enclosure protected by a recognized type of protection suitable for the area  
 For OFFSHORE model: The cable gland (M20 x 1.5 or ½" NPT) is not provided with the equipment. It shall

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be certified according to IEC 60079-0, IEC 60079-7, IEC 60079-1 and IEC 60079-31 standards, with Gb and Db minimum EPLs, and installed according to IEC 60079-14. It shall guarantee the protection degree on enclosure IP66/67.

### [17] **Special Condition of use (X):**

- The equipment can only be used in areas with low risk of mechanical damage.
- The user has to periodically clean the enclosure in order to avoid a dust deposit higher than 5 mm.
- Potential electrostatic charging hazard, clean only with wet cloth or antistatic products.
- External protection device shall be installed, to be placed in a safe zone or inside an ATEX/IECEx certified enclosure with a type of protection suitable for the explosive atmosphere. PSCC = 1500A.
- Flameproof joints are not intended to be repaired
- Use only ISO 7048 fasteners form H, M4x20 0.7 length 20, INOX A2-70 and with tensile strength  $\geq 700$  N/mm<sup>2</sup> for cover
- For STANDARD and CPR model: the coupling of the cable gland to the enclosure and torque values of cap clamping shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which cable glands are mounted.  
The cable gland installation shall be done according to safety manufacturer instructions to maintain degree of protection.
- For STANDARD and CPR model: the cable gland is suitable only for fixed installation. A clamping device, not provided with the equipment, shall be installed downstream the cable gland.

### [18] **Essential Health and safety Requirements:**

This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].

This Certificate **does not** cover hazards coming from environmental conditions different from those clearly and precisely indicated and covered in clause 1 of EN 60079-0.

ESHR 1.2.7 According Annex VI of the Directive

ESHR 1.4 Not verified.

ESHR 1.5 Not verified as this is not a safety device performing safety function.

ESHR 3 Not applied as this is not a protective system.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report:

N/A

### [19] **Descriptive documents:**

DL-AT18-0022961-01/A, dated 2023-09-25.

### [20] **Certification Validity Conditions:**

The use of this Certificate is subject to the Certification Scheme and to the Regulation applicable to holders of IMQ Certificates.

The validity of this certificate is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per 19.

One copy of the mentioned documentation is kept in IMQ file.

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[21] **Variations**

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