



(1) **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE No. 1**

(2) Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU

(3) EU-Type Examination Certificate Number: **TEST 17 ATEX 0030X**

(4) Product: **Capacitive blasting machine HZK-100x**

(5) Manufacturer: **HASO S.C.**

(6) Address: **ul. Towarowa 20
43-100 Tychy, Poland**

(7) This supplementary certificate extends EC-Type Examination Certificate No. TEST 17 ATEX 0030X 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) J.S. Hamilton Poland S.A., Notified Body number 2057, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that the product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) The examination and test results are recorded in confidential Report No. JSHP/RW/29/17/U1/RM.

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

PN-EN 60079-0:2013-03+A11:2014-03
(EN 60079-0:2012+A11:2013)

PN-EN 60079-7:2016-02
(EN 60079-7:2015)

PN-EN 60079-11:2012
(EN 60079-11:2012)

PN-EN 60079-18:2015-06
(EN 60079-18:2015)

(11) This certificate is valid in its entirety, Schedule(s) included.

(12) The marking of the product shall include the following:



I -/M2(M1) Ex eb mb [ia Ma] I Mb



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Description of the variation to the product:

1. At the request of the manufacturer, the explosion-proof marking has been changed:

from:  I -/M2 Ex eb ia mb I Mb

to:  I -/M2(M1) Ex eb mb [ia Ma] I Mb

- 2. The level of explosion protection of intrinsically safe circuits has been clarified, the level of protection has been added in the description of individual connector pins.
- 3. The technical documentation includes the introduction of a new type of battery (notification of 07.02.2018) and a change in the way of encapsulation of the electronic system (Documentation of changes D 10360/3), the above changes have been accepted by J.S. Hamilton S.A. (TEST Sp. z o.o.) as not affecting the explosion construction of the blasting machine.

Intrinsically safe parameters:

Connector ZAS-KOM (PWR-COMM);
pins 1 - 2:

Maximum input voltage $U_m = 16 V$
Maximum input current $I_m = 1700 mA$

pins 4 - 7 (level of protection „ia”):

Maximum output voltage $U_o = 8,4 V$
Maximum output current $I_o = 26 mA$
Maximum external inductance and capacitance:

Lo [mH]	100	50	20	10	5	2	1	0,5	0,2	0,1	0,05	0,02
Co [µF]	6	6,7	7,8	8,7	9,8	12	14	16	21	26	33	51



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Connector ZAS (PWR):

Maximum input voltage
Maximum input current

Um = 16 V
Im = 1700 mA

Blasting line terminals:

In the ohmmeter mode (level of protection „ia”):

Maximum output voltage
Maximum output current

Uo = 8,4 V
Io = 10 mA

Maximum external inductance and capacitance:

Lo [mH]	100	50	20	10	5	2	1	0,5	0,2	0,1	0,05	0,02
Co [µF]	6,8	7,3	8,2	8,9	10	12	14	16	21	26	33	50

In blaster mode (non-intrinsically safe circuit):

Maximum output voltage

Um = 800 V

(16)

Report number:

– JSHP/RW/29/17/U1/RM

(17)

Specific conditions of use:

– None additional to those listed previously.

(18)

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

(19)

Drawings and documents:

- Zapalarka kondensatorowa HZK-100x Dokumentacja zmian DZ 10360/5. Lipiec 2018.
- Zapalarka kondensatorowa HZK-100 HZK-100M. Instrukcja obsługi IO 10360. ED:03/18/KS. Lipiec 2018.

Detailed list of documents required for certified type identification is included in Report mentioned in Clause (16).



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