


EU-Type Examination Certificate

- [2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU
- [3] EU-Type Examination Certificate Number: Presafe 17 ATEX 1078X Issue 0
- [4] Product: Explosion proof CAMERA HOUSING, type HERCULES EXF-XXXX (OEM Model: TNO-abbce)
- [5] Manufacturer: WONWOO Engineering Co., Ltd.
- [6] Address: 81, Magokjungang 6-ro ,Gangseo-gu,Seoul,Korea
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV GL Nemko Presafe AS, notified body number 2460, 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 products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential reports listed in section 16.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN 60079-0: 2012/A11:2013, EN 60079-1:2014 and EN60079-31:2014
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of 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 product shall include the following:

 II 2 GD Ex db IIC T6 Gb
Ex tb IIIC T85 °C Db

Date of issue: 2017-09-12

Asle Kaastad
For DNV GL Nemko Presafe AS

The Certificate has been digitally signed.
See www.presafe.com/digital_signatures for more info



This certificate may only be reproduced in its entirety and without any change, schedule included.

EU-Type Examination Certificate

[13]

Schedule

[14] **EU-TYPE EXAMINATION CERTIFICATE No.:** Presafe 17 ATEX 1078X Issue 0

[15] **Description of Product**

The CAMERA HOUSING is made of stainless steel casting and comprises explosion proof 'Ex d' enclosure. The explosion proof enclosure has one enclosure that contains the motor of wipper and camera. There is a glass cemented in the lid. Entries of into the enclosures are one treaded hole in the wall of 'Ex d' enclosure. This is threaded hole for use with ¾" NPT.

Type designation

HERCULES EXF -XXXX

1st X: video format (N, P, M or H)

2nd XXX: optical zoom (363, 208 or 308)

OEM Type: TNO-abbce

a: resolution (6, 7, 8, 9)

bb: optical zoom (12, 23, 32, 37)

c: version (0, 1, 2)

Electrical Data

24V~ 2A, 50/60 Hz, Max 48W or 24V~ 3A, 50/60Hz, Max. 28W

Degrees of protection (IP Code)

IP 67

Ambient temperature

-40°C to +60°C

Routine tests

No routine pressure test is required. The enclosure has been tested with 4 times the reference pressure.

[16] **Report No.:** 2015-9445 rev 1

Project No.: PRJC-492504-2013-PRC-KOR

[17] **Specific Conditions of Use**

Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 1 and 2 of EN/IEC 60079-1.

The yield stress of the fastener elements of each part of the flame proof casing must be at least equal to 450 N/mm².

[18] Essential Health and Safety Requirements

Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

[19] Drawings and documents

Number	Title	Rev.	Date
EXF-01A-01	EXPLOSIONPROOF CAMERA (Sheet 1/2 to 2/2)	2	2017.08.22
344062A20	CAMERA HOUSING	01	2013.12.19
344062A04	CAMERA FRONT HOUSING	2	2015.06.15
361062A10	WIPER SHAFT	0	2014.02.05
355062A05	OIL SEAL PLATE	0	2014.02.05
377062A00	WINDOW	0	2014.02.05
561962A00	HEATER	0	2014.01.03
342062A20	WINDOW NUT	0	2014.02.05
355062A20	NAME & ENTRY PLATE	2	2017.08.22
316062S20	HOUSING BRACKET	01	2014.02.95
EXP-02A-01	FRONT HOUSING A'SSY	0	2014.07.03

[20] Certificate History

Issue	Description	Issue date	Report no.
0	This certificate replaces DNV 15 ATEX 7327X by added OEM model, changed manufacture's address and revised new version of harmonized standard	2017-09-12	2015-9445 Rev 1

END OF CERTIFICATE