

CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 23ATEX0017** Issue Number: **0**

(4) Product: **Internal electrically actuated valve, Type ZEV**

(5) Manufacturer: **Mokveld Valves BV**

(6) Address: **Nijverheidsstraat 67, 2802 AJ Gouda,
The Netherlands**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 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 test report number NL/DEK/ExTR23.0019/00.

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

EN IEC 60079-0 : 2018

EN 60079-7 : 2015 + A1 : 2017

EN 60079-11 : 2012

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 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/- G Ex eb ia IIC T4 or T3 Gb

Date of certification: 30 June 2023

DEKRA Certification B.V.

R. Schuller
Certification Manager



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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 23ATEX0017**

Issue No. 0

(15) **Description**

The internal electrically actuated valve Type ZEV consists of a valve with integrated brushless motor located in a pressurized oil-filled cartridge, an electrical feedthrough in type of protection increased safety "eb" and a pressure balancing position sensor in type of protection intrinsic safety "ia". The product range consists of 8" to 24" nominal valve size.

The valve is intended for use in a potential explosive atmosphere externally (ambient) requiring EPL Gb and a non hazardous atmosphere inside (process).

The potential explosive atmosphere can have contact with the electrical parts located at the upper part of the valve; the pressure balancing position sensor and the top side of the feed through.

The oil-filled cartridge is considered as a non-hazardous area.

The valve is to be used with a dedicated control cabinet, including a motor controller, power supply and switching equipment. This control cabinet is not in the scope of this certificate.

Process temperature range: -40 °C to +85 °C (T4);
-40 °C to +100 °C (T3).

Ambient temperature range: max. -40 °C to +50 °C.

Type designation

ZEV-A-B-C-D

ZEV: product family.

A: control or on/off valve indicated with R or X respectively.

B: cage type. The cage type is often customer specific and influences the flow characteristic. Not relevant for explosion protection.

C: nominal valve size in inch (8" – 24").

D: pressure class rating. For instance Class 600. Not relevant for explosion protection.

Electrical data

Only for connection to a dedicated supply and control unit.

Power supply of the integrated brushless motor: max. 34 Vac, 10 A continuous.

Sensor connections: 24 Vdc or 7 Vac \pm 5 %, max. 50 mA

Valve duty cycle: S3 50 % (1200 start-stops per hour).

Pressure balancing position sensor:

In type of protection intrinsic safety "ia" with the following parameters:

$U_i = 28 \text{ V}$ $C_i = 25 \text{ nF}$

$I_i = 93 \text{ mA}$ $L_i = 0,2 \text{ mH}$

$P_i = 0,65 \text{ W}$

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 23ATEX0017**

Issue No. **0**

(16) **Report Number**

NL/DEK/ExTR23.0019/00.

(17) **Specific conditions of use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR23.0019/00.

(20) **Certificate history**

Issue 0 - 206649700 initial certificate