



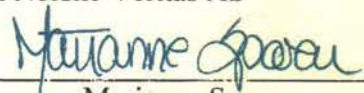
DET NORSKE VERITAS

EC-TYPE EXAMINATION CERTIFICATE

- [2] **EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 94/9/EC**
- [3] EC-Type Examination Certificate Number: **DNV 11 ATEX 02969X**
- [4] Equipment or Protective System: **ACHEM Valve Monitor Model ALS400 series**
- [5] Applicant : **Wuxi AFL Flow Controls Equipment E/I Co., Ltd.**
[6] Address **A 4-406 Standard Factory, Li Yuan Economic Developing District, Wuxi, Jiangsu, P.R. China**
- [5] Manufacturer: **Wuxi Aphe Flow Smart Controls Maker Co.,Ltd**
[6] Address **No.29,Henghua Scientific Park, No.58 Xiuxi Road,Taihu Town ,Binhu District,Wuxi, Jiangsu, P.R. China**
- [7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV, notified body number 0575 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, 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 reports listed in section 14.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0: 2009, EN 60079-1:2007
- [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 EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protected system. If applicable, further requirements of this Directive apply to the manufacturer and supply of this equipment or protective system.
- [12] The marking of the equipment or protective system shall include the following:

 II 2 G Ex d IIC T6 Gb -20°C ≤ Tamb ≤ +50°C

Høvik, 2012-02-08
for Det Norske Veritas AS


Marianne Spæren
Certification Manager



Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The digitally signed and electronically distributed document is the original and valid certificate. Ref.: www.dnv.com/digitalsignatures

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 300,000. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



[13]

Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE No.: DNV 11 ATEX 02969X

Certificate History

Revision	Description	Report no.	Issue date
-	Original certificate	2012-3063	2012-02-08

[15] **Description of Equipment or Protective System**

The ACHEM valve monitor model ALS400 series is used to indicate the status of the valve position at the spot and can also provide current feedback to the microcomputer from the micro switch to show the valve position. The equipment comprises a flamproof enclosure including a shaft operating the indication device. The enclosure of equipment is made of aluminium.

Type Identification

The valve monitor is equipped with different kinds of limit switch placed inside that is distinguished in the type code designation as below:

ALS- 00

Code of Limit Switch:

M2: 2SPDT 15A 125-250V D.C

M3: 3SPDT 15A 125-250V D.C

M4: 4SPDT 15A 125-250V D.C

PA23: 10-30VDC, ≤150mA(3wire)

PA22: 10-30VDC, ≤150mA(2wire)

QA23: 5-240VAC/DC, ≤300mA(3wire)

PP22: 8DCV, ≤1mA(2wire)

AS2: 20-28VDC, ≤41mA

4: Aluminium flameproof enclosure

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[16] **Project No.:** PRJC-275926-2010-PRC-CHN

Descriptive Documents

Number	Title	Rev.	Date
ALS400-000	Assembly drawing	-	2010.11.05
ALS400-001	Body	-	2011.03.13
ALS400-003	Body O-ring	-	2010.08.13
ALS400-004	Cover	-	2011.03.13
ALS400-007	Shaft Sleeve	-	2010.08.13
ALS400-008	Shaft	-	2010.11.05
ALS400-011	Label	-	2011.11.15
ALS400-012	Warning Label	-	2010.08.13
ALS400-013	Earthing Label	-	2010.08.13
ALS210-013	Indicator O-ring	-	2010.08.13
ALS210-015	Shaft O-ring	-	2010.08.13

Routine tests

- Each Ex-d enclosure must be routine pressure tested with 20 bars for 60 seconds according to clause 16 of EN/IEC 60079-1.

[17] **Special Conditions for Safe 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 310N/mm².

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

See part 9 of this certificate

END OF CERTIFICATE

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 300.000. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.