1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 17ATEX5144X** Issue: **1**

4 Equipment: **Solenoid Valve Operator, Type JS2D**

5 Applicant: **ASCO, L.P.**

6 Address: 160 Park Avenue
Florham Park
New Jersey 07932
USA

See Certification schedule for a list of manufacturing locations.

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

8 Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012/A11:2013 EN 60079-7:2015 EN 60079-18:2015 EN 60079-31:2014

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 2G
Ex eb mb IIC T** Gb

Ta = -25°C to +*°C

II 2D
Ex mb tb IIIC T** Db
IP65
Ta = -25°C to +*°C

** Refer to the schedule for the specific temperature class and T temperature for dust
* Refer to the Schedule for the specific Ambient Temperature

Project Number 70186038

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13 **DESCRIPTION OF EQUIPMENT**

Manufacturing Locations.

ASCO, L.P.
160 Park Avenue,
Florham Park, NJ 07932,
USA

ASCO, L.P.
1561 Columbia Highway,
Aiken, South Carolina 29801,
USA

ASCOTECH, S.A. de C.V.
Circuito del Progresso,
Mexicali, Baja California 21190
Mexico

ASCO NUMATICS (India) Pvt. Ltd
No: 57, Kundrathur Main Road,
Gerugambakkam, Porur, Chennai - 600 101, Tamilnadu,
India

ASCO ASIA
Block 4008, Ang Mo Kio Avenue 10,
#04-08/10/17/12, Techplace 1,
SINGAPORE 569625

Ascomation Pty Ltd
Unit 12/25 Frenchs Forest Road East,
French Forest, NSW 2086,
Australia

ASCO S.A.S.
53 Rue de Beauce BP17,
28111 LUCE Cedex,
France

ASCO CONTROLS B.V.
Neonstraat 3,
6718 WX Ede'
The Netherlands

ASCO Valve (Shanghai) Co. Ltd.
No. 480, Xin Miao No. 3 Road,
Xin Qiao Town,
Song Jiang District,
Shanghai 201612,
P.R. China

ASCO JOUCOMATIC Ltd Trading as ASCO Numatics
2 Pit Hey Place,
West Pimbo,
Skelmersdale,
Lancashire WN8 9PG,
United Kingdom

The Solenoid Valve Operator, Type JS2D is intended to operate an associated actuator. It comprises:

- A housing that contains an encapsulated copper coil with the shaft of the associated actuator passing through the centre of the housing and coil. Terminal pins link the coil wire with the spade connectors for an external connection. There is a threaded insert in the yoke assembly for earthing.
- The coil is fixed to an associated stainless steel dust proof (IP65 minimum) junction box, which has a ½ NPT cable entry. Adjacent to the cable entry there is an M5 screw fitted with saddle clamp and spring washer which is provided for connection of a protective earth conductor and is marked with the protective earth symbol. Into this junction box, the coil supply wiring is terminated into a terminal block which is secured to the inside of the enclosure. The coil earth lead is secured to a dedicated internal earthing point via an M4 screw. Access to the terminal block for making a supply connection is by removal of the cover. The cover is secured by means of four M3.5 screws.

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Full Range of Models

Table 1 - AC Coils:						
Catalogue no.	Solenoid dwg. no.	Coil Type	Watts	Insulation Class	Tamb. (°C)	T class / Dust Code
JS2D8003G1	510737	MXX	10.1	F	-25~+52	T4/T135°C
JS2DHT8003G1	510737	MXX	10.1	H	-25~+60	T4/T135°C
JS2D8003H1	510737	MXX	10.1	F	-25~+52	T4/T135°C
JS2DHT8003H1	510737	MXX	10.1	H	-25~+60	T4/T135°C
JS2D8007G1	510738	MXX	10.1	F	-25~+52	T4/T135°C
JS2DHT8007G1	510738	MXX	10.1	H	-25~+60	T4/T135°C
JS2D8007H1	510738	MXX	10.1	F	-25~+52	T4/T135°C
JS2DHT8007H1	510738	MXX	10.1	H	-25~+60	T4/T135°C
JS2D8202G1	510739	MXX	10.1	F	-25~+52	T4/T135°C
JS2DHT8202G1	510739	MXX	10.1	H	-25~+60	T4/T135°C
JS2D8202G5	510739	MXX	10.1	F	-25~+52	T4/T135°C
JS2DHT8202G5	510739	MXX	10.1	H	-25~+60	T4/T135°C
JS2D8202H5	510739	MXX	10.1	F	-25~+52	T4/T135°C
JS2DHT8202H5	510739	MXX	10.1	H	-25~+60	T4/T135°C

Table 2 - DC Coils:						
Catalogue no.	Solenoid dwg. no.	Coil Type	Watts	Insulation Class	Tamb. (°C)	T class / Dust Code
JS2D8003G1	510737	MXX	11.6	F	-25~+40	T4/T135°C
JS2DHT8003G1	510737	MXX	11.6	H	-25~+40	T4/T135°C
JS2D8003H1	510737	MXX	11.6	F	-25~+46	T4/T135°C
JS2DHT8003H1	510737	MXX	11.6	H	-25~+46	T4/T135°C
JS2D8007G1	510738	MXX	11.6	F	-25~+40	T4/T135°C
JS2DHT8007G1	510738	MXX	11.6	H	-25~+40	T4/T135°C
JS2D8007H1	510738	MXX	11.6	F	-25~+46	T4/T135°C
JS2DHT8007H1	510738	MXX	11.6	H	-25~+46	T4/T135°C
JS2D8202G1	510739	MXX	11.6	F	-25~+40	T4/T135°C
JS2DHT8202G1	510739	MXX	11.6	H	-25~+40	T4/T135°C
JS2D8202G5	510739	MXX	11.6	F	-25~+40	T4/T135°C
JS2DHT8202G5	510739	MXX	11.6	H	-25~+40	T4/T135°C
JS2D8202H5	510739	MXX	11.6	F	-25~+46	T4/T135°C
JS2DHT8202H5	510739	MXX	11.6	H	-25~+46	T4/T135°C
JS2D8003G300	510757	MXX	1.4	F	-25~+60	T6/T85°C
JS2D8003G301	510757	MXX	1.4	F	-25~+60	T6/T85°C
JS2DMF8003G300	510757	MXX	1.7	F	-25~+60	T6/T85°C
JS2DMF8003G301	510757	MXX	1.7	F	-25~+60	T6/T85°C
JS2DHT8003G302	510757	MXX	1.8	H	-25~+74 -25~+65	T5/T100°C T6/T85°C

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Table 2 - DC Coils:						
Catalogue no.	Solenoid dwg. no.	Coil Type	Watts	Insulation Class	Tamb. (°C)	T class / Dust Code
JS2DHT8003G303	510757	MXX	1.8	H	-25~+74 -25~+65	T5/T100°C T6/T85°C
JS2DMH8003G302	510757	MXX	2.0	H	-25~+ 74 -25~+65	T5/T100°C T6/T85°C
JS2DMH8003G303	510757	MXX	2.0	H	-25~+ 74 -25~+65	T5/T100°C T6/T85°C
JS2D8003H304	510758	MXX	0.55	F	-25~+65	T6/T85°C
JS2DHT8003H306	510758	MXX	0.70	H	-25~+80 -25~+65	T5/T100°C T6/T85°C
JS2DMF8003H304	510758	MXX	0.75	F	-25~+65	T6/T85°C
JS2D8003H305	510759	MXX	0.55	F	-25~+65	T6/T85°C
JS2DHT8003H307	510759	MXX	0.70	H	-25~+80 -25~+65	T5/T100°C T6/T85°C
JS2DMF8003H305	510759	MXX	0.75	F	-25~+65	T6/T85°C

Variation 1 - This variation introduced the following changes:

i. The Applicant's name was changed from "ASCO Valve, Inc." to "ASCO, L.P."
ii. The introduction of the following, new 1.8 W Class H coil (coil 503606), Table 2 - DC Coils, was amended to reflect this change:
   - JS2DHT8003G302 replaces JS2D8003G302
   - JS2DHT8003G303 replaces JS2D8003G303
iii. The introduction of two, new 2W solenoid constructions JS2DMH8003G302 and JS2DMH8003G303. The Equipment Description section, Table 2 - DC Coils, was amended to reflect the change.
iv. Additional information was included in Table 1 and Table 2.
v. The 0.7 W solenoids JS2DHT8003H306 and JS2DHT8003H307 were allowed to be marked with the following, alternative temperature class, T temperature for dust and ambient temperature range:

Temperature Class/T Temperature for Dust	Tamb. (°C)
T6/T85°C	-25~+65

vi. The Sira Free Reference Report Number R70055447A for Issue 0 of the certificates listed a number of alternative manufacturing locations, these were not transposed to the certificate and therefore they are now being retrospectively recognised (Note: after the Report was issued the company name of the Aiken site was changed from ASCO Valve, Inc. to ASCO, L.P.).

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14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	01 February 2018	R70055447A	The release of the prime certificate.
1	21 August 2018	R70186038A	Introduction of Variation 1.

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

15.1 Due to construction, the equipment is considered to be a potential electrostatic charging hazard. For prevention, clean only with a damp cloth.

15.2 The user shall ensure cable entry devices/conduit are suitably certified and are suitable for the ambient temperature range marked and maintain a minimum degree of protection of IP65.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 The following routine tests are to be performed on each product manufactured:

- The encapsulated parts of the apparatus shall be subjected to a visual inspection. No visible damage of the compound shall be evident, such as cracks, exposure of the encapsulated parts, flaking, impermissible shrinkage, discoloration, swelling decomposition or softening, as required by EN 60079-18 Clause 9.1.
- An electric strength test of 2U+1000V or 500 Vrms, as applicable, shall be applied between circuit and casing of solenoids for at least 1 second as required by EN 60079-18 Clause 9.2 and EN 60079-7 Clause 7.1. Alternatively 1.2 times this test voltage may be applied for at least 100ms. No breakdown shall occur.

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