

[1] **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: DEMKO 03 ATEX 133669X

[4] Equipment or Protective System: Solenoid Valves
(models as outlined in the Schedule)

[5] Manufacturer: Circle Seal Controls

[6] Address: 2301 Wardlow Circle, Corona, CA 92880 U.S.A.

[7] This equipment or protective system and any acceptable variation there to is specified in the schedule to this certificate and the documents therein referred to.

[8] UL International Demko A/S, notified body number 0539 in accordance with Article 9 of the 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 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 report nos. 133669.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 E incl. A1 + A2

EN 50018: 2000 E incl. A1

[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, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.

[12] The marking of the equipment or protective system shall include the following:

II 2 G EEx d IIB T5

On behalf of UL International Demko A/S

Herlev, 2003-06-03

Karina Christiansen
Certification Manager

UL International Demko A/S

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Certificate: 03 ATEX 133669X

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Schedule

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EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 03 ATEX 133669X

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Description

The equipment represented in this certificate consists of solenoid valves, constructed in type of explosion protection flameproof enclosure "d". The valves may be either normally open or normally closed. The coils use flying leads. The series 15840 valves are cast enclosures and the series 30800 valves is an all steel welded construction.

This certificate is valid for the following model numbers cq. valve groups:

1. series 15800
2. series 30800 model numbers 31800- thru 31840- and 31851- thru 31871-
3. series 30800 model numbers 32800- thru 32840- and 32851- thru 32861-

Nomenclature details for series 158x0-xxxxxxxEx valves :

- fourth place of the model number indicates the connection size:
0=1/4", 1=3/8", 2=1/2", 3=3/4", 4=1", 5=1 1/4", 6 =1 1/2"
- fifth place of the model number indicates the valve operation mode:
0= Normally Closed
- fifteenth place of the model number indicates the type of enclosure:
E= Explosion proof

Nomenclature details for series 30800 valves :

- second place of the model number indicates the valve operation mode:
1= Normally Closed, 2= Normally Opened
- fourth place of the model number indicates the connection size:
0=1/4", 1=3/8", 2=1/2", 3=3/4", 4=1", 5=1 1/4", 6 =1 1/2", 7=2"
- fifth place of the model number identifies cap used:
0=threaded cylinder cap on 1/4" -1", 1=flanged cylinder cap on 1 1/4"-1 1/2"
- fourteenth place of the model number indicates the type of enclosure:
E= Explosion proof

The ambient temperature range is -20 °C to +60 °C.

Electrical data:

Supply	12/24/32/72/125/250 Vdc, or
(series 15800)	24/110/220/380 Vac (50Hz), or
	24/100/115/200/230 Vac (60Hz)
	48 VA
Supply	12/24/48/125/250 Vdc, or
(series 31800 and 32800)	110/220 Vac (50 Hz), or
	110/115/200/230 Vac (60Hz)
	48 VA

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Report: 133669-01

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Schedule

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Installation instructions

All cable entry devices or conduit connections shall be certified in type of explosion protection flameproof enclosure "d", suitable for the conditions of use and correctly installed.

For ambient temperatures below -10 °C and above +40 °C, use field wiring suitable for both minimum and maximum ambient temperature.

Routine tests

Because of the welded construction, routine tests according to EN 50018 cl. 16 are required at minimum 7.8 bar for models 30800 (max. reference pressure measured was 5.6 bar)

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Report No.

Project Report No.: 133669-01 (Hazardous Location Testing)

Drawings:

Number	Description	Date
30800-ATEX	30800 series ATEX valve layouts	16-05-2003
15800-ATEX	15800 series ATEX valve layouts	16-05-2003
65912	Nameplate, (ATEX)	19-05-2003
65913	Nameplate, (ATEX)	19-05-2003

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Special conditions for safe use:

When conduit is used a suitable certified stopping box, in type of explosion protection flameproof enclosure "d", is to be installed within 18 inches of the enclosure wall.

The flying leads from the coils are to be terminated in a suitable certified enclosure in type of explosion protection flameproof enclosure "d" or in type of explosion protection increased safety "e".

The cover bolts on the series 15800 valves must be tightened with at least 15 Nm and be locked against loosening due to vibration.

Precautions must be taken to ensure that the flameproof enclosures do not exceed the maximum operating temperature, for example due to high temperature process mediums.

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[18]


Essential Health and Safety Requirements

Concerning ESR this Schedule verifies compliance with the Ex standards only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

On behalf of UL International Demko A/S

Herlev, 2003-06-03


Karina Christiansen
Certification Manager

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