

TYPE EXAMINATION CERTIFICATE



Equipment or Protective System intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC

Type Examination Certificate Number: DEMKO 01 ATEX 130591X

Equipment: Electrically Operated Valve, Solenoid Type 018F xxxx

Manufacturer: Danfoss A/S; Albuen 29, 6000 Kolding, Denmark

Applicant: Danfoss A/S; Nordborgvej 18, 6430 Nordborg, Denmark

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

UL International Demko A/S certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to the European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in confidential report number 130591

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to Standards:

EN50021: 1999 E

If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

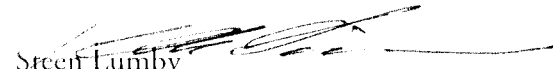
This Type examination certificate relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

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

Ex II 3 G EEx nA II T3

On behalf of UL International Demko A/S

Herlev, 2001.12.21


Steen Lumby
Certification Manager

UL International Demko A/S

UL International Demko A/S
København
Copenhagen
Denmark

Certificate: 01 ATEX 130591X

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Schedule

TYPE EXAMINATION CERTIFICATE No. DEMKO 01ATEX 130591X

[13]

[14]

[15] Description of Equipment:

The product covered by this Schedule is a solenoid operating a valve.

Type variants comprised by the certificate:

Fixed wiring from manufacturer:

For ambient temperature $-20^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$ and max media temperature 105°C .

Type 018F5257	24V; 0,80A	50Hz
Type 018F5259	48V; 0,40A	50Hz
Type 018F5261	115V; 0,17A	50Hz
Type 018F5251	230V; 0,09A	50Hz
Type 018F5252	240V; 0,08A	50Hz

For field wiring:

For ambient temperature $-20^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$ and max media temperature 105°C .

The field wiring cable shall be for 100°C .

Type 018F5707	24V; 0,80A	50Hz
Type 018F5709	48V; 0,40A	50Hz
Type 018F5711	115V; 0,18A	50Hz
Type 018F5701	230V; 0,09A	50Hz
Type 018F5702	240V; 0,08A	50Hz

Type 018F5807	24V; 0,90A	50Hz
Type 018F5809	48V; 0,54A	50Hz
Type 018F5811	110V; 0,22A	50Hz
Type 018F5801	230V; 0,11A	50Hz
Type 018F5802	240V; 0,10A	50Hz

Note: For ambient temperature $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ and max media temperature 105°C , the field wiring cable for the type above shall be for 90°C .

Fixed wiring from manufacturer:

For ambient temperature $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$ and max media temperature 105°C .

Fixed wiring from manufacturer

Type 018F5282	230V; 0,11A	50/60Hz
Type 018F5277	24V; 0,98A	50/60Hz

For field wiring:

For ambient temperature $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$ and max media temperature 105°

The field wiring cable shall be for 90°C .

Type 018F5732	230V; 0,11A	50/60Hz
Type 018F5727	24V; 0,98A	50/60Hz
Type 018F5857	24V; 0,8A	DC

UL International Demko A/S

UL International Demko A/S
København, Denmark
Tel: +45 33 14 14 14
Fax: +45 33 14 14 14

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[16] Descriptive Documents

[16.1]	Drawing No.	Rev.	Date	Title
	018F6000	00	010130	Embedded top part.
	018F6200	00	010306	Embedded top part.
	018F6400	00	010306	Embedded top part.
	018Z0032	00	911014	Toppart assambly
	018Z0041	A	000511	Bobin
	018Z0046		010914	Bobin
	018Z0352	S	931104	Bobin
	018Z0329	A	920324	Gasket
	032M0696	00	011022	Description 018F52XX /018F57XX /018F58XX
	032M0697	01	011130	Terminal box 018F57XX/018F58XX
	018F52XX		011122	Description
	032M0690	00	011022	Approval drawing
	032M0691	00	011022	Approval drawing
	018F57XX		011122	Description
	032M0698	01	011022	Description
	032M0692	01	011022	Approval drawing
	032M0693	00	011022	Approval drawing
	018F58XX		011122	Description
	032M0694	01	011130	Approval drawing
	032M0695	02	011022	Approval drawing
	032M0698	01	011022	Description

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.

[16.2] Report No.: 130591-01

[17] Special Conditions for Safe Use

[17.1] List special conditions

- The ambient temperature must be within the range: $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$ or $-20^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$ depending on the version, see clause 15 in the certificate.
- The solenoid is a version with a permanently connected cable and a version for field wiring. The connection of the cable supplying the solenoid, has to be done in accordance with the appropriate electrical code and good engineering practice.
- The version with cable entry is the entry for cable size $\text{Ø}6$ mm to $\text{Ø}7.8$ mm.
- The product is provided with a Y/G coloured earth wire or a internal earth terminal. The earth connection shall be connected to earth or bonding system.

UL International Demko A/S

UL International Demko A/S
 10000, Copenhagen
 Denmark
 Tel: +45 33 14 50 00

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- The solenoid must not be removed from the valve when energised. This would otherwise impair the surface temperature specification.
- In case of cleaning the solenoid, this must be done with a moist cloth, in order to prevent build up of electrostatic charges.
- The solenoid must be protected against direct sunlight and other ultraviolet light sources.
- The solenoid with cable entry shall be protected against major impact.

[18] Essential Health and Safety Requirements

Concerning EHSR that are not addressed by the standards listed in this certificate have been identified and individually assessed by the manufacture and is done on his responsibility alone.


[19] Conditions of Certification

[19.1] Conditions for the manufacturer

The manufacture makes inspection in the production for evaluation of the min thickness of the encapsulations.

On behalf of UL International Demko A/S

Herlev, 2001.12.21


Steen Lumby
Certification Manager