

[1]

EU-TYPE EXAMINATION CERTIFICATE



[2] **Equipment and Protective System intended for use in potentially explosive atmospheres**
Directive 2014/34/EU – Annex III

[3] Certificate Number: **EPT 12 ATEX 0782** **Issue 2**

[4] Equipment: **Solenoid valves, Electromagnetic devices and Air operated valves**

Series: **L, C, D, E, F, G, VL, VC, VD, VE, VF, VG, H, VH** $(-60 \leq T_{amb} \leq +xx)$
M, VM

[5] Manufacturer: **NADI S.r.l.**

[6] Address: **Via Risorgimento, 10 – 20017 Mazzo di Rho (MI) – Italy**

[7] This equipment and its accepted variations are specified in the annex to this Certificate.

[8] Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 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 of the Directive.

The examination and test results are recorded in the confidential Report N° EPT.19.REL.01/1319026

[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the harmonized standards :

EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-31:2014,
EN 60079-26:2015, EN ISO 80079-36:2016, EN ISO 80079-37:2016
and with the standard **EN 60079-0:2018**

[10] If the sign "X" is placed after the Certificate number, it indicates that the equipment is subject to the special conditions for safe use specified in the annex to this Certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.

Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment. These requirements are not object of this Certificate.

[12] The equipment shall include the symbols  II 1G/2GD and at least one of the following strings:

Series M, VM

Ex h IIC (or IIB+H2 *) TX Ga/Gb $-60^{\circ}\text{C} \leq T_{amb} \leq +xx^{\circ}\text{C}$
Ex h IIIC TX°C -/Db

Other Series

Ex h IIC (or IIB+H2 *) TX Ga $-60^{\circ}\text{C} \leq T_{amb} \leq +xx^{\circ}\text{C}$
Ex db IIC (or IIB+H2 *) TX Ga/Gb
Ex tb IIIC TX°C Db

* See the equipment description for more details

Place and date of issue:
Torino, 2019-08-28



Dionisio Buccieri

Dionisio Buccieri
Directive Responsible

Paolo Trisoglio

Paolo Trisoglio
Managing Director



PRD N° 119B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
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This Certificate has 4 pages and it is reproducible only in its entirety. Conditions of validity are reported below.



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[15] Equipment description

The solenoid valves, electromagnetic devices and air operated valves are divided into the following series, identifiable through the first alphabetical letters of the product code:

- Solenoid valves: **L, C, D, E, F, G, VL, VC, VD, VE, VF, VG**
- Electromagnetic devices series: **H, VH**
- Air operated valves series: **M, VM**

They are used to control the flow of flammable and/or inert gas or liquids in a potential explosive atmosphere.

The solenoid valve is composed of a flameproof enclosure (which contains the electromagnetic device) and a valve.

The electromagnetic device is composed of a flameproof enclosure (which contains the solenoid).

The air operated valves is composed only by the valve.

The flameproof enclosure is made of light alloy $GAISi4.5MnMg$ anodized (colored) or painted (if painted the paint used has a maximum thickness of 200 μm) and silicone gaskets.

The body of the valve can be made of brass UNI 5705/ UNI 4893, nickel-plated brass UNI 5705/ UNI 4893, bronze UNI 7013 (only for gas group IIB+H2), stainless steel AISI 303/AISI 304/AISI 316/AISI 316L, Al light alloys (not permitted for flammable gas or liquids), or Carbon steel while the seals materials can be NBR, viton, urepan, PTFE, rulon, metallic, neoprene, EPDM, HNBR, kalrez or special.

The equipment is suitable for groups IIC, IIB+H2 and group IIIC. It has respectively the type of protection "Ex db", "Ex h" and "Ex tb".

Electrical characteristics

Rated voltage: from 6 V to 400 Vdc or 400 Vac

Rated frequency: 50 or 60 Hz

Maximum power dissipation: 11W or 26W

Degree of protection: IP 67 (1m of depth 40 min, according to EN 60079-0 and IEC 60529)

Ambient temperature. from -60 to +40 °C (or from -60°C to +60 °C or from -60°C to +90 °C)

The temperature class and maximum surface temperature depends on the ambient temperature and on the nominal power of the solenoid valve coil according to the following table:

Maximum ambient temperature	$P \leq 11W$	$P \leq 26W$
+40°C	T6 and T65°C	T5 and T87°C
+60°C	T5 and T85°C	T4 and T107°C
+90°C	T4 and T115°C	T3 and T137°C

Cable entries

The cable entry devices used on the enclosures must be suitably ATEX certified. They must be chosen according to the type of protection, the type of thread, the degree of protection of the equipment and with suitable operative temperatures as detailed in the following table.

Range of ambient temperature of the equipment	Operative temperature for cable glands
From -60°C to +40 °C	From -60°C to +65 °C
From -60°C to +60 °C	From -60°C to +85 °C
From -60°C to +90 °C	From -60°C to +115 °C

Screws

None


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The equipment are identified by the codes as below reported.

Solenoid valves:

① 00÷99 ② 00÷99 ③ ④ ⑤ ⑥

Electromagnetic devices:

H ② 0000÷9999 ⑤ ⑥

Air operated valves:

M 00÷99 ② 00÷99 ③ ④ ⑥

Special code:

V ① ② 0000÷9999 ④ ⑤ ⑥

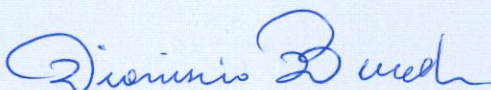
Where:

DIGITS		①	②	③	④	⑤	⑥
Device type							
L	2 way solenoid valves						
C	3 way solenoid valves						
D	5 way solenoid valve						
E	2 way manual reset sol. valves						
F	3 way manual reset sol. valves						
G	5 way manual reset sol. valves						
H	Electromagnetic devices						
M	Air operated valves						
Body material of the valve							
T	Brass UNI-5705/ UNI-4893						
N	Nickel plated brass UNI5703 / UNI4893						
B	Bronze UNI7013 (Gas Group IIB+H2)						
H	Stainless steel:						
	• AISI 303 UNI -X10CrNiS1810						
	• AISI 304 UNI -X10CrNiS1810						
I	Stainless steel						
	• AISI 316 UNI -X5CrNiMo171						
	• AISI315L UNI -X2CrNiMo1712						
L	Al Light Alloys						
C	Carbon steel						
Connection types							
(See safety instructions document)							
Seals material							
0	NBR (Buna N)						
1	VITON						
2	UREPAN						
3	PTFE or RULON						
4	Metallic						
5	Neoprene						
6	EPDM						
7	HNBR						
8	KALREZ						
9	SPECIAL						
Protection degree							
C	Ex-db h IIC IP67 Ex tb IIIC						
Options							
	No option						
W	Stable Manual Operator						
X	Instable Manual Operator						
Y	Transmission pin						
/Ap	High pressure version						
/SG	Degreasing for O2						
/LT	ATEX Housing for Tamb -60°C						
/C	Antinoise Condenser						
/V	Varistor (spikes suppressor)						
/LC	Low consumption coil						
/SF	Silicone Lubricants free						

Numbers "00÷99" and "0000÷9999" aren't relevant for the types of protection, details contained in manufacturer's documents.


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Warning label

After de-energizing delay 15 min before opening.
Joints cannot be repaired

Routine tests

None

[16] **Assessment Report n° EPT.19.REL.01/1319026**

This EU-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards listed in this Certificate; performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

[17] **Special condition of use**

Not present

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

Assured by compliance with harmonized standards.

[19] **Descriptive documents**

The equipment object of this Certificate is described by the following documents that are scheduled documents and therefore they cannot be modified without the explicit authorization of the Notified Body.

Document	Name	Rev	Date
Safety instructions	3860	5	2019/02
Drawing	3870	1	2019/02/19
Drawing	3870A	1	2019/02/19
Drawing	3870B	0	2003/01/09
Marking plate Atex	3880	3	2019/02/19

[20] **Terms and conditions**

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

The following conditions may render this certificate invalid:

- changes in the design or construction of the product;
- changes or amendments to the 2014/34/EU Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.

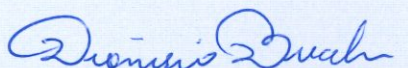
[21] **Certificate History**

This Certificate is at its first issue and replace the EC-TYPE EXAMINATION CERTIFICATE n. EUM1 12 ATEX 0782 and its Supplement n. 1.

Issue	Description	Issue date
0	First issue	2012-09-07
1	Addition of two ambient temperature ranges, change of o-rings material and standard update	2015-06-06
2	Standard update (EN 60079-0, EN 60079-26, EN ISO 80079-36, EN ISO 80079-37)	2019-08-28


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End of Certificate