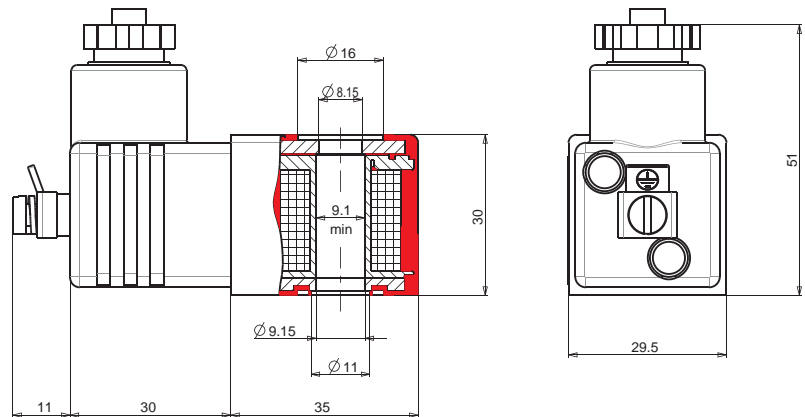


# 3009 Ex m

94/9/CE ATEX 



Amisco has completed the EVI7 S9 Solenoid System with a special coil for pneumatic applications in potentially explosive ambient (group II), that fulfills the requirements of EN 60079-0, EN 60079-18 and EN 60079-31.



The type 3009M Ex m coil is supplied with different length of cable up to 10m.

The coil is certified by TÜV in thermal class T5 (with coil surface temperature max 100°C)

or T4 (with coil surface temperature max 135°C).

Ec-Type Examination Certificate number: TÜV 13 ATEX 030.


The protection is assured by a thermal fuse that, in case of damage, disconnects the coil from power.

The product is developed to be used in ambients with temperature range from -50°C to +50°C, and it has a power consumption of 3.8W for type T4 and 3W for type T5.

The coil fits all Amisco standard operators: 3/2, 2/2 way, NC or NO, threaded or flange types.

All main voltages are available. For other technical specifications see below and next page.



	Specific marking of explosion protection.
<b>II</b>	Group II - Electrical apparatus for places with a potentially explosive atmosphere, other than mines susceptible to fire dump.
<b>2</b>	Category 2 – see the board below.
<b>G</b>	Explosive gas atmospheres.
<b>D</b>	Explosive atmosphere in the presence of combustible dust.
<b>Ex</b>	The symbol Ex which indicates that the electrical apparatus corresponds to one of the protection type (EN 60079-0).
<b>mb</b>	Type of protection for gas – encapsulation “m”, level “mb”.
<b>tb</b>	Type of protection for explosive dust atmospheres – protection by enclosure.
<b>IIC</b>	Electrical equipment of Group II is subdivided according to the nature of the explosive gas atmospheres – IIC, a typical gas is hydrogen.
<b>IIIC</b>	Electrical equipment of Group III is subdivided according to the nature of the explosive dust atmospheres – IIIC, conductive dust.
<b>T5 or T4</b>	Temperature Class. T5 or T4.
<b>Gb</b>	Equipment protection level [EPL] for explosive gas atmospheres.
<b>Db</b>	Equipment protection level [EPL] for explosive dust atmospheres.
<b>IP66</b>	The degrees of protection provided by an enclosure against ingress of solid foreign objects, dust (first number) and water (second number).

Zone	Category	Description
1 and 2	2G	Equipment in this category is intended for use in areas in which explosive atmospheres caused by air/gas mixtures are likely to occur.
21 and 22	2D	Equipment in this category is intended for use in areas in which explosive atmospheres caused by air/dust mixtures are likely to occur.

# SOLENOID SYSTEM Ex m

for 2/2 and 3/2 way Normally Closed and Normally Open valves

## Coil 3009 M

	Code	Characteristics	DC		AC (50 Hz)	AC (60 Hz)	
II2G Ex mb IIC T5 Gb II2D Ex tb IIIC T5 Db	3009M...	Rated power DC	W	3			
		Inrush power AC	VA			4,8	4
		Rated power AC	VA			3,2	2,7
		Coil temperature rise	°C	35		15	10
		Copper temperature rise	°C	40		30	25
II2G Ex mb IIC T4 Gb II2D Ex tb IIIC T4 Db	3009M...	Rated power DC	W		3,8		
		Inrush power AC	VA				
		Rated power AC	VA				
		Coil temperature rise	°C		50		
		Copper temperature rise	°C		55		

## Operator S9

	Code	Characteristics	DC		AC (50 Hz)	AC (60 Hz)
3/2 way NC Flange 3/2 way NC Thread	09L...	Inlet orifice Ø	mm	1,2	1,5	1,5
	09F...	Exhaust orifice Ø	mm	1,45	1,45	1,45
		Working pressure	bar	0÷10	0÷10	0÷10
2/2 way NC Flange 2/2 way NC Thread	09L...	Inlet orifice Ø	mm	1,2	1,5	1,5
	09F...	Working pressure	bar	0÷10	0÷10	0÷10
3/2 way NO Flange (Top inlet) 3/2 way NO Thread (Top inlet)	09L...	Inlet orifice Ø	mm	1,45	1,45	1,45
	09F...	Working pressure	bar	0÷7	0÷10	0÷10

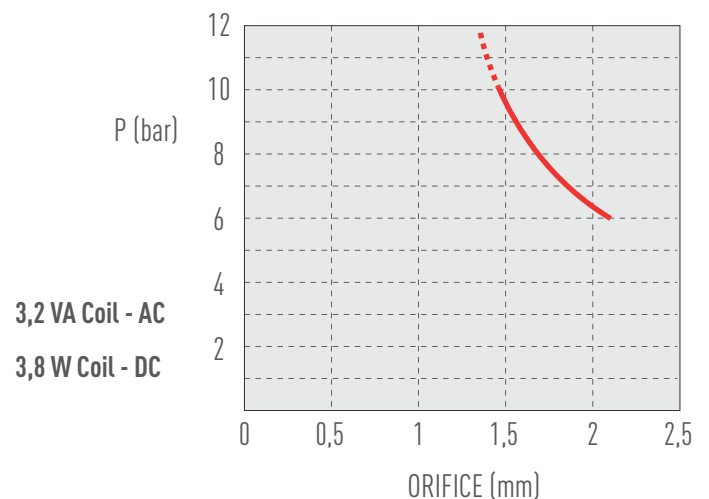
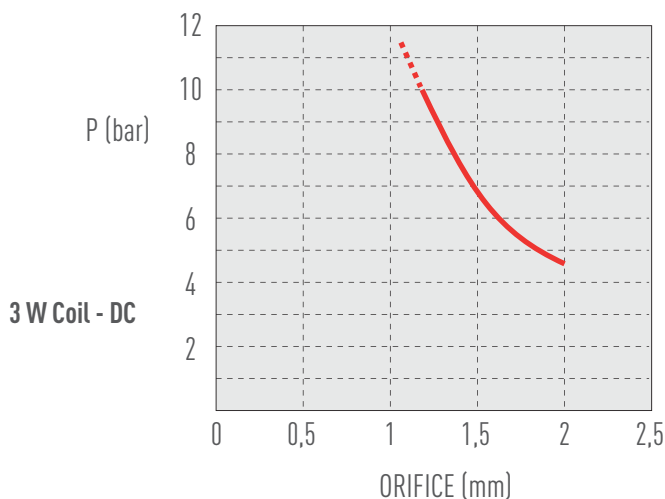
### Note:

Voltage tolerance:	± 10%
Coil temperature range:	-50°C ÷ +50°C
Duty cycle:	100%

Standard voltages:	12 to 240 VAC - 50/60 Hz
	6 to 48 VDC

For different orifice sizes and pressures contact AMISCO S.p.A.

## Performance





Italia

# CERTIFICATE

## EC-TYPE EXAMINATION CERTIFICATE

[1]

[2]

**Equipment or Protective System intended for use  
in potentially explosive atmospheres  
Directive 94/9/EC**

[3]

EC-Type Examination Certificate number:

**TÜV IT 13 ATEX 030**

[4]

Equipment or Protective System: Electrical Coils Type 3009M

[5]

Manufacturer: AMISCO S.p.A.

[6]

Address: via Piaggio 70  
I-20037 Paderno Dugnano (MI) ITALY

[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]

TÜV Italia, notified body no. 0948 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 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 report no. R-13-EX-017.

[9]

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

**EN 60079-0 : 2009 EN 60079-18 : 2009 EN 60079-31 : 2009**

[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 this certificate.

[12]

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



II 2G Ex mb IIC T4/T5 Gb

Ta= -50°C ÷ +50°C

II 2D Ex tb IIIC T130/T95 °C IP66 Db

Ta= -50°C ÷ +50°C

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date: 21<sup>st</sup> of June 2013



*Gennaro Oliva*  
Approved  
Gennaro Oliva  
Industrie Service Director

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres with D.D. prot N. 0215696 dated 18/10/2012. This document without signature and official stamp shall not be valid. This document is internally administrated under no 232070.



Italia

## SCHEDULE

[13]

[14]

**EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 13 ATEX 030**

[15] **Description of equipment**

The device is a solenoid for piloting a two or more ways pneumatic valve. The electric winding of the solenoid is constructed of a copper wire on a body in insulating plastic material and subsequently encapsulated in insulating plastic material. The connection with the power network occurs through a three-pole cable

**Rated characteristics**

**Electrical data DC 3W solenoids**

Type code	Vn [V]	f [Hz]	∅ wire [mm]	N of coils	R a 20°C [Ω]	I [A]	P [W]	Temp. class	T <sub>Cut-off</sub> MAX [°C]
3009MD006W3	6	0	0.30	925	11.8	0.510	3	T5	76
3009MD012W3	12	0	0.210	1850	48	0.250	3	T5	76
3009MD024W3	24	0	0.150	3700	192	0.125	3	T5	76
3009MD048W3	48	0	0.106	7400	770	0.063	3	T5	76

Ambient temperature: -50°C ÷ +50°C

**Electrical data DC 3.8W solenoids**

Type code	Vn [V]	f [Hz]	∅ wire [mm]	N of coils	R a 20°C [Ω]	I [A]	P [W]	Temp. class	T <sub>Cut-off</sub> MAX [°C]
3009MD006W4	6	0	0.315	825	9.5	0.640	3.8	T4	115
3009MD012W4	12	0	0.224	1650	38	0.320	3.8	T4	115
3009MD024W4	24	0	0.160	3300	150	0.160	3.8	T4	115
3009MD048W4	48	0	0.112	6500	600	0.080	3.8	T4	115

Ambient temperature: -50°C ÷ +50°C

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[13]

**SCHEDULE**



[14]

**EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 13 ATEX 030**

Italia

**Electrical data AC solenoids**

Type code	Vn [V]	f [Hz]	∅ wire [mm]	N of coils	R a 20°C [Ω]	I [A]	P [W]	Temp. class	T <sub>Cut-off</sub> MAX [°C]
3009MA012W2	12	50/60	0.28	1050	15.4	0.2700	3.2	T5	76
3009MA024W2	24	50/60	0.200	2100	61	0.1330	3.2	T5	76
3009MA048W2	48	50/60	0.140	4170	247	0.0670	3.2	T5	76
3009MA100W2	100	50/60	0.095	8700	1115	0.0320	3.2	T5	76
3009MA110W2	110	50/60	0.09	9570	1357	0.0290	3.2	T5	76
3009MA115W2	115	50/60	0.09	10000	1440	0.0280	3.2	T5	76
3009MA120W2	120	50/60	0.09	10400	1515	0.0270	3.2	T5	76
3009MA220W2	220	50/60	0.063	19130	5494	0.0146	3.2	T5	76
3009MA230W2	230	50/60	0.063	20000	5820	0.0140	3.2	T5	76
3009MA240W2	240	50/60	0.063	20870	6160	0.0134	3.2	T5	76

Ambient temperature: -50°C ÷ +50°C

**Warning label**

None

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## SCHEDULE



[13]

[14]

EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 13 ATEX 030

Italia

[16] Report no. R-13-EX-017

**Routine tests**

A dielectric strength test must be carried out on the equipment, in accordance with 9.2 of EN 60079-18.

**Listed documents (prot. 232070)**

Document ID	Title	rev.	Date
NA	NOTA TECNICA	0	01/03/2013
NA	ANALISI DEI RISCHI	0	01/03/2013
Allegato 3 PD020	EC DECLARATION OF CONFORMITY	0	01/03/2013
NA	INSTRUCTIONS	0	01/03/2013
EX-2036	PARTICOLARE CUSTODIA CONNESSIONI	2	01/03/2013
EX-2430	BOBINA 3009M Ex m	3	01/03/2013
EX-2430A	BOBINA 3009M Ex m CON CAVO	3	01/03/2013
EX-2469	VITE DI FISSAGGIO CONNESSIONI BOBINA 3009M Ex m	2	01/03/2013
EX-2471	CAVO PER BOBINA 3009M Ex m	2	25/05/2007
EX-2471A	CAVO ASSIEMATO CON PROTETTORE TERMICO E CUSTODIA PER BOBINA 3009M Ex m	3	01/03/2013
EX2472	CAVO PER BOBINA 3009M Ex m	1	25/05/2007

One copy of all documents is kept in TÜV Italia files.

[17] **Special conditions for safe use**

None.

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

The evaluation of the "protection against other hazards" in paragraph 1.2.7 of Annex 1 of Directive 94/9/EC is not covered by this certificate

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