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: **Baseefa06ATEX0123**

4 Equipment or Protective System: **Type EP000/d/TB Solenoid Assembly**

5 Manufacturer: **R.G.S. Electro-Pneumatics Limited**

6 Address: **Oswaldtwistle, Nr Accrington, Lancashire, BB5 4WZ**

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 Baseefa (2001) Ltd., Notified Body number 1180, 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. **06(C)0066**

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

EN 60079-0: 2004 **EN 60079-1: 2004** **IEC 61241-0: 2004** **IEC 61241-1: 2004**

except in respect of those requirements listed at item 18 of the Schedule.

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 and construction of the specified equipment or protective system. 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 :

⟨Ex⟩ II 2GD Ex d IIC Ex tD A21 IP66 T*°C Ta* (see schedule)

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

Baseefa Customer Reference No. **0887**

Project File No. **06/0066**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Baseefa
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

13 # Schedule

14 ## Certificate Number Baseefa06ATEX0123

15 Description of Equipment or Protective System

A Type EP000/d/TB Solenoid Assembly comprises a cast housing with an integral terminal enclosure and a threaded cover, all manufactured from grade ANC1B stainless steel to BS3146. The enclosure contains a coil rated at up to 3.2W d.c. or 9.5VA a.c. which is retained by a threaded end cap. The cap also positions and retains a centre tube which locates the pole piece and armature. Alternative coils may be fitted for 12V to 440V a.c. 50/60 Hz or 6V to 240V d.c. supplies.

A two way terminal block is fitted within the terminal compartment. A bridge rectifier may also be fitted so that the 3W d.c. coil can be operated from an appropriate a.c or d.c. supply.

Internal and external earthing facilities are provided.

The temperature classifications, surface temperatures and maximum ambient temperatures for each coil type are listed below:-

Supply	Coil Rating (max)	Marking	Cable Temperature
D.C.	3W	Ex d IIC Ex tD A21 IP66 T85°C (T_{amb} = -60°C to +40°C)	-
D.C.	3W	Ex d IIC Ex tD A21 IP66 T100°C (T_{amb} = -60°C to +55°C)	-
D.C.	3W	Ex d IIC Ex tD A21 IP66 T135°C (T_{amb} = -60°C to +65°C)	85°C
D.C.	3W	Ex d IIC Ex tD A21 IP66 T135°C (T_{amb} = -60°C to +80°C)	105°C
A.C./D.C. (rectified)	3W	Ex d IIC Ex tD A21 IP66 T100°C (T_{amb} = -60°C to +55°C)	-
A.C.	9.5VA	Ex d IIC Ex tD A21 IP66 T135°C (T_{amb} = -60°C to +40°C)	90°C
A.C.	9.5VA	Ex d IIC Ex tD A21 IP66 T200°C (T_{amb} = -60°C to +55°C)	105°C

Cable entry holes are provided as specified on the certified drawings for the accommodation of flameproof cable entry devices, with or without the interposition of a flameproof thread adapter. Unused entries are to be fitted with suitable certified flameproof stopping plugs.

The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 94/9/EC.

When used in dust atmospheres the flameproof cable entries or stopping plugs shall be selected and installed so that the dust tight (IP66) integrity of the enclosure is maintained.

16 Report Number

Baseefa Certification Report 06(C)0066

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
CV5358	-	1	20/02/06	EEx d Terminal Box Coil Assembly for IIC Gas Group
AV5359	-	1	20/02/06	Label for EP000/EExd/ATEX for IIC Gas Group

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 : **BAS02ATEX2145**

4 Equipment or Protective System: **TYPE EP000/d/TB SOLENOID ASSEMBLY**

5 Manufacturer: **R.G.S. ELECTRO-PNEUMATICS LIMITED**

6 Address: **Oswaldtwistle, Lancashire, BB5 4WZ**

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 The Electrical Equipment Certification Service, notified body number 600 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 N°

BASEEFA Certification Report No. 01(C)0818 dated 18 April 2002

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

EN 50014: 1997 + Amds 1 & 2 **EN 50018: 2000**

except in respect of those requirements listed at item 18 of the Schedule.

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 and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

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

Ex II 2 G **EEx d IIC T* (see schedule)**

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

File No: EECS 0887/01/003

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

HSE Health & Safety Executive

Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: +44(0)1298 28000 Fax: +44(0)1298 28244
internet: www.baseefa.com e-mail: baseefa.info.eecs@hsl.gov.uk

pp I M CLEARE
DIRECTOR
29 May 2002

13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS02ATEX2145**

15 **Description of Equipment or Protective System**

The Type EP000/d/TB Solenoid Assembly comprises a cast stainless steel housing with an integral terminal enclosure and a threaded cover, all manufactured from Grade ANC1B stainless steel to BS 3164 1975. The enclosure contains a coil rated up to 3W (d.c.) or 9.5VA (a.c.) retained by a threaded end cap which also positions and retains a centre tube which locates the pole piece and armature. Alternative coils may be fitted for 12 to 440V a.c.50/60 Hz or 6 to 240V d.c. supplies. A two way terminal block is fitted within the terminal compartment and a bridge rectifier may added in order that the 3W d.c. coil may be operated from an a.c. or d.c. supply if required.

Internal and external earthing facilities are provided.

The Temperature Classifications and maximum ambient temperatures for each coil type are listed below:

Temperature Classification	Supply	Coil Rating (max)	Ambient Temperature	Cable Temperature
T6	d.c.	3W	-60°C to +40°C	-
T5	d.c.	3W	-60°C to +55°C	-
T4	d.c.	3W	-60°C to +65°C	85°C
T4	d.c.	3W	-60°C to +80°C	105°C
T5	a.c./d.c. (internal rectifier)	3W	-60°C to +55°C	-
T4	a.c.	9.5VA	-60°C to +40°C	90°C
T3	a.c.	9.5VA	-60°C to +55°C	105°C

A cable entry hole is provided as specified on the certified drawings for the accommodation of suitable BASEEFA certified flameproof cable entry devices, with or without the interposition of a suitable BASEEFA certified flameproof thread adapter. Unused entries are to be fitted with suitable BASEEFA certified flameproof stopping plugs.

Suitable flameproof cable entry devices, thread adapters and stopping plugs certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 94/9/EC may also be used in the manner specified above.

16 **Report No.**

BASEEFA Certification Report No. 01(CI)0818

17 **Special Conditions For Safe Use**

None.

13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS02ATEX2145**

18 **Essential Health and Safety Requirements**

None that are not covered by assessment against the standard listed at 9.

19 **DRAWINGS**

Number	Issue	Date	Description
CV5002	1	19/03/02	General Arrangement, Type EP000/d/TB Solenoid Assembly

BASEEFA List Keywords
2SOLENOI

1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**BAS02ATEX2145/1**
4	Equipment or Protective System:	**TYPE EP000/d/TB SOLENOID ASSEMBLY**
5	Manufacturer:	**R.G.S. ELECTRO-PNEUMATICS LIMITED**
6	Address:	**West End Business Park, Blackburn Road, Oswaldtwistle, Lancashire, BB5 4WZ**

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS02ATEX2145 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

Baseefa (2001) Ltd. Customer Reference No. **0887**

Project File No. **03/0038**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Baseefa (2001) Ltd.
Health and Safety Laboratory Site, Harpur Hill,
Buxton, Derbyshire SK17 9JN
Telephone +44 (0) 1298 28255 Fax +44 (0) 1298 28216
e-mail info@baseefa2001.biz web site www.baseefa2001.biz
Registered in England No. 4305578 at 13 Dovedale Crescent, Buxton, Derbyshire, SK17 9BJ

Schedule

13 Description of the variation to the Equipment or Protective System

Variation 1.1

Extension to the scope of this certificate to include use in combustible dust atmospheres by virtue of compliance with EN 50281-1-1: 1998.

The certification marking and rating combinations are amended as follows :-

Supply	Coil Rating (max)	Marking	Cable Temperature
D.C.	3W	Ⓔx II 2 GD EEx d IIC T85°C (T_{amb} = -60°C to +40°C)	-
D.C.	3W	Ⓔx II 2 GD EEx d IIC T100°C (T_{amb} = -60°C to +55°C)	-
D.C.	3W	Ⓔx II 2 GD EEx d IIC T135°C (T_{amb} = -60°C to +65°C)	85°C
D.C.	3W	Ⓔx II 2 GD EEx d IIC T135°C (T_{amb} = -60°C to +80°C)	105°C
A.C./D.C. (rectified)	3W	Ⓔx II 2 GD EEx d IIC T100°C (T_{amb} = -60°C to +55°C)	-
A.C.	9.5VA	Ⓔx II 2 GD EEx d IIC T135°C (T_{amb} = -60°C to +40°C)	90°C
A.C.	9.5VA	Ⓔx II 2 GD EEx d IIC T200°C (T_{amb} = -60°C to +55°C)	105°C

When used in dust atmospheres the flameproof able entries or stopping plugs shall be selected and installed so that the dust tight (IP6X) integrity of the enclosure is maintained.

14 Report Number

Baseefa 2001 Certification Report No. 03(C)0038

15 Special Conditions for Safe Use

None

16 Essential Health and Safety Requirements

The requirements for dust atmospheres (i.e. Category 2D) are now deemed to be met by virtue of compliance with EN 50281-1-1: 1998

17 Drawings and Documents

Number	Issue	Date	Description
CV5002	2	10/02/03	General Arrangement, Type EP000/d/TB Solenoid Assembly

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**BAS02ATEX2145/2**
4	Equipment or Protective System:	**TYPE EP000/d/TB SOLENOID ASSEMBLY**
5	Manufacturer:	**R.G.S. ELECTRO-PNEUMATICS LIMITED**
6	Address:	**West End Business Park, Blackburn Road, Oswaldtwistle, Lancashire, BB5 4WZ**

7 This supplementary certificate extends EC – Type Examination Certificate No. **BAS02ATEX2145** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

Baseefa (2001) Ltd. Customer Reference No. **0887**

Project File No. **03/0978**

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Baseefa (2001) Ltd.
Health and Safety Laboratory Site, Harpur Hill,
Buxton, Derbyshire SK17 9JN
Telephone +44 (0) 1298 28255 Fax +44 (0) 1298 28216
e-mail info@baseefa2001.biz web site www.baseefa2001.biz
Registered in England No. 4305578 at 13 Dovedale Crescent, Buxton, Derbyshire, SK17 9BJ

13 # Schedule

14 ## Certificate Number BAS02ATEX2145/2

15 Description of the variation to the Equipment or Protective System

Variation 2.1

Clarification of marking details.

16 Report Number

None

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
CV5002	3	05.09.03	General Arrangement, Type EP000/d/TB Solenoid Assembly

Manufacturers
Declaration of Conformity

We,

R.G.S Electro-Pneumatics Limited.
West End Business Park, Blackburn Road, Oswaldtwistle, Lancashire, BB5 4WZ, England

Declare under our sole responsibility that all R.G.S solenoid valves of the type EExd and Exd conform to the essential protection requirements of IEC standards 60079-0:2004 Ed 4 modified, 60079-1:2007 Ed 6, 61241-0:2004 Ed 1 modified, 61241-1:2004 Ed 1 modified and the ATEX directive 94/9/EC.

Exd Solenoid
EC-Type Examination Certificate Number: **Baseefa06ATEX0123**
Equipment**: Solenoid Valve type EP000/d/TB**
Equipment marking**:** **II 2 GD Ex d IIC Ex tD A21 IP66T* °C Ta* (see schedule)**

Exd Solenoid
EC-Type Examination Certificate Number: **Baseefa06ATEX037**
Equipment**: Solenoid Valve type EP000/d/TB**
Equipment marking**:** **II 2 GD Ex d IIB + H2 Ex tD A21 IP66T* °C Ta* (see schedule)**

EExd Solenoid
EC-Type Examination Certificate Number: **BAS02ATEX2145**
Equipment**: Solenoid Valve type EP000/d/TB**
Equipment marking**:** **II 2 GD EEx d IIC Ta* (see schedule)**

Exd Solenoid
IECEx ExTR -Type Examination Certificate Number: **IECExBAS 04.0028**
Equipment**: Solenoid Valve type EP000/d/TB**
Equipment marking**:** **Ex d IIC T* (see schedule)**
DIP A21 T* (see schedule)

Notified body: Baseefa Ltd. Rockhead Business Park,Staden Lane, Buxton, Derbyshire SK17 9RZ
Phone + 44 (0) 1298 766600 Fax + 44 (0) 1298 766601, E-mail: info@baseefa.com, Web site www.baseefa.com

Notified Body number 1180

Signed _____ **Date:** **30h of November 2008**

Printed Name **Stephen Lord** **Title** **Senior Engineer**
Approvals Authorized Person

Issue 1 **30/11/08**