



[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] **Component intended for use on/in equipment or protective system
intended for use in potentially explosive atmospheres
Directive 94/9/EC**

[3] EC-Type Examination Certificate number:

CESI 99 ATEX 034 U

[4] Component: **Three-piece connection fittings series R and B**

[5] Manufacturer: **ELFIT S.p.A.**

[6] Address: **via Aquileia n° 8 Villesse (GO) - Italia**

[7] This component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n° 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of components 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° EX-99/011367.

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

EN 50014: 1997 EN 50018: 1994

[10] The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

[12] The marking of the component shall include the following:

II 2G EEx d IIB or EEx d IIC

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date 30 April 1999

prepared CERT - M. Balaz

verified CERT - D. Cavanna

approved CERT - U. Colombo

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CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Responsabile Area Certificazione

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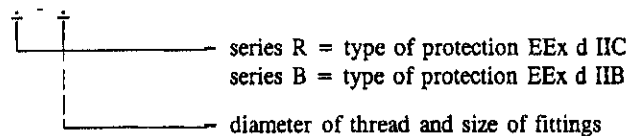
[13]

Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE N° CESI 99 ATEX 034 U

[15] Description of component

The three-piece connection fittings series R and B are identified by a code as follows:



Electrical characteristics

None.

Warning label

None.

[16] Report N° EX-99/011367

Descriptive documents (prot. EX-99/011370)

- Technical Note n° A4-743 (sh. 3)	date	03.12.1998
- Annex A/1 Mounting instructions italians Rev. 0 (sh. 3)	date	03.12.1998
- Annex A/2 Mounting instruction Rev. 0 (sh. 3)	date	03.12.1998
- Drawing n° A4-744 Rev. 0	date	03.12.1998
- Drawing n° A4-745 Rev. 0	date	03.12.1998
- Drawing n° A4-746 Rev. 0	date	03.12.1998
- Drawing n° A4-747 Rev. 0	date	03.12.1998
- Drawing n° A4-748 Rev. 0	date	03.12.1998
- Drawing n° A4-749 Rev. 0	date	03.12.1998
- Drawing n° A4-750 Rev. 0	date	03.12.1998
- Drawing n° A4-751 Rev. 0	date	03.12.1998
- Drawing n° A3-196 Rev. 0	date	03.12.1998
- Drawing n° A3-197 Rev. 0	date	03.12.1998
- Drawing n° A3-200 Rev. 0	date	03.12.1998
- Drawing n° A3-201 Rev. 0	date	03.12.1998
- Drawing n° A1-006 Rev. 0	date	03.12.1998
- Drawing n° A1-007 Rev. 0	date	03.12.1998

One copy of all documents is kept in CESI files.

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE N° CESI 99 ATEX 034 U**

[17] **Schedule of limitations**

None.

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

None.

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EXTENSION n° 01/00

to EC-Type Examination Certificate CESI 99 ATEX 034 U

Manufacturer: EL.FIT S.p.A.

Address: Via Aquileia 8, Villesse (Gorizia, Italy)

Equipment: Three-piece connection fittings series R and B

Admitted variation

- constructional modification: new material for models R1, R2, R3, B1, B2, B3.

Report EX-A0/042616

Descriptive documents (prot. A0/042617)

Technical note A4-743/1 (3 p.)	dated 31.03.2000
Drawing A4-744 Rev.1	dated 31.03.2000
Drawing A4-771 Rev.0	dated 31.03.2000
Drawing A4-772 Rev.0	dated 31.03.2000

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 99 ATEX 034 U.

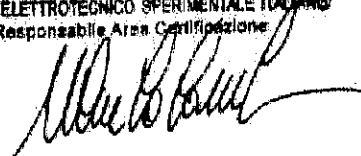
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date 22nd December, 2000 translation issued on 22nd December, 2000

prepared CERT - M. Balaz 

approved CERT - U. Colombo

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Responsabile Area Certificazione



Prot. A0/042620 P: 1
keywords: 13010R 24030K 48010M 54250O 66540E

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EXTENSION n. 02/05



to EC-Type Examination Certificate CESI 99 ATEX 034U

Component: Three-piece connection fittings series R and B

Manufacturer: EL.FIT S. p. A.

Address: Via Aquileia 12, Villesse (Gorizia - Italy)


Admitted variation

- new category II 2 GD (added protection against the risk of explosion from combustible dusts in conformity with the standard EN 50281-1-1)

The results of verifications and tests are reported in the confidential report n. EX-A5060435.

Identification and description of the equipment

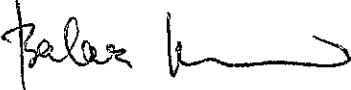
The marking of the three-piece connection fittings series R and B shall include the following:

 II 2 GD EEx d IIB IP 66/67 or EEx d IIC IP 66/67

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 99ATEX034U.

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date 22nd December, 2005 - translation issued on 22nd December, 2005

prepared CERT - M. Balaz 

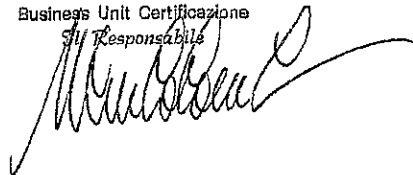
approved CERT - U. Colombo

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Business Unit Certificazione

Il Responsabile



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EXTENSION n. 02/05

to EC-Type Examination Certificate CESI 99 ATEX 034U

Descriptive documents (prot. EX-A5060438)

- n. A4-743 Rev. 2 (3 pg.)	dated	10.03.2004
- n. A4-807 Rev. 0	dated	20.02.2004
- n. A4-1011 Rev. 0	dated	10.02.2004
- n. A4-1012 Rev. 0	dated	10.02.2004
- n. A3-349 Rev. 0	dated	08.03.2004
- n. A3-234 Rev. 0	dated	20.02.2004
- Safety instructions Annexe A1 Rev. 1 (6 p.)	dated	10.03.2004
- Attestation of conformity for components	dated	10.03.2004

One copy of all documents is kept in CESI files.

Schedule of limitations

The IP 66/67 mechanical protection is obtained by inserting an O-ring or plain gasket made of NBR, in-between the body and the ring as shown into the safety instruction..

The three-piece connection fittings series R and B above mentioned, when mounted on the enclosures as indicated in the documents annexed to this certificate, are in compliance with the prescriptions of the standard EN 60529 (1991) for the degree of protection IP 66/67.

The coupling of the three-piece connection fittings series R and B with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate, in order not to jeopardise the type of protection of the electrical apparatus on which they are mounted.

Essential Health and Safety Requirements

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

EN 50014: 1997 + A1..A2 – General requirements

EN 50018: 2000 + A1 - Flameproof enclosures "d"

EN50281-1-1: 1998 + A1 – Electrical apparatus for use in the presence of combustible dust. Part 1-1: Electrical apparatus protected by enclosures – Construction and testing.

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EXTENSION n. 03/07

to EC-Type Examination Certificate CESI 99 ATEX 034U



Component: Three-piece connection fittings series R and B

Manufacturer: EL.FIT S. p. A.

Address: Via Aquileia 12, Villesse (Gorizia - Italy)

Admitted variation

- Conformity to EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006), EN 61241-1 (2004) Standards
- Update of nameplate
- New size .9 with threads 3/8"
- New operative temperature range $-55^{\circ}\text{C} \div +110^{\circ}\text{C}$

Identification and description of the equipment

The marking of the three-piece connection fittings shall include the following:

a) operative temperature range $-20^{\circ}\text{C} \div +60^{\circ}\text{C}$

series B..  II 2 GD Ex d IIB; Ex tD A21 IP66/67

series R..  II 2 GD Ex d IIC; Ex tD A21 IP66/67

b) operative temperature range $-20^{\circ}\text{C} \div +110^{\circ}\text{C}$

series RB..  II 2 GD Ex d IIB; Ex tD A21 IP66/67

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 99ATEX034U.

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date 22 May 2007 - translation issued on 22 May 2007

prepared Nicoletta Penati

verified Mirko Bafaz

approved Fiorenzo Bregani


Centro Elettrotecnico Sperimentale Italiano
Giacinto Motta SpA

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EXTENSION n. 03/07

to EC-Type Examination Certificate CESI 99 ATEX 034U

c) operative temperature range $-55^{\circ}\text{C} + 60^{\circ}\text{C}$

series Bt.. Ex II 2 GD Ex d IIB; Ex tD A21 IP66/67

series Rt.. Ex II 2 GD Ex d IIC; Ex tD A21 IP66/67

d) operative temperature range $-55^{\circ}\text{C} + 110^{\circ}\text{C}$

series RBt.. Ex II 2 GD Ex d IIB; Ex tD A21 IP66/67

gaskets

The operative temperature range depends on the gaskets used .

The three-piece connection fittings can be used for the following operative temperature range:

-from -20°C to $+60^{\circ}\text{C}$ and from -20°C to $+110^{\circ}\text{C}$ provided with EPDM gaskets

-from -55°C to $+60^{\circ}\text{C}$ and from -55°C to $+110^{\circ}\text{C}$ provided with silicon gaskets SI/50

Report No. EX-A7014033

Descriptive documents (prot. EX-A7014034)

- n. A4-743 Rev. 3 (5 pag.)	dated	06.04.2007
- n. A4-807 Rev. 1	dated	06.04.2007
- n. A4-1011 Rev. 1	dated	06.04.2007
- n. A4-1012 Rev. 1	dated	06.04.2007
- n. A4-1130 Rev. 0	dated	06.04.2007
- n. A4-1131 Rev. 0	dated	06.04.2007
- n. A4-1122 Rev. 0	dated	06.04.2007
- n. A3-398 Rev. 0	dated	06.04.2007
- n. A4-750 Rev. 1	dated	06.04.2007
- n. A4-749 Rev. 1	dated	06.04.2007
- n. A4-746 Rev. 1	dated	06.04.2007
- n. A4-747 Rev. 1	dated	06.04.2007
- n. A3-200 Rev. 1	dated	06.04.2007
- n. A3-399 Rev. 0	dated	06.04.2007
- n. A4-751 Rev. 1	dated	06.04.2007
- n. A4-748 Rev. 1	dated	06.04.2007
- n. A3-201 Rev. 1	dated	06.04.2007
- n. A3-412 Rev. 0	dated	06.04.2007
- Annex "A" Data sheet steel (4 pag.)	dated	06.04.2007
- Annex "B" gaskets (1 pag.)	dated	06.04.2007
- Safety instructions Annex A1 Rev. 2 (7 pag.)	dated	06.04.2007
- Attestation of conformity for components	dated	06.04.2007

One copy of all documents is kept in CESI files.

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EXTENSION n. 03/07

to EC-Type Examination Certificate CESI 99 ATEX 034U

Schedule of limitations

The IP 66/67 mechanical protection is obtained by inserting an O-ring or plain gasket, in-between the body and the ring as shown into the safety instruction.

The three-piece connection fittings series R and B above mentioned, when mounted on the enclosures as indicated in the documents annexed to this certificate, are in compliance with the prescriptions of the standard EN 60529 (1991) for the degree of protection IP 66/67.

The coupling of the three-piece connection fittings series R and B with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate, in order not to jeopardise the type of protection of the electrical apparatus on which they are mounted.

The connection fittings shall be mounted in such a way that the local temperatures will remain within the operating temperature range.

Essential Health and Safety Requirements

The Health and Safety Requirements are assured by compliance with the following Standards:

- EN 60079-0 : 2006: Electrical apparatus for explosive gas atmospheres.
General requirements
- EN 60079-1 : 2004 Flameproof enclosures "d".
- EN 61241-0 : 2006 Electrical apparatus for use in the presence of combustible dust.
General requirements
- EN 61241-1 : 2004 Protection by enclosures "tD"

EXTENSION n. 04/08



to EC-Type Examination Certificate CESI 99ATEX 034U

Component: Three-piece connection fittings type B, R, RB, Bt, Rt, RBt.

Manufacturer: EL.FIT S.p.A.

Address: Via Aquileia 12, Villesse (GO)

Admitted variation

- Upgrade of nameplate
- New maximum operating temperature: $T = +150^{\circ}\text{C}$

Components identification

The marking of the three-piece connection fittings standard type B and R shall include the following :

II 2GD Ex d II B , Ex tD A21 IP66/67 (type B), or

II 2GD Ex d II C , Ex tD A21 IP66/67 (type R)

The marking of the three-piece connection fittings type RB shall include the following :

II 2GD Ex d II B , Ex tD A21 IP66/67 Ta $-20^{\circ} +150^{\circ}$

The marking of the three-piece connection fittings type Bt and Rt shall include the following :

II 2GD Ex d II B , Ex tD A21 IP66/67 Ta $-55^{\circ} +60^{\circ}$ (type Bt), or

II 2GD Ex d II C , Ex tD A21 IP66/67 Ta $-55^{\circ} +60^{\circ}$ (type Rt)

The marking of the three-piece connection fittings type RBt shall include the following :

II 2GD Ex d II B , Ex tD A21 IP66/67 Ta $-55^{\circ} +150^{\circ}$

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 99ATEX034U.

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date 15 January 2008 - Translation issued 15 January 2008

prepared Giorgio Chinnici

verified Mirko Balaz

approved Fiorenzo Bregani

CESI S.p.A.
Divisione Energia
"Area Tecnica Certificazione"
Il Responsabile

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CESI

EXTENSION n. 04/08

to EC-Type Examination Certificate CESI 99ATEX 034U

Report no. EX-A8001091

Routine tests

The manufacturer shall carry out the routine tests prescribed at par. 27 of the EN 60079-0 (2006) and at par. 24 of the EN 61241-0 (2006) Standards.

Descriptive documents (prot. EX-A8001121)

- Technical Note A4-743 (5 pg.)	Rev. 04	dated	04/10/2007
- Drawing no. A4-807	Rev. 02	dated	04/10/2007
- Drawing no. A3-412	Rev. 01	dated	04/10/2007
- Safety Instructions (7 pg.)	Rev. 03	dated	04/10/2007

One copy of all documents is kept in CESI files.

Schedule of limitations

The IP 66/67 mechanical protection is obtained by inserting an O-ring or plain gasket made of EPDM or SI/50, in-between the body and the ring as shown in the safety instructions.

The three-piece connection fittings series R and B above mentioned, when mounted on the enclosures as indicated in the documents annexed to this certificate, are in compliance with the prescriptions of the standard EN 60529 (1991) for the degree of protection IP 66/67.

The limit operating temperatures are listed in the following table:

Type	Materials	Gasket	T min	T max
R, B	Galvanized steel; on request stainless steel, brass, aluminium.	EPDM	-20 °C	+ 60 °C
RB	Galvanized steel; on request stainless steel, brass, aluminium.	SI/50	-20 °C	+150 °C
Rt, Bt	Stainless steel	SI/50	-55 °C	+60 °C
RBt	Stainless steel	SI/50	-55 °C	+150 °C

Essential Health and Safety Requirements

The Health and Safety Requirements are assured by compliance with the following Standards:

- EN 60079-0 : 2006: Electrical apparatus for explosive gas atmospheres.
General requirements
- EN 60079-1 : 2004 Flamoproof enclosures "d".
- EN 61241-0 : 2006 Electrical apparatus for use in the presence of combustible dust.
General requirements
- EN 61241-1 : 2004 Protection by enclosures "tD"

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**EXTENSION n. 05/13**

to EC-Type Examination Certificate CESI 99 ATEX 034U

Component: Three-pieces connection fittings type **B, R, RB.****Manufacturer:** **EL.FIT S.p.A.****Address:** Via Aquileia, 12 – 34070 Villesse (GO) – Italy.**Admitted variation**

- Update to new edition of EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009.
- Update of marking.

Conformity to new edition of the harmonized European standard

The component subject of the certificate CESI 99 ATEX 034U and annexed extension are conform to the standards:

EN 60079-0: 2012 EN 60079-1: 2007 EN 60079-31: 2009

The components shall be marked as follows:

II2GD **Ex d IIB Gb** *for models B.. and RB..*
Ex tb IIIC Db
IP66/67
Ta min. max.

or

II2GD **Ex d IIC Gb** *for models R... only.*
Ex tb IIIC Db
IP66/67
Ta min. max.

(Example of Ta marking: Ta -20°C + 60°C)

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 99 ATEX 034U.

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Date 18th December 2013 - translation issued the 18th December 2013**Prepared**
Mirko Balaz**Approved**

Fiorenzo Bregani

CESI S.p.A.
Testing & Certification Division
Business Area Certification*Responsabile*
Fiorenzo Bregani

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 P.I. IT00793580150
 N. R.E.A. 429222

EXTENSION n. 05/13

to EC-Type Examination Certificate CESI 99 ATEX 034U

Description of component

The Three-pieces connection fittings series **R.**, **B.** and **RB.** are unions composed of three elements that screw on and turn independently thus allowing the connection of rigid parts (flameproof enclosure, metallic conduit and dust-tight enclosures).

- The Three-pieces connection fittings series **R.** are in execution **Ex d IIC, Ex tb IIIC IP66/67.**
- The Three-pieces connection fittings series **B.** and **RB.** are in execution **Ex d IIB, Ex tb IIIC IP66/67.**

The coupling between the Three-pieces connection fittings and the apparatus enclosures is made by means of threaded joints. The unions can be male-male (male ring, nut, male body), male-female (female ring, nut, male body) or female-female (female ring, nut, female body).

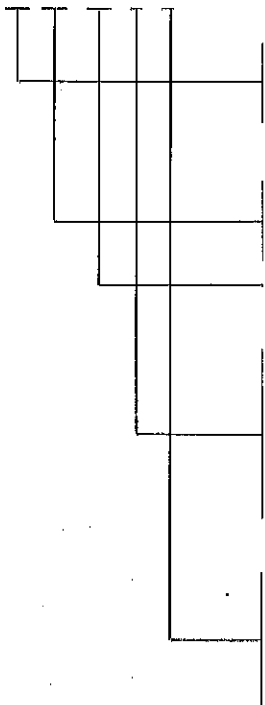
The above-mentioned Three-pieces connection fittings can be made in Stainless Steel, Galvanized carbon steel (A 105), low temp. Steel (A 203), Aluminium alloy and Nickel plated brass.

The Three-pieces connection fittings standard threads types are NPT ANSI/ASME B1.20.1 from 1/2" up to 4" and cylindrical ISO Metric 965/1 and ISO 965/3 from M20x1.5 up to M100x1.5. Alternative available tapered threads are Gk CEI EN 60079-1, Annex 1, while for cylindrical threads are EN ISO 228/1 or NPSM ANSI/ASME B1.20.1.

To guarantee the IP 66/67 degree of protection the Three-pieces connection fittings series **R.**, **B.** and **RB.** have an IP 66/67 mechanical protection in-between the body and the ring, obtained by inserting an O-ring or plain gasket made of silicon rubber, while for external male cylindrical threads have a sealing edge machined for fitting a silicon gasket and for all other threads the IP 66/67 degree of protection is achieved with sealant put at least on two complete threads engaged of the threaded coupling.

Identification of Three-pieces connection fittings:

** ** * *



Code which identifies the series:

- **R:** execution Ex d IIC Gb
- **B:** execution Ex d IIB Gb
- **RB:** execution Ex d IIB Gb for high temperature

Types of the two threads:

- **MM:** male-male
- **FF:** female-female
- **MF:** male-female

Size of threads (see table 1)

Type of thread:

- **N:** NPT ANSI/ASME B1.20.1
- **I:** ISO metric pitch 1,5mm
- **NC:** NPSM ANSI/ASME B1.20.1
- **P:** PG DIN 40430
- **C:** GAS UNI 228/1
- **Blank:** Gk CEI EN 60079-1 Annex 1.

Type of material:

- **A:** aluminium alloy
- **B:** nickel plated brass
- **S:** stainless steel
- **G:** galvanized carbon steel standard
- **GL:** galvanized steel for low temperatures

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EXTENSION n. 05/13

to EC-Type Examination Certificate CESI 99 ATEX 034U

Types, sizes and threads of Three-pieces connection fittings are listed on the following Table 1:

Table 1:

Three-pieces connection fittings type		Size code	NPT Thread	ISO pitch 1,5 Thread
Ex d IIB	Ex d IIC			
B. or RB.	R.	1	1/2"	M 20
B. or RB.	R.	2	3/4"	M 25
B. or RB.	R.	3	1"	M 32
B. or RB.	R.	4	1 1/4"	M 40
B. or RB.	R.	5	1 1/2"	M 50
B. or RB.	R.	6	2"	M 63
B. or RB.	R.	7	2 1/2"	M 75
B. or RB.	R.	8	3"	M 90
B. or RB.	R.	9	3 1/2"	--
B. or RB.	R.	10	4"	M 100

Report n. EX- B3033528

Routine tests

None.

Descriptive documents (prot. EX- B3033531)

- Technical note A4-1134 (pg. 4)	rev.0	dated	2013.01.29
- Safety, maintenance and mounting Instruction A1 (pg. 8)	rev.4	dated	2013.01.29
- Attestation of Conformity no. 0138 (pg. 1)	rev.0	dated	2013.01.29
- Drawing A4-4952 (sheet 1)	rev.2	dated	2013.01.29
- Drawing A4-5404 (sheet 1)	rev.1	dated	2013.01.29
- Drawing A3-5360 (sheets 8)	rev.1	dated	2013.01.29
- Drawing A4-6172 (sheet 1)	rev.0	dated	2013.01.29

One copy of all documents is kept in CESI files.

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EXTENSION n. 05/13

to EC-Type Examination Certificate CESI 99 ATEX 034U

Schedule of limitations

- The coupling of the Three-piece connection fittings with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which Three-piece connection fittings are mounted.
- The Three-piece connection fittings shall be mounted at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.
- The Three-piece connection fittings shall be installed in such a way that the temperature at the mounting point will remain within the following service temperature ranges:

Three-pieces connection fittings type	Materials	Gaskets	Min. Temperature	Max. Temperature
R.. or B..	Galvanised steel (ASTM A105 or A203), Stainless steel, Nickel plated brass, Aluminium alloy	Silicon	-20 °C	+60 °C
RB..	Galvanised steel (ASTM A105 or A203), Stainless steel, Nickel plated brass, Aluminium alloy	Silicon	-20 °C	+150 °C
R.. or B..	Stainless steel	Silicon	-55 °C	+60 °C
RB..	Stainless steel	Silicon	-55 °C	+150 °C

- The maximum current for each conductor which cross-through the Three-pieces connection fittings shall be established taking into account the heating caused by the current flowing through it, the heating of the enclosure on which the Three-pieces connection fittings are mounted and the maximum permissible ambient temperature.
- The IP 66/67 mechanical protection of the Three-piece connection fittings is obtained by inserting an O-ring or plain gasket made of silicon rubber in-between the body and the ring as shown into the safety instruction.
- If the Three-piece connection fittings series R.. and B.. are intended for use with dust protection "Ex tb" the holes into which Three-piece connection fittings are mounted shall maintain the ingress protection rating of the enclosure. To this scope the correct positioning of the gaskets (for cylindrical threads) or the application of sealant on the threads (for tapered threads), shall be done as indicated in the manufacturer instruction.
- It is the final assemblers/users responsibility to ensure the threaded joint between the Three-piece connection fittings and the associated enclosure meet all the requirements of the applicable standards for the assembly.

Essential Health and Safety Requirements

The Essential Health and Safety Requirements are assured by compliance to the following standards:

- EN 60079-0: 2012 Explosive atmospheres – Part 0: Equipment - General requirements;
- EN 60079-1: 2007 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure "d";
- EN 60079-31: 2009 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t".

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