



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx SIR 10.0068U** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2010-11-01** Page 1 of 4

Applicant: **Peppers Cable Glands Limited**
Stanhope Road
Camberley
Surrey
GU15 3BT
United Kingdom

Electrical Apparatus: **ARMR and ARFR Range of 90° Adaptors and Reducers**
Optional accessory:

Type of Protection: **Flameproof, Increased Safety, Restricted Breathing and Dust**

Marking: **Ex d IIC Gb/Ex d I Mb**
Ex e IIC Gb/Ex e I Mb
Ex nR IIC Gc
Ex tb IIIC Db IP66/68

Approved for issue on behalf of the IECEx
Certification Body: **D R Stubbings BA MIET**

Position: **Certification Manager**

Signature:
(for printed version)


2010-11-01

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION



IECEx Certificate of Conformity

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Manufacturer: **Peppers Cable Glands Limited**
Stanhope Road
Camberley
Surrey
GU15 3BT
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-15 : 2005-03 Edition: 3	Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/SIR/ExTR10.0242/00](#)

Quality Assessment Report:

[GB/SIR/QAR06.0018/03](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The ARMR and ARFR Range of 90° Adaptors and Reducers are manufactured from a metallic block body with a male thread at one end and a female thread machined into the body at 90° to the male thread, they are intended to provide cable entry options where space is limited or to avoid cable damage, additionally, they may be used to convert an existing cable entry aperture to a different thread form and/or size. Male thread forms may be replaced with an internal female thread. The products may additionally be metallic plated and the male thread may also be fitted with an optional O-ring seal

Refer to the Annexe for the full description and Design Options.

CONDITIONS OF CERTIFICATION: NO



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EQUIPMENT(continued):

Special Points for Noting.

- 1 Blanking elements shall not be used with the adapters/reducers.
- 2 Where adapters/reducers without sealing rings are installed in protection by enclosure (Ex t) equipment for use in explosive dust atmospheres, they shall only be fitted into enclosures offering a minimum of 5 full threads, in accordance with IEC 60079-31:2008 clause 5.1.1.
- 3 Adapters/reducers shall not to be used for the direct inter-connection of enclosures.
- 4 Only one adapter/reducer is to be used with any single cable entry on the associated equipment.
- 5 The products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction:

0	=	No seal fitted	(-100°C to +400°C)
1	=	Nitrile O-ring	(-30°C to +100°C)
2	=	Neoprene O-ring	(-35°C to +90°C)
3	=	Silicone O-ring	(-60°C to +200°C)
4	=	Fluorosilicone O-ring	(-55°C to +200°C)
5	=	Viton O-ring	(-20°C to +180°C)
6	=	EPDM O-ring	(-50°C to +110°C)

Annexe to: IECEx SIR 10.0068U Issue 0
Applicant: Peppers Cable Glands Limited
Component: ARMR and ARFR Range of 90° Adaptors and Reducers



For completeness the full Description is included here.

The ARMR and ARFR Range of 90° Adaptors and Reducers are manufactured from a metallic block body with a male thread at one end and a female thread machined into the body at 90° to the male thread, they are intended to provide cable entry options where space is limited or to avoid cable damage, additionally, they may be used to convert an existing cable entry aperture to a different thread form and/or size. Male thread forms may be replaced with an internal female thread. The products may additionally be metallic plated and the male thread may also be fitted with an optional O-ring seal.

General Design Options

Threadforms and sizes

All products may be machined with the following typical thread forms of the nearest equivalent recognised thread size. Thread combinations are such that minimum wall thicknesses are maintained.

M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100 - ISO Metric to IEC60423:1993, sizes above M75 may be manufactured with a 1.5 mm pitch

$\frac{3}{8}$ "/ $\frac{1}{2}$ "/ $\frac{3}{4}$ "/ 1"/ 1 $\frac{1}{4}$ "/ 1 $\frac{1}{2}$ "/ 2"/ 2 $\frac{1}{2}$ "/ 3"/ 3 $\frac{1}{2}$ " NPT and NPSM to ANSI/ASME B1.20.1:1983 (R2001)

BSPP to BS EN ISO 228-1

BSPT to BS21:1985

PG to DIN 40430

PG48F to NF C 68-312

The Adaptors and Reducers may be manufactured with other thread forms, provided that they are in accordance with the applicable requirements of EN/IEC 60079-1:2007 clause 5.3 and C.2.2.

Material of manufacture and product coding:

The Adaptors and Reducers may be manufactured from the following materials:

Brass grade CW614 (CuZn 39Pb3)/ CZ121 3Pb

Brass grade CW617N (CuZn 40Pb2)/ CZ122

Brass grade CW614N (CuZn 38Pb4)/ CZ121 4Pb

Brass grade Ecobrass C69300/ C87850

Stainless Steel 1.4401/ 316 S31

Stainless Steel 1.4404/ 316 S11/ 316L

Stainless Steel 1.4305/ 303

Stainless Steel 1.4301/ 304

Aluminium AW6082/ AW 6262/ 6082TF (Not group I)

Aluminium B21.1.90 AA6262T9/ 6262T9 (Not group I)

Surface coating:

The products may additionally be metallic plated with either: Nickel or Zinc (0.008 mm thick max.) to suit the application.

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Product Type Ref:

The product type is derived from the following options:

A-B-C-D-E-F-G

A Product Type

AR**
= ARMR
= ARFR

B Material of manufacture

A = Aluminium
B = Brass
S = Stainless steel

C IP Seal code

0	=	No seal fitted	(-100°C to +400°C)
1	=	Nitrile O-ring	(-30°C to +100°C)
2	=	Neoprene O-ring	(-35°C to +90°C)
3	=	Silicone O-ring	(-60°C to +200°C)
4	=	Fluorosilicone O-ring	(-55°C to +200°C)
5	=	Viton O-ring	(-20°C to +180°C)
6	=	EPDM O-ring	(-50°C to +110°C)

D Certification order code

E Plating

OO = Not plated
NP = Nickel plated
ZP = Zinc

F Male/Female thread size and type

G Female thread size and type

The Adaptors and Reducers, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66/68.

The Adaptors and Reducers with parallel threads and fitted with sealing rings, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66/IP68 to 100 metres for 7 days.

The Adaptors and Reducers with tapered threads, fitted with sealing rings and installed in clearance holes, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66/IP68 to 100 metres for 7 days.

Annexe to: IECEx SIR 10.0068U Issue 0

Applicant: Peppers Cable Glands Limited

Component: ARMR and ARFR Range of 90° Adaptors and Reducers



Arrangements

			Female thread											
			Metric											
			M16	M20	M25	M32	M40	M50	M63	M75	M80	M85	M90	M100
Male thread	Metric	M16	A	A										
		M20	R	A	A									
		M25	R	R	A	A								
		M32	R	R	R	A	A							
		M40	R	R	R	R	A	A						
		M50	R	R	R	R	R	A	A					
		M63	R	R	R	R	R	R	A	A				
		M75	R	R	R	R	R	R	R	A	A	A		
		M80	R	R	R	R	R	R	R	R	A	A	A	A
		M85	R	R	R	R	R	R	R	R	R	A	A	A
		M90	R	R	R	R	R	R	R	R	R	R	A	A
		M100	R	R	R	R	R	R	R	R	R	R	R	A
	NPT/NPSM/BSP/BSPP	3/8"	A	A										
		1/2"	R	A	A									
		3/4"	R	R	A	A								
		1"	R	R	R	A	A							
		1 1/4"	R	R	R	R	A	A						
		1 1/2"	R	R	R	R	R	A	A					
		2"	R	R	R	R	R	R	A	A				
		2 1/2"	R	R	R	R	R	R	R	A	A	A	A	A
		3"	R	R	R	R	R	R	R	R	A	A	A	A
		3 1/2"	R	R	R	R	R	R	R	R	R	R	R	A
	PG	PG9	A	A										
		PG11	A	A	A									
		PG13.5	R	A	A	A								
		PG16	R	A	A	A								
		PG21	R	R	A	A	A							
		PG29	R	R	R	R	A	A						
		PG36	R	R	R	R	R	A	A					
		PG42	R	R	R	R	R	A	A	A				
		PG48	R	R	R	R	R	R	A	A				

Date: 1 November 2010

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Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

Tel: +44 (0) 1244 670900
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 Email: info@siracertification.com
 Web: www.siracertification.com

Annexe to:

IECEX SIR 10.0068U Issue 0

Applicant:

Peppers Cable Glands Limited

Component:

ARMR and ARFR Range of 90° Adaptors and Reducers



		Female thread									
		NPT/NPSM/BSPT/BSPP									
		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"
Male thread	Metric	M16	A	A							
		M20	R	A	A						
		M25	R	R	A	A					
		M32	R	R	R	A	A				
		M40	R	R	R	R	A	A			
		M50	R	R	R	R	R	A	A		
		M63	R	R	R	R	R	A	A		
		M75	R	R	R	R	R	R	A	A	A
		M80	R	R	R	R	R	R	A	A	A
		M85	R	R	R	R	R	R	A	A	A
		M90	R	R	R	R	R	R	R	A	A
		M100	R	R	R	R	R	R	R	R	A
	NPT/NPSM/BSPP/BSPP	3/8"	A	A							
		1/2"	R	A	A						
		3/4"	R	R	A	A					
		1"	R	R	R	A	A				
		1 1/4"	R	R	R	R	A	A			
		1 1/2"	R	R	R	R	R	A	A		
		2"	R	R	R	R	R	R	A	A	
		2 1/2"	R	R	R	R	R	R	R	A	A
		3"	R	R	R	R	R	R	R	R	A
		3 1/2"	R	R	R	R	R	R	R	R	A
	PG	PG9	A								
		PG11	A	A							
		PG13.5	A	A	A						
		PG16	A	A	A						
		PG21	R	A	A	A					
		PG29	R	R	A	A	A				
		PG36	R	R	R	A	A	A			
		PG42	R	R	R	R	R	A	A		
		PG48	R	R	R	R	R	A	A		

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			Female thread								
			PG								
			PG9	PG11	PG13.5	PG16	PG21	PG29	PG36	PG42	PG48
Male thread	Metric	M16	A	A	A						
		M20	R	A	A	A	A				
		M25	R	R	R	A	A	A			
		M32	R	R	R	R	A	A	A		
		M40	R	R	R	R	R	A	A	A	
		M50	R	R	R	R	R	R	A	A	A
		M63	R	R	R	R	R	R	R	R	A
		M75	R	R	R	R	R	R	R	R	R
		M80	R	R	R	R	R	R	R	R	R
		M85	R	R	R	R	R	R	R	R	R
		M90	R	R	R	R	R	R	R	R	R
		M100	R	R	R	R	R	R	R	R	R
	NPT/ NPSM/ BSPT/ BSPP	1/2"	R	A	A	A	A				
		3/4"	R	R	R	A	A	A			
		1"	R	R	R	R	A	A	A		
		1 1/4"	R	R	R	R	R	A	A	A	
		1 1/2"	R	R	R	R	R	R	A	A	A
		2"	R	R	R	R	R	R	R	R	A
		2 1/2"	R	R	R	R	R	R	R	R	R
		3"	R	R	R	R	R	R	R	R	R
		3 1/2"	R	R	R	R	R	R	R	R	R
	PG	PG9	A	A	A	A					
		PG11	A	A	A	A	A				
		PG13.5	R	A	A	A	A				
		PG16	R	R	A	A	A				
		PG21	R	R	R	R	A	A			
		PG29	R	R	R	R	R	A	A		
		PG36	R	R	R	R	R	R	A	A	A
		PG42	R	R	R	R	R	R	R	A	A
		PG48	R	R	R	R	R	R	R	R	A

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Restricted breathing

ARMR and ARFR Adaptors and Reducers with tapered threads provide a restricted breathing seal.

ARMR and ARFR Adaptors and Reducers with parallel threads and fitted with appropriate sealing rings provide a restricted breathing seal.

AR Adaptors and Reducers with tapered or parallel threads, installed into unthreaded entry holes and fitted with appropriate sealing rings provide a restricted breathing seal.