

**Annexe to:** IECEx SIR 09.0131X Issue 3  
**Applicant:** Peppers Cable Glands Ltd  
**Apparatus:** AR range of Adaptors and Reducers and  
SPMH and SPHH ranges of Stopping Plugs



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## DESCRIPTION OF EQUIPMENT (Adaptors and Reducers)

The range of Adaptors and Reducers (Type 'AR') comprise a hollow hexagonal body, partly threaded at each end, one end having a male thread and the other a female thread. The Adaptors and Reducers are used to convert an existing threaded cable entry aperture to a different thread form and/or size. The Adaptors and Reducers may be machined with the thread forms and/or combinations as listed below. Their thread sizes are within the ranges specified but are limited based upon thread combinations certified within the manufacturer's documentation. Adaptors and reducers may also be fitted with an optional O-ring seal.

The products are manufactured with the following thread form options:

- M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100 - ISO Metric to IEC 60423:1993, sizes above M75 may be manufactured with a 1.5 mm pitch
- 1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" NPT and NPSM to ANSI/ASME B1.20.1:1983 (R2001)
- 1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" – BSPP to BS EN ISO 228-1
- 1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" – BSPT to BS21:1985
- 7/ 9/ 11/ 13.5/ 16/ 21/ 29/ 36/ 42/ 48 PG to DIN 40430
- PG48F to NF C 68-312

Note: All threads manufactured in accordance with EN 60079-1:2007 (Ed.6) clauses 5.3 and C.2.2 (as applicable).

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

Note: All threads manufactured in accordance with EN/IEC 60079-1:2007 (Ed.6) clauses 5.3 and C.2.2 (as applicable).

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

### Design Options

#### 'O' Ring Seals

'O' ring seals materials fitted to male thread forms may be provided in the following materials to suit the application:

Nitrile	Silicone	Viton
Neoprene	Fluorosilicone	EPDM

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**Material of manufacture and product coding:**

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

Brass grade CW614 (CuZn 39Pb3)/ CZ121 3Pb	Stainless Steel 1.4404/ 316 S11
Brass grade CW617N (CuZn 40Pb2)/ CZ122	Stainless Steel 1.4401/ 316 S31
Brass grade CW614N (CuZn 38Pb4)/ CZ121 4Pb	Stainless Steel 1.4301/ 304
Brass grade Ecobrass C69300/ C87850	Stainless Steel 1.4305/ 303
Aluminium B21.1.90 AA6262T9/ 6262T9	Aluminium AW6082/ AW 6262/ 6082TF
Not suitable for Group I use	

**Surface coating**

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

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**Product Type Ref**

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

- A** Product Type  
AR = Adaptor/Reducer
- 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 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.

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 / IPX8 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 / IPX8 to 100 metres for 7 days

**Restricted breathing**

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

AR 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.







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The adaptors may be male to male or female to female threads. The adaptors are designated as follows:

The product type is derived from the following options:

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

**A** Product Type

ARMM = Male to male adaptor  
ARFF = Female to female adaptor

**B** 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)

**C** Material of manufacture

A = Aluminium  
B = Brass  
S = Stainless steel

**D** Certification order code

**E** Plating

O = Not plated  
NP = Nickel plated  
ZP = Zinc

**F** First thread size and type

**G** Second thread size and type

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## DESCRIPTION OF EQUIPMENT (Stopping Plugs)

### Notes:

The Stopping Plugs, where applicable, meet the requirements of IP66 and IP68. Refer to Product Description for full IP designation.

The Stopping Plugs comprise a cylindrical body, partly threaded at one end with a male thread. They are intended to fill unused cable entries in associated apparatus. The Type SPMH and SPHH Stopping Plugs may also be fitted with an optional O-ring seal.

The products are manufactured with the following external profiles and assigned the following prefix type designations:

SPHH Series - Hexagonal head

SPMH Series - Round dome head, with an external hexagonal socket recess

SPA Series - Round head, with an external face hexagonal socket recess

SPB Series - Round head, with an internal face hexagonal socket recess

The products are manufactured with the following thread form options:

M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100 - ISO Metric to IEC 60423:1993, sizes above M75 may be manufactured with a 1.5 mm pitch

1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" NPT and NPSM to ANSI/ASME B1.20.1:1983 (R2001)

1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" - BSPP to BS EN ISO 228-1

1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" - BSPT to BS21:1985

7/ 9/ 11/ 13.5/ 16/ 21/ 29/ 36/ 42/ 48 PG to DIN 40430

PG48F to NF C 68-312

Note: All threads are manufactured in accordance with EN 60079-1:2007 (Ed.6) clauses 5.3 and C.2.2 (as applicable).

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

### Design Options:

#### O' ring seals

'O' ring seals materials fitted to male thread forms may be provided in the following materials to suit the application:

Nitrile	Silicone	Viton
Neoprene	Fluorosilicone	EPDM

### Material of manufacture and marking:

The Stopping Plugs may be manufactured from the following materials:

Brass grade CW614 (CuZn 39Pb3)/ CZ121 3Pb	Stainless Steel 1.4404/ 316 S11
Brass grade CW617N (CuZn 40Pb2)/ CZ122	Stainless Steel 1.4401/ 316 S31
Brass grade CW614N (CuZn 38Pb4)/ CZ121 4Pb	Stainless Steel 1.4301/ 304
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**Surface coating:**

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

**Product Type Ref:**

The product type reference is derived from the following options:

**A-B-C-D-E-F** (for SPMH and SPHH)

**A-B-D-E-F** (for SPA and SPB)

**A Product Type**

SPMH = Mushroom head stopping plug  
SPHH = Hexagon head stopping plug  
SPA = Type A stopping plug  
SPB = Type B stopping plug

**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 Thread Size**

Metric = M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100  
NPT/ NPSM = 1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4"  
BSPT/ BSPP =  
PG = 7/ 9/ 11/ 13.5/ 16/ 21/ 29/ 36/ 42/ 48  
NF C 68-312 = PG48F

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### Degree of protection

The Stopping Plugs, 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 as defined in the table below.

Stopping Plug Type	Entry Hole Type	IP6X	IPX6	IPX8*
SPMH parallel thread	Threaded or Clearance	X	X	
SPHH parallel thread	Threaded or Clearance	X	X	
SPA parallel thread	Threaded	X	X	
SPB parallel thread	Threaded	X	X	
SPMH parallel thread with sealing ring	Threaded or Clearance	X	X	X
SPHH parallel thread with sealing ring	Threaded or Clearance	X	X	X
SPMH tapered thread	Threaded or Clearance	X	X	
SPHH tapered thread	Threaded or Clearance	X	X	
SPA tapered thread	Threaded	X	X	
SPB tapered thread	Threaded	X	X	
SPMH tapered thread with sealing ring	Threaded	X	X	
SPHH tapered thread with sealing ring	Threaded	X	X	
SPMH tapered thread with sealing ring	Clearance	X	X	X
SPHH tapered thread with sealing ring	Clearance	X	X	X

\* IPX8 100 metres 7 days

When installed in unthreaded clearance holes, SPMH and SPHH stopping plugs shall be secured with an appropriate locknut and installed in accordance with the manufacturer's instructions

### Restricted breathing

SPMH and SPHH Stopping Plugs with parallel threads and fitted with appropriate sealing rings provide a restricted breathing seal.

SPMH and SPHH Stopping Plugs with tapered or parallel threads, installed into unthreaded entry holes and fitted with appropriate sealing rings provide a restricted breathing seal.