

# Electrical Apparatus for Explosive Atmospheres

## CERTIFICATE OF CONFORMITY

**Manufacturer** CCG Cable Terminations (Pty) Ltd  
33-37 Forge Road, Spartan Industrial Area, Kempton Park 1619, South Africa

**Product** Threaded Adaptors, Reducers, Unions and Couplers

**Type** AGZZZGYYE, RGZZZGYYE, UGZZZGYYE, CGZZZGYYE

**Marking** Ex d IIC Gb / Ex d I Mb / Ex e IIC Gb / Ex e I Mb / Ex tD A21 IP65/IP66/IP67/IP68

**Standard(s)** —

**Drawing No.** AM016M016E TO AM130M130E AND RM020M016E TO RM130M1,  
AM016M016E-INSA TO AM130M130E-INSA, AM016N012E - AM100N004E and  
RM025N012E - RM130N004E, AM016N012E TO AM100N004E AND RM020N012E  
TO RM100N3, AN012M020E TO AN004M100E AND RN012M016E TO RN004M0,  
AN012N012E TO AN004N004E AND RN034N012E TO RN004N31, CM016M016E -  
CM100M100E, CM016M016E - CM130M130E, CM016N012E - CM100N004E,  
CM016N012E - CM130N004E, CN012M016E-CN004M100E, CN012N012E -  
CN004N004E, PAM020M020E - PAM025M025E

The drawings, technical documents and the samples are verified and certified according to standard(s) for safety as below:

GB 3836.1-2010	Explosive atmospheres - Part 1: Equipment - General requirements
GB 3836.2-2010	Explosive atmospheres - Part 2: Equipment protection by flameproof enclosures "d"
GB 3836.3-2010	Explosive atmospheres - Part 3: Equipment protection by increased safety "e"
GB12476.1-2013	Electrical apparatus for use in the presence of combustible dust - Part 1: General requirements
GB12476.5-2013	Electrical apparatus for use in the presence of combustible dust - Part 5: Protection by enclosure "tD"

Note:

See Annex (9 page in total).

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Date:

2021-8-30

Valid until:

2026-8-29



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Certificate number: CNEx21.3391X

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This product has been certified, under certificate number IECEx CML 16.0062X, issue 3, dated 2020-02-28 and Test report DE/CML/ExTR20.0053/00 dated 2020-02.

### Product Description:

The main material of the product is stainless steel, brass (nickel-plated), etc., and the protection level is IP65/66/67/68 (2m/continuous).

### Type designation:

- AGZZZGYYYE, RGZZZGYYYE, UGZZZGYYYE, CGZZZGYYYE

The following details the Model Nomenclature:

Product Name			Model Nomenclature
Threaded Adaptors			AGZZZGYYYE
Threaded Reducers			RGZZZGYYYE
Threaded Unions			UGZZZGYYYE
Threaded Couplers			CGZZZGYYYE
A	=	ADAPTOR	
R	=	REDUCER	
U	=	UNION	
C	=	COUPLER	
G	THREADFORM		
	M	=	METRIC
	N	=	NPT
ZZZ	=	MALE THREAD SIZE	
G	THREADFORM		
YYY	=	FEMALE THREAD SIZE	
E	=	Ex COMPONENT	

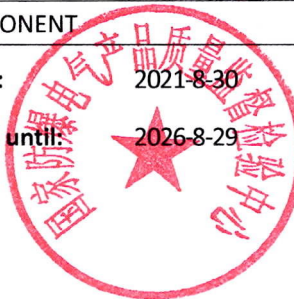
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Where the thread size coding is as follows:

Metric sizes		NPT sizes	
016 = M16	020 = M20	012 = ½"	034 = ¾"
025 = M25	032 = M32	001 = 1"	114 = 1¼"
040 = M40	050 = M50	112 = 1½"	002 = 2"
063 = M63	075 = M75	212 = 2½"	003 = 3"
080 = M80	090 = M90	312 = 3½"	004 = 4"
100 = M100	110 = M110	--	--
120 = M120	130 = M130	--	--

For metric threads the pitch is:

M75 and smaller has 1.5mm pitch (minimum thread length 12mm) as standard with an optional pitch of 2mm (minimum thread length 16mm),

M80 and larger has 2 mm pitch (minimum thread length 16mm) as standard with an optional pitch of 1.5mm (minimum thread length 12mm).

*Note: Intermediate metric thread sizes are allowed and use the same format of product and size coding, e.g. 033 = M33***Threaded Adaptors and Reducers**

The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted.

The aluminium adaptors, reducers shall not be marked for Group I.

The size and thread forms are shown in Tables 1 to 4 below:

Table 1, Metric to Metric

Male (Metric) Size	Female (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130

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M16	A	A	A											
M20	R	A	A	A										
M25	R	R	A	A	A									
M32	R	R	R	A	A	A								
M40	R	R	R	R	A	A	A							
M50	R	R	R	R	R	A	A	A						
M63	R	R	R	R	R	R	A	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			
M90	R	R	R	R	R	R	R	R	R	A	A	A		
M100	R	R	R	R	R	R	R	R	R	R	A	A	A	
M110	R	R	R	R	R	R	R	R	R	R	R	A	A	A
M120	R	R	R	R	R	R	R	R	R	R	R	R	A	A
M130	R	R	R	R	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

Table 2, Metric to NPT

Male (Metric) Size	Female (NPT) Size									
	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
M16	A	A								
M20	A/R*	A	A							
M25	R	A/R*	A	A						
M32	R	R	A/R*	A	A					
M40	R	R	R	A/R*	A	A				
M50	R	R	R	R	A/R*	A	A			
M63	R	R	R	R	R	A/R*	A	A		
M75	R	R	R	R	R	R	A/R*	A	A	
M80	R	R	R	R	R	R	R	A/R*	A	A
M90	R	R	R	R	R	R	R	R	A/R*	A
M100	R	R	R	R	R	R	R	R	R	A
M110	R	R	R	R	R	R	R	R	R	R
M120	R	R	R	R	R	R	R	R	R	R
M130	R	R	R	R	R	R	R	R	R	R

A = Adaptor, R = Reducer; R\* = Metric to NPT reducers only

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Table 3, NPT to Metric

Male (NPT) Size	Female (Metric) Size										
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
1/2"	R	A	A	A							
3/4"	R	R	A	A	A						
1"	R	R	R	A	A	A					
1 1/4"	R	R	R	R	A	A	A				
1 1/2"	R	R	R	R	R	A	A	A			
2"	R	R	R	R	R	R	A	A	A		
2 1/2"	R	R	R	R	R	R	R	A	A	A	
3"	R	R	R	R	R	R	R	R	A	A	A
3 1/2"	R	R	R	R	R	R	R	R	R	A	A
4"	R	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

Table 4, NPT to NPT

Male (NPT) Size	Female (NPT) Size									
	1/2 1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
1/2"	A	A	A							
3/4"	R	R	A	A						
1"	R	R	A	A	A					
1 1/4"	R	R	R	A	A	A				
1 1/2"	R	R	R	R	A	A	A			
2"	R	R	R	R	R	A	A	A		
2 1/2"	R	R	R	R	R	R	A	A	A	
3"	R	R	R	R	R	R	R	A	A	A
3 1/2"	R	R	R	R	R	R	R	R	A	A
4"	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

## Threaded Couplings/Unions

The devices are manufactured from brass (nickel plated), stainless steel, aluminium, mild steel or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted.

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The aluminium unions, couplers shall not be marked for Group I.  
The size and thread forms are shown in Tables 5 to 10 below:

Table 5, Couplings - Metric to Metric

Male (Metric) Size	Male (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130
M16	X													
M20	X	X												
M25	X	X	X											
M32		X	X	X										
M40		X	X	X	X									
M50			X	X	X	X								
M63				X	X	X	X							
M75					X	X	X	X						
M80						X	X	X	X					
M90							X	X	X	X				
M100								X	X	X	X			
M110									X	X	X	X		
M120										X	X	X	X	
M130											X	X	X	X

Table 6, Couplings - NPT to NPT

Male (NPT) Size	Male (NPT) Size									
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
1/2"	X									
3/4"	X	X								
1"	X	X	X							
1 1/4"		X	X	X						
1 1/2"		X	X	X	X					
2"			X	X	X	X				
2 1/2"				X	X	X	X			
3"					X	X	X	X		
3 1/2"						X	X	X	X	
4"							X	X	X	X

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Table 7, Coupling - NPT to Metric

Male (NPT) Size	Male (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130
½"	X	X	X											
¾"	X	X	X	X	X									
1"	X	X	X	X	X	X								
1¼"		X	X	X	X	X	X							
1½"		X	X	X	X	X	X	X						
2"			X	X	X	X	X	X	X					
2½"				X	X	X	X	X	X	X				
3"					X	X	X	X	X	X	X	X	X	X
3½"						X	X	X	X	X	X	X	X	X
4"							X	X	X	X	X	X	X	X

Table 8, Unions - Metric to Metric

Female (Metric) Size	Female (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130
M16	X													
M20	X	X												
M25	X	X	X											
M32	X	X	X	X										
M40	X	X	X	X	X									
M50		X	X	X	X	X								
M63			X	X	X	X	X							
M75				X	X	X	X	X						
M80					X	X	X	X	X					
M90						X	X	X	X	X				
M100							X	X	X	X	X			
M110								X	X	X	X	X		
M120										X	X	X	X	
M130										X	X	X	X	X

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Table 9, Unions - NPT to NPT

Female (NPT) Size	Female (NPT) Size									
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
1/2"	X									
3/4"	X	X								
1"	X	X	X							
1 1/4"	X	X	X	X						
1 1/2"	X	X	X	X	X					
2"		X	X	X	X	X				
2 1/2"			X	X	X	X	X			
3"				X	X	X	X	X		
3 1/2"					X	X	X	X	X	
4"						X	X	X	X	X

Table 10, Union - Metric to NPT

Female (Metric) Size	Female (NPT) Size									
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
M16	X	X	X	X						
M20	X	X	X	X	X					
M25	X	X	X	X	X	X				
M32	X	X	X	X	X	X	X			
M40	X	X	X	X	X	X	X	X		
M50		X	X	X	X	X	X	X	X	
M63			X	X	X	X	X	X	X	X
M75				X	X	X	X	X	X	X
M80					X	X	X	X	X	X
M90						X	X	X	X	X
M100							X	X	X	X
M110								X	X	X
M120									X	X
M130										X

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### Insulated Adaptors

The range of insulated adaptors are manufactured from a hollow cylindrical non-metallic insulated body with two metallic parts on opposite ends for male and female metric engagement with typically an enclosure and gland.

Insulated adaptors shall not be marked for Group I applications.

The insulated adaptor provides electrical insulation from one end to the other. The adaptor thread sizes are the same on both ends, e.g. M16 x 1.5 to M16 x 1.5. The following sizes are included in the range:

M16, M20, M25, M32, M40, M50, M63, M75, M80, M90, M100, M110, M120 & M130 (All 1.5 or 2.0 pitch, 6H/6g tolerance).

A sealing gasket is utilised on the male threaded part to maintain the IP rating.

### Posi Adaptors

The Posi adaptor has a brass core with a corrosion-protecting outer skin compression moulded around it. The Posi adaptor also has an earthing stud connected through the corrosion protection (and insulating) skin.

Posi adaptors shall not be marked for Group I applications.

The Posi Adaptor is an adaptor available only in the sizes:

MALE THREAD	FEMALE THREAD
M20 x 1.5 - 6g	M20 x 1.5 - 6g
M20 x 1.5 - 6g	M25 x 1.5 - 6g
M25 x 1.5 - 6g	M20 x 1.5 - 6g
M25 x 1.5 - 6g	M25 x 1.5 - 6g

Ex marking: Ex d IIC Gb/Ex d I Mb/Ex e IIC Gb/Ex e I Mb/ Ex tD A21 IP65/IP66/IP67/IP68

IP degree: IP65/IP66/IP67/IP68 (2m/cont)

### Specific conditions of safety use:

- All units are rated IP65 for any sealing arrangement. Units with parallel threads shall be used with the supplied washer if an IP rating of IP66/67/68 is required. Thread sealing in accordance with the requirements of GB/T3836.15 may be adopted for units with tapered threads.

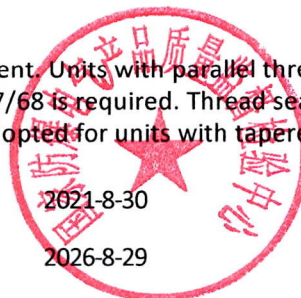
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- A service temperature range of -20°C to +95°C shall not be exceeded for the insulated adaptor.
- The adaptors shall not be used in conjunction with a blanking device. In addition, only one adaptor / reducer shall be installed in any one cable entry.
- The sealing arrangement of the gland into the adaptor / reducer shall conform to the gland certification and IP rating requirements (as applicable).
- The tightening torque for the glands installed in the insulated adaptors may not exceed:

Thread Size and Form	Tightening torque (Nm)	Thread Size and Form	Tightening torque (Nm)
M16	40	M63 and 2" NPT	115
M20 and 1/2" NPT	40	M75 and 2 1/2" NPT	140
M25 and 3/4" NPT	55	M80	160
M32 and 1" NPT	65	M90 and 3" NPT	180
M40 and 1 1/4" NPT	50	>M90 and >3" NPT	200
M50 and 1 1/2" NPT	100	--	--

- When supplied with a washer/gasket, the following service temperatures apply:

HDPE gasket - Tservice = -60°C to +95°C

Nylon gasket - Tservice = -60°C to +100°C

PTFE gasket - Tservice = -60°C to +160°C

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