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 BAS 09.0088X	issue No.:1	Certificate history: Issue No. 1 (2010-7-2) Issue No. 0 (2009-8-28)
Status:	**Current**		
Date of Issue:	**2010-07-02**	Page 1 of 4	

Applicant: **ABTECH Limited**
5 Sanderson Street
Sheffield
S9 2UA
United Kingdom

Electrical Apparatus: **AAG XXX Range of Cable Glands**
Optional accessory:

Type of Protection: **Flameproof, Increased Safety and Dust Protection by Enclosure**

Marking: **Ex d IIC Ex e II Ex tD A21 IP66 (-60°C ≤ ta ≤ +100°C)**

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair

Position: Managing Director

Signature: (for printed version)

Date: 2-7-10

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.

Certificate issued by:

Baseefa
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

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Date of Issue: **2010-07-02** Issue No.: **1**

Manufacturer: **ABTECH Limited**
5 Sanderson Street
Sheffield
S9 2UA
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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*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/BAS/ExTR09.0126/00
GB/BAS/ExTR10.0149/00

Quality Assessment Report:
GB/BAS/QAR07.0030/01
GB/SIR/QAR06.0046/01

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The AAG XXX RANGE OF CABLE GLANDS

The AAG Range of Cable Glands is intended for use with an effectively filled and circular, armoured or basket weave armoured, or braided (screened) cable and comprises the following components the metal parts of which can be manufactured in brass and may be nickel plated to suit the application

See annex for full description.

CONDITIONS OF CERTIFICATION: YES as shown below:

1.These glands are suitable for use within an operating temperature range of -60°C to +80°C.

2. When the gland is used for increased safety or dust protection, the entry thread shall be suitably sealed, in accordance with IEC 60079-14, to maintain the ingress protection rating of the associated enclosure

3. Glands for use with conduit, unarmoured or braided cables are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting.

4. In all installations both clamping rings must be fitted. When used with armoured or braided cable the unused ring must be installed behind the used ring.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 1.1

An alternative armour clamping arrangement utilising single piece armour clamping rings, in two sizes, for either wire armoured cable (UW), or braided cables (UX). The alternative rings optionally replace the existing assembly using two rings together (i.e. one used to clamp and the other used as a spacer), in gland sizes 2016 to 75 (and equivalent).

Variation 1.2

Introduction of alternative sealing rings for gland sizes 80, 90 and 100 to increase the range of cable sizes that can be accommodated.

Variation 1.3

Use of stainless steel as an alternative material of manufacture.

Variation 1.4

Extension of the permitted service temperature range to +100°C.

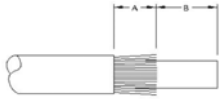
ExTR: **GB/BAS/ExTR10.0149/00**	File Reference: **10/0453**

Annexe: IECEx BAS 09.0088X ANNEX.pdf

AAG Cable Glands

Installation Procedure

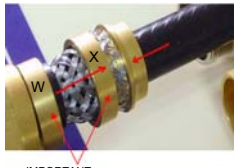
Cable Preparation



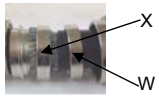
Strip outer insulation as shown

Length "A"	≤ M32 = 20mm
	≥ M40 = 25mm
Length "B" :	To suit equipment

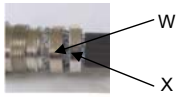
1) For increased ingress protection a suitable sealing washer should be fitted to the entry adaptor.
2) Fit the entry adaptor to the enclosure, using a locknut if required
3) Fit the back nut (1, 2 , 3, 4), middle nut (5), armour clamp ring (6-1) and support ring (6-2) over the cable.
4) Push the cable through the armour cone until the end of the armour/braid is against the shoulder as shown.
   For *braided cable* clamp ring marked 'W' should be against armour cone.
   For *armour cable* cable clamp ring marked 'X' should be against armour cone.
   The other ring, X or W should be used as the support ring.



IMPORTANT
Both clamp rings should be used together



Armoured Cable



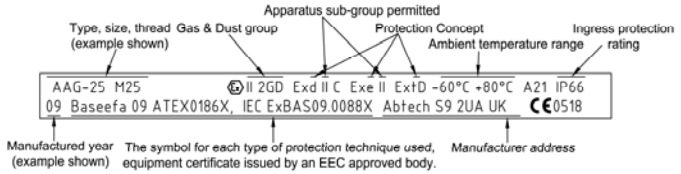
Braided Cable

5) Remove the inner seal (8) from the entry adaptor and insert cable. Screw middle nut onto adaptor until hand tight then using a suitable spanner or wrench to tighten a further ½ to ¾ of a turn.
6) Unscrew middle nut and inspect to ensure that the armour or braid is fully clamped between the armour cone and the armour clamping ring. If neccesary repeat this process to ensure the armour/braid is securely clamped.
7) Re-insert the inner seal (8) into the entry adaptor (9) then fit the assembled middle nut and cable into the entry adaptor. Using a suitable wrench or spanner, tighten the middle nut assembly until resistance is felt then tighten a further ½ to ¾ of a turn.
8) Fit the back nut and tighten until resistance is felt then tighten a further ½ turn ensuring that the middle nut does not turn when tightening the back nut.
9) If required, the shroud should now be fitted over the cable gland assembly.

Special Conditions for Safe Use

1. These glands are suitable for use within an operating temperature range of -60°C to +80°C.
2. When the gland is used for increased safety or dust protection, the entry thread shall be suitably sealed, in accordance with IEC/EN 60079-14, to maintain the ingress protection rating of the associated enclosure.
3. Glands are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting.
4. Both the armour clamp ring (6-1) and support ring (6-2) must always be fitted together.i.e. if armour clamp ring 'W' is used to clamp wire armour, then the unused armour clamp ring, marked 'X', should be used as the support ring. If the armour clamp ring 'X' is used to clamp braid or screen, then the unused armour clamp ring, marked 'W', should be used as the support ring.

ATEX and IEC EX Marking details



Cable Gland Selection Chart

Part Number	Entry Thread size			Cable Acceptance Details: Inner Sheath 'ID' Standard Seal Min.	Standard Seal Max.	Alternavive Seal (S) Min.	Alternavive Seal (S) Max.	Outer Sheath 'OD' Min.	Outer Sheath 'OD' Max.	Armour Size Min/Max.	Hexagon Dimensions Across Flats "A"	Hexagon Dimensions Across Corners "B"	Thread Length "c" Metric	Thread Length "c" NPT	Thread Length "c" PG
	Metric	NPT	PG												
AAG-2016	M16/M20	1/2"	PG13.5	3.0	6.5	-	-	7.0	12.0	0/0.7	24	26.8	15	20	15
AAG-20a	M20	1/2"	PG13.5	4.5	8.0	-	-	7.0	12.0	0/0.7	24	26.8	15	20	15
AAG-20b	M20	1/2"	PG13.5	7.5	10.5	-	-	11.0	16.0	0/0.7	24	26.8	15	20	15
AAG-20c	M20	1/2"	PG13.5	8.5	11.9	-	-	11.0	16.0	0/0.7	24	26.8	15	20	15
AAG-20d	M20	1/2"	PG13.5	11.0	14.3	8.5	13.0	14.3	20.0	0/0.7	30	33.5	15	20	15
		3/4"												20	
AAG-25a	M25	3/4"	PG21	13.0	20.2	9.5	15.4	18.5	26.0	0/0.7	36	40.5	15	20	15
		1"												25	
AAG-32	M32	1"	PG29	20.0	26.4	15.5	21.2	24.0	33.0	0/0.7	45.8	51.2	15	25	15
		1 1/4"												25.6	
AAG-40	M40	1 1/4"	PG36	25.0	31.7	22.0	28.0	30.0	41.0	0/0.7	55	61.5	15	25.6	15
		1 1/2"												26	
AAG-50	M50	1 1/2"	PG42	31.5	42.3	27.5	36.5	38.0	51.0	0/1.0	65	72.8	15	26	15
		2"			44.4									27	
AAG-63	M63	2"	-	42.5	54.3	39.0	48.0	48.0	64.0	0/1.0	80	89.5	15	27	-
		2 1/2"			56.3									40	
AAG-75	M75	2 1/2"	-	54.5	65.3	48.5	58.3	60.0	77.0	0/1.0	95	104.5	15	40	-
		3"			68.2									41.5	
AAG-80	M80	3 1/2"	-	67	73	-	-	75	89.5	0/1.0	107	114	20	42.7	-
AAG-90	M90	3 1/2"	-	67	77.6	-	-	75	89.5	0/1.0	115	123	20	42.7	-
AAG-100	M100	4"	-	76.5	91.6	-	-	88	104.5	0/1.0	128	139	20	44	-

Certification Details

Certificate Number:	ATEX: Baseefa09ATEX0186X, IEC Ex: IEC ExBAS09.0088X
Coding:	II 2GD Ex d IIC Ex e II Ex tD A21
Ambient Temperature:	-60°C ≤ Tamb ≤ 80°C
Ingress Protection:	IP 66

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