DNV·GL

Certificate No:
TAE00003FA

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Gland

with type designation(s)
A2F-S, A2FRC, SS2K-D, DEX-A, DEX-D, DNEX-A, DNEX-D, DNIEX-A, DNCEX, DNCLEX, DAAD & DARE, DAEB, DASP-H, DASP-SH, DADP, DNSS2K and DNCFEX

Issued to
Dong-A Bestech Co., Ltd.
Bucheon-si, Gyeonggi-do, Republic of Korea

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Hazardous areas cable glands & cable gland's accessories. The manufacturer's installation description to be followed.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.
Material
Suitable for open deck
Suitable for Hazardous areas

Issued at **Busan** on **2019-03-26**
This Certificate is valid until **2023-12-31**.
DNV GL local station: **Seoul**

Approval Engineer: **Eun Jin Lee**

for **DNV GL**

Andreas Kristoffersen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Type 1a	Hazardous Area Cable Gland type A2F-S
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 08ATEX0011X, IECEx BAS 08.0003X Sira 11 ATEX1061X, IECEx SIR 11.0035X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0 and IEC/EN61241-1, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100, 115, 130 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 4”
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with non-armoured elastomer and plastic insulated cables.

Type 1b	Hazardous Area Cable Gland type SS2K-D
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 08ATEX0011X, IECEx BAS 08.0003X Sira 11 ATEX1061X, IECEx SIR 11.0035X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0 and IEC/EN61241-1, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100, 115, 130 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 4”
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with non-armoured elastomer and plastic insulated cables Note: Double seal arrangement.

Type 1c	Hazardous Area Cable Gland type A2FRC
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 08ATEX0011X, IECEx BAS 08.0003X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0 and IEC/EN61241-1, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with non-armoured elastomer and plastic insulated cables Installed in conduit.

Type 2a	Hazardous Area Cable Gland type DEX-A
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, Silicon, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 07ATEX0152X, IECEx BAS 07.0039X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0 and IEC/EN61241-1, IEC/EN60079-31

Ingress Protection	IP66/67
Gland size [mm]/NPT"/PG	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100 or NPT sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4" or PG sizes: 13.5, 21, 29, 36, 42
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with single wire armoured, wire briaded and steel tape armoured elastomer and plastic insulated cables.

Type 2b	Hazardous Area Cable Gland type DEX-D
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, Silicon, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 07ATEX0152X, IECEx BAS 07.0039X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0 and IEC/EN61241-1, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT"/PG	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100 or NPT sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4" or PG sizes: 13.5, 21, 29, 36, 42
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with single wire armoured, wire briaded and steel tape armoured elastomer and plastic insulated cables. Note: DEX-D Type gland is including outer surface seal.

Type 3a	Hazardous Area Cable Gland type DNEX-A
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 08ATEX0326X, IECEx BAS 08.0116X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0, IEC/EN61241-1, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT"/PG	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100 or NPT sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4" or PG sizes: 13.5, 21, 29, 36, 42
Continous Operating TEMP.	-60℃ to +100℃ as standard.
Application	For use with single wire armoured, wire briaded and steel tape armoured elastomer and plastic insulated cables.

Type 3b	Hazardous Area Cable Gland type DNEX-D
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 08ATEX0326X, IECEx BAS 08.0116X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0 and IEC/EN61241-1, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT"/PG	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100 or NPT sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4" or PG sizes: 13.5, 21, 29, 36, 42
Continous Operating TEMP.	-60℃ to +100℃ as standard

Application	For use with single wire armoured, wire briaded and steel tape armoured elastomer and plastic insulated cables. Note: DNEX-D Type gland is including outer surface seal.

Type 3c	Hazardous Area Cable Gland type DNLEX-A
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, SPC-CR70
Classification	II 2GD Ex db eb IIC Extb IIIC Db Gb
Certification	Baseefa 10ATEX0080X, IECEx BAS 10.0039X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7 IEC/EN61241-0 and IEC/EN61241-1, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90 100 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 3 1/2”, 4”
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with an effectively filled and circular, single wire armoured, steel basket weave armoured or braided (screened) lead sheathed cables.

Type 4a	Hazardous Area Cable Gland type DNCEX(Barrier Type)
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, Epoxy compound.
Classification	II 2GD Exd IIC Gb & Exe IIC Gb Extb IIIC Db
Certification	Baseefa 11ATEX0004X, IECEx BAS 11.0001X
Construction and test standards	IEC/EN60079-0IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 90 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 3 1/2"
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with single wire armoured, wire briaded and steel tape armoured elastomer and plastic insulated cables.

Type 4b	Hazardous Area Cable Gland type DNCLEX (Barrier Type)
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, Epoxy compound.
Classification	II 2GD Exd IIC Gb & Exe IIC Gb Extb IIIC Db
Certification	Baseefa11ATEX0004X, IECEx BAS 11.0001X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 90 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 3 1/2"
Continous Operating TEMP.	-60℃ to +100℃ as standard
Application	For use with an effectively filled and circular, single wire armoured, steel basket weave armoured or braided(screened) lead sheathed cables

Type 5a	Hazardous Area Adaptor and Reducr type DAAD & DARE
Gland material	Brass, Brass with nikel plated and stainless steel
Seal material	N/A
Classification	II 2GD Ex db IIC Ex eb IIC Ex tb IIIC
Certification	Baseefa08ATEX0019X, IECEx BAS 08.0008X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	IP66
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 3 1/2", 4”

Continous Operating TEMP.	N/A
Application	Provides a means of connection between the equipment and cable glands with dissimilar thread sizes or types.

Type 5b	Hazardous Area Elbow type DAEB
Gland material	Brass, Brass with nikel plated and stainless steel
Seal material	N/A
Classification	II 2GD Ex db IIC Ex eb IIC Ex tb IIIC
Certification	Baseefa 13ATEX0219U, IECEx BAS 13.0107X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	IP66
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”
Continous Operating TEMP.	N/A
Application	For use inhazardous areas to change the direction and/or size or type of a threaded component.

Type 6a	Hazardous Area Stopping Plug type DASP-H
Gland material	Brass, Brass with nikel plated and stainless steel
Seal material	N/A
Classification	Ex db I Mb Ex eb I Mb and/or Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
Certification	Baseefa 08ATEX0051U, IECEx BAS 08.0020U Sira12ATEX1105X, IECEx SIR 12.0041X.
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	Parallel thread IP66/67 and NPT thread IP66
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100
Continous Operating TEMP.	N/A
Application	For use to close unused cable gland entries and maintain the flameproof integrity of the equipment.

Type 6b	Hazardous Area Stopping Plug type DASP-SH
Gland material	Brass, Brass with nikel plated and stainless steel
Seal material	N/A
Classification	Ex db I Mb Ex eb I Mb and/or Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
Certification	Baseefa 10ATEX0024X, IECEx BAS 10.0062X Sira12ATEX1105X, IECEx SIR 12.0041X.
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	Parallel thread IP67 and NPT thread IP66
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 80, 90, 100 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 3 1/2”, 4”
Continous Operating TEMP.	N/A
Application	For use to close unused cable gland entries and maintain the flameproof integrity of the equipment.

Type 6c	Hazardous Area Drain Plug type DADP
Gland material	Brass, Brass with nikel plated and stainless steel
Seal material	N/A
Classification	II 2GD Ex eb IIC Ex tb IIIC
Certification	CML16ATEX3134U, IEEx CML 16.0019U
Construction and test standards	IEC/EN60079-0, IEC/EN60079-7, IEC/EN60079-31

Ingress Protection	IP66
Gland size [mm]/NPT”	Metric sizes: 20, 25 NPT sizes: 1/2”, 3/4"
Continous Operating TEMP.	-60°C to +100 °C as standards
Application	Breather Drainis to effectively drain any water present within the enclosure, while allowing air in the enclosure to breathe with the surrounding atmosphere, minimizing moisture build up within the enclosure.

Type 7a	Hazardous Area Cable Gland type DNSS2K(Barrier type)
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, Epoxy compound
Classification	II 2 GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
Certification	Baseefa17ATEX0025X, IECEx BAS 17.0020X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	IP66/67
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75, 90 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”, 3 1/2”
Continous Operating TEMP.	-60°C to +100 °C as standards
Application	This cable gland are intended for use with non-armoured cable

Type 8a	Hazardous Area Cable Gland type DNCFEX
Gland material	Brass, Brass with nikel plated and stainless steel or aluminium
Seal material	EPDM, Epoxy compound
Classification	II 2 GD Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db
Certification	Baseefa15ATEX0009X, IECEx BAS 15.0005X
Construction and test standards	IEC/EN60079-0, IEC/EN60079-1, IEC/EN60079-7, IEC/EN60079-31
Ingress Protection	IP66
Gland size [mm]/NPT”	Metric sizes: 16, 20, 25, 32, 40, 50, 63, 75 or NPT sizes: 1/2”, 3/4”, 1”, 1 1/4”, 1 1/2”, 2”, 2 1/2”, 3”
Continous Operating TEMP.	-60°C to +100 °C as standards
Application	Cable glands are intended for use with steel wire armoured or steel basket weave armoured cable

Application/Limitation

Hazardous areas cable glands & cable gland's accessories. The manufacturer's installation/assembly instruction to be followed.

The information related to Ex certification from recognised test institution is given as information only and can not replace an Ex certificate case by case.

Type Approval documentation

Tests carried out

Type tests in according to IEC 60079-0,IEC 60079-1, IEC 60079-7, IEC 60079-31, IEC 61241-0 and IEC 61241-1.

Marking of product

Name of manufacturer – Type designation – Ex rating.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE