DNV·GL

Certificate No:
TAE00003AD

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Gland

with type designation(s)
HSK-M-Ex, HSK-M-PVDF-Ex, HSK-INOX-Ex, HSK-INOX-PVDF-Ex, HSK-M-EMC-D-Ex, HSK-M-EMC-Ex, HSK-M-EMC-PVDF-Ex, HSK-INOX-EMC-Ex, HSK-MZ-EMC-Ex, HSK-MZ-EMC-PVDF-Ex, HSK-M-Multi-Ex, HSK-M-FLAKA-Ex, HSK-MZ-Ex, HSK-MZ-PVDF-Ex, HSK-M-Ex d, HSK-M-PVDF-Ex d, HSK-MZ-Ex d, HSK-MZ-PVDF-Ex d, HSK-INOX-Ex d, HSK-INOX-PVDF-Ex d

Issued to
Hummel AG
Denzlingen, Germany

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

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Material	**Metallic**
Suitable for open deck	**Yes (INOX only 1.4404)**
Suitable for Hazardous areas	**Yes**

Issued at **Hamburg** on **2018-12-13**
This Certificate is valid until **2023-12-12**.
DNV GL local station: **Augsburg**

Approval Engineer: **Carsten Hunsalz**

for **DNV GL**

Arne Schaarmann
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

HSK-Ex Standard:

Type designation:	**HSK-M-Ex / HSK-M-PVDF-Ex**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM
Operating temperature range:	-20 °C to +95 °C, -60 °C to +95 °C (Polyamide) / -20 °C to +130 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50, 63 PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48 NPT thread size: ⅜", ½", ¾", 1"
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X KEMA 99ATEX6971 X, IECEx KEM 07.0014X

Type designation:	**HSK-INOX-Ex / HSK-INOX-PVDF-Ex**
Gland material:	Stainless steel (1.4305 / 1.4404) Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM
Operating temperature range:	-20 °C to +95 °C -60 °C to +95 °C (Polyamide) / -35 °C to +150 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X KEMA 99ATEX6971 X, IECEx KEM 07.0014X

HSK-EMC-Ex Standard:

Type designation:	**HSK-M-EMC-D-Ex**
Gland material:	Nickel plated brass Clamping insert: Metalised polyamide
Seal material:	Buna-N
Operating temperature range:	-20 °C to +95 °C, -60 °C to +95 °C
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (with connection for braid/armour)
Gland sizes range:	Metric thread size: 16, 20, 25, 32, 40 PG thread size: 11, 13.5, 16, 21, 29, 36
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X KEMA 99ATEX6971 X, IECEx KEM 07.0014X

Type designation:	**HSK-M-EMC-Ex / HSK-M-EMC-PVDF-Ex**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM
Operating temperature range:	-20 °C to +95 °C, -60 °C to +95 °C (Polyamide) / -20 °C to +130 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (with connection for braid/armour)
Gland sizes range:	Metric thread size*: 12, 16, 20, 25, 32, 40, 50, 63 PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48 NPT thread size: ⅜", ½", ¾" * Only for HSK-M-EMC-Ex
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X KEMA 99ATEX6971 X, IECEx KEM 07.0014X

Type designation:	**HSK-INOX-EMC-Ex**
Gland material:	Stainless steel (1.4305 / 1.4404) Clamping insert: Polyamide
Seal material:	Buna-N
Operating temperature range:	-20 °C to +95 °C -60 °C to +95 °C
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (with connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40 PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X KEMA 99ATEX6971 X, IECEx KEM 07.0014X

Type designation:	**HSK-MZ-EMC-Ex /HSK-MZ-EMC-PVDF-Ex**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N
Operating temperature range:	-20 °C to +95 °C, -60 °C to +95 °C (Polyamide) / -20 °C to +130 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (with connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50, 63 PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48 NPT thread size: ⅜", ½", ¾", 1¼", 1½"
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X KEMA 99ATEX6971 X, IECEx KEM 07.0014X

HSK-Ex for special applications:

Type designation:	**HSK-M-Multi-Ex / HSK-M-FLAKA-Ex**
Gland material:	Nickel plated brass Clamping insert: Polyamide
Seal material:	Elastomer (O-Ring: Buna-N)
Operating temperature range:	-20 °C to +95 °C
Degree of protection:	IP 68
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 16*, 20, 25, 32, 40, 50, 63 PG thread size: 9*, 11*, 13.5*, 16, 21, 29, 36, 42, 48 NPT thread size: ⅜"*, ½"*, ¾", 1" * Gland sizes only for HSK-M-Multi-Ex
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X

Type designation:	**HSK-MZ-Ex / HSK-MZ-PVDF-Ex**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM
Operating temperature range:	-20 °C to +95 °C, -60 °C to +95 °C (Polyamide) / -20 °C to +130 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50*, 63* PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48 NPT thread size: ⅜", ½", ¾", 1"* * Not for HSK-MZ-PVDF-Ex
Ex classification:	II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03ATEX E051 X, IECEx BVS 07.0019 X KEMA 99ATEX6971 X, IECEx KEM 07.0014X

HSK-Ex for locations type "e" and/or "d":

Type designation:	**HSK-M-Ex d / HSK-M-PVDF-Ex d**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	FKM
Operating temperature range:	-60 °C to +105 °C (Polyamide) / -20 °C to +130 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40 NPT thread size: ⅜", ½", ¾", 1"*, 1¼"*, 1½"* * Not for HSK-M-PVDF-Ex d
Ex classification:	II 2G Ex db IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	KEMA 99ATEX6968 X, IECEx KEM 07.0013X

Type designation:	**HSK-MZ-Ex d /HSK-MZ-PVDF-Ex d**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF

Seal material:	FKM
Operating temperature range:	-60 °C to +105 °C (Polyamide) / -20 °C to +130 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40 NPT thread size: ⅜", ½", ¾", 1", 1¼", 1½"
Ex classification:	II 2G Ex db IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	KEMA 99ATEX6968 X, IECEx KEM 07.0013X

Type designation:	**HSK-INOX-Ex d / HSK-INOX-PVDF-Ex d**
Gland material:	Stainless steel (1.4404) Clamping insert: Polyamide / PVDF
Seal material:	FKM
Operating temperature range:	-60 °C to +105 °C (Polyamide) / -20 °C to +130 °C (PVDF)
Degree of protection:	IP 68 (10 bar)
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40 NPT thread size: ⅜", ½", ¾"
Ex classification:	II 2G Ex db IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	KEMA 99ATEX6968 X, IECEx KEM 07.0013X

Accessories:

Type designation:	**Plug V-Ms-Ex / V-Ms-FKM-Ex / V-Ms-VMQ-Ex**
Material:	Nickel plated brass
O-Ring:	Buna-N / FKM / VMQ
Operating temperature range:	-20 °C to +95 °C (Buna-N) / -20 °C to 180 °C (FKM) / -60 °C to +180 °C (VMQ)
Degree of protection:	IP 68 (10 bar)
Sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50, 63 PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48
Ex classification:	II 2G Ex e IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03 ATEX E 049, IECEx BVS 07.0021

Type designation:	**Plug V-INOX-Ex**
Material:	Stainless steel (1.4305)
O-Ring:	Buna-N / FKM / VMQ
Operating temperature range:	-20 °C to +95 °C (Buna-N) / -20 °C to 180 °C (FKM) / -60 °C to +180 °C (VMQ)
Degree of protection:	IP 68 (10 bar)
Sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50, 63 PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48
Ex classification:	II 2G Ex e IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03 ATEX E 049, IECEx BVS 07.0021

Type designation:	**Adapter RSD-Ms-Ex**
Material:	Nickel plated brass
O-Ring:	Buna-N / VMQ
Degree of protection:	IP 68 (10 bar)
Operating temperature range:	-20 °C to +95 °C /Buna-N) / -60 °C to +180 °C (VMQ)
Sizes range:	Metric thread size: 16, 20, 25, 32, 40, 50, 63 PG thread size: 9, 11, 13.5, 16, 21, 29, 36, 42, 48

Ex classification:	II 2G Ex e IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03 ATEX E 049, IECEx BVS 07.0021

Type designation:	**Adapter RSD-INOX-Ex**
Material:	Stainless steel (1.4305 / 1.4404 only RSD-INOX-Ex d)
O-Ring:	Buna-N / VMQ
Degree of protection:	IP 68 (10 bar)
Operating temperature range:	-20 °C to +95 °C /Buna-N) / -60 °C to +180 °C (VMQ)
Sizes range:	Metric thread size: 16, 20, 25, 32, 40, 50, 63 PG thread size: 9, 11, 13.5, 16, 21, 29, 36, 42, 48
Ex classification:	II 2G Ex e IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	DMT 03 ATEX E 049, IECEx BVS 07.0021

Type designation:	**Plug V-Ms-Ex d**
Material:	Nickel plated brass
O-Ring:	Buna-N / FKM / VMQ
Operating temperature range:	-20 °C to +95 °C (Buna-N) / -20 °C to 180 °C (FKM) / -60 °C to +180 °C (VMQ)
Degree of protection:	IP 68 (10 bar)
Sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50, 63 PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48 NPT thread size*: ⅜”, ½”, ¾”, 1”, 1¼”, 1½” * Only without O-Ring
Ex classification:	II 2G Ex db eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	KEMA 06ATEX0024, IECEx KEM 07.0012

Type designation:	**Plug V-INOX-Ex d**
Material:	Stainless steel (1.4404)
O-Ring:	Buna-N / FKM / VMQ
Operating temperature range:	-20 °C to +95 °C (Buna-N) / -20 °C to 180 °C (FKM) / -60 °C to +180 °C (VMQ)
Degree of protection:	IP 68 (10 bar)
Sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50, 63 NPT thread size*: ⅜”, ½”, ¾”, 1”, 1¼”, 1½” * Only without O-Ring
Ex classification:	II 2G Ex db eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	KEMA 06ATEX0024, IECEx KEM 07.0012

Type designation:	**Adapter RSD-Ms-Ex d**
Material:	Nickel plated brass
O-Ring:	Buna-N / VMQ
Degree of protection:	IP 68 (10 bar)
Operating temperature range:	-20 °C to +95 °C /Buna-N) / -60 °C to +180 °C (VMQ)
Sizes range:	Metric thread size: 16, 20, 25, 32, 40, 50
Ex classification:	II 2G Ex db eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	KEMA 06ATEX0024, IECEx KEM 06.0056

Type designation:	**Adapter RSD-INOX-Ex d**
Material:	Stainless steel (1.4305 / 1.4404 only RSD-INOX-Ex d)
O-Ring:	Buna-N / VMQ
Degree of protection:	IP 68 (10 bar)
Operating temperature range:	-20 °C to +95 °C /Buna-N) / -60 °C to +180 °C (VMQ)
Sizes range:	Metric thread size: 16, 20, 25, 32, 40
Ex classification:	II 2G Ex db eb IIC Gb / II 1D Ex ta IIIC Da
Ex certificate number:	KEMA 06ATEX0024, IECEx KEM 06.0056

Application/Limitation

Manufacturer's installation description, instructions and DNV GL rules to be followed.

Not no be used in bulkheads/decks or for penetrating boundaries of tanks.

Suitable for open deck: Yes (INOX only 1.4404).

The information related to Ex certification from recognised test institution is given as information only. Applications where Ex certified equipment is required will in general be subject to approval case by case based on documentation as required in DNV Rules.
Degree of protection will be safeguarded only when sealing and cable entry fittings are properly fitted. The manufacturer's instructions must be followed.

Type Approval documentation

Test reports/Certificates:
KEMA 99ATEX6971 X dated 2017.07.19, IECEx KEM 07.0014x dated 2017.07.19,
KEMA 99ATEX6968 X dated 2017.07.19, IECEx KEM 07.0013X dated 2017.07.19,
DMT 03 ATEX E 049 dated 2014.11.05, IECEx BVS 07.0021 dated 2014.11.12
KEMA 06ATEX0024 dated 2017.07.19, IECEx KEM 07.0012 dated 2017.07.19
KEMA 06ATEX0024 dated 2017.07.19, IECEx KEM 06.0056 dated 2017.07.19
DMT 03ATEX E051 X dated 2003.02.25, IECEx BVS 07.0019 X dated 2007.09.06
Catalogue: Cable Glands – 2018-05

Tests carried out

Type tests in accordance with IEC/EN 60079-0:2017/2012, IEC/EN 60079-1:2014, IEC/EN 60079-7:2015, IEC/EN 60079-31:2013/2014, IEC/EN 60529:2013/2014

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 are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to 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