DNV·GL

Certificate No:
TAE00003AB

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Gland

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

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	**No**

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-Industry Standard:

Type designation:	**HSK-M / HSK-M-PVDF**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM or Silicone etc.
Operating temperature range:	-40 °C to +100 °C (Polyamide) / -35 °C to +150 °C (PVDF)
Degree of protection:	IP 68 (10 bar), IP 69K
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”

Type designation:	**HSK-INOX / HSK-INOX-PVDF**
Gland material:	Stainless steel (1.4305 / 1.4404) Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM or Silicone etc.
Operating temperature range:	-40 °C to +100 °C (Polyamide) / -35 °C to +150 °C (PVDF)
Degree of protection:	IP 68 (10 bar), IP 69K
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”

HSK-EMC-Industry Standard:

Type designation:	**HSK-M-EMC-D**
Gland material:	Nickel plated brass Clamping insert: Metalised polyamide
Seal material:	Buna-N or Silicone etc.
Operating temperature range:	-40 °C to +100 °C
Degree of protection:	IP 68 (10 bar), IP 69K
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”

Type designation:	**HSK-M-EMC / HSK-M-PVDF-EMC**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM or Silicone etc.
Operating temperature range:	-40 °C to +100 °C (Polyamide) / -35 °C to +150 °C (PVDF)
Degree of protection:	IP 68 (10 bar), IP 69K
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”

Type designation:	**HSK-M-Flex-EMC**
Gland material:	Nickel plated brass with steel spring (1.4310)

	Clamping insert: Polyamide
Seal material:	Buna-N or Silicone etc.
Operating temperature range:	-40 °C to +100 °C
Degree of protection:	IP 68 (10 bar), IP 69K
Cable type:	Braided / Armoured or Unbraided / Unarmoured (with connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25 PG thread size: 7, 9, 11, 13.5, 16, 21 NPT thread size: ⅜", ½", ¾"

Type designation:	**HSK-INOX-EMC / HSK-INOX-PVDF-EMC**
Gland material:	Stainless steel (1.4305 / 1.4404) Clamping insert: Polyamide
Seal material:	Buna-N or Silicone etc.
Operating temperature range:	-40 °C to +100 °C
Degree of protection:	IP 68 (10 bar), IP 69K
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

Type designation:	**HSK-MZ-EMC / HSK-MZ-EMC-PVDF**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM or Silicone etc.
Operating temperature range:	-40 °C to +100 °C (Polyamide) / -35 °C to +150 °C (PVDF)
Degree of protection:	IP 68 (10 bar), IP 69K
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"

HSK for special applications:

Type designation:	**HSK-M-Multi / HSK-M-FLAKA**
Gland material:	Nickel plated brass Clamping insert: Polyamide
Seal material:	Elastomer or Silicone etc.
Operating temperature range:	-40 °C to +100 °C
Degree of protection:	IP 65, IP 68 (10 bar) possible with ideal fit
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" * Gland sizes only for HSK-M-Multi

Type designation:	**HSK-M-Flex / HSK-M-PVDF-Flex**
Gland material:	Nickel plated brass with steel spring (1.4310) Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM or Silicone etc.
Operating temperature range:	-40 °C to +100 °C (Polyamide) / -35 °C to +150 °C (PVDF)
Degree of protection:	IP 68 (10 bar), IP 69K
Cable type:	Braided / Armoured or Unbraided / Unarmoured (no connection for braid/armour)
Gland sizes range:	Metric thread size: 12, 16, 20, 25 PG thread size: 7, 9, 11, 13.5, 16, 21 NPT thread size: ⅜", ½", ¾"

Type designation:	**HSK-MZ / HSK-MZ-PVDF**
Gland material:	Nickel plated brass Clamping insert: Polyamide / PVDF
Seal material:	Buna-N / FKM or Silicone etc.
Operating temperature range:	-40 °C to +100 °C (Polyamide) / -35 °C to +150 °C (PVDF)
Degree of protection:	IP 68 (10 bar), IP 69K within specified clamping range
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"

Accessories:

Type designation:	**Plug V-NE-Ms**
Material:	Nickel plated brass
O-Ring:	Buna-N
Operating temperature range:	-20 °C to +95 °C
Degree of protection:	IP 54 (V-NE-Ms) / IP 68 (10 bar), IP 69K (V-NE-Ms-SD)
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

Type designation:	**Plug V-INOX**
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), IP 69K
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

Type designation:	**Locknut GM-Ms / GM-EMC**
Material:	Nickel plated brass
Sizes range:	Metric thread size: 12, 16, 20, 25, 32, 40, 50, 63, 75*, 80*, 90*, 100*, 110* PG thread size: 7, 9, 11, 13.5, 16, 21, 29, 36, 42, 48 BSP thread size*: G 2½", G 3", G 4" * Thread sizes only for GM-Ms

Type designation:	**Adapter RSD-Ms**
Material:	Nickel plated brass
O-Ring:	Buna-N
Operating temperature range:	-40 °C to +100 °C
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

Type designation:	**Adapter RS-INOX / RSD-INOX**
Material:	Stainless steel (1.4305)
O-Ring:	Buna-N (RSD-INOX)
Operating temperature range:	-20 °C to +95 °C
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

Application/Limitation

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

Not to be used in bulkheads/decks or for penetrating boundaries of tanks.

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

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 report: VDE Zeichengenehmigung Licence No. 40012033;
VDE – Prüfstelle Offenbach, Nr. 71339;
KEMA Test Reports dated of 08.01.2002

Catalogue: Cable Glands – 2018-05

Tests carried out

Type tests in accordance with IEC 62444:2010

Marking of product

Name of manufacturer – type designation.

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