

Operating Instruction

IECEX KEM 07.0013X

KEMA 99 ATEX 6968X

Cable glands: HSK-M-* -Ex-d, HSK-INOX-* -Ex-d,
HSK-MZ-* -Ex-d

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ENGLISH

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This documentation includes the following documents:

- Current Sales Catalog of HUMMEL AG
- Accident Prevention Regulations and related installation instructions /
Electrotechnical Regulations (responsibility lies with installer)

Manufacturer	HUMMEL AG Lise-Meitner-Straße 2 79211 Denzlingen / Germany	
Notified Body	DEKRA Testing and Certification GmbH Dinnendahlstraße 9 44809 Bochum / Germany	DEKRA Certification B.V. Meander 1051 6825 MJ Arnhem / Netherlands
ID number	0158	0344
IECEX CoC	IECEX KEM 07.0013X	
Type-examination certificate	KEMA 99 ATEX 6968X	
Scope	Cable glands: HSK-M-*Ex-d, HSK-INOX-*Ex-d, HSK-MZ-*Ex-d	
Reference standards	<ul style="list-style-type: none">• DIN EN IEC 60079-0 : 2019• DIN EN IEC 60079-1 : 2014• DIN EN IEC 60079-31 : 2014• DIN EN IEC 60529	
Temperature range	-60 °C – 105 °C (-76 °F – 221 °F) -20 °C – 130 °C (-4 °F – 266 °F)	
Type of protection	IP 66/68, up to 10 bar – 30 min	

Technical Data

Series	Connection Thread		Clamping Range [mm]	Torque [Nm] Dome Nut / Body / Lock Nut
	Metric	NPT		
HSK-M-*Exd, HSK-INOX-*Exd, HSK-MZ-*Exd	M12 x 1,5		2 – 5	7,5
	M12 x 1,5		3 – 6,5	7,5
	M 16 x 1,5	NPT 3/8"	3 – 7	9
	M 16 x 1,5	NPT 3/8"	5 – 10	9
	M 20 x 1,5	NPT 1/2"	10 – 14	10
	M 20 x 1,5	NPT 1/2"	7 – 12	10
	M 25 x 1,5	NPT 3/4"	9 – 16	12
	M 25 x 1,5	NPT 3/4"	13 – 18	12
	M 32 x 1,5	NPT 1"	14 – 20	15
	M 32 x 1,5	NPT 1"	18 – 25	15
	M 40 x 1,5	NPT 1 1/2"	20 – 26	24
		NPT 1 1/4"	20 – 26	24
		NPT 1 1/2"	22 – 32	24
	M 40 x 1,5	NPT 1 1/4"	22 – 32	24

The tightening torque specified in the table must be applied to the cable gland using a torque wrench.

Installation conditions - general

Surface roughness: max. Rz 16

Perpendicularity: The sealing surface of the cable gland must always be mounted at right angle to the housing surface.

Earthtag: The installation of earthtags is only permitted on the sealing surface between the housing and the cable gland. The user has to ensure the tightness with regard to IP and explosion protection.

Housing material: There are no restrictions regarding the housing material.

Sealing method: The sealing at the cable is done by the sealing insert. Sealing at the housing is done by an O-ring.

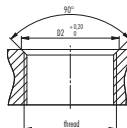
Installation conditions - through hole

The installation of the cable gland in a housing with a through hole and locknut nut is not intended.

Thread	D2
M6x1	7,3
M8x1,25	9
M10x1,5	10,4
M12x1,5	13
M16x1,5	17
M20x1,5	21
M25x1,5	26
M32x1,5	33
M40x1,5	41
M50x1,5	51
M63x1,5	64
M75x1,5	76
M80x2	81
M90x2	91
M100x2	101,3
M110x2	111

Installation conditions - thread

For all thread sizes the thread tolerance is 6g



Thread	D2
Pg7	13,2
Pg9	15,9
Pg11	19,3
Pg13,5	21,2
Pg16	23,3
Pg21	29,1
Pg29	38,4
Pg36	48,5
Pg42	55,5
Pg48	60,8

Thread	D2
NPT 3/8"	18
NPT 1/2"	22
NPT 3/4"	27,5
NPT 1"	35
NPT 1 1/4"	42,5
NPT 1 1/2"	49,5
NPT 2"	62
NPT 2 1/2"	76,5
NPT 3"	92,5

D2: countersink



If the cable gland is used in a way that deviates from the specified installation conditions, the user must ensure the safety of the system.

Special conditions

Cable glands with cap nut but without a strain-relief device are suitable only for use with permanently installed cables. The installer is responsible for providing appropriate strain relief. The cable glands feature a sealing ring with an axial sealing height of at least 5 mm. The user / operator is advised to make sure that, relative to the outer edge of the O-ring recess, at least the first five full threads are in engagement when fitting the cable gland(s) to the pressure-resistant housing.

Marking

The products and / or their smallest packaging units are marked as specified below. Products marked otherwise may not be used under this type-examination certificate. Non-compliance shall void the manufacturer's liability.

- Manufacturer's name and address
-  II 2G Ex db IIC Gb / II 1D Ex ta IIIC Da
- IP 66/68 (only on packaging)
- KEMA 99 ATEX 6968X / IECEx KEM 07.0013X
- Connecting thread size
- Cable clamping ranges (only on packaging)
-  , 0158 (only on packaging)
- -60 °C – 105 °C (-76 °F – 221 °F) / -20 °C – 130 °C (-4 °F – 266 °F)

Safety

The products may only be used within the specified temperature range.

The manufacturer shall not be liable for damage caused by use in non-specified fields of application.

Only qualified personnel may carry out work in hazardous areas. All relevant regulations must be observed in this case!

Resistance / Endurance

The products consist of:

Body of gland:	nickel-plated brass or stainless steel
Clamping insert:	polyamide / PVDF
Gasket and O-ring:	FKM

The materials used are suitable for „industrial atmospheres“, meaning that they are resistant or highly resistant to mineral oils within the specified temperature range. For all other applications, consult the manufacturer!

Maintenance

At the specified maintenance intervals it is recommended to check the articles and tighten as necessary.

General information

- Our metric-size cable glands are provided as standard with an O-ring on the connecting thread.
- Before initial operation of the facilities, the assembly is to be checked to see that it conforms to these installation instructions, to the applicable national and international standards, as well as those applicable to the use in question.
- Suitable tools must be used for the assembly; furthermore, the installation may only be carried out by qualified electricians or by trained staff.
- Any modification which differs from the condition as delivered is not permitted.
- In order to fulfill explosion protection type Ex-d, the cable used must be round and compact. The cables must also take into consideration in particular the Regulations as per EN 60079-14 Section 9.3. Observe the Regulations of EN 60079-14 on direct insertion into the Ex-d area.
- At the specified maintenance intervals it is recommended to check the compression fittings and tighten as necessary.
- In the case of NPT connecting threads, the end-user must ensure that the necessary IP protection is guaranteed; this can be done using a suitable thread sealing agent.
- When installing the cable gland through bore holes, care should be taken that the maximum diameters are not exceeded.
- The cable glands are provided with a sealing ring with an axial sealing height of at least 5 mm. With reference to the clearance groove, the end-user should ensure that at least five complete turns of the connector thread are made. In order to guarantee a screw depth of 8 mm, the enclosure should have a wall thickness of min. 10 mm ; if <10 mm, then if necessary, use a washer when cable entries are attached to the pressure-resistant enclosure.
- When determining the temperature ranges of the device in the dust Ex-area, the Regulations of EN 60079-0 and EN 60079-31 must be taken into consideration.

Prior to use

Before putting the installation into service, check it for compliance with these installation instructions as well as local and international standards (incl. application-specific ones).

Should you have additional questions, please contact the manufacturer. Please note that unauthorized or improper application or non-compliance with these installation instructions shall void the manufacturer's liability.

EU Declaration of Conformity

issued under the sole responsibility of the manufacturer
Complying the EU Directive 2014/34/EU, Attachment X

Types	Cable glands: HSK-M-*-Ex-d, HSK-INOX-*-Ex-d, HSK-MZ-*-Ex-d	
Certified in Type Examination certificates	KEMA 99 ATEX 6968 X	
Issued by notified body	DEKRA Testing and Certification GmbH Dinnendahlstraße 9 44809 Bochum / Germany	DEKRA Certification B.V. Meander 1051 6825 MJ Arnhem / Netherlands
ID number	0158	0344
Following standards are applied		
EN 60079-0:2019	Electrical apparatus for potentially explosive atmospheres – General requirements	
EN 60079-1:2014	Electrical apparatus for potentially explosive atmospheres – Flameproof enclosure „d“	
EN 60079-31:2014	Electrical apparatus for use in the presence of combustible dust, Electrical apparatus protected by enclosures – Construction and testing	
EN 60529	Degrees of protection provided by enclosures (IP-Code)	

We declare that the above articles were developed and manufactured in the responsibility of HUMMEL AG.



Michael Nörr
HUMMEL AG / CEO