smart & reliable connections

Operating Instruction

IECEx BVS07.0019X
DMT 03 ATEX E 051X
CSA 19 80011196X
Cable glands: HSK-M-*-Ex, HSK-INOX-*-Ex

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ENGLISH

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ATEX-Eg1X6-0721

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
ID number	0158
IECEx CoC	IECEx BVS07.0019X
Type-examination certificate	DMT 03 ATEX E 051X
CSA	CSA 19 80011196X
Scope	Cable glands: HSK-M-*-Ex, HSK-INOX-*-Ex
Reference standards	• DIN EN IEC 60079-0 : 2019 • DIN EN IEC 60079-7 / A1:2018 • DIN EN 60079-31 : 2014 • DIN EN 60529 : 2014
Temperature range	-20 °C – 95 °C (-4 °F – 203 °F)
Type / degree of protection	IP 68, up to 10 bar Type rating 4/4X/6

Technical Data

Series	Connection Thread Metric	PG	NPT	Clamping Range [mm]	Torque [Nm] Dome Nut / Body / Lock Nut
	M 12 x 1,5	PG 7		2 – 5	4
	M 12 x 1,5	PG 7		3 – 6,5	4
	M 16 x 1,5	PG 9	NPT 3/8"	2 – 6	6
	M 16 x 1,5	PG 9	NPT 3/8"	4 – 8	6
	M 16 x 1,5	PG 11		3 – 7	5
	M 16 x 1,5	PG 11		5 – 10	5
	M 20 x 1,5	PG 13,5	NPT 1/2"	5 – 9	8
	M 20 x 1,5	PG 13,5	NPT 1/2"	6 – 12	8
		PG 13,5	NPT 1/2"	7-12	8
	M 20 x 1,5	PG 16		10 – 14	10
	M 20 x 1,5	PG 16		7 – 12	10
HSK-M-*-Ex, HSK-INOX-*-Ex	M 25 x 1,5	PG 21	NPT 3/4"	10 – 16	12
	M 25 x 1,5	PG 21	NPT 3/4"	13 – 18	12
	M 25 x 1,5	PG 21	NPT 3/4"	14 – 18	12
	M 25 x 1,5	PG 21		9 – 16	12
	M 32 x 1,5	PG 29	NPT 1"	13 – 20	15
	M 32 x 1,5	PG 29	NPT 1"	20 – 25	15
	M 40 x 1,5	PG 36		20 – 26	15
	M 40 x 1,5	PG 36		22 – 32	15
	M 40 x 1,5	PG 36		24 – 32	15
	M 50 x 1,5	PG 42		25 – 31	24
	M 50 x 1,5	PG 42		28 – 31	24
	M 50 x 1,5	PG 42		32 – 38	24
	M 63 x 1,5	PG 48		37 – 44	30
	M 63 x 1,5	PG 48		29 – 35	30
	M 63 x 1,5	PG 48		32 – 35	30
	M 16 x 1,5	PG 11		5 – 10	11
		PG 13,5		7 – 12	12
	M 20 x 1,5	PG 16		10 – 14	13
HSK-M-EMV-D-Ex	M 25 x 1,5	PG 21		13 – 18	15
	M 32 x 1,5	PG 29		18 – 25	17,5
	M 40 x 1,5	PG 36		24 – 32	25

Series	Connection Thread Metric	PG	NPT	Number holes x d / B x H	Torque [Nm] Dome Nut / Body / Lock Nut
	M 16 x 1,5	PG 9	NPT 3/8"		5
		PG 11			6
	M 20 x 1,5	PG 13,5	NPT 1/2"		8
HSK-M-Multi-Ex	M 20 x 1,5/16	PG 16		valide for	10
HSK-M-Flaka-Ex	M 25 x 1,5	PG 21	NPT 3/4"	all drilling	12
	M 32 x 1,5	PG 29	NPT 1"	patterns	15
	M 40 x 1,5	PG 36			15
	M 50 x 1,5	PG 42			24
	M 63 x 1,5	PG 48			30

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

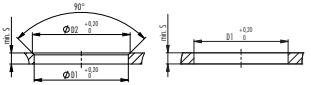
Installation conditions - general

Be sure to check the products for proper working order (integrity) before mounting them. Only qualified personnel (electricians) may carry out installations, using suitable tools. The products must be used as delivered, no modifications permitted. To prevent accidental loosening, use a lock nut or suitable safeguard adhesive. As the tightening torques depend on the cables used, it is the user's responsibility to determine the appropriate torque in each case. Both the gland screw and the cap nut must be properly tightened. Note that undertightening or overtightening the connecting thread or the cap nut may adversely affect the type of protection, the tightness and / or the strain relief.

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:	If an EMC connection of the device / cable gland is provided, the housing material must consist of conductive material. If this conductive material is coated with a non-conductive material, a special EMC lock nut must be used. There are no further restrictions of 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.

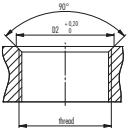
Installation conditions - through hole

The cable gland must be fixed with a lock nut



Installation conditions - thread

For all thread sizes the thread tolerance is 6g



Thread	D1	D2	S
M6x1	6	7,3	2,5
M8x1,25	8	9	2,5
M10x1,5	10	10,4	2,5
M12x1,5	12	13	2,5
M16x1,5	16	17	2,5
M20x1,5	20	21	2,5
M25x1,5	25	26	2,5
M32x1,5	32	33	2,5
M40x1,5	40	41	2,5
M50x1,5	50	51	2,5
M63x1,5	63	64	2,5
M75x1,5	75	76	2,5
M80x2	80	81	4
M90x2	90	91	5
M100x2	100	101,3	5
M110x2	110	111	5

Thread	D1	D2	S
Pg7	12,7	13,2	2,5
Pg9	15,4	15,9	2,5
Pg11	18,8	19,3	2,5
Pg13,5	20,7	21,2	2,5
Pg16	22,8	23,3	2,5
Pg21	28,6	29,1	3
Pg29	37,4	38,4	3
Pg36	47,5	48,5	3
Pg42	54,5	55,5	3
Pg48	59,8	60,8	3

Thread	D1	D2	S
NPT 3/8"	17,3	18	4
NPT 1/2"	21,1	22	5
NPT 3/4"	26,7	27,5	4
NPT 1"	34,3	35	4
NPT 1 1/4"	41,9	42,5	5
NPT 1 1/2"	48,8	49,5	5
NPT 2"	61,1	62,0	5
NPT 2 1/2"	74,0	76,5	6
NPT 3"	89,8	92,5	6

D1: through hole
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.

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
- DMT 03 ATEX E 051X
- IECEx BVS07.0019X
- Ⓔx II 2G Ex eb IIC Gb / II 1D Ex ta IIIC Da
- Type and connecting thread size
- CE-mark incl. ID number of notified body (only on packaging)
- -20 °C – +95 °C
- Clamping range (only on packaging)
- CSA 19.80011196X (only on packaging)

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 or metal-plated polyamide
Gasket and O-ring:	NBR (nitrile-butadiene rubber)
Multiple sealing insert:	TPE (thermoplastic elastomer)
Flat-cable sealing insert:	TPE (thermoplastic elastomer)

The materials used are suitable for „industrial environments“, i.e. exhibit good to very good resistance against mineral oils in the temperature range cited. Applications over and above these must be discussed with the manufacturer.

Maintenance

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

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).

Installation instructions (only for glands with multi-hole inserts)

The cable diameter may be up to 20 % (but no more than 1 mm) smaller than the bore diameter. As a rule, all openings must be closed.

Installation instructions (only for glands with flat-cable inserts)

The clamping range of the cable used may not deviate from the manufacturer-specified minimum values by more than 1 mm in length and 1 mm in width. The geometries of the cable and the insert hole must be compatible (semicircular or straight at the sides). When using flat-cable inserts with unilateral slits, it is permitted to remove the insert from the gland and reinstall it with the cable fitted.

Should you have further questions, please contact the manufacturer.

ENGLISH

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, HSK-INOX-*-Ex
Certified in Type Examination certificates	DMT 03 ATEX E 051X
Issued by notified body	DEKRA Testing and Certification GmbH Dinnendahlstraße 9 44809 Bochum / Germany
ID number	0158
Following standards are applied	
DIN EN IEC 60079-0 : 2019	Electrical apparatus for potentially explosive atmospheres – General requirements
DIN EN IEC 60079-7 / A1:2018	Electrical apparatus for potentially explosive atmospheres – Increased safety „e"
DIN EN 60079-31 : 2014	Electrical apparatus for use in the presence of combustible dust, Electrical apparatus protected by enclosures – Construction and testing
DIN EN 60529 : 2014	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

Denzlingen, July 2021