GENERAL

These operating instructions conform to:

- *Technical requirements for equipment and protective systems intended for use in potentially explosive atmospheres **(2014/34/EU)**.*

SAFETY INSTRUCTIONS AND UNSUITABLE USE

- Cable gland type "S" **shall not be used** for sealing of cables with **metal sheaths** and **mineral insulation** and cables with indication of "**cold flowing**".
- Cable glands **in Ex "d"** design may be used for **direct entry** to flameproof enclosure only under conditions according to **EN 60079 -14**!
- Only **one thread adapter** may be used for **one cable gland**!
- Cable glands with a **blue surface finish** are intended for **intrinsically safe circuits** only!!
- Use only **original sealing rings** and **flat gasket** supplied by manufacturer.
- Hole for cable gland must be always perpendicular to enclosure!
- Storage, transport, mounting, installation, inspection and preventive maintenance, repairs and service shall be executed according to following instructions.

1. USE

Cable glands type "S" (threaded) are designed for explosion-proof electric equipment of group I and II with type of protection Ex d, Ex e, Ex tb.

Cable glands type "S" are used to ensure sealed entry of thermoplastic, thermoset and elastomeric cables that are properly round and compact, with inserted filling and the filling material (if used) is not hygroscopic.

For the concrete cable diameter it is necessary to use the corresponding size of the sealing ring in the gland (see tab. 2.2). As cable glands are equipped with fixing device (strap) preventing transmission of cable tension and torsion to electrical connections inside the enclosure, they can be used for fixed installations as well as for connection of flexible cables at mobile equipment.

2. TECHNICAL DATA

2.1 General

Name		Data	Standard, note
Type of protection	.ST.d	**Ex d I Mb** **Ex d IIC Gb** **Ex tb IIIC Db**	EN 60079-0 EN 60079-1 EN 60079-31
	ST.e	**Ex e I Mb** **Ex e IIC Gb** **Ex tb IIIC Db**	EN 60079-0 EN 60 079-7 EN 60 079-31
Ingress protection		IP 68, 10 bar / 1hod.	EN 60 529
Group and category		**I M2, II 2G, II 2D**	EN 60 079-0
Certification		**FTZÚ 02 ATEX 0266**	**FTZÚ NB 1026, CZ**
Material	.STO.	steel 11 140	nickel plated
	.STM.	brass 42 32 23	nickel plated
	.STN.	stainless steel 17 027	
Service temperature		-60°C to +115°C	

2.2 Table of sealing rings and tightening torques

Sealing ring dimension	Colour	Sealing diameter [mm]	Tightening torque [Nm]
8	green	6 – 8	3,7
10	red	8 - 10	3,9
12	blue	10 - 12	4,2
14	yellow	12 - 14	4,3

2.3 Tightening torque of cable gland body: 5 Nm

2.4 Type code

M.. S T M d 12

5. Max. cable diameter (sealing ring dimension)

4. Ex design
d – flameproof enclosure Ex „**d**" and increased safety Ex „**e**"
e – increased safety Ex „**e**" only

Material
M – nickel-plated brass
O – nickel-plated steel
N – stainless steel

3. Design
T – with strain relief

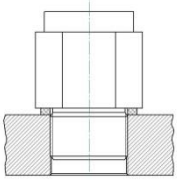
2. Type marking

1. Thread type and size:
M - metric (ISO)
P – armoured (DIN 40430)
G – pipe (ISO 228-1)
R – taper pipe (ISO 7-1)
NPT - american pipe (ANSI B1.20.1)

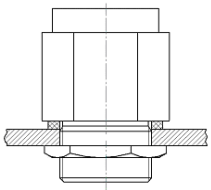
3. INSTALLATION INSTRUCTIONS

Screw the cable gland body into a **threaded hole** in the enclosure. Prior to mounting, **ensure** that the **cable gland thread match the thread of enclosure** or apparatus. Check that both threads are **clean and not damaged**. When you use the cable gland in Ex d design for **direct entry** into a flame proof enclosure, cable gland and enclosure thread forms **threaded joint**. Type, size, accuracy and length of threaded hole shall comply with **EN 60079-1**.

In case of enclosure with **thin wall** or with **throw hole** (applicable for Ex e or Ex t enclosure design only), a **counter nut** shall be used.



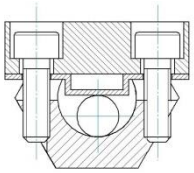
Mounting into threaded hole



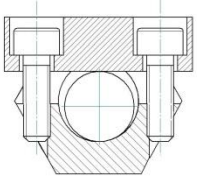
Mounting into through hole

After proper tightening of the gland body by the prescribed torque (see point 2.3), release the cable gland screw and fixing strap as much as possible but without disconnecting it. Than put the cable through the cable gland and properly tighten the cable gland screw by the tightening torque as specified in the table 2.2.

Finally fix the cable against **pulling out** by screwing down of two screws on the fixing strap. For cable glands with sealing rings 6 to 8mm or 8 to 10mm it is necessary to use an auxiliary stainless steel strap supplied with the cable gland. Than fix the cable between the cable gland strap and auxiliary strap – see picture below.



Fixing of cable with diameter up to 10mm



Fixing of cable with diameter above 10mm

Each **cable gland seals** only a **certain range of cable diameters**, according to sizes of exchangeable sealing rings (see tab. 2.2). The sealing range can be found on the sealing ring. There is a pair of stainless steel washers with the corresponding size on both sides of sealing ring.

Unused holes and shall be **closed by** certified **plugs** that comply with the explosion proof design and required degree of protection.

In case of **different type or size** of entry hole on the enclosure, it is possible to use adequate explosion proof **adapter**.

For mounting of adapters and plugs apply in the adequate scope the same procedures as prescribed for cable glands.

4. USE ACCORDING TO VALID REGULATIONS

A decision about use of explosion proof cable glands type S in explosion proof electric equipment shall be in compliance with above mentioned technical conditions (point 2), local operating regulations, EN 60 079-14 and other valid regulations.

5. INSPECTION AND PREVENTIVE MAINTENANCE

Inspection and preventive maintenance of electrical device is defined in **EN 60 079-17**, unless it is defined otherwise by a notice, local regulations etc.
All parts of cable glands "S" are protected from **self-loosening** thanks to their design. Tests on vibrations (external influence AH1, 2, 3 acc. to IEC 60364-5-51) in relation to classes of climatic conditions acc. to EN 60721-3-3 and EN 60721-3-4 are not however performed. That is why, **we recommend within inspections check proper sealing of cables.** Check visually or by using a tool (spanner) proper tightening of both threads.
In case of **mobile equipment**, we recommend carry out inspections at least **2-times a year** according to EN 60079-17.

6. REPAIRS AND INSPECTIONS, SERVICE

Repairs and major inspections of explosion-proof electrical devices are defined in EN 60079-19.
All parts of cable glands "S" are considered as unrepairable parts and must be replaced when damaged.
Within each removing of cable gland from enclosure it is necessary to use new original flat gasket before mounting!

7. STORAGE, PACKING AND TRANSPORT

Cable glands are **stored** at ambient temperature from +5°C to +40°C, in non aggressive interior rooms without UV radiation and weather conditions, where the quality does not deteriorate (climatic conditions 1K2, biological conditions 1B1, chemical active compounds 1C2, mechanically active compounds 1S1 and mechanical conditions 1M2 according to EN 60721-3-1).
Cable glands are **packed** in protective foils and supplied in carton boxes (bigger boxes can be attached to pallets).
Transport is ensured by **express transport company within 24 hours, or according customer's wish. It is** also possible to cash on delivery.
Transport conditions according to EN 60721-3-2 are 2K2, 2B1, 2C2, 2S1, 2M2.

8. DELIVERY TERMS

Price of goods, delivery terms, methods of payment and transport are mentioned in a purchase contract which is sent by the sales department after receiving of purchase order. If it is not specified otherwise in the contract, a standard warranty 12 months for goods is provided.

9. SPARE PARTS

- **Sealing rings**:

Ordering code	Sealing range [mm]	Colour	Note
STd-08-SILICONE	6 – 8	green	+ 2x washer + auxiliary strap
STd-10-SILICONE	8 – 10	red	+ 2x washer + auxiliary strap
STd-12-SILICONE	10 – 12	blue	+ 2x washer
STd-14-SILICONE	12 - 14	yellow	+ 2x washer

- **Flat gaskets** for cable glands with cylindrical thread
  - specification according to cable gland type

10. PRODUCT DISPOSSAL

Useless products should be disposed in accordance with valid regulations.
!!! All parts may produce harmful exhalations during combustion!!!

11. SUPPLIED DOCUMENTS

- EU declaration of conformity,
- These operating instructions including of warranty
- Delivery note

Certificate is available on www.generi.cz or on request.

WARRANTY

Product type	Quantity [pcs]
Reference number:	

WARRANTY

You are provided with a warranty for a period of 12 months (if it is not specified otherwise in the purchase contract) valid from the day the product was handed over. We guarantee quality of work and material. Despite this, faults unidentifiable in the manufacturing plant may occur due to storage, during transport or use. If they were caused by faulty material or production, we shall restore the product to a trouble-free state at our own costs. The warranty does not apply to defects resulting from mishandling or mechanical damage and not following instructions for assembly and maintenance.

FINAL INSPECTION

Authorized person:	Result: **OK**	Stamp and signature:

ISO 9001

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WE WISH YOU MAXIMUM SATISFACTION WITH OUR PRODUCTS AND SERVICES

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