

 **WHITE PAPER****THREADLESS CABLE GLANDS**

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When electrical cables need to pass through an enclosure, such as in control panels, cable glands are used. They protect both the cable and the interior of the enclosure from mechanical stress and external influences.

In addition to the traditional threaded variants with lock-nuts or threaded holes, threadless cable glands are now available on the market. Discover the benefits they offer in this white paper.



## » What are cable glands, and what are they used for?

Cable glands are an essential part of the cabling process, particularly in plant engineering as well as machine and panel building. They are used wherever an electrical cable needs to pass through a panel, junction box or other enclosure. Glands provide a secure and tight connection between the cable and the enclosure wall, protecting the interior from dust, moisture and other external influences. Depending on the design, they can also provide grounding, kink protection, torsion protection, or strain relief for the cable.

The European standard EN 62444 specifies metric threads for cable glands, with threads ranging from 6 to 110 millimetres. Additionally, PG cable glands with steel conduit threads and, particularly in America, self-sealing NPT threads are also used. They are typically made from materials such as brass, stainless steel or plastic polyamide, depending on the application requirements they have to meet. For example, brass glands can prevent electromagnetic compatibility (EMC) problems, while stainless steel variants are preferred in rugged or hygienic applications such as food production.



## » What are the disadvantages of conventional cable glands?

Traditionally, cable glands are mounted on enclosures in two ways: either through threaded holes in the enclosure wall or by attaching a locknut to the rear. However, both methods have their disadvantages. Threaded holes require more assembly work and can be difficult or

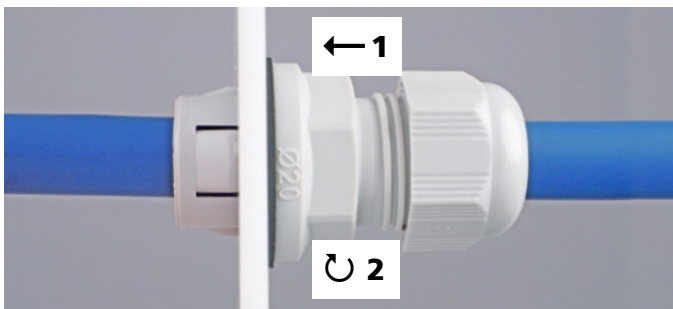
impossible to achieve on thin walls. On the other hand, using a locknut assumes that the interior of the enclosure is accessible for mounting and has sufficient space. This is often not the case or can only be achieved with considerable effort.

## » How do threadless cable glands work?

Threadless cable glands avoid the conventional connection techniques of threaded holes or locknuts. Instead, they feature a spring-loaded, snap-in system that simply needs to be pushed into the panel or enclosure opening for installation. The fitting can then be locked in place by tightening the gland clockwise. No installation tools are required, and hand tightening alone provides the same level of anti-rotation protection as nut or tapped hole versions. This simple technique allows threadless cable glands to be fitted into hard-to-reach areas or where space is limited.

Special tools are available for dismantling cable glands. For example, a ring-shaped tool with the same diameter as the gland's snap-in system can be used to release it quickly and easily. However, the inside of the enclosure must be accessible. The gland and wall will not be damaged. Unused glands can also be fitted with a plug to prevent ingress of dust or moisture.

Typically manufactured from polyamide, these cable glands are available in a range of clamping ranges. They can be installed securely and tightly from a wall thickness of 0.5 millimetres. The material easily withstands operating temperatures between -20 and +100 degrees Celsius. The short installation time and the absence of tapped holes or locknuts offer users significant cost-savings potential.



## » The Advantages of Threadless Fastenings at a Glance:

- Easy tool-free installation
- No threaded holes or locknuts required
- Secures just as tightly as a threaded fastening
- Suitable for hard-to-reach places and confined spaces
- Quick disassembly without damaging the fastening element or wall
- Usable in wall thicknesses as low as 0.5 millimeters

## » Conclusion

Threadless cable glands offer several advantages over traditional locknut or tapped hole cable glands: installation is much easier, quicker and requires no tools. They are also easy to use in confined spaces and hard-to-reach areas. Users don't have to compromise on function when compared to threaded fasteners; the innovative fastening system ensures a secure fit and anti-rotation protection. This makes threadless cable glands particularly attractive for panel building, allowing users to save time and money.

With the HELUTOP Easy product range, HELUKABEL offers threadless cable glands with clamping ranges from 5 to 21 millimetres. These have VDE approval in accordance with DIN EN 62444, the standard that defines all requirements for the construction and design of cable glands. Furthermore, they are UL-approved according to making them ideal for companies that export and want to minimize inventory by using components with multiple approvals. The housing is also certified to IP66/IP68, providing reliable protection against foreign objects and liquids. HELUKABEL also provides the appropriate tools for easy and damage-free disassembly of the cable glands.

## » CONTACT

Please do not hesitate to contact us for further information.



### **Our contact person**

#### **Susanne Tabler**

Head of Cable Accessories

Phone: +49 7150 9209 760

[accessories@helukabel.de](mailto:accessories@helukabel.de)