SPOTLIGHT ON EMC

A safe, reliable solution

Reliably protect applications with EMC cable glands

PFLITSCH
Passion for the best solution

When safety is at risk
Incalculable damage due to a lack of EMC shielding

The growing depth of automation, new modes of power generation, electromobility and the number of sensitive electronic systems being installed today **heighten the risk of interference** from electrical or electromagnetic effects. As a result, it is increasingly important that components have electromagnetic compatibility (EMC) built into them.

While there is a basic awareness of this issue out in the field, standard solutions with absolutely no form of EMC shielding are still frequently being used in everyday production, despite the **high safety risks** involved. This turns EMC into a game of pure chance.

Interference slows your processes

If an electromagnetic disturbance does then occur, the damage caused by the ensuing downtime and associated loss of production is incalculable. Subsequent troubleshooting can become a **time-consuming and costly** affair. And the resulting damage is then no longer in proportion to the cost savings gained from using a standard solution without EMC shielding.

Get it right from the start
Safe solutions for effective EMC shielding

If you want to rule out this risk from the outset, there is only one solution: **do everything right from the start** – with EMC solutions from PFLITSCH.

For this purpose, we offer a tiered portfolio of **reliable EMC solutions** for a range of applications from maximum signal reliability to demanding hygiene requirements and vibration-proof systems.

The key to maximum EMC protection is the **unique patented TRI spring** of the PFLITSCH series blueglobe TRI and UNI Dicht TRI series. By means of a secure, large-area and low-impedance 360° contact to the cable shield, it achieves attenuation and above-average current carrying capacity.

We're totally convinced of the quality and reliability of our EMC solutions. That's why we promise you **certified safety** and the highest possible EMC protection **with PFLITSCH GUARD**.

Easy to assemble rather than complicated to install

Depending on its design, installing an EMC cable gland can be very time-consuming – but it doesn't have to be. That's because PFLITSCH EMC cable glands offer a **user-friendly and efficient** route to success. Thanks to the TRI spring technology, the blueglobe TRI and the UNI Dicht TRI in particular are exemplary in this respect, with their dependable and exceptionally **quick and easy assembly**.

Find out what advantages the TRI spring system from PFLITSCH offers in detail and how easy and safe the time and cost-saving installation of an EMC cable gland with TRI spring works.

Choosing PFLITSCH EMC solutions pays off in two different ways: On the one hand, you minimise the risk of production outages, and on the other, you reduce the amount of time and effort required for installation.

Every sector has its own requirements PFLITSCH has the right EMC solutions for all of them

EMC solutions from PFLITSCH have proven themselves time and again in the **most demanding of sectors**, such as electromobility, the railway, robotics and automation industries, as well as the chemical, food, pharmaceutical and telecommunications industries. They meet the highest requirements for screening attenuation and impress with their ease of installation.

EMC protection for all applications – including those you haven't even begun to think about

EMC cable glands can be deployed practically anywhere – which is why our solutions are designed for any application, no matter how unique. **Outstanding attenuation values** are required wherever interference signals resulting from electromagnetic coupling can impair the transmission of sensitive data and such data must be protected, e.g. in the fields of measurement and radar technology, drive-train and control technology, and telecommunications.

A high current-carrying capacity is necessary if high current levels flow through the shielding braid of the cable and they are to be reliably discharged at the machine enclosure. The causes of unwanted, induced shield currents are manifold and difficult to predict. This is why it's vital that the current-carrying capacity is also taken into account when designing EMC-compliant systems. This property is increasingly growing in importance, and not just thanks to the expansion of e-mobility.

Securely protect any application

Furthermore, there are application areas in which, in addition to the central EMC properties, **additional demands for safe and reliable operation** are made on the cable gland. In addition to strain relief, bending protection and tightness, this applies above all to vibration resistance. Especially in automotive engineering and the railway and shipping industries, great importance is attached to systems that operate reliably despite being exposed to high levels of vibration.

One crucial criterion for the quality of an EMC cable gland is of vital importance across all industries and application areas: **ease of installation**. It contributes greatly to process reliability and cost-effectiveness, as quick and simple installation saves time and money.

Satisfy the highest standards of EMC
With PFLITSCH'S blueglobe TRI cable gland

What you require

» To protect electrical systems such as frequency converters, measuring instruments or electric drives against electromagnetic interference signals

» To satisfy the highest requirements for screening attenuation and current-carrying capacity of the EMC cable glands used

» To have solutions that are easy to install and durable

Our product solutions

» blueglobe TRI cable gland – the all-round solution for the highest as well as individual EMC requirements

» Durable 360° contact with the cable shield over a large area thanks to the patented triangular spring for exceptional attenuation properties

» Also in the upper frequency range
› Even with out-of-round and off-centre cables
› Even when subject to vibration
› Very high current-carrying capacity for reliable discharge of undesirably high shield currents

» Great economy thanks to simple, fast and reliable installation that saves time and costs

» Having to strip the cable sheath only at the actual contact point means shielding can be continued uninterrupted

» TRI spring makes it possible to easily correct the positioning of the cable during installation

» Large screening and sealing range can be covered with just one cable gland size

» Certified in accordance with fire protection standard EN 45545

Cat 8.2 – Unique in the marketplace
The blueglobe TRI's success in passing the Cat 8.2 test is confirmation of its quality, especially when it comes to cable shield contacting.

blueglobe TRI

Contact	Stainless steel/bronze TRI spring
Gland body	Nickel-plated/chrome-plated brass, stainless steel
Sealing insert	TPE, silicone
Temperature range	–40 °C to +130 °C (TPE) –55 °C to +200 °C (silicone)
Type of protection	IP 68 up to 15 bar, IP 69, Type 4X
Connection thread	M12 to M85, M18 to M72 (Marine)
Sealing range (min./max.)	5.0 mm to 77.0 mm
Screening range	3.0 mm to 58.0 mm

Find out more about the blueglobe TRI

UNI Dicht TRI

Contact	Stainless steel TRI spring
Gland body	Nickel-plated brass, stainless steel
Sealing insert	TPE, silicone
Temperature range	–40 °C to +130 °C (TPE) –55 °C to +200 °C (silicone)
Type of protection	IP 68 up to 10 bar, Type 4X
Connection thread	M16 to M25
Sealing range (min./max.)	4.0 mm to 20.5 mm
Screening range	3.0 mm to 17.0 mm

Find out more about the UNI Dicht TRI

Minimum size, maximum EMC screening attenuation

The PFLITSCH UNI Dicht TRI cable gland

What you require

» Effective screening attenuation and discharge of undesirably high shield currents to protect the electrical components and systems

» EMC cable gland with all-round properties meeting even the highest demands

» Compact dimensions to fit in limited installation space

» Reliable EMC protection even with small shield diameters

» Maximum economy: quick, easy assembly that saves time and costs, with only a few variants but a wide range of applications

Our product solutions

» UNI Dicht TRI cable gland – compact solutions individually assembled from the UNI Dicht modular system, enabling high EMC screening attenuation where installation space is limited

» Durable and low-impedance 360° contact with the cable shield over a large area thanks to the patented triangular spring for exceptional attenuation properties
› Also in the upper frequency range
› Even with non-round and off-centre cables
› Even when subject to vibration

» Very high current-carrying capacity for reliable discharge of undesirably high shield currents

» Impressive economy thanks to quick, simple and error-free assembly that saves time and costs

» Since the cable is only stripped at the contact point, the shielding can be continued uninterrupted

» TRI spring allows the positioning of the cable to be easily corrected during installation

» Mechanical separation between strain relief and screening

» Large screening and sealing range can be covered with just one cable gland size: the available sizes M16 to M25 achieve shield contacting right up to the last 3 mm. This is especially important with regard to connectors and sensors.

» Anti-twist protection for the cable when the pressure screw is tightened

» UL approval

EMC protection under the toughest conditions

With the PFLITSCH UNI EMC Dicht cable gland

What you require

» Extremely robust cable glands for the railway industry – e.g. for jumper systems for transmitting power, signals and data between the cars of high-speed trains

» Effective EMC shielding and reliable fire protection even under high dynamic loads

Our product solutions

» The UNI EMC Dicht offers highly resistant and durable EMC shielding

» Reliable bonding is ensured by pressing together the braided shield between a pair of cones

» High screening attenuation and current-carrying capacity even under heavy vibrations, as long as the cable shield is carefully laid between the cone plates during assembly

» Wide range of potential applications thanks to various certifications:
› Designed in accordance with DIN 89280
› DNV approval for the maritime sector
› Certified in accordance with fire protection standard EN 45545 for the railway industry

UNI EMC Dicht

Contact	Nickel-plated brass double cone
Gland body	Brass, nickel-plated
Sealing insert	TPE-V
Temperature range	–40 °C to +135 °C
Type of protection	IP 68 up to 10 bar
Connection thread	M16 to M63, M18 to M72 (Marine) Pg 9 to Pg 48
Sealing range (min./max.)	4.0 mm to 56.0 mm
Screening range	1.0 mm to 51.0 mm

UNI Interference Suppression Dicht

Contact	Nickel-plated brass cone
Gland body	Brass, nickel-plated
Sealing insert	TPE, TPE-V, silicone
Temperature range	–40 °C to +130 °C (TPE) –40 °C to +135 °C (TPE-V) –55 °C to +200 °C (silicone)
Type of protection	IP 68 up to 10 bar, Type 4X
Connection thread	M10 to M50, Pg 7 to Pg 36
Sealing range (min./max.)	4.0 mm to 32.0 mm
Screening range	1.0 mm to 29.0 mm

Multipurpose EMC shielding
The PFLITSCH UNI Interference Suppression Dicht cable gland

What you require

» You require large quantities of cable glands for installation in different applications

» System of cable glands with a compact design for a universal range of applications

» Solutions with a convincing price-performance ratio

Our product solutions

» The UNI Interference Suppression Dicht from PFLITSCH offers an attractive price-performance ratio

» Ideal basic EMC solution for high-volume installation

» Compatibility with the modular UNI Dicht system makes this system suitable for a wide range of applications, while it also covers a large contact area – even with a large connection thread, a thin cable can still be securely and reliably connected

» Compact dimensions for installation in confined spaces

» Preferred fields of application are the electrical industry in general, automation and robotics

The EMC solution for multiple cable feed-ins

The PFLITSCH UNI Dicht Multiple TRI cable gland

What you require

» Efficient and space-saving feed-in of multiple cables into an enclosure

» Reliable discharge of interference signals as the cable enters the enclosure

» Quick and easy assembly of the cable gland

Our product solutions

» The PFLITSCH UNI Dicht Multiple TRI is the only EMC cable gland available on the market for feeding in multiple shielded cables

» Feed-in of the cables takes up a minimum of space, with triangular springs ensuring secure, reliable bonding of each individual cable shield

» High screening attenuation and current-carrying capacity

» Quick, easy and reliable assembly:
  › Strip the cables
  › Feed the cables through the cable gland
  › A triangular spring wraps itself tightly around the shielding braid to ensure high-quality shield bonding

» The interlocking knurling of the double nipple and sealing insert prevents the cables from twisting when the pressure screw is tightened

» Excellent fundamental features such as strain relief up to Class A and protection rating IP 65 or IP 68 up to a pressure of 10 bar as long as the cable's cross-section is the same as the diameter of the hole

UNI Dicht Multiple TRI

Contact	Stainless steel TRI springs
Gland body	Brass, nickel-plated
Sealing insert	TPE
Temperature range	–40 °C to +130 °C
Type of protection	IP 65, IP 68 up to 10 bar
Connection thread	M25 to M63, Pg 16 to Pg 48

EMC adapter

Contact	Stainless steel TRI spring
Adapter	Brass, nickel-plated
Connection thread	M12 to M63

The EMC upgrade for standard cable glands
The PFLITSCH EMC adapter

What you require

- Upgrade of an existing standard cable gland to give it EMC shielding
- A quick and cost-effective solution instead of having to replace the complete cable gland
- If protection against contact is required, a plastic cable gland must be used
- The cable shield should be applied as it enters the enclosure, so that any interference is discharged immediately to prevent damage to the enclosure

Our product solutions

- The PFLITSCH EMC adapter with TRI spring is the perfect solution for upgrading standard cable glands without EMC shielding
- It can be used as an adapter or a locknut
- Even a plastic cable gland can play its part in creating an EMC-compliant installation with the help of the EMC adapter
- When combined with an EMC cable gland, the EMC adapter increases screening attenuation and the current-carrying capacity by doubling the bonding surface of the cable shield
- The split version of the EMC adapter enables quick and easy shielding of already installed or pre-assembled cables without having to disassemble the cables

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