



PFLITSCH

CUSTOMER MAGAZINE

Issue 01-2020

**Trunking assemblies
for greater efficiency**

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**PFLITSCH innovation
combines cable gland
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Editorial

Dear Customers, Business Partners and Friends,

The situation we find ourselves in today is unprecedented. The coronavirus is forcing us to rethink, to pause and to persevere. Safety has taken on a whole new meaning. Looking ahead is not easy in times of massive restrictions. This is precisely why we are working flat out to strengthen our own competitiveness and that of our partners and customers.

By publishing this with our current customer magazine, we would like to do our bit towards restoring a small amount of normality and give you an insight into our latest developments and showcase our latest products.

We have taken on a genuine pioneering role with our EMC cable glands. We have been working intensively on this currently all-pervasive issue since the 1990s and have developed a wide range of solutions for implementing EMC in line with needs in the field. What EMC products PFLITSCH offers and how they are put to use can be found on pages 4 to 7.

Equally as topical in the industry is the issue of Hygienic Design. As many companies are hesitant to act and risk contamination, we have launched a range of products that has been systematically developed according to the principles of Hygienic Design. By doing so, we are making it easy for our customers to take full account of hygiene right from the planning stage (pages 8 to 11).

One logical consequence of our continuous efforts to expand our portfolio is the new connector cable gland, which is a practical combination of a state-of-the-art cable gland and a highly durable connector. In an interview on pages 14 and 15, our head of product management reveals the background to this product solution.

You'll find all this and much more in this customer magazine. We hope you find it a fascinating read – and stay well!



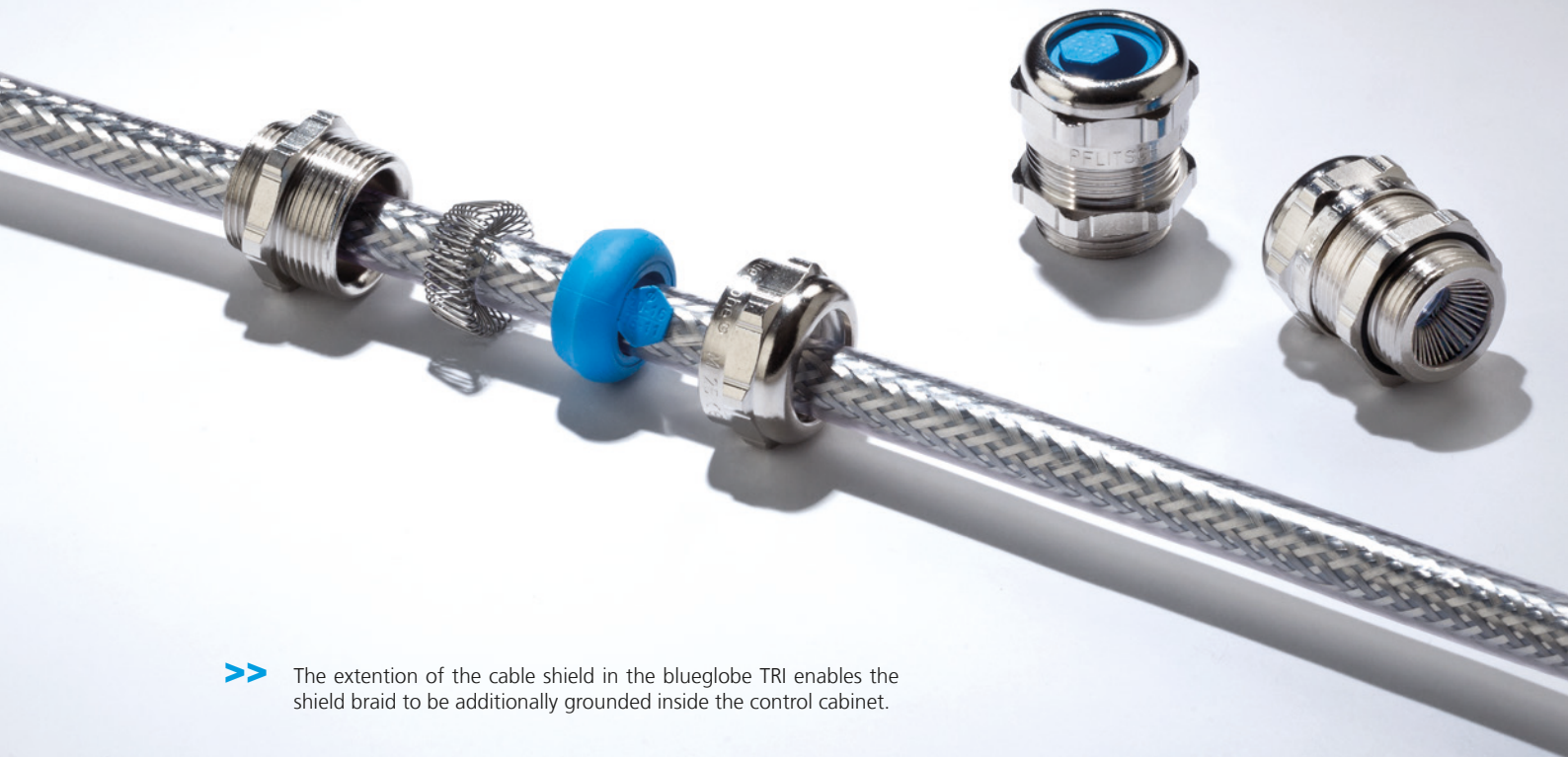
Roland Lenzing



Mathias Stendtkke

Managing Partners
PFLITSCH GmbH & Co. KG

PRODUCTS



>> The extension of the cable shield in the blueglobe TRI enables the shield braid to be additionally grounded inside the control cabinet.

Cable glands for reliable EMC screening concepts

EMC is all about attention to detail

A big crowd gathered for the press conference held on our stand at the SPS fair in Nuremberg. Trade journalists from home and abroad took the opportunity to learn about EMC solutions from PFLITSCH.

The demand is enormous. That's mainly because in addition to umpteen benefits, the increasing depth of automation as well as new forms of power generation and electromobility are also bringing with them a serious problem: undesirable electromagnetic fields. The more complex contemporary industrial and production facilities are, the easier it is for electromagnetic radiation to throw the system out of balance. As a result, electromagnetic compatibility (EMC for short) is becoming more and more important from year to year.

PFLITSCH identified this problem early on and set about expanding its know-how to become a leader in this field.

PFLITSCH is one of the first suppliers to have successfully brought reliable EMC cable glands to market: its UNI Dicht and blueglobe series. For while control cabinets and enclosures offer good shielding properties thanks to their design, cable glands are often the weak spot in the screening. Electromagnetic waves can

simply “slip through” these gaps and interfere with sensitive equipment. Production outages and high downtime costs are the result. It becomes particularly complicated when inexplicable failures arise that did not occur during testing. And one thing’s for sure: measures to subsequently retrofit screening are cost-intensive. With this in mind, PFLITSCH’s motto is “Get it right from the start”.

A science unto itself

PFLITSCH was very quick to set up its own EMC testing laboratory in order to continuously improve the screening properties of its cable glands. Particularly in the event of a malfunction, incorrect installation or a lightning strike, high currents can flow across the cable screen and the cable gland. Power losses at the contact resistance points of a cable gland are also an issue. In tests conducted in the in-house test laboratory, a current is applied to the cable shield and increased up to a maximum of 100 A and the temperature increase in the cable gland is measured up to a limit of +60 °C. In-house investigations show that in the test set-up, the blueglobe TRI generally achieves a higher current-carrying capacity than the shielded cable and thus offers the best possible degree of safety.

Taking screening to the next level

Even during the tests it conducts in-house, PFLITSCH examines machine parts, enclosures and cable trunking as a whole with respect to its EMC concepts. In this way, it is possible to prevent interference radiation from escaping or entering through the glands. This presupposes, of course, the components and screening are properly assembled. PFLITSCH’s designers have taken this aspect into account, too, and developed an innovative contact principle that guarantees high process reliability and reliable screening attenuation properties: a closed spring washer ensures reliable 360° contact of the cable, e.g. with the UNI IRIS cable gland. With this contact principle, significantly higher attenuation levels are achieved compared with conventional shield contacting methods. Another advantage is how much easier these glands are to install. All the user needs to do is remove the cable sheath at the contact point so



that the shielding braid is exposed. With the blueglobe TRI solution, good, reliable contact over a large surface area is made simply by inserting the cable. Even cables that are no longer completely round can be reliably screened.

Simple installation inclusive

A similarly special type of contact element is used in the blueglobe series: the patented triangular spring. This ensures quick installation and also offers the exceptional attenuation properties. The principle behind this design is primarily aimed at achieving user-friendliness. Once the screening braid has been exposed, the cable is simply pushed through the blueglobe TRI. The triangular spring immediately wraps itself around the braid and ensures reliable EMC screening – without even having to tighten the pressure screw. This cable gland is especially innovative because it is the first to mechanically separate the functions of EMC screening and sealing.



blueglobe TRI – high screening attenuation properties and easy to install

Proven performance

The high screening attenuation values have also been confirmed by the accredited testing laboratory GHMT, which has certified the blueglobe TRI according to Cat. 7_A. A wide variety of application examples show how versatile the cable gland is.

For industrial IT applications, for instance, the blueglobe TRI offers great signal reliability with over 80 dB at a frequency of 100 MHz and 65 dB at 1,000 MHz. For the hygiene-sensitive food industry, there is a stainless steel variant of EMC gland: the blueglobe TRI CLEAN Plus. This meets the demanding hygiene standards specified in the EHEDG (European Hygienic Engineering & Design Group) guidelines. PFLITSCH also has a solution that offers additional high-frequency screening attenuation. The special high-frequency version is equipped with two triangular springs positioned one behind the other. This "extension" improves screening attenuation by up to 10 dB.

Tried-and-tested modular principle

The range of EMC cable glands is constantly being expanded to meet customer requirements. One special solution is the EMC adapter. It is used in conjunction with a standard cable gland and is therefore ideally suitable for retrofitting EMC protection. Used as an adapter, even standard and plastic cable glands can be upgraded.

When it comes to miniaturisation, too, PFLITSCH has developed an impressive modular solution. The multiple concept of the UNI Dicht range is employed to simultaneously install different EMC cables. The contact system consists of an individually manufactured metal disc with integrated TRI springs and an annular IRIS spring washer.

PFLITSCH serves a wide range of applications with its UNI Dicht and blueglobe series. A crucial competitive edge in respect of EMC cable glands, a high level of compatibility among the product lines and our own design department ensure ideal screening attenuation values and easy installation – for almost any application.



EMC adapter with excellent screening
attenuation properties



UNI Dicht Multiple TRI connects
multiple shielded cables reliably



Trade fairs in Germany and abroad

SAVE THE DATE

For an overview of the fairs
we will be exhibiting at, go to
www.pflitsch.de



PRODUCTS

Hygienic design

A neat and
clean solution

Salmonella in curry, bacteria in orange juice, cleaning agent residues in milk – week after week, new food-related scandals fill the pages of the internet portal www.lebensmittelwarnung.de hosted by Germany's government. For manufacturers of food and pharmaceutical products, hygiene is an existential issue. That's because any form of contamination and any associated recall is not only expensive, but also a disaster in terms of image loss. Hygienic design is one of the most effective measures when it comes to optimising hygiene.

"We turned our attention to the subject of hygiene very early on and have invested a lot of time and effort. We were the world's first supplier to bring cable glands designed specifically with hygiene in mind to the market.

Thanks to this anticipatory action, we already meet the requirements of tomorrow and are making an important contribution to product safety,"

notes Heiko Emde, manager of the Food & Pharma unit at PFLITSCH. The blueglobe CLEAN Plus is the first all-in-one cable gland that has been developed and certified worldwide in accordance with the stringent EHEDG (European Hygienic Engineering & Design Group) guidelines. It is manufactured without any cavities, gaps or open threads and features clean surfaces, rounded spanner flats on its pressure screw and smooth contours. The gland body is made of either high-quality

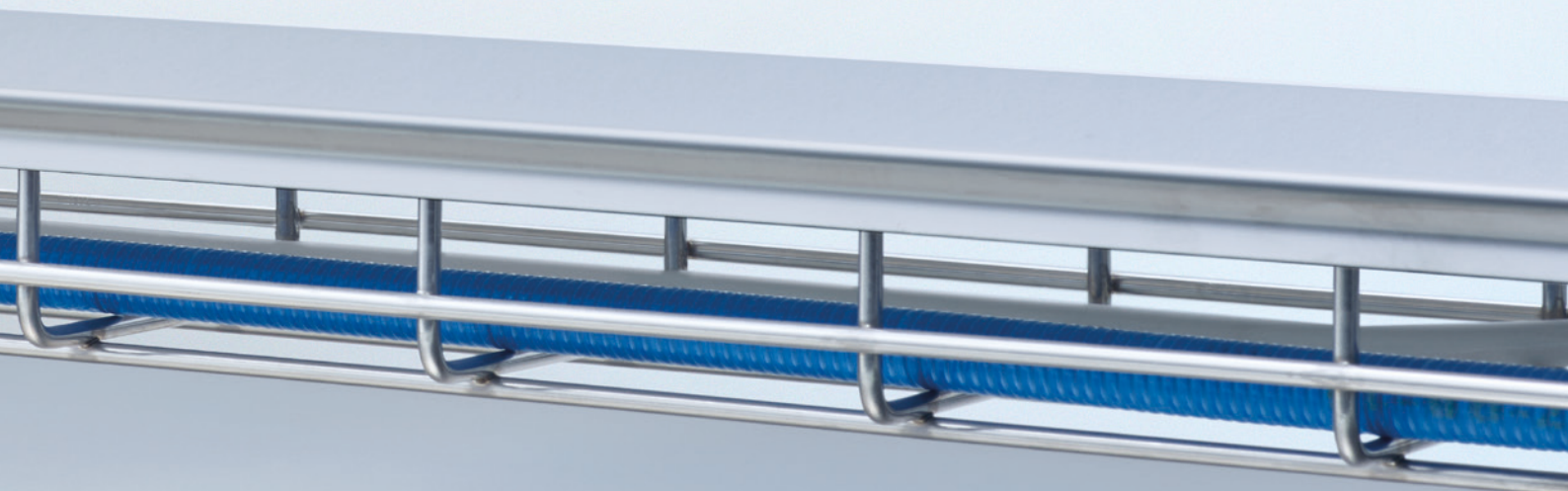
AISI 316L-grade stainless steel or polyamide, both of which have become established materials in the food-processing industry. Unique selling points of the blueglobe CLEAN Plus are its very compact form and low profile and its compliance with the IP 68 and IP 69 protection ratings. For many customers, another deciding factor is that the blueglobe CLEAN Plus has received the "iF DESIGN AWARD" for good industrial design.

Cable routing under the hygiene spotlight

The open Wire-tray Trunking system from PFLITSCH also meets the standards of Hygienic Design. It is made of stainless steel wires, is simple to adapt during installation on-site and is easy to clean during subsequent operation. The extensive range of fastenings, comprising mounting brackets, suspended cable supports, beams, holders, supporting feet and mounting plates, enables hygienic, rational and safe installation in all environments. In demanding environments and hygiene applications, the cable routing solutions can be welded to a machine or system.

Cables can be laid very cleanly in the wire-tray structure and secured spaced apart. This means that fewer dirt traps form and the entire installation can be easily cleaned, even using a steam cleaner. If the Wire-tray Trunking also needs to be protected against liquids dripping from above, a roof-shaped, stainless steel cover can be used.

Continued on next page ►



Highly sensitive power and data cables are neatly inserted into autoVimation's compact stainless steel camera housings through a Hygienic Design cable gland.



Viewed from all angles

When it comes to further developing existing solutions from the point of view of hygiene, PFLITSCH's designers are particularly creative. The most recent example of their development work is the connector cable gland, which was first presented as a prototype at the end of 2019. This combination of a cable gland designed in line with EHEDG specifications and an integrated connector impresses with tight seals and good strain relief. For sensitive areas where hygiene matters, the connector cable gland offers a compact solution that meets customers' needs, satisfies high IP protection ratings and makes for easy handling.

Does what it says on the tin!

Highly renowned businesses, such as Weber Maschinenbau from Breidenbach in central Hesse, have put their trust in the hygienic cable entries from PFLITSCH for their current Slicer cutting machines. It is essential for Weber that all materials used comply with the relevant EU directives.

autoVimation from Karlsruhe likewise relies on PFLITSCH cable glands for its special camera housings for the pharmaceutical and food-processing industry. These glands can be used to reliably feed power and data cables into these sensitive systems.

Drives manufacturer Georgii Kobold, from Horb am Neckar in south-western Germany, also prefers to use PFLITSCH cable glands for their high-quality motors with stainless steel housings. These drives are designed fully in accordance with EHEDG specifications.

Positive feedback such as this is something Heiko Emde often hears: "We sense a high level of awareness in the marketplace. This is directly reflected in increased demand for our Hygienic Design solutions. Our genuine expertise in this field is well received."

**We will also be there
on the rescheduled date!**

EHEDG World Congress

**in Munich, Germany
23/24 June 2021**



Lounges: Hygienic Design on the move

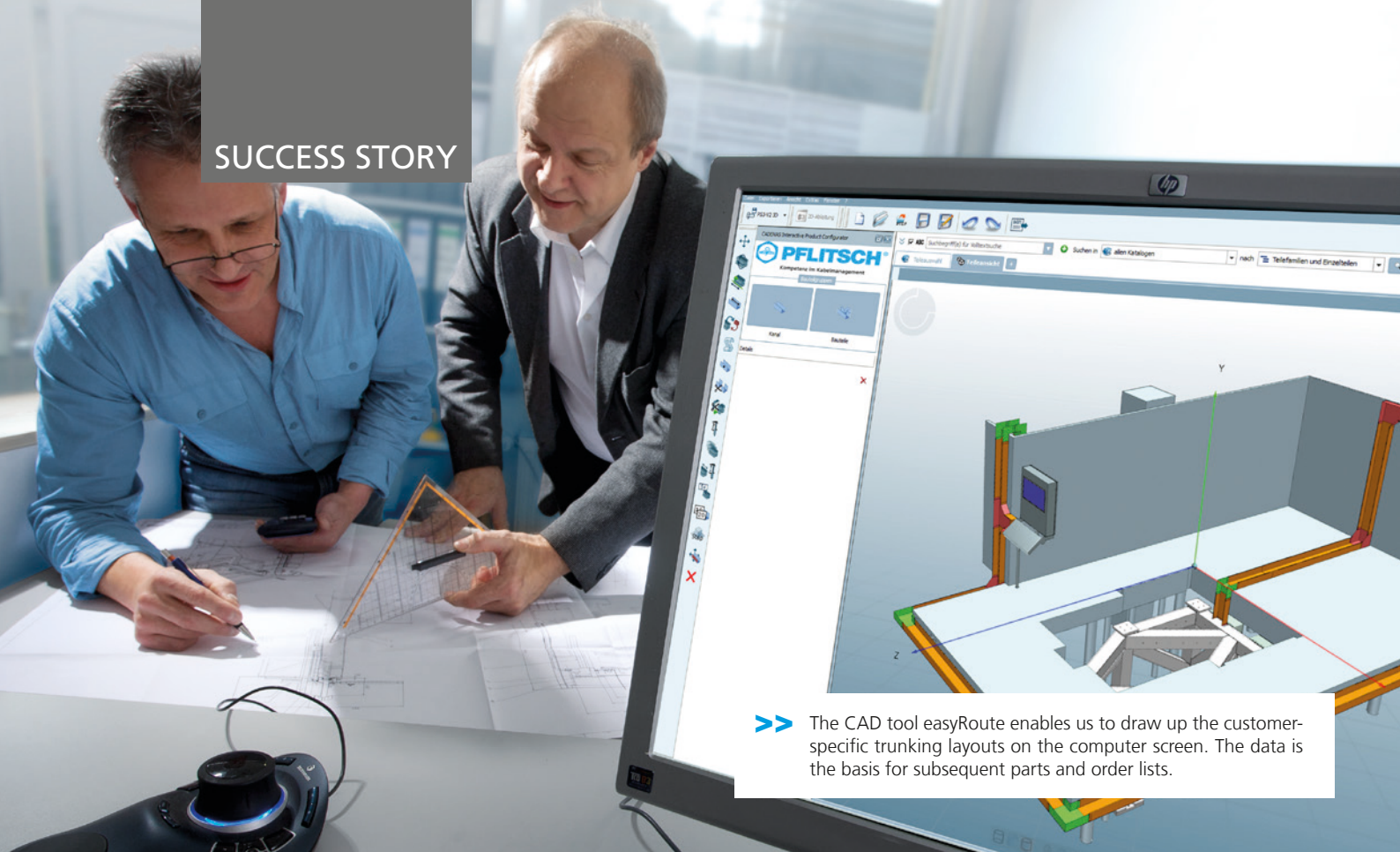
More than 250 lectures, some 200 exhibitors and more than 7,000 fair visitors met up at the end of January 2020 at the Lounges in Karlsruhe, in south-western Germany. PFLITSCH expert Heiko Emde gave a compelling lecture entitled "Hygiene-compliant Cable Management". He sensitised his listeners to how crucial it is to think constructively and he provided an insight into PFLITSCH's solutions to current problems in the field. "As a pioneer and leading provider of HD solutions in the cable management segment, we found the Lounges to be a very good platform for us to communicate our specialist expertise."



EHEDG experts assist legislators, manufacturers and users

The European Hygienic Engineering & Design Group (EHEDG) is a non-profit consortium of machine and component manufacturers, experts from the food industry, research institutes and public health authorities. The organisation was founded in 1989 with the goal of arousing an awareness for the hygienic engineering and design of food-production facilities. PFLITSCH has been a member of this alliance for years and we are officially entitled to call ourselves an "EHEDG Member".

SUCCESS STORY



>> The CAD tool easyRoute enables us to draw up the customer-specific trunking layouts on the computer screen. The data is the basis for subsequent parts and order lists.

Trunking assemblies for greater efficiency

Small outlay, big impact

Custom-made, quickly installed and, at the same time, significantly more cost-effective than conventional solutions – the component assembly service makes cable trunking solutions even more attractive and reproducible at any time. Dorst Technologies, a company with a 400-strong workforce, also appreciates the advantages of these cable trunking assemblies.

Dorst is one of the leading international suppliers of machines for making ceramic and powder-metallurgical products. More than 2,500 customers in over 70 countries trust in the quality of product from this Bavarian mechanical-engineering expert. Dorst systems are used, for example, to manufacture car components, high-quality sanitary products, carbide components for machining, insulators for power distribution equipment and much more. For these products, powder materials are pressed into moulds by means of automatic mechanical, hydraulic or electrical compression moulding machines with pressing forces of 6 to 1,600 t.

► More at www.dorst.de

The ready-made solution

"We are always on the lookout to find ways of increasing efficiency and improving quality," says Josef Schröfele, Project Manager in Dorst's development department. This also applies to the optimisation of cable trunking through what are in part house-high facilities as well as to improvements in the final assembly shop. The decision in favour of the pre-assembled cable trunking systems from PFLITSCH was quickly made. This saves valuable assembly time and space previously used to store trunking components is now available for other uses. "The PFLITSCH system makes a big contribution to increasing efficiency," Schröfele sums up.

Heinz Herchet, who, as Area Sales Manager at PFLITSCH's sales partner Kilian & Gans, looks after Dorst, sees further plus points: "More and more customers are ordering our cable trunking completely pre-assembled instead of modifying and assembling them themselves by hand." Production processes can be better planned and human resources can be deployed elsewhere. Complex prototyping or stockpiling of cable trunking are also unnecessary. What's more, Dorst's purchasing department can also order additional pre-assembled cable trunking, including fastenings, easily and with security of supply.

Cleverly planned and tailored to requirements

The cable trunking is configured using the CAD tool easyRoute, which makes use of a database in which we have entered every component of the PFLITSCH trunking system. The various components are pieced together by this 3D planning tool to build the routing required. "The CAD system makes it possible to insert the planned trunking into the respective machine environment in order to carry out collision checks. With this method we can optimise every detail, no matter how small, so that everything fits perfectly during installation," explains Anton Öttl, Head of Electrical Installation at Dorst. Using the project data, production of the cable trunking assemblies can be reproduced at any time.

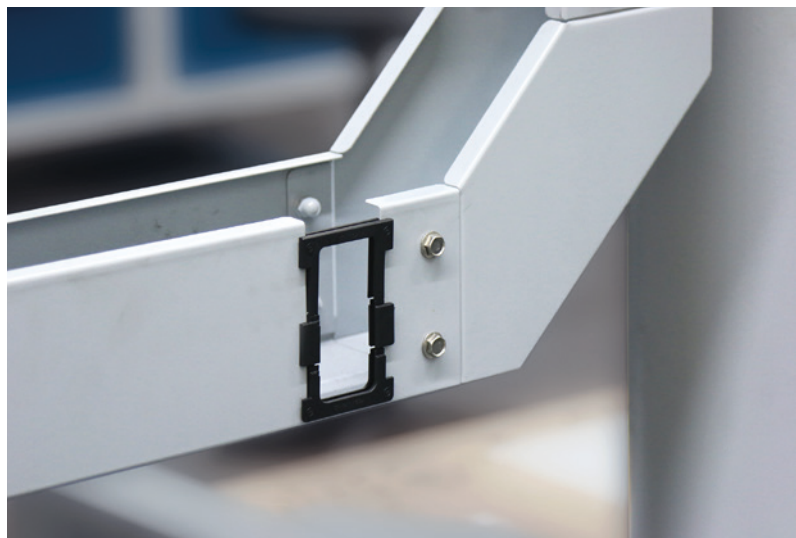
Consistent quality – over and over again

State-of-the-art production facilities are available in Hückeswagen (for more information, see page 18 ff.) in which the individual components are assembled into customised, ready-to-install component assemblies. Customer-specific details such as cut-outs, edge protection and separating walls, as well as equipment details such as cable glands, can be preinstalled on request. PFLITSCH even implements special requests in line with customers' specifications, such as connection of the trunking to the control cabinet or a custom surface coating – in Dorst's case, in medium grey.

The components of the assemblies are pre-assembled in a size suitable for cost-effective transportation. In this way, PFLITSCH makes shipping the assemblies to the customer very simple. The scope of delivery always includes all fastenings. "The components are numbered. That's why assembly works out perfectly," says Öttl. His colleague Josef Schröfele adds: "This keeps our production shop clean, eases our employees' workload and enables us to plan production with cost transparency."

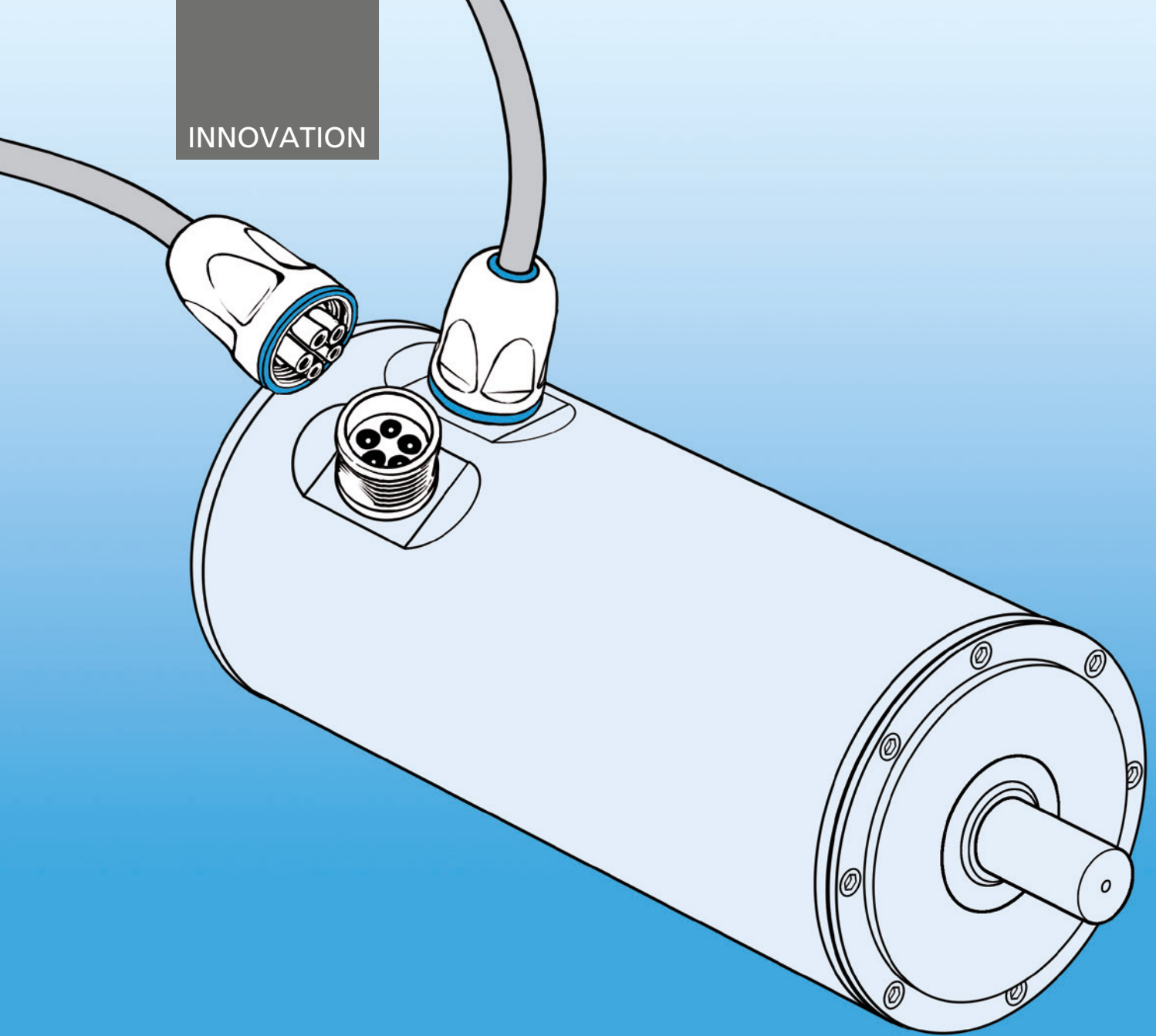
Significant cost reduction

"Our component assembly service makes optimum, high-quality cable trunking possible," emphasises Herchet. "Previous project experience shows that customers can halve the amount of work involved in installing cable trunking. Costs are also reduced, by up to 20 %. At the same time, the quality of the assembly work is greatly improved and our customers can focus fully on their core competencies."



The cut-outs required in Dorst's installation, including edge protection, are already included in the cable trunking as part of the factory assembly process.

INNOVATION



**PFLITSCH innovation combines cable gland
with plug connector**

Quick to replace, yet still tight

As a forward-looking problem solver, PFLITSCH repeatedly finds ways to rationalise and optimise all kinds of aspects concerning safe and reliable cable entries. One new idea has been to combine connectors and integrated cable glands – an idea of interest to both mechanical and plant engineers and component manufacturers. Jörg Sokat, Head of Product Management, explains the thinking behind this development and the advantages.



Jörg Sokat,
Head of Product Management

Mr Sokat, is PFLITSCH now joining the ranks of the plug manufacturers?

Jörg Sokat: We were aiming for something else. The increasing modularity of systems and plant is leading to a growing number of plug connections. In practice, such connections often only need to be designed for a few mating cycles as they are only plugged or unplugged for assembly, maintenance, repair or modification work on the system. Examples include electric motors, lights or industrial sensors. However, reliability, as guaranteed by cable glands, plays a major role with these connections.

Aren't there already solutions for this on the market?

Jörg Sokat: Most connectors available are designed to withstand many thousands of mating cycles and are therefore unnecessarily expensive. At the same time, industrial applications demand a tight seal and good strain relief as well as a compact design. Aspects such as electromagnetic compatibility, hygienic design or explosion protection must also be taken into account in demanding applications. Our combination of connector and cable gland is aimed at precisely such applications.

How do you want to realise these special connectors?

Jörg Sokat: We use proven parts from our modular system and combine the cable gland with the contact elements in line with the customer's requirements. For standard industrial applications, we have developed the UNI Dicht connector cable gland, while our blueglobe CLEAN Plus variant is the optimum solution for satisfying the stringent hygiene requirements in the food and pharmaceutical industries. We also make a sheathed version that has the necessary bending protection for the cable built in.

What are the advantages of this idea for the user?

Jörg Sokat: Compared to specially sealed industrial connectors with comparable properties, the PFLITSCH solution is more cost-effective. The overall dimensions will be considerably more compact, because high protection ratings of up to IP 68 and the necessary degree of strain relief are already provided by the cable gland. We are thinking of sizes from M16 to M32, in which the desired number of contacts can be integrated.

Are these glands already being put to use?

Jörg Sokat: One customer of ours, who manufactures high-quality electric drives in accordance with the principles of hygienic design, is currently running the power and sensor cables through the stainless steel housing of the motor via two Hygienic Design cable glands. The cables no longer have to be connected and disconnected inside the motor; instead, the connector cable gland offers a quick-release connection that fulfils EHEDG specifications, while still providing the same level of reliability as a standard cable gland.

PFLITSCH is actively involved in ZVEI

Actively shaping the future



Carsten Wohlrath,
Director Sales

ZVEI is one of Germany's most important industry associations. It represents the electrical industry and therefore the interests of around 900,000 employees in Germany alone. Among its members are global players as well as medium-sized and family businesses. The association itself employs some 160 people, who are eagerly supported by a further 5,000+ volunteers from its member companies. These include two managers from PFLITSCH: Director Sales Carsten Wohlrath and Head of Exports Josef Bauer.

Congratulations Mr Wohlrath, you have been re-elected to the board as a delegate of ZVEI's regional office for North Rhine-Westphalia (NRW). You have held this post since 2011. Can you explain why?

Carsten Wohlrath: ZVEI's regional association for NRW represents the interests of the electrical industry vis-à-vis politics, associations, government authorities and other institutions. We believe that it's important we play an active role in shaping this process and highlight our own corporate concerns through this medium. ZVEI is our strongest lobby here in NRW, the country's most highly populated state.

Mr Bauer, you have been a member of the ZVEI Foreign Trade Committee since 2010 and concern yourself with all issues relating to trade and development policy, foreign trade and the economic policy concerns of the electrical engineering and electronics industry. How do you evaluate the work of the association?

Josef Bauer: As one of its leading suppliers, it goes without saying that we are committed to the industry. Apart from that, we also benefit from the contact we have with industry rivals and partners and secure a valuable knowledge lead for ourselves through our activities in the association.

The electrical industry in NRW

The electrical industry in North Rhine-Westphalia employs 155,000 people, making it the third-largest sector in terms of workforce. The 1,100 businesses operating in this sector are predominantly medium-sized enterprises. Together, they generate sales of around 36 billion euros, 50% of which in exports. NRW companies are leaders in the fields of lighting and installation technology, for instance. (Source: www.zvei.org)

What exactly does the association do? What issues does ZVEI cover?

Josef Bauer: ZVEI and its members see themselves as pacesetters of technical progress. Accordingly, digitalisation, Industry 4.0, energy, mobility, cybers security as well as education and research rank among the key topics of interest to the association. Innovative approaches meet with in-depth industry knowledge at ZVEI – that's what makes the diversity of information, newsletters, industry barometers and workshops so exciting in our eyes.

What issues is the association currently dealing with?

Carsten Wohlrath: The NRW regional office, with its 280 or so member companies, is currently pursuing the following key topics: energy efficiency, grid expansion, smart building services, medical engineering and electromobility. Furthermore, the regional office is actively bringing the knowledge of the ZVEI to the process of the NRW Climate Protection Plan.

What opportunities for participation do you have through the association?

Josef Bauer: We conduct an intensive transfer of knowledge, we help define new standards and provide

practice-oriented support to the committees and policymakers in new fields of technology – all through ZVEI.

Carsten Wohlrath: We also exert influence on far-reaching decisions, such as technical standards or the development of new fields of training. It's precisely in these areas that we bring matters and situations actually experienced by PFLITSCH to the table and present practical solutions for complex stories. Our customers also benefit from our work for the association, because it allows us to keep in step with the times and know what lies in store for the industry.

Mr Bauer, as an exports expert, how do you assess current developments?

Josef Bauer: The subject of foreign trade law has become increasingly complex and complicated over the last 20 years. European and national regulations restrict the freedom of movement of companies. The risk of being unconsciously and unexpectedly confronted with restrictions or prohibitions has increased. We are trying, through the association, to pave the way for the future.

Carsten Wohlrath: To an ever greater extent we find ourselves having to deal with the effects of global politics, be it Brexit or working together with non-EU countries and the major industrial nations such as the USA and China. Here, too, our work on behalf of the association is of real benefit to us, because we, as a global player, get to know how markets are developing very early on.

To what extent do your customers benefit from your association activities?

Carsten Wohlrath: Our involvement in ZVEI complements our work in various other committees. It's important to us to implement new technologies and developments at an early stage to the benefit of our customers. Our goal is always to meet the requirements of tomorrow today. This is of particular benefit to our customers if we succeed.

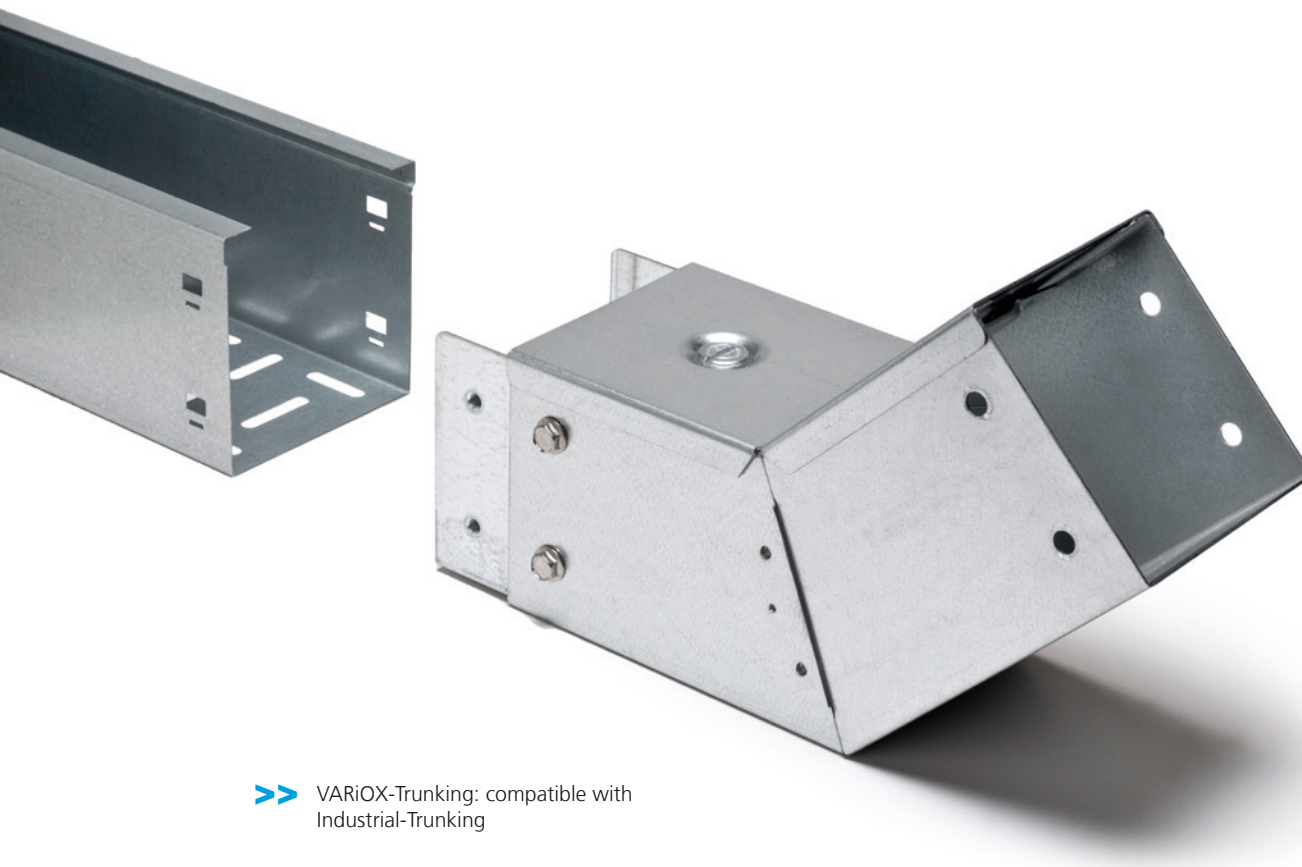


Josef Bauer,
Head of Exports

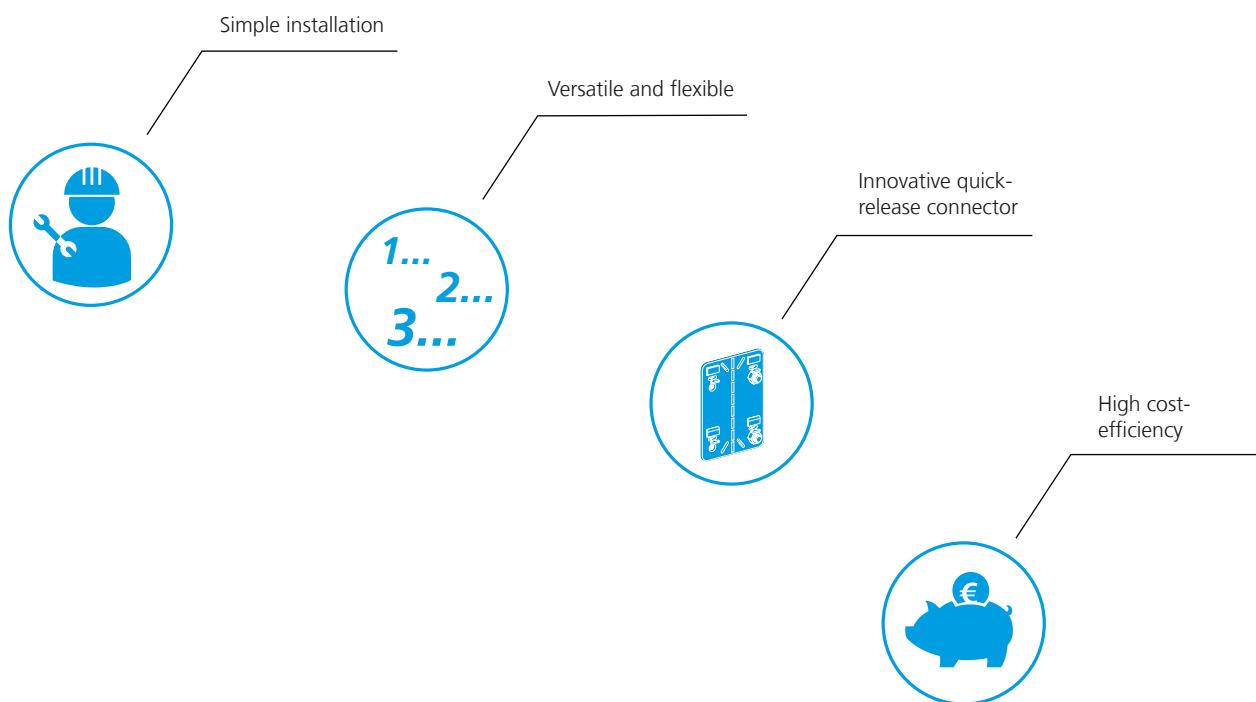
1...
2...
3...

VARiOX-Trunking **One, two, three and done**

The VARiOX cable trunking system is easy to install, right down to the very last component, and particularly cost-effective. The ingenious thing about it is that the 42 system components can be quickly assembled using the innovative quick connectors and easily closed with the self-locking covers.



>> VARiOX-Trunking: compatible with
Industrial-Trunking



Another advantage is the optimised wall thicknesses, which ensure the trunking is lightweight but keep its shape. Comprising a total of just 42 components, the VARIOX system offers the degree of variability and economy you desire. Quick connectors enable the individual trunking components to be assembled in a matter of seconds. And the connectors can also be screwed together to provide greater stability and increased vibration protection.

All in all, VARIOX is a smart and time-saving system, whose various trunking components, accessory fittings, T connections, end caps and connectors make it ideal for almost any standard application. The trunking is available in four cross sections from 100 mm x 100 mm to 300 mm x 100 mm (W x H) – with either solid or perforated bases. Trunking layouts to suit your individual requirements can be quickly and easily configured. Modifications are also easy to carry out as the self-locking covers can be opened along the entire length of the trunking.

Diversity opens up new opportunities

VARiOX-Trunking would not be a genuine PFLITSCH product if it didn't offer extra options and ways to combine it with other product groups. All parts can be combined with parts from the Industrial-Trunking range. This generates even more possibilities for variation and makes it possible to create almost unlimited trunking layouts. Even components such as edge protection parts can be used together with both product lines.

Further product details can be found on the internet at variox.net.



New Ex-d cable gland from PFLITSCH
Simply the best Ex solution



Jörg Sokat,
Head of Product Management



With its new LevelEx Ex-d cable gland, PFLITSCH now has a trendsetting cable entry in its range that also brings the benefits of state-of-the-art cable glands to the world of explosion-proof equipment: compactness, ease of assembly and weight savings.

Head of Product Management Jörg Sokat reveals how this was achieved.

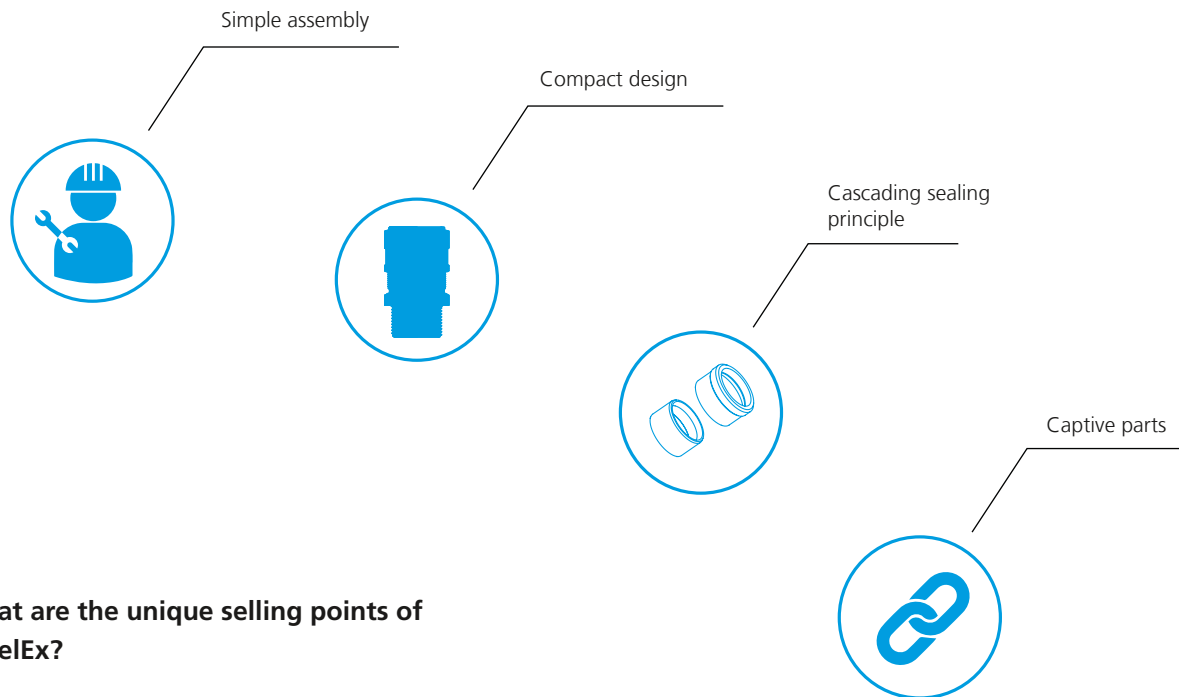
Mr Sokat, the Ex business is said to be rather conservative ...

Jörg Sokat: Indeed, progress tends to be slower in the Ex market, because, for example, product approvals are very complex and time-consuming. Correspondingly, further developments and even innovations are few and far between. Nevertheless, we at PFLITSCH have dared to initiate a process of change around safe and dependable cable entries, and with our new LevelEx cable gland, we have successfully combined the features of our current cable glands with the high level of safety provided by the Ex-d and Ex-e protection classes. This innovation meets our high standards of quality, durability and ease of installation.

How exactly did you go about this project?

Jörg Sokat: Within the scope of the current standards, we wanted to do more than just improve on existing solutions, but rather create something completely new. Common Ex-d cable glands frequently consist of solid parts that are heavy and require a lot of space. In addition, there are a number of things that need to be taken into account when installing them, so that rubber rings or washers fit properly. This requires specially trained personnel who must work very meticulously. Following a comprehensive market analysis and after asking ourselves what users in Ex atmospheres really need, detailed specifications were drawn up, at the end of which the parameters for LevelEx are described.

Continued on next page ►



What are the unique selling points of LevelEx?

Jörg Sokat: This Ex-d cable gland is more compact, lighter and easier to install because it needs just a few captive parts and can therefore be installed quickly and safely. Our LevelEx consists of just five components: the double nipple and pressure screw form the compact and lightweight cable gland body. The inner, two-piece insert seals the cable over a large area. This prevents irreparable damage to the cable and guarantees a long service life even under adverse ambient conditions, such as extreme temperatures or heavy vibrations.

How does this secure sealing actually work?

Jörg Sokat: We have developed a two-stage sealing concept. Firstly, when the pressure screw is tightened, a stiff sleeve made of a fluorinated plastic is axially displaced inside the LevelEx. The actual seal itself, which is made of a silicone material, is deformed both axially and radially so that it covers a large area around the cable. This results in the sealing length specified in the standard, the high level of protection up to IP 68 and excellent strain relief. The two-piece sealing element is captive in the double nipple and cannot fall out during assembly.

Which application areas does PFLITSCH have in mind?

Jörg Sokat: The LevelEx gland is attractive for all applications in which explosion protection plays a role. These include the municipal energy, water and wastewater sectors as well as the oil, gas and chemical industries – but also suppliers of sawmills and crushing mills, where dust is generated. With its permissible temperature range of –60 to +130 °C and ATEX, IECEx, EAC, VDE, DNV GL, CNEx and Kosha certification, the LevelEx can also be used under extreme environmental conditions and temperatures.





How relevant is its compact design?

Jörg Sokat: The LevelEx's compact design means users have a lot more valuable space available around their enclosures. The packing density at cable glands can be increased accordingly. And the seven different sizes of LevelEx available also mean that cables with cross sections from 7 to 56 mm can be reliably sealed, which in turn opens up a wide range of applications – from thin sensor leads to thick power cables.

Have you received feedback from the market yet?

Jörg Sokat: Following its roll-out, the LevelEx is being used by domestic and international customers. Feedback from customers who have purchased it is very positive. And the sales trend also illustrates a high level of acceptance in the market. Through the imminent launch of the version for armoured cables, we will continue to support this positive trend in the long term.

Further information about the challenges in the various industries and the benefits of this new product can be found at www.LevelEx.de.



PRODUCTS



PFLITSCH ProTect impresses in robotics

They move in whichever direction you want them to – and will keep doing so

High motion velocities and bending cycles – these are typical performance characteristics of industrial robots and they continue to set new records. In line with these dynamics, the demands placed on the materials used are also increasing. The new ProTect corrugated conduit system from PFLITSCH lives up to these challenges posed by robotics.

In order to adapt cable installations to the extreme, dynamic loads of industrial robots, PFLITSCH has developed highly robust corrugated conduits and fittings made of high-quality polyamide and created its ProTect corrugated conduit system. This system is resistant to torsion and abrasion and, at the same time, flexible enough to withstand the rapid movements of a robot arm. And all of this with a degree of durability verified for around 15 million bending cycles. Accordingly, PFLITSCH ProTect is approved in accordance with international standards.

Always the right variant

The core assortment of PFLITSCH ProTect includes seven types of corrugated conduit, each of them available in coarse and fine profile variants. The range of permitted operating temperatures is particularly broad, extending from -40 to $+105$ °C. The corrugated conduit variant designed for high-temperature applications can even be used up to $+150$ °C. It's not only the range's temperature resistance that sets standards; the PFLITSCH ProTect corrugated conduit system also proves to be extremely resistant to mechanical and chemical stresses. It also features very good weather and UV resistance.



Extra freedom of movement

Besides the corrugated conduits, the fittings also play a crucial role. They are flexible and as such designed for high dynamic loads. The PFLITSCH ProTect fittings also provide additional reliability in the event of high vibration levels. They are very simple to use, for example during assembly, the corrugated conduit is locked into the fitting with a conscious locking action, improving the operational reliability of the installation. This conduit-fitting connection can simply be unlocked again in order to make modifications.

If even greater freedom of movement is required, PFLITSCH's ProTect range also includes special fittings in which the corrugated conduit can rotate fully, enabling it to compensate for all robot movements.

Continued on next page ►

Flexibility to cope with a huge range of operating conditions

With this corrugated conduit system, PFLITSCH has put its trust in the proven system concept that ensures compatibility within the various product groups and extends the range of potential applications. The PFLITSCH UNI ProTect version with integrated UNI Dicht components, for example, satisfies the demanding requirements of protection ratings IP 68 and IP 69. Additional strain relief is ensured by PFLITSCH's principle of "soft squeezing". Since this doesn't constrict the cable sheath causing irreparable damage, it seals cable systems both reliably and durably. Even if the corrugated conduit suffers some form of mechanical damage, this premium variant still prevents moisture from ingressing into the housing along the cable.

PFLITSCH ProTect fulfils the requirements of, among other things, UL and DNV GL certification and EN 45545-2 and has been designed for a wide range of applications. The system fulfils the high demands of IP 68 and IP 69 thanks to the installation of an

additional sealing ring around the corrugated conduit. If the product is subject to fewer or lower requirements, the IP 66 variant is used.

This wide-ranging application spectrum offers reliable protection for cable systems not only in robotics, but also in mechanical and plant engineering, shipbuilding and railway engineering. The system also satisfies the strict requirements of fire protection regulation EN 45545-2 for rail vehicles.

>> PFLITSCH ProTect is certified according to:



RoHS



Focus on the freedom of movement: PFLITSCH ProTect is the ideal product solution for applications characterised by dynamic loads. The PFLITSCH ProTect fittings in particular provide that desirable extra bit of reliability, even in the event of high vibration levels.



PFLITSCH Anniversary Magazine

Inspired by 100 years of history

Our Anniversary Magazine offers exciting insights from PFLITSCH's 100-year history and brings you highlights of the anniversary celebrations held on 1 July 2019. On 52 action-packed pages, PFLITSCH invites you to get to know the company, our employees and our partners. The magazine offers a look behind the scenes, presenting not only our innovative range but also strong values that consistently focus on people and communication – in and out of house, in Hückeswagen and all around

the world. PFLITSCH is truly defined by courageous decisions, responsible actions and a relentless willingness to develop new solutions.

Join us on a journey through time and of perpetual discovery. Your customer service contact has a printed copy of the PFLITSCH Anniversary Magazine ready and waiting for you. You can also download the magazine as a PDF file simply by scanning the following QR code.





Passion for the best solution

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