

AGRO innovations

State-of-the-art cable glands and protective conduits.

Cutting-edge products for maximum protection and efficiency.



Progress® AgreenO.

The clean, green future of cable glands, because sustainability matters in relation to cable glands too.



With the launch of **Progress® AgreenO**, AGRO AG is expanding its broad portfolio of well-proven cable gland products to include an alternative that no longer contains lead. In doing so, the Swiss manufacturer is already pre-empting a requirement that is expected to come into force across Europe. To protect consumer health and the environment, the production of electrical and electronic equipment is subject to strict regulations. This involves restricting the use of hazardous substances (RoHS), and also includes the end-of-life regulations for electrical and electronic equipment (WEEE). The basis for this is Directive 2011/65/EU.

According to this **Directive 2011/65/EU "RoHS"** (Restriction of Hazardous Substances), copper-containing materials such as brass may no longer – after the expiry of the exemption rule 6c – contain lead as an admixture for easier processing. The lead content may then **not exceed 0.1%**.

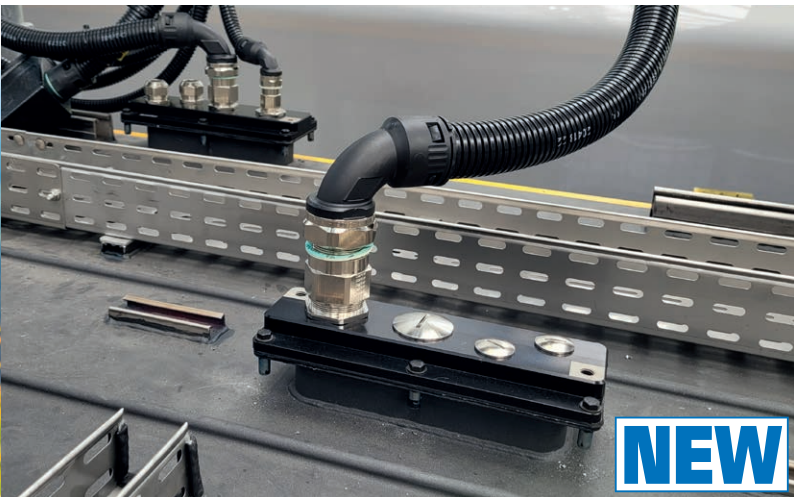


Brochure



Adapter Plate.

The world's first adapter plate for quick, reliable routing of cables on rail vehicles from the outside to the inside.



The new **adapter plate** now makes it possible to easily route cables into rail vehicles, either through the roof or the floor, while protecting against moisture, dust and vibrations. The appropriate cable glands and conduit connections, such as the adapter plate, ensure total sealing. Cable harnesses can be inexpensively pre-assembled and installed complete with the adapter plate on the vehicle's roof or under the floor.

- For all Progress® cable glands or conduit connections
- Roof and floor feedthroughs, also for multiple cables in protective sleeving
- Complies with the highest fire protection requirements in accordance with EN 45545-2 (HL3) and EN 45545-3 (E30) as well as NFPA 130
- Protects against high-pressure water and dust in accordance with IP 68 /IP 69
- Quick and easy pre-assembly installation
- Comes with two grounding points



Leaflet



EVolution EMC.

The first EMC cable gland with a crimped and “pluggable” EMC shield contact solution.



AGRO has set itself the challenge of developing an EMC cable gland that can withstand the effects of high switching frequencies from DC/DC converters and AC inverters. In this regard, the cable gland's operational reliability and durability are very important. The result is **EVolution EMC**, a high-quality solution that impresses in relation to functionality, efficiency and reliability. This significantly shifts previous performance limits and the entire assembly process of cable glands into new dimensions. The pre-assembly and final installation are simplified and significantly more reliable.

- Design allows pre-assembly on cable
- Very quick installation on vehicles
- Reliably meets the most demanding operational requirements
- Very high shield current carrying capacity
- High shielding attenuation
- System solution tailored to cable size
- High reliability of cable processing (shield connection, crimping, assembly)



Video



Progress® EMC.

Progress® EMC cable glands for interference-free cable installation, available as standard or multi-duct version.

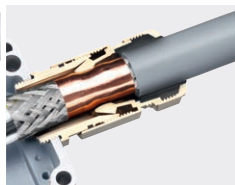
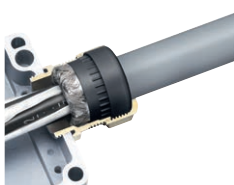


In the industrial sector, **EMC** plays a particular key role because complex machines and systems are extremely susceptible to electromagnetic interference. Such undesired EMC effects, however, can be counteracted with the effective shielding of all components. On the one hand, good shielding reduces the amount of interference emitted by an electrical apparatus while at the same time reducing its susceptibility to impaired performance due to electromagnetic effects. Not only cables themselves but also all other components that are part of the installation must provide shielding characteristics. With **five different EMC-compatible cable glands**, AGRO offers its customers the appropriate product and the ideal types of contact for each type of application.

- Progress® EMC nickel-plated brass with time-proven contact sleeve
- Progress® EMC Rapid nickel-plated brass with contact disc
- Progress® EMC easyCONNECT nickel-plated brass with contact spring
- Progress® EMC Series 85 nickel-plated brass with collet chuck
- Progress® EMC powerCONNECT with compression sleeve



Website



Progress® EMC easyCONNECT stainless steel A2.

Quick, safe and convenient installation thanks to an innovative contact spring.



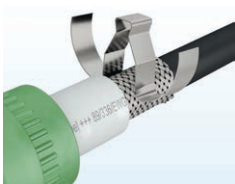
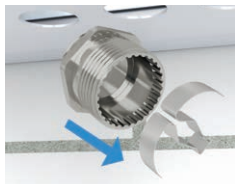
The Progress® EMC easyCONNECT cable gland of A2 stainless steel is new to our product range and generally available from stock. It ensures full control during installation and compensates for tolerances in shield thicknesses to always achieve a firm shield grip. The spring system provides for a very good contact of partially stripped shielding cables equally as well as for the contact of completely exposed cable shields which can be routed further.

For applications in very harsh environments, in outdoor areas and at high temperatures, AGRO has now expanded the product range to include a new A2 stainless steel version with a highly durable FPM sealing insert.

- FPM sealing insert
- Very high chemical resistance
- Wide temperature range: -40°C / $+200^{\circ}\text{C}$
- Stainless steel A2



Website



Edge protection for cables.

Innovative and durable edge protection solution.



Effective and long-lasting protection against cable abrasion and defects.

Our innovative and compact edge protection nuts prevent abrasion of the cable sheath on the threaded side of the cable gland, offering lasting protection of the cable insulation. Available in metric sizes, the edge protection nut is ideal for applications with an increased risk of abrasion, whether cable diameter is large or small, and for confined spaces. It can cushion the high dead weight of cables with large cross-sections, and prevents the formation of pressure points and the resulting damage to the cable sheath. The two-part design enables the nut to be placed around a previously installed cable, avoiding the need to disconnect and reconnect the cable.

- Prevents abrasion and extends service life
- Provides lasting protection against pressure points and cable insulation defects
- Simple installation and retrofitting possible
- Can be split in two for installation on pre-connected cables
- Temperature range: -50°C to +105°C
- Complies with EN 45545-2 HL3 and UL94 V0
- Available in sizes from M16 to M63



Video

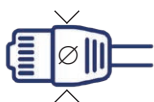


Progress® brass hydraulic hose adapter.



Discover the ideal cable gland solution for the reliable connection of hose pipes. Hydraulic hoses are often used for cable routing in order to achieve optimum protection against environmental influences. Our connection solution facilitates precise securing and perfect sealing of hydraulic hoses of internal diameter (DN/ID) 25 mm or 16 mm.

- Hydraulic hose adapter for demanding applications
- For hose pipes of internal diameter 25 mm or 16 mm
- Complies with EN 45545-2 HL3 and NFPA 130
- Protection class: IP54 and IP68 to cable and hose for optimal sealing
- Temperature range: -50 °C to +105 °C
- Connection thread: M20 to M32 for DN/ID 16 and DN/ID 25



M20 maxi 15mm Ø
M25 maxi 17mm Ø
M32 maxi 25mm Ø
M40 maxi 28mm Ø



Video



AGRO Multi-Cable Entries.

Innovative cable entry solutions for every application.



AGRO has been developing and manufacturing high-quality cable glands in accordance with EN 62444 for over 65 years. This know-how is also applied in the design of **AGRO's various Multi Cable Entries**. The specially developed solutions, using well-proven sealing units and impact-resistant metal housings, result in extremely robust and reliable cable entry systems.

- Low TCO costs (quick installation, easy maintenance, robust, impact-resistant and ageing-resistant metal housing)
- Excellent sealing performance up to IPX9K
- High pull-out forces in accordance with EN 62444
- Flexibility in terms of cable diameter thanks to the use of multiLAYER sealing inserts (MCE models)
- Proven high-quality shield grip (EMC variants)
- Customer-specific designs (dimensions, sealing elements, etc.)



Video

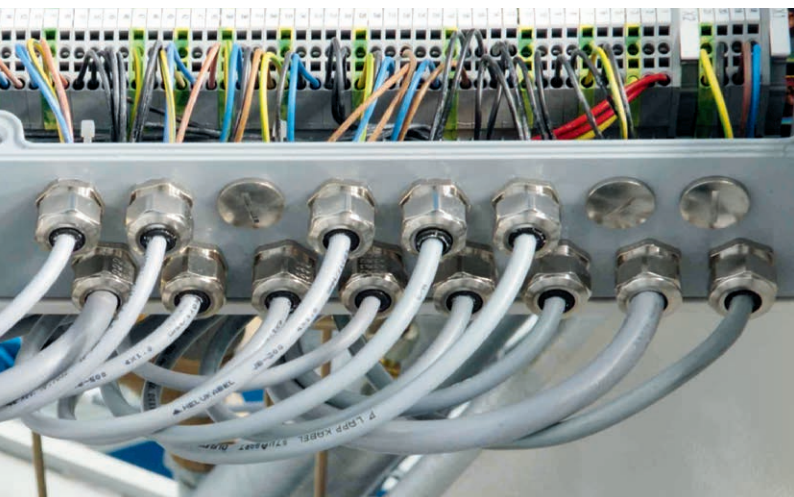


Brochure



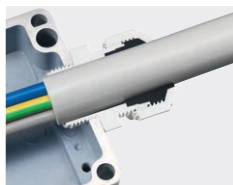
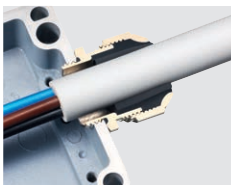
Progress®.

Progress® standard or multi-duct cable glands ensuring gentle strain relief and high tightness.



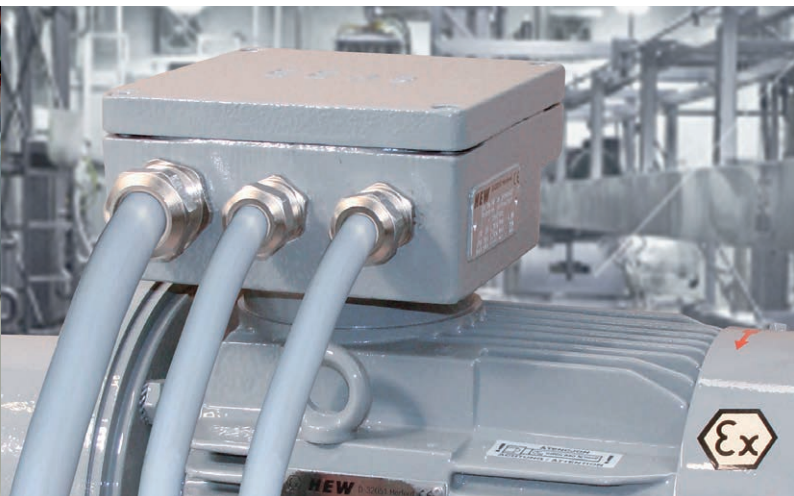
Cable glands Progress® nickel-plated brass are tried and tested aids for correct cable entry in industrial equipment. Through the choice of the suitable sealing inserts, these glands can be used anywhere. The outstanding compression technology for use everywhere guarantees an effective seal and excellent cable-protecting strain relief, also by vibrations.

- Certified according to EN 50262
- Protection class IP 68 / IP 69K
- Comprehensive assortment
- High chemical resistance
- Available also with sealing insert according to EN 45545-2/3 HL3
- Short, long or special entry threads
- Entry threads from M6 to M115
- Guaranteed tightness
- High resistance to vibrations
- Large spanner flats



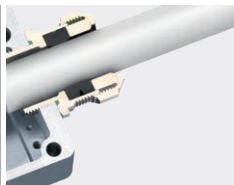
Progress® Ex.

AGRO Ex cable glands for professional cable entry in potentially explosive atmospheres.



In many areas such as the **chemical industry**, the **textile and paper industry**, the **food industry**, **glass and / or ceramics industry**, **wood processing** and **many other industries**, equipment are operated in explosive areas. Due to the high risk to persons and property in case of an explosion, especially strict legal and technical requirements apply to explosive areas in particular. **AGRO Ex cable glands** made of nickel-plated brass or synthetic material comply with the strictest requirements and ensure safe cable entry in explosive areas. All cable glands are tested and certified according to the latest standards and come with an EC type-examination certificate.

- IECEx tested
- ATEX certified
- Flame-proof enclosure Ex d IIC
- Increased safety Ex e II
- Intrinsic safety Ex i II
- Compact design
- Large clamping range
- Guaranteed seal
- Extensive accessories



Special solutions.

AGRO cable glands – the all-rounders.



Our standard range of cable glands is designed to provide ideal **cable entry solutions for standard applications**. In some specific situations, the cable gland must be adapted to special requirements. It is often possible to find a suitable solution simply by assembling the **Progress® kit's components** in an appropriate way. All individual components of the kit are compatible and can be easily combined.

However, in some cases, a special cable entry solution must be developed. In this case too, the modular design of the **Progress®-system** enables any single component of the cable gland to be customised individually, making the process fast and costeffective.

We can supply cable glands with any required thread type, in various materials and customise sealing inserts in terms of material and of number and shape of cable entries in order to meet all requirements. Long-term reliability is the top priority.

Contact us, if your equipment needs cable entries. We will find a nicer, simpler or more efficient solution for you!



Pressure balance elements.

Made for extreme conditions.

The AGRO pressure balance element of A4 stainless steel with high-performance membrane.



Whether traffic control and signalling technology, distributor housings, rail vehicles or solar energy systems: they must all be able to withstand wind and weather, heat and rain. The same applies to their electronics and electrics. Air pressure, temperature and humidity are constantly changing. This can be prevented by installing **AGRO pressure balance elements**.

- High impact resistance in accordance with EN IEC 62262 in the highest class, IK10
- Exceptionally wide temperature range, from -60°C to +150°C
- The high-performance membrane facilitates rapid air exchange
- Very high degree of protection: IP 66 / IP 68 (0.5 bar / 1h) / IP 69 / IP 6K9K
- A4 stainless steel (EN 1.4404 / AISI 316L)



Video

Our Product range



with membrane



with sintered filter



with mesh



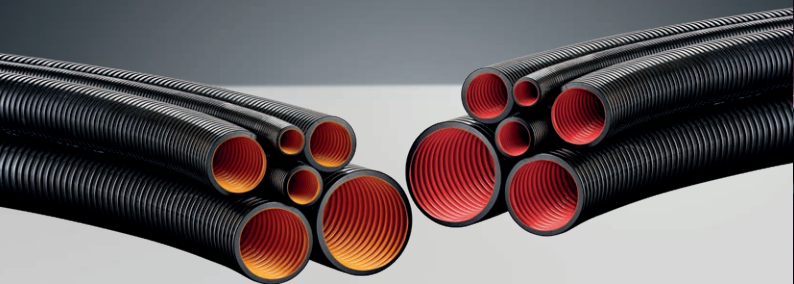
Synthetic with membrane



Website

Multilayer synthetic protective conduit ROHRflex® PA12+ and PA12F+.

Innovative multilayer technology for more protection and safety.

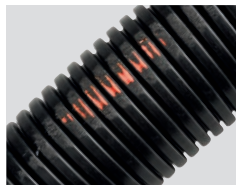


Multilayer corrugated tubings with inner and outer layer for more protection and safety. The new FLEXA multilayer technology enables **an absolutely novel combination of materials with optimised product properties for the railway sector and machine and plant constructions**. In an innovative **multilayer manufacturing process**, a corrugated tube is produced with two layers of different materials and offers innovative protection in the following areas:

- Very good dynamic properties
- Extremely durable and abrasion resistant
- Excellent sliding properties allows easy retraction of cables and wires
- For more protection and safety (abrasion indicator)
- Suitable for all Quick fittings



Video



FLEXAquick® – Progress® RQGKZA conduit gland.

Trust the FLEXA and AGRO brands for advanced and certified solutions.



The new **combination conduit/cable gland** combines the tool-free installation of FLEXAquick® with the proven compression technology of the Progress® cable gland. This innovative connection unit can be quickly and easily installed on all FLEXA corrugated plastic conduits, ensuring excellent strain relief and sealing performance. Ideal for demanding applications such as railway technology. With EMC versions and comprehensive certifications, our product range offers maximum versatility and reliability.

- FLEXAquick® for rapid tool-free installation on conduits
- Progress® for cable-friendly compression technology
- Very high mechanical strength and ingress protection (IP68/IP69)
- Fire protection in accordance with EN 45545 and NFPA, highest level
- Progress® Standard and Progress® EMC easyCONNECT
- Connection thread M16 to M63 for corrugated conduit of maximum external diameter 13 - 54.5mm
- Wide temperature range, from -50°C to +105°C



Video



Progress® cable glands with split sealing insert for patch and Ethernet cables.

For feedthroughs of cables with pre-assembled connectors



Discover the advantages of our split sealing inserts for cable glands.

Our split sealing inserts offer numerous benefits that make them particularly attractive for use in various applications. As well as providing reliable protection (up to class IP 68) against the ingress of dust and water, they also make the installation of pre-assembled cables much easier.

- Very good and reliable dynamic properties
- High degree of ingress protection (IP 68 and IP 69)
- Available in plastic and brass
- Connection threads M20 to M40
- Cable diameters from 3 to 8 mm



Video

AGRO AG

CH-5502 Hunzenschwil
Tel. +41(0)62 889 47 47 · Fax +41(0)62 889 47 50
www.agro.ch · info@agro.ch

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AGRO
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