

AGRO Cable Glands

For professional cable entries.

CN08E



Progress®. Syntec®. EMC. Ex. Flanged Accessories

 **AGRO**
... your quality-connection



Since 1953, for more than 70 years, AGRO AG has been developing and manufacturing high-quality products and systems for the installation and entry of cables. AGRO cable glands are proven devices for professional cable entry and are widely used in wind-power industry. AGRO (Shanghai) Electrical Products Trading Co., Ltd. is the branch of AGRO AG. AGRO Shanghai is also the exclusive distributor of FLEXA conduits in China, offering protective conduit systems including appropriate accessories with any customary type of thread. All products of AGRO and FLEXA have full-international certifications and available from stock in Shanghai, Switzerland and Germany.

AGRO Featured Products

Patented



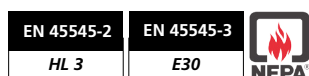
Progress® EMC easyCONNECT

Progress® EMC cable glands made of brass and with the time proven contact sleeve make 360° contact with braided shield which terminates at the cable gland. The decisive edge geometry of the contact sleeve prevents any shearing of the braided shield.



Progress® unique advantage Visible Reliability

Ensure proper installation while maintaining excellent sealing performance. The small bulge in the sealing insert confirms the correct tightening torque.



Progress® according to EN 45545 and NFPA 130



AGRO Progress® metal cable glands can be equipped with sealing inserts made of a special TPE. These versions are certified according to EN 45545 and NFPA 130 and can be used with confidence for any rolling stock application.

Patented



Evolution EMC[®] components



The EVolution EMC cable gland was specially developed for use in electrically powered vehicles and can therefore withstand the most demanding operating requirements.



Progress[®] stainless steel and for high temperature

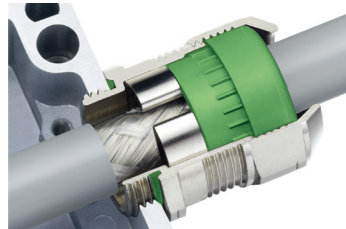


stainless steel A2(AISI 303) rust-proof
stainless steel A4L(AISI 316L) rust-proof & corrosion-resistant
FPM sealing inserts -40°C / +200°C
EPDM sealing inserts use in the food industry

Patented



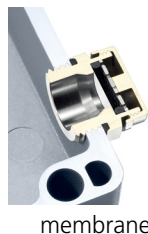
Progress[®] EMC easyCONNECT stainless steel A2 with contact spring



The spring system facilitates good, reliable shield contact for either partially or fully stripped shielded cables. With FPM sealing inserts for high temperatures (-40°C / 200°C) With easyCONNECT Multi for the entry of multiple shielded cables



Pressure balance element with membrane or sintered filter



membrane



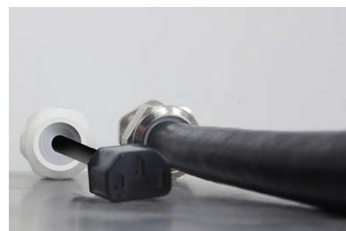
sintered filter

Efficient ventilation significantly increases a product's performance. AGRO offers an innovative portfolio that improves the reliability and service life of electronic components for outdoor use.

Patented



Progress[®] multi-LAYER nickel-plated brass and synthetic



The new multiLAYER sealing insert offers great flexibility with respect to cable diameter, and features integrated dust protection for the cable gland. The splittable version allows quick installation on pre-assembled cables.

Patented

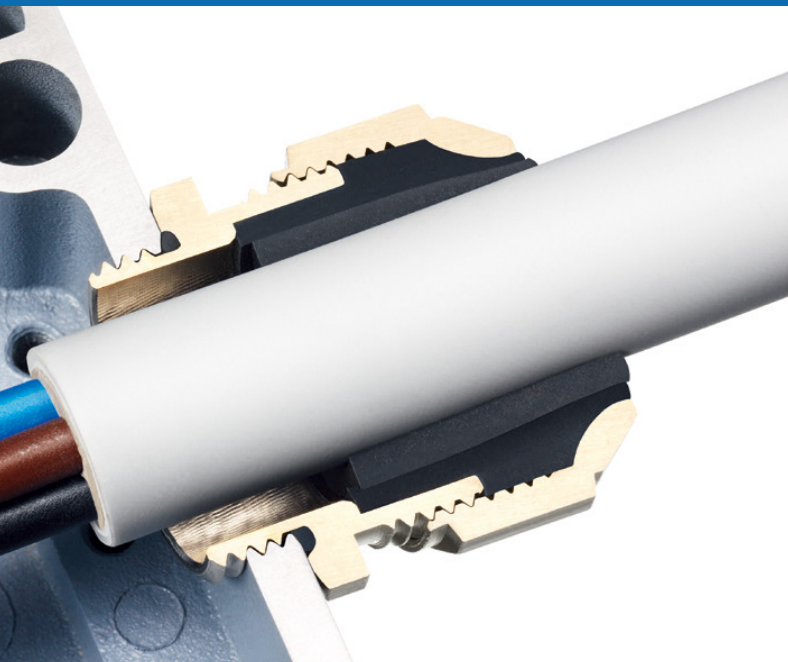


Multi Cable Entry



Double membranes enhance the system's sealing performance
UL 94 V-0 plastics improve fire resistance
IK10 impact testing for robustness under extreme operating conditions
Simple and time-saving installation

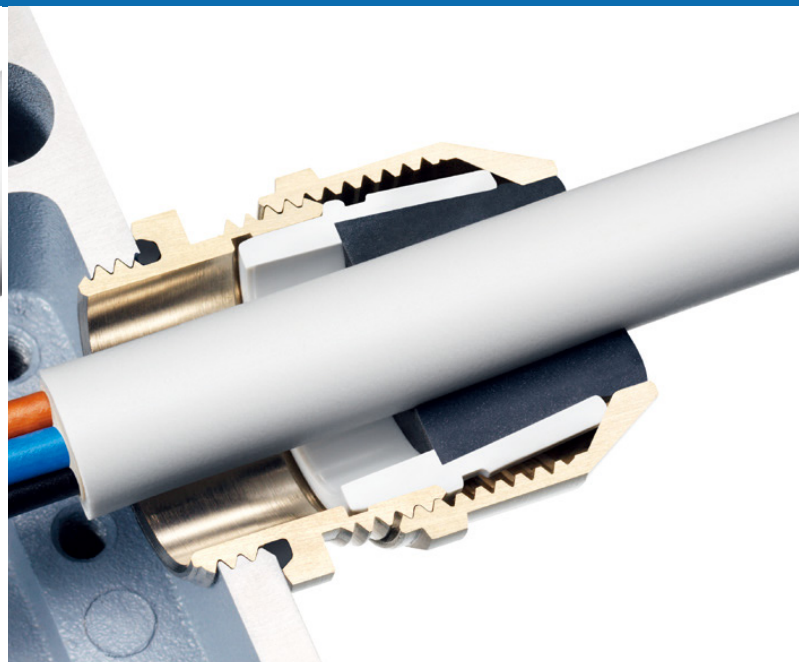
Two clamping technologies – for all requirements



Progress® in brass, steel or synthetic

The outstanding compression technology of AGRO Progress® cable glands ensures an effective sealing and excellent cable protecting strain relief, also for dynamic loads. Sealing inserts for special applications such as railway applications according to EN45545 or for drinking water, food industry or cleanroom applications are available as standard.

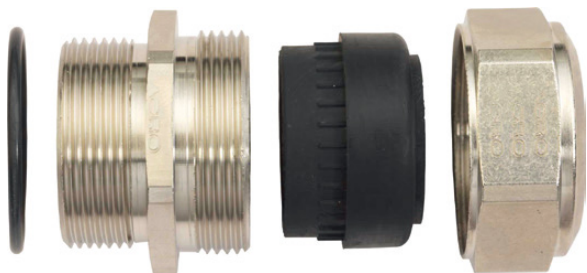
1. Short, long or special entry threads (metric, PG, gaspipe or NPT)
2. High distortion protection thanks to longitudinal grooves in the lower part
3. Two-piece sealing inserts for larger clamping range
4. Inner contours matched to the sealing insert cause the desired deformation ensuring sealing performance in compliance with protection class IP68 up to 10 bar and IP69



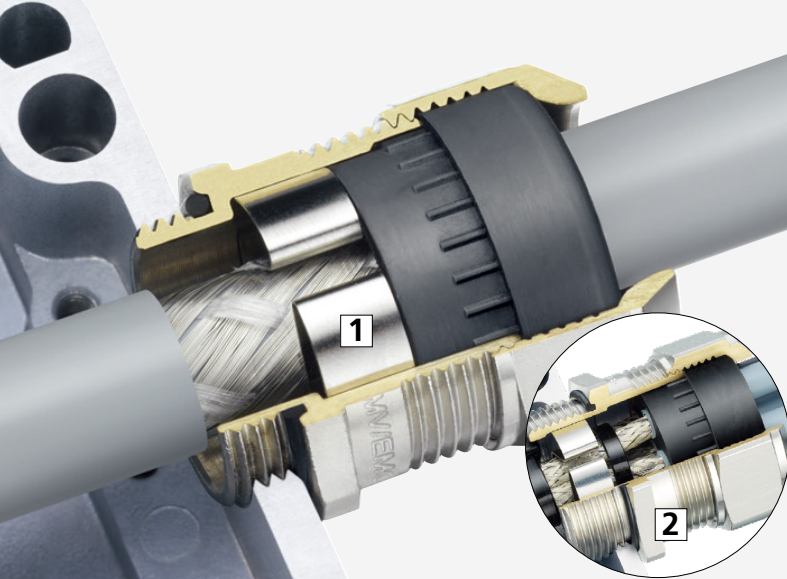
Syntec® in brass or synthetic

Syntec® cable glands with their innovative lamellar technology are particularly suitable for flexible, reliable everyday use. The pre-fixation of the synthetic compression nut facilitates easy overhead installation.

1. Short or long entry threads (metric, PG- or NPT)
2. The elastic sealing rings with good chemical resistance provide a reliable seal, are particularly durable and offer guaranteed protection to protection class IP 68
3. Lamellar geometry with movable jointed lamellas facilitate the insertion of cables of varying diameters and ensure outstanding strain relief and distortion protection
4. The large spanner flats of the synthetic compression nuts ensure a reliable and secure spanner grip when turning



Patented



Progress® EMC easyCONNECT nickel-plated brass

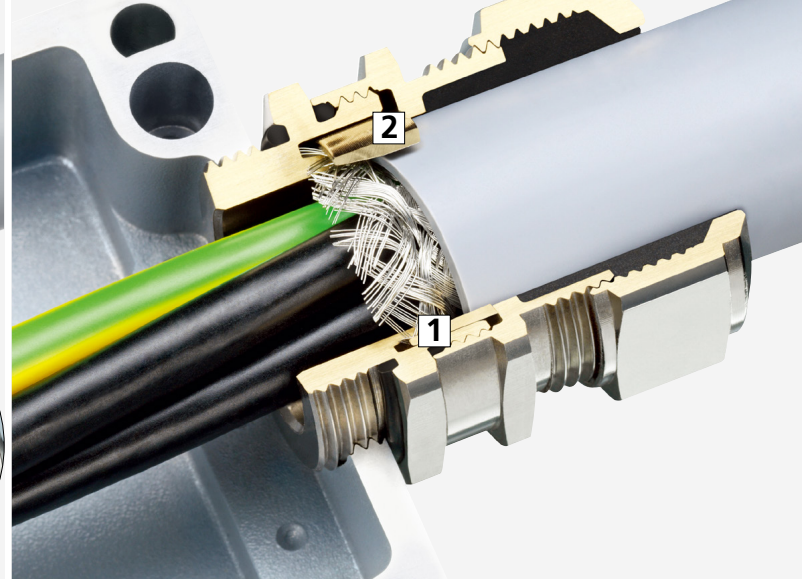
The cable glands Progress® EMC easyCONNECT guarantees full control during installation and compensates for tolerances in shielding thicknesses to make a secure screened tap connection. The spring system provides for a very good contact of partially stripped shielding cables equally as well as for the contact of completely exposed cable shields which can be directed further.

1. Optimal shield contact

The powerful, protective clamping of the cable shield guarantees excellent shield contact and provides for the smallest possible transfer impedance. The shape of the contact spring not only allows for a large clamping range to the shield but also for easy disassembly without damaging the EMC braid.

2. The Progress® easyCONNECT Multi is the first cable gland that allows for the entry of several shielded cables into a housing – at any moment granting a strong and safe tap connection.

Patented



Progress® EMC powerCONNECT nickel-plated brass

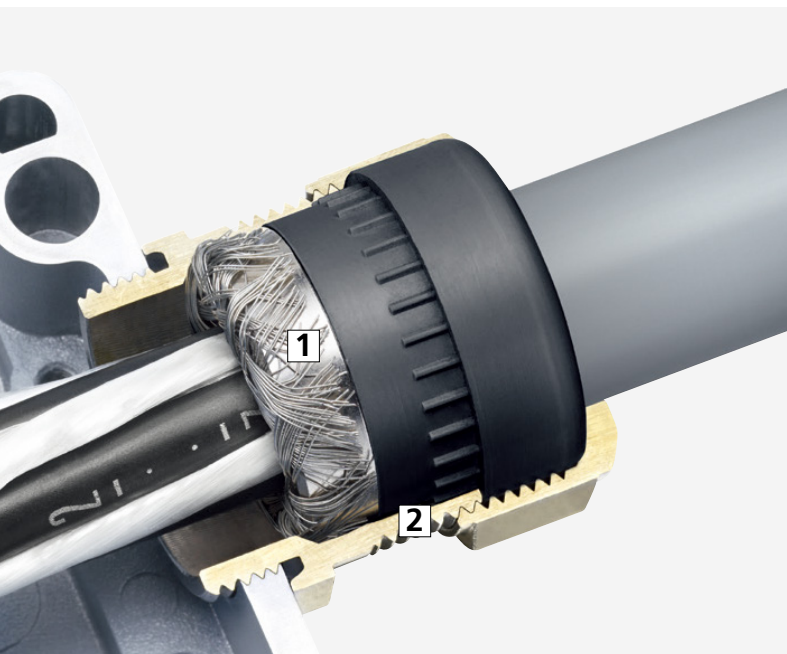
Progress® EMC powerCONNECT, with its new, advanced compression sleeve, ensures reliable 360° shield contact in a very compact unit. The direct transfer from the shielding to the cable gland's lower part ensures extremely low transfer resistance.

1. Low transfer resistance

As a result of the direct contact between the cable's shielding and the cable gland's cone, transfer resistance is very low.

2. High leakage currents

Lasting high contact pressure, which results from the fixed compression sleeve and the complete tightening of the middle piece, maximises grounding of leakage currents, the extent of which is limited only by the shield's cross-sectional area.



Progress® EMC nickel-plated brass

Progress® EMC cable glands made of brass and with the time proven contact sleeve make 360° contact with braided shield which terminates at the cable gland. The decisive edge geometry of the contact sleeve prevents any shearing of the braided shield.

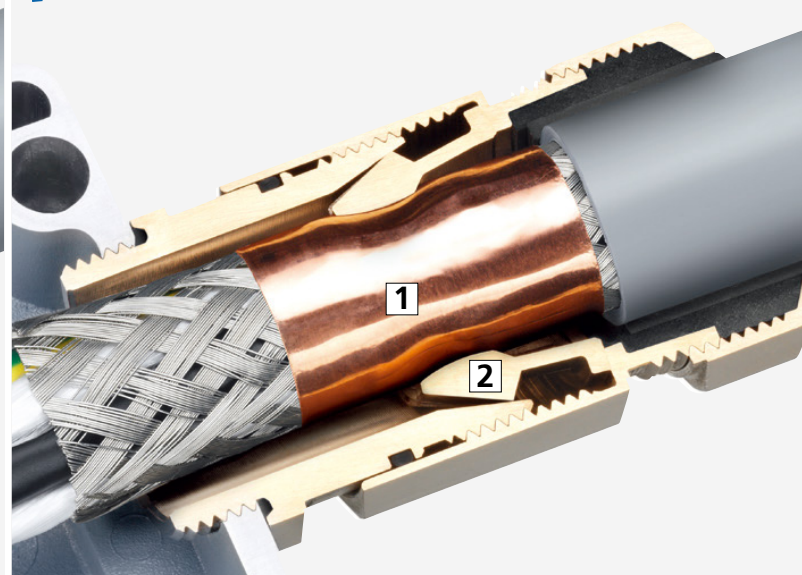
1. Low contact resistance

The immense 360° contact surface ensures low contact resistance.

2. Permanent contact pressure

The interlocking "sealing insert/contact sleeve" combination ensures permanent contact pressure of the braided shield against the lower part.

Patented



Progress® EMC Series 85 nickel-plated brass

The patented cable glands Progress® EMC Series 85 made of brass provide an especially low-impedance connection between the braided shield and the metal cabinet as well as safe cable entry.

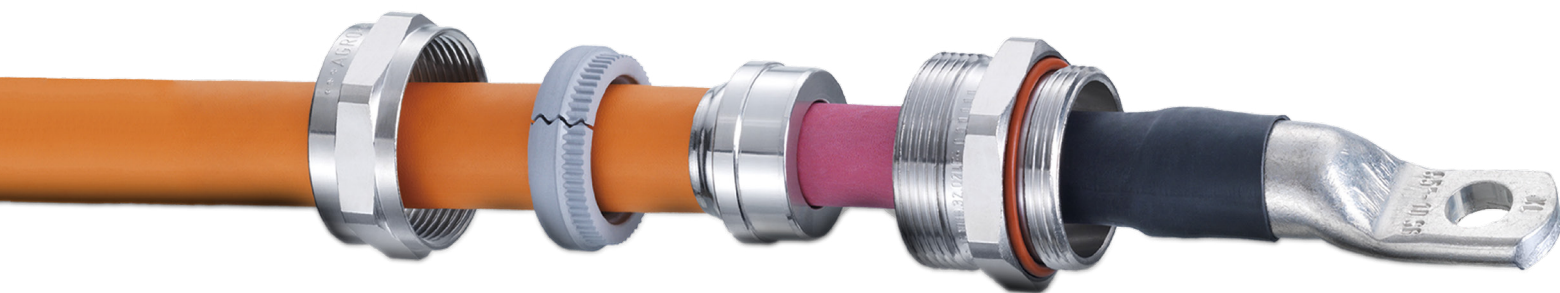
1. Optimal shield contact

The connector piece, which is secured with the help of large wrenching surfaces, enables perfect contact of the braided shield by means of a collet chuck with segments that slide together around 360°. The copper tap grants equal transmission of the compression power.

2. Highest leakage currents

The massive collet guarantees a concentric, low-impedance screened tap connection and handles leakage currents of up to 1.6kA continuous - and short term to 3kA.

AGRO EVolution EMC® cable glands

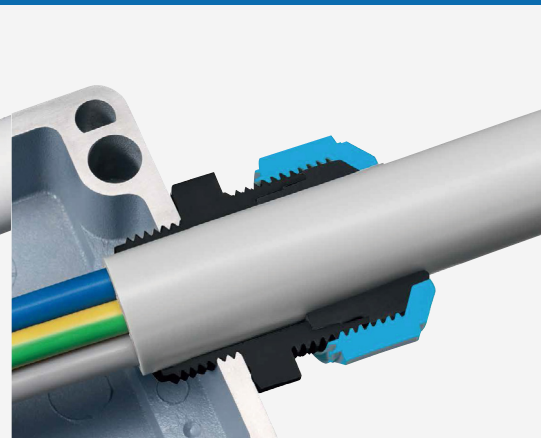
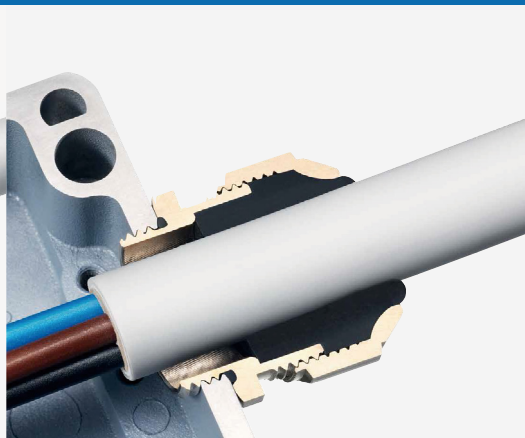


AXI-PRESS

Advantages of EVolution EMC®

- Very quick installation on vehicles or compliance with prescribed installation cycle times
- Easy orientation of the cable lug (rotatable EMC contact solution)
- For the first time designed to facilitate maintenance or repair
- Significant time and cost savings during maintenance or repair work
- Reliably meets the most demanding operational requirements
- Very high shield current carrying capacity
- High shielding attenuation
- Lead-free brass, < 0.1% lead content (meets futur RoHS directive)
- System solution tailored to cable size
- High reliability of cable processing thanks to the hand-held device used (shield connection, crimping, assembly)
- **AXI-PRESS** crimping tool as a battery-powered hand-held device with appropriate inserts
- System solution that supports traceability (assembly process + product)

AGRO EX cable glands



Flameproof enclosure **Ex d IIC** / increased safety **Ex e II**

With ignition protection type Ex d IIC, components which can ignite an explosive atmosphere are arranged in a housing. This housing must contain the pressure of the explosion and an explosive mixture within itself, and it must prevent the explosion from spreading to the explosive atmosphere surrounding the housing. The ingenious sealing insert and matching inner contours ensure a targeted deformation of the insert and thus guarantee its tightness. Protection Class IP68 (30 bar) facilitate optimal usage.

Testing standards

IEC 60079-0:2011 / EN 60079-0:2012
IEC 60079-1:2007 / EN 60079-1:2007
IEC 60079-7:2006 / EN 60079-7:2007
IEC 60079-31:2008 / EN 60079-31:2009

Increased Safety **Ex e II**

In the case of ignition protection with an increased safety type, operation is based on the equipment preventing ignition of the explosive atmosphere which can also leak into the housing. The equipment may not reach temperatures which are above the temperature class of gases which could potentially arise in the place of use, and sparks caused by electrical or mechanical means may also not occur. In electrical machines, electrical-thermal testing is thus of particular importance. In operation, protection against overloading is essentially important to maintaining explosion protection.

Testing standards

IEC 60079-0:2011 (Ed. 6) / EN 60079-0:2012 + A11:2013
IEC 60079-7:2015 (Ed. 5) / EN 60079-7:2015
IEC 60079-31:2013 (Ed. 2) / EN 60079-31:2014

Intrinsic Safety **Ex i II** and Increased Safety **Ex e II**

A type of ignition protection in which the equipment contains intrinsically safe electrical circuits. An electrical circuit is intrinsically safe when neither a spark nor a thermal effect can cause the ignition of a given explosive atmosphere. The conditions for undisturbed operation and certain error conditions are established in this standard.

Testing standards

IEC 60079-0:2011 (Ed. 6) / EN 60079-0:2012 + A11:2013
IEC 60079-7:2015 (Ed. 5) / EN 60079-7:2015
IEC 60079-31:2013 (Ed. 2) / EN 60079-31:2014



The modular design of our Progress®-range is one of its great strengths. The components are designed with the others in mind, and can be freely combined with each other. Customer-specific requirements can be flexibly, practically and quickly met. We will combine the most suitable upper and lower parts with the right sealing insert for you, and thus deliver the most effective, most efficient solution for your needs.

Systems and solutions for industrial applications



For transportation, a secure grip on the feed line is vital. The Progress® cable glands used in railway technology do not become loose, despite high vibrating loads. This results in perfect power and signal transmission throughout the train. There are certified sealing inserts available for railway applications according to EN 45545 and NFPA130.



In the robotics industry, the sustained performance of cable glands under dynamic operating conditions is extremely critical. The exclusive Compression Technology adopted by the Progress® range ensures long-term stability and outstanding tensile resistance and resilience.



Dust and exhaust emissions cause high levels of chemical pollution in tunnels. This calls for the use of stainless and acid-resistant stainless steel A4 cable glands with FPM sealing insert. Cable diameters from 2.0 mm to 52.0 mm are used here on a daily basis.



For marine industry, cable glands have to meet specific requirements. DNV certification grants the fulfillment of such requirements. All metric AGRO cable glands are DNV certified. Additionally all AGRO Ex cable glands are approved, irrespective of their entry thread.



Refineries and production facilities in the chemical industry with potentially explosive areas make specific demands on electrical installations. AGRO offers special cable glands and accessories for "flameproof enclosure Ex d IIC", "increased safety Ex e II" and "intrinsic safety Ex i II" — protection types that have been standardised throughout Europe.



In food industries, anti-bacterial substances guarantee a high level of safety. These chemical agents, however, also place a considerable burden on production facilities. Progress® aqua cable glands are KTW W270 certified for drinking water applications. The cable glands of the Progress® ultraFLAT series are EHEDG certified.



Electric vehicles must ensure that high-voltage circuits do not generate electromagnetic interference to affect other vehicle components during operation. The Progress® EMC cable glands deliver minimum transmission impedance. With coaxial shielding connection, they discharge interference currents through grounding.



For the implementation of wind turbine generators, the Progress® range offers cable protecting strain relief with high distortion protection. This applies to both round and flat cables.



Nickel-plated brass or synthetic Syntec® cable glands represent the optimal solution for a wide range of daily tasks. The patented, unique lamellar technology clamps the cable smoothly and guarantees practical cable entry with outstanding strain relief.

Complete range of thread types and sizes



AGRO offers a complete range of thread types and sizes for cable glands.

- metric: M6 - M115
- Pg: Pg7 - Pg48
- NPT
- gas pipe

Non-standard threads can be customized.

High and ultra-low temperature products



Progress® cable glands for high and ultra-low temperatures with special sealing inserts and the outstanding compression technology ensures tight seals and offers cables exceptional damage-preventing strain relief, even at temperatures as low as -60°C and as high as 200°C.

Complete range of accessory sizes and types



Thanks to a range of cable entry accessories, production systems can be easily adapted to new tasks or situations. Reduction and enlarging fittings can minimise the work on housings and control cabinets. Adjustable fixing devices facilitate angle adjustment of elbow fittings. Various types of nuts are available to meet diverse customer configuration requirements. Pressure balance elements effectively maintain fast pressure compensation, and reliably reduce condensation.

Self-own laboratory and full certifications



The AGRO laboratory complies with the applicable requirements of ISO/IEC 17025:2017. Our laboratory can independently perform standard tests and issue internationally recognised test reports. AGRO products come with a full range of certifications and can meet application requirements across various industries.



Available stock and fast delivery

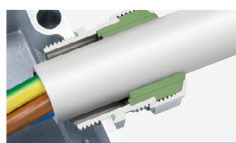


All standard products listed in the AGRO catalogue are available stock in Switzerland or Shanghai and can be shipped immediately according to customer requirements.

AGRO Contents



Cable glands Progress® nickel-plated brass



Cable glands Progress® stainless steel A2 / A4



Special cable glands and cable entries nickel-plated brass



EMC cable glands Progress® nickel-plated brass



EVolution EMC® Components



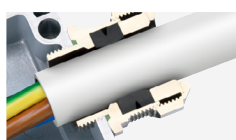
Multi-cable entry MCE Pro



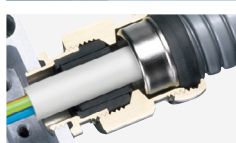
Progress® AgreenO cable glands of lead-free brass



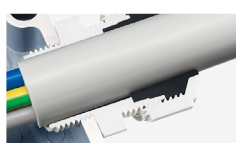
Cable glands nickel-plated brass according to EN 45545



Ex cable glands nickel-plated brass and synthetic



Combination conduit glands nickel-plated brass with integrated cable gland



Synthetic cable glands Progress®



Cable glands Syntec®, nickel-plated brass and synthetics



Special cable glands and cable entries synthetic



Accessories for cable glands synthetic and metal
AGROflex Braided sleeves



All AGRO China distributor authorization certificates are attached with a QR code.
By scanning the QR code, you may verify the distributor's qualifications and project information on our company's Chinese website at www.agro-electrical.cn, so as to prevent counterfeiting.



... your quality-connection

授权书（范例）

Authorization No. SH-202X-XX00XD

兹授予

XXXXXXXX 有限公司

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中国 XX 地区代理

有效期: 202X.01.01 — 202X.12.31

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总经理

欧葛兰（上海）电气产品贸易有限公司

202X.01.01



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For detailed product information, please visit the official Chinese website of AGRO at www.agro-electrical.cn, or scan the official website QR code on the right for access.
On the official website, click Product Catalog and select the type of cable glands you are interested in to view the corresponding product selection tables.
Click Download Center on the official website to download Chinese product catalogs, brochures, relevant certifications, and watch online product video materials.



official website QR code