

# The clean, green future of cable glands - Progress® AgreenO

Because sustainability matters in relation to cable glands too.

Show me the future.





# Progress® **AgreenO**: The clean, green future of cable glands

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 by 2022. 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%**.

## Rigorous selection criteria

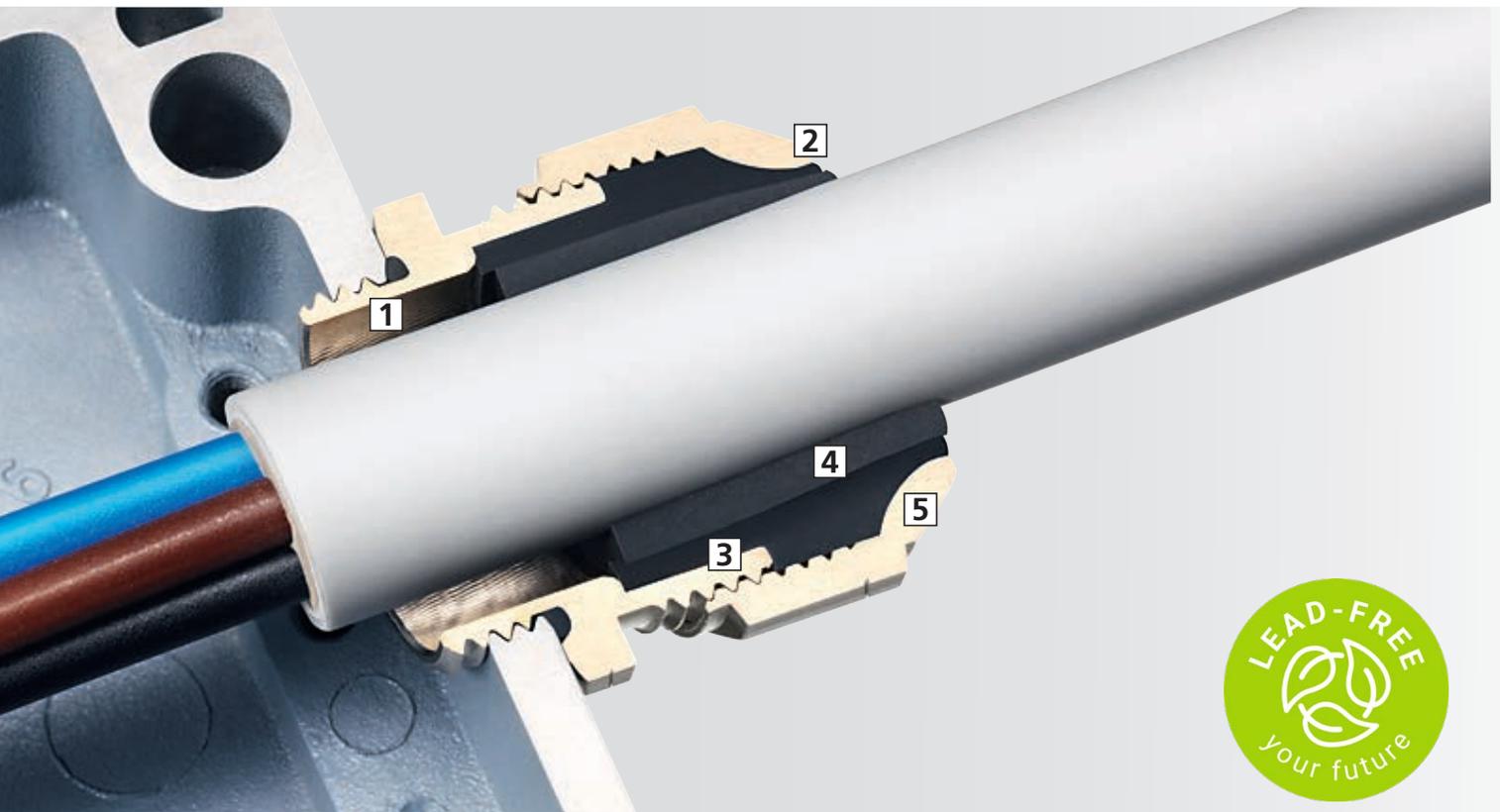
AGRO's **Progress® AgreenO** products use the material CuZn21Si3P with a maximum lead content of 0.1%. Sustainability and quality are together an important foundation element for the future. Of course, users of these sustainable and future-oriented products do not have to accept any compromises in terms of performance, quality or reliability.

The choice of lead-free CuZn21Si3P as material for the **Progress® AgreenO** range was preceded by a rigorous evaluation process that lasted several months. The suitability of the material was confirmed by numerous tests in the AGRO testing laboratory. Of course, these products also comply with IEC EN 62444 and UL 514B, and meet the demands of protection classes IP68 / IP69.

## A wide starting assortment

**Progress® AgreenO** includes the following product lines:

- **Progress® AgreenO** Standard: M12 to M63 with short and long entry threads
- **Progress® AgreenO** EMC easyCONNECT: M12 to M63 with short and long entry threads
- **Progress® AgreenO** EMC with contact sleeve: M12 to M63 with short and long entry threads
- Lock nuts – M12 to M63



## AGRO Progress® AgreenO cable glands of lead-free brass

are tried-and-trusted cable entry solutions for professional cabling work in industrial facilities. With the right selection and the right sealing insert, they can be used anywhere. The cable gland's outstanding compression technology ensures a high degree of leak-tightness and extremely cable-friendly strain relief, even if subjected to dynamic loading.

### 1 Short, Long or Special entry threads

Progress® AgreenO cable glands with short or long connection threads in metric design as standard; versions with PG or NPT entry threads are available on request. The entry thread can be screwed directly into the housing, or the cable gland can alternatively be installed with a lock nut where a suitable hole exists.

### 2 Visible reliability

A slight bulging of the sealing insert indicates the correct tightening torque during installation, or refer to the appropriate torque table on our website, [www.agro.ch](http://www.agro.ch).

### 3 Good anti-rotation protection

The integrated retaining grooves in the lower part and in the sealing insert grant against twisting and thus prevents the cable from rotating.

### 4 Great flexibility

Two-part sealing inserts can be adapted on site in a matter of seconds to suit the existing cable diameter.

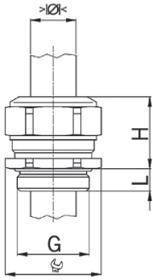
### 5 Reliable leak-tightness

Inner contours that precisely suit the shape of the sealing insert ensure optimal deformation of the sealing insert and thus perfect sealing. Protection classes IP 68 (up to 10 bar) and IP 69 facilitate a wide range of applications.



The part numbers of lead-free Progress® AgreenO cable glands include the letters "LF" at the end of the part number. The product itself is marked with a groove on the upper part as well as on the lower part, ensuring reliable identification at all times.

## Short entry thread metric



Material: Brass CuZn21Si3P lead free (Pb < 0.1%)  
 Surface: Nickel-plated  
 Seal: TPE  
 O-ring: NBR  
 Strain relief: Version A acc. to EN 62444  
 Operation temperature: -40°C / +100°C  
 Protection class: IP 68 (up to 10 bar) / IP 69



One-piece sealing insert  
not overall length insulated

G	> Ø < min mm	> Ø < max mm	Ø mm	H mm	L mm	Art.-No.	
M12x1.5	3.5	5.0	15	17	5	1000.12.050LF	50
M12x1.5	5.0	6.5	15	17	5	1000.12.065LF	50
M12x1.5	6.5	8.0	15	17	5	1000.12.080LF	50
M16x1.5	3.5	4.5	18	20	5	1000.17.045LF	50
M16x1.5	4.5	6.0	18	20	5	1000.17.060LF	50
M16x1.5	6.0	8.0	18	20	5	1000.17.080LF	50
M16x1.5	8.0	10.5	18	22	5	1000.17.105LF	50
M20x1.5	6.0	8.0	24	21	6	1000.20.080LF	50
M20x1.5	8.0	11.0	24	21	6	1000.20.110LF	50
M20x1.5	11.0	15.0	24	23	6	1000.20.150LF	50
M25x1.5	9.5	12.5	30	25	7	1000.25.125LF	25
M25x1.5	12.5	16.0	30	27	7	1000.25.160LF	25
M25x1.5	16.0	20.5	30	28	7	1000.25.205LF	25
M32x1.5	14.0	17.0	36	28	8	1000.32.170LF	25
M32x1.5	17.0	21.0	36	28	8	1000.32.210LF	25
M32x1.5	21.0	25.5	36	28	8	1000.32.255LF	25
M40x1.5	20.0	24.0	46	31	8	1000.40.240LF	10
M40x1.5	24.0	28.5	46	31	8	1000.40.285LF	10
M40x1.5	28.5	33.0	46	31	8	1000.40.330LF	10
M50x1.5	29.0	33.0	55	34	9	1000.50.330LF	10
M50x1.5	33.0	37.0	55	34	9	1000.50.370LF	10
M50x1.5	37.0	42.0	55	34	9	1000.50.420LF	10
M63x1.5	35.0	40.0	70	37	10	1000.63.400LF	5
M63x1.5	40.0	46.0	70	37	10	1000.63.460LF	5
M63x1.5	46.0	52.0	70	37	10	1000.63.520LF	5

Available on request:

Entry thread NPT or PG, sealing insert for high temperatures; prices and delivery times on request.  
 Available with sealing insert according to EN 45545, for inquiries or orders, please put an F in front of the article number.



Two-piece sealing insert  
not overall length insulated

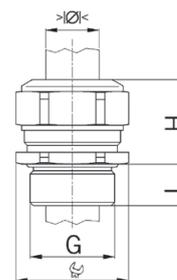
G	> Ø < min mm	> Ø < max mm	> Ø < min mm	> Ø < max mm	Ø mm	H mm	L mm	Art.-No.	
M16x1.5	6.0	8.0	8.0	10.5	18	22	5	1000.17LF	50
M20x1.5	8.0	11.0	11.0	15.0	24	23	6	1000.20LF	50
M25x1.5	12.5	16.0	16.0	20.5	30	28	7	1000.25LF	25
M32x1.5	17.0	21.0	21.0	25.5	36	28	8	1000.32LF	25
M40x1.5	24.0	28.5	28.5	33.0	46	31	8	1000.40LF	10
M50x1.5	33.0	37.0	37.0	42.0	55	34	9	1000.50LF	10
M63x1.5	40.0	46.0	46.0	52.0	70	37	10	1000.63LF	5

available on request:

Entry thread NPT or PG, sealing insert for high temperatures; prices and delivery times on request.  
 Available with sealing insert according to EN 45545, for inquiries or orders, please put an F in front of the article number.

## Long entry thread metric

Material: Brass CuZn21Si3P lead free (Pb < 0.1%)  
 Surface: Nickel-plated  
 Seal: TPE  
 O-ring: NBR  
 Strain relief: Version A acc. to EN 62444  
 Operation temperature: -40°C / +100°C  
 Protection class: IP 68 (up to 10 bar) / IP 69



One-piece sealing insert  
 not overall length insulated

G	> Ø < min mm	> Ø < max mm	mm	H mm	L mm	Art.-No.	
M12x1.5	3.5	5.0	15	17	10	1100.12.050LF	50
M12x1.5	5.0	6.5	15	17	10	1100.12.065LF	50
M12x1.5	6.5	8.0	15	17	10	1100.12.080LF	50
M16x1.5	3.5	4.5	18	20	10	1100.17.045LF	50
M16x1.5	4.5	6.0	18	20	10	1100.17.060LF	50
M16x1.5	6.0	8.0	18	20	10	1100.17.080LF	50
M16x1.5	8.0	10.5	18	22	10	1100.17.105LF	50
M20x1.5	6.0	8.0	24	21	10	1100.20.080LF	50
M20x1.5	8.0	11.0	24	21	10	1100.20.110LF	50
M20x1.5	11.0	15.0	24	23	10	1100.20.150LF	50
M25x1.5	9.5	12.5	30	25	11	1100.25.125LF	25
M25x1.5	12.5	16.0	30	27	11	1100.25.160LF	25
M25x1.5	16.0	20.5	30	28	11	1100.25.205LF	25
M32x1.5	14.0	17.0	36	28	13	1100.32.170LF	25
M32x1.5	17.0	21.0	36	28	13	1100.32.210LF	25
M32x1.5	21.0	25.5	36	28	13	1100.32.255LF	25
M40x1.5	20.0	24.0	46	31	13	1100.40.240LF	10
M40x1.5	24.0	28.5	46	31	13	1100.40.285LF	10
M40x1.5	28.5	33.0	46	31	13	1100.40.330LF	10
M50x1.5	29.0	33.0	55	34	14	1100.50.330LF	10
M50x1.5	33.0	37.0	55	34	14	1100.50.370LF	10
M50x1.5	37.0	42.0	55	34	14	1100.50.420LF	10
M63x1.5	35.0	40.0	70	37	14	1100.63.400LF	5
M63x1.5	40.0	46.0	70	37	14	1100.63.460LF	5
M63x1.5	46.0	52.0	70	37	14	1100.63.520LF	5



available on request:

Entry thread NPT or PG, sealing insert for high temperatures; prices and delivery times on request.  
 Available with sealing insert according to EN 45545, for inquiries or orders, please put an F in front of the article number.



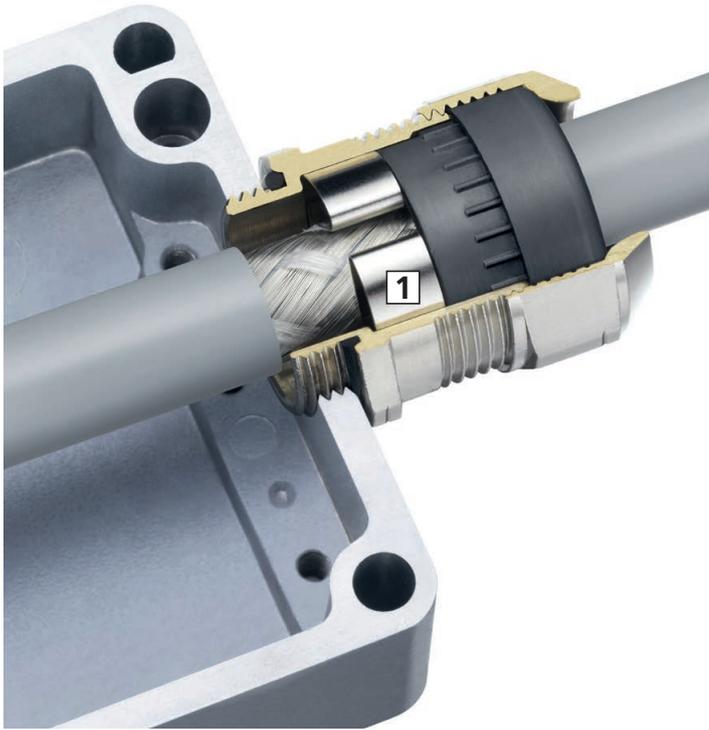
Two-piece sealing insert  
 not overall length insulated

G	> Ø < min mm	> Ø < max mm	> Ø < min mm	> Ø < max mm	mm	H mm	L mm	Art.-No.	
M16x1.5	6.0	8.0	8.0	10.5	18	22	10	1100.17LF	50
M20x1.5	8.0	11.0	11.0	15.0	24	23	10	1100.20LF	50
M25x1.5	12.5	16.0	16.0	20.5	30	28	11	1100.25LF	25
M32x1.5	17.0	21.0	21.0	25.5	36	28	13	1100.32LF	25
M40x1.5	24.0	28.5	28.5	33.0	46	31	13	1100.40LF	10
M50x1.5	33.0	37.0	37.0	42.0	55	34	14	1100.50LF	10
M63x1.5	40.0	46.0	46.0	52.0	70	37	14	1100.63LF	5



available on request:

Entry thread NPT or PG, sealing insert for high temperatures; prices and delivery times on request.  
 Available with sealing insert according to EN 45545, for inquiries or orders, please put an F in front of the article number.



## Progress® AgreenO EMC easyCONNECT brass lead free

This **cable gland** provides full installation control and compensates for tolerances in shielding thickness to ensure reliable shield grip. The spring system facilitates good and reliable shield contact for either partially stripped shielded cables or fully exposed cable shields.

### 1 Optimal shield contact

The strong yet gentle clamping of the cable shield ensures excellent shield contact and extremely low transfer impedances. The special shape of the contact spring results in a wide shield clamping range, and also enables the cable gland to be dismantled without destroying the EMC braiding.

## Progress® AgreenO EMC brass lead free

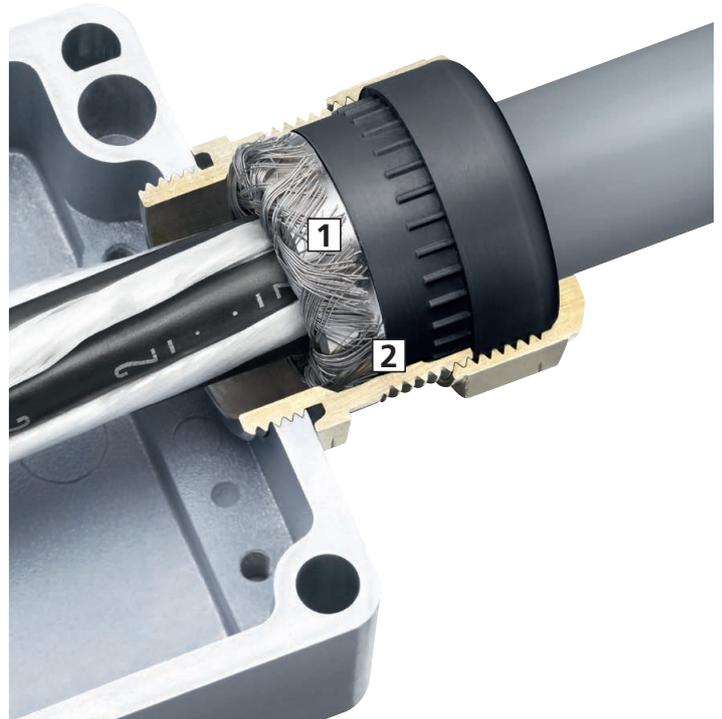
This **cable gland** with its tried-and-tested contact sleeve facilitates 360° shield contact with the shield braiding ending in the cable gland. The geometry of the contact sleeve's edge prevents the shield braiding from shearing off.

### 1 Very low contact resistance

The concentric 360° shield grip minimises contact resistance.

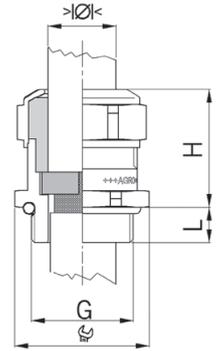
### 2 Permanent contact pressure

The interlocking combination "sealing insert – contact sleeve" ensures permanent contact pressure of the shield braiding on the cable gland's lower part.



## Short entry thread metric

Material:	Brass CuZn21Si3P lead free (Pb < 0.1%)
Surface:	Nickel-plated
Contact spring:	Spring steel 1.4310
Seal:	TPE
O-ring :	NBR
Strain relief:	Version A acc. to EN 62444
Einsatztemperatur:	-60°C / +100°C
Protection class:	IP 68 (up to 10 bar) / IP 69
Properties:	For a quick and safe installation of partially dismantled cables as well as thoroughly shielded cables



Two-piece sealing insert  
not overall length insulated

G	>Ø< min mm	>Ø< max mm	>Ø< min mm	>Ø< max mm	mm	H mm	L mm	i info	Art.-No.	
M12x1.5	-	-	3.5	5.0	15	22	5	1	1083.12.050LF	50
M12x1.5	-	-	5.0	6.5	15	22	5	1	1083.12.065LF	50
M16x1.5	6.0	8.0	8.0	10.5	18	25	5	-	1083.17LF	50
M20x1.5	8.0	11.0	11.0	15.0	24	27	6	-	1083.20LF	50
M25x1.5	12.5	16.0	16.0	20.5	30	33	7	-	1083.25LF	25
M32x1.5	17.0	21.0	21.0	25.5	36	33	8	-	1083.32LF	25
M40x1.5	24.0	28.5	28.5	33.0	46	38	8	2	1083.40LF	10
M50x1.5	33.0	37.0	37.0	42.0	55	42	9	2	1083.50LF	10
M63x1.5	40.0	46.0	46.0	52.0	70	42	10	2	1083.63LF	5

1 = One-piece sealing insert  
2 = Certifications in preparation

available on request:

Entry thread NPT or PG, sealing insert for high temperatures; prices and delivery times on request.  
Available with sealing insert according to EN 45545, for inquiries or orders, please put an F in front of the article number.



## Long entry thread metric



Two-piece sealing insert  
not overall length insulated

G	>Ø< min mm	>Ø< max mm	>Ø< min mm	>Ø< max mm	mm	H mm	L mm	i info	Art.-No.	
M12x1.5	-	-	3.5	5.0	15	22	10	1	1183.12.050LF	50
M12x1.5	-	-	5.0	6.5	15	22	10	1	1183.12.065LF	50
M16x1.5	6.0	8.0	8.0	10.5	18	25	10	-	1183.17LF	50
M20x1.5	8.0	11.0	11.0	15.0	24	27	10	-	1183.20LF	50
M25x1.5	12.5	16.0	16.0	20.5	30	33	11	-	1183.25LF	25
M32x1.5	17.0	21.0	21.0	25.5	36	33	13	-	1183.32LF	25
M40x1.5	24.0	28.5	28.5	33.0	46	38	13	2	1183.40LF	10
M50x1.5	33.0	37.0	37.0	42.0	55	42	14	2	1183.50LF	10
M63x1.5	40.0	46.0	46.0	52.0	70	42	14	2	1183.63LF	5

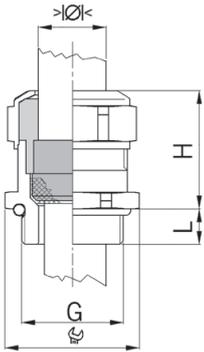
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## Short entry thread metric



Material:	Brass CuZn21Si3P lead free (Pb < 0.1%)
Surface:	Nickel-plated
Contact sleeve:	Brass CuZn21Si3P lead free (Pb < 0.1%)
Seal:	TPE
O-ring :	NBR
Strain relief:	Version A acc. to EN 62444
Operation temperature:	-40°C / +100°C
Protection class:	IP 68 (up tp 10 bar) / IP 69
Properties:	Excellent shield contact through the contact sleeve with the braided shield terminating in the screwed cable gland



One-piece sealing insert  
not overall length insulated

G	>Ø1<		Ø	H	L	Art.-No.	
	min mm	max mm					
M12x1.5	4.5	6.0	15	20	5	1080.12.060LF	50
M12x1.5	6.0	7.5	15	20	5	1080.12.075LF	50
M16x1.5	6.0	8.0	18	23	5	1080.17.080LF	50
M16x1.5	8.0	10.0	18	25	5	1080.17.100LF	50
M20x1.5	8.0	11.0	24	25	6	1080.20.110LF	50
M20x1.5	11.0	14.0	24	27	6	1080.20.140LF	50
M25x1.5	13.0	16.0	30	30	7	1080.25.160LF	25
M25x1.5	16.0	19.0	30	33	7	1080.25.190LF	25
M32x1.5	18.0	21.0	36	32	8	1080.32.210LF	25
M32x1.5	21.0	25.0	36	32	8	1080.32.250LF	25
M40x1.5	24.0	28.5	46	34	8	1080.40.285LF	10
M40x1.5	28.5	32.0	46	34	8	1080.40.320LF	10
M50x1.5	33.0	37.0	55	36	9	1080.50.370LF	10
M50x1.5	37.0	41.0	55	36	9	1080.50.410LF	10
M63x1.5	40.0	46.0	70	39	10	1080.63.460LF	5
M63x1.5	46.0	50.0	70	39	10	1080.63.500LF	5

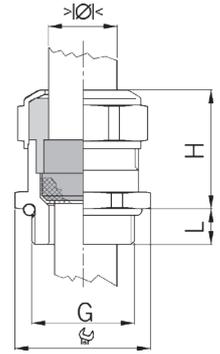
1 = One-piece sealing insert  
2 = Certifications in preparation

available on request:

Entry thread NPT or PG, sealing insert for high temperatures; prices and delivery times on request.  
Available with sealing insert according to EN 45545, for inquiries or orders, please put an F in front of the article number.

## Long entry thread metric

Material:	Brass CuZn21Si3P lead free (Pb < 0.1%)
Surface:	Nickel-plated
Contact sleeve:	Brass CuZn21Si3P lead free (Pb < 0.1%)
Seal:	TPE
O-ring :	NBR
Strain relief:	Version A acc. to EN 62444
Operation temperature:	-40°C / +100°C
Protection class:	IP 68 (up to 10 bar) / IP 69
Properties:	Excellent shield contact through the contact sleeve with the braided shield terminating in the screwed cable gland



One-piece sealing insert  
not overall length insulated

G	> Ø <		 mm	H mm	L mm	Art.-No.	
	min mm	max mm					
M12x1.5	4.5	6.0	15	20	10	1180.12.060LF	50
M12x1.5	6.0	7.5	15	20	10	1180.12.075LF	50
M16x1.5	6.0	8.0	18	23	10	1180.17.080LF	50
M16x1.5	8.0	10.0	18	25	10	1180.17.100LF	50
M20x1.5	8.0	11.0	24	25	10	1180.20.110LF	50
M20x1.5	11.0	14.0	24	27	10	1180.20.140LF	50
M25x1.5	13.0	16.0	30	30	11	1180.25.160LF	25
M25x1.5	16.0	19.0	30	33	11	1180.25.190LF	25
M32x1.5	18.0	21.0	36	32	13	1180.32.210LF	25
M32x1.5	21.0	25.0	36	32	13	1180.32.250LF	25
M40x1.5	24.0	28.5	46	34	13	1180.40.285LF	10
M40x1.5	28.5	32.0	46	34	13	1180.40.320LF	10
M50x1.5	33.0	37.0	55	36	14	1180.50.370LF	10
M50x1.5	37.0	41.0	55	36	14	1180.50.410LF	10
M63x1.5	40.0	46.0	70	39	14	1180.63.460LF	5
M63x1.5	46.0	50.0	70	39	14	1180.63.500LF	5

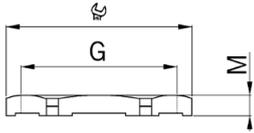


1 = One-piece sealing insert  
2 = Certifications in preparation

available on request:

Entry thread NPT or PG, sealing insert for high temperatures; prices and delivery times on request.  
Available with sealing insert according to EN 45545, for inquiries or orders, please put an F in front of the article number.

## Metric entry thread



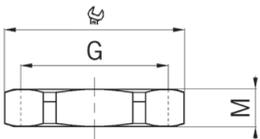
### EMC lock nuts nickel-plated brass lead free

Material: Brass CuZn21Si3P lead free (Pb < 0.1%)  
 Surface: Nickel-plated  
 Execution: EMC lock nut with cutting teeth for optimised shield contact  
 Operation temperature: -60°C / +200°C



G	$\frac{G}{mm}$	M	$\frac{M}{mm}$	Art.-No.	
M12x1.5	15	3.5		8012.85LF	25
M16x1.5	19	3.5		8017.85LF	25
M20x1.5	24	4.0		8020.85LF	25
M25x1.5	30	4.0		8025.85LF	10
M32x1.5	36	5.0		8032.85LF	10
M40x1.5	46	5.3		8040.85LF	10
M50x1.5	55	6.3		8050.85LF	10
M63x1.5	70	7.0		8063.85LF	10

## Lock nuts nickel-plated brass



Material: Brass CuZn21Si3P lead free (Pb < 0.1%)  
 Surface: Nickel-plated  
 Execution: Hexagonal design  
 Operation temperature: -40°C / +200°C



Metric thread					
G	$\frac{G}{mm}$	M	$\frac{M}{mm}$	Art.-No.	
M12x1.5	15	3.0		8000.12LF	100
M16x1.5	19	3.0		8000.17LF	100
M20x1.5	24	3.5		8000.20LF	100
M25x1.5	30	4.0		8000.25LF	50
M32x1.5	36	4.0		8000.32LF	25
M40x1.5	46	5.0		8000.40LF	25
M50x1.5	55	5.5		8000.50LF	10
M63x1.5	70	6.0		8000.63LF	10

Available on request:

Other accessory items such as extensions, reducers and adapters; prices and delivery times on request.



### AGRO cable glands – the all-rounders

Our standard range of cable glands is designed to offer ideal entry solutions for standard applications. In some particular situations, the cable gland must be adapted to the specific requirements. Very often it is sufficient to bring together suitably selected individual components of the Progress® modular system in order to create a good solution.

All individual components of the modular system are compatible and can be freely combined. However, some installation situations or demands may require a special entry solution. In this case, too, the Progress® modular system offers the necessary flexibility for quick and inexpensive one-off solutions. Cable glands can be customised according to the requirements at every level of the modular system. We can implement all technical threads in various materials and customise sealing inserts in terms of number, shape of feedthroughs and choice of material so that the requirements are precisely met. Long-term functional reliability is the top priority. Talk to us if you need to feed cables into your device. We will find a simpler, more efficient or nicer solution for you!



Further information relating to our products, solutions and services can be found on our website, [www.agro.ch](http://www.agro.ch).

Visit our exciting social media platforms for regular news updates.



# Systems and solutions for professional electro-installations and industrial products.



## Energy efficiency.

Innovative AGRO products support you in satisfying the increasing energy-related demands of national and regional authorities.



## Fire protection.

AGRO fire protection systems offer reliable solutions for electro-installations in fire walls and fire protection floors and ceilings.



## Noise insulation.

AGRO's innovative sound insulation boxes are suitable for use in noise insulation walls, even in the case of flush-mounted installations.



## Cable glands.

Progress® and Syntec® cable glands.  
For cables, the best



## Protective cable conduits.

Solutions for applications in mechanical engineering, facilities construction, automobile and rolling stock manufacture, automation and energy engineering.



## Cable penetrations.

Modular cable and pipe penetrations.  
Watertight and gastight.