

Progress® AgreenO.

The clean, green future of cable glands.

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**, KAISER Group 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 manufacture 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%**.

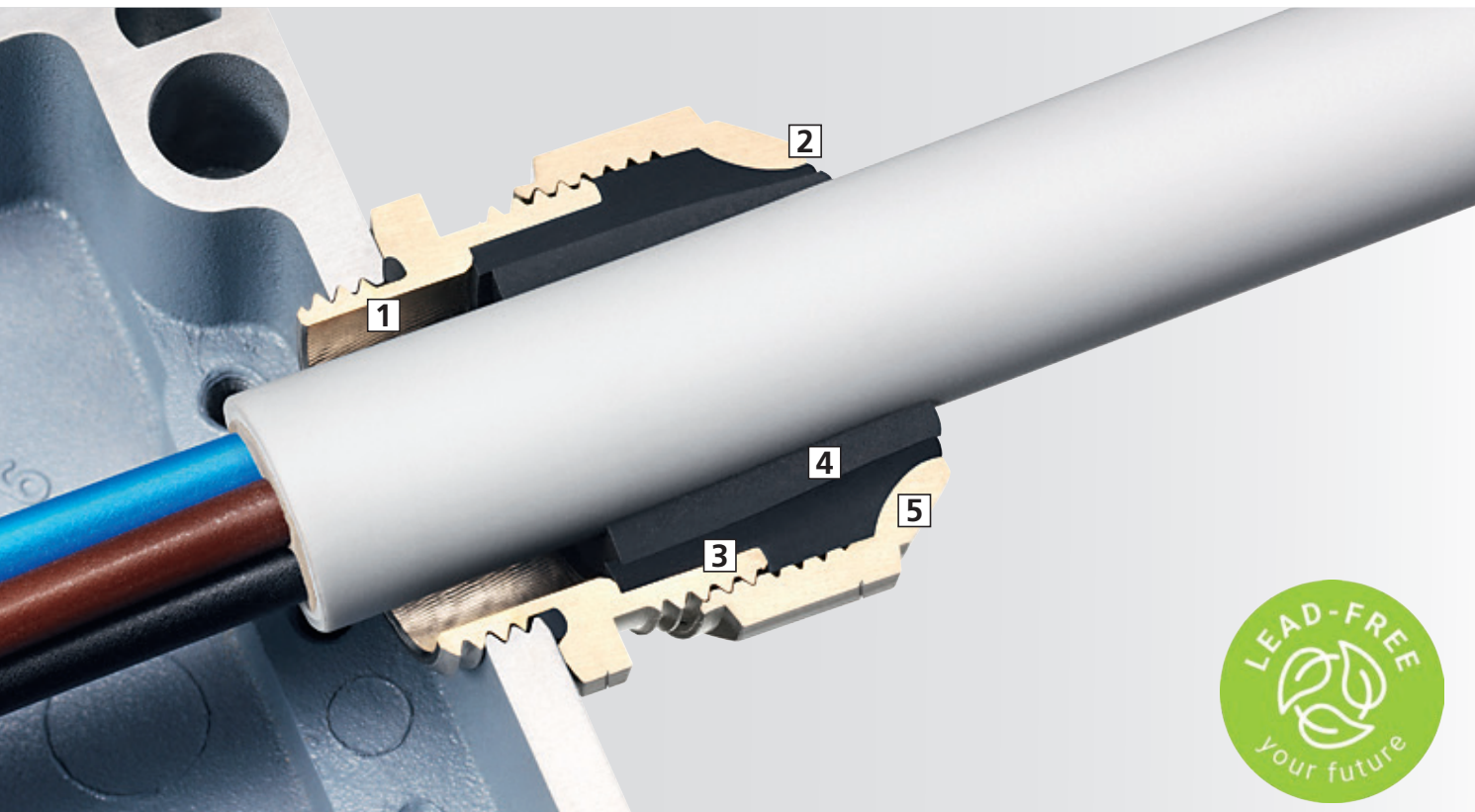
Rigorous selection criteria

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 exist

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.

3 Good anti-rotation protection

The longitudinal knurling (surface texture) applied to the cable gland's lower part ensures a high degree of secureness against rotation via the sealing insert, 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.

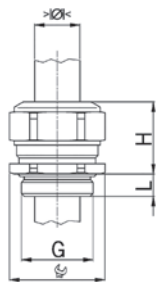
5 Reliable leak-tightness

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%)
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.	E-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; in this case, for inquiries or orders, please put an F in front of the article number.



Two-piece sealing insert
not overall length insulated

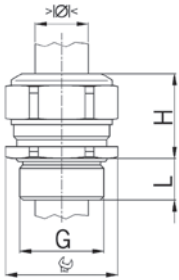
G	>Ø< min mm	>Ø< max mm	>Ø< min mm	>Ø< max mm	 mm	H mm	L mm	Art.-No.	E-No.	
M16x1.5	6.0	8.0	8.0	10.5	18	22	5	1000.17LF		50
M20x1.5	8.0	11.0	11.0	15.0	24	23	6	1000.20LF		50
M25x1.5	12.5	16.0	16.0	20.5	30	28	7	1000.25LF		25
M32x1.5	17.0	21.0	21.0	25.5	36	28	8	1000.32LF		25
M40x1.5	24.0	28.5	28.5	33.0	46	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; in this case, 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%)
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.	E-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; in this case, for inquiries or orders, please put an F in front of the article number.



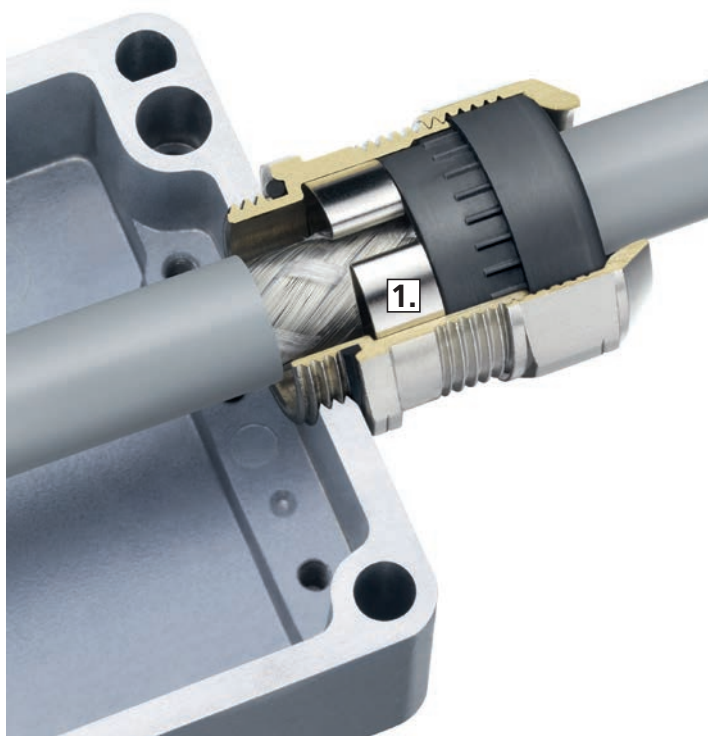
Two-piece sealing insert
not overall length insulated

G	>Ø< min mm	>Ø< max mm	>Ø< min mm	>Ø< max mm	 mm	H mm	L mm	Art.-No.	E-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; in this case, 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 screen 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

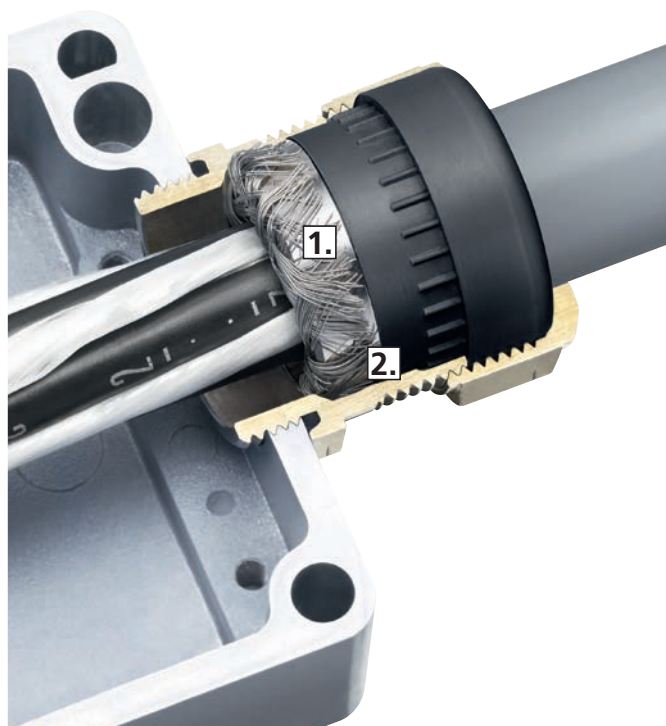
This **cable gland** with its tried-and-tested contact sleeve facilitates 360° shield contact with the shield braiding ending in the cable gland. The geometry of the contact sleeve's edge prevents the shield braiding from shearing off.

1 Very low contact resistance

The concentric 360° shield grip minimises contact resistance.

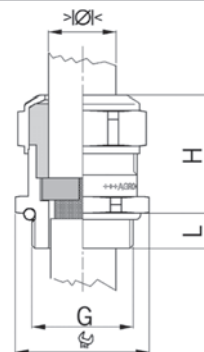
2 Permanent contact pressure

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%)
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.	E-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; in this case, 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.	E-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	

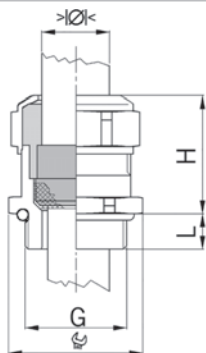
1 = One-piece sealing insert
2 = Certifications in preparation

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; in this case, for inquiries or orders, please put an F in front of the article number.



Short entry thread metric



Material:	Brass CuZn21Si3P lead free (Pb < 0.1%)
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	>Ø< min mm	>Ø< max mm	mm	H mm	L mm	Art.-No.	E-No.	
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

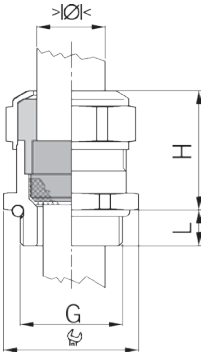
1 = One-piece sealing insert
2 = Certifications in preparation

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; in this case, for inquiries or orders, please put an F in front of the article number.

Long entry thread metric

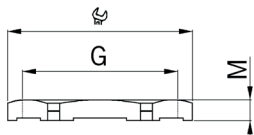
Material:	Brass CuZn21Si3P lead free (Pb < 0.1%)
Contact sleeve:	Brass CuZn21Si3P lead free (Pb < 0.1%)
Seal:	TPE
O-ring :	NBR
Strain relief:	Version A acc. to EN 62444
Operation temperature:	-40°C / +100°C
Protection class:	IP 68 (up to 10 bar) / IP 69
Properties:	Excellent shield contact through the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



One-piece sealing insert not overall length insulated							
G	>Ø1< min mm	>Ø1< max mm	 mm	H mm	L mm	Art.-No.	E-No. 
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; in this case, for inquiries or orders, please put an F in front of the article number.							



Metric entry thread



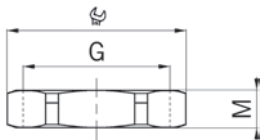
EMC lock nuts nickel-plated brass lead free

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



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

Lock nuts nickel-plated brass



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



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



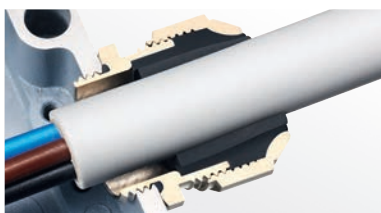
All further information on products, solutions and our services can be found on our homepage www.kaiser-elektro.de or visit our social media channels.



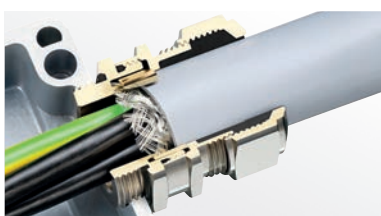
Systems and solutions for professional cable entry.



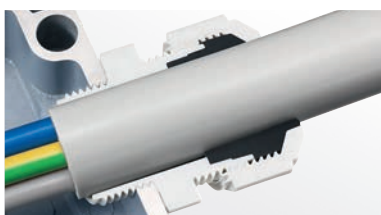
Syntec® cable glands made of plastic or brass are the optimal solution for your daily installation tasks. The unique lamellar technology always guarantees cable routing with excellent strain relief..



Progress® cable glands made of plastic or metal are proven aids for professional cable routing in industrial plants. The excellent compression technology ensures tight seals and strain relief which is exceptionally easy on cables.



Progress® EMC cable glands made of brass ensure a low-impedance connection between the braided shield and the metal chassis while maintaining secure cable routing.



Progress® Ex cable glands made of plastic or brass ensure secure cable routing even in potentially explosive environments.



Elbows and flanged to add changes of direction in switching cabinets and chassis.



Accessoriess: locknuts, reduction fittings, locking screws, ...

Technical information and advice

All further information on products, system solutions and communication media can be found on our website: www.kaiser-elektro.de

For any additional questions or information, please do not hesitate to contact our technical support team who will be happy to assist you.

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