

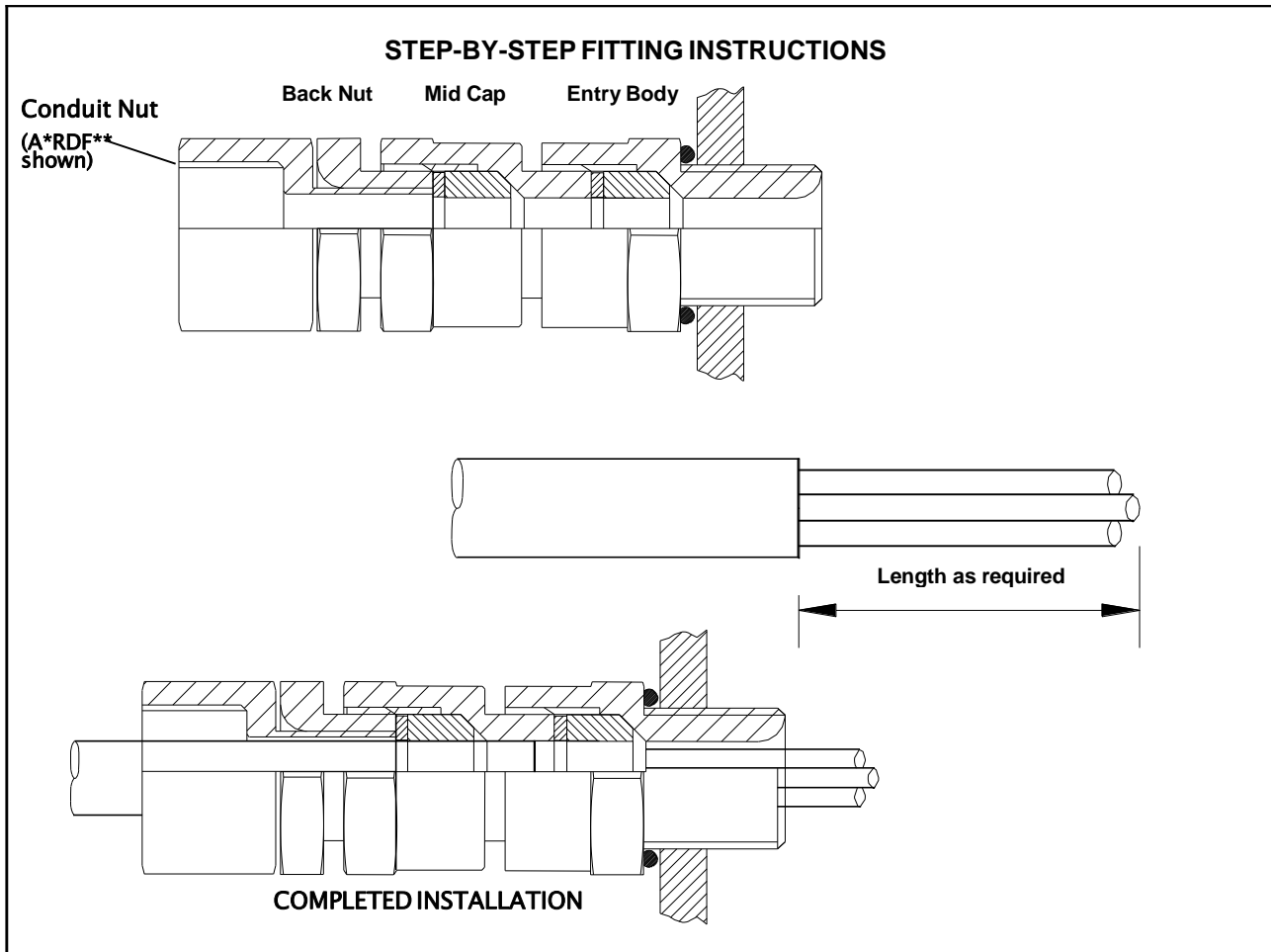
A*RDF** / A*RDM** Type Cable Glands – ASSEMBLY INSTRUCTIONS

概要信息 Brief Description

Peppers A*RDF** and A*RDM** type 型电缆接头适用于室外适当危险场所使用的非铠装，编织或铠装电缆，它可用在外壳内阻断于编织层或铠装。它在外护套上有密封条使它达到防护等级 IP66/67/IP68 (7 天 50 米) 的效果，并为适当灵活金属软管提供一个可自由旋转的连接器 cable glands are for outdoor use in the appropriate Hazardous Areas with unarmoured, braided or armoured cable, where the braid or armour is to be terminated inside the enclosure. They seal on the outer jacket providing environmental protection to IP66/67/IP68 (50 metres for 7 days) and provide a freely rotating connector for the connection of suitable equipment.

警告 Warning

请仔细阅读这些说明。除非在我们这里的数据表中有详细说明，或经 Peppers 书面确认，否则这些产品不应在其它应用中使用。Peppers 对未按照本说明书安装或使用产品所造成的任何损坏、伤害或其他间接损失概不负责。本说明书并非针对产品的选择提供建议。进一步的指导可在背页列出的标准或现行操作规程中找到。Please read these instructions carefully. These products should not be used in applications except as detailed here or in our datasheets, unless confirmed in writing by Peppers. Peppers take no responsibility for any damage, injury or other consequential loss caused where products are not installed or used according to these instructions. This leaflet is not intended to advise on the selection of product. Further guidance can be found in the standards listed overleaf or the prevailing code of practice.



安装步骤分解 STEP-BY-STEP FITTING INSTRUCTIONS

- 1 检查螺纹是否有张力。无需拆卸接头。Check there is no tension in the threads. It is not necessary to dismantle the gland.
- 2 安装入口主体，允许安装任何附件，并将螺纹完全啮合到设备中。用手拧紧，然后用扳手适当紧固。Fit Entry Body, allowing for any installation accessories, and fully engage the thread into the equipment. Hand-tighten, then suitably secure with a wrench.
- 3 按照安装要求准备电缆 Prepare cable as required for the installation.
- 4 通过电缆接头插入电缆。正确放置电缆。拧紧电缆接头时，两条密封条必须夹住电缆的外护套。Insert cable through cable gland. Position the cable correctly. BOTH seals must grip the outer jacket of the cable when the cable gland is tightened.
- 5 把穿线管/设备放入到管接头中。Bring the conduit/equipment and engage into the conduit connector.
- 6 把穿线管/设备拧紧到管接头直到完全契合。Screw the conduit/equipment onto the conduit connector until it is completely engaged.
- 6 将中部螺母拧紧至入口主体。确保密封条与电缆护套完全接触，然后按照图 1 中的详细说明确定的圈数，再额外拧紧。支起电缆以防其扭曲。Tighten Mid Cap to Entry Body. Ensure the seal makes full contact with cable sheath and then tighten by the additional turns detailed in Table 1. Support the cable to prevent it from twisting during tightening.
- 7 用扳手固定中部螺母。以防旋转。将尾部螺母拧紧到中部螺母上。确保密封件与电缆护套完全接触，然后按表 1 中详细说明确定的附加圈数拧紧。支撑电缆，防止其在拧紧过程中扭曲。Secure the Mid Cap with a spanner/wrench to prevent rotation. Tighten Back Nut to Mid Cap. Ensure the seal makes full contact with cable sheath and then tighten by the additional turns detailed in Table 1.

备注-电缆接头具有铅护套选项特性 Note - Cable Glands featuring Lead Sheath Option (A1R and A4R types)

为确保铅护套的连续性和正确完成安装，电缆密封头的安装应如下所示：To ensure that continuity is provided for the lead sheath and the installation is completed correctly the cable gland should be installed as follows: -

- 电缆外护套的 A 部分应剥下来露出铅护套。应将其剥离回适当位置，以正确终止导线，并使内部电缆接头密封固定电缆外护套。A section of the cable outer sheath should be stripped back to expose the lead sheath. It should be stripped back in a position suitable to terminate the conductors correctly and for the internal cable gland seal to secure the cable outer sheath.

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- 接头内的垫片应与电缆的铅护套完全接触。The continuity washer within the gland should make full contact with the lead sheath of the cable.
- 然后应按照上述说明按照接头。The gland should then be installed as per the above instructions.
- 如有需要，请联系 Peppers 寻求进一步建议。Contact Peppers for further advice if required.

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Table 1 - Installation Data and Cable Sizes (mm)

Gland Size	Mid Cap / Back Nut Turns – Steps 6 & 7	Outer Sheath	
		Min	Max
12	¼	0.9	6.0
16	2	4.0	8.4
20S	1	7.2	11.7
20	2	9.4	14.0
25	2	13.5	20.0
32	2	19.5	26.3
40	2	23.0	32.2
50S	1.5	28.1	38.2
50	2	33.1	44.1
63S	1.5	39.2	50.1
63	2	46.7	56.0
75S	2	52.1	62.0
75	2	58.0	68.0
80	1.5	62.2	72.0
85	1.5	69.0	78.0
90	1.5	74.0	84.0
100	2	82.0	90.0

Interpretation of Markings

Markings on the outside of this gland carry the following meanings:

A-a-b-c-d-eee-fff nn

a = Seal Type	1 = Neoprene & Continuity Washer 2 = Neoprene 3 = Silicone 4 = Silicone & Continuity Washer
b = Design Option	RDF = Double seal with rotating female thread conduit nut RDM = Double seal with rotating male thread conduit nut
c = Gland Material	B = Brass S = Stainless Steel A = Aluminium alloy
d = Design Option	F = Dual Certified Ex db and Ex eb E = Ex eb certified only
eee = Connector Option	e.g. M20
fff = Gland Shell Size	e.g. 20
ggg = Entry Thread	e.g. M20
nn = Year of Manuf.	e.g. 23

Approvals and Certification

Approval	Certificate Number	Protection Concept / Type
ATEX (2014/34/EU)	CML 19ATEX1345X	II 1D 2G Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da II 3G Ex nR IIC Gc
	CML 19ATEX4109X	
IECEX	IECEX CML 19.0103X	Ex db IIC Gb / Ex eb IIC Gb / Ex nR IIC Gc / Ex ta IIIC Da
CCC	2021312313000408	Ex db IIC Gb / Ex eb IIC Gb / Ex nR IIC Gc / Ex ta IIIC Da IP66

Installation Guidance 安装指引

要点	建议 Advice
1	EN/IEC 60079-10 EN/IEC 60079-14
2	只能由精通电缆密封套安装的合格电工进行安装。Installation should only be carried out by a competent electrician, skilled in cable gland installation.
3	有关合规标准的全面详情，请参阅产品证书，该证书可从我们的网站下载。Comprehensive details of the compliance standards can be found in the product certificates which
4	不得在带电的条件下进行安装。NO INSTALLATION SHOULD BE CARRIED OUT UNDER LIVE CONDITIONS.
5	螺纹孔：产品可以直接安装到螺纹孔中。螺纹孔应符合相关适用标准，并具有引入倒角，以允许螺纹完全啮合。未能提供足够的引入倒角可能导致入口密封有问题。对于 Ex db 应用，至少需要使用 5 个完全啮合的平行螺纹。公制螺纹配有 o 形圈，可保持 IP66 和 IP68。其他并行接头螺纹将保持 IP64 的 IP 等级。使用 Peppers 密封垫圈以保持所有 IP 额定值大于 IP64。使用的任何螺纹密封剂应为不可硬化型。虽然带锥形螺纹的 Peppers 产品在安装到接头螺纹时，经测试证明无需任何额外的密封剂即可保持 IP66，但由于锥形螺纹使用的计量公差不同，如果要求 IP 等级高于 IP64，建议使用不可硬化螺纹密封剂。Threaded entries: the product can be installed directly into threaded entries. Threaded entries should comply with the relevant applicable standards and have a lead-in chamfer to allow for full engagement of the threads. Failure to provide a sufficient lead-in chamfer may lead to ingress sealing issues. For Ex db applications a minimum of 5 fully engaged parallel threads is required. Metric threads are supplied with an o-ring and will maintain IP66 and IP68. Other parallel entry threads will maintain an IP rating of IP64. A Peppers sealing washer should be used to maintain all IP ratings greater than IP64. Any thread sealant used should be non-hardening. Whilst Peppers products with tapered threads, when installed into a threaded entry, have been tested to maintain IP66 without any additional sealant, due to the differing gauging tolerances associated with the use of tapered threads it is recommended to use a non-hardening thread sealant if an IP rating higher than IP64 is required.
6	光孔：应大于外螺纹公称直径 0.5mm (+/-0.2mm)。产品应使用 Peppers 锁紧螺母固定，并拧紧螺纹，以确保电缆接头牢固。应使用 Peppers 密封垫圈来保持 IP 额定值。应使用 Peppers 锯齿垫圈进行额外的安装保护。Clearance holes: these shall be 0.5mm (+/-0.2mm) larger than the nominal diameter of the external entry thread. The product should be secured with a Peppers locknut and the threads tightened to ensure the cable gland is secure. A Peppers sealing washer should be used to maintain IP ratings. A Peppers serrated washer should be used for additional installation protection.
7	为保持产品的防护等级，入口孔必须垂直于外壳表面。表面应足够平整和坚硬，以支撑组件并形成 IP 接头。根据一般机械加工技术，该产品包含一圈螺纹旋出，整个长度上没有完整的螺纹，因此入口螺纹应具有适当的引入倾角，以确保保持密封。进一步的指导可以在我们的网站上的 Peppers 文件 CT0012 中找到。用户/安装人员有责任确保外壳和电缆密封套之间的接口适当密封，以满足应用要求。To maintain the Ingress Protection rating of the product, the entry hole must be perpendicular to the surface of the enclosure. The surface should be sufficiently flat and rigid to support the assembly and make the IP joint. The product incorporates a thread run out according to general machining techniques and will not have a full form thread for the entire length and as such entry threads should have a suitable lead-in chamfer to ensure a seal is maintained. Further guidance can be found in Peppers document CT0012 which can be found on our website. It is the user's/installer's responsibility to ensure that the
8	如果需要接地连接，应使用 Peppers 接地垫片。Peppers 接地垫片经过独立测试，符合 IEC 62444 中给出的 B 类值。进一步的指导可以在我们的网站上的 Peppers 文件 CT0017 中找到。Peppers 接地垫片应安装在外壳内外的外部入口螺纹上。如果安装在内部，则必须用 Peppers 锁紧螺母和可选的 Peppers 锯齿垫圈固定。Where a bonding connection to earth is required a Peppers earth tag should be used. Peppers earth tags have been independently tested to comply with the Category B values given in IEC 62444. Further guidance can be found in Peppers document CT0017 which can be found on our website. Peppers earth tags should be fitted over the external entry thread from either inside or outside the enclosure. If fitted internally they must be secured with a Peppers locknut and optionally a Peppers serrated washer.
9	Peppers 公制外螺纹符合 ISO 965-1 和 ISO 965-3 标准，公差为 6g。Peppers 标准公制螺纹螺距为 1.5mm (适用于 M75 以下的螺纹)，2.0mm (适用于 M80 及以上的螺纹)。可根据要求提供其他螺纹螺距。Peppers 外 NPT 螺纹符合 ASME B1.20.1 的要求，并根据第 8.1 条进行计量。所有螺纹符合 IEC 60079-1 第 5.3 条的螺纹接头要求。其他螺纹类型的信息可以在产品证书中找到。Peppers external metric entry threads comply with ISO 965-1 and ISO 965-3 with a 6g tolerance fit. Peppers standard metric thread pitch is 1.5mm for threads up to M75 and 2.0mm for size M80 and above. Alternative thread pitches are available upon request. Peppers external NPT threads are in accordance with ASME B1.20.1 with gauging to clause 8.1. All threads comply with the threaded joint requirements of clause 5.3 from IEC 60079-1. Information on other thread types can be found in the product certificates.
10	安装后，除例行检查外，不得拆卸。应根据 IEC/EN 60079-17 执行检查。检查后，应按说明重新组装压盖，确保压紧螺母、中部螺母和尾部螺母正确拧紧，以确保电缆牢固安全。Once installed do not dismantle except for routine inspection. An inspection should be conducted as per IEC/EN 60079-17. After inspection the gland should be re-assembled as instructed, ensuring the compression nut, mid cap and back nut are correctly tightened to ensure the cable is secure.
11	如果需要，可以使用润滑剂来辅助装配和常规检查。润滑剂应符合现行操作规程，并注意确保润滑剂不会与电缆接头密封条接触，因为这可能会影响性能。If required an anti-seize lubricant may be used to aid assembly and routine inspection. The lubricant should comply with the prevailing code of practice and care should be taken to

Specific Conditions of Use

- 这些接头不得用于接触点温度超出氯丁橡胶（黑色）密封-35°C至+90°C范围，或硅胶（白色）密封-60°C至+180°C范围的外壳中。These cable glands shall not be used in enclosures where the temperature at the point of contact exceeds -35°C to +90°C using neoprene (black) seals, or -60° to +180°C using silicone (white) seals.
- 这些电缆接头只能用于固定安装，因此应有效夹住电缆，以防止拉扯或扭曲。These cable glands are only suitable for fixed installations. The cable must be effectively clamped to prevent pulling or twisting.
- 当按照制造商的说明安装这些接头并在其上安装适当的外壳时，这些接头能够提供 IP66 和 IP68 (50 米-7 天) 的进入保护。These cable glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fitted, are capable of providing an ingress protection of IP66 and IP68 (50 metres 7 days).
- 安装在粉尘爆炸中的螺纹接口部件螺纹无接口 o 形密封圈，螺纹入口内，应仅安装在具有以下任一特性的外壳中：The threaded entry component threads without interface o-ring seals installed in an explosive dust atmosphere, within threaded entries, shall only be fitted into enclosures that have either:
 - 平行引入线，确保至少保持 5 个螺纹完全、充分接触，这符合 EN 60079-31:2014/IEC 60079-31:2013 第 5.1.2 条的要求 parallel entries that will ensure that a minimum of 5 full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014 / IEC 60079-31:2013,
 - 锥形入口，确保至少保持 3½ 螺纹完全充分接触，这符合 EN 60079-31:2014/IEC 60079-31:2013 第 5.1.2 条的要求 tapered entries that will ensure that a minimum of 3½ full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014 / IEC 60079-31:2013

