

Installation Instructions for Redapt Stopping Plug Range

These installation instructions give guidance on selection of Redapt products and general instructions for safety and installation of chosen Redapt products. All Redapt products should only be used in applications and environments as detailed in these instructions and other Redapt literature.

Redapt will not take responsibility for any damage, injury or form of loss caused where products are not installed or used as detailed in these instructions. If in doubt, further advice can be obtained from our Technical Department.

Product Certification

Series	ATEX / IECEx Certification	CSA US/CANADA Certification	Series	ATEX / IECEx Certification	CSA US/CANADA Certification
PD-U	I M2 II 2DG E Exd I/IIc & E Exe I/II Ex tD A21	CL I, Div 1&2 ABCD	PD-E-4	II 2DG / E Exe II	CL I, Zone 1
PA-D	IM2 II 2DG / E Exd I/IIc Ex tD A21	CL I, Div 1&2 ABCD	PD-E	II 2DG / E Exe II	CL I, Div 2 ABCD
PB-D	IM2 II 2DG / E Exd I/IIc Ex tD A21	CL I, Div 1&2 ABCD	PH-E	II 2DG / E Exe II	CL I, Div 2 ABCD

Product Information

Series	ATEX Certificate No.	IECEx Certificate No.	Basic IP/CSA NEMA	Impact Resistance	Operating Temperature
PD-U	Sira 00ATEX1094	IECEx SIR 05.0042U	IP66-67-68 / 4, 4X ¹	20 Nm	-50°C to +150°C ²
PA-D	Sira 99ATEX1113	IECEx SIR 05.0042U	IP64 / 3	7 Nm	-60°C to +180°C
PB-D	Sira 99ATEX1113	IECEx SIR 05.0042U	IP64 / 3	7 Nm	-60°C to +180°C
PD-E-4	Sira 00ATEX3091	-	IP66-67-68 / 4, 4X ¹	7 Nm	-50°C to +85°C ²
PD-E	Sira 00ATEX3092	-	IP66-67-68 / 4, 4X ¹	7 Nm	-50°C to +150°C ²
PH-E	Sira 00ATEX3092	-	IP64 / 3	7 Nm	-60°C to +180°C

Notes: ¹ When used without O-ring IP64 seal will be maintained.

² Please see Special Notes for specific details concerning Operating Temperatures

Where an installation requires a higher level of Ingress Protection to be maintained than the basic IP rating for the product shown in the table above, this may be achieved by using IP washers or thread sealant.

Certification and Material Variations for Standard Thread Sizes

Product		Certification		Material		Plating			
PD	Dome Headed Plug	U	E Exd & E Exe	1	Brass	0	Unplated	9	Anodised
PA	Type A Plug	D	E Exd	2	Mild Steel	1	Nickel		
PB	Type B Plug	E	E Exe	3	Stainless Steel	2	Zinc		
PH	Hex Head Plug			4	30% Glass Filled Nylon	6	Chromatised		
				5	Aluminium	8	Electroless Nickel		

Standard Male and Female Thread Sizes

03	M16	18	¾" ET	34	2" NPT	49	3" NPS	64	4" BSPP	80	PG 9
04	M20	19	1" ET	35	2 ½" NPT	50	3 ½" NPS	67	3/8" BSPT	81	PG 11
05	M25	20	1 ¼" ET	36	3" NPT	51	4" NPS	68	½" BSPT	82	PG 13.5
06	M32	21	1 ½" ET	37	3 ½" NPT	54	3/8" BSPP	69	¾" BSPT	83	PG 16
07	M40	22	2" ET	38	4" NPT	55	½" BSPP	70	1" BSPT	84	PG 21
08	M50	23	2 ½" ET	41	3/8" NPS	56	¾" BSPP	71	1 ¼" BSPT	85	PG 29
09	M63	24	3" ET	42	½" NPS	57	1" BSPP	72	1 ½" BSPT	86	PG 36
10	M75	28	3/8" NPT	43	¾" NPS	58	1 ¼" BSPP	73	2" BSPT	87	PG 42
11	M80	29	½" NPT	44	1" NPS	59	1 ½" BSPP	74	2 ½" BSPT	88	PG 48
12	M85	30	¾" NPT	45	1 ¼" NPS	60	2" BSPP	75	3" BSPT		
13	M90	31	1" NPT	46	1 ½" NPS	61	2 ½" BSPP	76	3 ½" BSPT		
14	M100	32	1 ¼" NPT	47	2" NPS	62	3" BSPP	77	4" BSPT		
17	5/8" ET	33	1 ½" NPT	48	2 ½" NPS	63	3 ½" BSPP	79	PG 7		

For non-standard sizes see Special Notes.

Example: PD-U-1-1-04-00 Dome Headed Plug, Certified E Exd & E Exe, Material Brass, Plating Nickel, Size M20

Selection

- All Redapt products should be selected in accordance with all relevant Standards and Codes of Practice.
- Ensure that the product is certified to the same method of protection as the equipment to which it is to be installed.
- Ensure that the correct threadform and size is selected for the entry hole of the enclosure.
- Ensure that the material the product is manufactured from is suitable to the enclosure material and also to the surrounding environmental conditions.
- Ensure that surrounding conditions do not exceed the Operating Temperatures stated in the Product Information table.
- Ensure that the product can maintain the same Ingress Protection levels as the equipment to which it is to be installed.
- Ensure that the impact resistance of the product is suitable to that of the equipment to which it is to be installed as stated in the Product Information Table.

Installation Guide

1. All Redapt products should be installed in accordance with all relevant Installation Standards and Codes of Practice and the latest revision of IEC 60079-14: Electrical Installations in hazardous areas (other than mines)
2. Installation of Redapt products should only be carried out by an engineer trained in cable gland installation.
3. Under no circumstances should installation be carried out under live conditions.
4. The installer should ensure that no damage occurs to any thread or form of seal during installation. Where component is plated care should be taken to prevent damage or chipping.
5. Threaded Entries – Components can be installed directly into threaded entries and the recommended torque applied.
6. Clearance Holes – Clearance holes should be 0.5 mm larger than the major diameter of the male thread. Components installed in clearance holes should be secured with an appropriate sized locknut.
7. Maintaining IP 64 Rating – In order to maintain such an IP rating the installer should ensure that parallel threads engage to 8 full threads and tapered thread to 5 full threads.
8. Maintaining IP 66/67 & 68 (2 metres) Rating – In order to maintain the IP Rating of a component, the above thread engagement must be attained. The surface of the enclosure should also be clean and free from dust or moisture before assembly. In order to maintain IP 66/67 & 68 (2 metres) the installer must ensure that either the sealing washer is in the correct position or that the 'O' Ring seal is seated in the groove provided. A non-hardening thread sealant may be used to provide additional ingress protection.
9. If a serrated washer is used it should not be installed in such a way that it may impair any IP Rating.
10. Recommended Installation Torque – In order to maintain the integrity of the enclosure an installation torque as detailed below should be applied.

Installation Torque

Redapt stopping plugs should be installed to the recommended maximum torque values detailed in the following table. Torque values apply to non-metric thread equivalents.

Male Thread Size	Metallic Components (N.m.)	G.F. Nylon Components (N.m.)
M16 & M20 and Equivalents	32.5	7
M25 and Equivalents	47.5	10
M32 and Equivalents	55.0	10
M40 and Equivalents	65.0	10
M50 and Equivalents	80.0	10
M63 and Equivalents	95.0	10
M75 and Equivalents	110.0	10
M80 Threads and Above	Major Dia x 2 (i.e. for M80 – 160 N.m.)	-

Routine Checking and Maintenance

1. All Redapt products should be checked during routine maintenance of equipment.

Special Notes

- Products supplied with O-ring Seals are capable of operating at the following temperatures: - Standard Nitrile O-ring: -20°C to +85°C. Silicone O-ring: -50°C to +150°C. Please contact Redapt for other O-Ring material specifications that are available.
- Alternative o-ring seal specifications. Please contact Redapt for a comprehensive list of available materials, operating temperature ranges and chemical resistance information.
- The PA-D, PB-D and PH-E series are capable of operating at temperatures between – 60° C to + 180° C. providing they are not used in conjunction with any sealing device. Additional advice should be sought to ensure sealing method is capable of operating at required temperature.
- PD-U, PA-D and PB-D series of stopping plugs are not to be used with any form of adaptors or reducers
- Aluminium variants are not permitted for Group 1 applications. Aluminium variants are not IECEx approved.
- IECEx approved stopping plugs are certified Ex tD A21 IP6X for use in the presence of combustible dusts according to IEC 61241-1: 2004.

For further assistance or details on Redapt's product range please complete faxback details.

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NATURE OF ENQUIRY	

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