

Solutions for hazardous area cable terminations





We make what matters work.*



At Eaton, we believe that power is a fundamental part of just about everything people do. That's why we're dedicated to helping our customers find new ways to manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. To improve people's lives, the communities where we live and work, and the planet our future generations depend upon. Because this is what really matters. And we're here to make sure it works.

To learn more go to: Eaton.com/whatmatters

We make what matters work.



Global Termination Solutions

Eaton's Crouse-Hinds Division provides a termination solution for virtually every cable type used in hazardous and industrial environments – both onshore and offshore and above and below ground. Our adaptors, reducers, plugs, drains and additional products are used to support hazardous area installations throughout the world, enhancing safety and productivity in the most severe environmental conditions.

Our thread conversion products are designed for strict adherence to global specifications, meeting international approvals including ATEX, IECEx and CSA certifications. Our products are also suitable for industries made hazardous by the presence of dust.

Eaton's Crouse-Hinds Division thread conversion products are the safest solution for your hazardous area installation. In oil and gas, mining or power generation installations, our products are the reliable and safe way to terminate cable and conduit installation.

Global Support & Manufacturing

Eaton's Crouse-Hinds Division manufactures in five continents and sells into more than 100 countries. We have dedicated sales support in every major location with local technical sales and engineering teams to support your immediate needs. As one of the largest oil and gas bulk electrical and instrument material suppliers, we can easily provide you a single source for all the components to complete your project on time and on budget.



About us.....	3
Technical information	
Product selection guide.....	6
Product matrix.....	7
Product approvals.....	8
Ingress protection (IP).....	9
Part numbering system.....	10-12
Thread dimension chart.....	13
Adaptors and reducers selection guide.....	14-15
Adaptors and reducers	
Metallic adaptors and reducers.....	16
90 degree adaptors.....	17
'T' adaptors.....	18
'Y' adaptors.....	19
Swivel adaptors – in-line and 90 degree.....	20
Male to male adaptors.....	22
Female to female adaptors.....	23
Insulated adaptors	24-25
Stopping plugs and breather drains	
Metallic dome head stopping plugs.....	26
Type A and Type B stopping plugs.....	27
Increased safety (Exe) breather drains (metallic).....	28
Increased safety (Exe) breather drains (nylon).....	29
Flameproof (Exde) breather drains.....	30
Other products	
Cable gland stopper boxes.....	31
Unions.....	32
Earth lead adaptors.....	33
Threaded earth plates.....	34
Flexible conduit	
Flexible conduit barrier stopper boxes.....	35
Flexible conduit and accessories.....	36-37
Non-certified accessories	
Non-certified accessories.....	38

The product information published in our catalogues and literature is not guaranteed. It has been compiled with care and is sufficiently accurate for most purposes. It is subject to change without notice. Occasionally, it may be necessary to modify the materials, finishes or other components of the product. These changes will in no way reduce the performance or function for which the product is intended.

All statements, technical information and recommendations contained herein are based on information and tests we believe to be reliable. The accuracy or completeness thereof are not guaranteed. In accordance with Eaton's Crouse-Hinds' Terms and Conditions of Sale, and since conditions of use are outside our control, the purchaser should determine the suitability of the product for his/her intended use and assumes all risk and liability whatsoever in connection therewith.

All sales of Eaton's Crouse-Hinds products are specifically subject to the Terms and Conditions of Sale as shown in Eaton's Crouse-Hinds distributor price sheets.

Product selection guide

When selecting Ex certified accessories for use in hazardous areas, it is important to ensure that the product selected not only performs the task required (i.e. adapting the thread), but also maintains the overall integrity of the equipment into which it will be fitted.

To help with the selection of Redapt products, we have prepared the following as a guide. However, when selecting equipment for use in hazardous areas, the appropriate national or international standards or codes of practice must be considered.

Product approvals (see page 8)

Redapt products are manufactured to comply with the relevant standards for which they are designed. This means Redapt products meet with the exacting standards found within hazardous area environments. To assist in ease of use, the Redapt range of adaptors, reducers, stopping plugs and breather drains are approved Exd I and IIC and Exe I and IIC and tested to IP66 and IP68.

Equipment certificates, Ex thread adaptors and Ex stopping plugs

Redapt adaptors and reducers with metric female threads (Ex adaptors) and full range of stopping plugs (Ex stopping plugs) and breather drains are certified as apparatus and granted equipment certificates. This means that they can be fitted into Ex apparatus enclosures without further certification.

Component certificates

Redapt adaptors and reducers with non-coaxial threads, 90 degree adaptors, 'Y' and 'T' (twin inlet) adaptors and 90 degree swivel adaptors are certified as components, and as such require further approval before they can be fitted to Ex apparatus enclosures. This applies to all products that have a 'U' at the end of the certificate number.

Worldwide compatibility

Keeping pace with the rapidly changing approvals and to ensure worldwide compatibility, Redapt has the following approvals: North American Ex approvals for both methods of hazardous location classification, Zones and Divisions in addition to our existing ATEX and IECEEx approvals. Redapt can therefore offer adaptors and reducers Ex d and e I M2 and IIC Gb and/or Class I, Division 1, groups A, B, C, D, or Exe II, Class I, Division 2, etc.

Ingress protection (see page 9)

To ensure that the ingress protection of the equipment is maintained, the accessories need to satisfy the same level of protection as the equipment. The Redapt Exd I and IIC and Exe I and IIC range of adaptors, reducers, stopping plugs and breather drains are fitted with an integral O-ring seal and have been independently tested to IP66 and IP 68.

Material

To ensure the long-term integrity of the installation, care should be taken in selecting the product material; in particular, taking into account any corrosive atmosphere present and/or the potential for corrosion brought about by mating dissimilar metals. As standard we supply brass, which is suitable for most applications. In certain atmospheres, most notably ammonia, or to avoid bi-metallic corrosion and electrolytic action, it may be advisable to select an alternative material or request plated brass.

Thread fit, gauging and length

Parallel threads are gauged to a medium fit (6g, 6H) and are manufactured to provide a minimum of eight full threads, unless otherwise specified. Tapered threads are gauged and dimensioned to provide for five fully engaged threads, unless otherwise specified.

Part numbering system (see page 10)

When ordering or enquiring about adaptors and reducers, the male thread size should always be quoted first, followed by the female.

Dimensions

It is advisable to check the dimensions of the product to ensure that it can be installed into the equipment without fouling. Dimensions are given in the catalogue for regular metric size products; for other dimensions or information, please contact us. *Please note that dimensions are subject to change.*

Product marketing

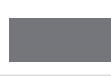
To ensure clarity the relevant product information is marked on the product, and/or shown on the packaging and/or within the installation instructions.

European directives

Products approved within the ATEX directive will be shipped with detailed installation instructions. The CE mark is applied to the packaging and confirms that Redapt products meet with the essential health and safety requirements of the applicable European directives.

Redapt products are outside the scope of the Electromagnetic Compatibility Directive (EMC) as they are passive.

Product type

	IECEx			CSA		CCOE	
	IECEx	ATEX Gas & Dust	ATEX Mining (M2 only)	North America	Russia	India	Brazil

Adaptors and reducers (metallic)		■	■	■	■	■	■
Swivel adaptors		■	■	■	■	■	■
'Y' adaptors 'T' adaptors		■	■	■	■	■	■
90 degree adaptors		■	■	■	■	■	■
45 degree adaptors		■	■	■	■	■	■
Male to male and female to female (IECEx only) adaptors		■	■	■	■	■	■
Insulated adaptors		■	■	■			
Cable gland stopper boxes		■	■		■		
Unions			■	■	■	■	■
Stopping plugs (metallic) (check individual plugs for certification)		■	■	■	■	■	■
Breather drains Exe		■	■	■	■	■	■
Breather drains Exde		■	■	■	■	■	■
Earth lead adaptors		■	■	■	■	■	■
Threaded earth plates			■				
Flexible conduit stopper boxes		■	■		■		



ATEX directive compliance

The ATEX directive (2014/34/UE) applies to equipment and protective systems intended for use in potentially explosive atmospheres within Europe. The directive outlines the conformity assessment procedures and product classification for Ex products.

Redapt complies with ATEX having had an EC type-examination carried out on our Ex product range and our production QA assessed and approved. This is in line with the requirements for Ex products for use in gas groups I and II.



North American approval

The Canadian Standards Association (CSA) develops standards, tests and certifies products for use in Canada and internationally. CSA international is recognised by the U.S. Occupational Safety and Health Administration (OSHA) under the Nationally Recognised Testing Laboratory (NRTL) scheme and are able to test and certify products for use in hazardous locations within the U.S.A. as well as Canada. Traditionally, Ex products used within North America have been designed and tested for compliance within the 'class and division system'.

Redapt products have been assessed and certified for use throughout North America in both the 'class and division system' and the 'zone system'.



IEC Ex approval

The International Electrotechnical Commission (IEC) has developed the IECEx international certification scheme in an attempt to harmonise national standards used throughout the world with the aim of producing an approval that is recognised globally. The IECEx scheme is based on the 3 zone concept of area classification.

Redapt products have been approved under the IECEx scheme and are compliant with the requirements of the scheme via IEC 60079-x.



TR-UNION approval

The EX EAC certificate and the regulation for equipment used in potentially explosive atmospheres, therefore classified explosion proof, is based on the Technical Regulations 012/2011 of the Eurasian Customs Union (TR CU 012/2011). The Custom Union Technical Regulations regulate the quality of the product on the markets of Russia, Belarus, Kazakhstan and soon of Armenia and Kyrgyzstan. The certificate resulting from the compliance with the provisions of the TR CU 012/2011 is the EX EAC certificate, comparable to European ATEX.



Indian Hazardous Location system

Requirement under Rule 102 of the Petroleum Rules, 2002 lays down that no electrical wiring shall be installed and no electrical apparatus shall be used in petroleum refinery, storage installation, storage shed, service station or any other place where petroleum is refined, blended, stored, loaded/filled or unloaded unless it is approved by the Chief Controller of Explosives (CCoE certificate). It is in this context that electrical equipment which has to be used in a hazardous area covered under Petroleum Rules, 2002 shall require approval from the Chief Controller of Explosives.



INMETRO

The National Institute of Metrology, Standardization and Industrial Quality (INMETRO) is a Brazilian federal autarchy, that certify electrical and electronic products. INMETRO acts as Executive Secretariat of the National Council of Metrology, Standardization and Industrial Quality (CONMETRO), an inter-ministerial collegiate entity which is the normative agency of the National System of Metrology, Standardization and Industrial Quality (SINMETRO)."

Notes**Equipment certificates, Ex thread adaptors and Ex stopping plugs**

Redapt adaptors and reducers with metric female threads (Ex adaptors) and full range of stopping plugs (Ex stopping plugs) and breather drains are certified as apparatus and granted equipment certificates. This means that they can be fitted to Ex apparatus enclosures without further certification (see installation instructions).

Component certificates

Products certified as components require further approval before they can be fitted to Ex apparatus enclosures. A certificate number ending with the 'U' suffix denotes a component certificate (see installation instructions).

Aluminium products

Aluminium versions of AD-U, RD-U, PD-U, PA-U, PB-U Series and GF nylon and aluminium versions of DP-E Series are not suitable for Group I applications.

Temperature classification

Redapt products do not carry a temperature class or 'T' rating as they are passive and do not generate any heat.

Hazardous area standards generally state a minimum IP rating of IP54 or NEMA 3 for degree of protection against solid foreign objects and against water. However, it is essential when selecting Redapt products to ensure that the product will maintain the IP or NEMA rating of the equipment and the integrity of the installation.

The following table contains definitions detailing the environmental protection levels that Redapt products are capable of maintaining:

IP codes are based on the IEC standard dust/water 50269 – degrees of protection provided by enclosures**1st numeral – protection against solid objects****2nd numeral – protection against water**

IP54

- Dust protected. Prevents ingress of dust sufficient to cause harm.
- Protected from splashing water from any direction.

IP66

- Dust-tight. No ingress of dust possible.
- Protected against heavy seas or powerful jets of water. Prevents ingress sufficient to cause harm.

IP67

- Dust-tight. No ingress of dust possible.
- Protected against harmful ingress of water when immersed between a depth of 150mm to 1m.

IP68

- Dust-tight. No ingress of dust possible.
- Protected against submersion. Suitable for continuous immersion in water at stated depth.
(Depth stated for Redapt products = 2m for 60 minutes duration)

North American and Canadian markets define environmental protection as CSA and NEMA enclosure types

Type 3

- Type 3 enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust and damage from external ice formation.

Type 4

- Type 4 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against wind blown dust and rain, splashing water, hose directed water and damage from external ice formation.

Type 4X

- Type 4X enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, wind blown dust and rain, splashing water, hose directed water and damage from external ice formation.

Type 6

- Type 6 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against hose directed water, the entry of water during occasional temporary submersion at a limited depth and damage from external ice formation.

Type 6P

- Type 6P enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against hose directed water, the entry of water during prolonged submersion at a limited depth and damage from external ice formation.

Part numbering system

Codes

Page No.	Product	Digits 1 & 2
Adaptors and reducers		
14-17	AD	Adaptor
14-17	RD	Reducer
19	AY	'Y' adaptor
20	AT	'T' adaptor
21	AR	90° adaptor
22	AS	45° adaptor
18	TA	Swivel - in-line male to female
18	TC	Swivel - in-line female to female
18	TD	Swivel - in-line male to male
18	TP	Swivel - 90° male to female
18	TQ	Swivel - 90° female to female
18	TR	Swivel - 90° male to male
22	AM	Male to male adaptor
23	AF	Female to female adaptor
24-25	DB	Insulated adaptor
Stopping Plugs		
26-27	PD	Dome head plug
28	PA	Type A plug
28	PB	Type B plug
Breather Drains		
31	DP	Breather drain (Exe)
32	BD	Breather drain (Exde)
Other products		
33	SB	Stopper box (rigid conduit/cable gland)
34	UN	Union - male to female
34	UF	Union - female to female
35	AE	Earth lead adaptor
36	ET	Threaded earth plate
37	FX	Stopper box (flexible conduit)

Certification	Digit 3
U	Exd I and IIC & Exe I and IIC
E	Exe I and IIC
F	Industrial (marked product)
Material	Digit 4
1	Brass
2	Mild steel
3	Stainless steel
4	Glass filled nylon
5	Aluminium
6	Nylon 6
7	Red fibre
Plating	Digit 5
0	Unplated
1	Electroless nickel
2	Zinc
6	Chromatised

Example

Digits 1 & 2	Digit 3	Digit 4	Digit 5	Digits 6 & 7	Digits 8 & 9
AD	U	1	1	29	04
Adaptor	Exd/e certified	Brass	Nickel-plated	1/2" NPT (male)	M20 (female)

Always quote male thread first.

Male thread – digits 6 & 7, female thread – digits 8 & 9 Note: threadform codes below to be used for both male and female threads.

Metric	ET imperial conduit	NPT	NPSM	ISO pipe parallel (BSPP)	ISO pipe taper (BSPT)	PG
02 M12						
03 M16	17 5/8" ET	29 1/2" NPT	42 1/2" NPSM	55 1/2" BSPP	68 1/2" BSPT	79 PG7
04 M20	18 3/4" ET	30 3/4" NPT	43 3/4" NPSM	56 3/4" BSPP	69 3/4" BSPT	80 PG9
05 M25	19 1" ET	31 1" NPT	44 1" NPSM	57 1" BSPP	70 1" BSPT	81 PG11
06 M32	20 1 1/4" ET	32 1 1/4" NPT	45 1 1/4" NPSM	58 1 1/4" BSPP	71 1 1/4" BSPT	82 PG13.5
07 M40	21 1 1/2" ET	33 1 1/2" NPT	46 1 1/2" NPSM	59 1 1/2" BSPP	72 1 1/2" BSPT	83 PG16
08 M50	22 2" ET	34 2" NPT	47 2" NPSM	60 2" BSPP	73 2" BSPT	84 PG21
09 M63	23 2 1/2" ET	35 2 1/2" NPT	48 2 1/2" NPSM	61 2 1/2" BSPP	74 2 1/2" BSPT	85 PG29
10 M75	24 3" ET	36 3" NPT	49 3" NPSM	62 3" BSPP	75 3" BSPT	86 PG36
11 M80 x 2.0	ET Special	37 3 1/2" NPT	50 3 1/2" NPSM	63 3 1/2" BSPP	76 3 1/2" BSPT	87 PG42
12 M85 x 2.0		38 4" NPT	51 4" NPSM	64 4" BSPP	77 4" BSPT	88 PG48
13 M90 x 2.0		NT Special	NS Special	BP Special	BT Special	PG Special
14 M100 x 2.0						
15 M110 x 2.0						
BZ M120 x 2.0						
MT Special						

Part numbering system for DPE breather drains only (page 31)

Product	Certification	Material	Plating	Thread type	Thread length	Hole position	Castellated I/nut
DP Standard	E Exe I and IIC	1 Brass	0 Unplated	04 M20	S1 10mm	2 Holes	With
		3 S/steel	1 E/nickel	05 M25	S2 10mm	2 Holes	Without
		4 GF Nylon	2 Zinc	06 M32	S3 15mm	3 Holes	With
				29 1/2" NPT	S4 15mm	3 Holes	Without
				30 3/4" NPT			
				31 1" NPT			

Note: Glass filled nylon version is only available in S3 and S4 options and is supplied complete with a brass castellated locknut.
NPT threaded breather drains are only available in S3 and S4 options.

Example

Standard	Exe I and IIC	Stainless steel	Unplated	M20	10mm					
DP	-	E	-	3	-	0	-	04	-	S1

Part numbering system for BDU breather drains only (page 32)

Product	Certification	Material	Plating	Thread	O-ring
BD Standard	U Exd I and IIC and Exe I and IIC	1 Brass	0 Unplated	04 M20	D0 no O-ring
		3 Stainless steel	1 Electroless nickel	05 M25	D1 Silicone
			2 Zinc	29 1/2" NPT	D2 Fluorosilicone
				30 3/4" NPT	D3 Viton
					D4 EPDM
					D5 Neoprene
					D6 Nitrile

Example

Standard	Exd I and IIC	Stainless steel	Unplated	M20	Silicone O-ring					
BD	-	U	-	3	-	0	-	04	-	D1

Thread dimension chart

ISO metric

BS 3643 1.5mm pitch		
Size	Major dia.	TPI
M16	15.97	16.93
M20	19.97	16.93
M25	24.97	16.93
M32	31.97	16.93
M40	39.97	16.93
M50	49.97	16.93
M63	62.97	16.93
M75	74.97	16.93
2.0mm pitch		
M80	79.97	12.70
M85	84.97	12.70
M90	89.97	12.70
M100	99.97	12.70
M110	109.97	12.70
M120	119.97	12.70

NPT

ANSI/ASME B1.20.1		
Size	Pipe dia.	TPI
1/2"	21.34	14.00
3/4"	26.67	14.00
1"	33.40	11.50
1 1/4"	42.16	11.50
1 1/2"	48.26	11.50
2"	60.33	11.50
2 1/2"	73.03	8.00
3"	88.90	8.00
3 1/2"	101.60	8.00
4"	114.30	8.00

PG

BS 3643 1.5mm pitch		
Size	Major dia.	TPI
PG7	12.50	20.00
PG9	15.20	18.00
PG11	18.60	18.00
PG13.5	20.40	18.00
PG16	22.50	18.00
PG21	28.30	16.00
PG29	37.00	16.00
PG36	47.00	16.00
PG42	54.00	16.00
PG48	59.30	16.00

Alternate ISO pipe thread designations

BS 3643 1.5mm pitch		
UK	BSP Parallel or Taper BS2279 (BS21)	
Europe	G (Parallel) GK (Taper) R (Parallel) RK (Taper)	
Japan	PF (Parallel) JIS B 303	
CIS	K mpy (Taper)	

BSP ISO pipe thread

ISO R7; UNI 6125		
Size	Pipe Dia.	TPI
3/8"	16.66	19.00
1/2"	20.96	14.00
3/4"	26.44	14.00
1"	33.25	11.00
1 1/4"	41.91	11.00
1 1/2"	47.80	11.00
2"	59.61	11.00
2 1/2"	75.18	11.00
3"	87.88	11.00

ET imperial conduit

BS31		
Size	Major dia.	TPI
5/8"	15.88	18.00
3/4"	19.05	16.00
1"	25.40	16.00
1 1/4"	31.75	16.00
1 1/2"	38.10	14.00
2"	50.80	14.00
2 1/2"	63.50	14.00
3"	76.20	14.00

Thread dimension substitution chart

Metric	NPT (or NPS)	PG	BSP ISO Pipe	ET
M16	—	7, 9	—	5/8"
M20	1/2"	11, 13.5	1/2"	3/4"
M25	3/4"	16	3/4"	1"
M32	1"	21	1"	1 1/4"
M40	1 1/4"	29	1 1/4"	1 1/2"
M50	1 1/2"	36	1 1/2"	2"
M63	2"	42, 48	2"	2 1/2"
M75	2 1/2"	—	2 1/2"	3"
M90 x 2.0	3"	—	3"	—
M100 x 2.0	3 1/2"	—	—	—
M110 x 2.0	—	—	—	—
M120 x 2.0	—	—	—	—

STEP 1 – To obtain the correct reference number, select the male size from the left hand column, then refer horizontally across the page to the female size (i.e. M32 (male) x M40 (female) = 208). Reference numbers in blue are adaptors; other references are reducers.

Female Size

Male	Metric							NPT	PG
	M16	M20	M25	M32	M40	M50	M63		
M16	201 201							216	201 201 201
M20	301 202 203							217 218	301 202 202 202 204
M25	303 303 257 206							303 219 221	303 303 303 257 204
M32	305 305 305 206 208							305 305 221 223	305 305 305 305 207 258
M40	307 307 307 307 208 209							307 307 307 223 224	307 307 307 307 307 208 209
M50	309 309 309 309 259 211							309 309 309 309 225 226	309 309 309 309 309 309 210 210 211
M63	310 310 310 310 310 310 211 212							310 310 310 310 310 226 227	310 310 310 310 310 310 310 310 211
M75	311 311 311 311 311 311 212 261 213 213							311 311 311 311 311 311 360 228	311 311 311 311 311 311 311 311 311
M80	311 311 311 311 311 311 261 261 214 214								
M85	312 312 312 312 312 312 214 214 214 214								
M90	312 312 312 312 312 312 312 212 214 214 215							312 312 312 312 312 312 312 229 230 231	
M100	313 313 313 313 313 313 313 313 215 215 262 263							313 313 313 313 313 313 313 313 230 231	
M110	325 325 325 325 325 325 325 325 262 262 262 263								
M120	326 326 326 326 326 326 326 326 326 263 263								

NPT	Metric							NPT	PG
	M16	M20	M25	M32	M40	M50	M100		
1/2"	314 232 234							245 246	314 232 232 232 265
3/4"	315 315 234 235							315 246 247	315 315 315 234 235
1"	316 316 316 236 237							316 316 248 249	316 316 316 316 236 237
1 1/4"	317 317 317 317 237 238							317 317 317 249 250	317 317 317 317 237 238
1 1/2"	318 318 318 318 318 238 240							318 318 318 318 250 251	318 318 318 318 318 238 239 240
2"	319 319 319 319 319 319 240 241							319 319 319 319 319 251 252	319 319 319 319 319 319 319 240
2 1/2"	320 320 320 320 320 320 320 242 243							320 320 320 320 320 320 320 253 254	320 320 320 320 320 320 320 320 320
3"	321 321 321 321 321 321 321 243 244							321 321 321 321 321 321 321 254 255	321 321 321 321 321 321 321 321 321
3 1/2"	322 322 322 322 322 322 322 322 244							322 322 322 322 322 322 322 322 255 256	322 322 322 322 322 322 322 322 322
4"	323 323 323 323 323 323 323 323 323							323 323 323 323 323 323 323 323 256 264	323 323 323 323 323 323 323 323 323
5"	–	–	–	–	–	–	–	327 327 327 327 327 327 327 327 327	–

PG	Metric							NPT	PG
	M16	M20	M25	M32	M40	M50	M63		
7&9	201 201							216	201 201 201
11	202 202 203							217 218	301/202 202 202 202
13.5	301 202 203							217 218	301 202 202 202 204
16	302 203 203							218 218 221	302 302 203 203 204
21	304 304 205 206 206							304 220 221	304 304 304 205 258
29	306 306 306 306 208 209							306 306 223 223 224	306 306 306 306 208 209
36	308 308 308 308 308 209 211							308 308 308 224 224	308 308 308 308 308 209 210 211
42	324 324 324 324 324 210 211							324 324 324 324 324 226	324 324 324 324 324 324 210 211
48	310 310 310 310 310 310 211 211							310 310 310 310 310 226 227	310 310 310 310 310 310 211

Adaptors and reducers selection guide

STEP 2 – Having obtained the reference number, go to the relevant column within the dimension tables to obtain the adaptor or reducer's dimensions. Please note that these dimensions refer to metallic products only.

Adaptors

Metric x metric, metric x PG, PG x metric, PG x PG

Reference numbers	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	257	258	259
Hex across flats	23.4	27.0	30.5	33.0	36.0	37.6	37.6	47.2	55.9	61.2	70.1	90.2	106.4	106.4	114.3	23.4	31.8	41.3	57.2
Hex across corners	26.8	31.0	35.0	38.0	41.5	43.2	43.2	53.4	64.3	70.4	81.8	103.7	122.4	122.4	131.4	26.8	36.1	47.7	66.0
Male thread length	16	16	16	16	16	16	16	16	16	16	16	16	20	20	15	16	16	16	16
Female thread length	17	17	17	17	17	17	17	17	17	17	17	22	22	22	20	17	17	17	17
Total length	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	39.5	39.5	39.5	45.0	49.0	49.0	42.0	38.5	38.5	39.5	

Metric x NPT, PG x NPT

Reference numbers	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	261	262	263	-
Hex across flats	27.0	30.5	32.0	37.6	37.6	41.3	47.2	55.9	57.2	70.1	80.0	106.4	106.4	114.3	127.0	90.2	120.7	139.7	-
Hex across corners	31.0	35.0	36.7	43.2	43.2	47.5	53.4	64.3	66.0	81.8	92.0	122.4	122.4	131.4	147.0	104.1	139.4	161.3	-
Male thread length	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	20	20	-
Female thread length	20	20	20	20	25	25	26	26	26	27	40	35	42	42	44	22	22	22	-
Total length	42	42	42	42	47	47	47	48	48	48	58	58	62	62	62	48	48	49	-

NPT x metric, NPT x PG

Reference numbers	232	233	234	235	236	237	238	239	240	241	242	243	244	260	265	-	-	-	-
Hex across flats	23.4	28.6	30.5	37.6	37.6	44.5	55.9	70.1	70.1	90.2	90.2	106.4	114.3	90.2	33.0	-	-	-	-
Hex across corners	26.8	32.9	35.0	43.2	43.2	51.1	64.3	70.4	81.8	103.7	103.7	122.4	131.4	103.7	38.0	-	-	-	-
Male thread length	20	20	20	20	25	25	25	25	25	25	35	35	35	16	20				
Female thread length	17	17	17	17	17	17	17	17	17	17	22	22	35	77	-	-	-	-	-
Total length	43	43	43	43	48	48	49	49	49	49	59	64	64	58	43	-	-	-	-

NPT x NPT

Reference numbers	245	246	247	248	249	250	251	252	253	254	255	256	264	-	-	-	-	-	-
Hex across flats	23.4	30.5	37.6	37.6	47.2	55.9	70.1	80.0	80.0	106.4	114.3	127.0	158.8	-	-	-	-	-	-
Hex across corners	26.8	35.0	43.2	43.2	53.4	64.3	81.8	92.0	92.0	122.4	131.4	146.0	183.3	-	-	-	-	-	-
Male thread length	20	20	20	25	25	25	25	25	35	35	35	35	35	-	-	-	-	-	-
Female thread length	20	20	25	25	25	25	25	35	35	35	35	47	-	-	-	-	-	-	-
Total length	46	46	51	56	56	57	57	67	77	77	78	78	81	-	-	-	-	-	-

Reducers

Metric and PG

Reference numbers	301	302	303	304	305	306	307	308	309	310	311	312	313	324	325	326	-	-	-
Hex across flats	27.0	30.5	31.8	36.0	37.6	44.5	47.2	55.9	57.2	70.1	90.2	106.4	114.3	61.2	120.7	127.0	-	-	-
Hex across corners	31.0	35.0	36.7	41.5	43.2	51.1	53.4	64.3	66.0	81.8	103.7	122.4	131.0	70.7	139.4	146.6	-	-	-
Male thread length	16	16	16	16	16	16	16	16	16	16	16	20	20	16	16	16	-	-	-
Total length	26	26	26	26	26	26	26	27	27	27	27	31	31	27	28	28	-	-	-

NPT

Reference numbers	314	315	316	317	318	319	320	321	322	323	327	-	-	-	-	-	-	-	-
Hex across flats	23.4	27.9	34.9	44.5	52.1	61.2	80.0	90.2	106.4	120.7	146.0	-	-	-	-	-	-	-	-
Hex across corners	26.8	32.1	40.2	51.1	59.9	70.4	92.0	103.7	122.4	138.8	168.6	-	-	-	-	-	-	-	-
Male thread length	20	20	25	25	25	25	35	35	35	35	35	-	-	-	-	-	-	-	-
Total length	30	30	35	35	35	36	46	46	46	47	47	-	-	-	-	-	-	-	-



Type ADU

Features

- International Ex approvals
- IP66, IP68, CSA Enclosure Type (NEMA) 4X, 6P
- Various threadforms/materials available

Benefits

- Used to change size/threadform of connection device
- Maintains Ex certification while matching threadforms

Materials

- Brass CZ121
- 316 stainless steel
- Aluminium
- Mild steel

Threadforms

- Metric
- NPT
- PG
- ISO Pipe (BSP)
- ET

Plating options

- Electroless nickel
- Zinc
- Others on application

Available thread sizes and corresponding bore size

Metric	Bore	NPT	Bore	ISO Pipe	Bore	ET	Bore	PG	Bore
M16	10.00	-	-	3/8"	10.00	5/8"	10.00	PG7	8.00
M20	14.00	1/2"	15.00	1/2"	15.00	3/4"	14.00	PG9	10.00
M25	18.00	3/4"	19.00	3/4"	19.00	1"	18.00	PG11	13.50
M32	24.00	1"	25.00	1"	25.00	1 1/4"	24.00	PG13.5	14.00
M40	32.00	1 1/4"	32.00	1 1/4"	32.00	1 1/2"	32.00	PG16	16.00
M50	41.00	1 1/2"	38.00	1 1/2"	38.00	2"	41.00	PG21	21.00
M63	53.00	2"	49.00	2"	49.00	2 1/2"	53.00	PG29	29.00
M75	64.00	2 1/2"	60.00	2 1/2"	60.00	3"	64.00	PG36	38.00
M80 x 2.0	69.00	3"	75.00	3"	75.00	-	-	PG42	45.00
M85 x 2.0	73.00	3 1/2"	88.00	3 1/2"	88.00	-	-	PG48	50.00
M90 x 2.0	78.00	4"	100.00	4"	100.00	-	-	-	-

Sizes M12 to M120 available.

Technical specification

Code of protection categories

ATEX: I M2, II 2 GD, Ex d I/IIC Mb Gb, Ex e I/IIC Mb Gb, Ex tb IIIC Db, IP6X

IECEx: Ex d I/IIC, Mb/Gb, Ex e I/IIC, Mb/Gb, Ex tb IIIC Db, IP6X

CSA: Ex de IIC IP66/67/68; Class I, Divisions 1 and 2; Groups A, B, C, D; Class II, Groups E, F, G; Class III; Enclosure Type 4X/6P

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

CSA: C22.2 No .30-M1986 (R2012), CAN/CSA 60079-0-11, CAN/CSA 60079-1-11, CAN/CSA 60079-7-12, CAN/CSA 60079-31:12, UL1203-5th Edition

Certificate details

ATEX: Sira 00ATEX1094X; ITS16ATEX101339X

IECEx: IECEx SIR 12.0016X; IECEx ITS 16.0013X

CSA: 1248014 (LR 106084)

EAC: RU C-GB.MIO62.B.06225

CCoE: P362565/1

INMETRO: NCC 18.0133 X

Temperature

Temperature will depend on the type of O-ring used:

None: -60°C to ~ +200°C

Nitrile: -20°C to +80°C (supplied as standard)

EPDM: -30°C to +125°C

Neoprene: -20°C to +100°C

Viton: -5°C to +180°C

Silicone: -30°C to +180°C

Fluorosilicone: -50°C to +150°C

The maximum temperature is limited to +150°C for Group I applications

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system

90 degree (Exde) adaptors - ARU Series

Type ARU



Features

- International Ex approvals
- IP6X, CSA Enclosure Type (NEMA) 3
- Available in brass, stainless steel and aluminium
- Various threadforms available

Benefits

- Provides means of connection where space is limited
- Can be used to change size/threadform of connection device
- Maintains Ex certification while matching threadforms

Materials

- Brass CZ121
- 316 stainless steel
- Aluminium

Threadforms

- Metric
- NPT
- NPSM
- PG
- ISO Pipe (BSP)
- ET

Plating options

- Electroless nickel
- Zinc
- Others on application

Technical specification

Code of protection categories

ATEX/EAC: II 2 GD, Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP66

IECEx: Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP66

EAC: Ex d IIC Gb U, Ex e IIC Gb U, Ex tb IIIC Db U

INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP6X

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx/EAC: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

INMETRO: ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, IEC 60079-7, ABNT NBR IEC 60079-31

Certificate details

ATEX: ITS16ATEX101340U

IECEx: IECEx ITS 16.0015U

EAC: RU C-GB.нM43.B.01715

INMETRO: NCC 18.0133X

CSA: 1248014 (LR 106084)

Temperature

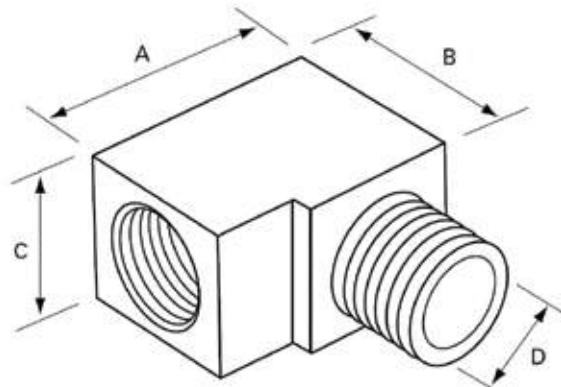
The item is classified as a component and therefore metallic products are not given an operating temperature range

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

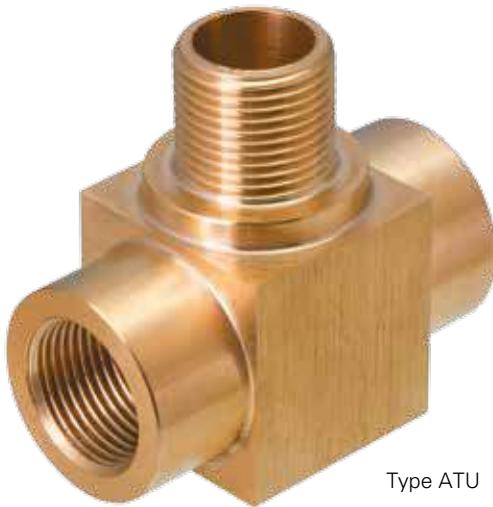
Part number:

Please refer to page 10 for part numbering system



Dimensions

Size	Bore (D)	Male length	Height (A)	Length (B)	Width (C)
M16 x M16	10.00	16.00	33.00	27.00	23.00
M20 x M20	14.00	16.00	39.00	29.00	25.40
M25 x M25	18.00	16.00	46.00	35.00	32.00
M32 x M32	24.00	16.00	51.00	44.00	40.00
M40 x M40	32.00	16.00	61.00	52.00	48.00
M50 x M50	41.00	16.00	73.00	65.00	60.00
M63 x M63	53.00	16.00	86.00	77.00	73.00
M75 x M75	64.00	16.00	99.00	94.00	87.00



Type ATU

Features

- International Ex approvals
- IP66, IP68
- Available in brass, stainless steel, mild steel and aluminium

Benefits

- Provides an opportunity for two cable entries using one equipment entry
- Can be used to change size/threadform of connection device
- Maintains Ex certification while matching threadforms

Materials

- Brass CZ121
- 316 stainless steel
- Mild steel
- Aluminium

Threadforms

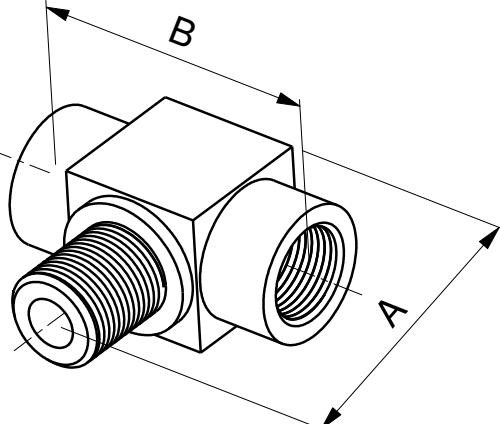
- Metric
- NPT

Plating options

- Electroless nickel
- Zinc
- Others on application

Dimensions

Male size	Female size	A (max.)	B (max.)
M16	M16 to M20	49.00	60.00
M20	M16 to M25	55.00	65.00
M25	M16 to M32	64.00	72.00
M32	M16 to M40	73.00	80.00
M40	M16 to M50	84.00	90.00
M50	M16 to M63	99.50	105.00
M63	M16 to M75	117.00	120.00
M75	M16 to M75	117.00	120.00
3/8" NPT	3/8" to 1/2" NPT	49.50	60.00
1/2" NPT	3/8" to 3/4" NPT	60.20	65.00
3/4" NPT	3/8" to 1" NPT	69.50	72.00
1" NPT	3/8" to 1 1/4" NPT	84.30	81.00
1 1/4" NPT	3/8" to 1 1/2" NPT	95.00	90.00
1 1/2" NPT	3/8" to 2" NPT	111.00	105.00
2" NPT	3/8" to 2 1/2" NPT	129.20	120.00
2 1/2" NPT	3/8" to 2 1/2" NPT	142.50	120.00



'Y' (Exd/Exe) adaptors - AYU Series



Type AYU

Technical specification

Code of protection categories

ATEX: II 2 GD / I M2, Ex db I Mb, Ex eb I Mb (not aluminium), Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP 66

IECEx: Ex db I Mb, Ex eb I Mb (not aluminium), Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP 6X

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

Certificate details

ATEX: Sira 10ATEX1056U; ITS16ATEX101340U

IECEx: IECEx SIR 10.0025U; IECEx ITS 16.0015U

EAC : RU C-GB.иM43.B.01715

INMETRO: NCC 18.0133 X

Temperature

Temperature range: -60°C to +200°C

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system

Features

- International Ex approvals
- IP66, IP68
- Available in brass, stainless steel, mild steel and aluminium

Benefits

- Provides extra means of connection where space is limited
- Used to change size/threadform of connection device
- Maintains Ex certification while matching threadforms

Materials

- Brass CZ121
- 316 stainless steel
- Mild steel
- Aluminium

Threadforms

- Metric
- NPT

Plating options

- Electroless nickel
- Zinc
- Others on application

Dimensions

Male size	Female size	A (max.)	B (max.)	Angle between entries (D)
M16	M16	65.00	75.00	120°
M20	M20	65.00	75.00	120°
M25	M25	67.00	78.00	120°
M32	M32	70.00	81.00	120°
M40	M40	89.00	102.00	120°
M50	M50	104.00	120.00	120°
M63	M63	131.00	151.00	120°
M75	M75	153.00	177.00	120°
¾" NPT	¾" NPT	65.00	75.00	120°
½" NPT	½" NPT	65.00	75.00	120°
¾" NPT	¾" NPT	67.00	78.00	120°
1" NPT	1" NPT	78.00	90.00	120°
1¼" NPT	1¼" NPT	89.00	102.00	120°
1½" NPT	1½" NPT	104.00	120.00	120°
2" NPT	2" NPT	131.00	151.00	120°
2½" NPT	2½" NPT	153.00	177.00	120°

Type ASU



Technical specification

Code of protection categories

ATEX/EAC: II 2 GD, Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP66

IECEx: Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP66

EAC: Ex d IIC Gb U, Ex e IIC Gb U, Ex tb IIIC Db U

INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db IP6X

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx/EAC: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

INMETRO: ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, IEC 60079-7, ABNT NBR IEC 60079-31

Certificate details

ATEX: ITS16ATEX101340U

IECEx: IECEx ITS 16.0015U

EAC: RU C-GB.нM43.B.01715

INMETRO: NCC 18.0133X

CSA: 1248014 (LR 106084)

Temperature

The item is classified as a component and therefore metallic products are not given an operating temperature range

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system

Features

- International Ex approvals
- IP6X, CSA Enclosure Type (NEMA) 3
- Available in brass, stainless steel and aluminium
- Various threadforms available

Benefits

- Provides means of connection where space is limited
- Can be used to change size/threadform of connection device
- Maintains Ex certification while matching threadforms

Materials

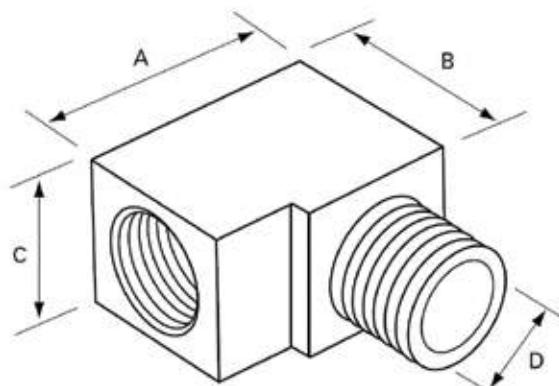
- Brass CZ121
- 316 stainless steel
- Aluminium

Threadforms

- Metric
- NPT
- NPSM
- PG
- ISO Pipe (BSP)
- ET

Plating options

- Electroless nickel
- Zinc
- Others on application



Dimensions

M16 x M16	10.00	16.00	33.00	27.00	23.00
M20 x M20	14.00	16.00	39.00	29.00	25.40
M25 x M25	18.00	16.00	46.00	35.00	32.00
M32 x M32	24.00	16.00	51.00	44.00	40.00
M40 x M40	32.00	16.00	61.00	52.00	48.00
M50 x M50	41.00	16.00	73.00	65.00	60.00
M63 x M63	53.00	16.00	86.00	77.00	73.00
M75 x M75	64.00	16.00	99.00	94.00	87.00

In-line and 90 degree (Exd/Exe) swivel adaptors - TAU / TPU Series



Features

- In-line and 90° models available
- International Ex approvals
- IP66, IP68
- Male to male and female to female options available
- Various threadforms/materials available

Benefits

- Allows 360° choice of cable entry/exit positions (90° model)
- In-line models allow independent connection at both ends
- Improves ease of installation in confined or difficult situations

Materials

- Brass CZ121
- 316 stainless steel
- Aluminium

Plating options

- Electroless nickel
- Zinc
- Others on application

Threadforms

- Metric
- NPT
- NPSM
- PG
- ISO Pipe (BSP)
- ET

Technical specification

Code of protection categories

ATEX: I M2, (not aluminium) Ex d Ex e IIC Gb, Ex d, Ex e I Mb (not aluminium), Ex tb IIIC Db IP 6X

II 2GD, Ex d Ex e IIC Gb, Ex d Ex e I Mb (not aluminium), Ex tb IIIC Db IP 6X

IECEx: Ex d IIC Gb, Ex e IIC Gb, Ex d I Mb, Ex e I Mb, Ex tb IIIC Db IP 6X

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

Certificate details

ATEX: Sira 10ATEX1275U; ITS16ATEX101340U

IECEx: IECEx SIR 10.0123U, IECEx SIR 12.0016X (in-line); IECEx ITS 16.0015U

EAC: RU C-GB.нM43.B.0175

INMETRO: NCC 18.0133 X

Temperature

Ex Temperature range: -50°C to ~ +150°C

Ingress protection (IP):

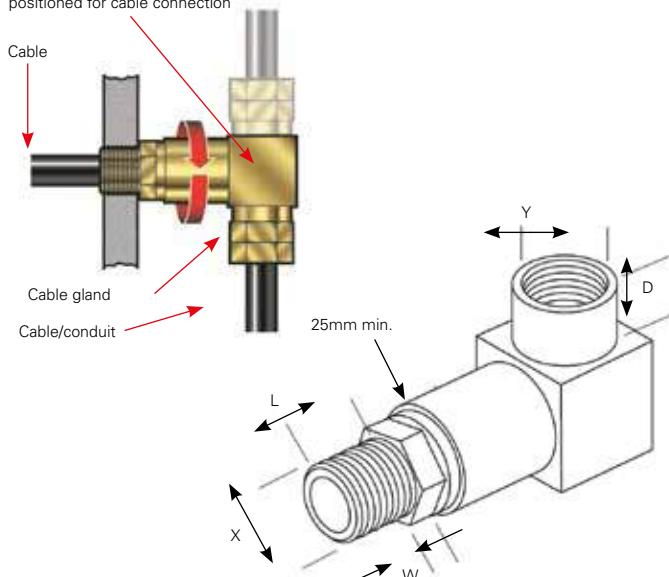
Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system

90° swivel adaptor

This part rotates, enabling the cable glands to be correctly positioned for cable connection



Dimensions

Male thread (X)	Female thread (Y)	L	W	D
M20	M20	17.00	4.00	17.00
M25	M20 to M25	17.00	4.00	17.00
M32	M20 to M32	17.00	5.00	17.00
M40	M20 to M40	17.00	5.00	17.00
M50	M20 to M50	17.00	5.00	17.00
M63	M20 to M63	17.00	5.00	17.00
M75	M20 to M75	17.00	5.00	17.00



Type AMU

Features

- International Ex approvals
- IP6X, CSA Enclosure Type (NEMA) 3
- Available in brass and stainless steel
- Various threadforms available

Benefits

- Provides method of connecting female threadforms
- Connects either matching or dissimilar sizes/threadforms
- Maintains Ex certification

Materials

- Brass CZ121
- 316 stainless steel

Plating options

- Electroless nickel
- Zinc
- Others on application

Threadforms

- Metric
- NPT
- PG
- ISO pipe (BSP)
- ET

Technical specification

Code of protection categories

ATEX: I M2, II 2 GD, Ex d I/IIC Mb/Gb, Ex e I/IIC Mb/Gb, Ex tb IIIC Db IP6X

IECEx/INMENSTRO: Ex db I/IIC Mb/Gb, Ex eb I/IIC Mb/Gb, Ex tb IIIC Db IP6X

CSA: Ex d IIC IP54, Class I, Division 1 and 2; Groups A, B, C, D; Class II, Groups E, F, G; Class III; Enclosure Type 3

EAC: Ex d IIC GB U, Ex e IIC Gb U, Ex tb IIC Db U

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx/EAC: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

INMENSTRO: ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, ABNT NBR IEC 60079-7, ABNT NBR IEC 60079-31

CSA: C22.2 No.30-M1986 (R2012), CAN/CSA 60079-0-11, CAN/CSA 60079-1-11, CAN/CSA 60079-31:12, UL 1203-5th Edition

Certificate details

ATEX: ITS16ATEX101339X

IECEx: IECEx ITS 16.0013X

EAC: TC RU C-GB.MI062.B.06225

INMENSTRO: NCC 18.0133X

CSA: 1248014 (LR 106084)

Temperature

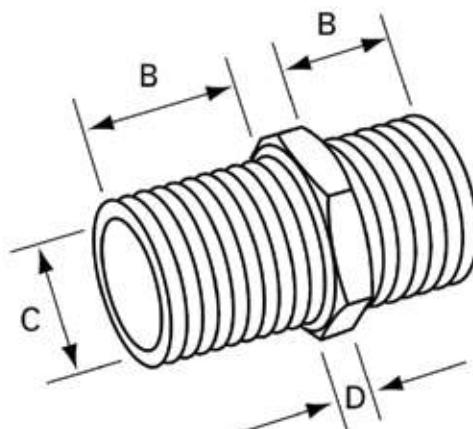
Temperature range: -50°C to +180°C

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system



Dimensions

Size	B (min.)	C	D	A/F
M16	16.00	11.00	5.00	23.37
M20	16.00	14.00	5.50	23.37
M25	16.00	18.00	5.50	30.48
M32	16.00	24.00	5.50	37.59
M40	16.00	32.00	5.50	47.24
M50	16.00	41.00	6.00	55.88
M63	16.00	53.00	6.00	70.10
M75	16.00	64.00	6.50	80.01

Female to female (Exd/Exe) adaptors - AFU Series



Type AFU

Technical specification

Code of protection categories

ATEX: I M2, II 2 GD, Ex d I/IIC Mb Gb, Ex e I/IIC Mb Gb, Ex tb IIIC Db, IP6X

IECEEx: Ex d I/IIC, Mb/Gb, Ex e I/IIC, Mb/Gb, Ex tb IIIC Db, IP6X

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEEx: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

Certificate details

ATEX: ITS16ATEX101339X

IECEEx: IECEEx SIR 12.0016X; IECEEx ITS 16.0013X

EAC: RU C-GB.M1062.B.06225

INMETRO: NCC 18.0133 X

Temperature:

Temperature range: -60°C to ~ +200°C

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system

Features

- ATEX / IECEEx approval
- IP6X
- Available in brass and stainless steel
- Various threadforms available

Benefits

- Provides method of connecting male threadforms
- Connects either matching or dissimilar sizes/threadforms
- Maintains Ex certification

Materials

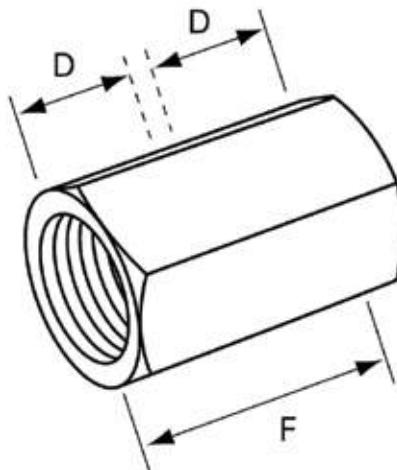
- Brass CZ121
- 316 stainless steel

Threadforms

- Metric
- NPT
- PG
- ISO pipe (BSP)
- ET

Plating options

- Electroless nickel
- Zinc
- Others on application



Dimensions

Size	D	F	A/F
M16	16.00	37.50	23.37
M20	16.00	37.50	23.37
M25	16.00	37.50	30.48
M32	16.00	37.50	37.59
M40	16.00	37.50	47.24
M50	16.00	37.50	55.88
M63	16.00	37.50	70.10
M75	16.00	37.50	80.01



Type DBU

Technical specification

Code of protection categories

ATEX: II 2 GD, Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db

IECEx: Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-31, IEC 60079-7

Certificate details

ATEX: Sira 00ATEX1073U; ITS16ATEX101088X

IECEx: IECEx ITS 16.0049X

Temperature

Temperature range -20°C to +130°C

Part number:

Please refer to page 10 for part numbering system

NB: Product may differ slightly in appearance to photograph

Features

- International Ex approvals
- IP54
- Available in brass, stainless steel, mild steel and aluminium
- Glass filled nylon insulating material

Benefits

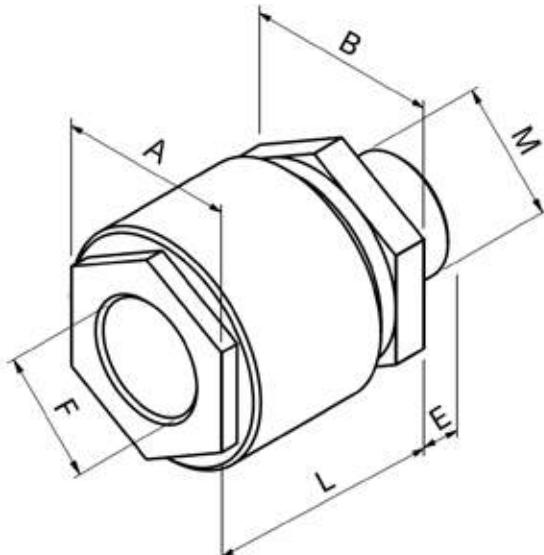
- Provides method of insulating connection device from the equipment
- Allows armour current to be controlled in a positive manner
- Inspection of grounding made easy

Materials

- Brass CZ121
- 316 stainless steel
- Mild steel
- Aluminium

Threadforms

- Metric
- NPT
- NPSM
- PG
- ISO pipe (BSP)
- ET



Dimensions

Size	Total length (A)	Male length (B)
M16	64.00 (min.)	15.00 (min.)
M20	64.00 (min.)	15.00 (min.)
M25	64.00 (min.)	15.00 (min.)
M32	64.00 (min.)	15.00 (min.)
M40	64.00 (min.)	15.00 (min.)
M50	64.00 (min.)	15.00 (min.)
M63	64.00 (min.)	15.00 (min.)
M75	64.00 (min.)	15.00 (min.)

Application

To avoid relying on the contact between cable termination and equipment enclosure for grounding the cable armour, an insulated adaptor can be fitted to both ends of the cable with a grounding device (i.e. earth tag/lug) fitted between the adaptor and the termination. The armour current can then be taken from the grounding device to ground in a controlled, positive manner that can be *inspected* easily.

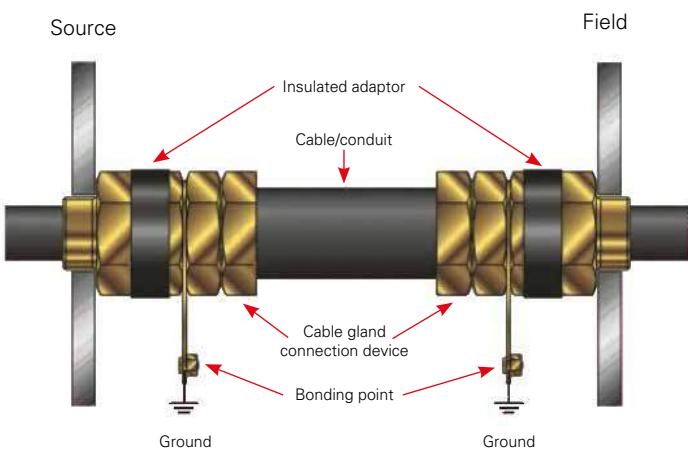
Single point grounding

In many applications it is sufficient to ground the cable armour at one end. For single point grounding, the insulated adaptors would again be used at both ends of the cable but with the earth tag fitted only to the end where grounding is required.

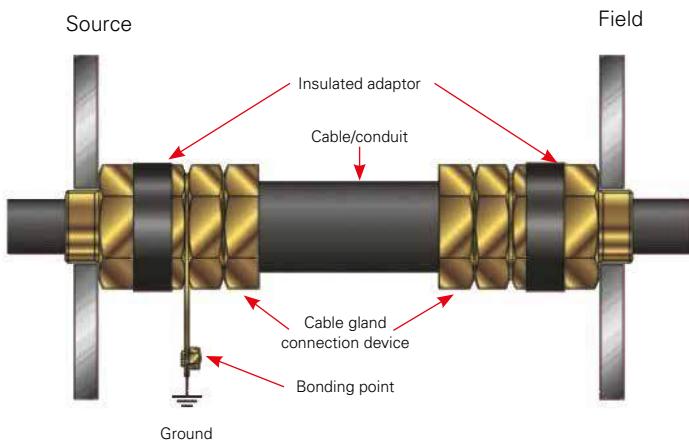
Single point grounding can:

- Reduce the circulating currents that can cause heating of high capacity cables.
- Reduce the risk of damage to electronic equipment within the enclosure in the event of a short circuit to ground through the enclosure.
- Reduce the problems of electrical noise on the armour affecting the clean earth required for some sensitive instruments.

Standard application



Single point grounding



Note: Graphic representation only - actual appearance may differ.

Type A and Type B (Exde) stopping plugs - PAU / PBU Series



Type PBU



Type PAU

Features

- International Ex approvals
- IP6X CSA Enclosure Type (NEMA) 3
- Available in brass, stainless steel, mild steel and aluminium
- Various threadforms available

Benefits

- Provides method of filling unused entries in equipment
- Type B secures from inside, providing extra security
- Maintains Ex certification
- Maintains IP integrity

Materials

- Brass CZ121
- 316 stainless steel
- Aluminium
- Mild steel

Plating options

- Electroless nickel
- Zinc
- Others on application

Threadforms

- Metric
- NPT
- NPSM
- PG
- ISO pipe (BSP)
- ET

Technical specification

Code of protection categories

ATEX: I M2, II 2 GD, Ex d I/IIC Mb/Gb, Ex e I/IIC Mb/Gb, Ex tb IIIC Db IP66

IECEx/INMENRO: Ex db I/IIC Mb/Gb, Ex eb I/IIC Mb/Gb, Ex tb IIIC Db IP66

CSA: Ex d IIC IP54, Class 1, Division 1 & 2; Groups A,B,C & D; Class II, Groups E,F & G; Class III; Enclosure Type 3

EAC: ExdelU, ExdelICU, IP66 / 67 / 68

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx/EAC: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

INMENRO: ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, ABNT NBR IEC 60079-7, ABNT NBR IEC 60079-31

CSA: C22.2 No.30-M1986 (R2012), CAN/CSA 60079-0-11, CAN/CSA 60079-1-11, CAN/CSA 60079-31:12, UL 1203-5th Edition

Certificate details

ATEX: ITS16ATEX101335X

IECEx: IECEx ITS 16.0012X

CSA: 1248014 (LR 106084)

EAC: TC RU C-GB.M1062.B.06226

INMENRO: NCC 18.0133X

Temperature

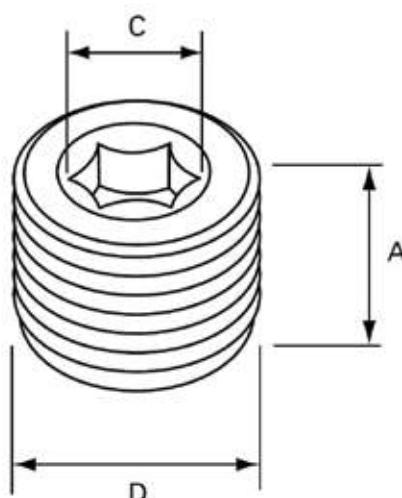
Temperature range: -50°C to +180°C

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system



Dimensions

Size	Overall length (A)	Hex recess (C)	Diameter (D)
M16	15.00	8.00	16.30
M20	15.00	10.00	20.30
M25	15.00	10.00	25.30
M32	15.00	10.00	32.30
M40	15.00	10.00	40.20
M50	15.00	10.00	50.20
M63	15.00	14.00	63.10
M75	15.00	14.00	75.00



Type DPE

Features

- International Ex approvals
- IP66, CSA Enclosure Type (NEMA) 4X
- Available in two thread lengths: 10mm 2 drain holes or 15mm 3 drain holes
- Available in brass, stainless steel and aluminium
- Metric and NPT threads available

Benefits

- Provides method of draining moisture within enclosures
- Allows air within enclosure to breathe with surrounding atmosphere
- Maintains increased safety certification
- Maintains IP integrity

Materials

- Brass CZ121
- 316 stainless steel
- Aluminium

Plating options

- Electroless nickel
- Zinc
- Others on application

Threadforms

- Metric
- NPT

Dimensions

Size	A/F	Overall length (A)	Thread length (B)
M20	28.60	23.00 (min.)	10.00 (min.)
M25	34.90	23.00 (min.)	10.00 (min.)
M32	41.30	23.00 (min.)	10.00 (min.)
1/2" NPT	28.60	28.00 (min.)	15.00 (min.)
3/4" NPT	34.90	28.00 (min.)	15.00 (min.)
1" NPT	41.30	28.00 (min.)	15.00 (min.)

Technical specifications

Code of protection categories

ATEX: I M2/II 2 GD, Ex e I/II Mb Gb, Ex tb IIIC Db IP66

IECEx: Ex e I/IIIC Mb/Gb, Ex tb IIIC Db IP66

CSA: Class 1, Zone 1 Ex e II IP66, CSA Enclosure Type 4X (NEMA 4X)

Compliance standards

ATEX: EN 60079-0, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-7, IEC 60079-31

CSA: CSA Standard C22.2 No. 0-M, CSA Standard C22.2 No. 0.5, CSA Standard C22.2 No. 94, CAN/CSA E79-7-95, UL2279

Certificate details

ATEX: Sira 99ATEX3050X; ITS16ATEX101338X

IECEx: IECEx SIR 08.0024X; IECEx ITS 16.0014X

EAC : RU C-GB.MI062.B.06227

CSA: 185887-2500003408 (LR 106084)

INMETRO : NCC 18.0165 X

Temperature

Metallic body dependent on filter and seal material

Nylon body: -50°C to +125°C, unless limited by filter material

HDPE filter: -50°C to 85°C

Metallic filter dependent on body and interface material

Nitrile: -30°C to +100°C (supplied as standard)

EPDM: -50°C to +125°C

Neoprene: -40°C to +100°C

Viton: -20°C to +180°C

Silicone: -50°C to +180°C

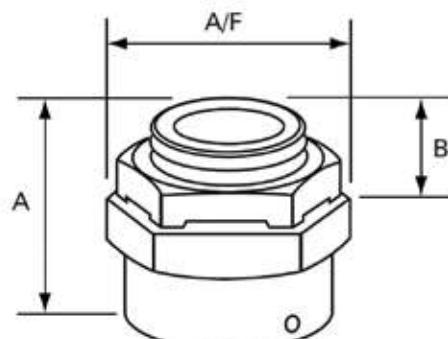
Fluorosilicone: -70°C to +150°C

Ingress protection (IP):

Tested to IP66

Part number:

Please refer to page 11 for part numbering system



Flameproof (Exd/Exe) breather drains - BDU Series



Type BDU

Technical specification

Code of Protection Categories

ATEX: I M2, II 2 GD, Ex e I/IIC Mb Gb, Ex d I/IIC Mb Gb, Ex tb IIIC Db IP6X

IECEx: Ex e I/IIC Mb Gb, Ex d I/IIC Mb Gb, Ex tb IIIC Db IP6X

Compliance Standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

Certificate Details

ATEX: Sira 08ATEX1240X; ITS16ATEX101338X

IECEx: IECEx SIR 08.0096X; IECEx ITS 16.0014X

Temperature

Temperature range dependent on O-ring used (supplied on metric only)

Nitrile: -20°C to +80°C

EPDM: -30°C to +125°C

Neoprene: -20°C to +100°C

Viton: -5°C to +150°C

Silicone: -30°C to +150°C (supplied as standard)

Fluorosilicone: -50°C to +150°C

Ingress protection (IP):

Tested to IP66

Part number:

Please refer to page 11 for part numbering system

Features

- International Ex approvals
- IP66
- Available in brass and stainless steel
- Metric and NPT threads available

Benefits

- Provides method of draining moisture within enclosures
- Allows air within enclosure to breathe with surrounding atmosphere
- Maintains Ex certification
- Maintains IP integrity

Materials

- Brass CZ121
- 316 stainless steel

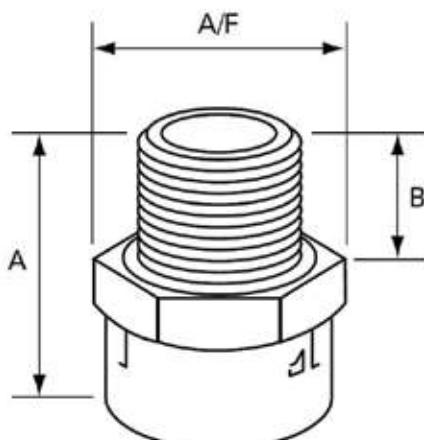
Threadforms

- Metric
- NPT*

*O-ring not supplied as standard

Plating options

- Electroless nickel
- Zinc
- Others on application



Dimensions

Size	Hex A/F	Overall length (A)	Male thread length (B)
M20	27.00	31.00	16.00
M25	31.75	31.00	16.00
1/2" NPT	27.00	35.00	20.00
3/4" NPT	31.75	35.00	20.00



Type SBU

Technical specification

Code of protection categories

ATEX: II 2 GD, Ex d IIC Gb / Ex e IIC Gb, Ex tb IIIC Db IP6X

IECEx: Ex d IIC Gb / Ex e IIC Gb, Ex tb IIIC Db IP6X

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-31, IEC 60079-7

Certificate details

ATEX: ITS 12ATEX17707X

IECEx: IECEx ITS 12.0079X

EAC: RU C-GB.M1062.B.06227

INMETRO: NCC 18.0165 X

Temperature

Temperature range -20°C to +85°C

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system

Features

- International Ex approvals
- IP66
- Available in brass and stainless steel
- Various threadforms available

Benefits

- Seals conductors at entry to enclosure
- Enables compound gland to be converted to barrier gland
- Maintains Ex certification
- Maintains IP integrity

Materials

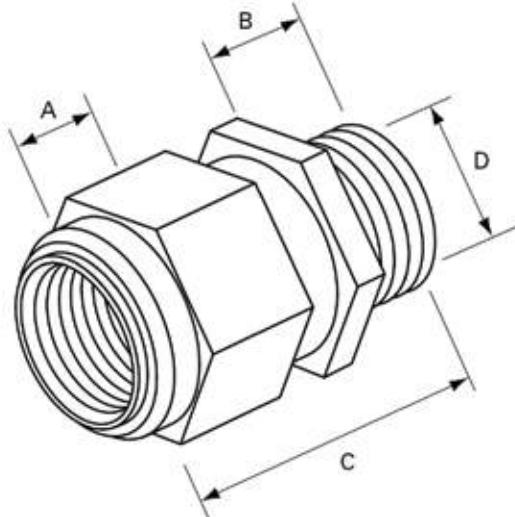
- Brass CZ121
- 316 stainless steel

Threadforms

- Metric
- NPT
- PG
- ISO pipe (BSP)
- ET

Plating options

- Electroless nickel
- Zinc
- Others on application



Dimensions

Size	Bore (D)	Thread length (A, B) min.	Overall length (C)
M16	8.30	15.00 - 15.00	54.50
M20	11.30	15.00 - 15.00	56.80
M25	13.40	15.00 - 15.00	59.50
M32	17.70	15.00 - 15.00	64.30
M40	24.40	17.00 - 15.00	70.50
M50	31.80	17.00 - 15.00	67.80
M63	41.60	17.00 - 15.00	70.30



Type UNU

Type UFU

Features

- International Ex approvals
- Available in brass, stainless steel and aluminium
- Various threadforms available

Benefits

- Provides a running joint
- Eliminates exposed threads
- Maintains Ex certification

Materials

- Brass CZ121
- 316 stainless steel
- Aluminium

Plating options

- Electroless nickel
- Zinc
- Others on application

Threadforms

- Metric
- NPT
- PG
- ISO pipe (BSP)
- ET

Technical specification

Code of protection categories

ATEX: I M2, II 2 GD, Ex d I/IIC Mb/Gb, Ex e I/IIC Mb/Gb, Ex tb IIIC Db IP6X

IECEx/INMENSTRO: Ex db I/IIC Mb/Gb, Ex eb I/IIC Mb/Gb, Ex tb IIIC Db IP6X

CSA: Ex d IIC IP54, Class I, Division 1and 2; Groups A, B, C, D; Class II, Groups E, F, G; Class III; Enclosure Type 3

EAC: Ex d IIC Gb U, Ex e IIC Gb U, Ex tb IIIC Db U

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx/EAC: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

INMENSTRO: ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, ABNT NBR

IEC60079-7, ABNT NBR IEC 60079-31

CSA: C22.2 No.30-M1986 (R2012), CAN/CSA 60079-0-11, CAN/CSA 60079-1-11, CAN/CSA 60079-31:12, UL 1203-5th Edition

Certificate details

ATEX: ITS16ATEX101339X

IECEx: IECEx ITS 16.0013X

CSA: 1248014 (LR 106084)

EAC: TC RU C-GB.MIO62.B.06225

INMENSTRO: NCC 18.0133X

Temperature

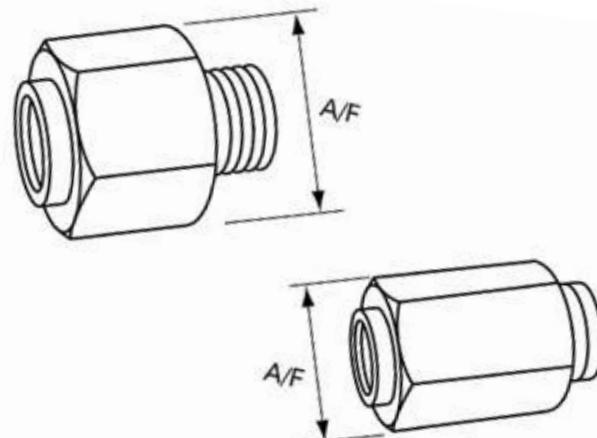
Temperature range: -50°C to +180°C

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system



Dimensions

Male to female unions (UN-D)

Size	A/F
M20	37.59
M25	42.42
M32	55.88
M40	55.88
M50	80.01
M63	90.17
M75	114.30

Female to female unions (UF-D)

Size	A/F
M20	37.59
M25	42.42
M32	55.88
M40	55.88
M50	80.01
M63	90.17
M75	114.30



Type AEE

Features

- International Ex approvals
- Available in brass, stainless steel, mild steel and aluminium
- Various threadforms available

Benefits

- Provides a method of bonding cable gland or termination to a grounding or earth point
- Maintains Ex certification

Materials

- Brass CZ121
- 316 stainless steel
- Aluminium
- Mild steel

Threadforms

- Metric
- NPT
- PG
- ISO pipe (BSP)
- ET

Technical specification

Code of Protection Categories

ATEX: II 2GD, Ex e IIC Gb, Ex tb IIIC Db, IP6X

IECEx: Ex e IIC Gb, Ex tb IIIC Db IP6X

CSA: Class I, Division 1 Groups C, D; Class I Division 2; Groups A, B, C, D; Class II, Groups E, F, G; Class III; Enclosure Type 3, Class I, Zone 1, AEx e IIB IP54, Class I, Zone 2, AEx e IIC IP54

Compliance standards

ATEX: EN 60079-0, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-7, IEC 660079-31

CSA: C22.2 No. 30-M1986 (R2012), CAN/CSA 60079-0-11, CAN/CSA 60079-31:12, UL1203-5th Edition

Certificate details

ATEX: Sira 00ATEX3093X; ITS16ATEX101339X

IECEx: IECEx SIR 12.0016X; IECEx ITS 16.0013X

CSA: 1248014 (LR 106084)

EAC: RU C-GB.M1062.B.06225

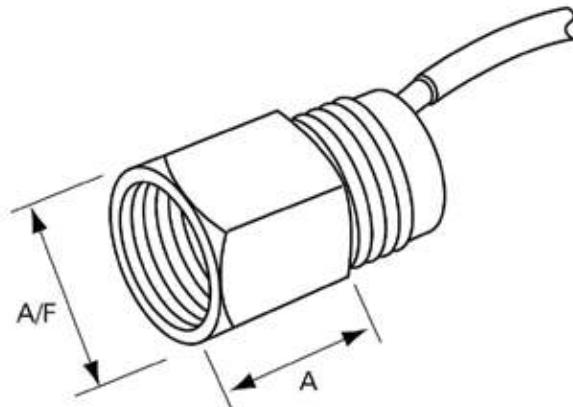
INMETRO: NCC 18.0133 X

Temperature

Temperature rating: -20°C to +40°C

Part number:

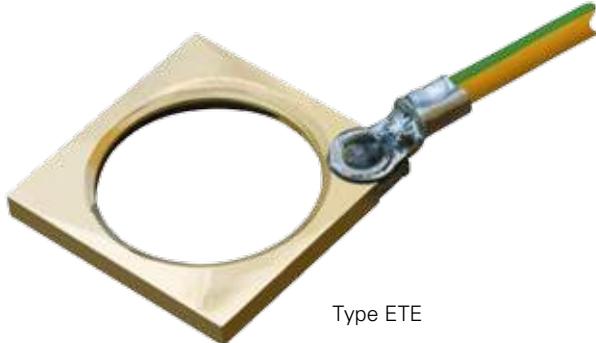
Please refer to page 10 for part numbering system



Dimensions

Size	Body length (A)	A/F
M16	21.50	23.37
M20	21.50	30.48
M25	21.50	37.59
M32	21.50	47.24
M40	21.50	55.88
M50	21.50	70.10
M63	21.50	90.17

Threaded earth plates (Exe) - ETE Series



Type ETE

Technical specification

Code of protection categories

ATEX: II 2GD, Ex e II

Compliance standards

ATEX: EN 50014, EN 50018, EN 50019, EN 50281-1-1

Certificate Details

ATEX: Sira 00ATEX1073U

Temperature

The item is classified as a component and is therefore not given a temperature rating

Part number:

Please refer to page 10 for part numbering system

Features

- International Ex approvals
- Brass CZ121 material
- Supplied with earth lead
- Various threadforms available

Benefits

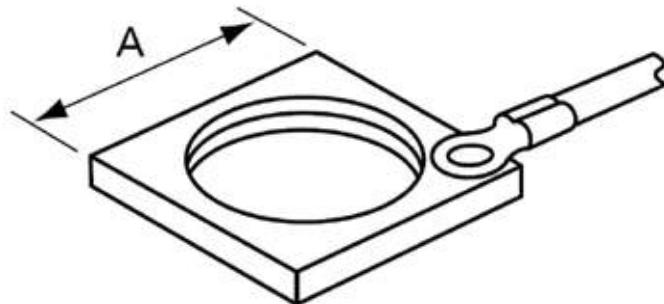
- Ensures earth continuity when terminating brass glands into non-metallic enclosures

Materials

- Brass CZ121

Threadforms

- Metric
- PG
- ET



Dimensions

Size	Material size (A)	Earth lead x 300mm (mm ²)
M16	22.00	2.50
M20	30.00	2.50
M25	32.00	4.00
M32	38.00	6.00



Type FXU

Technical specification

Code of protection categories

ATEX: II 2 GD, Ex d IIC Gb / Ex e IIC Gb, Ex tb IIIC Db IP6X

IECEx: Ex d IIC Gb / Ex e IIC Gb, Ex tb IIIC Db IP6X

EAC: ExdIICU

INMETRO: BR-Ex d IIC Gb, BR-Ex tD A21 IP 66/67

Compliance standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

Certificate details

ATEX: ITS 12ATEX17707X

IECEx: IECEx ITS 12.0079X

Temperature

Temperature range -20°C to +85°C

Ingress protection (IP):

Independently tested to IP66 / IP68 when fitted in accordance to manufacturer's instructions

Part number:

Please refer to page 10 for part numbering system

Features

- ATEX Exd/Exe certification
- IP6X, CSA Enclosure Type (NEMA) 3
- Available in nickel-plated brass and stainless steel
- Supplied with compound, making off instructions and gloves

Benefits

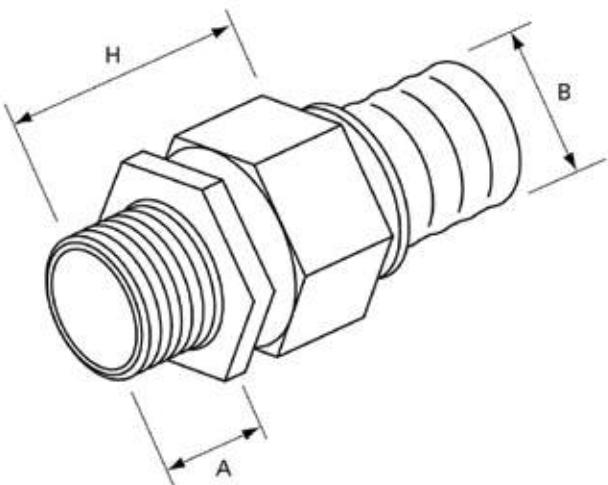
- Provides a flameproof connection for liquidtight and braided flexible conduit by means of compound barrier between individual insulated cable conductors
- Maintains Ex certification
- Maintains IP integrity

Materials

- Nickel-plated brass
- 316 stainless steel

Threadforms

- Metric



Dimensions

Size	Thread (A) min.	ØB nominal	Length (H)
M20	15.00	21.10	44.50
M25	15.00	26.40	46.00
M32	15.00	33.10	51.50
M40	15.00	41.80	52.50
M50	15.00	47.90	58.50
M63	15.00	59.70	61.50

Flexible conduit and accessories



Flexible conduits and accessories are widely used to complete your electrical installation. Various conduit types includes galvanized steel, stainless steel, PVC coating, braided armouring and many others depending on products.

For further information on our flexible conduits and accessories, please visit the website www.eaton.com/uk, or contact our Customer Services team on +44 (0) 1922 450400.



Non-certified accessories

A wide variety of non-certified accessories such as locknuts, washers and bushes are available to compliment the Redapt certified accessory range.

Materials include brass, stainless steel, aluminium, nylon, fibre and many others depending on product, with plating available on metallic finishes. A variety of threadforms are available.

For further information on our non-certified accessories, please consult the **Raxton thread conversion accessories** catalogue, visit the website www.eaton.com/uk or contact our Customer Services team on +44 (0) 1922 450400.





Eaton's Crouse-Hinds

The safety you rely on.

See the complete offering of Cable Glands and
Accessories at www.crouse-hinds.com.

U.S. (Global Headquarters):

Eaton's Crouse-Hinds Division
1201 Wolf Street
Syracuse, NY 13208
(866) 764-5454
FAX: (315) 477-5179
FAX Orders Only:
(866) 653-0640
CrouseCustomerCTR@eaton.com

Canada

Toll Free: 800-265-0502
FAX: (800) 263-9504
FAX Orders only: (866) 653-0645

Mexico/Latin America/Caribbean

52-555-804-4000
FAX: 52-555-804-4020
veritascentromex@eaton.com

Europe (Germany)

49 (0) 6271 806-500
49 (0) 6271 806-476
sales.CCH.de@
cooperindustries.com

Middle East (Dubai)

971 4 4272500
FAX: 971 4 4298521
chmesales@eaton.com

Singapore

65-6645-9888
FAX: 65-6297-4819
chsi-sales@cooperindustries.com

China:

86-21-2899-3600
FAX: 86-21-2899-4055
cchsales@cooperindustries.com

Korea

82-2-3484-6783
82-2-3484-6778
CCHK-sales@
cooperindustries.com

Australia

61-2-8787-2777
FAX: 61-2-9609-2342
CEASales@cooperindustries.com

India:

91-124-4683888
FAX: 91-124-4683899
cchindia@eaton.com

For more information:

If further assistance is required, please contact an authorized Eaton Distributor, Sales Office, or Customer Service Department.

Eaton Electrical Systems Limited

Westgate, Aldridge
West Midlands WS9 8FS
United Kingdom
+44 (0) 1922 450400
www.redapt.co.uk
csaldridge@eaton.com

Eaton's Crouse Hinds Division

1201 Wolf Street
Syracuse, NY 13208
+1 (866) 764-5454
Fax: +1 (315) 477-5179
www.crouse-hinds.com

Eaton

1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Eaton's Crouse-Hinds Division

1201 Wolf Street
Syracuse, NY 13208
(866) 764-5454
CrouseCustomerCTR@eaton.com

© 2020 Eaton
All Rights Reserved
Printed in UK
Publication No. CAP185004
February 2020

Eaton is a registered trademark.

All other trademarks are property
of their respective owners.

Follow us on social media to get the latest product and support information.

