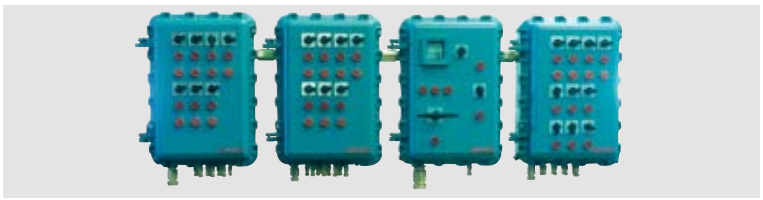
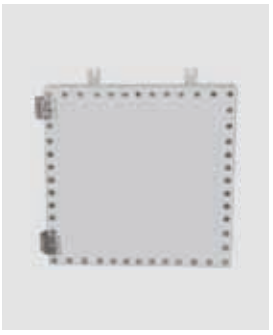
Catalogue

Explosion-Protected Products

Cooper Crouse-Hinds Australia

COOPER Crouse-Hinds





For more than a century, companies have relied on Cooper Crouse-Hinds for solutions they can trust to grow their business.

By integrating a comprehensive line of electrical and instrumentation products with expert support, industry insights, and local availability, Cooper Crouse-Hinds **enhances safety and productivity** in the most demanding industrial, harsh, and hazardous environments worldwide. This philosophy is at the core of every product we develop and every solution we engineer.

COOPER Crouse-Hinds

CEAG

MTL Instruments

PAULUHN

CROUSE-HINDS COMMERCIAL PRODUCTS

The more demanding the environment, the likely it is that you will find our products in operation.

Cooper Crouse-Hinds manufactures over 100,000 products for NEC, IEC and ABS applications across the globe, including

- Conduit and cable fittings
- Enclosures
- Motor Controls and Electrical Apparatus
- Industrial and Marine Lighting
- Plugs & Receptacles
- Signals and Alarms
- Wireless and Solar Power
- Commercial Fittings and Outlet Boxes
- Electronic components and protection equipment for process control

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COOPER Crouse-Hinds

At Cooper Crouse-Hinds, innovation is in our DNA.

ESP Enhancing Safety+ Productivity

As the electrical industry's global leader for hazardous environments, we're constantly pushing forward and looking ahead, advancing electrical and instrumentation products in new and innovative ways.

We do this with a singular goal in mind — ***Enhancing Safety and Productivity*** thoughout your operation. It's all fueled by a fierce dedication to providing global solutions, worldwide reliability and intelligence and expertise.

Every new product or initiative must live up to these uncompromising standards.

Catalog Layout

Welcome to the enhanced and expanded Cooper Crouse-Hinds catalog. This catalog includes products from the following 5 major product lines.

Section 1	Application Protection Techniques
Section 2	Conduit and Cable Fittings
Section 3	Junction Boxes
Section 4	Industrial Control
Section 5	Lighting
Section 6	Plugs & Receptacles

The product information published in our catalogs and literature 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 we believe to be reliable. The accuracy or completeness thereof are not guaranteed. In accordance with Cooper 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 Cooper Crouse-Hinds products are specifically subject to the Terms and Conditions of Sale as shown on Cooper Crouse-Hinds distributor or trade price sheets.

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About Our Catalogue

MAJOR SECTIONS:

Our Catalogue is divided into six major product sections:

1 **Application Protection Techniques**

2 **Fittings**

3 **Enclosures**

4 **Industrial Control**

5 **Hazardous Area Lighting**

6 **Hazardous Area Plugs & Receptacles**

A table of contents appears in the front of each section listing the products contained in the section by both series prefix (e.g. DSEA) and general product type.

PRODUCT INFORMATION:

On the individual catalogue pages information is given for each product family regarding application, features, compliances and certification, options available and ordering information.

To help make the catalogue easier to use, a common location of the materials appearing on each page is used wherever possible.

MEASUREMENTS:

All units of measurements shown in this catalogue are in metric units of mm and kg (except where otherwise indicated).

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 products. These changes in no way will reduce the performance or function for which the product is intended.

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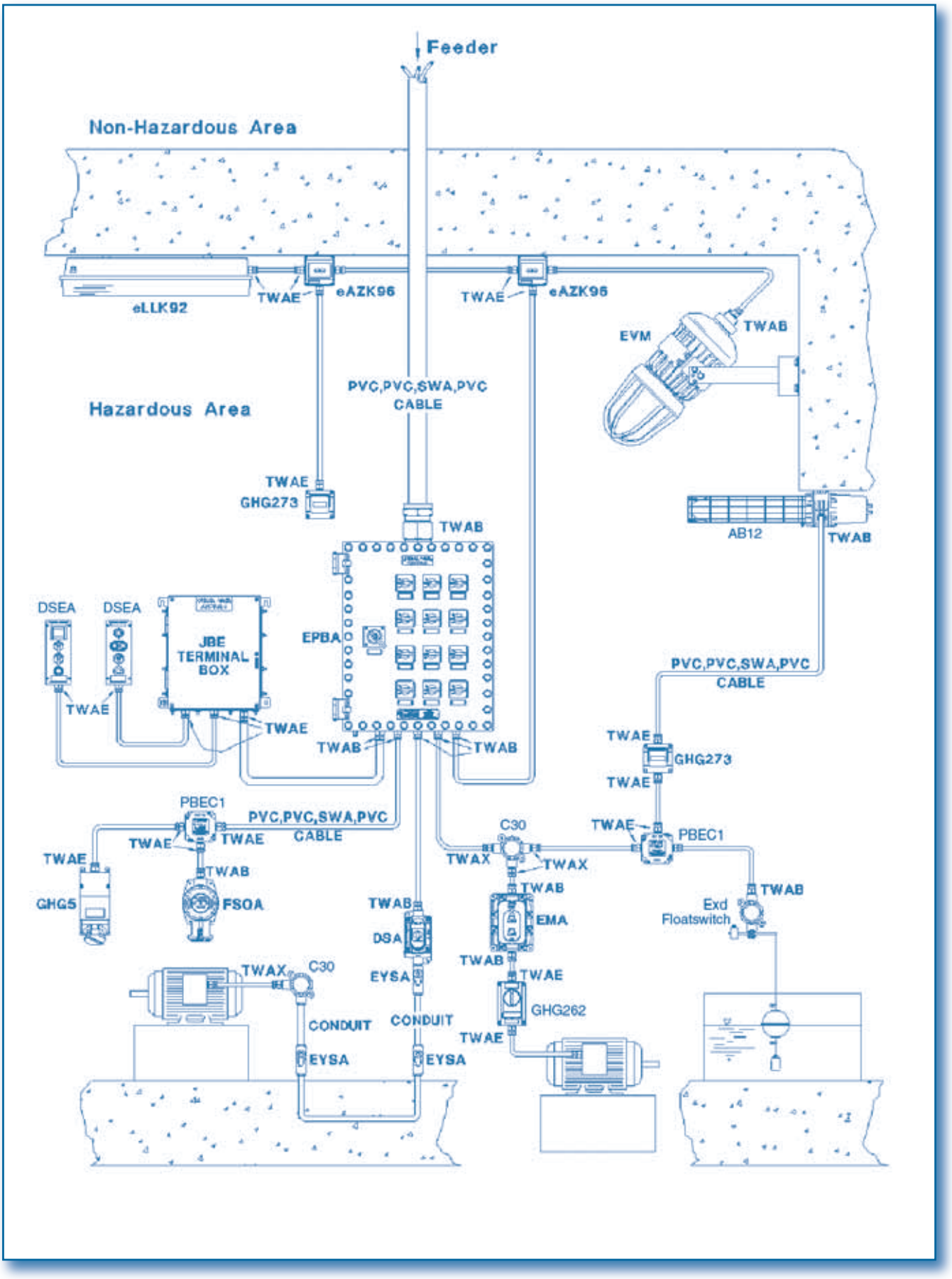

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Product	Zone 1	Zone 2	Zones 21, 22	Weatherproof Only
Adaptors, Nipples, Plugs, Reducers & Unions	ANM, NHM, PLM, REM, UNFA, UNYA	ANM, NHM, PLM, REM, UNFA, UNYA	ANM, NHM, PLM, REM, UNFA, UNYA	
Alarms, Audible & Visual	EOLA, FRFB, FSFB	EOLA, FRFB, FSFB	EOLA, FRFB, FSFB	
Cable Glands	ADE1F, ADE4F TWAB, TWAX, TWAE	ADE1F, ADE4F TWAB, TWAX, TWAE	ADE1F, ADE4F TWAB, TWAX, TWAE	TWA, TUA
Conduit Fittings & Seals	EYSA, FE, FT, FC	EYSA, FE, FT, FC	FC, FB, FHC	
Control Stations & Pilot Lights	DSA, DSEA	DSA, DSEA	DSEA	
Custom Built Control Panels	EJBA & GHG44	EJBA & GHG44	JBD, JBDC GHG 44	JBW
Small Junction Boxes	eAZK96, C30, C31 GUA, GHG, PBEC	eAZK96, C30, C31 GUA, GHG, PBEC	C30, C31, JBDC, GHG72, PBEC	PBW
Large Junction Boxes, Enclosures & Marshalling Boxes	EJBA, GHG74, GUBA, JBE, JBEC, PBE, XLH	EJBA, GHG74, GUBA, JBE, JBEC, PBE, XLH	JBD, JBDC	
Lighting Fixtures	AB12, AEV, AEVBH, eLLK, eLLM, EVA, EVME, FZD, LED EXIT, PX04, T100A	AB12, AEV, AEVBH, eLLK, eLLM, EVM, EVME, FZD, LED EXIT, NFMV, NLLK, NVMV, PX04, T100A	AB12, AEV, AEVBH, eLLK, eLLM, EVM, EVME, FZD, LED EXIT, NFMV, NLLK, NVMV, PX04, T100A	
Panel Boards	CPBA, EJB, EJBA, GHG61	CPBA, EJB, EJBA, GHG61	JBD	
Plugs & Receptacles	FNO, GHG5, FSQA, PP	FNO, GHG5, FSQA, PP	FNO, PP, GHG5	
Switches & Circuit Breakers	DSA, DSEA, EBA, ESA, ELS, ELFS, GHG26, GHG273, GHG29, GHG61	DSA, DSEA, EBA, ESA, ELS, ELFS, GHG26, GHG273, GHG29, GHG61	DSEA, GHG26, GHG273, GHG29	
Motor Starters	EMA, ESDA, GHG61	EMA, ESDA, GHG61		

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	Exd Explosion Proof				Exe Increased Safety			Exn Non Sparking				ExtD Dust Ignition Proof			
	Cast Iron Steel	Aluminium	Cast Iron	High Tensile Brass	FRP	Mild Steel	Stainless Steel	FRP	Aluminium	Mild Steel	Stainless Steel	FRP	Aluminium	Mild Steel	Stainless Steel
Small Junction Boxes & Conduit Fittings	●	●	●	●	●			●	●			●	●		
Large Junction Boxes & Enclosures	●	●			●	●	●	●	●	●	●		●	●	●
Motor Control Equipment		●			●							●	●		
Switches	●	●			●							●	●		
Control Stations	●	●			●							●	●	●	●
Panel Boards		●										●	●	●	●
Incandescent Lighting Fixtures		●													
Fluorescent Lighting Fixtures		●									●		●		
HID Lighting Fixtures		●			●	●	●				●		●		
Plugs and Receptacles		●			●		●				●	●	●		

Note: Not all types listed are suitable for Zone 1 hazardous locations. Consult catalogue listing pages for application and gas groups

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Many liquids, gases and dusts which are generated, processed, handled, and stored in industry are combustible. When ignited they may burn rapidly and with considerable explosive force.

The use of electrical apparatus in these areas is usually necessary to facilitate the handling or processing of the hazardous materials. To remove the possibility of ignition being caused by the electrical apparatus, suitable precautions must be taken with both the equipment and the installation methods used in these hazardous areas.

Improvements in electrical technology have resulted in the development of new and improved materials which have given rise to a considerable increase in the range of options available. These precautions are known today as **Explosion Protection Techniques.**

Growth in mining, chemical, petrochemical and associated industries has encouraged the introduction of new techniques, and the Policy of Standards Australia in following closely the I.E.C. recommendations, has led to the publishing of Australian Standards on these techniques.

As a result of this the users of today have at their disposal a package of techniques which allow additional consideration such as environment to be taken into account when choosing equipment for use in hazardous locations.

A summary of the various techniques and their application in relation to area classification is shown in Figure 1.

All these techniques, with the exception of Exm (hermetically sealed) and Exq (sand filled) are now covered by Australian Standards in relation to manufacture and certification of equipment.

In addition, Standards Australia runs a certification scheme whereby this equipment can be type tested and certified as complying with a particular Australian Standard.

The use of this certification will assist users in the selection of the correct equipment for use in hazardous locations.

In order to make a selection of equipment it is necessary to have the hazardous area classification defined, as laid out in AS2430. However it is necessary for the classification to contain details of the T rating and, for Zone 1, the Gas group of the hazardous material.

Selection of Equipment

Figure 2 shows the techniques in common Australian usage today, and some typical applications.

This does not mean that the other techniques are not used and are not available in Australia or that they will not find increasing use there.

The growth of the industries using explosion protected equipment have given rise to an increased interest by companies in local manufacture of this equipment, with the result that there is available today a significant amount of locally manufactured products using all of the techniques in common use.

In addition, this is supplemented by imported equipment which is available locally and which carries Australian certification.

The Operating Environment

When selecting equipment for use in hazardous locations, it is very easy to overlook the environmental effects on equipment.

However, the operating environment can cause corrosion or similar degradation of equipment which could cause defective operation after a long period of service.

For example, the use of plastic material in a spray booth or solvent laden atmosphere should be avoided since the chemicals may attack the plastic materials.

Conversely in the salt laden atmosphere experienced in offshore platforms and shipping applications, the use of plastic or stainless steel is preferable to aluminum.

Crouse-Hinds Australia can give personal assistance, if required, when selection of materials is being made.

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Liquids, Gases & Vapours

ZONE 0

CONTINUOUSLY HAZARDOUS
(eg storage tank)

PROTECTION TECHNIQUES APPLICABLE

Ex ia	INTRINSIC SAFETY
Ex s	SPECIAL

ZONE 1

FREQUENTLY HAZARDOUS UNDER NORMAL CONDITIONS
(eg container filling area, or a pump alley in a refinery petrol pump)

PROTECTION TECHNIQUES APPLICABLE

Ex ib	INTRINSIC SAFETY
Ex d	FLAMEPROOF
Ex e	INCREASED SAFETY
Ex p	PRESSURISED OR PURGED
Ex s	SPECIAL PROTECTION

ZONE 2

INFREQUENTLY HAZARDOUS UNDER ABNORMAL CONDITIONS
(eg sealed container stored above 3m in a plant)

PROTECTION TECHNIQUES APPLICABLE

Ex n	NON SPARKING

Dusts, Fibres & Flyings

ZONES 21 & 22

DUST PRESENT IN AIR OR SETTLED ON LEDGES ETC
(eg grain handling areas, starch and/or flour mills)

PROTECTION TECHNIQUES APPLICABLE

Ex tD DUST TIGHT ENCLOSURE

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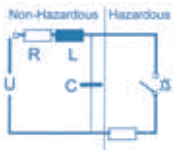
Explosion Protection Techniques Commonly Used in Australia

Ex i	Intrinsic Safety	Energy limitation		Instrumentation and process control equipment
Ex d	Flameproof	Containment		Power equipment, high energy switching & HID lighting
Ex e	Increased Safety	Avoidance of ignition source		Fluorescent lighting, junction boxes and marshalling boxes
Ex n **Ex nR**	Non Sparking Restricted Breathing	Avoidance		Zone 2 only. Lighting and junction boxes cannot be used with internal components that arc or spark
Ex p	Pressurised Enclosure	Exclusion of the hazard		Control cubicles, instrumentation and electric motors
Ex s	Special Equipment	Proved by test unable to cause ignition		Specially tested for specific applications (not widely used)
Ex tD	Dust Excluding Ignition Proof	Exclusion of the dust		All electrical equipment utilised in DIP locations

Note: The Australian Wiring Rules AS3000 applies to all installations.
Section 9 of AS3000 specifically refers to AS2381 for the special requirements for hazardous areas.

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T Ratings (temperature ratings)

The **Maximum** Surface Temperature of Electrical Equipment must **not exceed** the Ignition Temperature of the Hazardous Substance, therefore the temperature rating of the equipment selected must be **lower** than the Ignition Temperature of the Hazardous Substance present in the area

Max Surface Temperature	NEC Table 500-3 (d)	IEC T Class
450°C	T1	T1
300°C	T2	T2
280°C	T2A	
260°C	T2B	
230°C	T2C	
215°C	T2D	
200°C	T3	T3
180°C	T3A	
165°C	T3B	
160°C	T3C	
135°C	T4	T4
120°C	T4A	
100°C	T5	T5
85°C	T6	T6

A "T" rating is assigned to equipment after **testing** to establish the maximum temperature reached during normal operation and under a 10% overload.

Example:

The components of the T ratings are:

AMBIENT TEMPERATURE ..... 40°C
TEMPERATURE RISE ..... 80K (Kelvin)
(from test results)
MAX. SURFACE TEMP..... 120°C

Therefore since the manufacturer is guaranteeing that the surface temperature will **not exceed** the "T" rating the equipment would be assigned a T4 (135°C) rating.

The **surface** where the temperature is measured can vary according to the Type of Protection, for example.

Exd Flameproof is taken on the **exterior** surface.
Exe Increased Safety is taken on the **internal** components
Exn Non-Sparking is taken on the **interna**l components unless the equipment is Certified as a **"Restricted Breathing Enclosure"** in which case it can be taken on the **exterior** surface.

Gas Groups

Gas Groups and their Representative Gases are as follows:

IEC Group	Representative Gas	NEC Group
I	Methane (underground mining)	I
IIA	Propane	D
IIB	Ethylene	C
IIB (H2)	Hydrogen	B
IIC	Acetylene	A

While Gas Groups are shown on all forms of Protection they really only have any significance on Exd Flameproof type of Protection where the dimensions of the flamepath vary according to the Gas Group.

The table shows these differences.

Gas Group	Flamepath Dimensions	
	Width (mm)	Max Gap (mm)
I	12.5	0.4
IIA	12.5	0.2
IIB	12.5	0.15
IIC	25	0.04

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Degree of Protection Provided By Equipment

The **first numeral** indicates protection of persons against access to dangerous parts and protection of internal equipment against the ingress of solid foreign objects.

I P

The second numeral indicates protection of internal equipment against harmful ingress of water.

X		Protection unspecified (untested)	X		Protection unspecified (untested)
O		No special protection provided	O		No special protection provided
	1	Protection of hand against accidental access to dangerous parts, and protection of equipment against objects larger than Ø 50mm*		1	Protection against drops of water falling vertically
	2	Protection of fingers against access to dangerous parts and protection of equipment against objects larger than Ø 12mm		2	Protection against drops of water falling vertically when the object is tilted by up to 15° from it's normal position (in any direction)
	3	Protection against objects larger than Ø 2.5mm (eg tools, small wires)		3	Protection against spraying water at up to 60° from the vertical
	4	Protection against objects larger than Ø 1mm (eg tools, small wires)		4	Protection against splashing and spraying water from all practicable directions
	5	Protection against entry of dust in sufficient quantity to interfere with satisfactory operation of equipment		5	Protection against a low pressure jet of water from all practicable directions
	6	Complete protection against entry of dust		6	Protection against heavy seas or a strong jet of water from all practicable directions
*This dimension applies to the smallest of the three mutually perpendicular dimensions of the object against which protection is provided				7	Protection against immersion
'Flash' symbol indicates dangerous parts (live or moving)				8	Protection against submersion (test subject to agreement, but no less severe than numeral 7)

Note: The symbols shown in the above chart have been compiled for easy explanation only. They are not part of the IP code and must not be used instead of the IP code. The chart should be used in conjunction with the AS1939 Classification of Degrees of Protection provided by Enclosures for Electrical Equipment.

The fact that electrical equipment is certified as being of a particular type of Explosion Protection does not mean that it automatically has a degree of protection against weather or environment. Therefore if equipment is to be used in an outdoor environment care should be taken to ensure that it has appropriate IP Rating, as shown in the table.

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Combustible Compounds Reference

Compound	Ignition Temp	Temp Class	Gas Groups
acetaldehyde	140	T4	IIA
acetic acid	485	T1	IIA
acetone	535	T1	IIA
acetylacetone	340	T2	IIA
acetyl chloride	390	T2	IIA
acetylene	305	T2	IIC
acrylonitrile	480	T1	IIB
allyl chloride	390	T1	IIA
allylene	-	-	IIA
ammonia	630	T1	IIA
amphetamine	-	-	IIA
amyl acetate	375	T2	IIA
amyl methyl ketone	-	-	IIA
aniline	617	T1	IIA
benzene	560	T1	IIA
benzaldehyde	190	T4	IIA
benzyl chloride	585	T1	IIA
blue water gas	-	T1	IIC
bromobutane	265	T3	IIA
bromoethane	510	T1	IIA
butadiene	430	T2	IIB
butane	365	T2	IIA
butanol	340	T2	IIA
butene	440	T2	IIB
butyl acetate	370	T2	IIB
butlyamine	(312)	T2	IIA
butyldigol	225	T3	IIA
butyl methyl ketone	(530)	(T1)	IIA
butyraldehyde	230	T3	IIA
carbon disulphide	100	T5	IIC
carbon monoxide	605	T1	IIB
chlordimethyl ether	-	-	IIA
chlorobenzene	637	T1	IIA
chlorobutane	(460)	(T1)	IIA
chloroethane	510	T1	IIA
chloroethanol	425	T2	IIA
chloroethylene	470	T1	IIA
chloromethane	625	T1	IIA
chloropropane	520	T1	IIA
coal tar naphtha	272	T3	IIA
coke oven gas	-	-	IIB
cresol	555	T1	IIA
cyclobutane	-	-	IIA
cyclohexane	259	T3	IIA
cyclohexanol	300	T2	IIA
cyclohexanone	419	T2	IIA
cyclohexene	(310)	(T2)	IIA
cyclohexylamine	290	T3	IIA
cyclopropane	495	T1	IIB
decahydronaphthalene	260	T3	IIA
diacetone alcohol	640	T1	IIA
diaminoethane	385	T2	IIA
diamyl ether	170	T4	IIA
dibutyl ether	185	T4	IIB
dichlorobenzene	(640)	(T1)	IIA
dichloroethane	440	T2	IIA
dichloroethylene	(440)	(T2)	IIA
dichloropropane	555	T1	IIA
diesel fuel	220	T3	IIA
diethylamine	(310)	(T1)	IIA
diethylaminoethanol	-	-	IIA
diethyl ether	170	T4	IIB
diethyl oxalate	-	-	IIA
diethyl sulphate	-	-	IIA
dihexyl ether	185	T4	IIA
di-isobutylene	(305)	(T2)	IIA
dimethylamine	(400)	(T2)	IIA
dimethylaniline	370	T2	IIA
dimethyl ether	-	-	IIB
dipropyl ether	-	-	IIB
dioxane	379	T2	IIB
epoxypropane	430	T2	IIB

Compound	Ignition Temp	Temp Class	Gas Groups
ethane	515	T1	IIA
ethanol	425	T2	IIA
ethanolamine	-	-	IIA
ethoxyethanol	235	T3	IIB
ethyl acetate	460	T1	IIA
ethyl acrylate	-	-	IIB
ethylbenzene	431	T2	IIA
ethyldigol	-	-	IIA
ethylene425	T2	IIB	
ethylene oxide	440	T2	IIB
ethyl formate	440	T2	IIA
ethyl mercaptan	295	T3	IIA
ethyl methyl ether	190	T4	IIB
ethyl methyl ketone	505	T1	IIA
formaldehyde	424	T2	IIB
formdimethylamide	440	T2	IIA
hexane	233	T3	IIA
hexanol	-	-	IIA
heptane	215	T3	IIA
hydrogen	560	T1	IIC
hydrogen sulphide	270	T3	IIB
isopropyinitrate	175	T4	IIB
jet fuels	220	T3	IIA
kerosene	210	T3	IIA
methaldehyde	-	-	IIA
methane (firedamp)	595	T1	IIA
methane (industrial)	-	T1	IIA
methanol	455	T1	IIA
methoxyethanol	285	T3	IIB
methyl acetate	475	T1	IIA
methyl acetoacetate	280	T3	IIA
methyl acrylate	-	-	IIB
methylamine	430	T2	IIA
methylcycohexane	260	T3	IIA
methylcycohexanol	295	T3	IIA
methyl formate	450	T1	IIA
naphtha	290	T3	IIA
naphtalene	528	T1	IIA
nitrobenzene	480	T1	IIA
nitroeyhane	410	T2	IIB
nitromethane	415	T2	IIA
nitropropane	420	T2	IIB
nonane	205	T3	IIA
nonanol	-	-	IIA
octaidehyde	-	-	IIA
octanol	-	-	IIA
paraformaldehyde	300	T2	IIB
paraldhyde	235	T3	IIA
pentane	285	T3	IIA
pentanol300	T2	IIA	
petroleum	220	T3	IIA
phenol	605	T1	IIA
propane	470	T1	IIA
propanol405	T2	IIA	
propylamine	(320)	(T2)	IIA
propylene	(455)	(T1)	IIA
propyl methyl ketone	505	T1	IIA
pyridine	550	T1	IIA
styrene	490	T1	IIA
tetrahydrofuran	(260)	(T3)	IIB
tetrahydrofurfuryl alcohol	280	T3	IIB
toluene	535	T1	IIA
toluidine	480	T1	IIA
toluol	535	T1	IIA
triethylamine	-	-	IIA
trimrthylamine	(190)	(T4)	IIA
trimethylbenzene	470	T1	IIA
trioxane	410	T2	IIB
turpentine	254	T3	IIA
xylene	464	T1	IIA

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Combustible dust-air mixtures have different ignition temperatures. The surface temperature of the equipment in areas with a risk of dust explosion may reach 2/3rd of the minimum ignition temperature of the surrounding dust-air mixture at the maximum and with a 5mm thick layer of dust must be at least 780K below the minimum ignition temperature of the dust (glow temperature). It is therefore the owner's job to ensure that the cleaning and maintenance intervals of installations with a dust risk are scheduled so that no dust layers thicker than 5mm are allowed to form. At higher dust deposits the minimum ignition temperature (glow temperature) of the dusts are reduced dramatically. Examples for the ignition and glow temperatures can be taken from the table below.

Dust Type (name of solid)	**Minimum Ignition Temperature of a Dust Layer (glow temperature)** in acc. with IEC61241-2-1 proc. A	**Minimum Ignition Temperature of a Dust Cloud** in acc. with IEC61241-2-1 proc. B
Natural Product Examples		
Cellulose	370	500
Coal	270	590
Cocoa	460	580
Cork	300	470
Cotton	350	560
Flour	470	410
Fodder	295	520
Grain	290	420
Milk Powder (Full Spray)	330	520
Paper	335	570
Peat	320	500
Sawdust	300	400
Starch	530	380
Sugar	360	450
Tea	300	510
Tobacco	300	450
Chemical Technical Product Examples		
Laminate (grinding dust)	330	510
Petrol coke	280	690
Polyvinyl acetate	340	500
Polyvinyl chloride	430	680
Rubber	220	460
Soot	385	620
Sulphur	280	280
Metal Examples		
Aluminium	280	530
Bronze	260	390
Iron	300	310
Magnesium	410	610
Manganese	285	330
Zinc	440	570

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Classification Comparison Table

IEC & NEC	IEC Australia	NEC
Liquids, Gases & Vapours	Zone 0	Class 1, Div 1
	Zone 1	
	Zone 2	
Dusts & Fibres	Zone 20	Class 2, Div 1, Div 2
	Zone 21	
	Zone 22	
Flyings	Zone 20	Class 3
	Zone 21	
	Zone 22	

Area Groups Comparison Table

GAS GROUP		Representative Gas
NEC	IEC	
A	IIC	Acetylene
B	IIB H_2	Hydrogen
C	IIB	Ethylene
D	IIA	Propane
DI	I	Methane (underground mining)

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Protection Technique	Australian Standard	Cenelec Standard	IEC Standard
GENERAL	**AS/NZS60079.0** **AS2380.1** Electrical equipment for explosive gas atmospheres	**EN60079-0** Electrical apparatus for potentially explosive atmospheres General Requirements	**IEC60079-0** Electrical apparatus for explosive gas atmospheres Part 0 - General Requirements
Exd	**AS/NZS60079.1** **AS2380.2** Electrical equipment for explosive gas atmospheres Flameproof Enclosure 'd'	**EN60079-1** Electrical apparatus for potentially explosive atmospheres Flameproof Enclosure 'd'	**IEC60079-1** Electrical apparatus for explosive gas atmospheres Construction & verification test of flameproof enclosures of electrical apparatus
Exp	**AS/NZS60079.2** **AS2380.4** Electrical equipment for explosive gas atmospheres Pressurised Rooms or Pressurised Enclosures 'p'	**EN60079-2** Electrical apparatus for potentially explosive atmospheres Pressurised Enclosure 'p'	**IEC60079-2** Electrical apparatus for explosive gas atmospheres Electrical apparatus - type of protection 'p'
Exq	**AS/NZS60079.5** Electrical equipment for explosive gas atmospheres Powder Filling 'q'	**EN60079-5** Electrical apparatus for potentially explosive atmospheres Powder Filling 'q'	**IEC60079-5** Electrical apparatus for explosive gas atmospheres Powder Filling 'q'
Exe	**AS/NZS60079.7** **AS2380.6** Electrical equipment for explosive gas atmospheres Increased Safety 'e'	**EN60079-7** Electrical apparatus for potentially explosive atmospheres Increased Safety 'e'	**IEC60079-7** Electrical apparatus for explosive gas atmospheres Intrinsic Safety 'e'
Exi	**AS/NZS60079.11** **AS2380.7** Electrical equipment for explosive gas atmospheres Intrinsic Safety 'i'	**EN60079-11** Electrical apparatus for potentially explosive atmospheres Intrinsic Safety 'i'	**IEC60079-11** Electrical apparatus for explosive gas atmospheres Increased Safety 'i'
Exn	**AS/NZS60079.15** Electrical equipment for explosive gas atmospheres. Explosion protection techniques Type of protection 'n' non sparking	**EN60079-15** Electrical apparatus for explosive gas atmospheres Electrical apparatus with type of protection 'n'	**IEC60079-15** Electrical apparatus for explosive gas atmospheres Electrical apparatus with type of protection 'n'
Exm	**AS/NZS60079.18** Electrical equipment for explosive gas atmospheres Type of protection 'm'	**EN60079-18** Electrical apparatus for potentially explosive atmospheres Encapsulation 'm'	**IEC60079-18** Electrical apparatus for explosive gas atmospheres Encapsulation 'm'
ExtD	**AS/NZS61241.1** Electrical equipment for explosive dust atmospheres Electrical apparatus protected by enclosures	**EN61241-1** Electrical apparatus for use in the presence of combustible dust Electrical apparatus protected by enclosures	**IEC61241-1** Electrical apparatus for use in the presence of combustible dust Electrical apparatus protected by enclosures
IP	**AS60529** Electrical apparatus for use in the presence of combustible dust	**EN60529** Specification for degrees of protection provided by enclosures (IP Code)	**IEC60529** Classification of degrees of protection provided by enclosures (IP Code)

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Product Description	Zones			Ref No. CEAG 805 Cat	IEC Ex Certificate No.
	1	2	21 / 22		
GHG960 Exe FRP glands & plugs	√	√	√	8.2 to 8.6	IECEx PTB 05.0004X
Capri ADE series metal glands	√	√	√	8.10 to 8.18	IECEx LCI 05.0004X
GHG273 series lighting switches	√	√	√	9.4 to 9.5	IECEx BKI 07.0036
GHG791 series small JB	√	√	√	7.4 to 7.7	IECEx BKI 07.0034
GHG791 series small JB with terminals	√	√	√	7.12 to 7.14	IECEx BKI 07.0034
GHG7311 & GHG7312 terminal boxes	√	√	√	7.14 to 7.16	IECEx BKI 05.0004
GHG72100 & GHG72110 terminal boxes	√	√	√	7.17 to 7.19	IECEx BKI 05.0005
GHG74 series terminal boxes	√	√	√	7.20 to 7.25	IECEx BKI 05.0006
GHG723 series light alloy terminal boxes	√	√	√	7.28 to 7.31	IECEx BKI 07.0034
C30 & C31 small JB in aluminum	√	√	√	7.23 to 7.35	IECEx BKI 07.0026
NXTS stainless steel JB	√	√	√	7.38 to 7.47	IECEx BKI 08.0010
Ex-Cell stainless steel JB	√	√	√	7.48 to 7.61	IECEx BKI 08.0004
STB stainless steel JB	√	√	√	7.62 to 7.69	IECEx BKI 08.0010
GHG74 stainless steel series terminal boxes	√	√	√	7.70 to 7.71	IECEx BKI 05.0006
GHG791 motor terminal boxes	√	√	√	7.72 to 7.73	IECEx BKI 07.0034
GHG72100 motor terminal boxes	√	√	√	7.74 to 7.74	IECEx BKI 05.0005
GHG745 motor terminal boxes	√	√	√	7.75 to 7.75	IECEx BKI 05.0006
GHG746 motor terminal boxes	√	√	√	7.76 to 7.77	IECEx BKI 05.0006
GHG411 series push button control stations in FRP	√	√	√	9.6 to 9.12	IECEx BKI 04.0003
GHG432/4 series push button control stations FRP	√	√	√	9.13 to 9.19	IECEx BKI 04.0003
GHG413 series push button control stations in light alloy	√	√	√	9.20 to 9.24	IECEx BKI 04.0003
GHG414 series push button control stations in SS	√	√	√	9.26 to 9.30	IECEx BKI 04.0003
GHG44 series push button control stations FRP	√	√	√	9.42 to 9.45	IECEx BKI 07.0023
GHG44X33 series push button control stations SS	√	√	√	9.48 to 9.78	IECEx BKI 07.0023
GHG292/ 293 RCU in FRP	√	√	√	9.112 to 9.118	IECEx BKI 07.0011
GHG295 / 294 RCU in light alloy	√	√	√	9.120 to 9.125	IECEx BKI 07.0011
ESF - Nortem control stations	√	√	√	9.126 to 9.127	IECEx BKI 07.0027
GHG61 distribution panel in FRP	√	√	√	11.2 to 11.11	IECEx BKI 06.0007
GHG61 distribution panel in SS	√	√	√	11.12 to 11.15	IECEx BKI 06.0007
GHG61 components - breakers	√	√	√	11.16 to 11.29	IECEx BKI 07.0038U
GHG61 components - fuse	√	√	√	11.30 to 11.31	IECEx BKI 07.0035U
GHG61 components - isolators 20 - 180A	√	√	√	11.32 to 11.33	IECEx BKI 06.003/4/6U
GHG61 components - contactors	√	√	√	11.34 to 11.36	IECEx BKI 06.0038U
GHG61 components - DOL	√	√	√	11.37 to 11.39	IECEx BKI 06.0038U
GHG61 components - contactors	√	√	√	11.40 to 11.43	IECEx BKI 06.0038U
GHG61 components - manual motor starter	√	√	√	11.48 to 11.50	IECEx BKI 06.0038U
GHG61 components - thermal over current relay	√	√	√	11.51 to 1152	IECEx BKI 06.0038U
GHG61 components - over voltage arrestor	√	√	√	11.53 to 11.54	IECEx BKI 06.0038U
GHG61 components - star-delta timer relay	√	√	√	11.55 to 11.55	IECEx BKI 06.0038U
GHG61 components - multi-function relay	√	√	√	11.56 to 11.57	IECEx BKI 06.0038U
GHG61 empty enclosures FRP (not for sale as stand alone item)	√	√	√	11.60 to 11.61	IECEx BKI 06.0007
GHG61 empty enclosures SS (not for sale as stand alone item)	√	√	√	11.62 to 11.63	IECEx BKI 06.0007
EJB Nortem enclosure IIB, IP65	√	√	√	11.74 to 11.85	IECEx BKI 07.0018

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Product Description	Zones			Ref No. CEAG 805 Cat	IEC Ex Certificate No.
	1	2	21 / 22		
Stabex Mini hand torch light	√	√	√	1.6 to 1.9	IECEx BKI 08.002
Stabex HF hand torch light	√	√	√	1.6 to 1.9	IECEx BKI 08.003
eLLK92 series zone 1, 2, 21 & 22 fluorescent light	√	√	√	2.13 to 2.25	IECEx BVS-09.0033
eLLB200 series recessed fluorescent light	√	√	√	2.26 to 2.37	IECEx BKI 08.0017
AB12 EX d series fluorescent light	√	√	√	2.47 to 2.5	IECEx BKI 07.0008X
EVF Ex d series fluorescent light	√	√		2.51 to 2.54	IECEx BKI 07.0033X
nLLK98 series zone 2, 21, 22 fluorescent		√	√	2.56 to 2.61	IECEx BKI 06.0001
EXIT N - LED emergency EXIT Light	√	√	√	3.8 to 3.15	IECEx BKI 06.0003
AB12 Ex d NAV 70, 70W HPS	√	√		5.8 to 5.9	IECEx BKI 07.0008X
AB51 Ex d pendant light fitting for Incandescent, halogen & MV	√	√	√	5.13 to 5.14	IECEx BKI 07.0028X
EVI 200 / EVI 500 Ex d Incandescent and HID to 250W minus control gear	√	√	√	5.15 to 5.17	IECEx BKI 07.0031X
EVQ Ex d Induction lamp EQ55 and EQ85	√	√	√	5.18 to 5.19	IECEx BKI 07.0031X
EV Ex d HID well glass series with integral control gear	√	√	√	5.20 to 5.22	IECEx BKI 07.0031X
FZD Ex d light weight HID floodlight with integral control gear	√	√	√	5.24 to 5.29	IECEx BKI 07.0002
PX Ex d HID flood HID with integral control-gear	√	√	√	5.30 to 5.33	IECEx BKI 07.0041
KFL Vessel light	√	√	√	5.46 to 5.48	IECEx BKI 07.0029
Ex-Link plugs and receptacles	√	√	√	6.6 to 6.44	IECEx BKI 06.0005X
GHG511 series 16A Plugs & Sockets	√	√	√	6.58 to 6.67	IECEx BKI 04.0002
GHG512 series 32A Plugs & Sockets	√	√	√	6.68 to 6.73	IECEx BKI 04.0006
GHG514 series 63A Plugs & Sockets	√	√	√	6.74 to 6.76	IECEx BKI 04.0004
GHG515 series 125A Plugs & Sockets	√	√	√	6.77 to 6.79	IECEx BKI 04.0005

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Fittings

When it comes to the proper termination of cable, the correct use of fittings is as important as the equipment itself. Incorrect application will render the installation ineffective and could be dangerous.

Our range of certified adaptors, reducers, conduit seals and glands provides the hazardous and arduous industries with a wide selection to suit many applications.

Crouse-Hind's fittings are available in Nickel plated brass as standard and on request, in stainless steel.

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Cable Glands

CH Nylon Weatherproof 2-2
TUA Unarmoured Weatherproof.....2-3
TWA Steel Wire Armoured Weatherproof.....2-4
ADE1F Ex d, Ex e, Ex tD Steel Wire Armoured.....2-5
TWAB Ex d, Ex e, Ex tD Steel Wire Armoured 2-6
TWAE Ex e, Ex tD Steel Wire Armoured 2-7
TWAX Ex d, Ex e, Ex tD Steel Wire Armoured.....2-8
ADE4F Exd, Ex e, Ex td Steel Wire Armoured 2-9
Cable Gland Accessories 2-10

Stopping Plugs

Ex d, Ex e DIP 2-11

Adaptors

Ex d, DIP 2-12

Reducers

Ex d, DIP 2-16

Unions

Ex d, DIP 2-17

Nipples

Ex d, DIP 2-18

Conduit Seals

Ex d, DIP 2-19

Sealing Compound

Sealing Compound 2-20

Inspection Elbows & Tees

Exd, DIP 2-21

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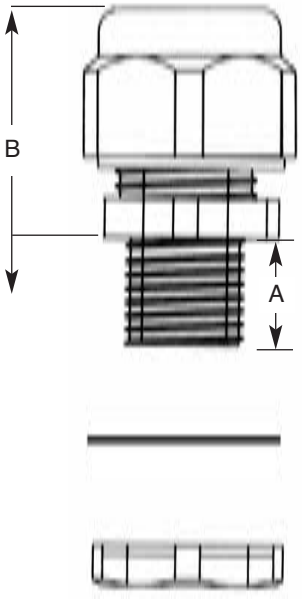
Technical Data

Type of Protection	Weatherproof
Degree of Protection	IP68
Application	Termination of unarmoured cables
Standard Materials	Nylon

Ordering Details

Gland Data Size		Cable Range Detail		Gland Size Data	
Cat No.	Entry Size (metric)	Cable Overall Diameter		Entry Length	Proj. Length
		Min	Max	A	B
		mm	mm	mm	mm
CH12	12	3.0	6.5	7.9	19.3
CH16	16	5.0	10.0	14.4	23.9
CH20	20	10.0	14.0	12.8	28.2
CH25	25	13.0	18.0	13.9	32.1
CH32	32	18.0	25.0	14.6	36.2
CH40	40	22.0	32.0	17.7	43.1
CH50	50	30.0	38.0	17.3	44.3
CH63	63	34.0	44.0	18.6	50.7



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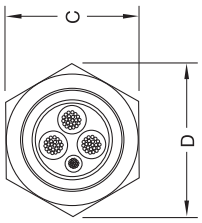
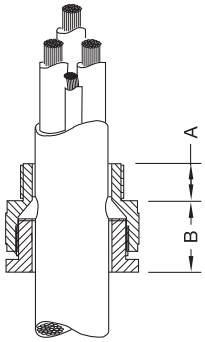
COOPER Crouse-Hinds

Technical Data

Type of Protection	Weatherproof
Degree of Protection	IP66/67
Application	Termination of unarmoured cables
Standard Materials	Brass, nickel plated
Options	Stainless steel (add suffix SS to part no., minimum order qty's applicable) Other thread types available upon request





Ordering Details

Gland Size Data		Gland Size Data					
		Cable				Hexagon Size	
Cat No.	Entry Size (metric)	Overall Diameter				Across Flats	Across Cnrs
		Min	Max	A	B	C	D
		mm	mm	mm	mm	mm	mm
TUA12M6	12	3.5	6.5	5.0	11.0	12.0	14.0
TUA16M9	16	5.5	9.5	6.0	13.0	16.0	18.0
TUA1M13	20	8.5	13.0	6.0	14.0	20.0	22.0
TUA2M17	25	12.0	17.0	7.0	16.0	25.0	27.0
TUA3M22	32	15.0	22.0	8.0	20.0	32.0	35.0
TUA4M28	40	19.5	28.0	8.0	23.0	40.0	44.0
TUA5M36	50	25.5	36.0	9.0	27.0	50.0	54.0
TUA6M46	63	33.0	46.0	10.0	32.0	63.0	67.0
TUA7M53	75	37.0	53.0	18.0	41.4	80.0	85.0

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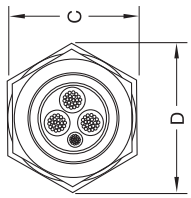
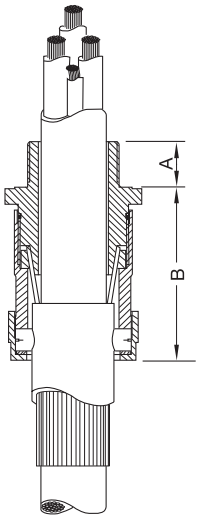
Technical Data

Type of Protection	Weatherproof
Degree of Protection	IP66/67
Application	Termination of steel wire armoured cables
Standard Materials	Brass, nickel plated
Options	Stainless steel (add suffix SS to part no., minimum order qty's applicable) Other thread types available upon request





Ordering Details

Gland Size Data				Cable Range Detail					Gland Size Data			
Cat No.	Entry Size (metric)	Cat No.	Entry Size (NPT)	Actual Diameter				Wire Armour Diameter	Approx.		Hexagon Size	
				Under Armour		Overall			Entry Length	Pro-jected Length	Across Flats	Across Cnrs
				Min	Max	Min	Max	Min / Max	A	B	C	D
				mm	mm	mm	mm	mm	mm	mm	mm	mm
TWA1M13	20	**TWA1N13**	1/2"	3.0	8.0	8.0	13.0	0.5 / 0.9	14.0	56.0	27.0	31.0
TWA1M16	20	**TWA1N16**	1/2"	6.0	11.0	10.2	15.8	0.9 / 1.25	14.0	58.0	27.0	31.0
TWA1M20	20	**TWA1N20**	1/2"	7.0	13.0	14.0	20.8	0.9 / 1.25	14.0	58.0	30.4	34.0
TWA2M27	25	**TWA2N27**	3/4"	11.0	19.0	18.0	27.2	1.25 / 1.6	16.0	60.0	38.5	43.0
TWA3M34	32	**TWA3N34**	1"	17.0	25.0	25.0	33.5	1.6 / 2.0	20.0	72.0	47.2	53.0
TWA4M40	40	**TWA4N40**	1 1/4"	24.0	31.0	30.0	39.5	1.6 / 2.0	20.0	74.0	57.0	64.0
TWA5M53	50	**TWA5N53**	1 1/2"	30.0	41.0	36.0	52.6	2.0 / 2.5	20.0	82.0	70.0	78.0
TWA6M66	63	**TWA6N66**	2"	40.0	54.0	51.0	65.3	2.0 / 2.5	22.0	90.0	80.0	88.0
TWA7M78	75	**TWA7N78**	2 1/2"	53.0	65.0	63.0	78.0	2.5 / 3.5	22.0	98.0	101.0	112.0

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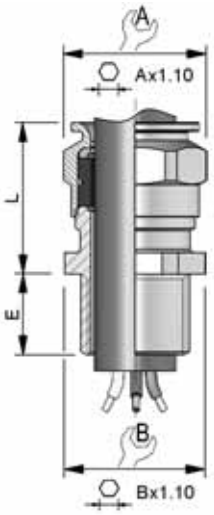
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, Ex e, Ex tD
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	IEC Ex LCI 050 004X
Application	Termination of unarmoured cables
Standard Materials	Brass, nickel plated
Options	Stainless steel (add suffix SS to part no., minimum order qty's applicable) Other thread types available upon request



Ordering Details

Gland Size Data		Gland Size Data					
Cat No.	Entry Size (metric)	Cable		Approx.		Hexagon Size	
		Overall Diameter		Entry Length	Projected Length	Across Flats	Across Cnrs
		Min	Max	A	B	C	D
		mm	mm	mm	mm	mm	mm
ADE1FISO204	M20	4.0	8.5	15.0	20.0	15.0	24.0
ADE1FISO205	M20	6.0	12.0	15.0	20.0	19.0	24.0
ADE1FISO257	M25	12.0	20.5	15.0	27.0	30.0	30.0
ADE1FISO328	M32	16.0	27.5	15.0	34.0	41.0	41.0
ADE1FISO409	M40	21.0	34.0	15.0	36.0	48.0	48.0
ADE1FISO5010	M50	27.0	41.0	16.0	39.0	55.0	55.0
ADE1FISO6312	M63	40.0	56.0	17.0	43.0	72.0	72.0
ADE1FISO5713	M75	47.0	65.0	18.0	49.0	85.0	85.0
ADE1FISO8014	M80	54.0	73.0	20.0	56.0	95.0	95.0
ADE1FISO9015	M90	63.0	82.0	22.0	61.0	110.0	110.0
ADE1FISO1006	M100	72.0	92.0	22.0	62.0	120.0	120.0

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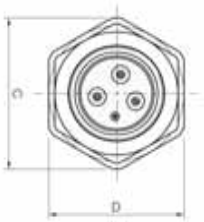
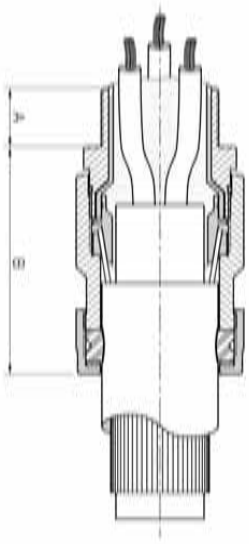
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, Ex e, Ex tD
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	IEC Ex TSA09.0024
Application	Termination of steel wire armoured cables
Standard Materials	Brass, nickel plated
Options	Stainless steel (add suffix SS to part no., minimum order qty's applicable) Other thread types available upon request





Ordering Details

Gland Size Data				Cable Range Detail					Gland Size Data			
Catalogue No.	Entry Size	Catalogue No.	Entry Size	Actual Diameter (mm)				Wire Armour Diameter (mm)	Approx (mm)		Hexagon Size (mm)	
				Under Armour		Overall			Entry Length	Projected Length	Across Flats	Across Cnrs
Cat. No.	Metric	Cat. No.	NPT	Min	Max	Min	Max	Min/Max	A	B	C	D
TWAB1M13	20	**TWAB1N13**	1/2"	6	8	7	13.2	0.9/1.25	14	56	23.3	26
TWAB1M16	20	**TWAB1N16**	1/2"	6	8	10.2	15.8	0.9/1.25	14	56	27	31
TWAB1M20	20	**TWAB1N20**	1/2"	7	12	15.5	20.8	0.9/1.25	14	56	30.5	35.2
TWAB2M27	25	**TWAB2N27**	3/4"	11	18	20	27.2	1.25/1.6	16	56	38.5	44.5
TWAB3M34	32	**TWAB3N34**	1"	17	25	27	33.5	1.6/2	20	66	47.6	54
TWAB4M40	40	**TWAB4N40**	1 1/4"	24	31	32	39.9	1.6/2	20	71	55	65.8
TWAB5M53	50	**TWAB5N53**	1 1/2"	30	41	43	52.6	2/2.5	20	75	70	80.8
TWAB6M66	63	**TWAB6N66**	2"	40	54	53	65.3	2/2.5	22	85	80	92.4
TWAB7M78	75	**TWAB7N78**	2 1/2"	53	65	63	78	2.5/3.15	24	100	101	116.6
TWAB8M88	85	--	--	60	74	77	88	2.5/3.15	24	100	111	122

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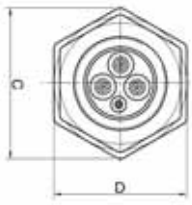
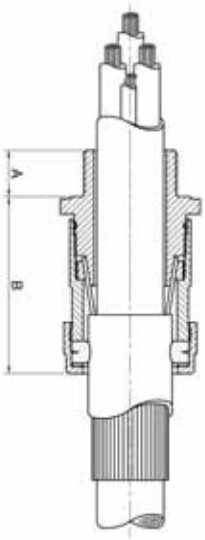
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex e, Ex tD
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	IEC Ex TSA09.0024
Application	Termination of steel wire armoured cables
Standard Materials	Brass, nickel plated
Options	Stainless steel (add suffix SS to part no., minimum order qty's applicable) Other thread types available upon request





Ordering Details

Gland Size Data				Cable Range Detail					Gland Size Data			
Catalogue No.	Entry Size	Catalogue No.	Entry Size	Actual Diameter (mm)				Wire Armour Diameter (mm)	Approx (mm)		Hexagon Size (mm)	
				Under Armour		Overall			Entry Length	Projected Length	Across Flats	Across Cnrs
Cat. No.	Metric	Cat. No.	NPT	Min	Max	Min	Max	Min/Max	A	B	C	D
TWAE1M13	20	TWAE1N13	1/2"	6	8.6	7	13.2	0.9/1.25	14	62	23.3	26
TWAE1M16	20	TWAE1N16	1/2"	6	12	10.2	15.8	0.9/1.25	14	66	27	31
TWAE1M20	20	TWAE1N20	1/2"	7	14	15.5	20.8	0.9/1.25	14	66	30.5	35.2
TWAE2M27	25	TWAE2N27	3/4"	11	19	20	27.2	1.25/1.6	16	68	42.4	49
TWAE3M34	32	TWAE3N34	1"	17	25	27	33.5	1.6/2	20	80	47.6	55
TWAE4M40	40	TWAE4N40	1 1/4"	24	31	32	39.9	1.6/2	20	80	55	65.8
TWAE5M53	50	TWAE5N53	1 1/2"	30	41	43	52.6	2/2.5	20	88	69.8	80.8
TWAE6M66	63	TWAE6N66	2"	40	54	53	65.3	2/2.5	22	95	80	92.4
TWAE7M78	75	TWAE7N78	2 1/2"	53	65	63	78	2.5/3.15	24	105	101	116.6
TWAE8M88	85	--	--	60	74	77	88	2.5/3.15	24	107	111	122

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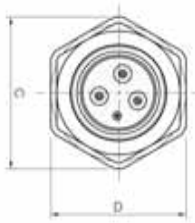
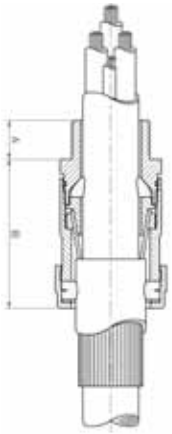
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, Ex e, Ex tD
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	IEC Ex TSA09.0024
Application	Termination of steel wire armoured cables
Standard Materials	Brass, nickel plated
Options	Stainless steel (add suffix SS to part no., minimum order qty's applicable) Other thread types available upon request





Ordering Details

Gland Size Data				Cable Range Detail					Gland Size Data			
Catalogue No.	Entry Size	Catalogue No.	Entry Size	Actual Diameter (mm)				Wire Armour Diameter (mm)	Approx (mm)		Hexagon Size (mm)	
				Under Armour		Overall			Entry Length	Projected Length	Across Flats	Across Cnrs
Cat. No.	Metric	Cat. No.	NPT	Min	Max	Min	Max	Min/Max	A	B	C	D
TWAX16M13	16			6.3	8.6	10.2	13.2	09/1.25	14	52	23.3	26.9
TWAX1M13	20	TWAX1N13	1/2"	6.3	8.6	10.2	13.2	0.9/1.25	14	52	23.3	26.9
TWAX1M16	20	TWAX1N16	1/2"	8.4	11.6	13	15.8	0.9/1.25	14	52	30.5	35.2
TWAX1M20	20	TWAX1N20	1/2"	11	13.9	15.5	19.8	0.9/1.25	14	62	30.5	35.2
TWAX2M24	25	TWAX2N24	3/4"	13.5	16.9	19.5	23.8	1.25/1.6	16	67	33.3	38.4
TWAX2M27	25	TWAX2N27	3/4"	16.5	19.9	23.5	27.2	1.25/1.6	16	71	38.5	44.4
TWAX3M30	32	TWAX3N33	1"	19.5	23.9	27	30.5	1.6/2	20	80	42.4	48.7
TWAX3M33	32	TWAX3N43	1"	23.5	26.2	30	33.5	1.6/2	20	95	47	54.3
TWAX4M38	40	TWAX4N38	1 1/4"	25.8	31.2	33	38.5	1.6/2	20	52	57	65.8
TWAX5M43	50	TWAX5N43	1 1/2"	30.8	36.2	38	43.5	2/2.5	20	52	57	65.8
TWAX5M48	50	TWAX5N48	1 1/2"	35.5	40	43	48.5	2/2.5	20	52	63.5	73.3
TWAX5M52	50	TWAX6N52	1 1/2"	39.5	44	48	52.6	2/2.5	20	62	70	80.8
TWAX6M60	63	TWAX6N60	2"	43.5	49	52	58.9	2/2.5	22	67	76.2	87.9
TWAX6M65	63	TWAX7N765	2 1/2"	48.5	55.9	58	65.3	2/2.5	22	71	80	92.4
TWAX7M71	75	TWAX7N71	2 1/2"	55	61.9	64.3	71.6	2.5/3.15	24	80	88.9	102.6
TWAE7M78	75	TWAX8N78	3"	61	67.9	70.6	78	2.5/3.15	24	95	101	116.6

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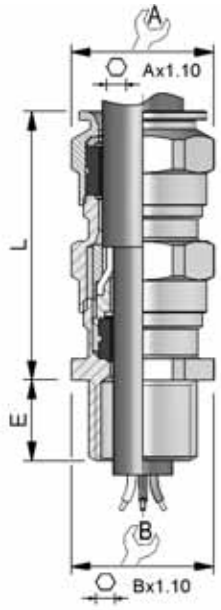
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, Ex e, Ex tD
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	IEC Ex LCI 050 004X
Application	Termination of steel wire armoured, metallic tape & braided cables
Standard Materials	Brass, nickel plated
Options	Stainless steel (add suffix SS to part no., minimum order qty's applicable) Other thread types available upon request



Ordering Details

Gland Size Data		Cable Range Detail					Gland Size Data			
Cat No.	Entry Size (metric)	Actual Diameter				Wire Armour Diameter	Approx.		Hexagon Size	
		Under Armour		Overall			Entry Length	Projected Length	Across Flats	Across Cnrs
		Min	Max	Min	Max	Min / Max	A	B	C	D
		mm	mm	mm	mm	mm	mm	mm	mm	mm
ADE4FISO205	M20	4.0	8.5	6.0	12.0	0/0.9	15.0	36.0	19.0	24.0
ADE4FISO207	M20	8.5	15.5	12.0	21.0	0/1.25	15.0	46.0	30.0	30.0
ADE4FISO258	M25	12.0	20.5	16.0	27.5	0/1.6	15.0	56.0	41.0	41.0
ADE4FISO329	M32	16.0	27.5	21.0	34.0	0/1.6	15.0	63.0	48.0	48.0
ADE4FISO4010	M40	21.0	34.0	27.0	41.0	0/2.0	15.0	68.0	55.0	55.0
ADE4FISO5011	M50	27.0	41.0	33.0	48.0	0/2.5	16.0	74.0	64.0	64.0
ADE4FISO6312	M63	33.0	48.0	40.0	56.0	0/2.5	17.0	77.0	72.0	72.0
ADE4FISO6313	M63	40.0	56.0	47.0	65.0	0/2.5	17.0	85.0	85.0	85.0
ADE4FISO7514	M75	47.0	65.0	54.0	74.0	0/2.25	18.0	92.0	95.0	95.0
ADE4FISO8015	M80	54.0	73.0	63.0	83.0	0/3.15	20.0	104.0	110.0	110.0
ADE4FISO9016	M90	63.0	82.0	72.0	93.0	0/3.15	22.0	108.0	120.0	120.0

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Accessories

Lock Nuts

Locknuts are used to secure cable glands to the enclosure with slip hole entries.

Metric Entry Dia (mm)	Cat No.	NPT Entry Dia (mm)	Cat No.
20	**LNM1NP**	1/2"	**LNN1NP**
25	**LNM2NP**	3/4"	**LNN2NP**
32	**LNM3NP**	1"	**LNN3NP**
40	**LNM4NP**	1 1/4"	**LNN4NP**
50	**LNM5NP**	1 1/2"	**LNN5NP**
63	**LNM6NP**	2"	**LNN6NP**
75	**LNM7NP**	2 1/2"	**LNN7NP**
80	**LNM8NP**	3"	**LNN8NP**

Sealing Gaskets

Sealing Gaskets are required to maintain the IP rating of an enclosure. Sealing Gaskets should be installed outside the enclosure between the gland face and the enclosure.

Metric Entry Dia (mm)	Cat No.	NPT Entry Dia (mm)	Cat No.
20	**SGM1**	1/2"	**SGN1**
25	**SCM2**	3/4"	**SGN2**
32	**SGM3**	1"	**SGN3**
40	**SGM4**	1 1/4"	**SGN4**
50	**SGM5**	1 1/2"	**SGN5**
63	**SGM6**	2"	**SGN6**
75	**SGM7**	2 1/2"	**SGN7**
80	**SGM8**	3"	**SGN8**

Epoxy Sealing Compound

Epoxy sealing compound is supplied with all TWAB glands. Additional sealing compound may be ordered if required.

Net Weight	Qty Per Ctn	Cat No.
30 gms	10	**706948**
120gms	5	**706949**

Shrouds

Suits Gland	Cat No.
TUA1M10, TUA1M12, TUA1M15, TWA1M13, TWAX1M13 & Capri size 5 glands	**506050**
TWA1M16, TWAX1M16, TWAE1M16, TWAB1M16 & Capri size 6 glands	**506060**
TWA1M20, TWAE1M20, TWAX1M20 & Capri size 7 glands	**506070**
TUA3M23, TWA2M27, TWAE2M27, TWAX2M27, TWAB2M27, TUA2M18, TWAX2M24 TUA3M25, TWAX3M30 & Capri size 8 glands	**506080**
TWA3M34, TWAE3M34, TWAX3M33, TWAB3M34 & Capri size 9 glands	**506090**
TUA5M34, TWA4M40, TWAE4M40, TWAX4M38, TWAB4M40 & Capri size 10 glands	**5060100**
TUA5M38, TUA5M42, TWAX5M52 TUA6M48, TWAX5M52, TWAB5M53 & Capri size 11 glands	**5060110**
TWA5M53, TWAE5M53, TWAX6M60, TWAB6M66 & Capri size 12 glands	**5060120**
TUA6M54, TUA7M60, TWA6M66, TWAE6M66, TWAX7M71 & Capri size 13 glands	**5060130**
TWA7M78, TWAE7M78, TWAX7M78, TWAB7M78 & Capri size 14 glands	**5060140**

Earth Tags

Earth tags are used when it is necessary to connect an earth wire to the cable gland to maintain the earth continuity.

Metric Entry Dia (mm)	NPT Entry Dia (mm)	Cat No.
20	1/2"	**ET1**
25	3/4"	**ET2**
32	1"	**ET3**
40	1 1/4"	**ET4**
50	1 1/2"	**ET5**
63	2"	**ET6**
75	2 1/2"	**ET7**
80	3"	**ET8**

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	PL* - Ex d, DIP A21, IP67 GHG - Exe
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	PL* - Ex1108U GHG - IECEx PTB03-0000
Application	To safely seal unused threaded entries & clearance holes
Standard Materials	PL* - Brass, nickel plated GHG - Polyamide body, neoprene seal
Options	Stainless steel - MOQ applicable (replace NP with SS - PL* only)

Ordering Details

Exd Stopping Plug Selection

Cat No.	Entry Size (metric)	Cat No.	Entry Size (NPT)	Cat No.	Entry Size (BSP)
PLM1NP	20mm	**PLN1NP**	1/2" NPT	**PLB1NP**	1/2" BSP
PLM2NP	25mm	**PLN2NP**	3/4" NPT	**PLB2NP**	3/4" BSP
PLM3NP	32mm	**PLN3NP**	1" NPT	**PLB3NP**	1" BSP
PLM4NP	40mm	**PLN4NP**	1 1/4" NPT	**PLB4NP**	1 1/4" BSP
PLM5NP	50mm	**PLN5NP**	1 1/2" NPT	**PLB5NP**	1 1/2" BSP
PLM6NP	63mm	**PLN6NP**	2" NPT		
		PLN7NP	2 1/2" NPT		

Exe Stopping Plug Selection

Cat No.	Entry Size (metric)
GHG9601952R0112	M20
GHG9601952R0003	M25
GHG9601952R0004	M32
GHG9601952R0005	M40
GHG9601952R0006	M50

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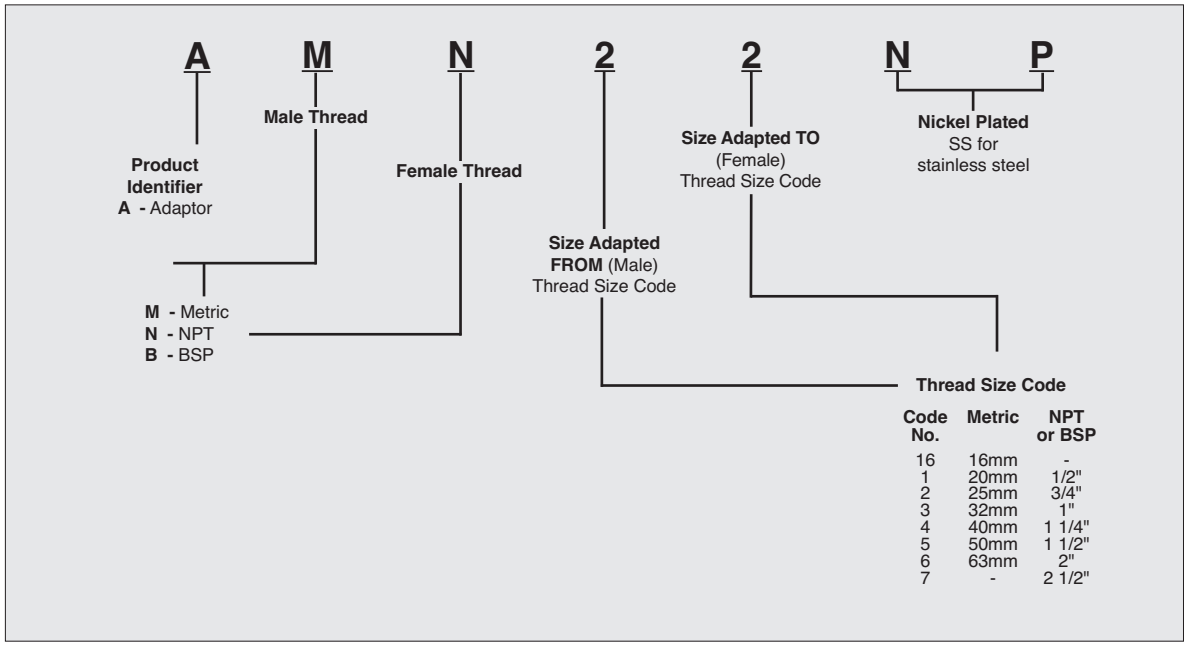
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, DIP A21, IP67
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	Ex1108U
Application	Thread type and / or size conversion
Standard Materials	Brass, nickel plated
Options	Stainless steel - MOQ applicable (replace NP with SS)

Ordering Details



Please consult factory for availability

Description	Cat No.
3/4" BSP (M) - 1/2" BSP (F)	**ABB21NP**
3/4" BSP (M) - 1" BSP (F)	**ABB23NP**
1" BSP (M) - 3/4" BSP (F)	**ABB32NP**
1" BSP (M) - 1 1/4" BSP (F)	**ABB34NP**
1" BSP (M) - 1 1/2" BSP (F)	**ABB35NP**
1 1/4" BSP (M) - 2" BSP (F)	**ABB46NP**

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Ordering Details

Description	Cat No.
1" BSP (M) - M16 (F)	ABM116NP
1/2" BSP (M) - M20 (F)	ABM11NP
3/4" BSP (M) - M20 (F)	ABM21NP
3/4" BSP (M) - M25 (F)	ABM22NP
3/4" BSP (M) - M32 (F)	ABM23NP
1" BSP (M) - M20 (F)	ABM31NP
1" BSP (M) - M25 (F)	ABM32NP
1" BSP (M) - M32 (F)	ABM33NP
1 1/4" BSP (M) - M25 (F)	ABM42NP
1 1/4" BSP (M) - M32 (F)	ABM43NP
1 1/2" BSP (M) - M20 (F)	ABM51NP
1 1/2" BSP (M) - M25 (F)	ABM52NP
1 1/2 BSP (M) - M32 (F)	ABM53NP
1 1/2" BSP (M) - M40 (F)	ABM54NP
1 1/2" BSP (M) - M50 (F)	ABM55NP
2" BSP (M) - M32 (F)	ABM63NP
2" BSP (M) - M50 (F)	ABM65NP
2 1/2" BSP (M) - M50 (F)	ABM75NP
3/4" IMP (M) - M16 (F)	AIM116NP
3/4" IMP (M) - M20 (F)	AIM11NP
3/4" IMP (M) - M25 (F)	AIM12NP
5/8" IMP (M) - M20 (F)	AIM161NP
1" IMP (M) - M20 (F)	AIM21NP
1" IMP (M) - M25 (F)	AIM22NP
1 1/4" IMP (M) - M20 (F)	AIM31NP
1 1/4" IMP (M) - M25 (F)	AIM32NP
1 1/4" IMP (M) - M40 (F)	AIM34NP
1 1/2" IMP (M) - M32 (F)	AIM43NP
1 1/2" IMP (M) - M40 (F)	AIM44NP
2" IMP (M) - M32 (F)	AIM53NP
2 1/4" IMP (M) - M50 (F)	AIM65NP
M20 (M) - 1/2" BSP (F)	AMB11NP
M20 (M) - 3/4" BSP(F)	AMB12NP
M20 (M) - 1" BSP (F)	AMB13NP
M25 (M) - 1/2" BSP (F)	AMB21NP
M25 (M) - 3/4" BSP (F)	AMB22NP
M25 (M) - 1" BSP (F)	AMB23NP
M32 (M)- 1 1/4" BSP (F)	AMB34NP
M40 (M)- 1 1/2" BSP (F)	AMB45NP

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Ordering Details

Description	Cat No.
M20 (M)- 5/8" IMP (F)	AMI116NP
M20 (M) - 3/4" IMP (F)	AMI11NP
M20 (M) - 1" IMP (F)	AMI12NP
M25 (M) - 3/4" IMP (F)	AMI21NP
M25 (M)- 1" IMP (F)	AMI22NP
M32 (M) - 1" IMP (F)	AMI32NP
M32 (M) - 1 1/4" IMP (F)	AMI33NP
M40 (M) - 1 1/2" IMP (F)	AMI44NP
M20 (M) - M20 (F)	AMM11NP
M20 (M) - M25 (F)	AMM12NP
M20 (M) - M32 (F)	AMM13NP
M16 (M) - M20 (F)	AMM161NP
M25 (M) - M25 (F)	AMM22NP
M25 (M) - M32 (F)	AMM23NP
M32 (M) - M32 (F)	AMM33NP
M32 (M) - M40 (F)	AMM34NP
M40 (M) - M40 (F)	AMM44NP
M40 (M) - M50 (F)	AMM45NP
M50 (M) - M50 (F)	AMM55NP
M63 (M) - M63 (F)	AMM66NP
M20 (M) - 1/2" NPT (F)	AMN11NP
M20 (M) - 3/4" NPT (F)	AMN12NP
M20 (M) - 1" NPT (F)	AMN13NP
M25 (M) - 1/2" NPT (F)	AMN21NP
M25 (M) - 3/4" NPT (F)	AMN22NP
M25 (M) - 1" NPT (F)	AMN23NP
M25 (M) - 1-1/2" NPT (F)	AMN25NP
M32 (M) - 3/4" NPT (F)	AMN32NP
M32 (M) - 1" NPT (F)	AMN33NP
M40 (M) - 1" NPT (F)	AMN43NP
M40 (M) - 1 1/4" NPT (F)	AMN44NP
M50 (M) - 1" NPT (F)	AMN53NP
M50 (M) - 11/4" NPT (F)	AMN54NP
M63 (M) - 1 1/4" NPT (F)	AMN64NP
M63 (M) - 1 1/2" NPT (F)	AMN65NP

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Ordering Details

Description	Cat No.
1/2" NPT (M) - 3/4" IMP (F)	ANI11NP
1" NPT (M) - 11/4" (F)	ANI33NP
1 1/2" NPT (M) - 1 1/2" IMP (F)	ANI54NP
2" NPT (M) - 2" IMP (F)	ANI65NP
1/2" NPT (M) - M16 (F)	ANM116NP
1/2" NPT (M) - M20 (F)	ANM11NP
1/2" NPT (M) - M25 (F)	ANM12NP
1/2" NPT (M) - M63 (F)	ANM16NP
3/4" NPT (M) - M20 (F)	ANM21NP
3/4" NPT (M) - M25 (F)	ANM22NP
3/4" NPT (M) - M32 (F)	ANM23NP
1" NPT (M) - M20 (F)	ANM31NP
1" NPT (M) - M25 (F)	ANM32NP
1" NPT (M) - M32 (F)	ANM33NP
1" NPT (M) - M40 (F)	ANM34NP
1 1/4" NPT (M) - M20 (F)	ANM41NP
1 1/4" NPT (M) - M25 (F)	ANM42NP
1 1/4" NPT (M) - M32 (F)	ANM43NP
1 1/4" NPT (M) - M40 (F)	ANM44NP
1 1/4" NPT (M) - M63 (F)	ANM46NP
1 1/2" NPT (M) - M20 (F)	ANM51NP
1 1/2" NPT (M) - M25 (F)	ANM52NP
1 1/2" NPT (M) - M32 (F)	ANM53NP
1 1/2" NPT (M) - M40 (F)	ANM54NP
1 1/2" NPT (M) - M50 (F)	ANM55NP
2" NPT (M) - M25 (F)	ANM62NP
2" NPT (M) - M40 (F)	ANM64NP
2" NPT (M) - M50 (F)	ANM65NP
2" NPT (M) - M63 (F)	ANM66NP
2 1/2" NPT (M) - M50 (F)	ANM75NP
2 1/2" NPT (M) - M63 (F)	ANM76NP
1/2" NPT (M) - 1/2" NPT (F)	ANN11NP
1/2" NPT (M) - 3/4" NPT (F)	ANN12NP
1/2" NPT (M) - 1" NPT (F)	ANN13NP
3/4" NPT (M) - 1" NPT (F)	ANN23NP
3/4" NPT (M) - 1 1/2" NPT (F)	ANN25NP
1" NPT (M) - 1 1/4" NPT (F)	ANN34NP
1 1/4" NPT (M) - 2" NPT (F)	ANN46NP

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, DIP A21, IP67
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	Ex1108U
Application	Reducers reduce the thread size of metric, NPT & BSP entries
Standard Materials	Brass, nickel plated
Options	Stainless steel (replace NP with SS) BSP thread size (consult factory)

Ordering Details

R E — Product Identifier: **RE** - Adaptor

M — Thread Type: **M** - Metric, **N** - NPT, **B** - BSP

3 — Size reduced **FROM** (Male) Thread Size Code

2 — Size reduced **TO** (Female) Thread Size Code

N P — **Nickel Plated** SS for stainless steel

Thread Size Code

Code No.	Metric	NPT or BSP
16	16mm	-
1	20mm	1/2"
2	25mm	3/4"
3	32mm	1"
4	40mm	1 1/4"
5	50mm	1 1/2"
6	63mm	2"
7	-	2 1/2"

Please consult factory for availability

Metric Thread

Part No.	Description
REM116NP	M20 - 16mm (F)
REM21NP	M25 - M20 (F)
REM31NP	M32 - M20 (F)
REM32NP	M32 - M25 (F)
REM41NP	M40 - M20 (F)
REM42NP	M40 - M25 (F)
REM43NP	M40 - M32 (F)

Part No.	Description
REM52NP	M50 - M25 (F)
REM53NP	M50 - M32 (F)
REM54NP	M50 - M40 (F)
REM61NP	M63 - M20 (F)
REM62NP	M63 - M25 (F)
REM63NP	M63 - M32 (F)
REM64NP	M63 - M40 (F)
REM65NP	M63 - M50 (F)

NPT Thread

Part No.	Description
REN21NP	3/4" - 1/2" (F)
REN31NP	1" - 1/2" (F)
REN32NP	1" - 3/4" (F)
REN41NP	1 1/4" - 1/2" (F)
REN42NP	1 1/4" - 3/4" (F)
REN43NP	1 1/4" - 1" (F)
REN51NP	1 1/2" - 1/2" (F)
REN52NP	1 1/2" - 3/4" (F)

Part No.	Description
REN53NP	1 1/2" - 1" (F)
REN54NP	1 1/2" - 1 1/4" (F)
REN61NP	2" - 1/2" (F)
REN62NP	2" - 3/4" (F)
REN63NP	2" - 1" (F)
REN64NP	2" - 1 1/4" (F)
REN65NP	2" - 1 1/2" (F)
REN76NP	2 1/2" - 2" (F)

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, DIP A21, IP67
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	Ex1108U
Application	For ease in coupling stationary Ex d equipment
Standard Materials	Brass, nickel plated
Options	Stainless steel (replace NP with SS) BSP thread size (consult factory)

Ordering Details

U N F A 4 M N P

Product Identifier
UN - Union

Type of Union
F - Female / Female
Y - Male / Female

Thread Size Code

Code No.	Metric	NPT or BSP
16	16mm	-
1	20mm	1/2"
2	25mm	3/4"
3	32mm	1"
4	40mm	1 1/4"
5	50mm	1 1/2"
6	63mm	2"
7	-	2 1/2"

Thread Type
M - Metric
N - NPT
B - BSP

Nickel Plated
SS for stainless stee

Please consult factory for availability

Part No.	Description
UNFA1MNP	M20 (F) - M20 (F)
UNFA2MNP	M25 (F) - M25 (F)
UNFA3MNP	M32 (F) - M32 (F)
UNFA4MNP	M40 (F) - M40 (F)
UNFA5MNP	M50 (F) - M50 (F)
UNFA6MNP	M63 (F) - M63 (F)
UNYA1MNP	M20 (M) - M20 (F)
UNYA2MNP	M25 (M) - M25 (F)
UNYA3MNP	M32 (M) - M32 (F)
UNYA4MNP	M40 (M) - M40 (F)
UNYA5MNP	M50 (M) - M50 (F)
UNFA1NNP	1/2" NPT (F) - 1/2" NPT (F)
UNFA2NNP	3/4" NPT (F) - 3/4" NPT (F)
UNYA1NNP	1/2" NPT (M) - 1/2" NPT (F)
UNYA2NNP	3/4" NPT (M) - 3/4" NPT (F)

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, DIP A21, IP67
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	Ex1108U
Application	To connect Ex d equipment or conduit systems
Standard Materials	Brass, nickel plated
Options	Stainless steel (replace NP with SS) BSP thread size (consult factory)

Ordering Details

N **H** **M** **3** **N** **P**

Product Identifier
N - Nipples

Shape
H - Hexagonal

Thread Type
M - Metric
N - NPT
B - BSP

Nickel Plated
SS for stainless steel

Thread Size Code

Code No.	Metric	NPT or BSP
16	16mm	-
1	20mm	1/2"
2	25mm	3/4"
3	32mm	1"
4	40mm	1 1/4"
5	50mm	1 1/2"
6	63mm	2"
7	-	2 1/2"

Please consult factory for availability

Part No.	Description
NHM1NP	M20 (M) - M20 (M) hex nipple
NHM2NP	M25 (M) - M25 (M) hex nipple
NHM3NP	M32 (M) - M32 (M) hex nipple
NHM4NP	M40 (M) - M40 (M) hex nipple
NHM5NP	M50 (M) - M50 (M) hex nipple
NHM6NP	M63 (M) - M63 (M) hex nipple
NHMN11NP	M20 (M) - 1/2" NPT (M) hex nipple
NHMN33NP	M32 (M) - 1" NPT (M) hex nipple

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Technical Data

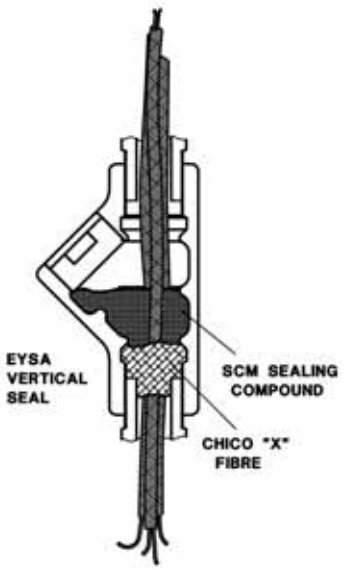
Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, DIP A21, T60ºC, IP66
Degree of Protection	IP66
Gas Group	IIC
Approvals	IEC Ex TSA07.0015-1
Application	Used as cable entry into Ex d enclosures and between enclosures to prevent flame propagation and pressure piling
Standard Materials	Brass, aluminium
Options	Stainless steel (SS) BSP thread size (consult factory)

Ordering Details

Conduit Seals Selection

Entry Size	Female	Male & Female	Weight of Sealing Compound per seal (g)	Weight of Chico X Fibre per seal (g)
20mm/20mm	**EYSA1M**	**EYSA16M**	50	1
25mm/25mm	**EYSA2M**	**EYSA26M**	100	2
32mm/32mm	**EYSA3M**	**EYSA36M**	188	3.5
40mm/40mm	**EYSA4M**	**EYSA46M**	406	7
50mm/50mm	**EYSA5M**	**EYSA56M**	550	14
3/4" BSP/3/4" BSP	**EYSA2B**	**EYSA26B**	100	2
20mm/1/2" BSP	**EYSA11MB**	-	50	1
20mm/3/4" BSP	**EYSA12MB**	-	50	1
25mm/1/2" BSP	**EYSA21MB**	-	100	2
25mm/3/4" BSP	**EYSA22MB**	-	100	2



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Technical Data

Application	Chico A sealing compound used with EYSA seals prevents flame propagation in conduit hence avoids pressure piling.

Ordering Details

Sealing Compound	
Part No.	**Description**
17620	Sealing compound mixture 0.45kg
19782	Sealing compound mixture A4 c/w Chico X Fibre
228	Sealing compound mixture 2.27kg

Technical Data

Application	Used in horizontal or vertical applications to form a dam between the integral bushing of the sealing fitting and the end of the conduit whilst SCM sealing compound is in the liquid state.
Features	Chico X Fibre is ceramic, asbestos-free fibre that packs easily around each conductor making a suitable dam for the pouring of Chico A sealing compound mixture

Ordering Details

Chico X Selection	
Part No.	**Description**
5658	Chico X Fibre 60g
9836	Chico X Fibre 230g
12144	Chico X Fibre 450g

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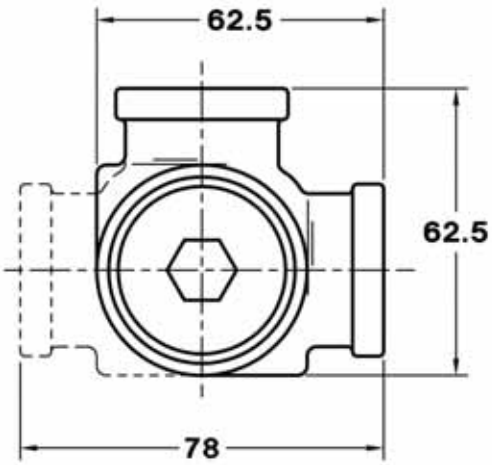
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex d, DIP A21, IP67
Degree of Protection	IP67
Gas Group	IIB
Approvals	Ex1108U
Application	Used as draw in outlets, inspection elbows & tees and are especially designed for stiff cables due to large size or insulation type Create 90^0 bends in conduit systems allowing for a straight pull in either direction To provide maintenance access to wiring
Standard Materials	Body - Copper free aluminium Cover - Brass
Options	NPT & BSP thread sizes (consult factory)

Ordering Details

Inspection Elbows & Tees Selection	
Cat No.	**Entry Size (metric)**
FE1	M20 (F)-M20 (F) Elbow
FE2	M25 (F)-M25 (F) Elbow
FT1	M20 (F)-M20 (F) Tee
FT2	M25 (F)-M25 (F) Tee



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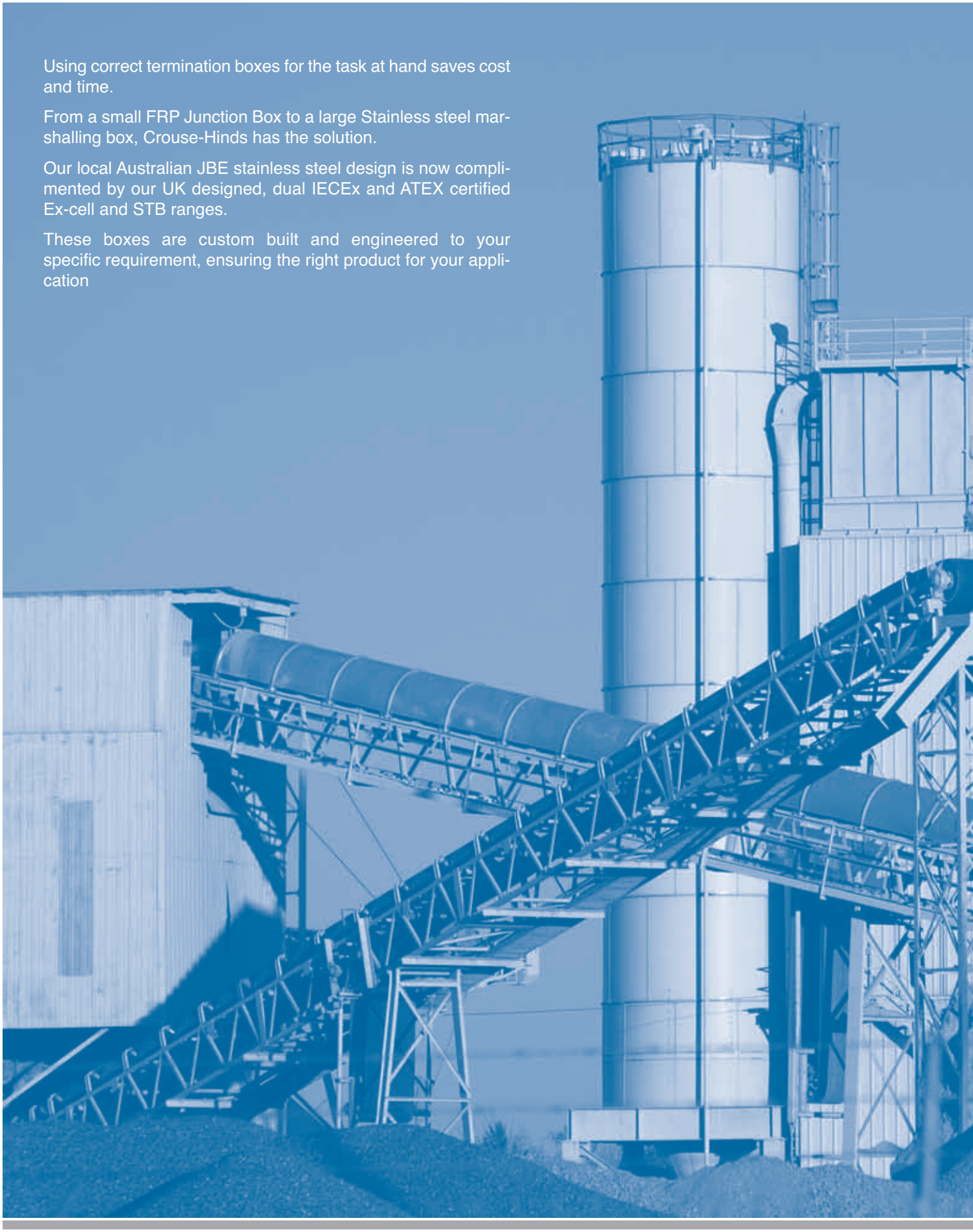
Junction Boxes

Using correct termination boxes for the task at hand saves cost and time.

From a small FRP Junction Box to a large Stainless steel marshalling box, Crouse-Hinds has the solution.

Our local Australian JBE stainless steel design is now complimented by our UK designed, dual IECEx and ATEX certified Ex-cell and STB ranges.

These boxes are custom built and engineered to your specific requirement, ensuring the right product for your application



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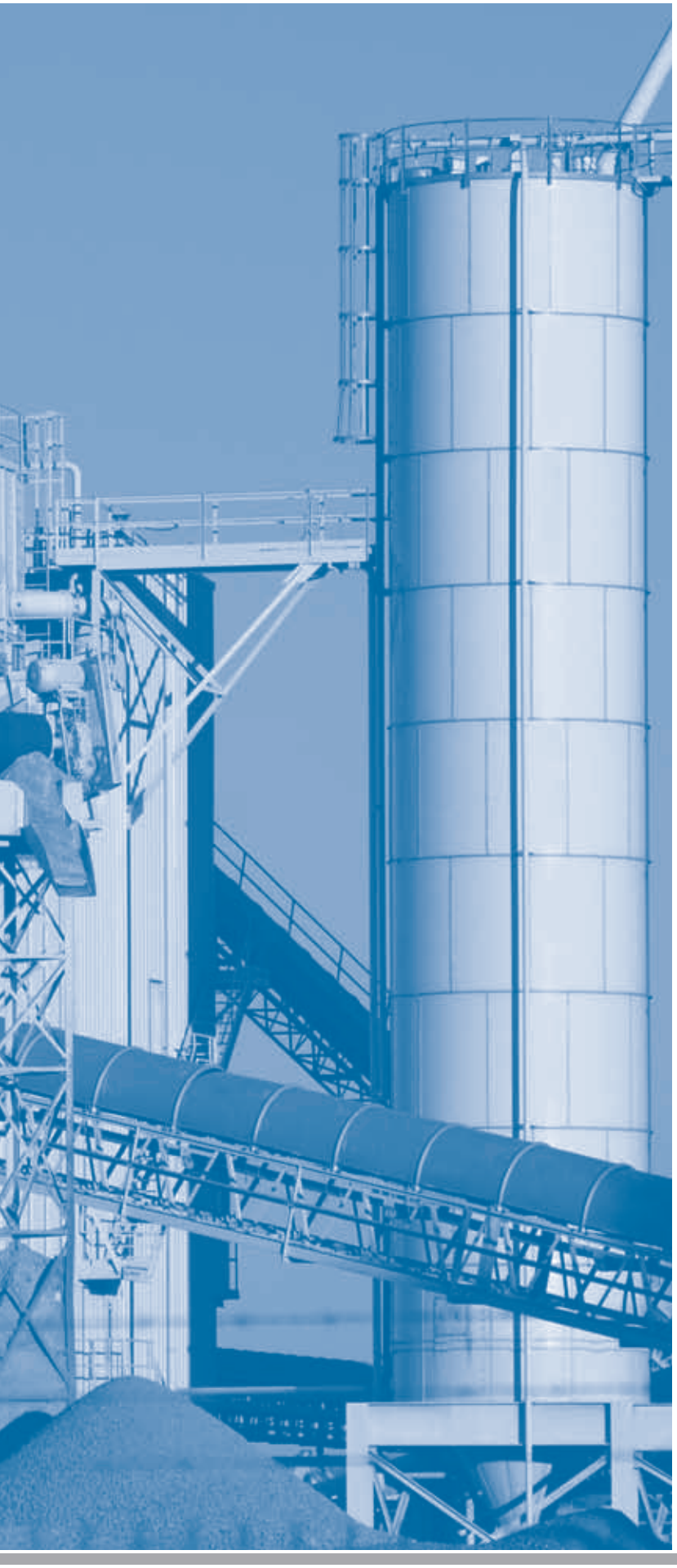

Junction Boxes

GUA - Exd 3-2
C30 & C31 - Ex d, Ex tD A21 IP67 T85°C 3-3
PBEC - Exe, Ex tD A21, T80°C 3-5
GUBA - Exd 3-6
EJBA - Exd 3-7
EJB - Exd 3-8
JBEC - Exe.....3-9
JBDC - Combustible Dust 3-9
JBWC - Weatherproof 3-9
JBE - Increased Safety.....3-10
JBD - Combustible Dust.....3-10
JBI - Intrinsically Safe.....3-10
JBW - Weatherproof.....3-10
XLH - Ex e ia, Ex dem ia/ib, Ex td 3-12
PBE - Ex e 3-13

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exd
Degree of Protection	IP66
Gas Group	IIC
Approvals	GUA6 - IEC Ex - Pending GUA9 - ANZEx05.3013
Application	Small pull through box & small junction box
Standard Materials	Copper free aluminium

Ordering Details

GUA X A 1 6 M

Product Identifier
GUA - Junction Box Exd

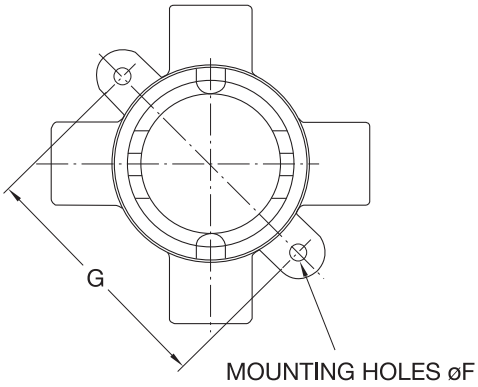
Entry Configuration
B - 1 Back & 1 Side
C - 2 Side @ 180°
L - 2 Side @ 90°
T - 3 Side @ 90°
X - 4 Side @ 90°

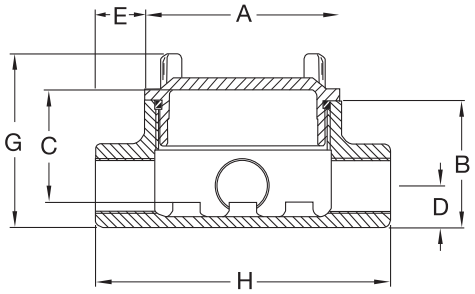
Entry Size

Code	Metric	NPT
1 -	M20	1/2"
2 -	M25	3/4"
3 -	M32	1"
4 -	M40	1 1/4"
5 -	M50	1 1/2"

Body Size Opening
6 - 76mm
9 - 125mm

Thread Type
M - Metric
I - Imperial
N - NPT
B - BSP





Dimensional Data

Cat No.	Dimensions							
	A	B	C	D	E	F	G	H
GUBA01	90	59	40	19	17.5	114.5	80	138.5
GUAB02	150	108	102	33	32	175	140	215

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Ordering Details

GUALA - 2 Entries			
Entry Size	**Opening Dia**	**Body Size**	**Catalogue No.**
20mm	76mm	6	**GUALA16M**
25mm	76mm	6	**GUALA26M**
25mm	125mm	9	**GUALA29M**
1/2" NPT	76mm	6	**GUALA16N**
3/4" NPT	76mm	6	**GUALA26N**

GUACA - 2 Entries			
Entry Size	**Opening Dia**	**Body Size**	**Catalogue No.**
20mm	76mm	6	**GUACA16M**
25mm	76mm	6	**GUACA26M**
25mm	125mm	9	**GUACA29M**
1/2" NPT	76mm	6	**GUACA16N**
3/4" NPT	76mm	6	**GUACA26N**

GUATA - 3 Entries			
Entry Size	**Opening Dia**	**Body Size**	**Catalogue No.**
20mm	76mm	6	**GUATA16M**
25mm	76mm	6	**GUATA26M**
25mm	125mm	9	**GUATA29M**
1/2" NPT	76mm	6	**GUATA16N**
3/4" NPT	76mm	6	**GUATA26N**

GUAXA - 4 Entries			
20mm	76mm	6	**GUAXA16M**
25mm	76mm	6	**GUAXA26M**
25mm	125mm	9	**GUAXA29M**
1/2" NPT	76mm	6	**GUAXA16N**
3/4" NPT	76mm	6	**GUAXA26N**

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Technical Data

Zone 1	Zone 2	Zone 21/22

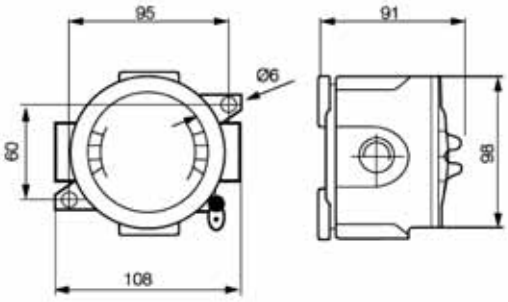
Type of Protection	Ex d, Ex tD A21 IP67 T85°C
Degree of Protection	IP66 / 67
Gas Group	IIC
Approvals	IECEx BKI 07.0026
Application	Ideal for use as termination boxes or housing of small printed circuit boards
Standard Materials	Copper Free Aluminium

C31

C30

C30 Ordering Details

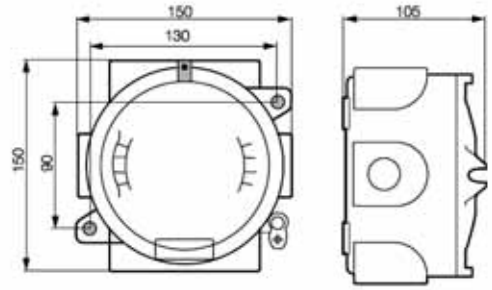
Part No.	Description
NOR000001151581	C30 T1 Ext Dim: 108 x 108 x 90 (D) mm c/w 1 x terminal & 3 x M20 entries
NOR000001151599	C30 T2 Ext Dim: 108 x 108 x 90 (D) mm c/w 1 x terminal & 3 x M25 entries
NOR000001151506	C30 X1 Ext Dim: 108 x 108 x 90 (D) mm c/w 1 x terminal & 4 x M20 entries
NOR000001151514	C30 X2 Ext Dim: 108 x 108 x 90 (D) mm c/w 1 x terminal & 4 x M25 entries



Dimensions (mm) Type C30
Weight 0.8Kg

C31 Ordering Details

Part No.	Description
NOR000111150501	C31 T1 Ext Dim: 150 x 150 x 104 (D) mm c/w 1 x terminal & 3 x M20 entries
NOR000111150502	C31 T2 Ext Dim: 150 x 150 x 104 (D) mm c/w 1 x terminal & 3 x M25 entries
NOR000111150504	C31 X1 Ext Dim: 150 x 150 x 104 (D) mm c/w 1 x terminal & 4 x M20 entries
NOR000111150505	C31 X2 Ext Dim: 150 x 150 x 104 (D) mm c/w 1 x terminal & 4 x M25 entries



Dimensions (mm) Type C31
Weight 1.3Kg

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exe, Ex tD A21, T80ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BAS09.0084X
Application	Ideal for lighting and instrumentation applications
Standard Materials	Fibre glass reinforced polyester
Options	Weatherproof enclosures Alternate entries & terminal configurations

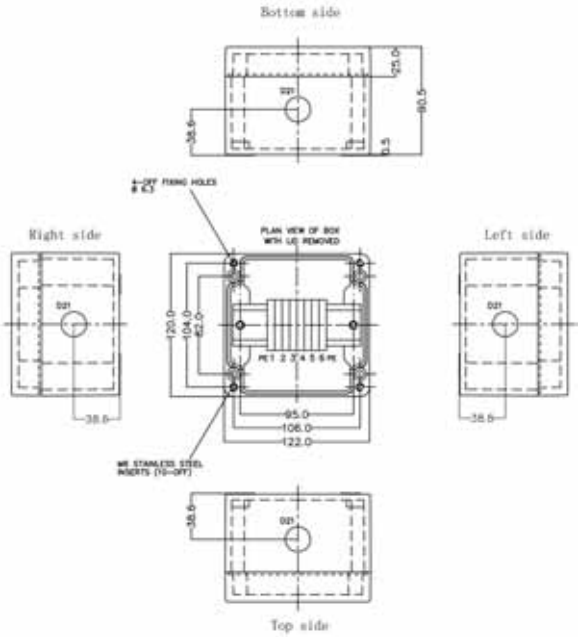
Ordering Details

Product Code	Type & Description of Terminal
PBEC-10CLR1M2B1M	10x6mm² terminals 1xM20 Left & Right 2xM20 bottom
PBEC-10CLR2M2B2M	10x6mm² terminals 1xM25 Left & Right 2xM25 bottom

Note: Other configurations available on request

Max.Entries/Cable glands Top/Bottom	M16 6	M20 2	M25 2	M32 1
Max.Entries/Cable glands Left/Right	M16 4	M20 1	M25 1	M32 0
Max.number of pillar terminal*	8x10mm² (8 pcs/4 pairs)			
Max.number of rail terminal*	2.5mm² A 12	4mm² B 11	6mm² C 10	10mm² D 8

*The information provided based on the physical constraints of the enclosure.Please contact Cooper Crouse-Hinds engineers to get accurate terminal numbers according to certificate for hazardous area applications.



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Technical Data

Zone 1	Zone 2

Type of Protection	Exd
Degree of Protection	IP66
Gas Group	IIC
Approvals	ANZEx05.3043X
Application	To function as a splice box, pull box or equipment device enclosure
Standard Materials	Body & cover - cast copper free aluminium
Options	Cast iron bodies & covers Grey polyurethane finish Metric, Imperial, NPT or BSP threads Glass window Dome covers

Ordering Details

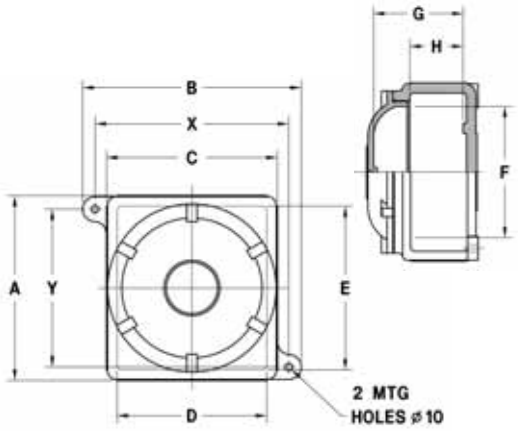
Type & Description	Product Code
Empty enclosure 195mm x 2175mm x 107 (mm)	**GUBA01**
Flat cover for GUBA01	**GUBA0101**
Glass window for GUBA01 (gas group IIB only)	**GUBA0110**
Empty enclosure 253mm x 283mm x 135 (mm)	**GUBA02**

Note: Entries must be factory drilled, price adder applicable.

Dimensional Data

Cat No.	Internal Dimensions			Weight				
	A	B	C	D	E	F	G	H
GUBA01	195	220	175	146	146	130	107	76
GUAB02	253	298	233	204	224	185	135	76

Cat No.	Mounting Dimensions		No. of Mounting Feet	Weight kg
	X	Y		
GUBA01	195	145	2	4.2
GUAB02	264	216	2	8.1



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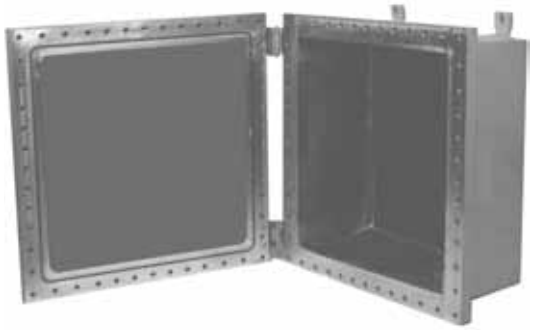
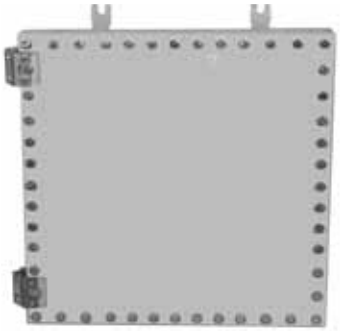
Technical Data

Zone 1	Zone 2

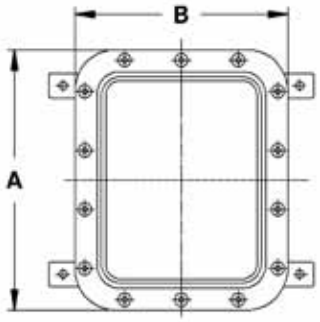
Type of Protection	Exd
Degree of Protection	IP66
Gas Group	IIB or IIB +H_2
Approvals	ANZEx 06.3018X
Application	Terminal box or Bus bar system Junction box with terminals To enclose equipment and control devices, relays, contactors and/or instruments To house custom built panels (refer to section 4 custom built enclosures)
Standard Materials	Body & cover - cast copper free aluminium
Options	Grey polyurethane finish Captive cover screws Marine grade paint

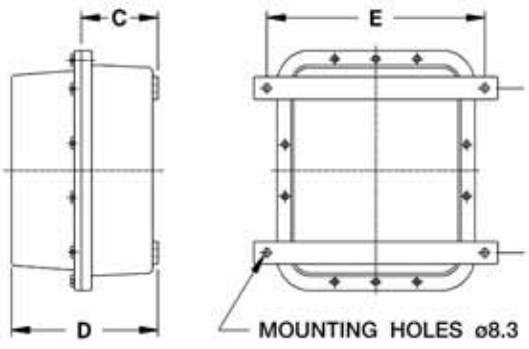




Dimensional Data

Cat.No.	A	B	C	D	E	F	Mtg Screws
EJBA464	215	165	122	135	145	150	M6
EJBA783	280	240	87	115	230	192	M8
EJBA786	280	240	87	170	230	192	M8
EJBA886	280	280	180	230	140	280	M8
EJBA1286	280	380	175	225	168	305	M12
EJBA9166	305	485	175	225	242	325	M12
EJBA121208	415	415	230	285	143	395	M6
EJBA161608	516	516	230	285	242	505	M8
EJBA211710	654	545	323	355	300	610	M8
EJBA241810	595	750	295	350	413	556	M8
EJBA242410	750	750	295	350	413	708	M12





Note: All drilling and tapping of entries must be carried out by the manufacturer to ensure that certification requirements are not breached. Whilst mounting of devices such as relays etc. can be carried out in the future if the enclosure is provided with a mounting plate, care should be taken with devices which are likely to raise the surface temperature of the enclosure.

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Technical Data

Zone 1	Zone 2

Type of Protection	Exd
Degree of Protection	IP65
Gas Group	IIB
Approvals	IECEx BKI 07.0018
Application	Terminal box or Bus bar system Junction box with terminals To enclose equipment and control devices, relays, contactors and/or instruments Custom built panel boards
Standard Materials	Body & cover - cast copper free aluminium
Options	Grey polyurethane finish Captive cover screws

Ordering Details

EJB Size Ranges & Gas Group

Catalogue No.	Width (mm)	Height (mm)	Depth (mm)	Dispertion Power T6	Dispertion Power T5	Dispertion Power T4	Window (mm)
EJB12A	216	130	162	30	60	100	
EJB14R	420	150	143	80	140	240	
EJB23R	337	217	211	60	140	240	
EJB110	371	371	233	125	170	295	
EJB120	474	371	233	150	270	480	
EJB120M3	474	371	233	150	270	480	75 x 150
EJB120M4	474	371	233	150	270	480	180 x 140
EJB131	577	371	305	200	350	600	
EJB241	680	474	305	250	400	700	
EJB241M1	680	474	305	250	400	700	230 x 255
EJB241M2	680	474	305	250	400	700	460 x 255

Note: All drilling and tapping of entries must be carried out by the manufacturer to ensure that certification requirements are not breached. Whilst mounting of devices such as relays etc. can be carried out in the future if the enclosure is provided with a mounting plate, care should be taken with devices which are likely to raise the surface temperature of the enclosure.

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	JBEC - Exe JBDC - Combustible Dust JBWC - Weatherproof
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	ANZ Ex05.3014X
Application	JBEC junction boxes are used as small distribution boxes for lighting and instrumentation JBDC junction boxes are used in combustible dust locations such as grain handling plants JBWC junction boxes are used: - to house components such as terminals, relays, switches etc. - to terminate or join small cables - to marshall small cables for connection to large multi core or instrumentation cables
Standard Materials	Copper Free Aluminium
Options	Metric or NPT thread sizes

Ordering Details

Catalogue number make-up:

JBEC 111 10 A 3 B 1 M

- **JBEC** — Product Identifier: JBEC - Exe; JBDC - DIP; JBWC - Weatherproof
- **111** — Box Size
- **10** — No. of Terminals
- **A** — Terminal Size

Code	Size
A	2.5mm²
B	4.0mm²
C	6.0mm²
D	10.0mm²
E	16.0mm²

- **3** — No. of Entries
- **B** — Face

Code	Size
T	Top
B	Bottom
L	Left
R	Right
A	Equally over all sides

- **1** — Entry Size

Code No.	Metric	NPT or BSP
1	20mm	1/2"
2	25mm	3/4"
3	32mm	1"
4	40mm	1 1/4"
5	50mm	1 1/2"

- **M** — Entry Thread Size: M - Metric; N - NPT

Please consult factory for availability

Product Code	Type & Description of Terminal
JBEC111-14A-1A1M	140 x 140 x 107 (mm) c/w 10x2.5mm² terminals & 1 x M20 entries each side
JBEC111-14A-5B1M	140 x 140 x 107 (mm) c/w 14x2.5mm² terminals & 5 x M20 entries
JBEC111-7E-2B3M	140 x 140 x 107 (mm) c/w 7x16mm² terminals & 2 x M32 entries

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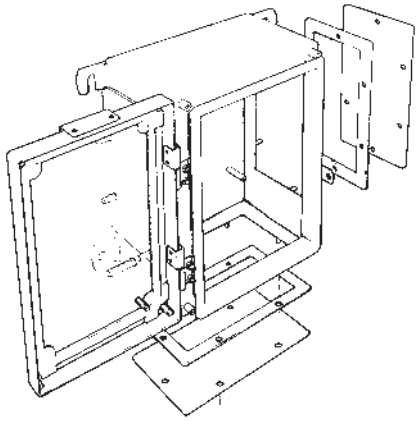
Technical Data

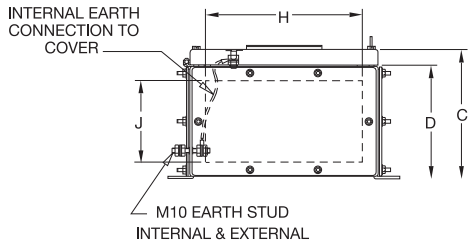
Zone 1	Zone 2	Zone 21/22

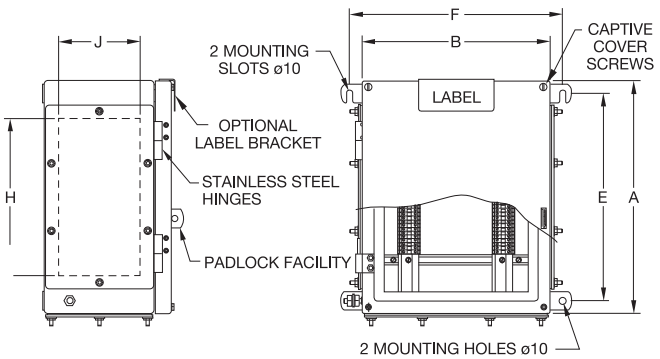
Type of Protection	JBE - Exe JBD - Combustible Dust JBI - Intrinsically Safe JBW - Weatherproof
Degree of Protection	IP66/67
Gas Group	IIC
Approvals	JBD - AUSEx 677 JBE - ANZ Ex08.3060X
Application	JB* junction boxes are used for cable termination - Marshalling boxes for instrumentation
Standard Materials	Mild steel - zincalume plated, grey powder polyester finish Stainless steel - electropolished
Options	Various size ranges Choice of material External stainless steel identification label mounting bracket Glass window in cover (JBD & JBW only) Breather drain fitted to bottom of gland plate Available as a custom built unit



Dimensional Details

Catalogue No.	A	B	C	D	E	F	H	I
JB22	270	200	155	128	230	240	150	80
JB33	270	300	205	178	330	240	250	130
JB54	500	400	205	178	460	440	350	130
JB75	700	500	205	178	660	540	450	130
JB96	900	600	305	278	860	640	550	230





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Ordering Details

1. Determine quantity and size of terminals required.
2. For Exe applications compare requirements to table below for maximum number of terminals in JBE box.
3. Select enclosure size to accommodate quantity of terminals required. Consult factory if necessary.
4. Specify catalogue number as outlined below.
5. For other requirements refer to Ordering Specification Sheet.

JBE 33 SS - 3GP - 20 A - 8 B 1 M

Construction
JBE - Exe
JBD - DIP
JBI - Exi
JBW - Weatherproof

Enclosure Size
22 - 270x200x150
33 - 370x300x200
54 - 500x400x200
75 - 700x500x200
96 - 900x600x300

Enclosure Material
MS - Mild Steel
SS - Stainless Steel

Gland Plates
1GP - Bottom only
3GP - Sides & Bottom

Quantity of Terminals

Terminal Size

Code	Size mm²
A -	2.5
B -	4
C -	6
D -	10
E -	16
G -	35
H -	70

Quantity of Entries

Gland Plate
B - Bottom
L - Left
R - Right

Entry Size

Code	Metric	NPT
1 -	M20	1/2"
2 -	M25	3/4"
3 -	M32	1"
4 -	M40	1 1/4"
5 -	M50	1 1/2"

Entry Thread Form
M - Metric
N - NPT

Example: The catalogue number detailed above specifies a JBE Exe Increased Safety enclosure 370x300x200mm stainless steel, complete with bottom and side gland plates, 20 x 2.5 mm² terminals and 8 x M20 entries on the bottom gland plate.

Note: To specify combinations of different terminal and entry sizes, include additional code groups within the catalogue number separated by a dash (-), i.e. **JBE33SS-3GP-10A-5B-8B1M-1B2M**

Please consult factory for availability.

Maximum Number of Terminals in JBE Exe Box:

Catalogue No.	Standard Terminals - Power Application at Max Rated Current							Instrumentation Circuit Current (A)
	A	B	C	D	E	g	H	
	2.5mm²	4.0mm²	6.0mm²	10.0mm²	16.0mm²	35.0mm²	70.0mm²	2.5mm²
JBE22	26	20	19	17	17	10	9	34
JBE33	57	46	44	39	38	24	23	100
JBE54	72	58	57	49	48	31	30	135
JBE75	85	75	80	61	61	39	39	290
JBE96	112	91	89	75	75	49	50	380

Note 1: Limitations apply on terminal populations within Exe enclosures to ensure maximum power dissipation limits are not ex ceeded. Terminal populations can therefore increase where terminal loads are less than the maximum rated. Consult factory for details.
The maximum number of terminals outlined for instrumentation circuit currents are recommended as a practical limit to ensure generous wiring space is available. Larger quantities of terminals can be provided.

Note 2: Large power terminal - Available on request, consult factory.

Note 3: Combinations of different terminal sizes - Available on request, consult factory

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex e ia, T6 - Terminal Boxes Ex dem ia/ib, T6, T5 or T4 - Installation Control Unit & Distribution Equipment Ex tD A21 IP66 T80°C
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BKI 08.0004
Application	XLH junction boxes are used for: - Cable termination - Marshalling boxes for instrumentation - Control stations
Standard Materials	Mild steel Stainless steel - matt finish
Options	Central locking Various size ranges Electropolished stainless steel External stainless steel identification label Mounting bracket Breather drain fitted to bottom of gland plate Available as a custom built unit

Ordering Details & Dimensional Data

XLH Size Ranges & Gas Group

Catalogue No.	Size (mm)	2.5mm²	4mm²	6mm²	10mm²	16mm²
		Vertical Orientation in Enclosures				
XLH231513	229 x 152 x 127	1 x 21	1 x 17	1 x 13	1 x 10	1 x 9
XLH262615	260 x 260 x 152	2 x 27	2 x 23	1 x 17	1 x 13	1 x 11
XLH303020	306 x 306 x 205	2 x 36	2 x 30	2 x 23	2 x 18	2 x 15
XLH404020	406 x 406 x 203	3 x 56	3 x 47	3 x 35	3 x 28	3 x 23
XLH504020	508 x 406 x 203	3 x 77	3 x 64	3 x 48	3 x 38	3 x 32
XLH506020	508 x 610 x 203	6 x 77	6 x 64	6 x 48	6 x 38	6 x 32
XLH605020	610 x 508 x 203	4 x 97	4 x 81	4 x 61	4 x 49	4 x 40
XLH766020	762 x 610 x 203	6 x 128	6 x 106	6 x 80	6 x 64	6 x 53
XLH767620	762 x 762 x 203	7 x 128	7 x 106	7 x 80	7 x 64	7 x 53

Other enclosure sizes available upon request

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COOPER Crouse-Hinds

Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exe, T6 - Terminal Boxes ExtD A21 IP66 T80˚C - Combustible Dust Ex ia - Intrinsically Safe Weatherproof
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BKI 05.0004 IECEx BKI 05.0005
Application	JB* junction boxes are used: - for cable termination - as marshalling boxes for instrumentation
Standard Materials	Glass fibre re-inforced polyester Aluminium enclosure available upon request
Options	Various size ranges Choice of material External stainless steel identification label mounting bracket

Ordering Details

Catalogue No.	Size (mm)	2.5mm²	4mm²	6mm²	10mm²	16mm²	25mm²	35mm²
GHG73111	140 x 120 x 95	16	14	10	8	8	-	-
GHG73112	140 x 182.5 x 95	24	24	18	18	14	-	-
GHG72100	165 x 165 x 131.5	26	22	17	13	11	-	-
GHG72110	165 x 285 x 143	48	40	30	24	20	-	-
GHG74401	271 x 134 x 136	40	33	25	20	17	15	-
							-	-
GHG74603	544 x 271 x 136	2 x 94	2 x 76	2 x 59	2 x 47	40	40	32
GHG74904	817 x 271 x 136	2 x 148	2 x 124	2 x 94	2 x 75	63	63	51

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Industrial Control

Being reliably in control gives you peace of mind.

Crouse-Hinds have over 100 years of experience in industrial control.

From a simple, single station mushroom head emergency stop in FRP or SS enclosure to a large custom built control panel, in a range of dual certified IECEx and ATEX configurations, we can provide you with the appropriate solution.

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Industrial Control

DSA - Exd START/STOP & Control Switches 4-2
GHG44 - Exe d, ExtD Control Panel 4-5
EMD - Exd ib Earth Monitoring Device.....4-7
GHG273 - Exe d, ExtD Lighting Swich.....4-8
GHG29 - Exde Remote Control Unit 4-9
ESA - Exd Isolator 4-10
GHG26 - Exe d, Ex tD Isolator 4-12
EMA - Exd DOL Starter 4-13
EPBA - Exd Panel Board 4-14

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Technical Data

Zone 1	Zone 2

Type of Protection	Exd
Degree of Protection	IP66/67
Gas Group	IIB
Approvals	ANZEx05.3007
Application	Motor& process control stations
Standard Materials	Bases & covers - copper free aluminium Switch operating levers, shafts & bushes - stainless steel Grey polyurethane finish
Options	Alternative finishes Special engravings Traffolyte labels (50mm x 10mm)

Ordering Details - Face

Catalogue number make-up:

D S A 0 3 P

Product Identifier
D - Control Station

Type of Device
(please refer below)

Options
DB - Additional N/O & N/C contact
P - Padlock

0	Blank
1.	Standard Push Button (Red, Black or Green)
2.	Mushroom Head Self-Resetting Push Button (Red)
3.	Mushroom Head Push Button Maintained OFF
4.	Mushroom Head Push Button Maintained OFF, Key Reset
5.	Key Switch Push Button
6.	Selector Switch Push Button
7.	Special - See listings
8.	Pilot Light (A-Amber, R-Red, G-Green, B-Blue, C-Clear)
9.	Rotary Stack Switch

Please consult factory for availability

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Push Button Ordering Details

Catalogue No.	Description
DSA01	Standard push button
DSA02	Mushroom head push button, spring return
DSA03	Mushroom head push button, latching
DSA03P	Mushroom head push button, latching & padlockable
DSA04	Mushroom head push button, latching & key re-set
DSA05	Key switch push button
DSA08	Indicating light (add G, R, A, B, C for colours)
DSA11	1 x start push button & 1 x stop push button
DSA12	1 x start push button & 1 x mushroom head stop spring return
DSA13	1 x start push button & 1 x mushroom head stop latching
DSA13P	1 x start push button & 1 x mushroom head stop latching & padlockable
DSA14	1 x start push button & 1 x mushroom head stop key re-set
DSA15	1 x start push button & 1 x key switch push button
DSA18	1 x start push button & 1 x indicating light (add G, R, A, B, C for colours)
DSA88	2 x indicating lights (add G, R, A, B, C for colours)

Switch Ordering Details

Catalogue No.	Description
DSA9-A178	10A, OFF - RUN - START, spring return from START - RUN
DSA9-A201	20A, 2 pole, 2 positions ON - OFF
DSA9-A202	20A, 3 pole, 2 positions ON - OFF
DSA9-A203	20A, 4 pole, 2 positions ON - OFF
DSA9-A212	20A, 3 pole, 3 positions change-over with centre OFF
DSA9-A215	20A, 2 pole, 3 positions change over with centre OFF
DSA9-A221	20A, 2 pole, 2 positions change over
DSA9-A222	20A, 4 pole, 2 positions change over

*** Switch base DSAB ordered separately, see next page.**

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Ordering Details - Bases

DSAB 1 - 1 0 1 0

Product Identifier
DSA - Control Station

Single or Double Gang
1 - Single Gang
2 - Double Gang

Top Entry Size Code
1 - 20mm
2 - 25mm
3 - 32mm

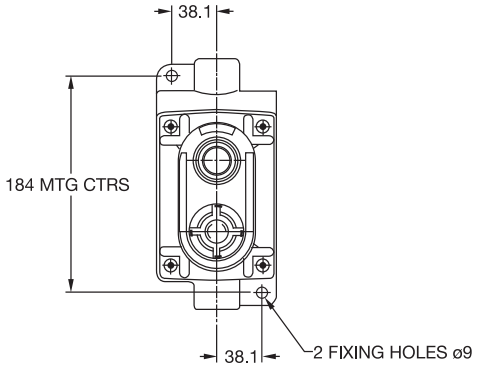
Left Side Size Code
1 - 20mm
2 - 25mm
3 - 32mm

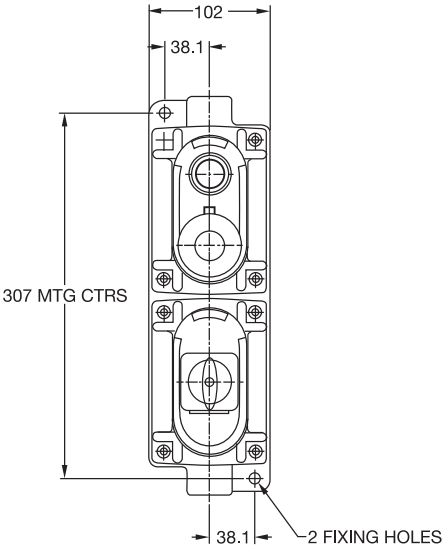
Right Side Size Code
1 - 20mm
2 - 25mm
3 - 32mm

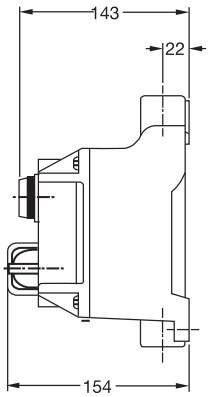
Bottom Entry Size Code
1 - 20mm
2 - 25mm
3 - 32mm

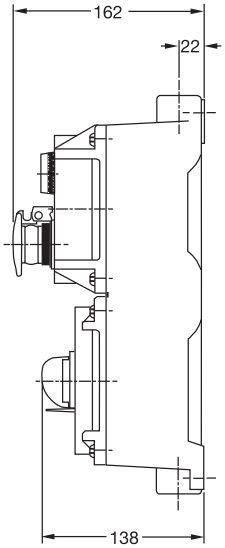
Please consult factory for availability

Dimensional Data









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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exe d, ExtD A21 IP66T80ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BKI 04.0003
Application	Motor & process control stations
Standard Materials	Bases & covers - high impact strength, corrosion resistant polyamide 12 Gaskets - 2 component polyurethane foam External hardware - stainless steel
Options	Stainless Steel available upon request (add suffix SS to part no.)

Ordering Details

Catalogue No.	Size (mm)	No. of Operators	No. of Terminals
DSEA1	100 x 156 x 90	2	-
DSEA2	100 x 245 x 90	4	-
DSEA1-SS	140 x 166 x 76	2	-
DSEA2-SS	140 x 286 x 76	4	-
GHG444 23	148 x 271 x 136	6	20
GHG448 23	285 x 271 x 163	18	30
GHG449 23	285 x 544 x 136	36	60
GHG447 23	285 x 817 x 136	54	90
GHG444 33-SS	175 x 312.5 x 135	6	20
GHG448 33-SS	312.5 x 312.5 x 135	18	30
GHG449 33-SS	312.5 x 627 x 135	36	60
GHG447 33-SS	312.5 x 941.5 x 135	54	90

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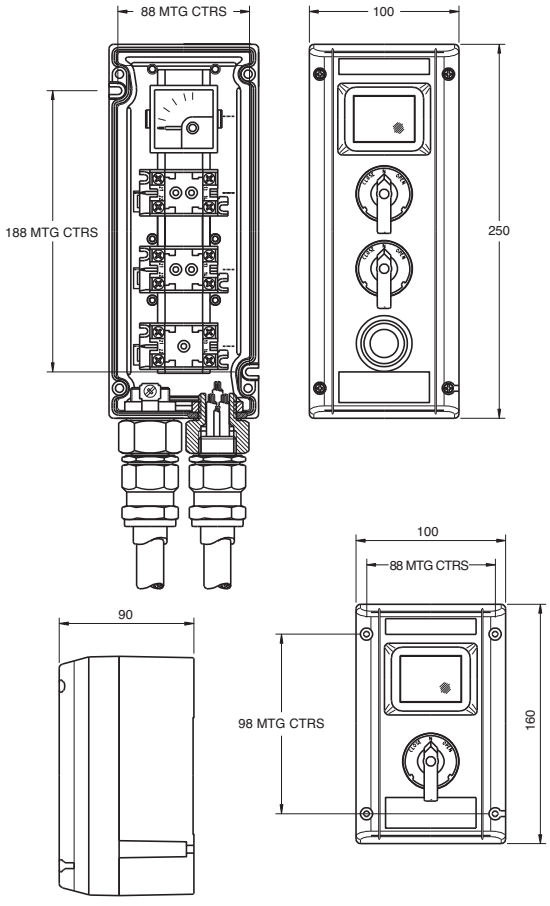
Table 1

Device Type	Description
1	Push Button c/w 1-N/O & 1-N/C
2	Mushroom Head Push Button c/w 1-N/O & 1-N/C Momentary Contact
3	Mushroom Head, Push Button c/w 1-N/O & 1-N/C Maintained Off, Pull To Reset
4	Mushroom Head Push Button c/w 1-N/O & 1-N/C Key To Reset
5	Selector Switch, 2 Poles ON/OFF Maintained
6	Selector Switch, 2 Positions, 1P Change Over
6SL	Selector Switch, 3 Positions, 1P Change Over
6SR	Selector Switch, 3 Positions, 1P Change Over, Spring Return From Right
6SLR	Selector Switch, 3 Positions, 1P change Over, Spring Return To Centre
7	Ammeter, 72mm Square, CT Operated, 1A Movement (5A on request)
8	Pilot Light, 12-240V ac/dc, 50/60 Hz (optional for other voltages)

Ordering Details

Start push button	**DSEA1-1**
Stop/start double push button	**DSEA1-11**
Fire alarm break glass push button	**DSEA1-1BG**
MRH stop push button, pull to release	**DSEA1-3**
MRH stop push button, 2NC contacts	**DSEA1-3-2NC**
Padlockable MRH pull to release stop push button	**DSEA1-3P**
Padlockable MRH stop push button - 2 NC contacts	**DSEA1-3P-2NC**
2 position selector switch, 1 NO & 1NC	**DSEA1-5**
3 position off, run, start switch	**DSEA1-6**
72x72mm ammeter n=1A or 5A or 20mA	**DSEA1-7**
Pilot light 240V	**DSEA1-8***
Flush start push button & MRH stop	**DSEA1-1-3**
Padlockable flush start push button c/w MRH stop	**DSEA1-1-3P**
Start push button & pilot light 240V	**DSEA1-1-8***
Pilot light 240V & pilot light 240V	**DSEA1-8*-8***
Double stop/start push button & remote local selector switch	**DSEA1-11-5**
Start push button + MRH stop & pilot light	**DSEA2-1-3-8***
Double push button + 2 pilot lights	**DSEA2-8*-8*-11**
4 double push buttons	**DSEA2-11-11-11-11**
2 double push buttons & 2 pilot lights	**DSEA2-11-8*-11-8***
2 flush push buttons & 2 MRH push buttons	**DSEA2-1-3-1-3**
1 x AM72 ammeter + 1 push button & 1 MRH push button	**DSEA2-7-1-3**



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COOPER Crouse-Hinds

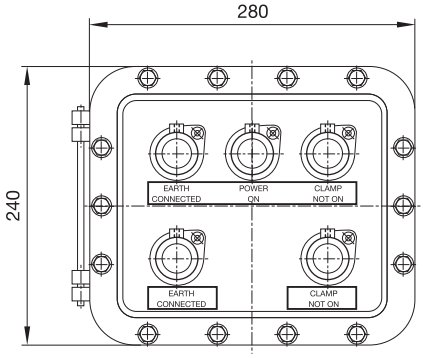
Technical Data

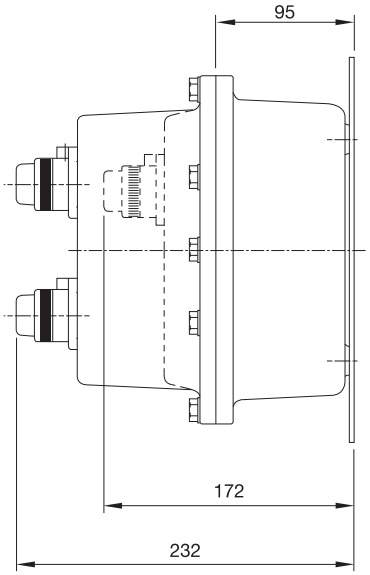
Zone 1	Zone 2

Type of Protection	Exd ib
Degree of Protection	IP66
Gas Group	IIC (H2)
Approvals	ANZ Ex07.3049X
Application	Used where earthing is required to: - Provide earth connection to prevent static build up - Monitor earth continuity - Activate alarms & shut down process when earth connection is interrupted
Standard Materials	Body & cover - copper free aluminium Gasket - neoprene Cover screws - stainless steel Grey polyurethane finish

Ordering Details

Description	Part No.	Weight
Single unit c/w earth clamp	**EJBA783-EMD1**	14kg
Double unit c/w earth clamp	**EJBA786-EMD2**	19kg
Single unit c/w earth clamp & by-pass switch	**EJBA786-EMD1-BP**	20kg





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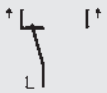
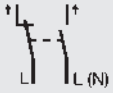
Technical Data

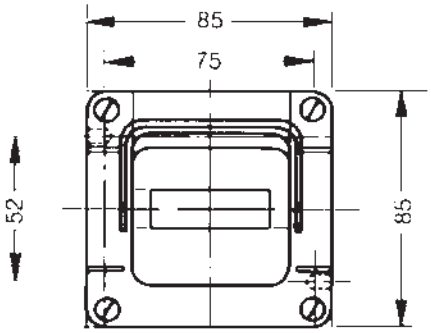
Zone 1	Zone 2	Zone 21/22

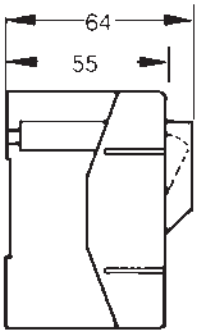
Type of Protection	Exe d, ExtD A21 IP66 T67ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BKI 07.0036
Application	Toggle ON/OFF & lighting control switch Ease of operation whilst wearing gloves
Standard Materials	Enclosure & cover - high impact strength corrosion resistant polyamide 12 Gaskets - 2 component polyurethane foam External hardware - stainless steel

Picture shows external metal flange - glands not inlcuded

Ordering Details

Description	Part No.	Weight
2 Pole On/Off c/w 2 x M20 bottom entries		**GHG 273 2000 R0010**
2 Pole On/Off c/w 1 x M20 top and bottom entry		**GHG 273 2000 R0011**
2 Way Change Over		**GHG 273 6000 R0011**
2 Pole Spring Return		**GHG 273 4000 R0004**





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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exde, Extd, A21
Degree of Protection	IP66
Gas Group	IIC
Approvals	IEC Ex BKI07.0011
Application	Plant control functions on industrial control systems
Standard Materials	High impact resistant fibre glass reinforced polyester

Ordering Details

GHG29 3 7 067 14 14 - 1 B 2 M 2

Product Series

Ammeter
2 - Not Included
3 - Included

Selector Mechanism
See table below

Contact Configuration
See table below

Switch Position Label
See table below

Ammeter Scale

Looping Terminals*
(4 + Earth)
0 - Not Included
1 - Included

Cable Entry Method
P - Removable Plastic Flange Plate
B - Removable Brass Flange Plate
D - Entries Direct Into Enclosure

Quantity of Entries

Thread Type
M - Metric
N - NPT
B - BSP

Entry Size

Code	Metric	NPT
1 -	M20	1/2"
2 -	M25	3/4"
3 -	M32	1"

Please consult factory for availability

*** Note: Control switches with direct reading ammeters are supplied as standard with 2 looping terminals + Earth**

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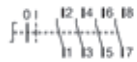
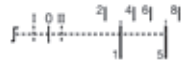
Ordering Details

Mechanism Function						Special Switch Mechanism
Code	4	5	6	7	8	9

Ammeter

	Direct Reading		CT Connection N / 1A
Code	Scale	Code	Scale
99	No Ammeter	10	No Ammeter
01	0-1 / 1.5A	11	0-2.5 / 3.75A
02	0-2.5 / 3.75A	12	0-5 / 7.5A
03	0-5 / 7.5A	13	0-10 / 15A
04	0-10 / 15A	14	0-15 / 22.5A
05	0-16 / 24A	15	0-25 / 37.5A
06	0-25 / 37.5A	16	0-50 / 75A
07	0-20 / 24mA (0-100/120%)	17	0-100 / 150A
08	4-20 / 24mA (0-100/120%)	18	0-150 / 225A
		19	0-200 / 300A
		20	0-300 / 450A
		21	0-400 / 600A
		22	0-500 / 750A
		23	0-600 / 900A
		24	0-100 / 150%

Contact Configuration

Code	Configuration
014	
024	
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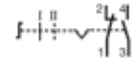
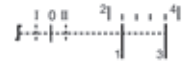
062	
063	
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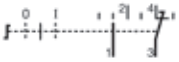
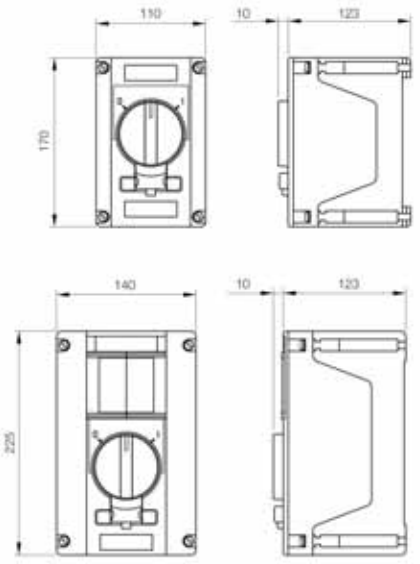
067	

Others configurations available on request

Switch Position

Code	Details		
01	0		I
02	I		II
04	OFF		ON
05	STOP		START
06	HAND		AUTO
08	REMOTE		LOCAL
09	I	0	II
13	OFF	AUTO	ON
14	HAND	0	AUTO
15	0	I	II
16	LOCAL	REMOTE	AUTO
17	0	IN	START
18	STOP	0	START
99	Text as Ordered		

Dimensional Data



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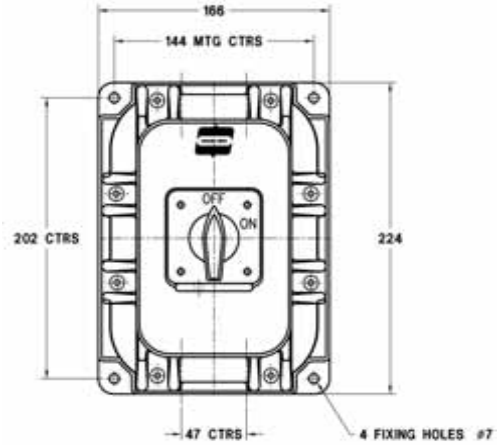
Technical Data

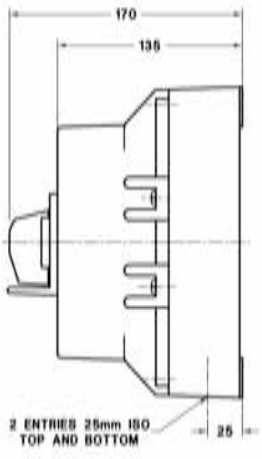
Zone 1	Zone 2

Type of Protection	Exd
Degree of Protection	IP66/67
Gas Group	IIB
Approvals	ANZEx04.3023
Application	ESA isolating switches are used: - As motor isolators - For MCB to 63A
Standard Materials	Enclosure - Cast aluminium Operating handle, shaft & bush - Stainless steel Cover screws - Stainless steel

Technical Data

Catalogue No.	ACI Current Rating	No. of Poles	AC3 Max KW Rating
Isolating Switches			
ESA 203-C26	32 Amps	4	11 KW
ESA 203-C32	40 Amps	4	15 KW
ESA 203-C42	63 Amps	4	18.5 KW
ESA K400 KG32	32 Amps	4	11KW
ESA K400 KG41	40 Amps	4	15KW
ESA K400 KG64	63 Amps	4	18.5KW
Change Over Switches (With Centre Off)			
ESA 212-C26	32 Amps	3	11KW
ESA 211-C32	40 Amps	2	15 KW
ESA 211-C42	63 Amps	2	18.5 KW
Change Over Switches (Without Centre Off)			
ESA 222-C26	32 Amps	3	11KW
ESA 221-C32	40 Amps	2	15 KW
ESA 221-C42	63 Amps	2	18.5 KW
Reversing Switches			
ESA 401E-C26	32 Amps	3 Phase	11 KW
ESA 622E- C26	32 Amps	1 Phase	11 KW





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Technical Data

Zone 1	Zone 2	Zone 21/22

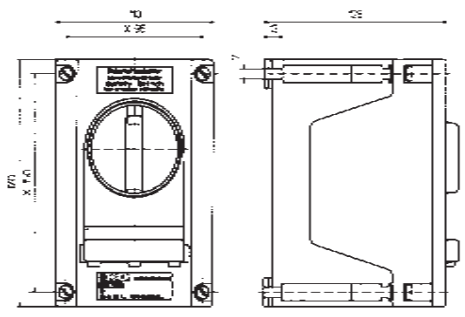
Type of Protection	Exe d, Ex tD, A21 IP66 T55ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IEC BKI 07.0012
Application	GHG26 safety switches are used to isolate electrical equipment and installations for the purpose of conducting maintenance inspection & repair work
Standard Materials	High impact, glass reinforced polyester

Ordering Details

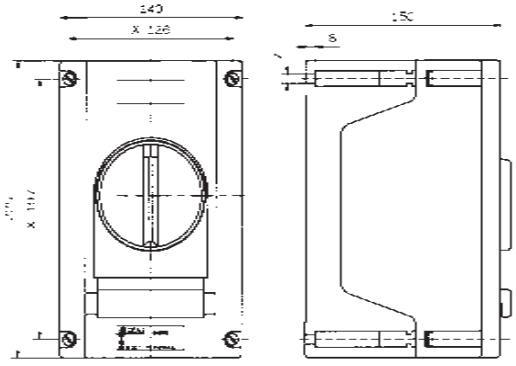
Rated Current	Poles	Contact Arrangement	Catalogue Number	Dimensions	Cable Entries
10A	3		GHG 261 0005 R9026	84 x 102 x 112	2 x M20
20A	3		GHG 262 2301 R9179	110 x 170 x 129	2 x M20
40A	3		GHG 263 2301 R9051	140 x 225 x 156	1 x M20 + 2 x M25
80A	3		GHG 264 0020 R9105	271 x 271 x 275	2 x M50
125A	3		GHG 265 0010 R9095	271 x 544 x 275	2 x M63
180A	3		GHG 266 0006 R9040	271 x 544 x 275	2 x M63
200A			Available upon request		

Dimensional Data

3 Pole 20A



6 Pole 20A & 3 Pole 40A



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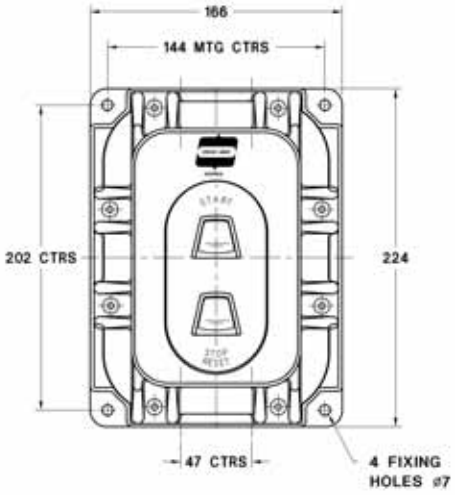
Technical Data

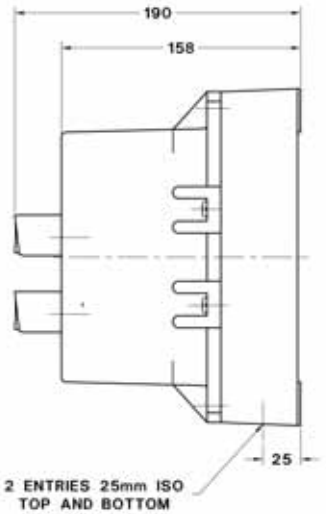
Zone 1	Zone 2	

Type of Protection	Exd
Degree of Protection	IP67
Gas Group	IIB
Approvals	ANZEx04.3000
Application	EMA Direct-on-line motor starters are used for: - DOL starting of polyphase and single phase AC induction motors
Standard Materials	Enclosure - Copper free aluminium Push button shafts & cover screws & bushes - Stainless steel Push buttons & guards - Type 6/6 nylon

Technical Data

Catalogue No.	Rating (KW)	Current Overload Range (A)
EMA11SS.25KW	0.25	0.63 - 1.0
EMA11SS.55KW	0.55	1.0 - 1.7
EMA11SS1.5KW	1.1/1.5	2.5 - 4.0
EMA11SS2.2KW	2.2	4.0 - 6.8
EMA11SS5.5KW	4.1/5.5	9.0 - 13.0
EMA11SS7.5KW	7.5	12.0 - 18.0
EMA11SS11KW	11	16.0 - 23.0
EMA11SS15KW	15	23.0 - 32.0
EMAB11SS22KW	22	40.0 - 52.0
EMAB11SS37KW	37	58 - 72





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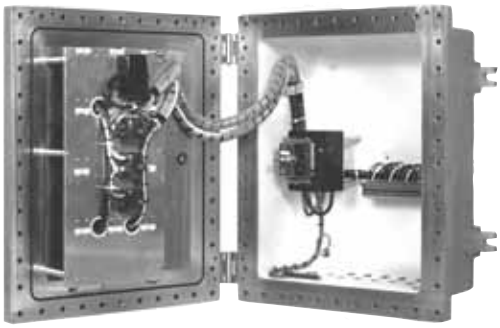
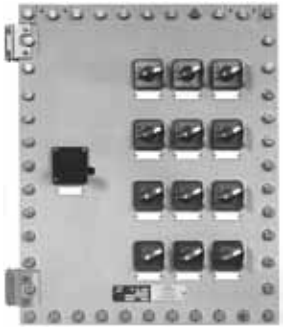
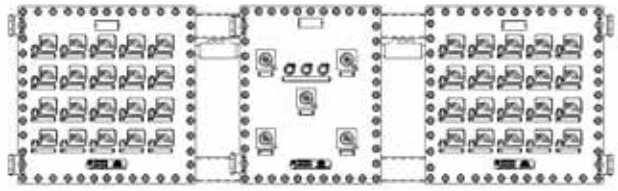
Technical Data

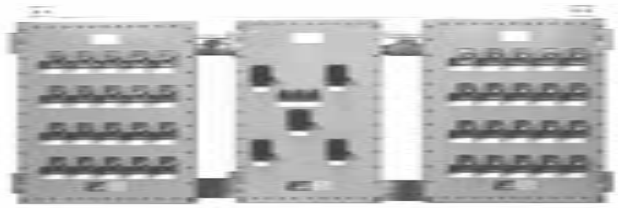
	Zone 1	Zone 2
Type of Protection	Exd	
Degree of Protection	IP66	
Gas Group	IIB or IIB (H_2)	
Approvals	ANZEx 06.3018X ANZEx 06.3049X	
Application	Custom built panels are used: - Distribution panels for motor control & indications	
Standard Materials	Body & cover - copper free aluminum Cover screws - stainless steel Hinges (to size 1616) stainless steel Hinges (size 2418 & above) copper free aluminum Gasket - neoprene Branch circuit breakers - investment cast stainless steel	





Mounting Configurations





Wall Mounted Circuit Breaker Distribution Panel

Free Standing Motor Control Panel

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Ordering Details

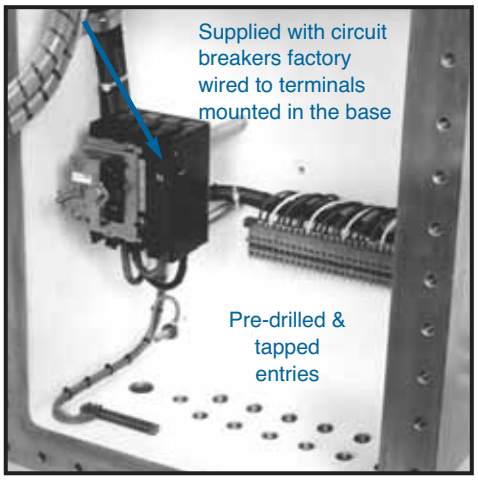
EPBA 2424A - 4 2P 20 - 22P16 - 42P10 - 4M125 - C

- **EPBA** Panel Board Prefix
- **Panel Board Size** 2424
- **No. of Branch Circuit Breakers** 4
- **No. of Poles Circuit Breakers** 2P
- **Circuit Breaker Trip Rating (A)** 20
- **Additional Breakers** 2 pole 16A 22P16, 2 pole 10A 22P10
- **Main Circuit Breaker** 4M125
- **Option** IIC

Please consult factory for availability

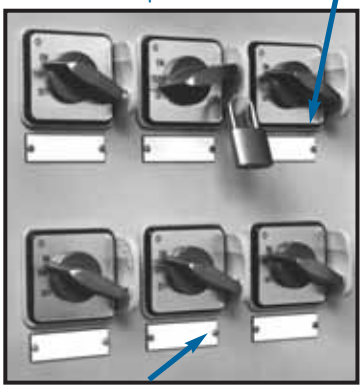
Note: Main circuit breaker is provided only when specified in catalogue number

Supply wiring connected direct to main circuit breaker



Earth bar mounted in base for connection of earth wiring on outgoing circuits

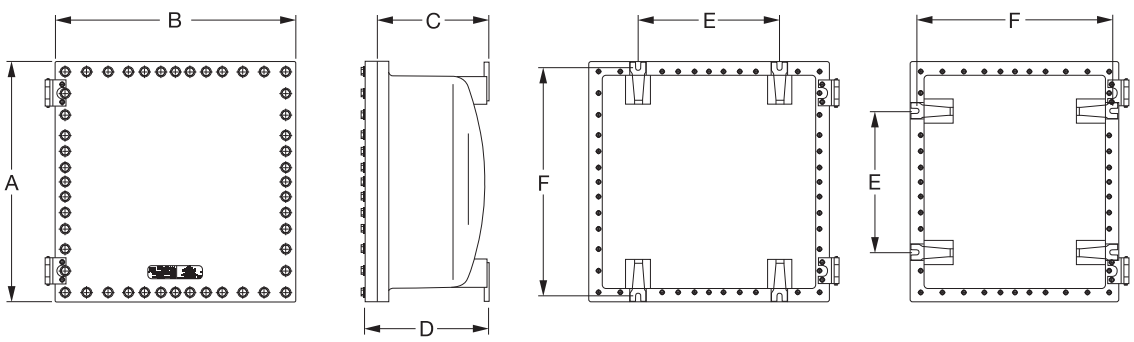
Lock out facility provided on all circuit breaker operator handles



Screw fastened blank traffolyte label provided for each branch circuit breaker

Cat.No.	A	B	C	D	E	F
EPBA1212	415	415	230	285	143	405
EPBA1616	516	516	230	285	242	505
EPBA2418	750	595	295	350	413	556
EPBA2424	750	750	295	350	413	708

Dimensional Data



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Hazardous Area Lighting

Crouse-Hinds and CEAG are leading the way in lighting up hazardous and ardous areas with many bright ideas.

The popular & reliable HID Champs® have been a well proven fixture in many industries for a number of years whilst the technologically advanced, unique and robust eLLK standard fluorescent fixtures provide total lighting solutions under any condition.

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Lighting

AEV - Exd 5-2
EOLA - Exd 5-3
T100A - Exd 5-4
AEVBH - Exd, DIP T** 5-5
EVM - Exd 5-6
EVME - Exde 5-9
PX04 - Exde IIB T*, ExtD A21 IP67 T*C 5-12
FZD - Exde IIC T* ExtD A21 IP66 T°*C 5-13
KFL - Exde, ExtD A21 T140°C 5-15
F*FB - Exd 5-16
eLLK - Ex edm, Ex DIP 5-17
eLLM - Ex de, Ex DIP 5-19
eLL* - Ex de mb [ib], Ex DIP 5-20
cLLK Ex deq, ExtD 5-22
AB12 - Exd, ExtD 5-23
LED Exit - Ex edm ib, Ex 5-24
nLLK - Ex nA, Ex tD 5-25
LED NVMV Exn A 5-26
NVMV - Exn R, DIP 5-28
NFMV - ExnR, DIP 5-33
NSSFMV ExnR, ExtD 5-36

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Technical Data

Zone 1	Zone 2

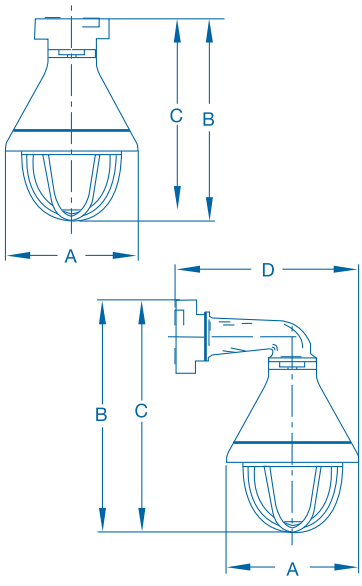
Type of Protection	Exd
Degree of Protection	IP66
Gas Group	IIC
Approvals	ANZEx 08.3007X
Application	Ideal for general area, room or outdoor spot lighting
Standard Materials	Body and guard - copper free aluminium Glass - configurated glass, heat & impact resistant

Ordering Details

Max Lamp Size	Type	Hub Size	Pendant Mt	Ceiling Mt	Wall Bracket	Bulk Head	T Rating
300W Incandescent	With Guard	20mm	**AEVA311**	**AEVCX311**	**AEVBX311**	**AEVJ311**	T3
		25mm	**AEVA321**	**AEVCX321**	**AEVBX321**	**AEVJ321**	
SL25Fluorescent	Minus Guard	20mm	**AEVA310**	**AEVCX310**	**AEVBX310**	**AEVJ310**	T6
160W SB MV	Minus Guard	25mm	**AEVA320**	**AEVCX320**	**AEVBX320**	**AEVJ320**	T3

Dimensional Data

Max Lamp Size	Mounting Configuration	A	B	C	D
SL 18W Fluorescent	Wall Mount	216	390	368	318
	Stanchion Mount	216	359	337	244
SL25 Fluorescent	Wall Mount	216	441	413	333



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Technical Data

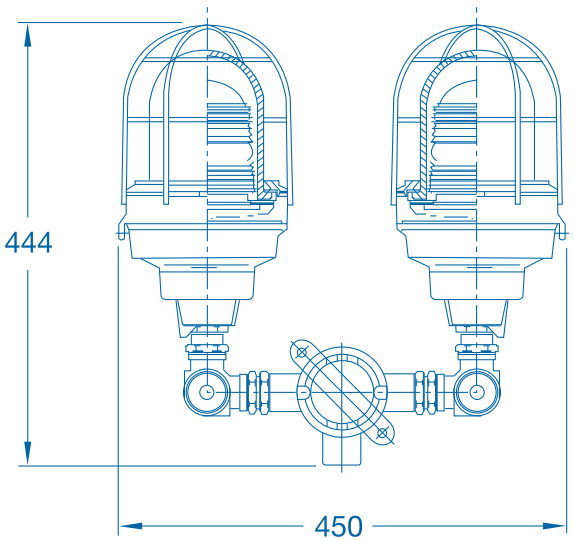
Zone 1	Zone 2

Type of Protection	Exd
Degree of Protection	IP66
Gas Group	IIC
Approvals	ANZEx08.3007X
Application	Used as an obstruction marker - To mark towers & process columns - To aid aircraft navigation - To indicate presence of drilling rigs or other industrial facilities
Standard Materials	Body and guard - copper free aluminium Glass - configurated glass, heat & impact resistant

Ordering Details

Type	Part No.	Entry Size	Lamp	Lamp Holder
Single Unit Pipe Mount	**AEVA-EOLA1***	1 x M20	150W Max	E27
Double Unit Pipe Mount	**AEVA-EOLA2***	1 x M20	150W Max	E27
Single Unit Base Mount	**AEVCX-EOLA1***	4 x M20	150W Max	E27

Dimensional Data



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Technical Data

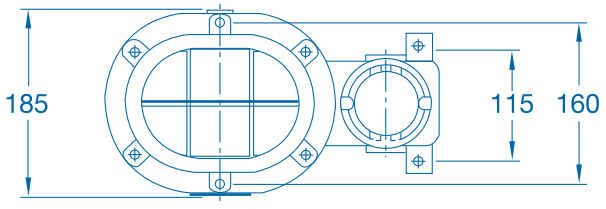
Zone 1	Zone 2

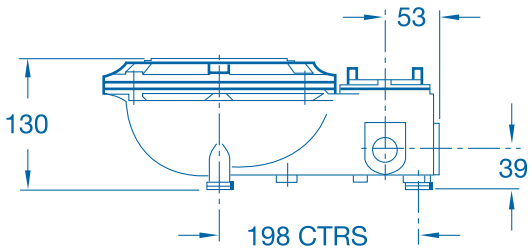
Type of Protection	Exd
Degree of Protection	IP66
Gas Group	IIB
Approvals	ANZEx08.3015
Application	Ideal for use in: - Confined spaces such as inspection pits - Areas with restricted mounting height - Pre-cast recesses
Standard Materials	Body & guard - copper free aluminium c/w grey polyurethane finish External lens - configurated glass, heat treated & impact resistant Internal lens - coloured glass with fresnel configuration

Ordering Details

Type	Catalogue No.	T-Rating
18w SL Fluorescent	**T18SL**	T6
9W PL Fluorescent	**T09PL**	T6

Dimensional Data





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COOPER Crouse-Hinds

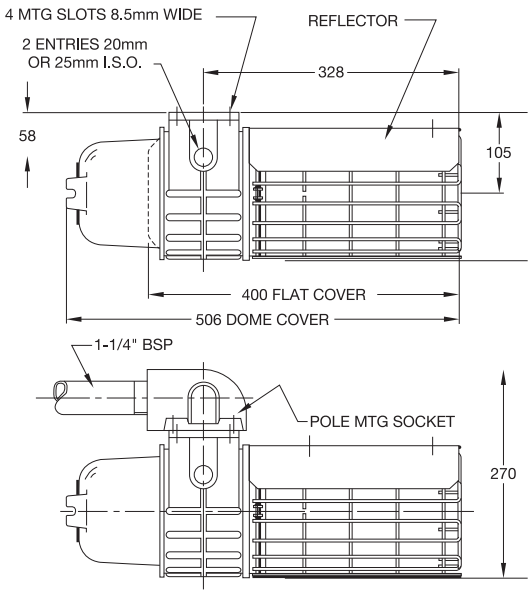
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exd, DIP T**
Degree of Protection	IP66
Gas Group	IIC
Approvals	ANZEx07.3039
Application	Ideal for use: - In areas with low headroom or mounting height where it allows the use of energy efficient HID light sources - For wall mount in inspection pits and similar wall mounting application where the adjustable reflector allows the light to be directed
Standard Materials	Body and guard - copper free aluminium Glass - configurated glass, heat & impact resistant

Ordering Details

Catalogue No.	Lamp Size	Lamp Type	Entry Size	**T rating
AEVBH 42051	50W	HPS	25mm	T4
AEVBH 42071	70W	HPS	25mm	T4
AEVBH 42101	100W	HPS	25mm	T4
AEVBH 42151	150W	HPS	25mm	T3
AEVBH 52021	2 x 11W	PL Fluorescent	25mm	T6
AEVBH 82051	50W	Mercury Vapour	25mm	T3
AEVBH 82081	80W	Mercury Vapour	25mm	T3
AEVBH 82101	100W	Mercury Vapour	25mm	T3
AEVBH 82121	125W	Mercury Vapour	25mm	T3
AEVBH 82171	175W	Mercury Vapour	25mm	T3
AEVBH 92171	175W	Metal Halide	25mm	T3
Accessories				
AEVBHJ	Pipe Mount racket			



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Technical Data

Zone 1	Zone 2	

Type of Protection	Exd
Degree of Protection	IP66
Gas Group	IIB (IIC available upon request)
Approvals	ANZEx 07.3012
Application	EVM fixtures are ideal for use as pendant lighting both internally & externally
Standard Materials	Mounting modules, cover, ballast housing, guard and globe ring - Copper free aluminium Reflectors (dome and angle) - Fibreglass reinforced polyester Reflectors (highbay) - Alzak aluminum External hardware - stainless steel
Options	Choice of reflectors Choice of guards Choice of light sources In-Line Fuse Instant re-strike ballast enables a hot HPS lamp to immediately re-strike after momentary loss of arc due to voltage fluctuation or power loss (70-150W HPS only)

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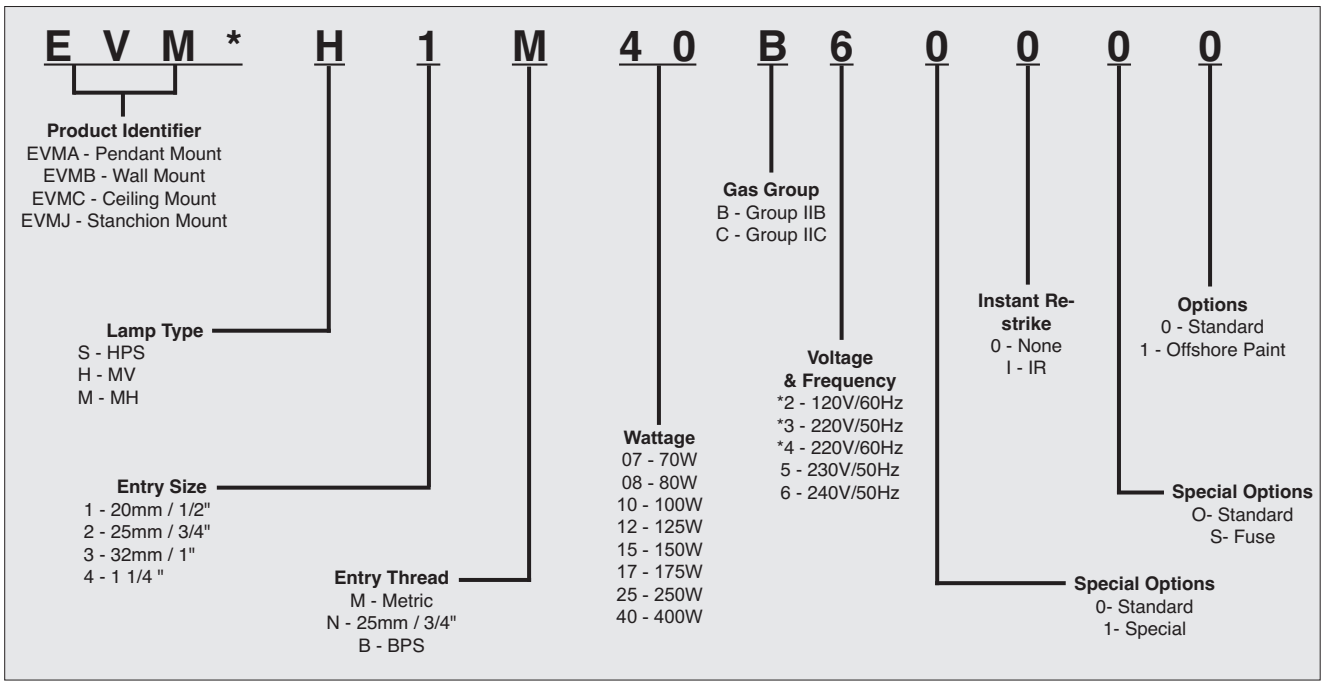
Technical Data

Watts	Entry Size	Pendant Mt c/w Guard Cat. No.	Wall Mt c/w Guard Cat. No.	Ceiling Mt c/w Guard Cat. No.	Stanchion Mt c/w Guard Cat. No.
High Pressure Sodium - High Power Factor					
70	20mm	**EVMA41M07B60000**	**EVMB41M07B60000**	**EVMC41M07B60000**	
	25mm	**EVMA42M07B60000**	**EVMB42M07B60000**	**EVMC42M07B60000**	
	1 1/4" BSP				**EVMJ44B07B60000**
100	20mm	**EVMA41M10B60000**	**EVMB41M10B60000**	**EVMC41M10B60000**	
	25mm	**EVMA42M10B60000**	**EVMB42M10B60000**	**EVMC42M10B60000**	
	1 1/4" BSP				**EVMJ44B10B60000**
150	20mm	**EVMA41M15B60000**	**EVMB41M15B60000**	**EVMC41M15B60000**	
	25mm	**EVMA42M15B60000**	**EVMB42M15B60000**	**EVMC42M15B60000**	
	1 1/4" BSP				**EVMJ44B15B60000**
250	20mm	**EVMA41M25B60000**	**EVMB41M25B60000**	**EVMC41M25B60000**	
	25mm	**EVMA42M25B60000**	**EVMB42M25B60000**	**EVMC42M25B60000**	
	1 1/4" BSP				**EVMJ44B25B60000**
400	20mm	**EVMA41M40B60000**	**EVMB41M40B60000**	**EVMC41M40B60000**	
	25mm	**EVMA42M40B60000**	**EVMB42M40B60000**	**EVMC42M40B60000**	
	1 1/4" BSP				**EVMJ44B40B60000**
Metal Halide - High Power Factor Ballast					
175	20mm	**EVMA91M17B60000**	**EVMB91M17B60000**	**EVMC91M17B60000**	
	25mm	**EVMA92M17B60000**	**EVMB92M17B60000**	**EVMC92M17B60000**	
	1 1/4" BSP				**EVMJ94B17B60000**
250	20mm	**EVMA91M25B60000**	**EVMB91M25B60000**	**EVMC91M25B60000**	
	25mm	**EVMA92M25B60000**	**EVMB92M25B60000**	**EVMC92M25B60000**	
	1 1/4" BSP				**EVMJ94B25B60000**
400	20mm	**EVMA91M40B60000**	**EVMB91M40B60000**	**EVMC91M40B60000**	
	25mm	**EVMA92M40B60000**	**EVMB92M40B60000**	**EVMC92M40B60000**	
	1 1/4" BSP				**EVMJ94B40B600**



***Consult factory for availability**

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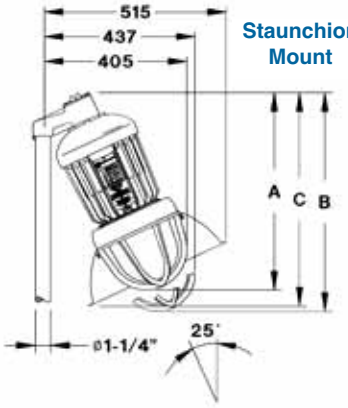
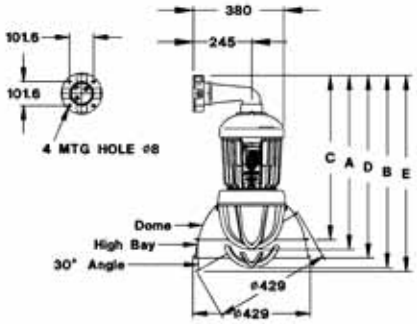
Dimensional Data

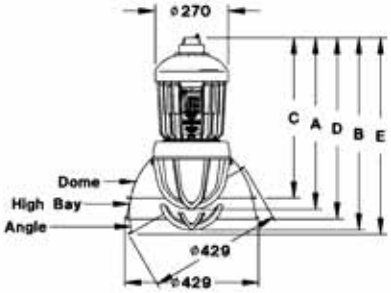
Type	80,100, 125, 175MV 70,100, 150W HSP 175W MH	250W & 400W MV, HPS & MV			
	A	B	C	D	E
EVMA	553	610	499	564	618
EVMBX	635	693	581	646	697
EVMCX	553	610	499	564	618
EVMJ	543	594	573		



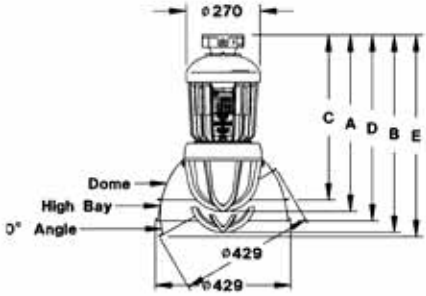
Staunchion Mount



Wall Mount

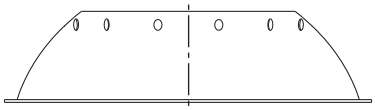


Pendant Mount

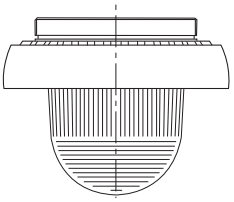


Ceiling Mount

Accessories

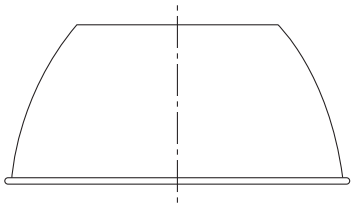


Dome Reflector
Cat.No. RD739

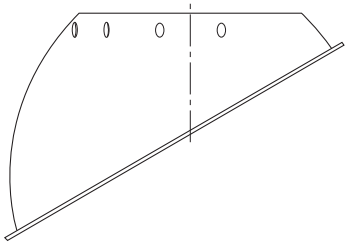


Glass Assembly

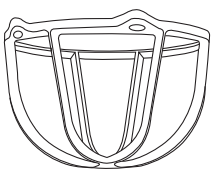
Watts	Cat. No.
Up to 175	EV7302
250/400	EV7404



High Bay Reflector
Cat.No. EV3912

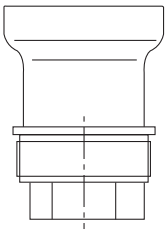


30° Angle Reflector
Cat.No. RA739



Guard

Watts	Cat. No.
Up to 175	EV503
250/400	EV5140



Lamp Holder

Watts	Cat. No.
Up to 125	EVMVS62600-SA
150 to 400	EVMVS12850-SA

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Technical Data

Zone 1	Zone 2	

Type of Protection	Exde
Degree of Protection	IP66
Gas Group	IIB (IIC available upon request)
Approvals	IECEx BKI 04.0007
Application	EVMe fixtures are ideal for illuminating large heavy industry facilities
Standard Materials	Mounting modules, cover, ballast housing, guard and globe ring - Copper free aluminium Reflectors (dome and angle) - Fibreglass reinforced polyester Reflectors (highbay) - Alzak aluminum External hardware - stainless steel
Options	Choice of reflectors Choice of guards Choice of light sources In-Line fuse Instant re-strike ballast enables a hot HPS lamp to immediately re-strike after momentary loss of arc due to voltage fluctuation or power loss (70-150W HPS only) Wall & stanchion mount accessories to be ordered seperatley

Ordering Details

E V M E H H 1 M 4 0 B 6 0 0 0 0

Product Identifier
EVMA - Pendant Mount
EVMB - Wall Mount
EVMC - Ceiling Mount
EVMJ - Stanchion Mount

Lamp Type
S - HPS
H - MV
M - MH

Entry Size
1 - 20mm / 1/2"
2 - 25mm / 3/4"
3 - 32mm / 1"
4 - 1 1/4 "

Entry Thread
M - Metric
N - 25mm / 3/4"
B - BPS

Wattage
07 - 70W
08 - 80W
10 - 100W
12 - 125W
15 - 150W
17 - 175W
25 - 250W
40 - 400W

Gas Group
B - Group IIB
C - Group IIC

Voltage & Frequency
2 - 120V/60Hz
3 - 220V/50Hz
4 - 220V/60Hz
5 - 230V/50Hz
6 - 240V/50Hz

Special Options
0- Standard
1- Special

Instant Re-strike
0 - None
I - IR

Special Options
O- Standard
S- Fuse

Options
0 - Standard
1 - Offshore Paint

Please consult factory for availability

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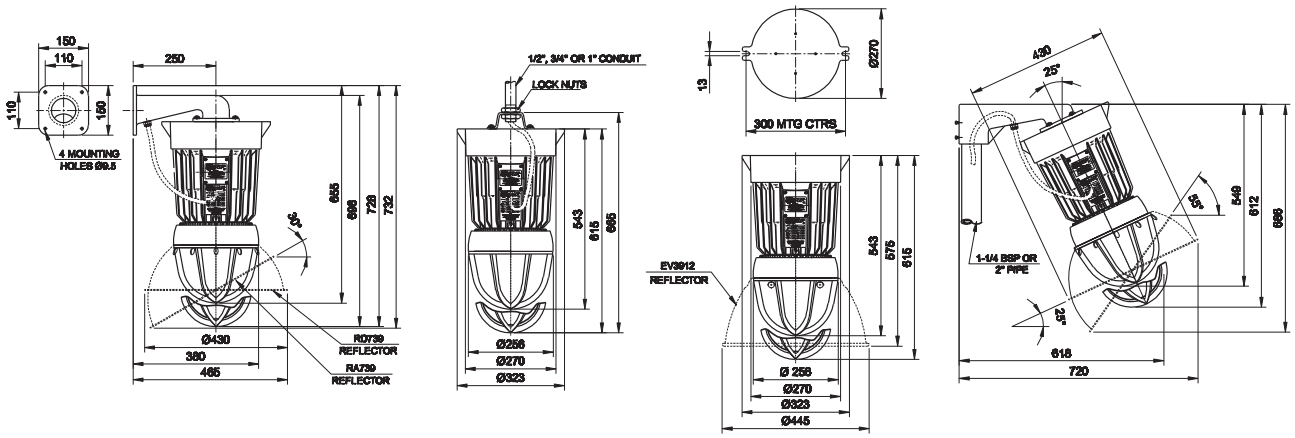
Dimensional Data

High Pressure Sodium (HPS)		
Wattage	**T Rating**	**Cat No.**
70W	T6	**EVMES1M07B60000**
100W	T4	**EVMES1M10B60000**
150W	T4	**EVMES1M15B60000**
250W	T3	**EVMES1M25B60000**
400W	T3	**EVMES1M40B60000**
High Metal Halide (MH)		
Wattage	**T Rating**	**Cat No.**
70W	T6	**EVMEM1M07B60000**
100W	T4	**EVMEM1M10B60000**
150W	T4	**EVMEM1M15B60000**
175W	T4	**EVMEM1M17B60000**
250W	T3	**EVMEM1M25B60000**
400W	T3	**EVMEM1M40B60000**
Mounting Brackets (order seperately)		
Pendant Mount		**Cat No.**
M20		**EVMEPM1**
M25		**EVMEPM2**
1/2" NPT Clearance Hole		**EVMEPN1**
3/4" NPT Clearance Hole		**EVMEPN2**
Wall Mount		**Cat No.**
M20 Thread		**EVMEWM1**
M25 Thread		**EVMEWM2**
Stanchion Mount		**Cat No.**
2" Slipfitter Pipe		**EVMEJ**
1 1/4" BSP Thread		**EVMEJB4**
1 1/2" NPT Thread		**EVMEJN5**

Dimensional Data



Wall Mount | Pendant Mount | Ceiling Mount | Stanchion Mount

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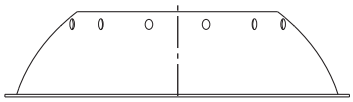
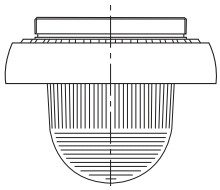
Accessories

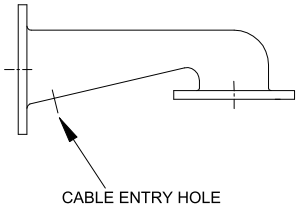


Dome Reflector
Cat.No. RD739

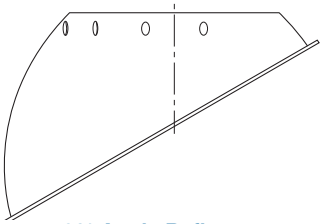


Glass Assembly

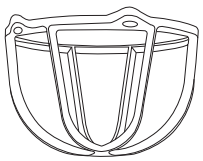
Watts	Cat. No.
Up to 175	**EV7302**
250/400	**EV7404**



Wall Bracket
Cat No. EVMEW

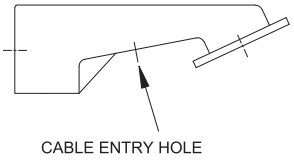


30° Angle Reflector
Cat.No. RA739

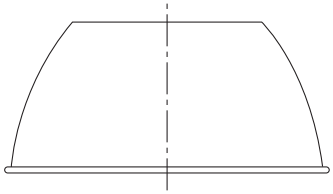


Guard

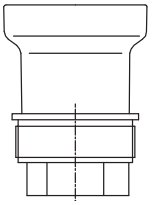
Watts	Cat. No.
Up to 175	**EV503**
250/400	**EV5140**



Stanchion Bracket
Cat No. **EVMEJ**

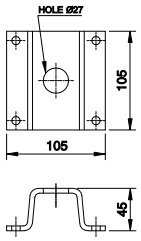


High Bay Reflector
Cat.No. **EV3912**



Lamp Holder

Watts	Cat. No.
Up to 175	**EVMVS62600-SA**
150 - 400	**EVMVS12850-SA**



Pendant Bracket
Cat No. **EVMEP**

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Hazardous Area Lighting - PX04 Flood Light

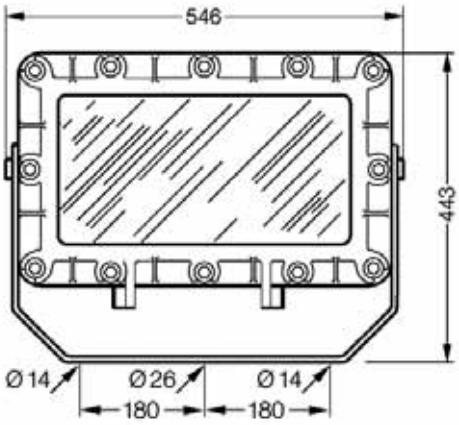
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exde IIB T*, ExtD A21 IP67 T*C
Degree of Protection	IP67
Gas Group	IIB
Approvals	IECEx BKI 07.0041
Application	General illumination for Zone 1 areas
Standard Materials	Body - high grade aluminium Enclosure material - light grey alloy Cover - boroscillicte glass Reflector - polished aluminium
Options	- Available with narrow beam

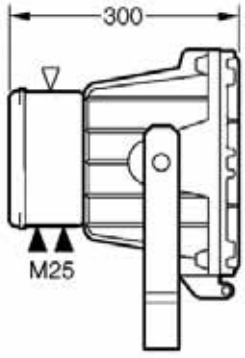
Ordering Details

Catalogue No.	T Rating	Wattage	Lamp	Amperage
NOR 000 115 170327	T3	250W	HPS / MH	1.35A
NOR 000 115 170 321	T3	400W	HPS	2.02A
NOR 000 115 170 315	T3	600W	HPS	3.13A
NOR 000 115 170 322	T3	400W	MH	1.98A



Accessories

Catalogue No.	Dia
NOR 000 115 170 321	T3
NOR 000 115 170 315	T3



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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exde IIC T* ExtD A21 IP66 T⁰*C
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BKI 07.0002
Application	Flood light with remote control gear Maximum weight of 14.9kg on top of the pole
Standard Materials	Body - High grade aluminium Remote mount control gear enclosures - Fibreglass re-inforced polyester or stainless steel Diffuser - tempered safety glass

Ordering Details

FZD	Control Gear Enclosure	Rated Luminous Flux [2]	Reflector	Catalogue No.
250W MH / HPS	Polyester	19000 / 25000 lm	narrow beam	**NOR 000 005 192 505**
250W MH / HPS	Polyester	19000 / 25000 lm	wide beam	**NOR 000 005 192 506**
400W MH	Polyester	35000 lm	narrow beam	**NOR 000 005 194 105**
400W MH	Polyester	35000 lm	wide beam	**NOR 000 005 194 106**
400W HPS	Polyester	48000 lm	narrow beam	**NOR 000 005 194 005**
400W HPS	Polyester	48000 lm	wide beam	**NOR 000 005 194 006**
250W MH / HPS	Stainless Steel	19000 / 25000 lm	narrow beam	**NOR 000 005 192 501**
250W MH / HPS	Stainless Steel	19000 / 25000 lm	wide beam	**NOR 000 005 192 502**
250W MH	Stainless Steel	35000 lm	narrow beam	**NOR 000 005 194 101**
400W MH	Stainless Steel	35000 lm	wide beam	**NOR 000 005 194 102**
400W HPS	Stainless Steel	48000 lm	narrow beam	**NOR 000 005 194 001**
400W HPS	Stainless Steel	48000 lm	wide beam	**NOR 000 005 194 002**

Additional Lamp Data

Lamp	Temperature Class II 2G		Max. Surface Temp II 2D	
	T abmient -45⁰C to +40⁰C	T abmient -45⁰C to +50⁰C	T abmient -45⁰C to +40⁰C	T abmient -45⁰C to +50⁰C
HST / HIT 250W	T4[5] / T3	T3	T130[5] / T150°C	T150°C
HST / HIT 400W	T3	-	T180°C	-

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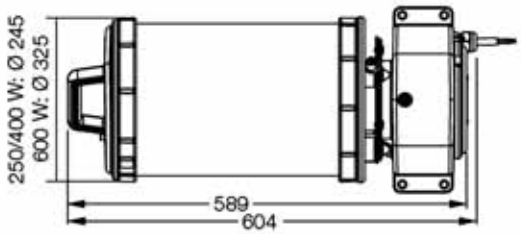
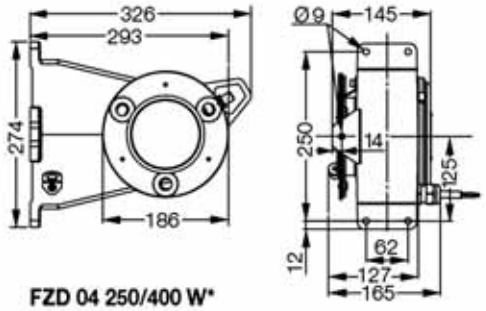
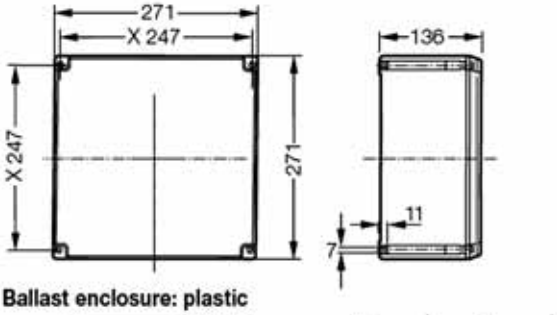
Dimensional Data

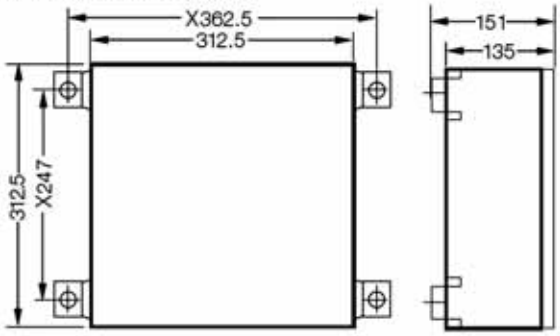




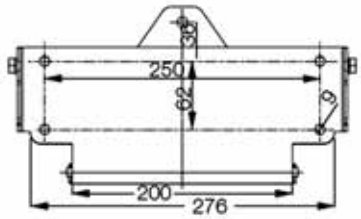
FZD 04 250/400 W*
***600 W on request**

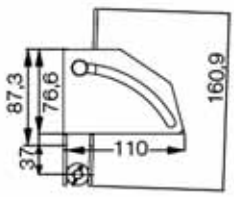


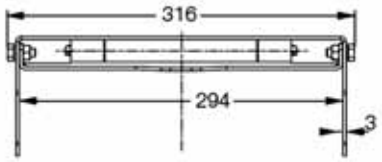
Ballast enclosure: plastic



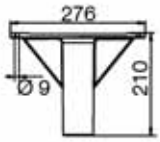
Ballast enclosure: stainless steel



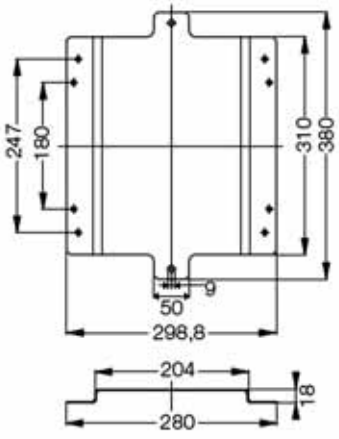




Swivel bracket
Part No. NOR 000 005 190023



Slip fitter
Part No. NOR 000 005 190021 - 1 1/4"
Part No. NOR 000 005 190022 - 2"



Mounting plate
Part No. NOR 000 005 190026

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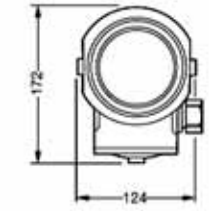
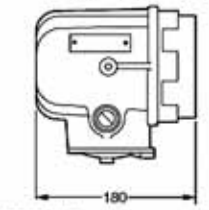
COOPER Crouse-Hinds

Technical Data

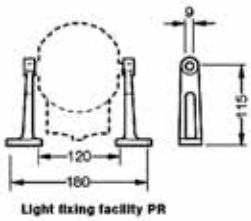
Zone 1	Zone 2	Zone 21/22

Type of Protection	Exde, ExtD A21 T140ºC
Degree of Protection	IP67
Gas Group	IIC
Approvals	IECEx BKI 07.0029
Application	This powerful vessel light fitting is ideally equipped for the use in the illumination of the interior of boilers, containers & agitators. Coupled with the PR holder the KFL can be mounted on inspection windows. The KFL is also suitable for general illumination of small areas.
Standard Materials	Body - High grade aluminium Control Gear Enclosures - Fibreglass re-inforced polyester or stainless steel Diffuser - tempered safety glass
Options	12V version for mounting on trucks, available upon request Also available in halogen and LED

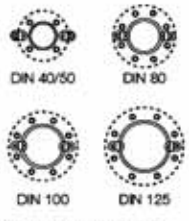




KFL 50 TIM



Light fixing facility PR



Windows, nominal width

Ordering Details

Description	No. of Entries	Catalogue No.
240V, 50W halogen	2 x M25	**NOR 000 005 140 010**
110V, 50W halogen	2 x M25	**NOR 000 005 140 120**
240V, 7W LED	2 x M25	**NOR 000 005 140 011**
Accessories		
Anti glare shield PAD		**NOR 000 005 140 700**
Transport handle AT		**NOR 000 005 140 809**
2 x mounting curve legs PI		**NOR 000 005 140 776**
Halogen reflector lamp, 240V, 50 Hz		**3 2369 100 001**
LED lamp, Phillips Master LED 7W		**NOR 000 000 514 530**

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Technical Data

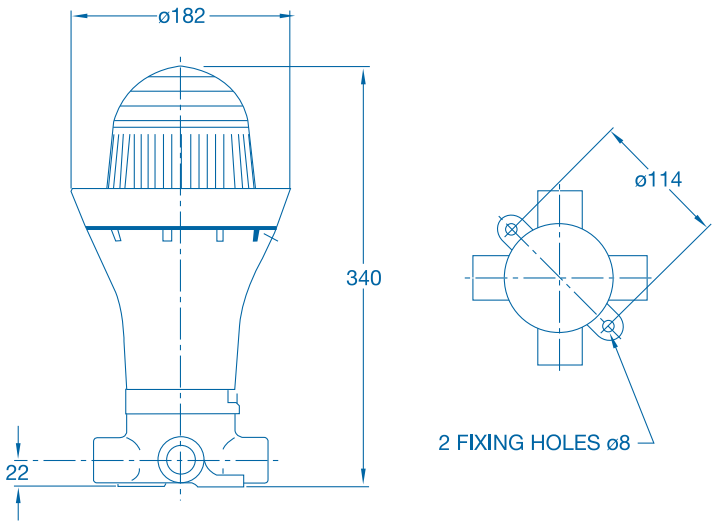
Zone 1		

Type of Protection	Exd, T6
Degree of Protection	IP66
Gas Group	IIC
Approvals	ANZEx 08.3007X
Application	Warning lighting in hazardous areas - Exd forklifts
Standard Materials	Body - Copper free aluminium Dome - Heat & impact resistant glass Beacon - Solid state strobe light
Options	Cast aluminum guard (EV505) Special paint or protective finishes Choice of lens colours* (C=clear, G=green, A=amber, R=red or B=blue) Pendant entry 12 or 24V dc

Ordering Details

Exd / DIP flashing beacon 240Vac c/w clear lens	**FSFB301C***
Exd / DIP rotating beacon 240Vac c/w clear lens	**FRFB301C***

Dimensional Data



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Technical Data

Zone 1	Zone 2	Zone 21/22

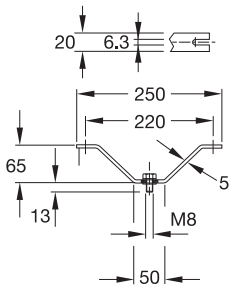
Type of Protection	Ex edm, Ex DIP A21 IP66 TA80ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BVS 09.0033 Germanischer Lloyd 12 207-98HH BUREAU VERITAS 11694/BO BV
Application	Ideal for use as general or task lighting in areas where low mounting heights or other space restrictions exist
Standard Materials	Housing - glass mat reinforced polyester Diffuser - polycarbonate
Features	- Bipin fluorescent lamp - EOL compliance - Central locking - Hinged on either side - Built in safety switches - Zone 1 twin circuit electronic ballast - Through wiring

Ordering Details

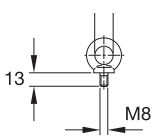
Lamps	Rated Current (A)	Power Factor	T Rating	Entries	Catalogue No.
2 x 18W	0.18	0.95	T4	4 x M20	**12267875111**
1 x 36W	0.18	0.95	T4	4 x M20	**12263875103**
2 x 36W	0.34	0.95	T4	4 x M20	**12266875111**
1 x 58W	0.27	0.95	T4	4 x M20	**12264875111**
2 x 58W	0.53	0.95	T4	4 x M20	**12267875111**

Accessories

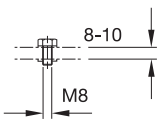
Ceiling Mount D2
Cat No. 2 2480 092 000



Eye bolt A2
Cat No. 2 2480 002 000

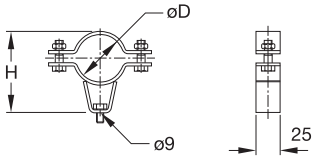


Hex Screw S4
Cat No. 2 2480 054 000



Pipe Mount

Type	Pipe Diameter	Height H	Cat No:
R12	→ 38-42mm	85mm	**2 2480 462 000**
R22	→ 47-50mm	95mm	**2 2480 472 000**
R32	→ 58-62mm	105mm	**2 2480 482 000**



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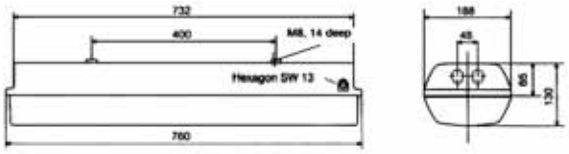
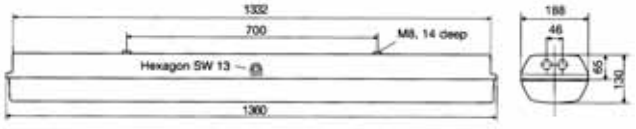
Dimensional Data

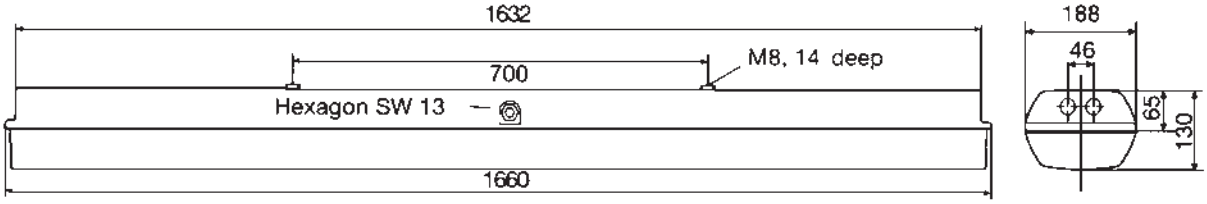
eLLK92018/18



eLLK92036 & eLLK92036/36

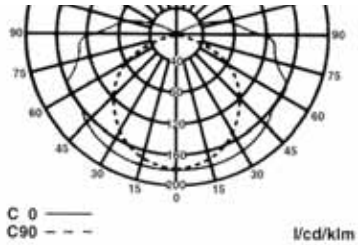


eLLK92058 & eLLK92058/58



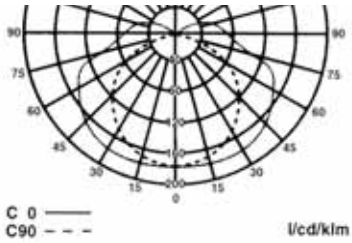
Photometric Data

1 x 36 W Fixture



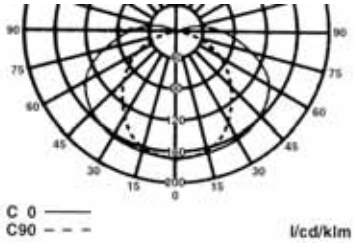
Rated luminous flux of lamps 1 x 36 W = 3,350 lm
Light efficiency in operation:
1 x 36 W = 86%
Illumination data acc. to LiTG B 30

2 x 36 W Fixture



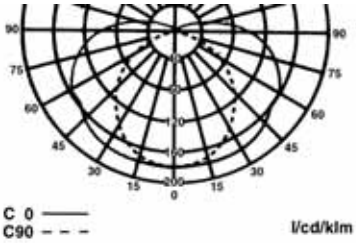
Rated luminous flux of lamps 2 x 36 W = 6,700 lm
Light efficiency in operation:
2 x 36 W = 78%
Illumination data acc. to LiTG B 30

1 x 58 W Fixture



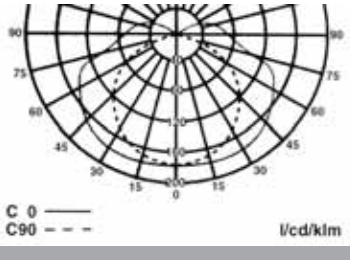
Rated luminous flux of lamps 1 x 58 W = 5,200 lm
Light efficiency in operation:
1 x 58 W = 81%
Illumination data acc. to LiTG B 30

2 x 58 W Fixture



Rated luminous flux of lamps 2 x 58 W = 10,400 lm
Light efficiency in operation:
2 x 58 W = 72%
Illumination data acc. to LiTG B 30

2 x 18 W Fixture



Rated luminous flux of lamps 2 x 18 W = 2,700 lm
Light efficiency in operation:
2 x 18 W = 78%
Illumination data acc. to LiTG B 30

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Technical Data

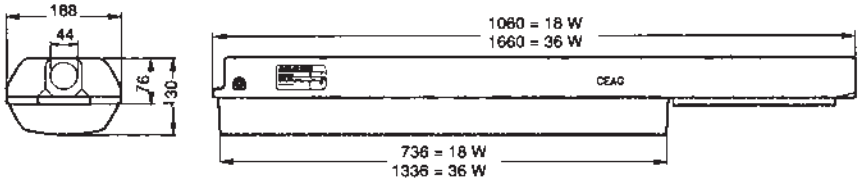
Zone 1	Zone 2	Zone 21/22

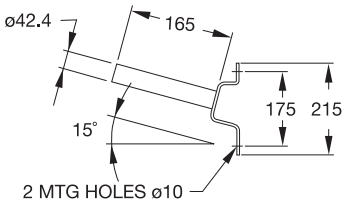
Type of Protection	Ex de, Ex DIP A21 IP66 TA80ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BVS 09.0033 Germanischer Lloyd 12 207-98HH BUREAU VERITAS 11694/BO BV
Application	Ideal for use as general or task lighting in areas where low mounting heights or other space restrictions exist
Standard Materials	Housing - glass mat reinforced polyester Diffuser - polycarbonate
Features	- Bipin fluorescent lamp - EOL compliance - Hinged on either side - Built in safety switch - Zone 1 twin circuit electronic ballast - Central locking

Ordering Details

Lamps	Rated Current (A)	Power Factor	T Rating	Metal Entries	Catalogue No.
2 x 18W	0.18	0.95	T4	1 x M25 Plastic Gland	**12268 875 101**
2 x 36W	0.34	0.95	T4	1 x M25 Plastic Gland	**1 2269 875 101**

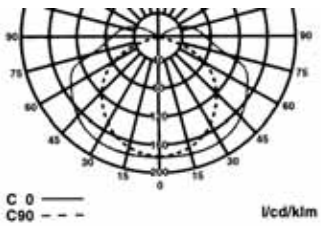
Dimensional Data





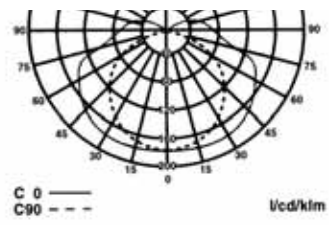
Photometric Data

2 x 18 W Fixture



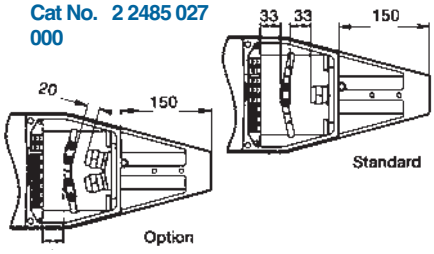
Rated luminous flux of lamps 2 x 18 W = 2,700 lm
Light efficiency in operation: 2 x 18 W = 6,700 lm
Illumination data acc. to LiTG B 30

2 x 36 W Fixture



Rated luminous flux of lamps 2 x 36 W = 6,700 lm
Light efficiency in operation: 2 x 36 W = 78%
Illumination data acc. to LiTG B 30

Wall Mount Bracket
Cat No. 2 2485 027 000



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Technical Data

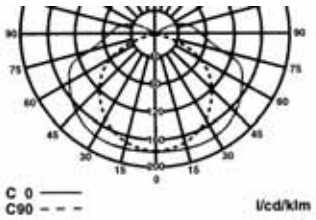
Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex de mb [ib], Ex DIP A21 IP66 TA80°c
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BVS 09.0033 Germanischer Lloyd 12 207-98HH BUREAU VERITAS 11694/BO BV
Application	Designed for use as emergency lighting in areas where low mounting heights or other space restrictions exist
Standard Materials	Housing - glass mat re-inforced polyester Diffuser - polycarbonate
Features	- Bipin fluorescent lamp - EOL compliance - Hinged on either side - Built in safety switch - Zone 1 twin circuit electronic ballast - Micro processeor monitored battery unit - 90 mins or 3 hour emergency on 1 lamp switchable at site - Emergency inhibit switch function - Through wiring - Central locking

Ordering Details

Lamps	Rated Current (A)	Power Factor	T Rating	Catalogue No.
Ceiling Mount c/w 4 x M20 Entries				
2 x 18W	0.23	0.95	T4	**1 2260 879 111**
2 x 36W	0.40	0.95	T4	**1 2261 879 111**
Pole Mount c/w 1 x M25 Plastic Gland				
2 x 18W	0.23	0.95	T4	**1 2273 879 101**

Photometric Data



• **Emergency Operation:**
Apply the following luminous flux factors when determining performance under emergency single lamp operation:
18 W = approx. 1.5 h 90% / 3.0 h 45%
36 W = approx. 1.5 h 45% / 3.0 h 25%
Rated luminous flux of lamps:
1 x 18 W = 1,350 lm
1 x 36 W = 3,350 lm

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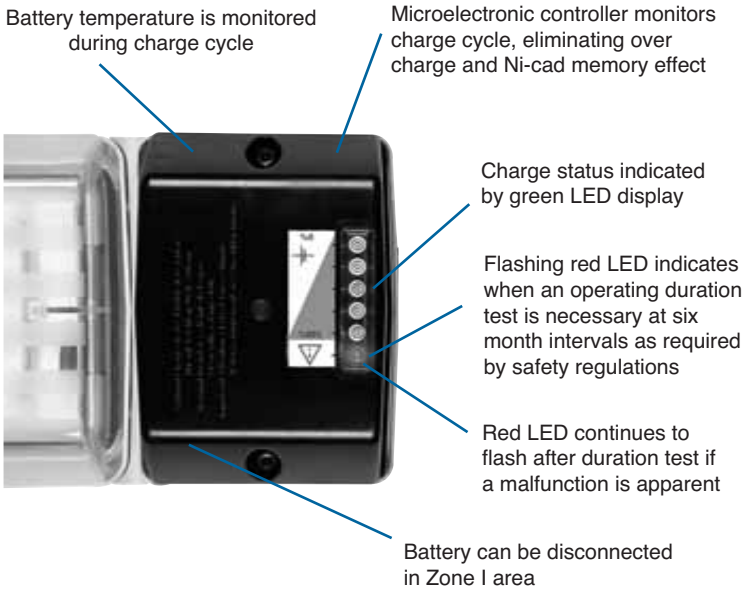
Features

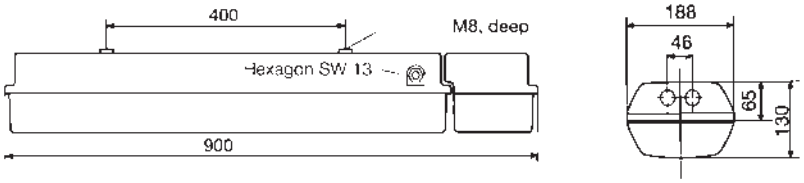
Take the Guess Work out of Maintenance

- Status of the battery charge cycle is indicated by a series of five green Light Emitting Diodes (LED), each of which represents 20% of battery capacity. The level of charge attained is indicated by the leading green LED which flashes. The charge cycle is complete when all five green LED's are on.
- Emergency operation commences on mains failure or when the main supply is switched off. During emergency operation the remaining battery capacity is indicated by the number of LED's which are on.
- The red LED begins flashing after six months from the last successful emergency duration test, or when during battery discharge a defective power supply or fluorescent lamp is detected. The red LED will continue to flash until a successful duration test is completed.

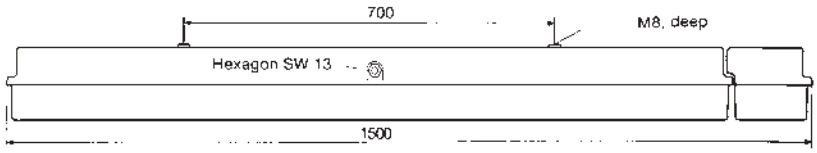


Dimensional Data

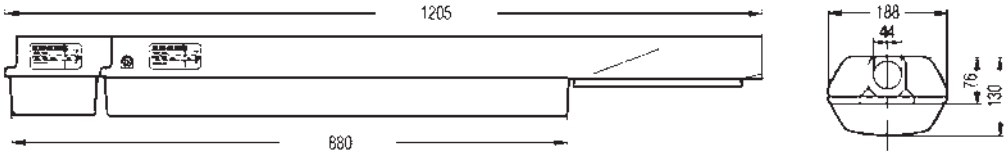
eLLk92018/18 NIB Ceiling Mount - Emergency



eLLK92036/36 NIB Ceiling Mount - Emergency



eLLM92018/18 NIB Pole Mount - Emergency



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Technical Data

Zone1	Zone 2	Zone 21/22

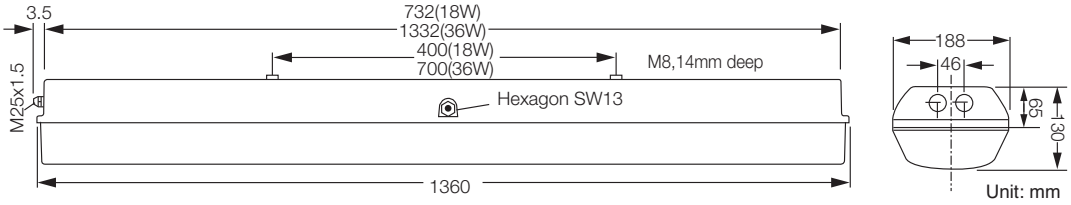
Type of Protection	Ex deq, ExtD A21 IP66 T80 °C
Degree of Protection	IP66
Gas Group	IIC
Approvals	IEC Ex CQM 10.0008
Application	- Bipin fluorescent lamp - EOL compliance - Hinged on either side - Built in safety switches - Through wiring - Central locking
Standard Materials	Housing - glass mat reinforced polyester Diffuser - polycarbonate

Ordering Details

Standard Luminaires					
Lamps	**Rated Current (A)**	**Power Factor**	**T Rating**	**Entries**	**Catalogue No.**
2 x 18W	0.16	0.95	T4	4 x M20 metal entries w/o gland	**CCL 0700014A**
2 x 36W	0.34	0.95	T4	4 x M20 metal entries w/o gland	**CCL 0700018A**
Emergency Luminaires 2 hours on 1 lamp					
2 x 36W	0.36	0.95	T4	4 x M20 metal entries	**CCL 0800104A**

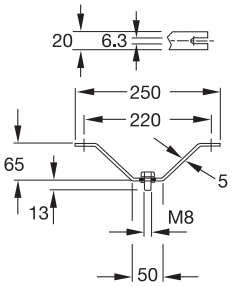
Dimensional Data

cLLK 2x18W/2x36W

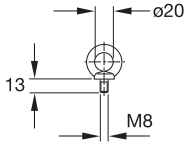


Accessories

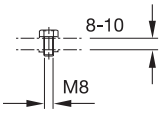
Ceiling Mount D2
Cat No. 2 2480 092 000



Eye bolt A2
Cat No. 2 2480 002 000

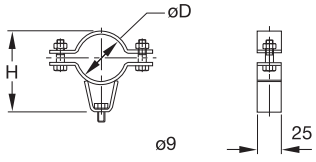


Hex Screw S4
Cat No. 2 2480 054 000



Pipe Mount

Type	Pipe Diameter	Height H	Cat No:
R12	↓ 38-42mm	85mm	**2 2480 462 000**
R22	↓ 47-50mm	95mm	**2 2480 472 000**
R32	↓ 58-62mm	105mm	**2 2480 482 000**



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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exd, ExtD A21 IP67 T76ºC
Degree of Protection	IP67
Gas Group	IIB
Approvals	IEC Ex BKI 07.0008X
Application	Designed for use in hazardous areas where low mounting heights or other space restrictions exist Ideal for illumination in spray booth areas or areas where a heavy concentration of solvent is expected
Standard Materials	Body - copper free aluminium Diffuser - mechanical resistant borosilicate glass Withdrawable gear tray plate

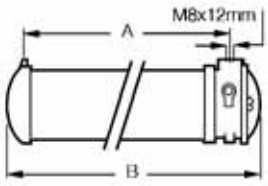
Ordering Details

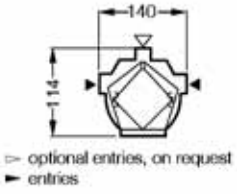
Lamps	Rated Current (A)	Power Factor	T Rating	Type	Entries	Catalogue No.
Ceiling Mount with electronic ballast						
2 x 18W	0.17	0.95	T5	AB12220E	2 x M20	**NOR000005060300-M20**
2 x 36W	0.48	0.95	T5	AB12240E	2 x M20	**NOR000005060308-M20**

Accessories

Descripton	Type	Catalogue No.
Stainless steel reflector for AB12220	RAB220	**NOR003165060403**
Stainless steel reflector for AB12240	RAB240	**NOR003165060411**
Stainless steel reflector and guard for AB12220	GRAB220	**NOR003165060479**
Stainless steel reflector and guard for AB12240	GRAB240	**NOR003165060497**
Stainless steel celling mount bracket	D92	**22480092000**
EYE BOLT	A2	**22480002000**
PIPE CLAMP 38-42mm	R12	**22480462000**
PIPE CLAMP 41-50mm	R22	**22480472000**
PIPE CLAMP 58-62mm	R32	**22480482000**

Dimensional Data





	A	B
AB 12220	652	707
AB 12240	1265	1320

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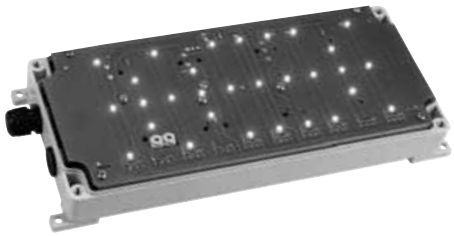
Technical Data

Zone 1	Zone 2	Zone 21/22

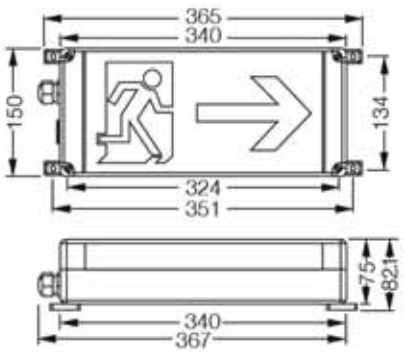
Type of Protection	Ex edm ib, Ex DIP A21 TA60ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IEC Ex BKI-06.0003
Application	Ideal for use as both a maintained emergency exit and emergency bulkhead
Standard Materials	- Robust polycarbonate construction - Up to 50,000 hours life expectancy - Maintenance free operation - Micro processeor monitored battery unit



Ordering Details

Lamps	Rated Power Consumption	Emergency Duration	T Rating	Catalogue No.
LED Emergency Exit c/w Battery Back Up				
Including cover with silk screen decal, arrow right	Approx 8 VA	3 hours	T5	**1 2191 030 104-AUS-RR**
Including cover with silk screen decal, arrow left	Approx 8 VA	3 hours	T5	**1 2191 030 104-AUS-RL**
Including cover with silk screen decal, arrow down	Approx 8 VA	3 hours	T5	**1 2191 030 104-AUS-RC**
Cover without pictogram	Approx 8 VA	3 hours	T5	**1 2191 030 104**

Dimensional Data



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Technical Data

	Zone 2	Zone 21/22
Type of Protection	Ex nA, Ex tD A21 IP66 T 80 °C	
Degree of Protection	IP66	
Gas Group	IIC	
Approvals	IEC Ex BKI 06-0001 AUS Ex 3723 (emergency)	
Application	- Bipin fluorescent lamp - EOL compliance - Hinged on either side - Through wiring - Central locking	
Standard Materials	Housing - glass mat reinforced polyester Diffuser - polycarbonate	

Ordering Details

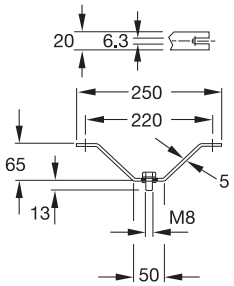
Standard Luminaires					
Lamps	**Rated Current (A)**	**Power Factor**	**T Rating**	**Entries**	**Catalogue No.**
2 x 18W	0.16	0.95	T4	4 x M20 metal entries w/o gland	**13465218421**
1 x 36W	0.16	0.95	T4	4 x M20 metal entries w/o gland	**13465136421**
2 x 36W	0.34	0.95	T4	4 x M20 metal entries w/o gland	**13465236421**
1 x 58W	0.27	0.95	T4	4 x M20 metal entries w/o gland	**13465158421**
2 x 58W	0.53	0.95	T4	4 x M20 metal entries w/o gland	**13465258421**

Emergency Luminaires 2 hours on 1 lamp					
2 x 18W	0.18	0.95	T4	4 x M20 metal entries	**nLLK1M2188DMN00**
2 x 36W	0.36	0.95	T4	4 x M20 metal entries	**nLLK1M2368DMN00**

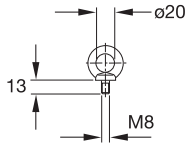
Please refer to eLLK dimensions

Accessories

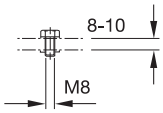
Ceiling Mount D2
Cat No. 2 2480 092 000



Eye bolt A2
Cat No. 2 2480 002 000

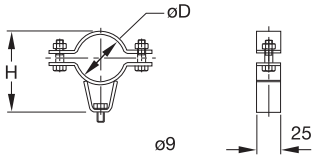


Hex Screw S4
Cat No. 2 2480 054 000



Pipe Mount

Type	Pipe Diameter	Height H	Cat No:
R12	↓ 38-42mm	85mm	**2 2480 462 000**
R22	↓ 47-50mm	95mm	**2 2480 472 000**
R32	↓ 58-62mm	105mm	**2 2480 482 000**



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Technical Data

	Zone 2	Zone 21/22
Type of Protection	Exn A, T4(at 55˚C amb) T5(at 40˚C amb)	
Degree of Protection	IP66	
Gas Group	IIC	
Ambient temperature	-30˚C to +55˚C	
Approvals	IECEx UL10.0008 DEMKO 10 ATEX 0915702	
Application	NVMV LED fixtures are ideal for use where: - Maintenance access is difficult and extended periods between relamping is required - Space is limited and high levels of lighting are required	
Features	**Enhance safety & productivity** - Instant illumination and restrike - Better visibility with crisp white light - T5 temperature rating – safely operate in the most hazardous environments - Cold temperature operation no warmup required - “No lights-out” feature – if a single LED fails, circuit provides enough useable light to remaining LEDs **Reduce operation & maintenance costs** - Easy installation - compact modular fixture attaches onto existing Champ mounting module - Energy efficient technology use up to ½ the power of standard HID luminaire - Provides up to 60,000 hours rated life – eliminates need for frequent lamp replacement - Contains no mercury or other hazardous substances **Reliable performance in any environment** - Shock and vibration resistant solidstate luminaires have no filaments or glass components that could break. - Operating ambient -40ºC to 55ºC - Low temperature starting -30ºC - Dark sky compliant	
Standard Materials	Mounting modules, cover, ballast housing, guard, globe & ring - Copper free aluminium Reflectors (dome and angle) - Fibreglass reinforced polyester Reflectors (highbay) - Alzak aluminum External hardware - stainless steel	

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Features

Safe, reliable heat transfer

Heatsink - A durable extrusion provides safe and effective heat transfer from the LED assembly to the outside environment, ensuring low LED junction temperature, reliability and sustained lumen performance. The vertical fin design facilitates airflow and dust shedding.

Ordering Details

Type	Order Codes	Rated Voltage
5L SERIES	**NVMV5LDM1-UNV**	120V - 277V
7L SERIES	**NVMV7LDM1-UNV**	120V - 277V
9L SERIES	**NVMV9LDM1-UNV**	120V - 277V

NVMV5L - Ideal for Low-light Applications

The VMV5L luminaire is ideal for locations requiring lower light levels. This fixture provides light output equivalent to many 100W - 150W high pressure sodium (HPS) luminaires.

NVMV7L - Wide Area Illumination

The VMV7L luminaire is designed for wide area illumination and for mounting heights of greater than 3.65m. Using less than 100 watts the VMV7L provides light output equivalent to many 175W metal halide (MH) fixtures, while providing 60,000 hours of illumination; over 6 times the life of a typical MH luminaire.

NVMV9L - High Lumen Output

The high output VMV9L provides increased lumen performance at the same power level of the 7L model. The VMV9L uses advanced LED technology to achieve a higher lumen/watt rating and can be used for mounting heights up to 6m.

Catalog Number	Mounting Module	Mounting Style	Hub Size
NVMV5LDM1/UNV	None	Luminaire Less Mounting Module	N/A
NVMV5L2ADM1/UNV	APM20	Pendant	M20
NVMV5L3ADM1/UNV	APM25	Pendant	M25
NVMV5L2CDM1/UNV	CM20	Ceiling Mount Thru Feed	M20
NVMV5L3CDM1/UNV	CM25	Ceiling Mount Thru Feed	M2
NVMV5L2TWDM1/UNV	TWM20	Wall Mount Thru Feed	M20
NVMV5L3TWDM1/UNV	TWM25	Wall Mount Thru Feed	M25
NVMV5LJDM1/UNV	JM5	Stanchion 25°	1 1/2" NPT
NVMV5LPDM1/UNV	PM5	Stanchion Straight	1 1/2" NPT
NVMV7LDM1/UNV	None	Luminaire Less Mounting Module	N/A
NVMV7L2ADM1/UNV	APM20	Pendant	M20
NVMV7L3ADM1/UNV	APM25	Pendant	M25
NVMV7L2CDM1/UNV	CM20	Ceiling Mount Thru Feed	M20
NVMV7L3CDM1/UNV	CM25	Ceiling Mount Thru Feed	M25
NVMV7L2TWDM1/UNV	TWM20	Wall Mount Thru Feed	M20
NVMV7L3TWDM1/UNV	TWM25	Wall Mount Thru Feed	M25
NVMV7LJDM1/UNV	JM5	Stanchion 25°	1 1/2" NPT
NVMV7LPDM1/UNV	PM5	Stanchion Straight	1 1/2" NPT
NVMV9LDM1/UNV	None	Luminaire Less Mounting Module	N/A
NVMV9L2ADM1/UNV	APM20	Pendant	M20
NVMV9L3ADM1/UNV	APM25	Pendant	M25
NVMV9L2CDM1/UNV	CM20	Ceiling Mount Thru Feed	M20
NVMV9L3CDM1/UNV	CM25	Ceiling Mount Thru Feed	M25
NVMV9L2TWDM1/UNV	TWM20	Wall Mount Thru Feed	M20
NVMV9L3TWDM1/UNV	TWM25	Wall Mount Thru Feed	M25
NVMV9LJDM1/UNV	JM5	Stanchion 25°	1 1/2" NPT
NVMV9LPDM1/UNV	PM5	Stanchion Straight	1 1/2" NPT

Note: Use adaptor ANB54NP for conversion from 11/2” NPT to 11/4” BSP

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Technical Data

	Zone 2	Zone 21/22
Type of Protection	Exn R, DIP	
Degree of Protection	IP66	
Gas Group	IIC	
Approvals	ANZEx 08.3061 IECEx CQM 09.0010X	
Application	NVMV fixtures are ideal for use where: - Maintenance access is difficult and extended periods between relamping is required - Space is limited and high levels of lighting are required	
Standard Materials	Mounting modules, cover, ballast housing, guard, globe & ring - Copper free aluminium Reflectors (dome and angle) - Fibreglass reinforced polyester Reflectors (highbay) - Alzak aluminum External hardware - stainless steel	
Options	Choice of body sizes Choice of light sources Powder free polyester coating Quartz auxillary lamp (large body) - to provide light during the period required for HID lamps to re-strike following resumption of power after a power failure Choice of accessories Tuff skin coated G34 & G251 glass Line fuse	

Temperature (T) Ratings

Power Rating (W)	High Pressure Sodium			Metal Halide		
	G34	G303	G251	G34	G303	G251
70	T5		T5	-		-
80	-		-	-		-
100	T4		T3	-		-
125	-		-	-		-
150	T4		T3	-		-
175 (small body)	-		-	T3		T3
175 (large body)			T4			
250 (small body)	T3		T2	T3		T2
250 (large body)		T3			T3	
400		T3			T2	
400 (using sealed reflector/glass RD4A)		T3			T4	

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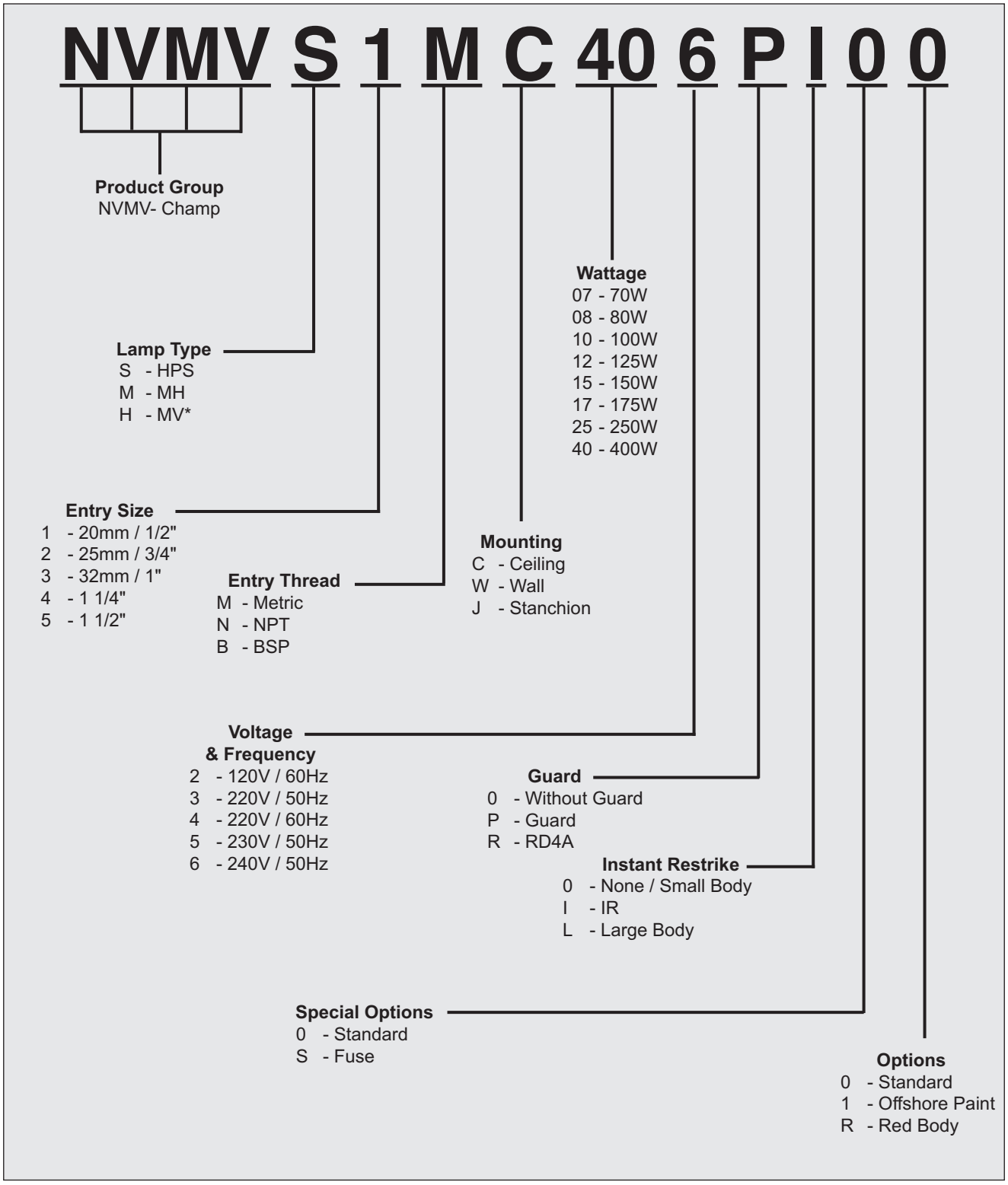
Ordering Details



*** Mercury Vapour available upon request**

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Ordering Details

High Pressure Sodium (HPS) 240V, 50Hz			
Entry Size	**Lamp Watts**	**With Glass and Guard**	**With Reflector Lens Assy Cat No.**
Ceiling/Pendant Mount			
20mm	70	NVMVS1MC076P000	-
25mm	70	NVMVS2MC076P000	-
20mm	100	NVMVS1MC106P000	-
25mm	100	NVMVS2MC106P000	-
20mm	150	NVMVS1MC156P000	-
25mm	150	NVMVS2MC156P000	-
20mm	250	NVMVS1MC256P000	NVMVS1MC256RL00
25mm	250	NHMVS2MC256P000	NVMVS2MC256RL00
20mm	400	NVMVS1MC406PL00	NVMVS1MC406RL00
25mm	400	NVMVS2MC406PL00	NVMVS2MC406RL00
Wall Mount			
20mm	70	NVMVS1MW076P000	-
25mm	70	NVMVS2MW076P000	-
20mm	100	NVMVS1MW106P000	-
25mm	100	NVMVS2MW106P000	-
20mm	150	NVMVS1MW156P000	-
25mm	150	NVMVS2MW156P000	-
20mm	250	NVMVS1MW256P000	NVMVS1MW256RL00
25mm	250	NVMVS2MW256P000	NVMVS2MW256RL00
20mm	400	NVMVS1MW406PL00	NVMVS1MW406RL00
25mm	400	NVMVS2MW406PL00	NVMVS2MW406RL00
Stanchion Mount			
1 1/4" BSP	70	NVMVS4BJ076P000	-
1 1/4" BSP	100	NVMVS4BJ106P000	-
1 1/4" BSP	150	NVMVS4BJ156P000	-
1 1/4" BSP	250	NVMVS4BJ256P000	NVMVS4BJ256RL00
1 1/4" BSP	400	NVMVS4BJ406PL00	NVMVS4BJ406RL00

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Ordering Details

Metal Halide (MH) 240V, 50Hz			
Entry Size	**Lamp Watts**	**With Glass and Guard**	**With Reflector Lens Assy Cat No.**
Ceiling/Pendant Mount			
20mm	175	**NVMVM1MC176P000**	-
25mm	175	**NVMVM2MC176P000**	-
20mm	250	**NVMVM1MC256P000**	**NVMVM1MC256RL00**
25mm	250	**NVMVM2MC256P000**	**NVMVM2MC256RL00**
20mm	400	**NVMVM1MC406PL00**	**NVMVM1MC406RL00**
25mm	400	**NVMVM2MC406PL00**	**NVMVM2MC406RL00**
Wall Mount			
20mm	175	**NVMVM1MW176P000**	-
25mm	175	**NVMVM2MW176P000**	-
20mm	250	**NVMVM1MW256P000**	**NVMVM1MW256RL00**
25mm	250	**NVMVM2MW256P000**	**NVMVM2MW256RL00**
20mm	400	**NVMVM1MW406PL00**	**NVMVM1MW406RL00**
25mm	400	**NVMVM2MW406PL00**	**NVMVM2MW406RL00**
Stanchion Mount			
1 1/4" BSP	175	**NVMVM4BJ176P000**	-
1 1/4" BSP	250	**NVMVM4BJ256P000**	**NVMVM4BJ256RL00**
1 1/4" BSP	400	**NVMVM4BJ406PL00**	**NVMVM4BJ406RL00**

Accessories			
Glasses	**Reflectors**	**Reflector / Lens**	**Guards**
G34 (no guard) - suits 70-250W	**RD70** (dome) - suits 70-250W	**RD4A** - suits 400W	**P22** - suits G251 glass
G25 (c/w guard) - suits 70-250W	**RA70** (300 angle) - suits 70-250W		**P33** - suits G303 glass
G303 - suits 400W	**RD739** (dome) - suits large body 400W		
	RA739 (300 angle) - suits large body 400W		

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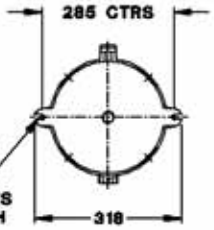
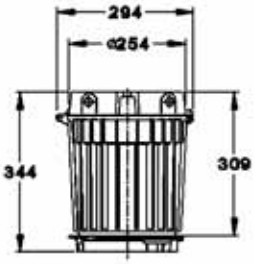
Dimensional Data (Large Body)

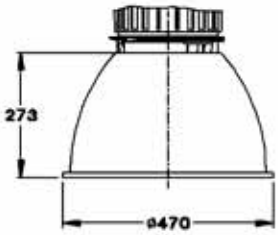
Stanchion Mount (25 Angle)

Ceiling & Pendant Mount

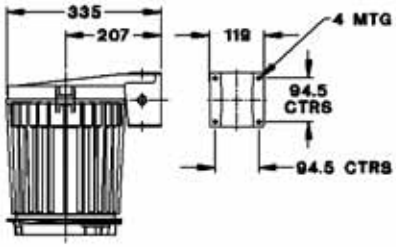




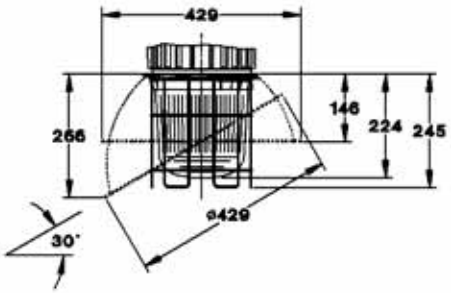
Fixture with RD4A reflector



Wall Mount

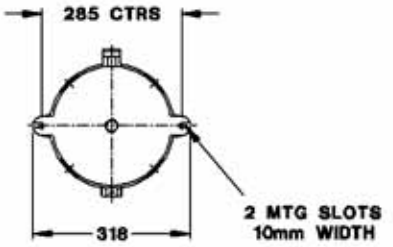


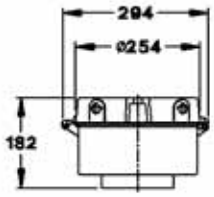
Fixture with globe, guard, reflectors



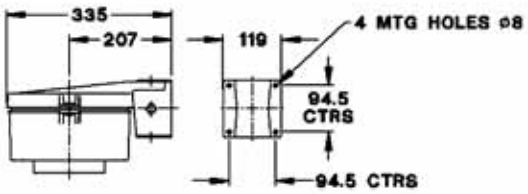
Dimensional Data (Small Body)

Ceiling & Pendant Mount

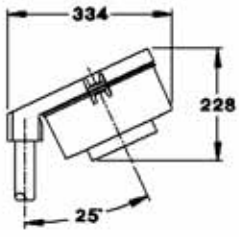




Wall Mount



Stanchion Mount (25° Angle)



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COOPER Crouse-Hinds

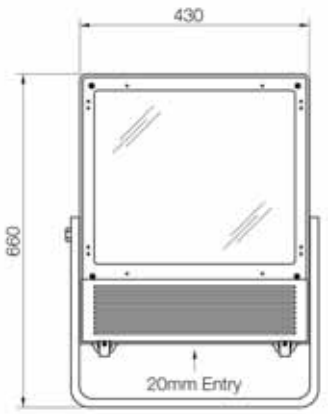
Technical Data

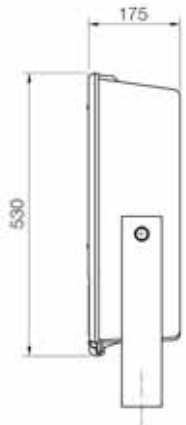
	Zone 2	Zone21/22
Type of Protection	ExnR, DIP	
Degree of Protection	IP66	
Gas Group	IIC	
Approvals	ANZEx 08.3056	
Application	NFMV floodlights are ideal for general illumination in tank farm & open areas	
Standard Materials	Housing & door frame - die cast aluminium Lens - tempered heat and impact resistant glass Exterior hardware - stainless steel	
Entries	2 x M20 & 1 x 3/4”	

Ordering Details

High Pressure Sodium		
NFMVS1MY4060000	T3	400W
NFMVS1MY2560000	T4	250W
NFMVS1MY1560000	T5	150W
NFMVS1MY1060000	T5	100W
NFMVS1MY0760000	T6	70W
Metal Halide		
NFMVM1MY4060000	T3	400W
NFMVM1MY2560000	T4	250W
NFMVM1MY1760000	T4	175W
Mounting Accessories - Slipfitter		
SFA6 (2 1/2" Pipe)	M20	
SFA6 / 2M (2 1/2" Pipe)	M25	
SWB6	WALL BRACKET	

***SFA6 slipfitter adaptor and gland to be ordered seperately**





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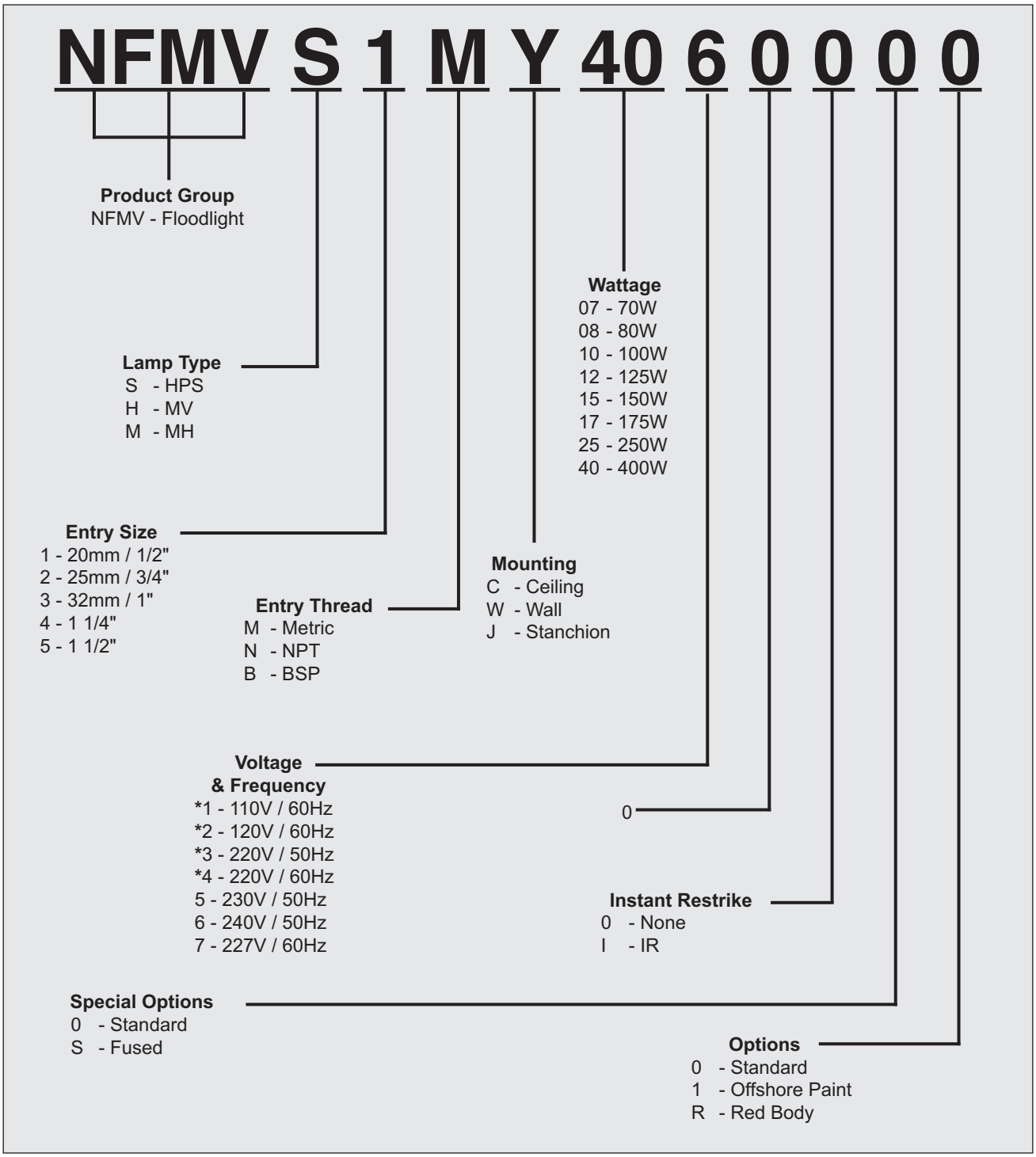
Ordering Details



*Please consult factory for availability

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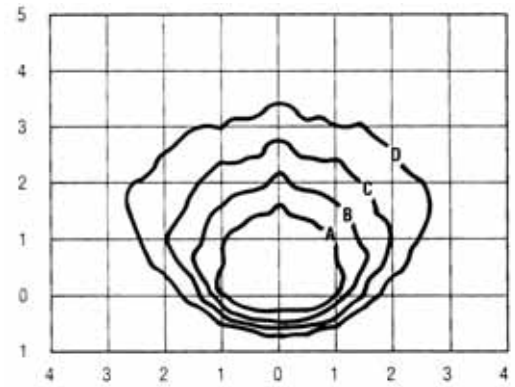
Photometric Data

Lamp: 400W metal halide (M / H)
Total bare lamp lumens: 34,000

For 250 watt clear metal halide, multiply lux values by 0.6



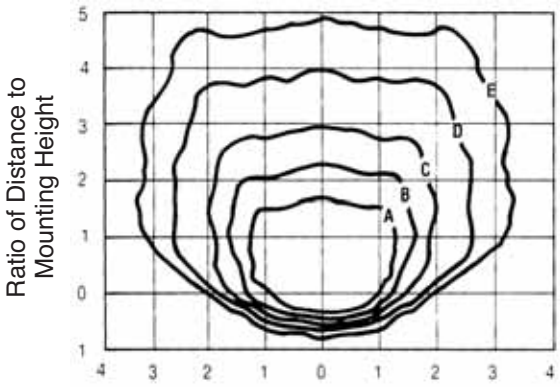
Ratio of Distance to Mounting Feet

Isolux Values at Various Mounting Heights
(Lux values for both charts)

Mounting Height	A	B	C	D	E
5m	86.0	43.0	21.52	8.61	4.30
6m	18.42	24.75	11.84	5.38	2.47
7m	31.20	15.06	7.53	3.23	1.51
9m	21.52	10.76	5.38	2.15	1.08
11m	16.14	7.53	4.30	1.61	0.75
12m	11.84	6.46	3.23	1.18	0.65

Lamp: 400W high pressure sodium (HPS)
Total bare lamp lumens: 50,000

For 150 watt HPS, multiply lux by 0.32. For 250 watt high pressure sodium, multiply lux values by 0.6



Ratio of Distance to Mounting Feet

Fixtures located at 0^0, 0^0
Aiming angle at 45^0

Fixture aiming angle 30^0 past vertical through 60^0 before vertical

EPA Data - Aiming Angle

$0^0 = 2.9$ $30^0 = 2.5$ $45^0 = 2.5$

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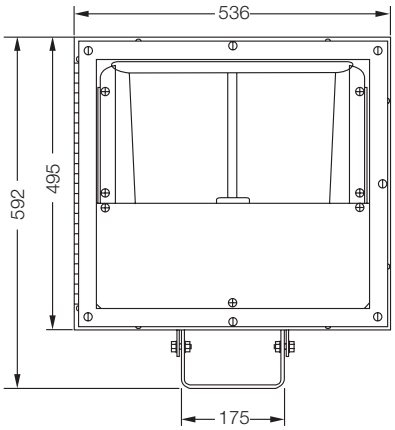
Hazardous Area Lighting - NSSFMV Flood Light

Technical Data

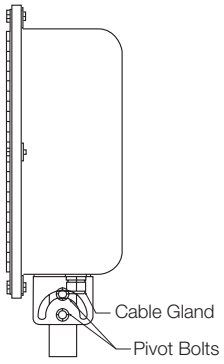
	Zone 2	Zone21/22
Type of Protection	ExnR, ExtD A22, IP66 T*°C	
Degree of Protection	IP66	
Gas Group	IIC	
Approvals	IEC Ex PTB 09.0022	
Application	NSSFMV floodlights are ideal for general illumination in tank farm & highly corrosive areas	
Standard Materials	Housing & door frame - stainless steel SS316 Lens - tempered heat and impact resistant glass Exterior hardware - stainless steel	
Entries	2 x M20	



Ordering Details

High Pressure Sodium		
NSSFMVSY250/240v 50Hz	T3	250W
NSSFMVSY150/240v 50Hz	T4	150W
Metal Halide		
NSSFMVMY250/240v 50Hz	T3	250W
NSSFMVMY150/240v 50Hz	T4	150W
Mounting Accessories - Slipfitter		
SFA6 (2 1/2" Pipe)	M20	
SFA6 / 2M (2 1/2" Pipe)	M25	
SWB6	WALL BRACKET	

***SFA6 slipfitter adaptor and gland to be ordered seperately**



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Plugs & Receptacles

Be it in a Gaseous or Dusty environment, we have the solution for your connectivity.

From switching main current (AC3) to instrumentation we will connect you with our GHG5, FSQA, FNO and our very own Ex-Link series.

Crouse-Hinds, through years of research and development have created sophisticated engineered products that are simple to use for our customers.

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Plugs & Receptacles

FSQA - Exd, DIP, T6 6-2
PP - Exd, DIP, T6 6-2
FNO - Exd, DIP, T6 6-3
PP - Exd, DIP, T6 6-4
GHG - Ex de, T6, Ex tD 6-6
GHG Ex-Link 6-7

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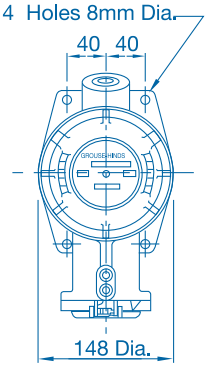
Technical Data

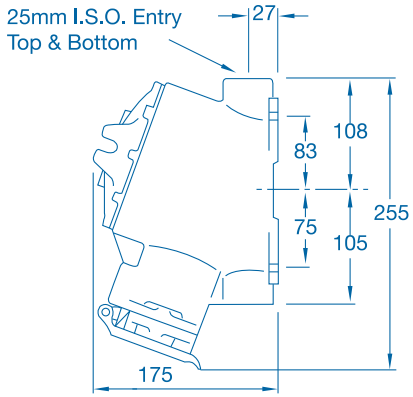
Zone 1	Zone 21	Zone 22

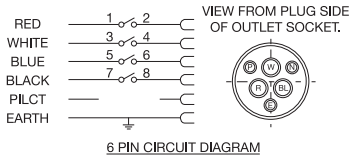
Type of Protection	Exd, DIP, T6
Degree of Protection	IP65
Gas Group	IIB
Approvals	ANZEx 08.3010
Application	FSQA 10-32A interlocked receptacles are used with PP plugs: - To supply power to portable electrical equipment such as power tools, convey-ors, portable pumps, hand lamps and similar equipment
Standard Materials	- Receptacle body - Copper free aluminium - Receptacle sleeve - stainless steel - Pins - brass - Receptacle - Grey polyurethane finish
Size Ranges	As per below table



Ordering Details

Current Rating (A)	No. of Pins (incl. earth)	Voltage	Locking Arrange-ment	Receptacle Catalogue No.	Plug Catalogue No.
10	3	32 V.A.C.	A	**FSQA 103A**	**PP103A**
10	3	240 V.A.C.	B	**FSQA 103B**	**PP103B**
10	3	240 V.A.C.	C	**FSQA 103C**	**PP103C**
10	4	440 V.A.C.	B	**FSQA 104B**	**PP104B**
10	4	440 V.A.C.	C	**FSQA 104C**	**PP104C**
16	3	32 V.A.C.	A	**FSQA 163A**	**PP163A**
16	3	240 V.A.C.	B	**FSQA 163B**	**PP163B**
16	3	240 V.A.C.	C	**FSQA 163C**	**PP163C**
16	6	440 V.A.C.	B	**FSQA 166B**	**PP166B**
16	6	440 V.A.C.	C	**FSQA 166C**	**PP166C**
20	3	32 V.A.C.	A	**FSQA 203A**	**PP203A**
20	3	240 V.A.C.	B	**FSQA 203B**	**PP203B**
20	3	240 V.A.C.	C	**FSQA 203C**	**PP203C**
20	4	440 V.A.C.	B	**FSQA 204B**	**PP204B**
20	4	440 V.A.C.	C	**FSQA 204C**	**PP204C**
20	6	440 V.A.C.	B	**FSQA 206B**	**PP206B**
32	4	440 V.A.C.	B	**FSQA 324B**	**PP324B**
32	4	440 V.A.C.	C	**FSQA 324C**	**PP324C**
32	6	440 V.A.C.	B	**FSQA 326B**	**PP326B**
32	6	440 V.A.C.	C	**FSQA 326C**	**PP326C**





6 PIN CIRCUIT DIAGRAM

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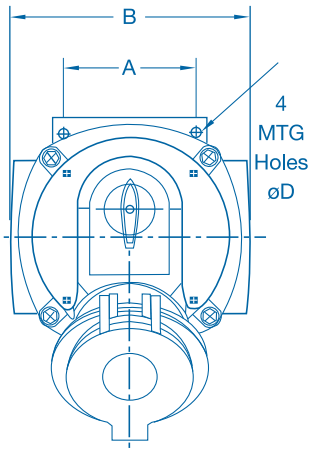
Technical Data

Zone 1	Zone 21	Zone 22

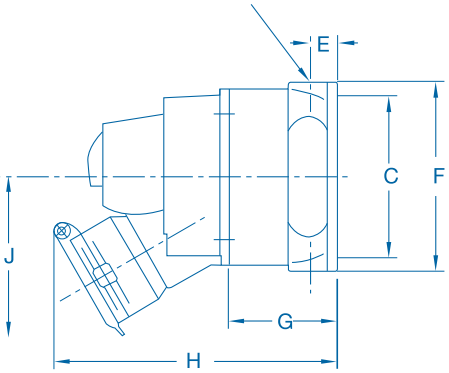
Type of Protection	Exd, DIP, T6
Degree of Protection	IP65
Gas Group	IIB
Approvals	ANZEx 08.3012
Application	FNO 63-100A interlocked receptacles are used with the appropriate PP plug: - To supply power to portable electrical equipment such as power tools, convey-ors, portable pumps, hand lamps and similar equipment
Standard Materials	- Receptacle body - Copper free aluminium - Receptacle sleeve - stainless steel - Pins - brass - Receptacle - Grey polyurethane finish
Size Ranges	As per below table



Ordering Details

Current Rating (A)	No. of Pins (incl. earth)	Voltage	Locking Arrange-ment	Receptacle Catalogue No.	Plug Catalogue No.
63	5	440V AC	C	**FNO635B**	**PP635B**
63	5	440V AC	C	**FNO635C**	**PP635C**
100A	5	440V AC	C	**FNO1005B**	**PP1005B**
100A	5	440V AC	C	**FNO1005C**	**PP1005C**

NOTE: Types A, B and C sockets are not interchangeable and will only accept their respective plugs. However B sockets will also accept C plugs but not visa versa.



Dimensional Data

63-100A	A	B	C	D	E	F	G	H	J	K
	130	235	200	9.5	34	235	135	360	200	40

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Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Exd, DIP, T6
Degree of Protection	IP65
Gas Group	IIB
Approvals	ANZEx 08.3011 & ANZEx 08.3012
Application	PP plugs are used in conjunction with FSQA & FNO explosion proof receptacles: - To supply power to portable electrical equipment such as power tools, conveyors, portable pumps, hand lamps and similar equipment
Standard Materials	Plug Body - Locking arrangement B - stainless steel - Locking arrangements A&C - Gun metal Entry Hub - Gun metal Insulation - phenolic Pins - Brass
Options	Corrosion free powder polyester finish
Size Ranges	As per below table

Ordering Details

Current Rating (A)	No. of Pins (incl. earth)	Voltage	Locking Arrangement	Receptacle Cat No.	Entry Size for Cable Glands
10	3	240 V.A.C.	B	**PP103B**	25mm
10	3	240 V.A.C.	C	**PP103C**	25mm
10	4	440 V.A.C.	B	**PP104B**	25mm
10	4	440 V.A.C.	C	**PP104C**	25mm
16	3	32 V.A.C.	A	**PP163A**	25mm
16	3	240 V.A.C.	B	**PP163B**	25mm
16	3	240 V.A.C.	C	**PP163C**	25mm
16	6	440 V.A.C.	B	**PP166B**	32mm
16	6	440 V.A.C.	C	**PP166C**	32mm
20	3	32 V.A.C.	A	**PP203A**	25mm
20	3	240 V.A.C.	B	**PP203B**	25mm
20	3	240 V.A.C.	C	**PP203C**	25mm
20	4	440 V.A.C.	B	**PP204B**	25mm
20	4	440 V.A.C.	C	**PP204C**	25mm

Current Rating (A)	No. of Pins (incl. earth)	Voltage	Locking Arrangement	Receptacle Cat No.	Entry Size for Cable Glands
20	6	440 V.A.C.	B	**PP206B**	32mm
32	4	440 V.A.C.	B	**PP324B**	25mm
32	4	440 V.A.C.	C	**PP324C**	25mm
32	6	440 V.A.C.	B	**PP326B**	32mm
32	6	440 V.A.C.	C	**PP326C**	32mm
63	5	440 V.A.C.	B	**PP635B**	40mm
63	5	440 V.A.C.	C	**PP635C**	40mm
100	5	440 V.A.C.	B	**PP1005B**	40mm
100	5	440 V.A.C.	C	**PP1005C**	40mm

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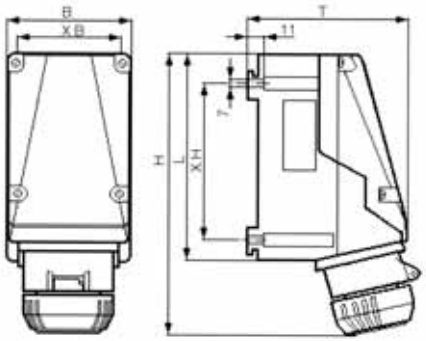
Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex de, T6, Ex tD, A21, T60ºC
Degree of Protection	IP66
Gas Group	IIC
Approvals	IEC Ex BKI04.0002 (16A) IEC Ex BKI04.0006 (32A) IEC Ex BKI04.0004 (63A) IEC Ex BKI04.0005 (125A)
Application	GHG interlocked plugs & receptacles are used: - To supply power to portable electrical equipment such as power tools, convey-ors, portable pumps, hand lamps and sim-ilar equipment
Standard Materials	High impact, corrosion resistant fibre glass re-inforced polyester Factory built internal brass plate for steel wire armoured applications - gland not included with metal entries
Options	Transformer plug

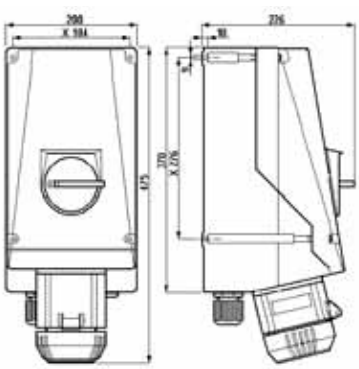
Dimensional Data



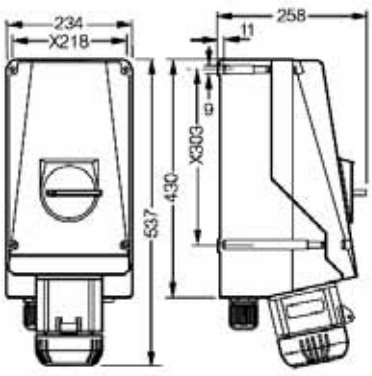
16/32A

16A	Type / No. of Poles		
	3p	4p	5p
B	90	110	110
X B	80	100	100
T	121	147	147
H	223	236	236
X H	115	135	135
L	155	175	175

32A	Type / No. of Poles	
	4p	5p
B	120	120
X B	110	110
T	166	168
H	285	293
X H	170	170
L	205	205



63A



125A

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Ordering Details

Description	Terminal Capacity	Catalogue No.
Switch socket 16A, 2P, 24Vac/dc, 2 x M20	2 x 1.5 - 4 mm²	**GHG5134200R0001**
Plug, 16A, 2P, 24V ac/dc, 9-17mm	1.0 - 4 mm²	**GHG5422200V0000**
Switch socket 16A, 3P, 24Vac/dc, 2 x M20	2 x 1.5 - 4 mm²	**GHG5134312R0001**
Plug, 16A, 3P, 24V ac/dc, 9-17mm	1.0 - 4 mm²	**GHG5422312V0000**
Switch socket 16A, 3P, 110-130Vac, 2 x M20 metal entries	2 x 1 - 4 mm²	**GHG5114304R3001**
Switch coupler, 16A, 3P, 110-130Vac, 8-19mm	2 x 1 - 4 mm²	**GHG5113304R0001**
Plug, 16A, 3P, 110-130Vac, 8-19mm	1 x 1 - 2.5 mm²	**GHG5117304R0001**
Switch socket 16A, 3P, 200-250Vac, 2 x M20 metal entries	2 x 1 - 4 mm²	**GHG5114306R3001**
Switch coupler, 16A, 3P, 200-250Vac, 8-19mm	2 x 1 - 4 mm²	**GHG5113306R0001**
Plug, 16A, 3P, 200-250Vac, 8-19mm	1 x 1 - 2.5 mm²	**GHG5117306R0001**
Switch socket 16A, 4P, 200-250Vac, 2 x M20 metal entries	2 x 1 - 4 mm²	**GHG5114409R3001**
Switch coupler, 16A, 4P, 200-250Vac, 8-21mm	2 x 1 - 4 mm²	**GHG5113409R0001**
Plug, 16A, 4P, 200-250Vac, 8-21mm	1 x 1 - 2.5 mm²	**GHG5117409R0001**
Switch socket 16A, 4P, 380-415Vac, 2 x M20 metal entries	2 x 1 - 4 mm²	**GHG5114406R3001**
Switch coupler, 16A, 4P, 380-415Vac, 8-21mm	2 x 1 - 4 mm²	**GHG5113406R0001**
Plug, 16A, 4P, 380-415Vac, 8-21mm	1 x 1 - 2.5 mm²	**GHG5117406R0001**
Switch socket 16A, 5P, 380-415Vac, 2 x M20 metal entries	2 x 1 - 4 mm²	**GHG5114506R3001**
Switch coupler, 16A, 5P, 380-415Vac, 12-21mm	2 x 1 - 4 mm²	**GHG5113506R0001**
Plug, 16A, 4P, 380-415Vac, 12-21mm	1 x 1 - 2.5 mm²	**GHG5117506R0001**
Switch socket 32A, 4P, 380-415Vac, 2 x M32 metal entries	2 x 4 - 10 mm²	**GHG5124406R3001**
Switch coupler, 32A, 4P, 380-415Vac, 17-28mm	2 x 4 - 10 mm²	**GHG5123406R0001**
Plug, 32A, 4P, 380-415Vac, 17-28mm	1 x 1 - 6 mm²	**GHG5127406R0001**
Switch socket 32A, 5P, 380-415Vac, 2 x M32 metal entries	2 x 4 - 10 mm²	**GHG5124506R3001**
Switch coupler, 32A, 5P, 380-415Vac, 17-28mm	2 x 4 - 10 mm²	**GHG5123506R0001**
Plug, 32A, 5P, 380-415Vac, 17-28mm	1 x 1 - 6 mm²	**GHG5127506R0001**
Switch socket 63A, 4P, 380-415Vac, 2 x M40 metal entries	2 x 4 - 25 mm²	**GHG5144406R3001**
Plug, 63A, 4P, 380-415Vac, 19-34mm	1 x 4 - 16 mm²	**GHG5147406R0001**
Switch socket 63A, 5P, 380-415Vac, 2 x M40 metal entries	2 x 4 - 25 mm²	**GHG5144506R3001**
Plug, 63A, 5P, 380-415Vac, 19-34mm	1 x 4 - 16 mm²	**GHG5147506R0001**
Switch socket 63A, 4P, 600-690Vac, 2 x M40 metal entries	2 x 4 - 25 mm²	**GHG5144405R3001**
Plug, 63A, 4P, 600-690Vac, 19-34mm	1 x 4 - 16 mm²	**GHG5147405R0001**
Switch socket 125A, 4P, 380-415Vac, 2 x M50 metal entries	2 x 4 - 50 mm²	**GHG5154406R3001**
Plug, 125A, 4P, 380-415Vac, 31-55mm	1 x 4 - 35 mm²	**GHG5157406R0001**
Switch socket 125A, 4P, 600-690Vac, 2 x M50 metal entries	2 x 4 - 50 mm²	**GHG5154405R3001**
Plug, 125A, 4P, 600-690Vac, 31-55mm	1 x 4 - 35 mm²	**GHG5157405R0001**
Switch socket 125A, 5P, 380-415Vac, 2 x M50 metal entries	2 x 4 - 50 mm²	**GHG5154506R3001**
Plug, 125A, 5P, 380-415Vac, 31-55mm	1 x 4 - 35 mm²	**GHG5157506R0001**

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COOPER Crouse-Hinds

Technical Data

Zone 1	Zone 2	Zone 21/22

Type of Protection	Ex de, Ex td, A21, T52^{0}C
Degree of Protection	IP66
Gas Group	IIC
Approvals	IECEx BKI 06.005X
Application	Ex-Link is a complete system for safely connecting & disconnecting hazardous area equipment in Zone 1 conditions. Ex-Link is used for direct installation into standard cable entries on hazardous area equipment & junction boxes.
Standard Materials	Refer table

Ordering Details

GHG 57X X X XX R X X 0 X

Product Identifier

Version
1 - 4 pole
4 - 4 pole + PE

Type
1 - Elbow
3 - Coupler
6 - Inlet >200cm^3
7 - Plug
8 - Receptable
9 - Inlet

Crimp Technology
1 - Crimp up to 1.5mm^2
2 - Crimp up to 2.5mm^2
6 - Cage clamp

Coding
01 - 1 h / Ethernet1
02 - 2 h / Bus
03 - 3 h / Special code1
04 - 4 h / 110 V AC 2p + PE
05 - 5 h / 24 V DC 4p + PE1
06 - 6 h / 230 V AC 2p + PE
07 - 7 h / Special code1
08 - 8 h / 24 V DC 4p
09 - 9 h / Special code1
10 - 10 h / 230 V AC 4p + PE1
11 - 11 h / Special code1
12 - 12 h / 24 V AC 2p + PE

Material
0 - Plastic
1 - Stainless steel AISI 316L
2 - Stainless steel AISI 316L for armoured cables
3 - Nickel-plated brass
4 - Nickel-plated brass for armoured cables
5 - Stainless steel AISI 316L NPT
6 - Nickel-plated brass NPT

Accessories
0 - without locking device
8 - Protection cap for plug
9 - with locking device

Dia Connection Cable
1 - 4 – 7,5 mm /12 – 21 mm^2
2 - 7,5 – 11 mm

Please consult factory for availability

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Possible Configurations

	Plastic	Nickel Plated Brass	Stainless steel	Criimp 1.5mm²	Criimp 2.5mm²	Solder	Cage clamp	15cm multi wire 1.5mm²	15cm multi wire 2.5mm²	30cm multi wire 1.5mm²	30cm multi wire 2.5mm²	xx cm multi wire*	Cable etnries dia 4-7.5mm	Cable etnries dia 5-11.5mm	Cable etnries dia 12-21.5mm	M20 x 1.5	1/2" NPT
Plug 4-pole1	X	X	X	X	X	X	X						X	X			
Plug 4-pole + PE	X	X	X	X	X	X							X	X			
Coupler 4-pole	X	X	X	X	X	X	X						X	X			
Coupler 4-pole + PE	X	X	X	X	X	X							X	X			
Plug for armoured cables 4-pole		X	X	X	X	X	X								X		
Plug for armoured cables 4-pole + PE		X	X	X	X	X									X		
Coupler for armoured cables 4-pole		X	X	X	X	X	X								X		
Coupler for armoured cables 4-pole + PE		X	X	X	X	X									X		
Inlet for Ex e enclosure	X	X	X	X	X	X		X	X	X	X	X				X	X
Inlet for Ex d enclosure < 2000 cm³		X	X					X	X	X	X	X				X	X
Inlet for Ex d enclosure > 2000 cm³		X	X					X	X	X	X	X				X	X
Receptacle for Ex e enclosure	X	X	X	X	X	X		X	X	X	X	X				X	X
Receptacle for Ex d enclosure		X	X					X	X	X	X	X				X	X
Elbow for Ex e enclosure	X	X	X													X	X
Elbow for Ex d enclosure		X	X													X	X

Please consult factory or refer to www.ceag.de for further ordering details

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