



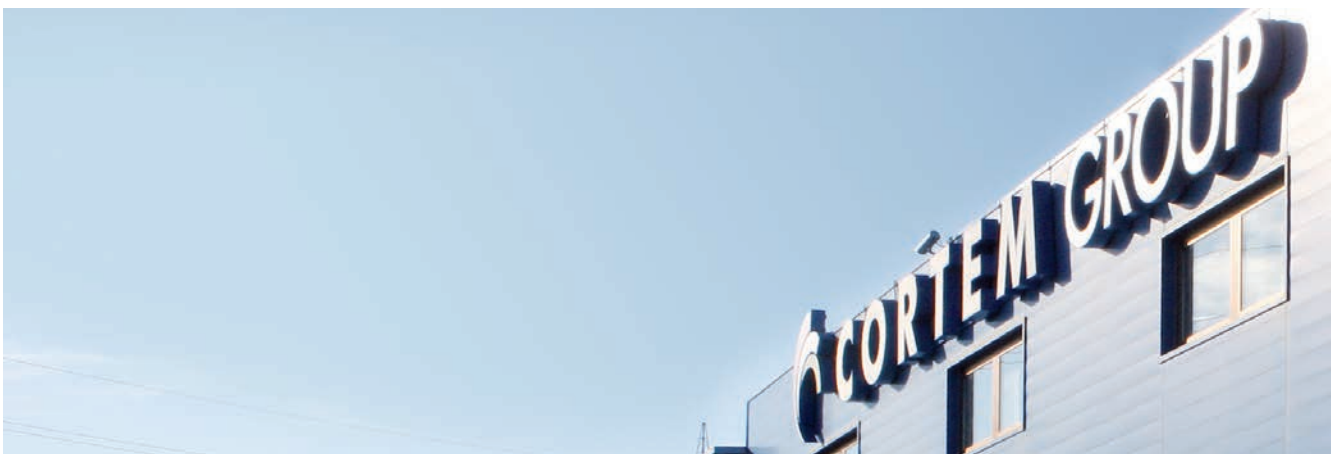
Lighting and signalling

2023

Explosion-protected electrical equipment



To be sure to be safe.



The value of experience



The peculiarity of the Cortem Technology Group is the experience gained in more than 40 years of activity in the Ex field which results not only in the supply of simple Ex-products, but also in engineered and customized solutions.

It was established in 1968 with the acronym "Cor.tem" Costruzioni, Rappresentanze tecniche elettromeccaniche and immediately it specialized in the production of electrical equipment for areas with danger of explosion and fire.

During the '70s Italy and ENI agree to increase their

specialization in the processing of crude oil into finished products.

In the same years, Elfit company was founded in order to carry out some strategic processes internal to the company and to provide the market with complementary lighting products, such as connectors, cable glands, junction boxes.

Since the '90s, thanks to the acquisition of Fondisonzo, company, a competitor in the same market segment, Cortem became soon the technological point of reference for Italian explosion-protected equipment.





Design, Production and Installation

In addition to the on-going research in order to develop innovative products and the process of complying the products with international standards, great attention is addressed to the engineered and customized solutions. We design and manufacture all products internally, with different security methods such as 'Ex d', 'Ex e' increased safety and 'Ex de' mixed, 'Ex n' no sparking, using alloys and plastics of primary quality.

Considering our customers' needs, our R&D department studies the best solution valuating normative and market price issues, plant and security aspects.

Cortem production range can be summarized as follows:

1. Lighting fixtures for LED technology, fluorescent lamps, halogen lamps, sodium vapor, high pressure mercury vapor, metal halide, mixed light. Obstruction lighting fixtures, rechargeable hand-held lamps for tank inspection. Zone 1, 2, 21, 22.

2. Junction and pulling boxes, enclosures for power and control panels, grounding security systems for tankers. Zone 1, 2, 21, 22.

3. Control station, command and control operators, signals, electrical circuits and/or motive power switches, limit switches available in ten different models depending on the type of actuator used Zone 1, 2, 21, 22.





4. Plugs and Sockets up to 125A with disconnecting interlock switch. Zone 1, 2, 21, 22.

5. Ex-protected cable glands, fittings, flexible tubes for the realization of complete electrical systems.

6. Ex-protected switchgear and panel board according to customers' specification.

All our products are manufactured using only aluminum alloys with low copper content which assure a better and more secure mechanical strength and a longer life cycle. For the production of 'Ex e' enclosures are also used polyester resins and AISI 316 L stainless steel.

90% of our production are placed in the Oil & Gas sector both off-shore and on-shore, but also in chemical, pharmaceutical plants and in all those manufacturing areas where the presence of explosive atmospheres may occur such as grain silos, woodworks and paper mills.

Applications include the use of electricity to control a plant with, for example, electrical distribution panel boards, or to light entire areas of production processes.

We invest every year some of our resources to develop innovative products that meet the market needs in terms of cost savings, security and reliability.



Internal organization and territorial presence

We have specific internal departments to support technically tenders for the supply of projects worldwide.

The Area Managers and Project Managers look after the various stages of a supply such as the initial documentation for approval by customer, the monthly reports on the order progress, the testing and the readying of the final Vendor data book.

With more than 30 agencies, 90 distributors, 7 partners

and 3 production centers displaced, Cortem provides a local and qualified presence around the world.

For Cortem “displacing” does not means transferring facilities, resources and know-how in low cost Countries, but replicating a successful model of industrial organization in which environment safety, product quality, compliance with standards, technical and after-sales services are the basics of our corporate mission.





Quality, safety for people and environment

The recognized quality of our products and of our automated control manufacturing systems is one of the principles guiding Cortem Group activities in order to ensure people safety on plants and environment protection.

There's an internal control system of all the productive cycle.

The Quality System conforms to the requirements of UNI EN ISO 9001:2008.

Plant facilities and production procedures meet also the

international standard UNI EN ISO 14001:2004 for the Environmental Management System.

All our Ex-protected products are certified in accordance with the European standard ATEX and International regulation IEC Ex. Furthermore, it's ongoing their regulatory compliance to GOST TR CU standards for the Customs Union GOST TR CU.

Respecting these strict international construction rules, guarantees the safety of people and environment.





"No Fake" Project



During 2012, Cortem has started the project "No Fake". The guarantee of origin against the falsification of products provides the application of an adhesive sticker with a security hologram of a diameter of 2 cm.

The text "TESTED" and the alphanumeric code guarantee the authenticity of the product. Customers can verify the correctness of the alphanumeric code directly on Cortem web site www.cortemgroup.com.





Corporate Identity

We encourage and help the people enterprise within the value of meritocracy assessing the individual capacity.

We are constantly focused on carrying out an excellent product which meets market requirements allowing the Company to grow up.

The Pay Off "to be sure to be safe" represents our pride and passion for what we design and manufacture.

Alessandro Rossi , President



A guide to lighting and signalling catalogue

This catalog, dedicated to lighting and signalling, is organized in order to facilitate the search of products and all the related technical and commercial information.

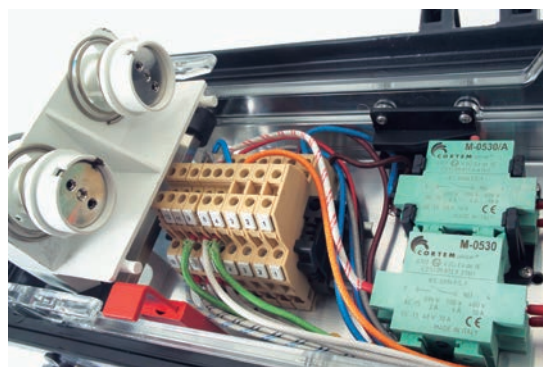
It's divided into two chapters: one chapter dedicated to lighting and one chapter focused on signalling. The catalog shows a colored thumb index which group together products by the type of protection 'Ex d', 'Ex de', 'Ex e', 'Ex i' and 'Ex n'.

On the first page of each product, you will find the series, an image of the product and some structural and functional features.

On the next page, a more detailed description summarizes the main features and a sequence of icons help you to visualize the main application sectors.

A very important part lists the certification data: classification, zones of installation, marking, certificates available, compliance with standards, temperature and degree of protection.

In the next pages you can read: the mechanical and electrical properties, the selection table with the list of available models, the dimensional drawings, a table dedicated to accessories available upon request and spare parts and, finally, the photometric diagram.





How to order

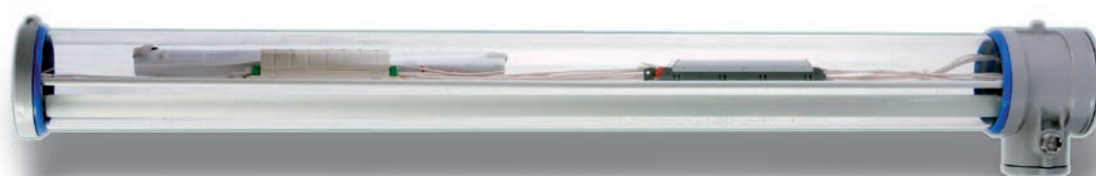
To order a product without getting lost among the many codes which identify a lighting fixture and all its accessories, in every section you'll find a red box.

When ordering you must always indicate:

- the type of lighting fixture, for example:



- codes of accessories upon request with which you want complete the product: the bulb, the cable gland, the type of reflector, the protection guard etc. ... that you will find in the "Accessories and spare parts available on request" section.



DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture FLFE-236	+	Fluorescent tubes LAMPL36W21	+	Installation bracket G-258	+	Guard with external protection G36-0529	+ other...
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Accessories, spare parts and maintenance operation

In the section “Accessories and spare parts available on request” are summarized the accessories available in order to complete the product and the spare parts for maintenance operations.

The icons in the “Key” indicate whether the item is an accessory, a spare part or both.



Please note that the maintenance operations of explosion-protected products must be carried out using only original parts of the manufacturer.

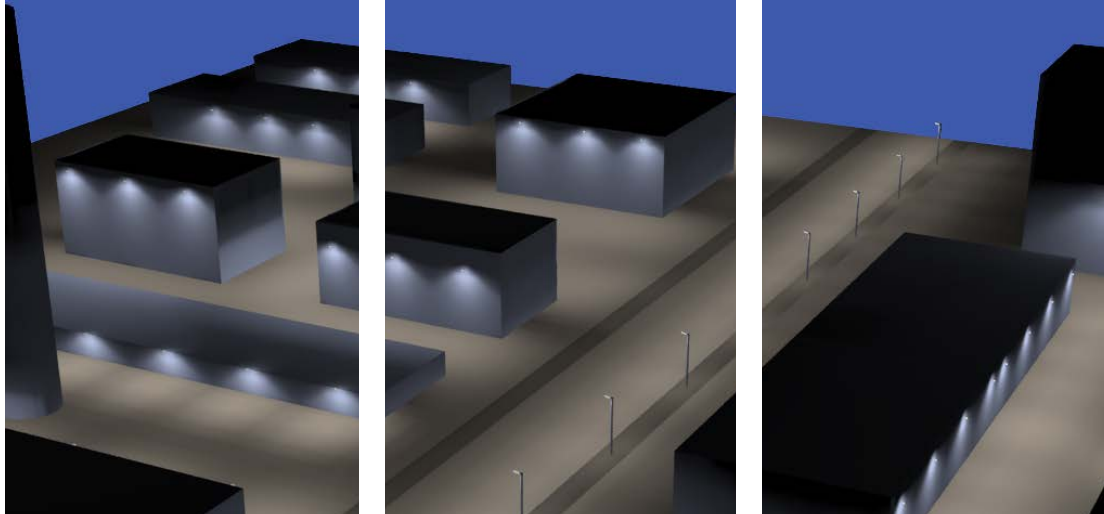
In case of use of non-original spare parts, the product certificate is no longer valid and it's possible that the ex-protection is no longer guaranteed.

One of the most important causes of risk of explosion, could be the wrong maintenance operations of ex-protected equipment.

The safety of equipment is granted over time by con-

tinuous application of maintenance plans, involving a series of activities that we list here below, and, most of all, by efficient personnel training:

- Familiarizing with the standards regulating the identification and classification of hazardous areas.
- Familiarizing with the standards regulating the protection methods of electrical equipment installed in the plant.
- Familiarizing with the applied protection methods.
- Familiarizing with the particular project stages as far as protection methods concerns.
- Recognizing the protection methods by marking labels.
- Identifying the components and spare parts used by the manufacturer.
- Familiarizing with the electrical and mechanical maintenance methods.
- Familiarizing with the tests prescribed for repaired electrical equipment.



Photometric files for lighting projects

Cortem Group provides, upon request, photometric files of its lighting equipment for lighting designs.

These files can be used with LITESTAR lighting design software for internal and external able to make simple and effective the job of lighting designers.

Entering the photometric files of the selected models along with architectural data, you obtain graphs, curves, installation diagrams and a virtual image with the real lighting effect.

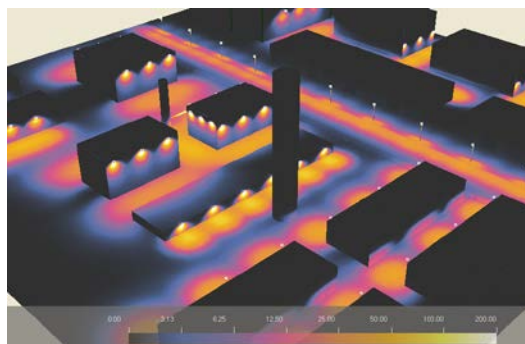
The software, available in several languages , can be free downloaded from www.oxytech.it with the manual of use.

For more information, contact Cortem Sales Offices.

A little more...

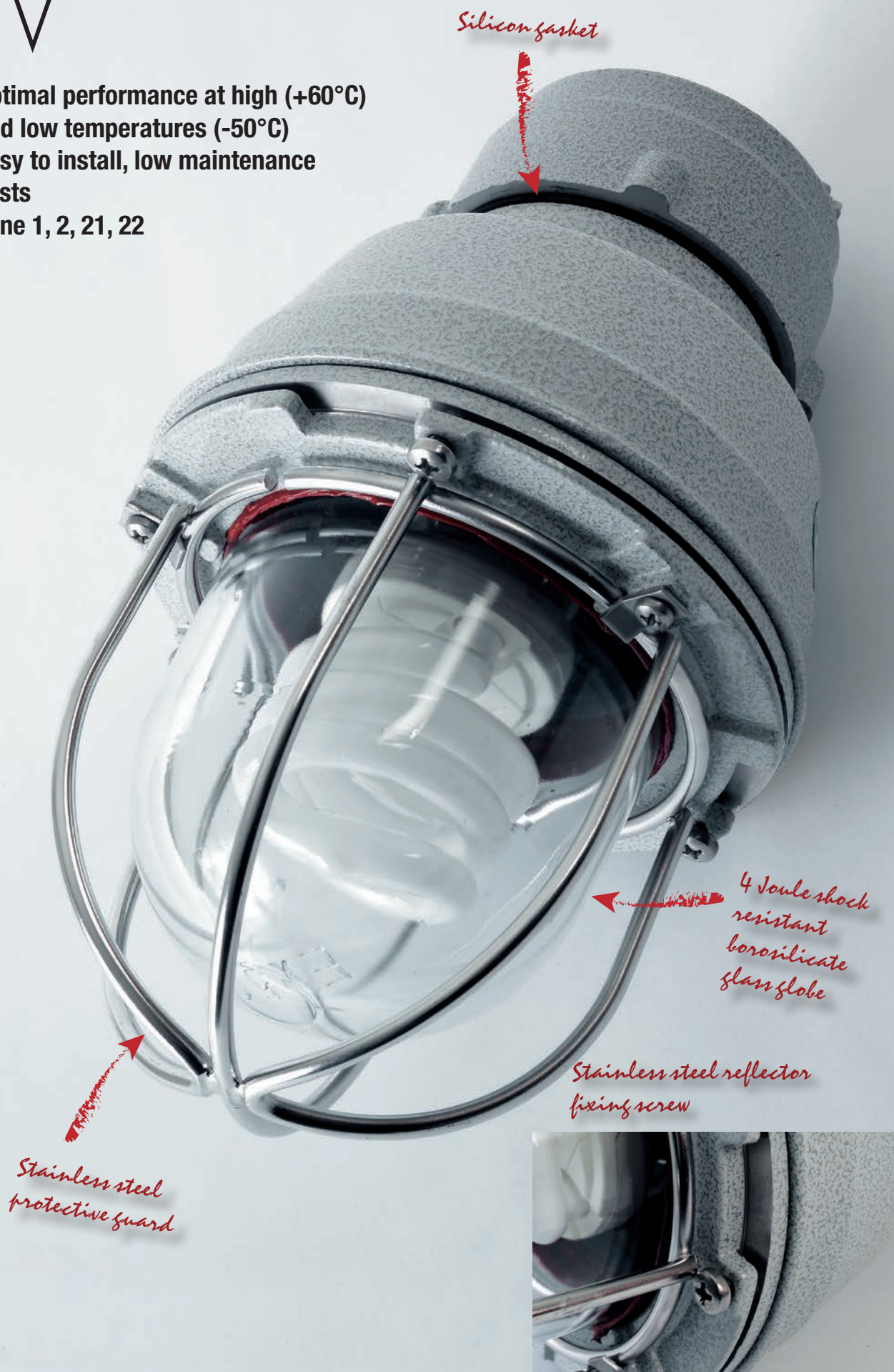
For more information about the Ex-protected world and on the basis of lighting engineering please download from www.cortemgroup.com web site, Product section, Catalogs the following reference materials:

- Guide to the EX world - How to use the electrical equipment in areas with risk of explosion
- Basis of lighting engineering.



EV

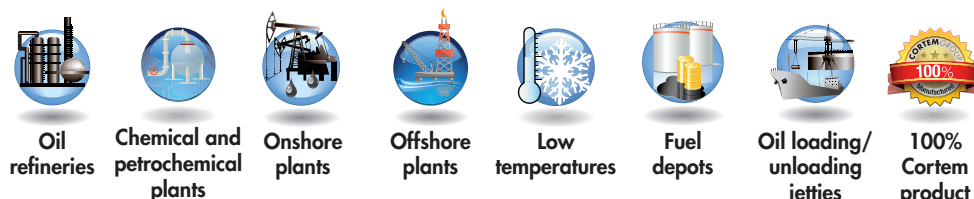
- Optimal performance at high (+60°C) and low temperatures (-50°C)
- Easy to install, low maintenance costs
- Zone 1, 2, 21, 22






EV series Lighting fixtures for traditional and LED lamps

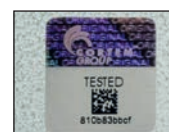
EV series lighting fixtures have been specially designed for use in the petrochemical and oil refining industries as they combine beauty and functionality along with high performance and simplicity in complete compliance with the technological requirements of the "Ex sector". The low copper content aluminium alloy, shockproof borosilicate glass and electropolished stainless steel components make these lighting fixtures ideal for use in environments with corrosive atmospheric agents, salts and industrial pollution. Mechanical characteristics such as ceramic lamp holders with high heat resistance and insulating properties and acid-proof neoprene gaskets guarantee a long working life with little maintenance. Scheduled maintenance work involves simply cleaning the glass that, thanks to its IP66 protection, can be safely cleaned with a wet cloth. As specified in the appropriate installation standard (EN/IEC 60079-14), the entry to the fixture must be only through an Ex "barrier" cable gland (sealed) or, in the case of a conduit system, with an EYS, EZS sealing fittings.

Application sectors



CERTIFICATION DATA

Classification:	Group II	Category 2GD		
Installation:	Zone 1 - Zone 2 (Gas)	Zone 21 - Zone 22 (Dust)		
Marking:	CE 0722 Ex II 2GD Ex d IIC T.. Gb - Ex tb IIIC T..°C Db IP66			
Certification:	ATEX	CESI 12 ATEX 006		
	IEC Ex	CES 07.0004	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com	
	TR CU	AVAILABLE		
Standards:	CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2011, IEC 60079-1: 2007, IEC 60079-31: 2008 European Directive 2004/108 Electromagnetic compatibility European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE European Directive 2011/65/UE RoHS			
Class temperature:		See the selection table		
Ambient temperature::	 -20°C +60°C 			
Degree of protection:	IP66			



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy
Globe:	Shock and temperature resistant borosilicate glass with aluminium shade ring
Gaskets:	Silicone acid/hydrocarbon resistant
Guard:	Electro-polished stainless steel. Can also be supplied on request without a guard as the lighting fixture has passed the glass breakage test (4 Joule EN60079-0 / IEC60079-0)
Mounting:	See "EV series dimensional drawings"
Bolts and screws:	Stainless steel
Entries:	3/4" NPT threads
Coating:	Polyester coating Ral 7035 (Light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)


ELECTRICAL FEATURES

Lamp holder:	E27 or E40 ceramic
Rated voltage:	230 V AC
Rated frequency:	50/60 Hz
Connection:	Direct connection to lamp holder L, N. Section 4mm ²

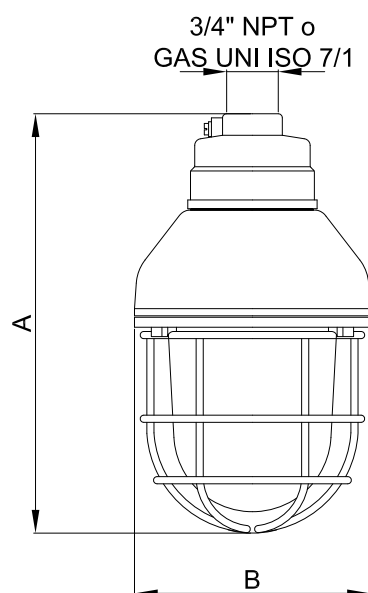
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

LED lamps
External reflector
Cable gland: NAV2NB for armoured cable or NAVB2NB for non-armoured cable
Warning signs: G-0513
GAS UNI ISO 7/1 thread
Different rated voltages

EVA series selection chart Pendant mounting

Code	Dimensions mm		Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max surface temperature °C	Weight kg	 mm
	A	B							
EVA-5050	261	150	AL	E 27	70	T4	123	2,0	160x150x330
EVA-5050	261	150	AL	E 27	105	T3	154	2,0	160x150x330
EVA-5050	261	150	AL	E 27	140	T3	154	2,0	160x150x330
EVA-5050	261	150	ELS	E 27	15	T6	84	2,0	160x150x330
EVA-5050	261	150	LED	E 27	8	T6	74	2,0	160x150x330
EVA-5060	323	170	EL	E 27	23	T5	86	2,7	190x170x390
EVA-5060	323	170	ELS	E 27	23	T5	86	2,7	190x170x390
EVA-5060	323	170	LED	E 27	12	T6	74	2,7	190x170x390

EVA Pendant mounting



Key

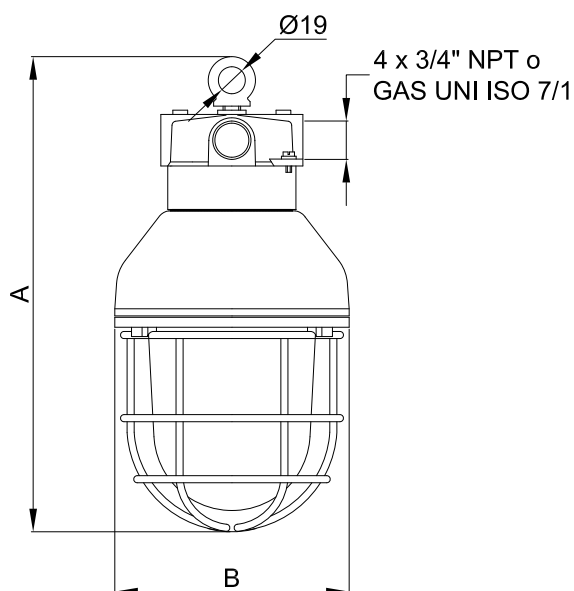
EL = Linear tubes (FBT)
 AL = Halogen (HSGSA)
 ELS = Spiral tubes (FB)
 LED = With LED (DB)

Dimensions in mm

EVGC series selection chart Pendant mounting with eyebolt

Code	Dimension mm		Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max surface temperature °C	Weight kg	
	A	B							
EVGC-5050	296	150	AL	E 27	70	T4	123	2,1	160x150x330
EVGC-5050	296	150	AL	E 27	105	T3	154	2,1	160x150x330
EVGC-5050	296	150	AL	E 27	140	T3	154	2,1	160x150x330
EVGC-5050	296	150	ELS	E 27	15	T6	84	2,1	160x150x330
EVGC-5050	296	150	LED	E 27	8	T6	74	2,1	160x150x330
EVGC-5060	358	170	EL	E 27	23	T5	86	2,8	190x170x390
EVGC-5060	358	170	ELS	E 27	23	T5	86	2,8	190x170x390
EVGC-5060	358	170	LED	E 27	12	T6	74	2,8	190x170x390

EVGC Pendant mounting with eyebolt




Key

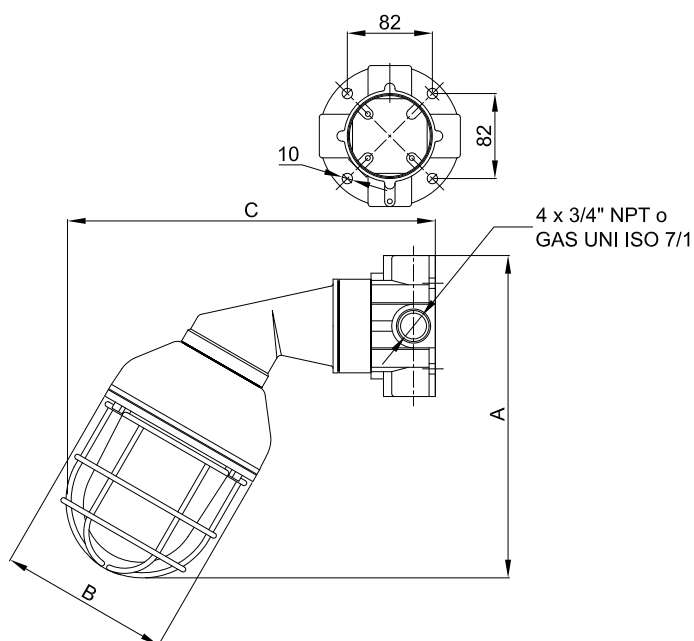
EL = Linear tubes (FBT)
 AL = Halogen (HSGSA)
 ELS = Spiral tubes (FB)
 LED = With LED (DB)

Dimensions in mm

EVIX series selection chart Wall mounting

Coce	Dimensioi mm			Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max surface temperature °C	Weight kg	 mm
	A	B	C							
EVIX-5050	285	150	310	AL	E 27	70	T4	123	2,9	190x170x390
EVIX-5050	285	150	310	AL	E 27	105	T3	154	2,9	190x170x390
EVIX-5050	285	150	310	AL	E 27	140	T3	154	2,9	190x170x390
EVIX-5050	285	150	310	ELS	E 27	15	T6	84	2,9	190x170x390
EVIX-5050	285	150	310	LED	E 27	8	T6	74	2,9	190x170x390
EVIX-5060	339	170	344	EL	E 27	23	T5	86	3,7	260x210x490
EVIX-5060	339	170	344	ELS	E 27	23	T5	86	3,7	260x210x490
EVIX-5060	339	170	344	LED	E 27	12	T6	74	3,7	260x210x490

EVIX Wall mounting with 30° bracket




Key

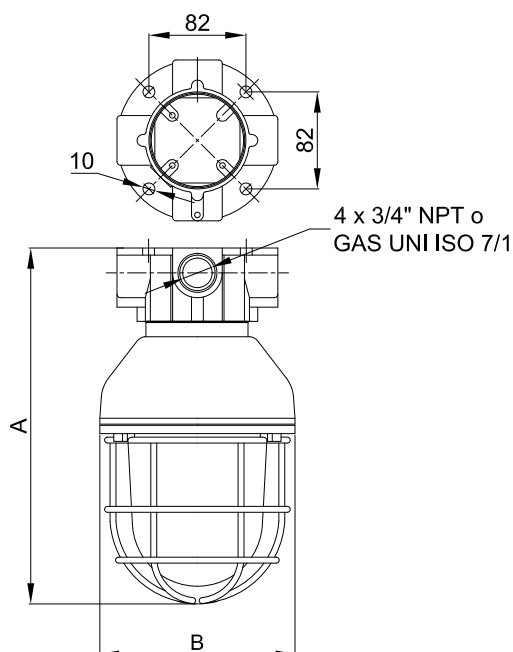
EL = Linear tubes (FBT)
AL = Halogen (HSGSA)
ELS = Spiral tubes (FB)
LED = With LED (DB)

Dimensions in mm

EVX series selection chart Ceiling mounting

Code	Dimension mm		Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max surface temperature °C	Weight kg	 mm
	A	B							
EVX-5050	260	150	AL	E 27	70	T4	123	2,4	160x150x330
EVX-5050	260	150	AL	E 27	105	T3	154	2,4	160x150x330
EVX-5050	260	150	AL	E 27	140	T3	154	2,4	160x150x330
EVX-5050	260	150	ELS	E 27	15	T6	84	2,4	160x150x330
EVX-5050	260	150	LED	E 27	8	T6	74	2,4	160x150x330
EVX-5060	322	170	EL	E 27	23	T5	86	3,2	190x170x390
EVX-5060	322	170	ELS	E 27	23	T5	86	3,2	190x170x390
EVX-5060	322	170	LED	E 27	12	T6	74	3,2	190x170x390

EVX Ceiling mounting



Key

EL = Linear tubes (FBT)
 AL = Halogen (HSGSA)
 ELS = Spiral tubes (FB)
 LED = With LED (DB)

Dimensions in mm

DON'T FORGET TO ORDER THE ACCESSORIES

e.g. Type of lighting fixture
EVX-5060

+

Lamp
LAMPLED12W

+

Dome reflector
G60-427D

+

other... see key
















ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	LED lamp	E27	8 W (DB8W)	LAMPLED8W	 
		E27	12 W (DB12W)	LAMPLED12W	
	Warning signs on request on the frame	50	Materials: Translucent film on plexiglass and aluminium frame	G-0513	 
		60		G-0513/1	
	Emergency Exit	G-0513 G-0513/1	Materials: Translucent film	U-420/P	 
	Emergency Exit on the right			U-420/P1	
	Emergency Exit on the left			U-420/P2	
	Emergency Exit upward			U-420/P3	
	Emergency Exit downward			U-420/P4	

















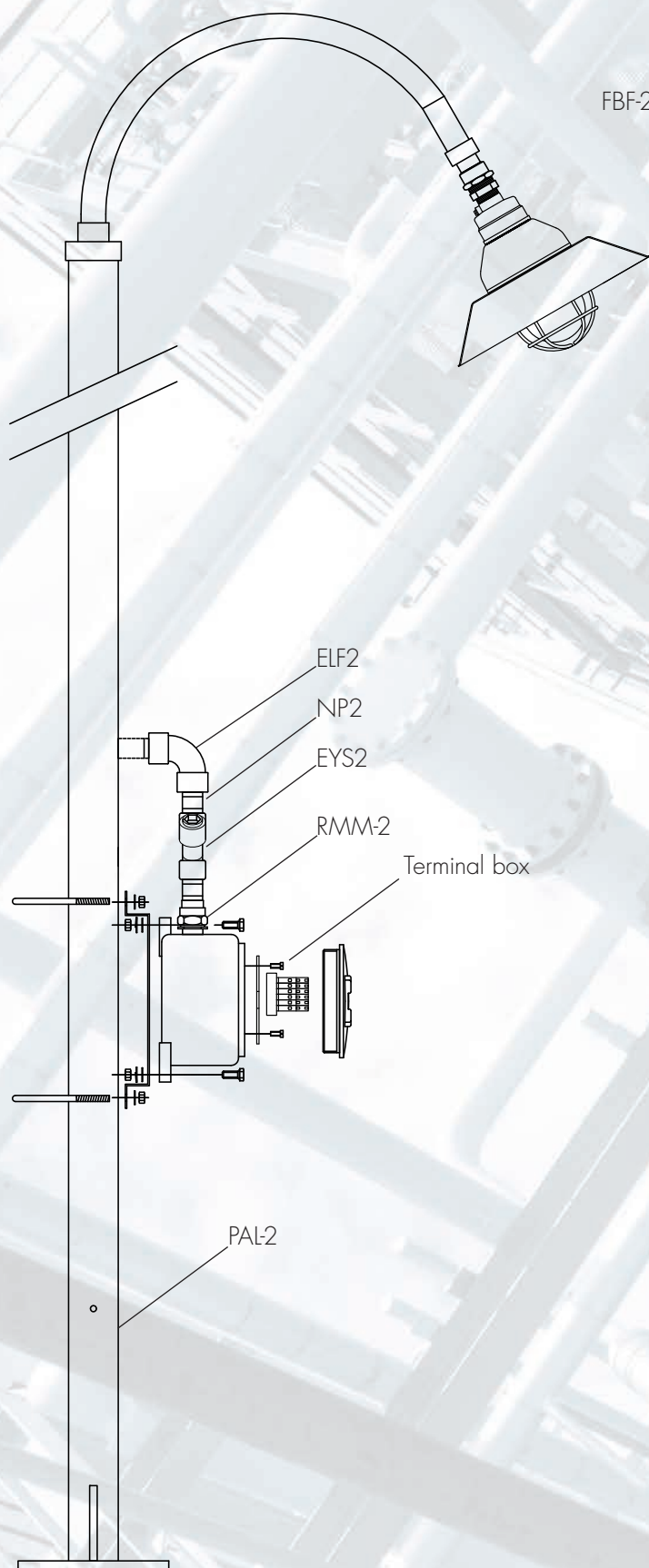
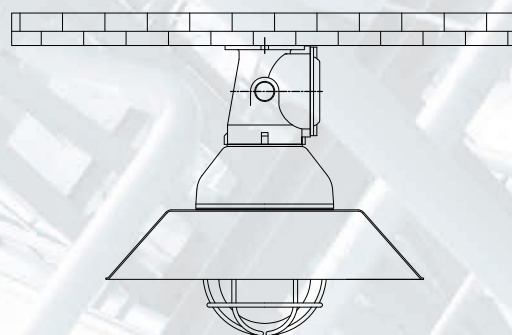
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Cable gland		For models and codes, visit www.cortemgroup.com	NAV2NB NAVB2NB	 
	Reflector	50	White painted aluminium Stainless steel	G50-427 G50-427IN	 
		60	White painted aluminium Stainless steel	G60-427 G60-427IN	
	Dome reflector	50	Contact our Sales Office for availability		 
		60	White painted aluminium	G60-427D	
	30° inclined dome reflector	50	Contact our Sales Office for availability		 
		60	White painted aluminium	G60-427DI	
	Ceramic lamp holder	E27	250V 4A	PORT E-27	
		E40	750V 16A	PORT E-40	
	Protective guard	50	Material: Electro-polished stainless steel	G50-0417	
		60		G60-0417	

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	O-ring	Globo 50	Material: silicone	OR-4512SH70S	
		Globo 60		K15-131S	
	Globe with shade ring	50	Borosilicate glass globe Threaded alu- minium shade ring	G50-0440CM	
		60		G60-0440CM	
	Pendant eyebolt		Material: Galvanised steel	G0F-8	
	Pendant mounting EVA	50	1 x 3/4" Entry	G-0213	
		60			
	Pendant mounting with eyebolt EVGC	50	4 x 3/4" Entries	G-0216	
		60			
	Ceiling mounting EVX	50	4 x 3/4" Entries	G-0214	
		60			
	Wall mounting with bracket EVIX	50	4 x 3/4" Entries	G-0215	
		60			

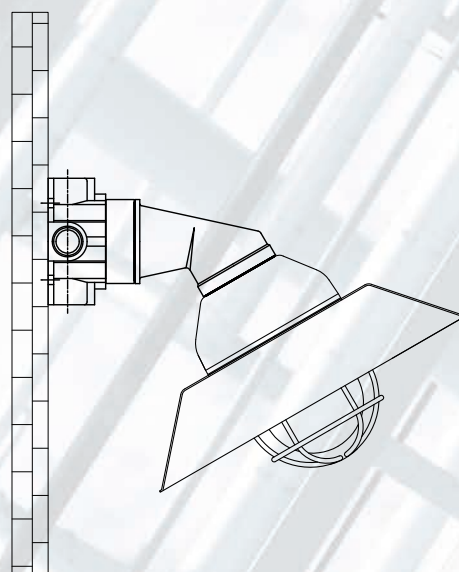
Example of pole mounting

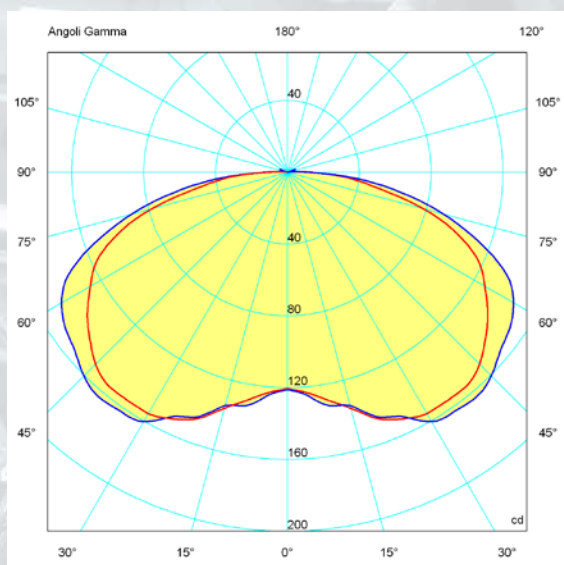


Example of ceiling mounting

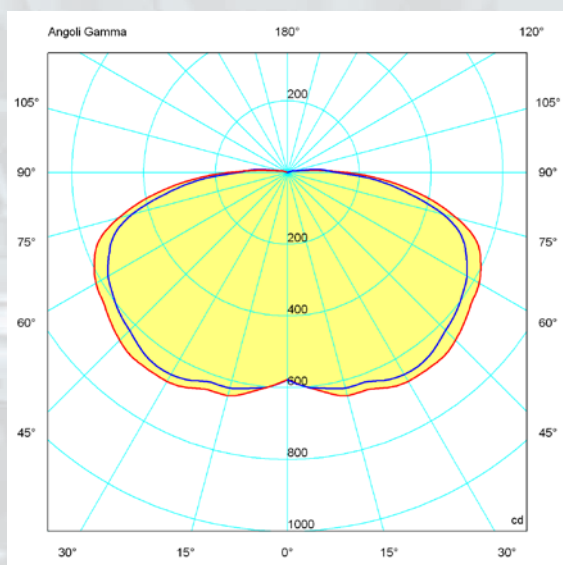


Example of wall mounting

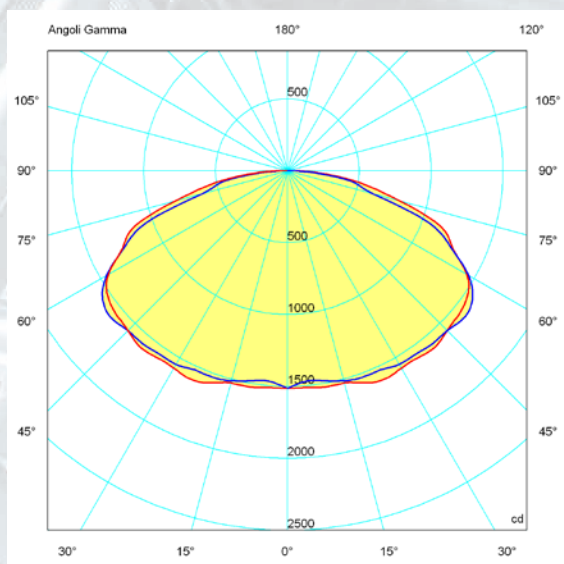




EVE..5060 23W EL



EVE..5060 23W EL



EVE..5060 23W EL

On Cortem Group web site you can download .LDT and .IES lighting data files for the design and simulation of lighting levels in 2D and 3D, rendering and ray tracing.

— = plane 90270
— = plane 0180

CURRENTLY IN PHASE-OUT FLF

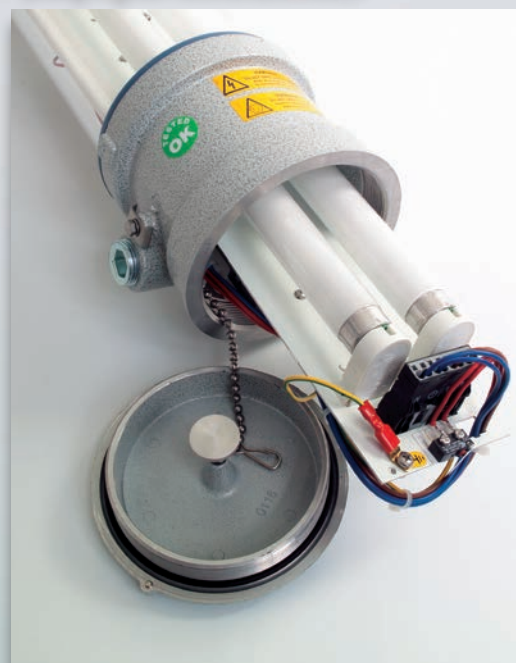
- Zone 1, 2, 21, 22
- Excellent "CX" coefficient
- Easy re-lamping
- Designed to last over time

*4 Joule shock resistant
borosilicate glass*



Simplified maintenance

*Cable
entry*



FLF series Lighting fixtures for fluorescent tubes

FLF series lighting fixtures have two low copper content aluminium heads fitted with G13 lamp holder, a tempered borosilicate glass tube that is resistant to changes in heat and a white painted aluminium reflector. Unlike the FLFE series, as specified in the appropriate installation standard (EN/IEC 60079-14), entry to the fixture must be through an Ex "barrier" cable gland (sealed) or, in the case of a conduit system, with an EYS, EZS series sealing fittings. The round cross section of the lamp provides a better "Cx" coefficient with less resistance to the wind and less accumulation of dust. For this reason, these units are recommended for use in hazardous places where climatic and environmental conditions are severe and as they require less maintenance. FLF series has been designed to facilitate and speed up maintenance operations. As the electrical components are housed on a frame with guides, re-lamping is quick and efficient. The fact that the fixture is fitted with a glass tube as opposed to a plastic material, makes it more effective and with a longer lifespan.

Application sectors:



Oil refineries



Chemical and petrochemical plants



Oil and combustible liquid depots



Offshore plants



Onshore plants



Stair handrails



Chemical Farm produce applications



100% Cortem product

CERTIFICATION DATA

Classificazione:

Group II

Category 2GD

Installation:

zona 1 - zona 2 (Gas)

zona 21 - zona 22 (Dust)

Marking:

CE 0722 Ex II 2GD Ex db IIC T6 Gb Ex tb IIIC T75÷T80°C Db IP66

Certification:

ATEX CESI 09 ATEX 008

IEC Ex CES 11.0021

INMETRO DNV 12.0159

All IEC Ex and INMETRO certification data can be downloaded at www.cortemgroup.com

Standards:

CENELEC EN 60079-0: 2018, EN 60079-1: 2014, EN 60079-7: 2015/A1: 2018, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE
IEC60079-0: 2011, IEC60079-1: 2007, IEC60079-31: 2008
European Directive 2004/108 Electromagnetic compatibility
European Directive 2003/108 WEEE Waste electrical and electronic equipment
European Directive 2011/64 RoHS

Class temperature:



85°C (T6)

Ambient temperature:



Standard
-20°C +55°C



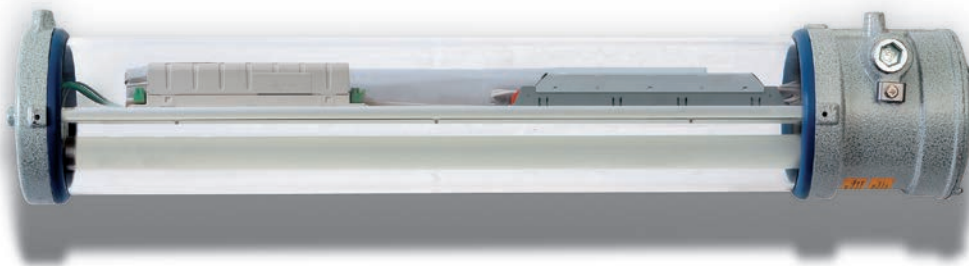
with emergency system
-20°C +50°C



Degree of protection:

IP66

FLF series Lighting fixtures for fluorescent tubes



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy heads
External tube:	Shock and high temperature resistant borosilicate glass
Gaskets:	Acid/hydrocarbon resistant NBR on cover
Inner frame:	White painted aluminium that acts as reflector
Bolts and screws:	Stainless steel
Cap chain:	Stainless steel
Mounting:	Fixture pre-drilled with 2 x M8 holes
Entries:	2 x 3/4" threaded NPT. Fixture set with 1 x PLG2N plug
Coating:	Epoxy coating Ral 7035 (Light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)

ELECTRICAL FEATURES


Lamp holders:	Bi-pin G13
Ballast:	Single channel electronic
Rated voltage:	230 V AC
Rated frequency:	50/60 Hz
Connection:	Direct to internal jumper connections for input/output L, N, Pe section 4 mm ²
Power factor:	0.98
Emergency unit:	Electronic inverter 110/230V, 50/60Hz, 18...58 W. Ni/Cd batteries, 4 Ah or 7 Ah, 6 V, battery charging monitored by high luminosity red LED (estimated LED lifespan 50,000 hours)
Wiring:	Silicone rubber cables with glass braid insulation for high temperatures
Safety:	Emergency safety switch fitted inside lighting fixture

ACCESSORIES AVAILABLE / SPECIAL REQUESTS

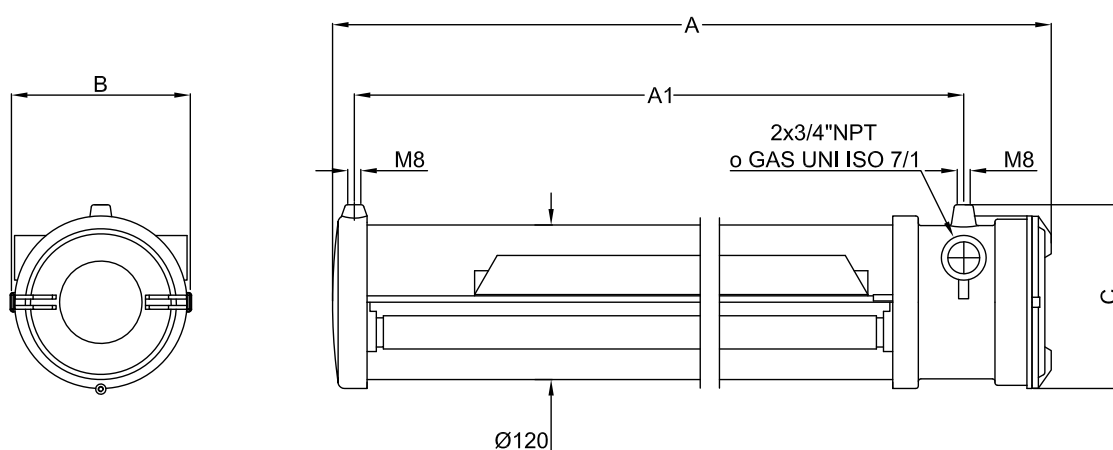
2 pin Ø26 fluorescent tubes model T8
Installation mounting brackets
Stainless steel or galvanized steel guard with external aluminium protection
External aluminium protection recommended for outdoor installations
Re-lamping bracket for use on in-line lighting fixtures
Cable gland: NAV2NB for armoured cable or NAVB2NB for non-armoured cable
Rated voltage: 277 V with double channel electronic ballast (code FLF-236EF4/277)
110/240 V with double channel electronic ballast (code FLF-236EF4S)
GAS UNI ISO 7/1 thread
Can also be supplied in single tube normal operation version: FLF-118 / FLF-136 / FLF-158
Rated voltage: 24 Vdc only for normal operation (Code FLF-118/24)
Execution for compact fluorescent tubes 4 pins only for normal operation (Code FLF-136C e FLF-236C).
Cable entry: 2 x ISO M20 holes. Lighting fixture with 1 model PLG11B plugs (Code FLF-118EF4/20)

FLF series selection chart

Double lamp

Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	
	A	A1	B	C							
FLF-218	725	640	142	145	-	2	230 V 50/60 Hz.	18	-	4,9	240x230x800
FLF-236	1325	1240	142	145	-	2	230 V 50/60 Hz.	36	-	7,3	240x230x1410
FLF-258	1625	1540	142	145	-	2	230 V 50/60 Hz.	58	-	9,6	240x230x1700
FLF-218EF4	725	640	142	145	normal + emergency	2	230 V 50/60 Hz.	18	120'	7,3	240x230x800
FLF-236EF4	1325	1240	142	145	normal + emergency	2	230 V 50/60 Hz.	36	90'	8,6	240x230x1410
FLF-258EF4	1625	1540	142	145	normal + emergency	2	230 V 50/60 Hz.	58	70'	10,4	240x230x1700
FLF-218EF7	725	640	142	145	normal + emergency	2	230 V 50/60 Hz.	18	200'	7,0	240x230x800
FLF-236EF7	1325	1240	142	145	normal + emergency	2	230 V 50/60 Hz.	36	180'	9	240x230x1410
FLF-258EF7	1625	1540	142	145	normal + emergency	2	230 V 50/60 Hz.	58	150'	12,5	240x230x1700


DIMENSIONAL DRAWING



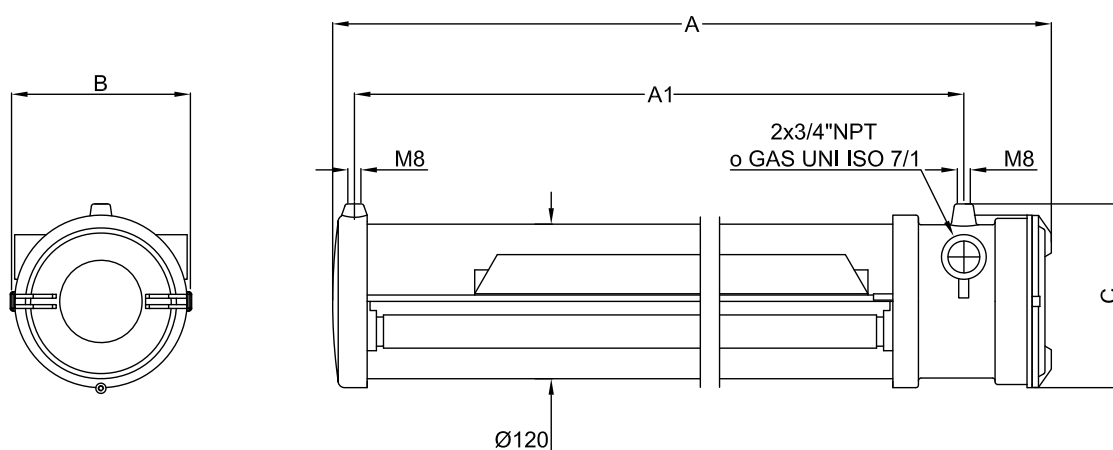
Dimensions in mm

FLF series selection chart

Single lamp

Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	 mm
	A	A1	B	C							
FLF-118EF4	725	640	142	145	normal + emergency	1	230 V 50/60 Hz.	18	120'	5.6	240x230x800
FLF-136EF4	1325	1240	142	145	normal + emergency	1	230 V 50/60 Hz.	36	90'	9.7	240x230x1410
FLF-158EF4	1625	1540	142	145	normal + emergency	1	230 V 50/60 Hz.	58	70'	12.0	240x230x1700
FLF-118EF7	725	640	142	145	normal + emergency	1	230 V 50/60 Hz.	18	200'	6.7	240x230x800
FLF-136EF7	1325	1240	142	145	normal + emergency	1	230 V 50/60 Hz.	36	180'	10.2	240x230x1410
FLF-158EF7	1625	1540	142	145	normal + emergency	1	230 V 50/60 Hz.	58	150'	12.5	240x230x1700
FLF-118EE4	725	640	142	145	emergency	1	110/230 V 50/60 Hz.	18	120'	6.3	240x230x800
FLF-136EE4	1325	1240	142	145	emergency	1	110/230 V 50/60 Hz.	36	90'	9.7	240x230x1410
FLF-158EE4	1625	1540	142	145	emergency	1	110/230 V 50/60 Hz.	58	70'	12.0	240x230x1700
FLF-118EE7	725	640	142	145	emergency	1	110/230 V 50/60 Hz.	18	200'	6.7	240x230x800
FLF-136EE7	1325	1240	142	145	emergency	1	110/230 V 50/60 Hz.	36	180'	10.2	240x230x1410
FLF-158EE7	1625	1540	142	145	emergency	1	110/230 V 50/60 Hz.	58	150'	12.5	240x230x1700

DIMENSIONAL DRAWING



Dimensions in mm

DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture +
FLF-236

Fluorescent tubes
LAMPL36W21

+










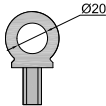


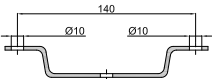


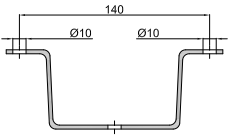


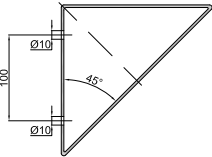


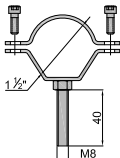





Installation bracket
G-258

+

other... see key



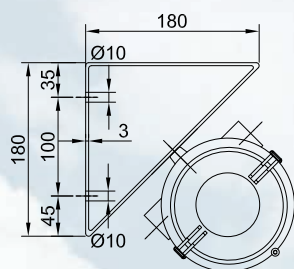
FLF series Accessories and spare parts available on request

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Tri-phosphor fluorescent tubes G13 fitting 3.000K	18 W	1350 lm (FD18W)	LAMPL18W21	 
		36 W	3350 lm (FD36W)	LAMPL36W21	
		58 W	5200 lm (FD58W)	LAMPL58W21	
	Compact fluorescent tubes 2G11 fittings	36 W	2700 lm	LAMP-PLL36W	 
	Tige	Lunghezza: 250 mm	Material: stainless steel	BRF8MIN/250	 
	Type O eyebolt		Material: galvanised steel	GOF-8	 
	Type U bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0609	 
	Type V bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0610	 
	Type D bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0611	 
	Type P bracket		Material: galvanised steel	G-0480	 
	Guard with Light blue/white painted 10/10 aluminium external protection	18 W	Stainless steel guard	G18-0529	 
		36 W		G36-0529	
		58 W		G58-0529	
		18 W	Galvanised steel guard	G18-0529G	
		36 W		G36-0529G	
		58 W		G58-0529G	

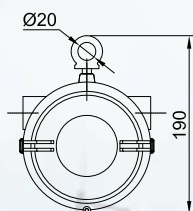
FLF series Accessories and spare parts available on request

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	External protection	18W	Light blue/white painted 10/10 aluminium external protection	G18-568	 
		36W		G36-568	
		58W		G58-568	
		18W	10/10 stainless steel AISI 304 external protection	G18-568IN	
		36W		G36-568IN	
		58W		G58-568IN	
	Cable gland		For models and codes, visit www.cortemgroup.com	NAV2NB NAV2NB	 
	Reflector inner frame	2 x 18 W	Painted 20/10 aluminium	G18-567	
		2 x 36 W		G36-567	
		2 x 58 W		G58-567	
		1 x 18 W		G18-661	
		1 x 36 W		G36-661	
		1 x 58 W		G58-661	
	Battery pack		4 Ah 6V NiCd	BATT4AH/D	
			7 Ah 6V NiCd	BATT7AH/D	
	Electronic ballast	2 x 18 W 2 x 36 W	230 V 50/60 Hz	RV-236	
		1 x 18 W 1 x 36 W		RV-136	
		2 x 58 W		R-258P	
		1 x 58 W		R-158P	
	Electronic inverter		110/230 V 50/60 Hz	INVERTER	
	Lamp holder	FLF-1..	G13 250 V, 4 A	STU3249-12/S	
		FLF-2..			
	Re-lamping bracket with clip system for use on in-line lighting fixtures		Material: galvanised steel	G-0318 + G-0318/1	 

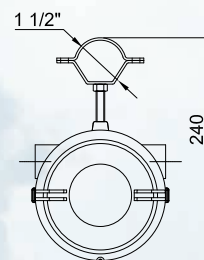




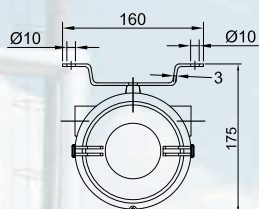
**45° angle mounting
TYPE "D"**



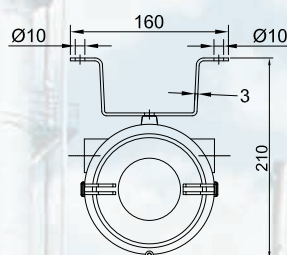
**Pendant mounting with
eyebolt TYPE "O"**



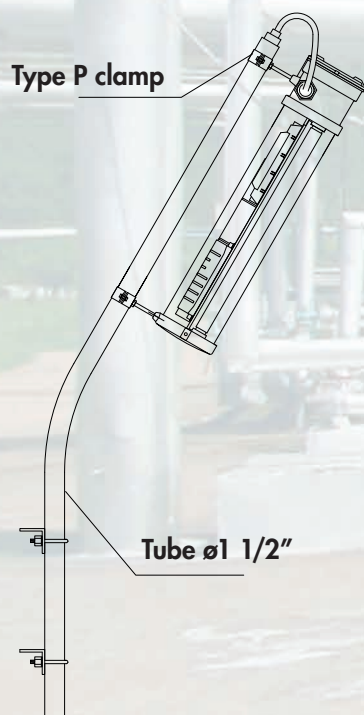
**Mounting using 1.1/2"
metal clamps TYPE "P"**



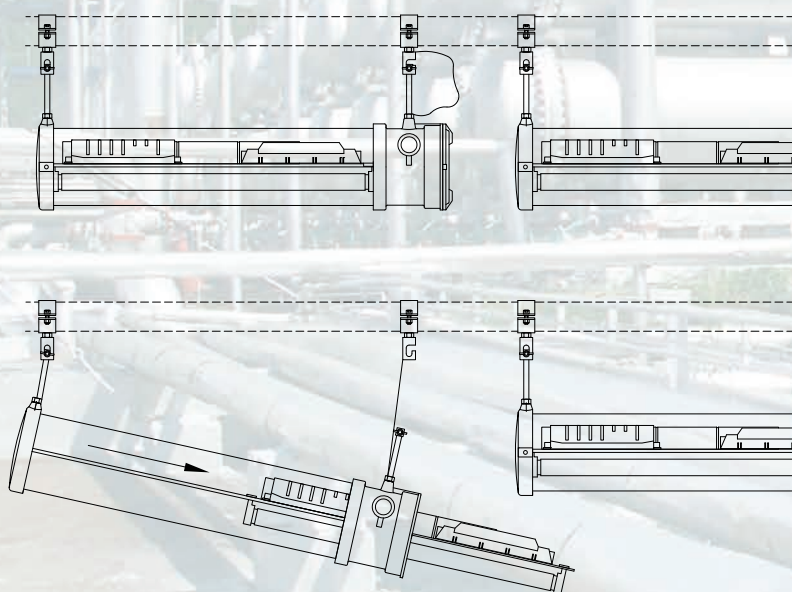
**Low ceiling mounting with
clamp TYPE "U"**



**High ceiling mounting with
clamp TYPE "V"**

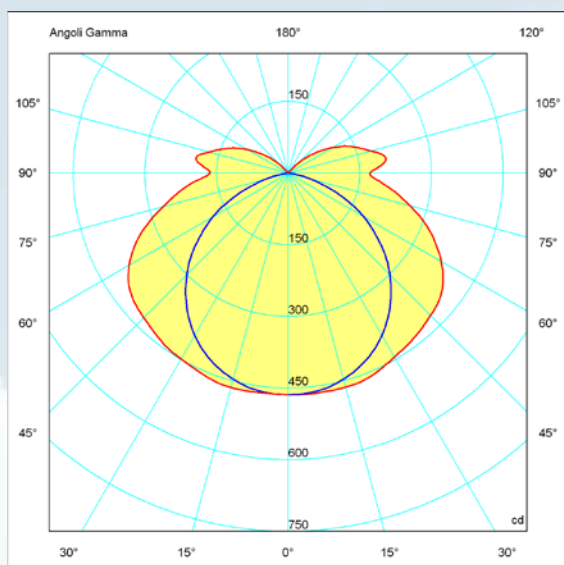


**Pole mounting for FLF... with
barrier cable gland**

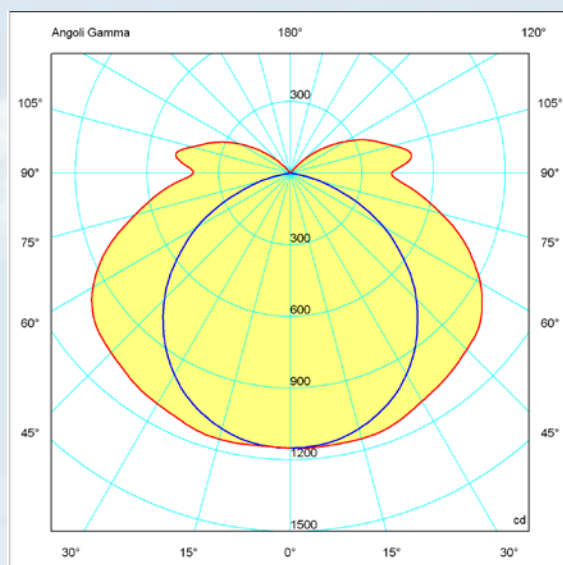


**Mounting system with quick release clip for easy
fluorescent tube replacement. System suitable for
installing in-line lighting fixtures.**

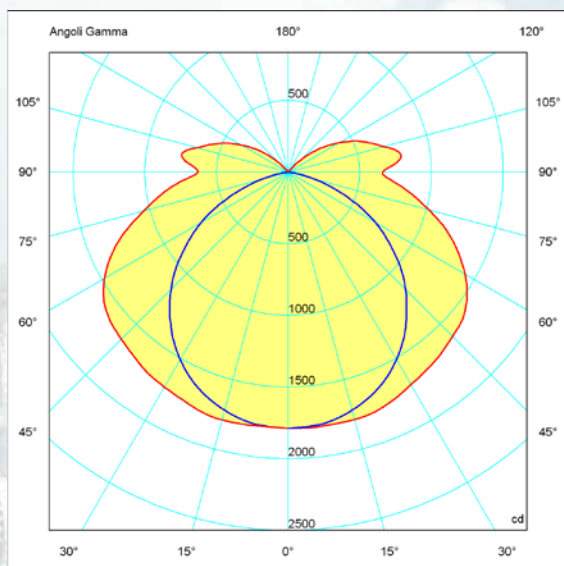
Dimensioni in mm



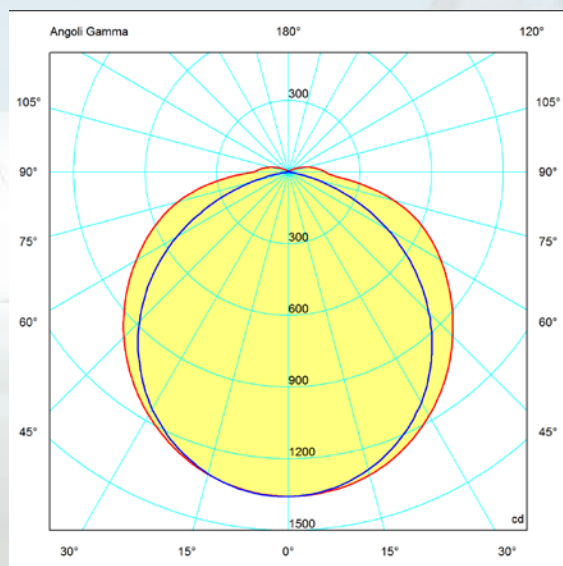
FLF-218



FLF-236



FLF-258



FLF-222

On Cortem Group web site you can download .LDT and .IES lighting data files for the design and simulation of lighting levels in 2D and 3D, rendering and ray tracing.

— = plane 90270
— = plane 0180

CURRENTLY IN PHASE-OUT EVFD

- Constant lighting performance
- Long range light diffusion



EVFD series Lighting fixtures for fluorescent tubes

As their high mechanical resistance, EVFD fluorescent lighting fixtures are recommended for use in all those hazardous areas where the atmosphere is constantly contaminated with fumes, gases and dusts. These units have been designed to provide the even distribution of light without taking up the limited vertical space available. The specially curved reflector and the transparency of the tempered glass tube combine to allow light to diffuse over a wide range and provide more pleasant, less tiring working conditions. All the electrical components are housed in an aluminium "enclosure" that can be easily removed from the fixture for maintenance work. Simply cleaning the glass tube ensures constant excellent illumination over time. As specified in the appropriate installation standard (EN/IEC 60079-14), the only "entry" to the fixture must be through an Ex "barrier" cable gland (sealed) or, in the case of a conduit system, with an EYS, EZS series sealing fitting. EVFD series lighting fixtures come in single or twin lamp versions. The twin lamp versions and connecting kits are only supplied following a specific request from the customer.

Application sectors



CERTIFICATION DATA

Classification:	Group II	Category 2GD		
Installation:	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
Marking:	CE 0722 Ex II 2GD Ex d IIC T5/T6 - Ex tD A21 IP 66			
Certification:	ATEX	CESI 03 ATEX 098		
Standards:	CENELEC EN 60079-0: 2006, EN 60079-1: 2004, EN 61241-0: 2006, EN 61241-1: 2004, EN 60598-1:2008+A11:2009, EN 60598-2-1_1989, EN 61547: 2009 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2004, IEC 60079-1: 2007, IEC 61241-0: 2004, IEC 61241-1: 2004 European Directive 2004/108 Electromagnetic compatibility European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE European Directive 2011/65/UE RoHS			
Class temperature:	100°C (T5)			
Ambient temperature:	-20°C +55°C			
Degree of protection:	IP66			

EVFD series Lighting fixtures for fluorescent tubes



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy
External tube:	Shock and high temperature resistant borosilicate glass
Seal:	Silicone resin between the aluminium heads and the glass tubes
Gaskets:	Acid/hydrocarbon resistant NBR
External reflector:	White painted galvanised steel
Bolts and screws:	Stainless steel
Mounting:	2 x galvanised steel brackets with Ø9 slots
Entries:	3 x 3/4" threaded NPT. Fixture complete with 2 x PLG2NA aluminium plugs
Coating:	Polyester coating Ral 7035 (Light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)


ELECTRICAL FEATURES

Lamp holder:	Bi-pin G13
Ballast:	Electronic
Rated voltage:	230 V AC
Rated frequency:	50/60 Hz
Connection:	Direct to the terminal board L, N, Pe section 4 mm ² terminal board with jumpers for input/output (only for 18 W and 36 W)
Power factor:	0.98
Wiring:	Silicone rubber cables with glass braid insulation for high temperatures

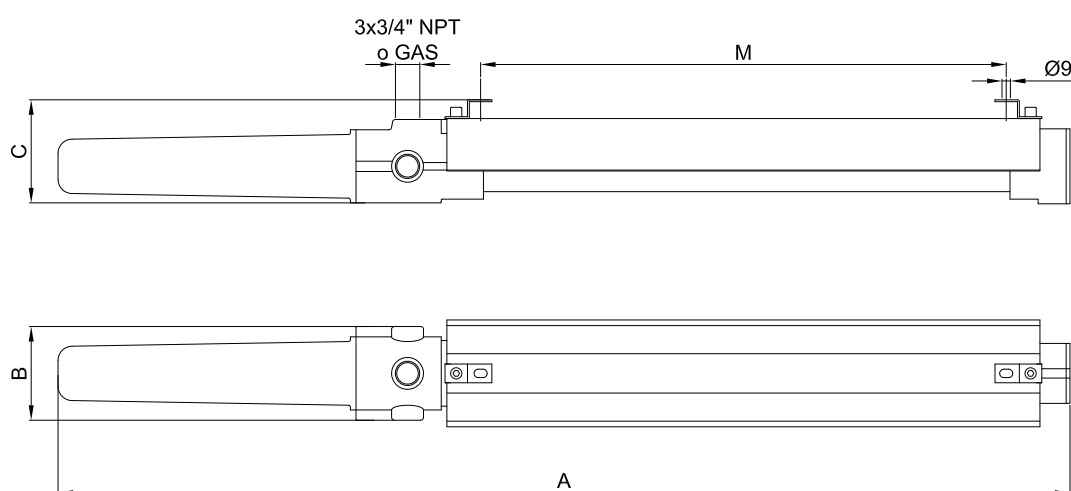
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

2 pin Ø26 fluorescent tubes model T8
 Installation mounting brackets
 Stainless steel external reflector
 Stainless steel guard
 Re-lamping bracket for use on in-line lighting fixtures
 Cable gland: FB2NBK for armoured cable or FGAB2NBK for non-armoured cable
 GAS UNI ISO 7/1 thread

EVFD series selection chart

Code	Dimensions mm				Type of ballast N	N° of lamps	Power supply	Watt	Weight kg	 mm
	A	B	C	M						
EVFD-118EB	1080	114	110	561	single channel electronic	1	230 V 50/60 Hz	18	3,7	1175x120x155
EVFD-136EB	1690	114	110	1173	single channel electronic	1	230 V 50/60 Hz	36	5,2	1790x120x155
EVFD-158EB	1990	114	110	1473	single channel electronic	1	230 V 50/60 Hz	58	6,3	2090x120x155

DIMENSIONAL DRAWING



Dimensions in mm

DON'T FORGET TO ORDER THE ACCESSORIES

e.g. Type of lighting fixture +
EVFD-118EBFluorescent tubes
LAMP-L18W233

+

Installation bracket
G-258

+







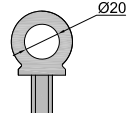


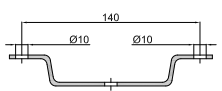
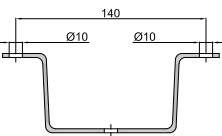
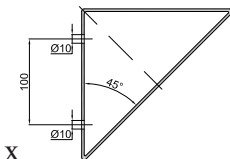
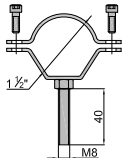











Cable gland
FL2BK

+

other... see key

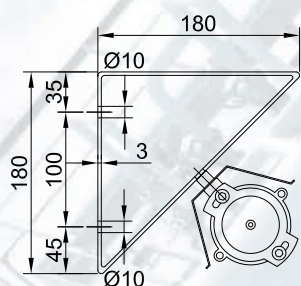


EVFD series Accessories and spare parts available on request

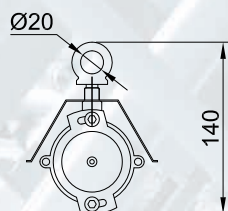
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Tri-phosphor fluorescent tubes G13 fitting 3.000K	18 W (FD18W)	1350 lm	LAMPL18W21	 
		36 W (FD36W)	3350 lm	LAMPL36W21	
		58 W (FD58W)	5200 lm	LAMP L58W21	
	Tige	Lunghezza: 250 mm	Material: stainless steel	BRF8MIN/250	 
	Type O eyebolt		Material: galvanised steel	G0F-8	 
	Type U bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0609	
	Type V bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0610	
	Type D bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0611	
	Type P bracket		Material: galvanised steel	G-0480	
	Cable gland		For models and codes, visit www.cortemgroup.com	FB2NBK FGAB2NBK	 
	Guard	EVFD-118EB	AISI 316L stainless steel Electro-polished	G118-0418S	 
		EVFD-136EB		G136-0418S	
		EVFD-158EB		G158-0418S	
	Stainless steel reflector	EVFD-118EB	Stainless steel plate	G118-455IN	 
		EVFD-136EB		G136-455IN	
		EVFD-158EB		G158-455IN	
	Standard reflector	EVFD-118EB	White painted galvanised steel	G118-455	
		EVFD-136EB		G136-455	
		EVFD-158EB		G158-455	

EVFD series Accessories and spare parts available on request

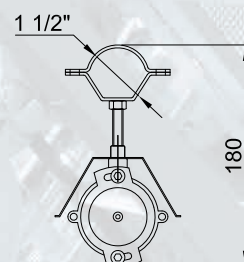
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Assembly for glass tubes for normal lamps	EVFD-118EB	Completely assembled glass tubes with head, tensioners, lamp holder and bushes	G118-0411CM	
		EVFD-136EB		G136-0411/1	
		EVFD-158EB		G158-0411/1	
	Reduction bush for fluorescent tube insertion		Material: Black polypropylene	G-276	
	Lamp holder	G13	250V - 4A cable kit	G-0392...	
	Re-lamping bracket with clip system for use on in-line lighting installation		Material: galvanised steel	G-0318 + G-0318/1	 
	Electronic ballast	EVFD-118EB	230V	RV-136	
		EVFD-136EB		RV-136	
		EVFD-158EB		RV-158	



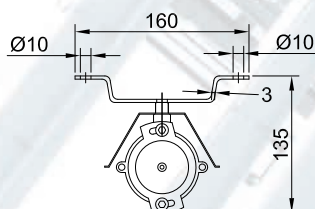
**45° angle mounting
TYPE "D"**



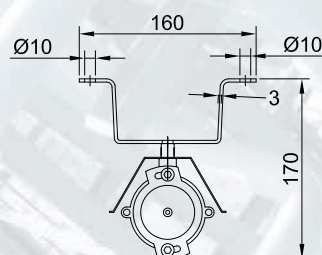
**Pendant mounting
with eyebolt TYPE "O"**



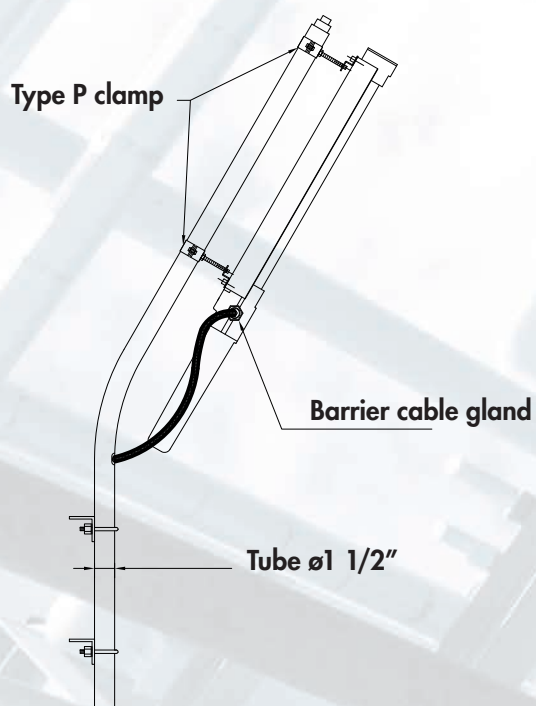
Mounting using 1.1/2" metal clamps TYPE "P"



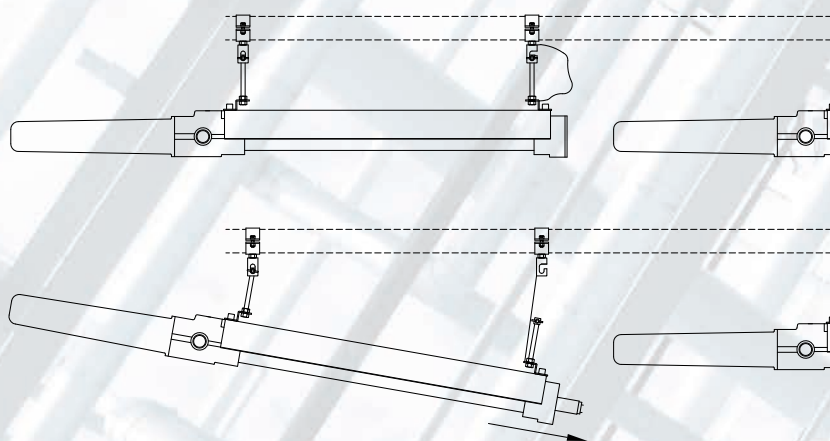
**Low ceiling mounting with
clamp TYPE "U"**



**High ceiling mounting with
clamp TYPE "V"**



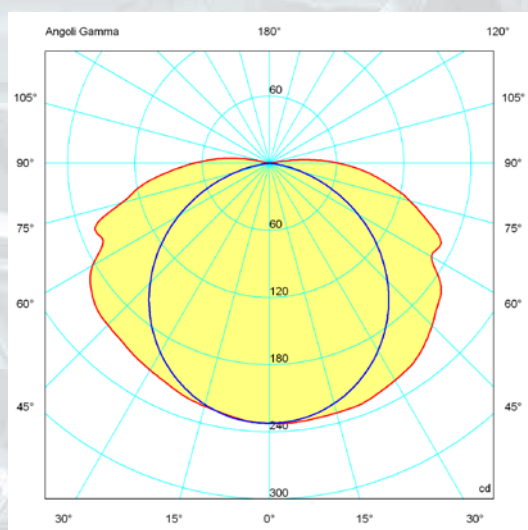
**Pole mounting for EVFD...
with cable gland**



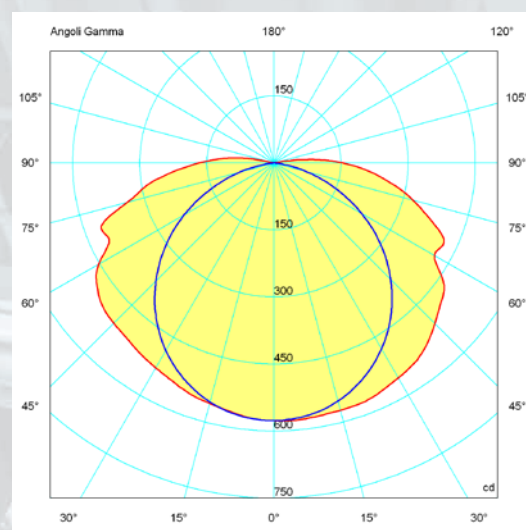
**Mounting system with quick release clip for easy
fluorescent tube replacement. System adopted for
installing in-line lighting fixtures.**

Dimensions in mm

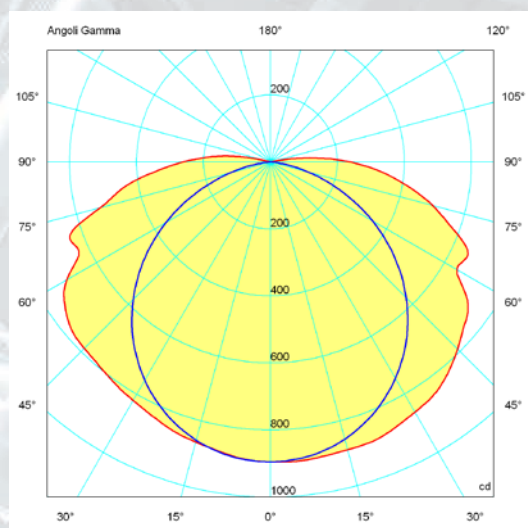
Photometric diagrams



EVFD-118EB



EVFD-136EB



EVFD-158EB

On Cortem Group web site you can download .LDT and .IES lighting data files for the design and simulation of lighting levels in 2D and 3D, rendering and ray tracing

— = plane 90270
— = plane 0180

FHL

- Zones 1, 2, 21, 22
- Integrated electronic ballast
- Power supply 24 V DC
- Compact 24/36 W fluorescent tube
- Degree of protection IP66

*Body in
aluminium*

*Polycarbonate
tube*

*Guard in
stainless steel*

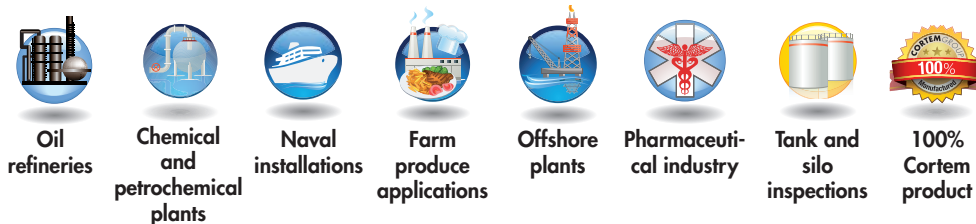
*Suitable for 4-pin
fluorescent tubes*

Stainless steel hook

FHL series Portable inspection lamp

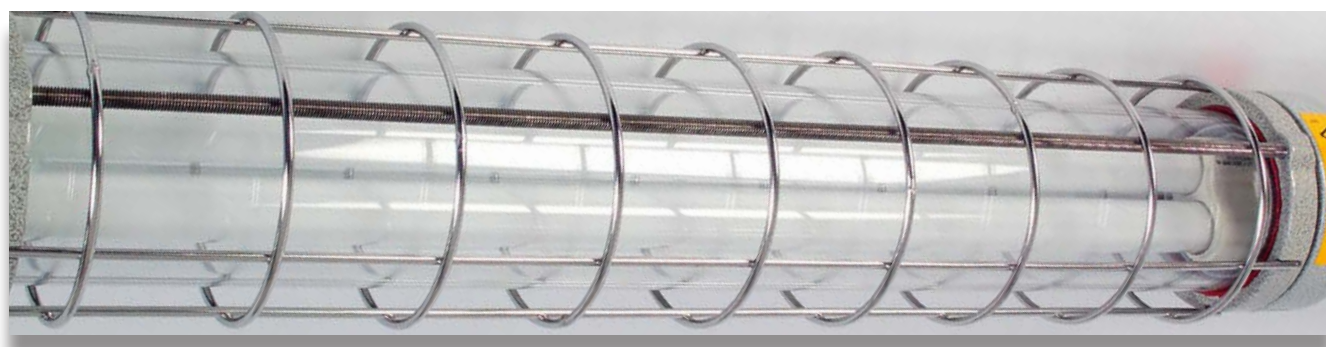
FHL series portable inspection lamps for compact 24/36 Watt fluorescent tubes have been specifically designed for carrying out inspection and maintenance work in all areas that are potentially explosive due to the presence of gases and dusts such as in the petrochemical industry, off-shore installations, tank control and processing areas. Thanks to their robust construction, they are easily handled and have a high degree of protection and optimal performance. They are also used in the naval sector for inspecting engine rooms and in the farming industry for checking the inside of silos. In general, these lamps are ideal for any application calling for a reliable source of light. Thanks also to the accessories which these lamps are fitted, they can be used in a wide variety of ways furthermore, thanks to the energy saving Philips master PL fluorescent tubes, the FHL series also provides an excellent colour rendering index in any position and operating temperature.

Application sectors:



CERTIFICATION DATA

Classification::	Group II	Category 2GD		
Installation:	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
Marking:	CE 0722 Ex II 2GD Ex e mb IIC T.. Gb - Ex tb IIIC T..°C Db IP66			
Certification:	ATEX	CESI 09 ATEX 041X		
Standards:	CENELEC EN60079-0:2009, EN60079-1:2007, EN60079-31:2009, EN60598-1:2008+A1:2009, EN60598-2-8:2012, EN61547:2009 and EUROPEAN DIRECTIVE 2014/34/UE European Directive 2004/108 Electromagnetic compatibility European Directive 2003/108 WEEE Waste electrical and electronic equipment European Directive 2011/64 RoHS			
Class temperature:	85°C (T6)			
Ambient temperature:	-40°C +50°C			
Degree of protection:	IP66			



FHL series Portable inspection lamp



ORIGINAL PRODUCT

MECHANICAL FEATURES

Handle and heads:	Low copper content aluminium alloy
External tube:	Polycarbonate with excellent transparency and brilliance characteristics (in the visible light field with wavelengths of between 400 and 700µm, the uniform transmission is of about 89%). Exceptional shock and UV resistance, flame retardant.
Seal:	Silicone resin between the aluminium heads and the polycarbonate tube
Guard:	Electro-polished 316L stainless steel.
Gaskets:	Acid, hydrocarbon and high temperature resistant silicone
Bolts and screws:	Stainless steel
Hook:	Stainless steel
Entries:	1 x 1/2" NPT entry. Lighting fixture complete with NAV1NB cable gland for non-armoured cable
Coating:	Polyester coating Ral 7035 (Light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)

ELECTRICAL FEATURES

Lamp holder:	2G11 (4-pins)
Ballast:	Electronic, installed in the handle
Rated voltage:	24 Vdc
Connection:	Direct to the connectors fixed on the electronic board L, N, Pe max section 2.5 mm ²
Wiring:	Silicone rubber cables with glass braid protection against high temperatures

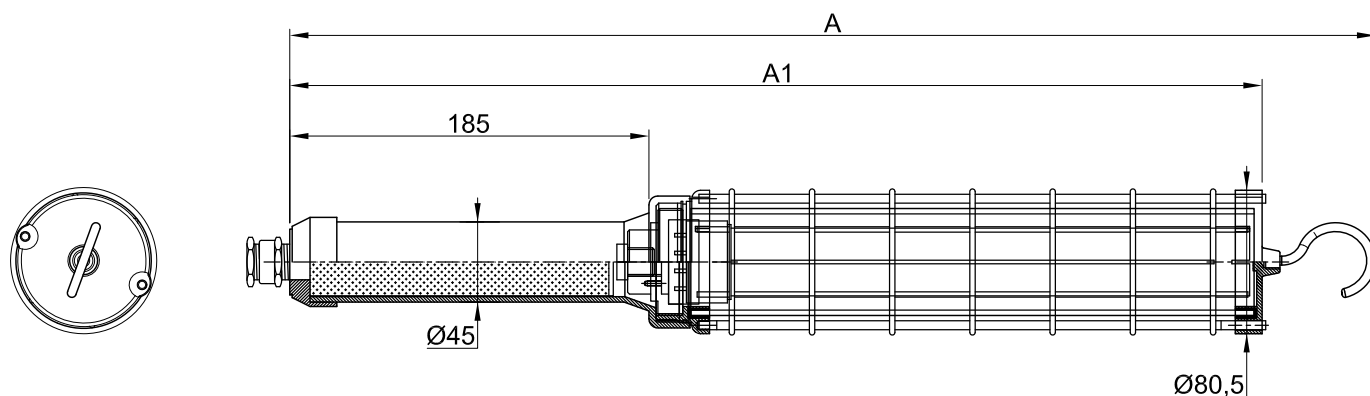
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Compact 4 pin PL-L 24W fluorescent lamp for FHL-124 or PL-L36W for FHL-136
Eyebolt internal Ø 20mm
Protective reflector
Base for vertical use
Magnetic mounting
Cable winder (23 metres)
Portable lamp complete with 5m of 3x1.5mm² cable and Cortem plug model SPY (Code FHL-124C5 and FHL-136C5)
GAS UNI ISO 7/1 thread

FHL series selection chart

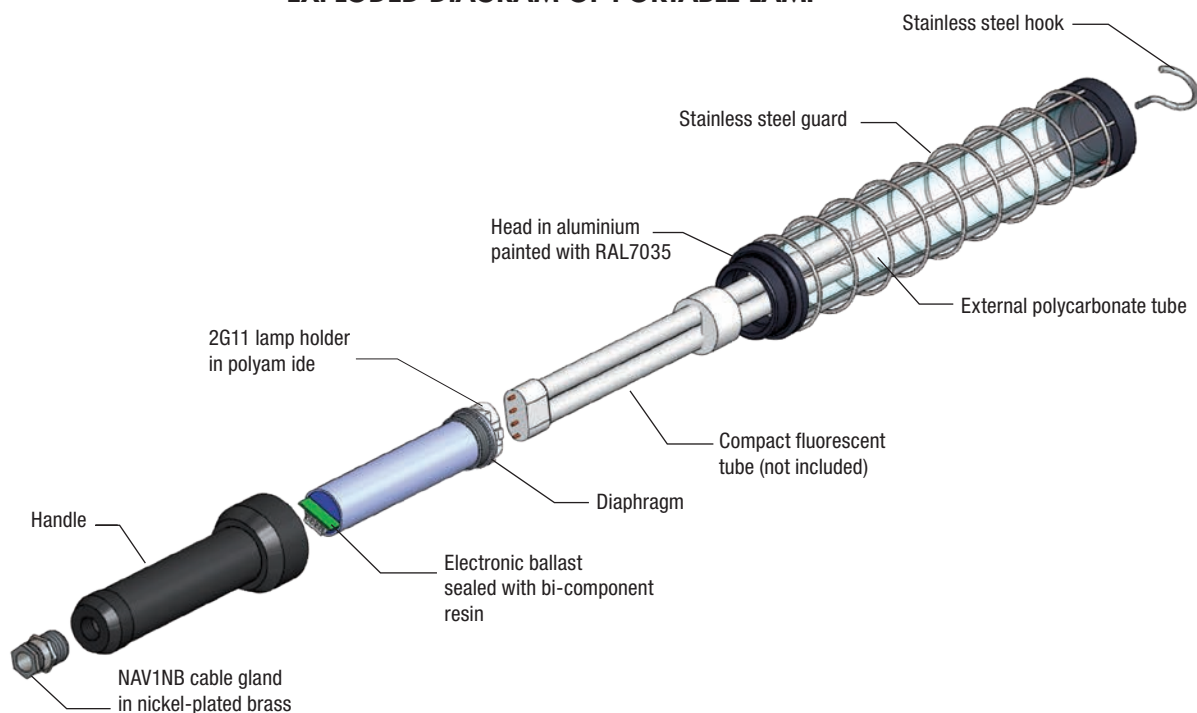
Code	Dimensions mm		Lamp n°	Power supply	Watt	Class T.a. +50°C	Max. surface temp. °C	Weight kg
	A	A1						
FHL-124	622	544	1	24 Vdc	24	T6	79,1	1.30
FHL-136	713	638	1	24 Vdc	36	T6	79,1	1.50

DIMENSIONAL DRAWING



Dimensions in mm

EXPLODED DIAGRAM OF PORTABLE LAMP



DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture
FHL-124 +

Fluorescent tubes
LAMP-PLL24W +

Protective reflector
G24-669 +

Eyebolt
GOF-8 +

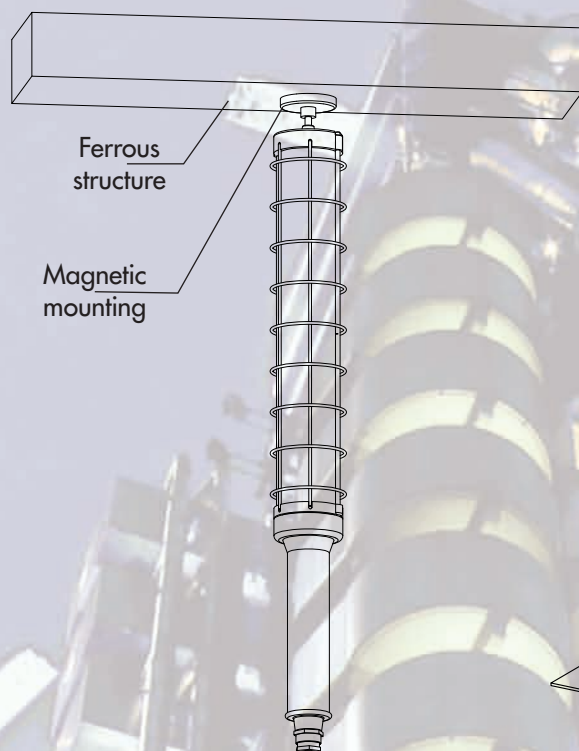
other...see key



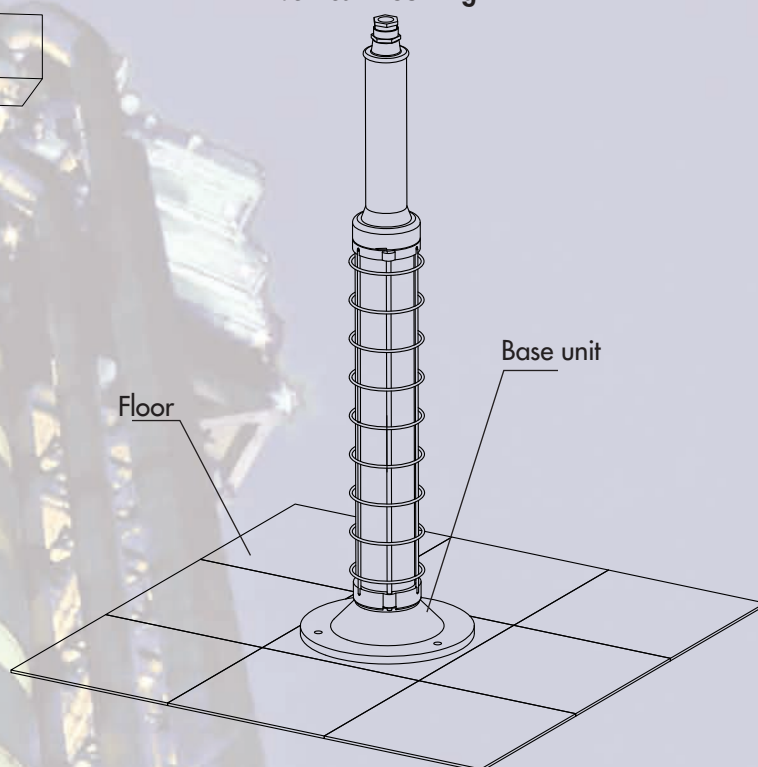
FHL series Accessories and spare parts available on request

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Compact fluorescent tube	24 W	1800 lm (FSD24W)	LAMP-PLL24W	 
		36 W	2900 lm (FSD36W)	LAMP-PLL36W	
	Base for vertical use	FHL-124 FHL-136	Material: white RAL 7035 paint	G-161	 
	Permanent magnet for pendant or horizontal mounting	FHL-124 FHL-136	Material: round 63x14 magnet, traction 320N	FTN-32	 
	Eyebolt internal Ø20 mm	FHL-124 FHL-136	Material: galvanised steel	GOF-8	 
	Protective reflector	FHL-124	Material: white painted aluminium	G24-669	 
		FHL-136		G36-669	
	Automatic wall-mounted spring-loaded cable winder Attention: the cable winder can only be used in safe areas	FHL-124 FHL-136	Alluminium cable winder body with IP65 degree of protection Stainless steel support bracket Cable length - 23 metres	ZECA6189PRCIP65	 
	Electronic ballast sealed with sparkpro of two-part resin	FHL-124	24 Vdc	G24-0558	
		FHL-136		G36-0558	
	Hook	FHL-124 FHL-136	Material: stainless steel	HOOK-M8	
	Cable gland		For models and codes, visit www.cortemgroup.com	NAV1NB	

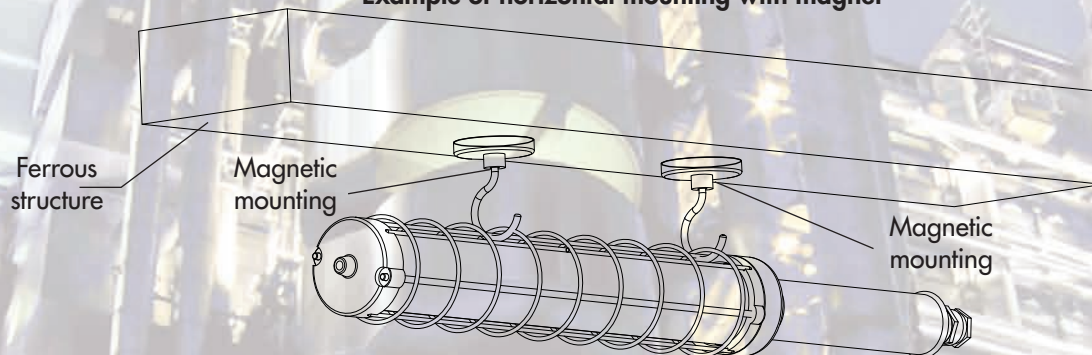
Example of pendant mounting with magnet



Example of the base being used for vertical mounting



Example of horizontal mounting with magnet



Protective reflector mounting system

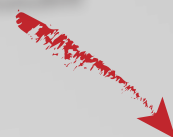
Reflector in white painted aluminium to protect from dazzling



RLFE

- Fast, easy installation
- Suitable for discharge lamps of up to 400W
- Robust and safe over time
- Zones 1, 2, 21, 22

Mounting bracket



Stainless steel guard



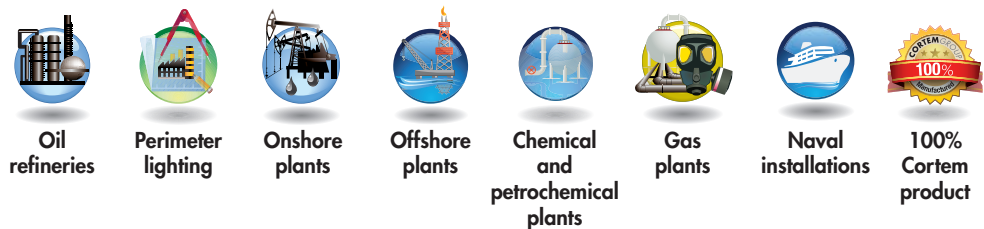
Ex e terminal housing






RLFE series Lighting fixtures for discharge lamps up to 400W

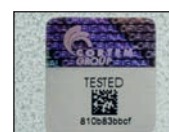
RLFE series lighting fixtures for discharge lamps are ideal for lighting large areas specifically in the chemical, on and off shore petrochemical industries. They are certified for use in Zones 1, 2, 21, 22 and comply with the 2014/34/UE directive. The body of the lighting fixture is made from low copper content aluminium alloy, the globe is made of borosilicate glass and has excellent thermal and mechanical properties. For this reason, the fixture can also be installed without a protective guard as specified in the relevant standards. In the RLFE series, the lamp and lamp holder are separated by a "chamber" housing the ballast and igniter that in turn are separated by a "Ex e" terminal box that is used to connect the lighting fixture to the power supply through a cable gland with an Ex (non barrier) seal as specified in EN/IEC 60079-14. The ease of access to the different "chambers" housing the electrical components means lower installation and maintenance costs and less wear and tear over time means a longer lifespan for the lamp.

Application sectors



CERTIFICATION DATA

Classification:	Group II	Category 2GD		
Installation:	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
Marking:	CE 0722 Ex II 2GD Ex de IIC T.. Gb - Ex tb IIIC T..°C Db IP66			
Certification:	ATEX	ITS 12 ATEX 17645X		
	IEC Ex	ITS 12.0048X	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com	
	TR CU	AVAILABLE		
Standards:	CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2011, IEC 60079-1:2007, IEC 60079-7:2006, IEC 60079-31: 2008 European Directive 2004/108 Electromagnetic compatibility European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE European Directive 2011/65/UE RoHS			
Class temperature:	 See selection chart			
Ambient temperature:	 -20°C +60°C 			
Degree of protection:	IP66			



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy Fitted with cooling fins for better heat dissipation
Globe:	Shock and temperature resistant borosilicate glass sealed with aluminium shade ring
Gaskets:	Acid, hydrocarbon and high temperature resistant silicone
Guard:	Electro-polished stainless steel.
Bolts and screws:	Stainless steel
Entries:	2 x ISO M25 entries. Lighting fixture kit with PLG21B plug and NAV251B cable gland
Coating:	Polyester coating Ral 7035 (light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)


ELECTRICAL FEATURES

Lamp holder:	E27 or E40 ceramic
Ballast:	Electromechanical
Rated voltage:	230 V AC
Rated frequency:	50 Hz
Connection:	Direct connection to the terminal board L, N, Pe. Section 4mm ² , suitable for input/output
Power factor:	0.96
Wiring:	Silicone rubber cables with glass braid protection against high temperatures

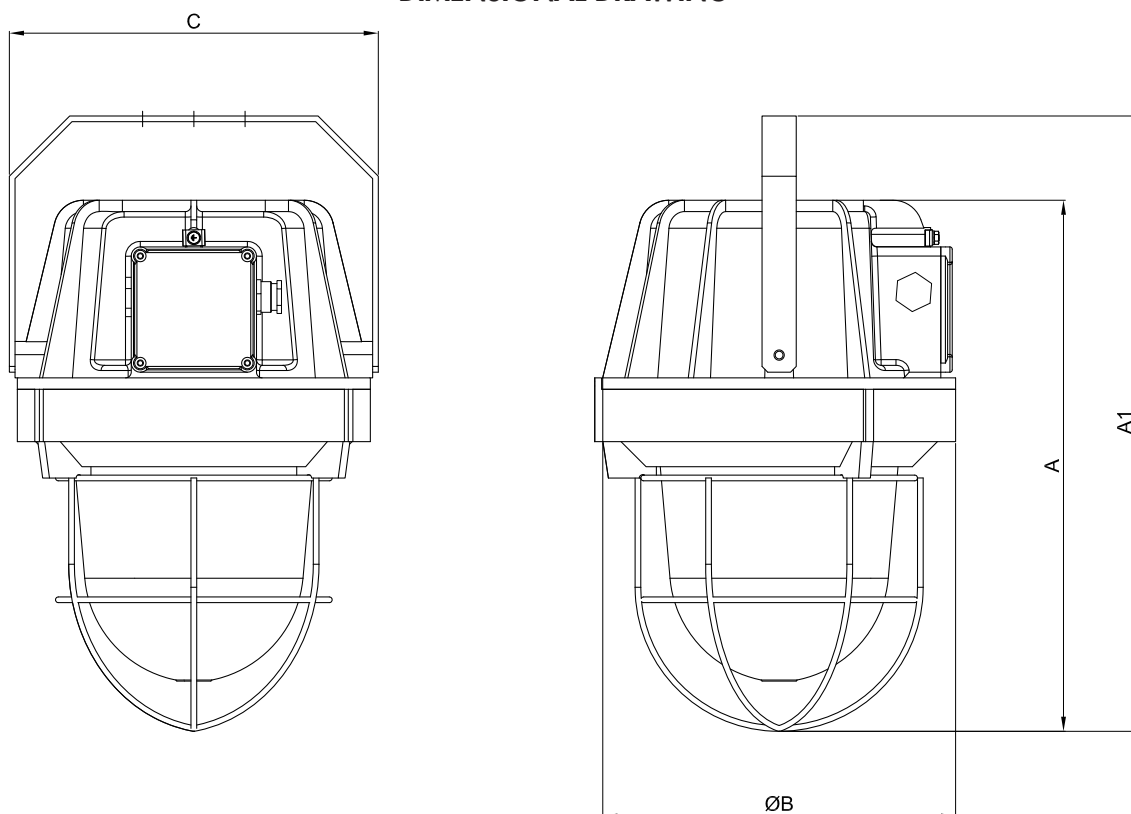
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Discharge lamp
Different rated voltages
External reflector

RLFE series selection chart

Code	Dimensions mm				Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max surface temp. °C	Weight kg	
	A	A1	øB	C							
RLFE-80N1	425	495	236	250	Sodium vapour	E 27	70	T4	113	10,5	425x250x250
RLFE-80N2	425	495	236	250	Sodium vapour	E 40	100	T4	125	10,5	425x250x250
RLFE-80N4	425	495	236	250	Sodium vapour	E 40	150	T4	125	10,5	425x250x250
RLFE-80IM1	425	495	236	250	Metal halide	E 27	70	T4	113	10,5	425x250x250
RLFE-80IM2	425	495	236	250	Metal halide	E 27	100	T4	125	10,5	425x250x250
RLFE-80IM4	425	495	236	250	Metal halide	E 27	150	T4	125	10,5	425x250x250
RLFE-100N5	480	565	310	325	Sodium vapour	E 40	250	T3	132	19	480x325x325
RLFE-100IM5	480	565	310	325	Metal halide	E 40	250	T3	132	19	480x325x325
RLFE-110N6	575	645	310	325	Sodium vapour	E 40	400	T4	129	22	475x325x325
RLFE-110IM6	575	645	310	325	Metal halide	E 40	400	T4	129	22	475x325x325

DIMENSIONAL DRAWING



DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture +
RLFE-110F5

Lamp
LAMP400WHQL

+

Dome reflector
G110-672

+

other... see key



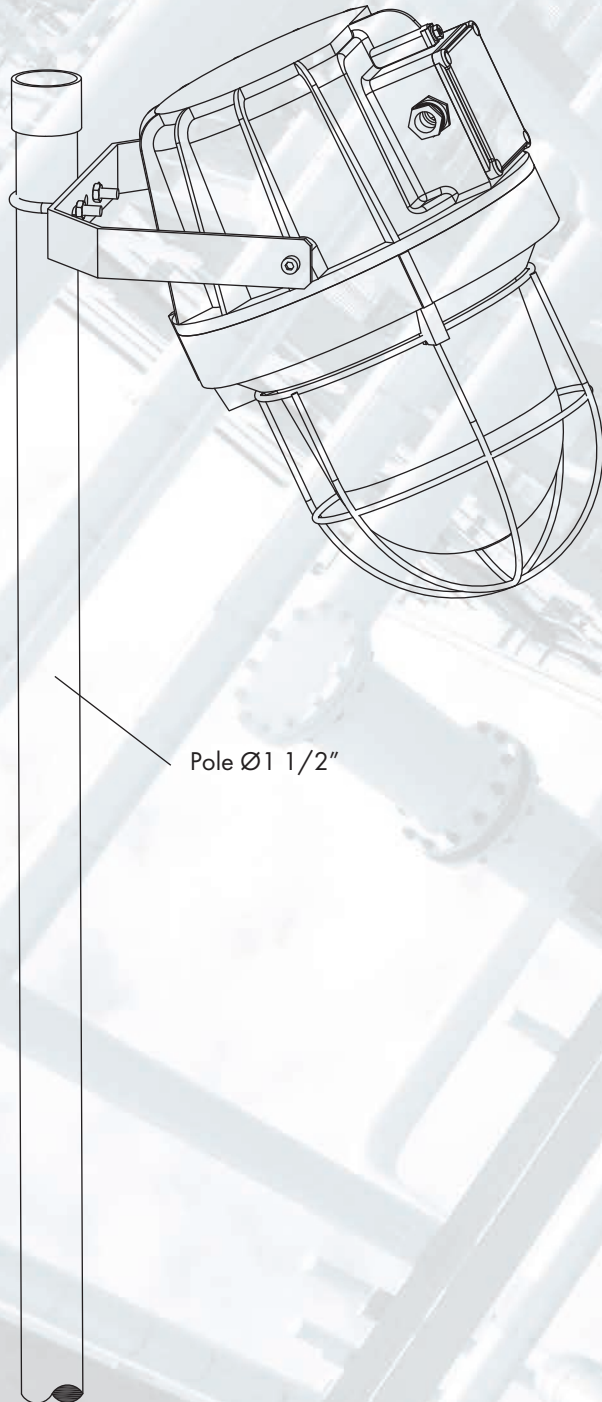
RLFE series Accessories and spare parts available on request

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	High pressure sodium vapour lamp	E27	70 W (SE70W)	LAMPNAV70WPLUS	 
			100 W (SE100W)	LAMPNAV100WPLUS	
		E40	150 W (SE150W)	LAMPNAV150WPLUS	
			250 W (SE250W)	LAMPNAV250WPLUS	
			400 W (SE400W)	LAMPNAV400WPLUS	
	Metal halide lamp	E27	70 W (ME70W)	LAMP70WJM	 
			100 W (ME100W)	LAMP100WJM	
			150 W (ME150W)	LAMP150WJM	
		E40	230 W (ME250W)	LAMP230WJM	
			360 W (ME400W)	LAMP360WJM	
	Dome reflector	RLFE-80	White painted aluminium	G80-672D	 
		RLFE-100	Contact our Sales Office for availability		
		RLFE-110	Contact our Sales Office for availability		

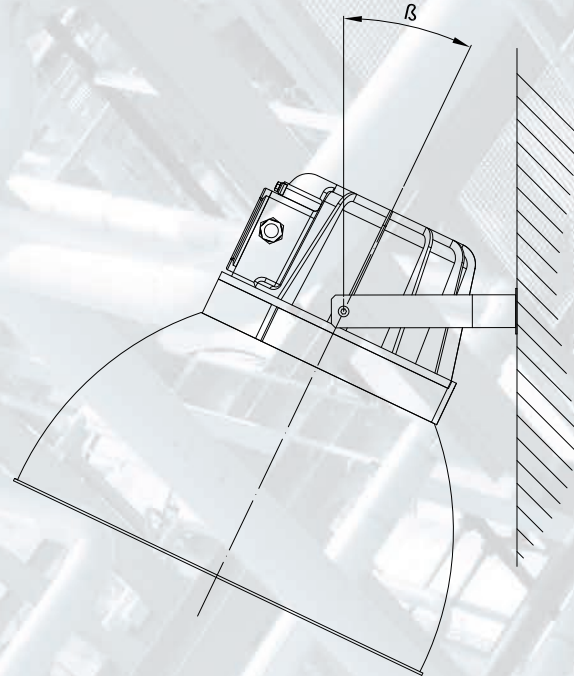
RLFE series Accessories and spare parts available on request

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Protective guard	RLFE-80	Material: Electro-polished stainless steel	G70-0417	
		RLFE-100		G100-0417	
		RLFE-110		G110-0417	
	Mounting bracket	RLFE-80	Material: galvanised steel	G1-670	
		RLFE-100 RLFE-110		G2-670	
	Ceramic lamp holder	E27 (RLFE-80)	250V 4A	PORT E-27/X	
		E27	250V 4A	PORT E-27	
		E40	750V 16A	PORT E-40	
	Igniter		50-400W	R100	
	Cable gland	ISO M25	(std. range cable 11÷20)	NAV25IB	
	Metal capacitor		7 µF	F-70	
			8 µFv	F-80	
			10 µF	F-125	
			12 µF	F-12	
			20 µF	F-20	
	Ballast for sodium vapour and metal halide lamp		70 W	W R-70NAAP	
			100 W	R-100NA	
			150 W	R-150NA	
			250 W	R-250NA	
			400 W (sodio)	R-400NA	
			400 W (ioduri)	R-400	

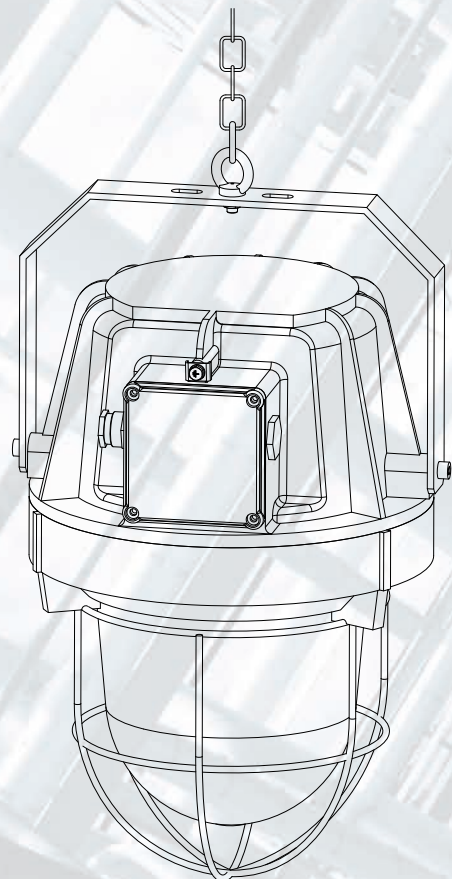
Example of pole mounting



Example of wall mounting



Example of ceiling mounting





WARNING
DO NOT OPEN when energized.
After re-energizing delay
minutes before opening

CORTEM GROUP
via Aquileia 10
34070 Villesse (GO)
ITALY
2018 s.n. 18/100118
RLFE-80
IECEx ITS 12.0048X
ITS 12 ATEX 17545X
CE 0122 Ex de IIC T4 Gb
Ex de IIC T1 Gb
T2: -20...+60°C
V250 Hz 50
P.F. > 0.9 W 150NA
Made in ITALY
Ex de IIC T4 Gb
Ex de IIC T1 Gb
Ex de IIC T1 Gb
Ex de IIC T1 Gb

TESTED
f5101bc943

EVE

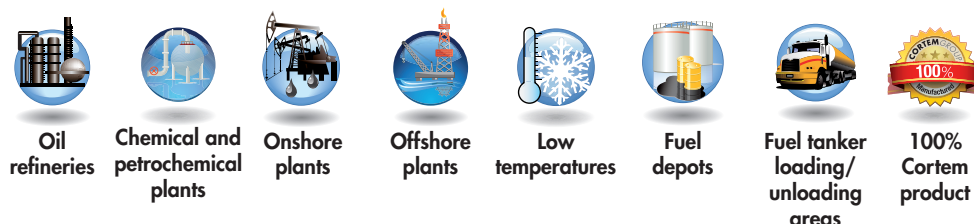
- Optimal performance at high (+60°C) and low (-50°C) temperatures
- Easy to install, low maintenance costs
- Zone 1, 2, 21, 22



EVE series Lighting fixtures for traditional and LED lamps

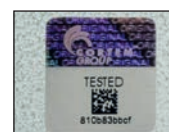
EVE series lighting fixtures have been specially designed for use in the petrochemical and oil refining industries as they combine beauty and functionality along with high performance and simplicity in complete compliance with the technological requirements of the "Ex sector". The low copper content aluminium alloy, shockproof borosilicate glass and electro-polished stainless steel components make these lighting fixtures ideal for use in environments with corrosive atmospheric agents, salts and industrial pollution. Mechanical characteristics such as ceramic lamp holders with high heat resistance and insulating properties and acid-proof silicone gaskets guarantee a long working life with little maintenance. Scheduled maintenance work involves simply cleaning the glass that, thanks to its IP66 protection, can be safely cleaned with a wet cloth. Electrical connection is made via a terminal box in a "Ex e" compartment that allows the entry to the lighting fixture through an "Ex" O-ring (non barrier) cable gland as specified in the installation specification standards (EN/IEC 60079-14).

Application sectors



CERTIFICATION DATA

Classification:	Group II	Categoria 2GD		
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
Marking:	CE 0722 Ex II 2GD Ex de IIC T.. Gb - Ex tb IIC T..°C Db IP66			
Certification:	ATEX	CESI 12 ATEX 006		
	IEC Ex	CES 07.0004	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com	
	TR CU	AVAILABLE		
Standards:	CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2011, IEC 60079-1: 2007, IEC 60079-7: 2007, IEC 60079-31: 2008 European Directive 2004/108 Electromagnetic compatibility European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE European Directive 2011/65/UE RoHS			
 Class temperature:	 See the selection table			
 Ambient temperature:	 -20°C +60°C 			
Degree of protection:	IP66			



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy
Globe:	Shock and temperature resistant borosilicate glass with aluminium shade ring
Gaskets:	Acid/hydrocarbon resistant silicone
Guard:	Electro-polished stainless steel. Can also be supplied on request without a guard as the lighting fixture has passed the glass breakage test (4 Joule EN60079-0 / IEC60079-0)
Mounting:	See "EVE series dimensional drawings"
Bolts and screws:	Stainless steel
Entries:	See "EVE series dimensional drawings"
Coating:	Polyester coating Ral 7035 (Light grey)
Corrosion Resistance	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)


ELECTRICAL FEATURES

Lamp holder:	E27 or E40 ceramic
Rated voltage:	230 V AC
Rated frequency:	50/60 Hz
Connection:	Direct connection to the terminal box L, N, Pe. Section 4mm ²

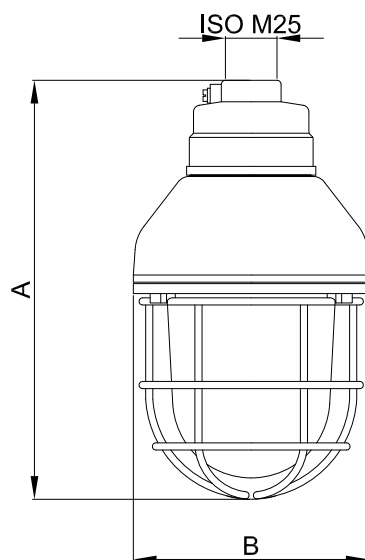
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

LED lamps
External reflector
Cable gland: NAV25IB for armored or NEV25IB for non-armored cable
Warning signs: G-0513
Swivel bracket for inclined mounting

EVEA series selection chart Pendant mounting

Code	Dimensions mm		Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max Surface Temperature °C	Weight kg	 mm
	A	B							
EVEA-5050	261	150	AL	E 27	70	T4	123	1,9	160x150x330
EVEA-5050	261	150	AL	E 27	105	T3	154	1,9	160x150x330
EVEA-5050	261	150	AL	E 27	140	T3	154	1,9	160x150x330
EVEA-5050	261	150	ELS	E 27	15	T6	84	1,9	160x150x330
EVEA-5050	261	150	LED	E 27	8	T6	74	1,9	160x150x330
EVEA-5050	323	170	EL	E 27	23	T5	86	2,7	190x170x390
EVEA-5060	323	170	ELS	E 27	23	T5	86	2,7	190x170x390
EVEA-5060	323	170	LED	E 27	12	T6	74	2,7	190x170x390

EVEA Pendant mounting




Key

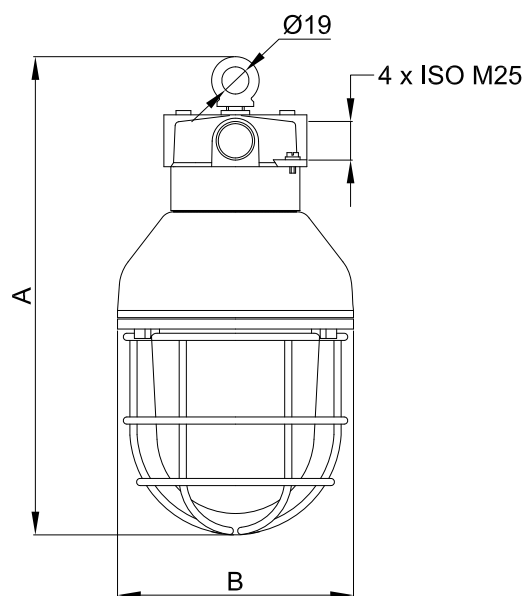
EL = Linear tubes (FBT)
 AL = Halogen (HSGSA)
 MIX = Mixed light (QB)
 ELS = Spiral tubes (FB)
 LED = With LED (DB)

Dimensions in mm

EVEGC series selection chart Pendant mounting with eyebolt

Code	Dimensions mm		Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max Surface temperature °C	Weight kg	 mm
	A	B							
EVEGC-5050	296	150	AL	E 27	70	T4	123	2,1	160x150x330
EVEGC-5050	296	150	AL	E 27	105	T3	154	2,1	160x150x330
EVEGC-5050	296	150	AL	E 27	140	T3	154	2,1	160x150x330
EVEGC-5050	296	150	ELS	E 27	15	T6	84	2,1	160x150x330
EVEGC-5050	296	150	LED	E 27	8	T6	74	2,1	160x150x330
EVEGC-5060	358	170	EL	E 27	23	T5	86	2,8	190x170x390
EVEGC-5060	358	170	ELS	E 27	23	T5	86	2,8	190x170x390
EVEGC-5060	358	170	LED	E 27	12	T6	74	2,8	190x170x390

EVEGC Pendant mounting with eyebolt




Key

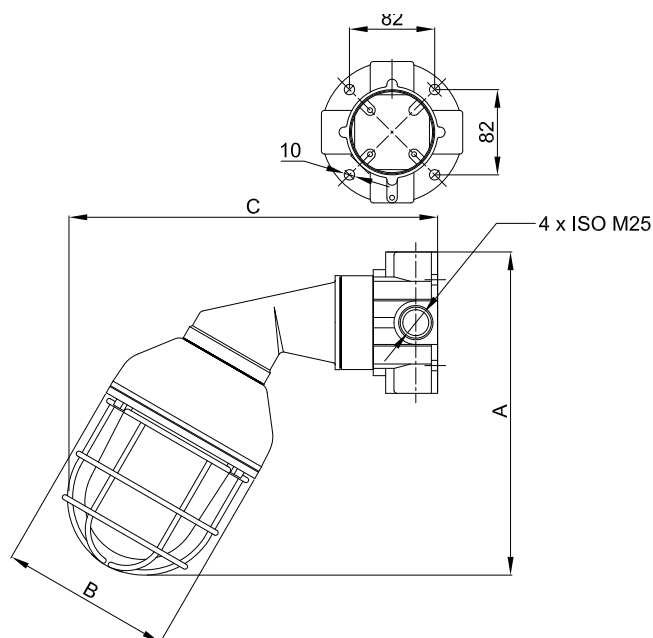
EL = Linear tubes (FBT)
AL = Halogen (HSGSA)
MIX = Mixed light (QB)
ELS = Spiral tubes (FB)
LED = With LED (DB)

Dimensions in mm

EVEIX series selection chart Wall mounting

Code	Dimensions mm			Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max Surface temperature °C	Weight kg	 mm
	A	B	C							
EVEIX-5050	285	150	310	AL	E 27	70	T4	123	2,9	190x170x390
EVEIX-5050	285	150	310	AL	E 27	105	T3	154	2,9	190x170x390
EVEIX-5050	285	150	310	AL	E 27	140	T3	154	2,9	190x170x390
EVEIX-5050	285	150	310	ELS	E 27	15	T6	84	2,9	190x170x390
EVEIX-5050	285	150	310	LED	E 27	8	T6	74	2,9	190x170x390
EVEIX-5060	339	170	344	EL	E 27	23	T5	86	3,7	260x210x490
EVEIX-5060	339	170	344	ELS	E 27	23	T5	86	3,7	260x210x490
EVEIX-5060	339	170	344	LED	E 27	12	T6	74	3,7	260x210x490

EVEIX Wall mounting with 30° bracket




Key

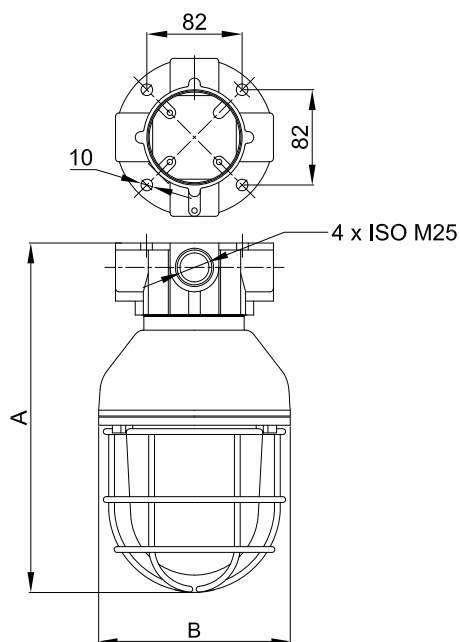
EL = Linear tubes (FBT)
AL = Halogen (HSGSA)
MIX = Mixed light (QB)
ELS = Spiral tubes (FB)
LED = With LED (DB)

Dimensions in mm

EVEX series selection chart Ceiling mounting

Code	Dimensions mm		Lamp type	Lamp holder	Watt	Class Ta=+60°C	Max Surface temperature °C	Weight kg	 mm
	A	B							
EVEX-5050	260	150	AL	E 27	70	T4	123	1,9	160x150x330
EVEX-5050	260	150	AL	E 27	105	T3	154	1,9	160x150x330
EVEX-5050	260	150	AL	E 27	140	T3	154	1,9	160x150x330
EVEX-5050	260	150	ELS	E 27	15	T6	84	1,9	160x150x330
EVEX-5050	260	150	LED	E 27	8	T6	74	1,9	160x150x330
EVEX-5060	322	170	EL	E 27	23	T5	86	3,3	190x170x390
EVEX-5060	322	170	ELS	E 27	23	T5	86	3,3	190x170x390
EVEX-5060	322	170	LED	E 27	12	T6	74	3,3	190x170x390

EVEX Ceiling mounting



Key

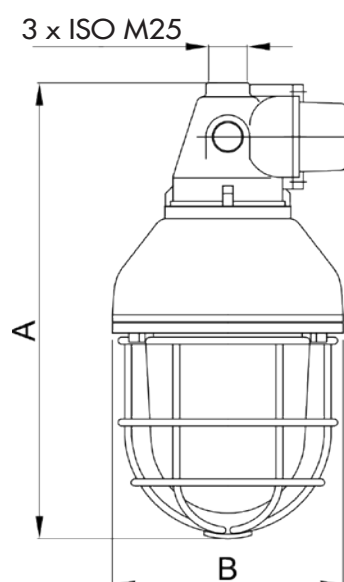
EL = Linear tubes (FBT)
 AL = Halogen (HSGSA)
 MIX = Mixed light (QB)
 ELS = Spiral tubes (FB)
 LED = With LED (DB)

Dimensions in mm

Selection chart for lighting fixtures with loop-in/loop out systems

Code	Dimensions mm		Lamp type	Lmap holder	Watt	Class Ta=+60°C	Max Surface temperature °C	Weight kg	 mm
	A	B							
EVE -5050	294	150	AL	E 27	70	T4	123	2,2	160x150x330
EVE -5050	294	150	AL	E 27	105	T3	154	2,2	160x150x330
EVE -5050	294	150	AL	E 27	140	T3	154	2,2	160x150x330
EVE -5050	294	150	ELS	E 27	15	T6	84	2,2	160x150x330
EVE -5050	294	150	LED	E 27	8	T6	74	2,2	160x150x330
EVE-5060	356	170	EL	E 27	23	T5	86	3,5	190x170x390
EVE-5060	356	170	ELS	E 27	23	T5	86	3,5	190x170x390
EVE-5060	356	170	LED	E 27	12	T6	74	3,5	190x170x390

EVE Pendant mounting




Key

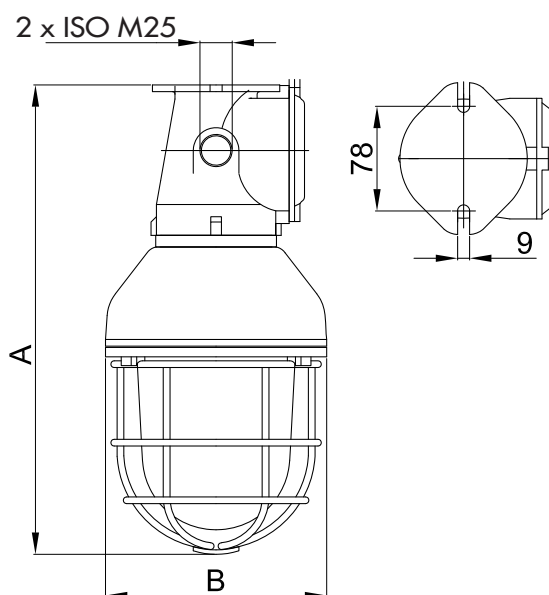
EL = Linear tubes (FBT)
AL = Halogen (HSGSA)
MIX = Mixed light (QB)
ELS = Spiral tubes (FB)
LED = With LED (DB)

Dimensions in mm

Selection chart for lighting fixtures with loop-in/loop out systems

Code	Dimensions mm		Lamp type	Lamp golder	Watt	Classe Ta=+60°C	Max Surface temperature °C	Weight kg	 mm
	A	B							
EVES -5050	317	150	AL	E 27	70	T4	123	2,7	160x150x330
EVES -5050	317	150	AL	E 27	105	T3	154	2,7	160x150x330
EVES -5050	317	150	AL	E 27	140	T3	154	2,7	160x150x330
EVES -5050	317	150	ELS	E 27	15	T6	84	2,7	160x150x330
EVES -5050	317	150	LED	E 27	8	T6	74	2,7	160x150x330
EVES-5060	379	170	EL	E 27	23	T5	86	3,5	190x170x390
EVES-5060	379	170	ELS	E 27	23	T5	86	3,5	190x170x390
EVES-5060	379	170	LED	E 27	12	T6	74	3,5	190x170x390

EVES Ceiling mounting



Key

EL = Linear tubes (FBT)
 AL = Halogen (HSGSA)
 MIX = Mixed light (QB)
 ELS = Spiral tubes (FB)
 LED = With LED (DB)

Dimensions in mm

DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture +
EVEA-5060

Lamp
LAMP-PL23

+

Dome reflector
G60-427D

+ other... see key



ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	LED lamp	E27	8 W (DB8W)	LAMPLED8W	 
		E27	12 W (DB12W)	LAMPLED12W	
	Cable gland		For models and codes, visit www.cortemgroup.com	NAV25IB NEV25IB	 
	Swivel bracket for inclined mounting (see example in installation methods)	50	Material: galvanised steel	G-0543	 
		60			
	Protective guard	50	Material: electro-polished stainless steel	G50-0417	
		60		G60-0417	
	Ceramic lamp holder	E27	250 V 4 A	PORT E-27	
		E40	750 V 16 A	PORT E-40	
	O-ring	Globo 50	Material: silicone	OR-4512SH70S	
		Globo 60		K15-131S	




















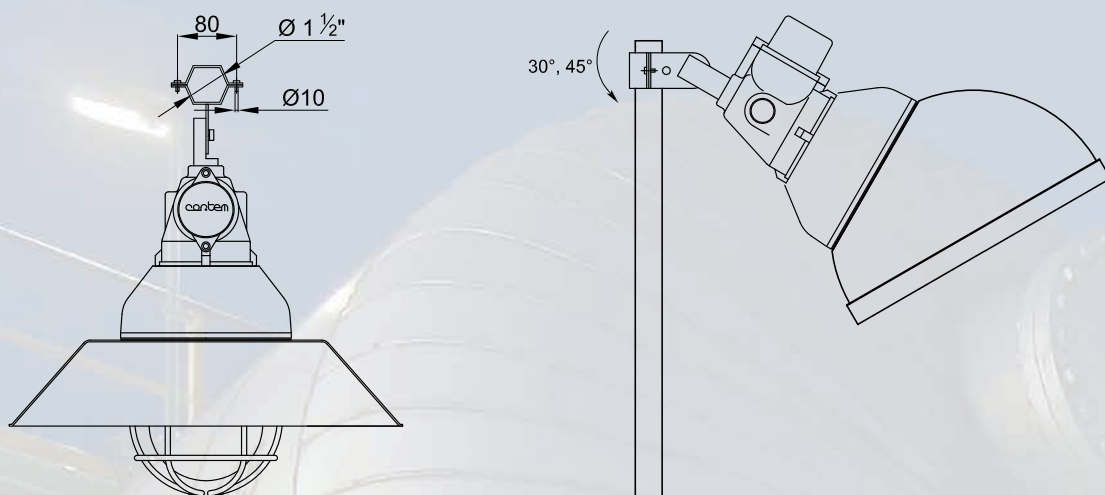
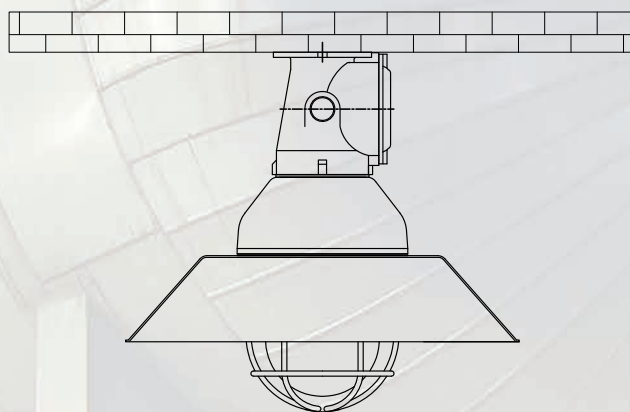
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Warning signs on the frame	50	Materials: translucent film on plexiglass and aluminium frame	G-0513	 
		60		G-0513/1	
	Emergency Exit	G-0513 G-0513/1	Material: film translúcido	U-420/P	 
	Emergency Exit on the right			U-420/P1	
	Emergency Exit on the left			U-420/P2	
	Emergency Exit upward			U-420/P3	
	Emergency Exit downward			U-420/P4	
	Reflector	50	White painted aluminium Stainless steel	G50-427 G50-427IN	 
		60	White painted aluminium Stainless steel	G60-427 G60-427IN	
	Dome reflector	50	Contact our Sales Office for availability		 
		60	White painted aluminium	G60-427D	
	30° inclined dome reflector	50	Contact our Sales Office for availability		 
		60	White painted aluminium	G60-427DI	

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Ex e pendant mounting EVE	50	3 x entries ISO M25	G-0444	
		60			
	Attacco tipo Ex e a soffitto EVES	50	2 x entries ISO M25	G-0439	
		60			
	Globe with shade ring	50	Borosilicate glass globe Threaded aluminium shade ring	G50-0440CM	
		60		G60-0440CM	
	Pendant eyebolt		Material: galvanised steel	G0F-8	
	Pendant mounting EVEA	50	1 x ISO M25 entry	G-0213I	
		60			
	Pendant mounting with eyebolt EVEGC	50	4 x ISO M25 entries	G-0216I	
		60			
	Ceiling mounting EVEX	50	4 x ISO M25 entries	G-0214I	
		60			
	Wall mounting with 30° bracket	50	4 x ISO M25 entries	G-0215I	
		60			

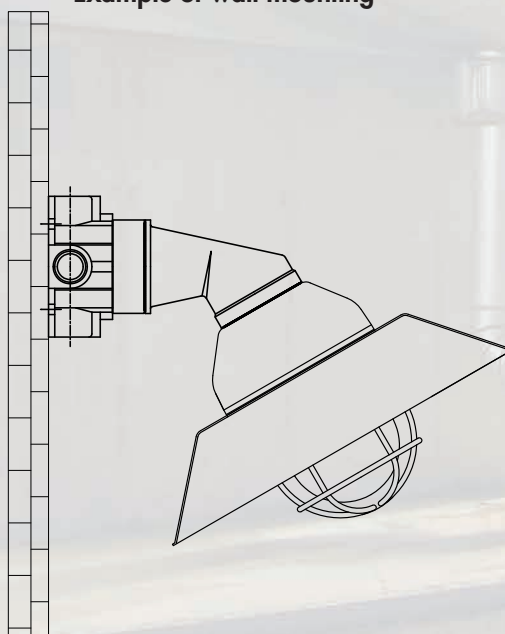
Example of swivel bracket mounting



**Example of ceiling mounting
with lighting fixture for loop-in/loop-out**

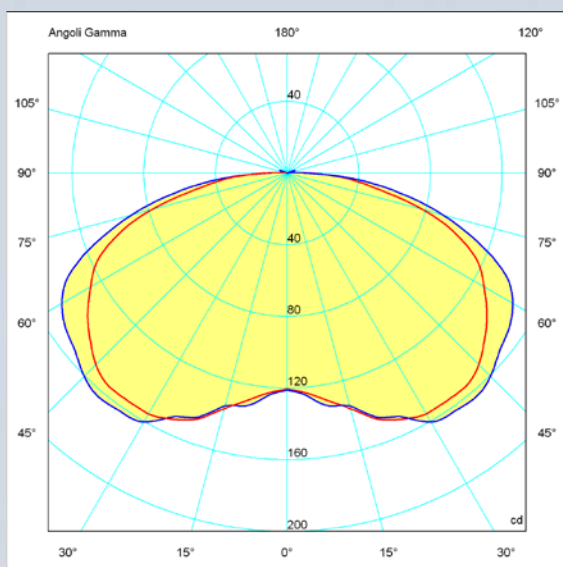


Example of wall mounting

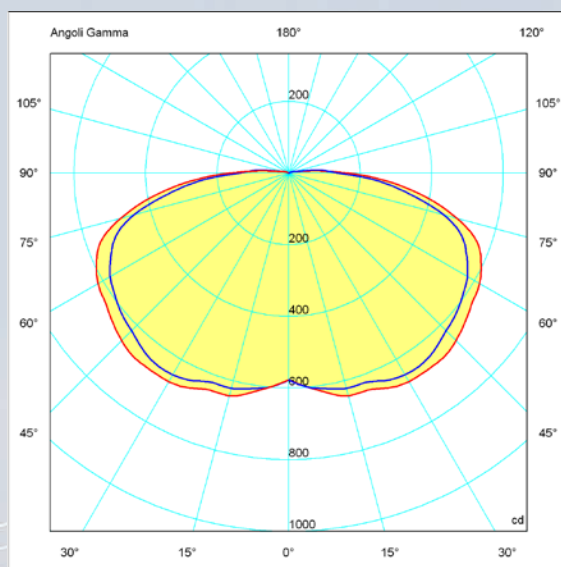


Dimensiones en mm

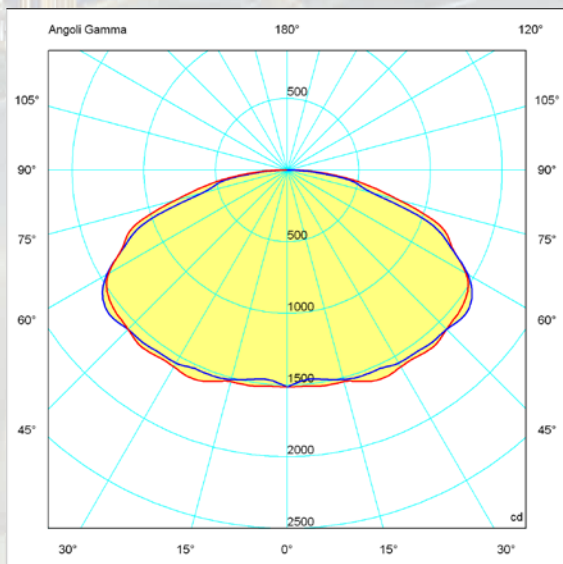
Photometric diagram



EVE..5060 23W EL



EVE..5080 250W MIX



EVE..50100 500W MIX

On Cortem Group web site you can download .LDT and .IES lighting data files for the design and simulation of lighting levels in 2D and 3D, rendering and ray tracing.

— = plane 90270
— = plane 0180

CURRENTLY IN PHASE-OUT FLFE

- Zone 1, 2, 21, 22
- Excellent "CX" coefficient
- Easy re-lamping
- Designed to last over time

"Ex e" terminal board housing

*4 Joule shock resistant
borosilicate glass*

*White painted
reflector/frame*

Silicone sealing

Simplified maintenance



FLFE series Lighting fixtures for fluorescent tubes

FLFE series lighting fixtures have two low copper content aluminium heads fitted with G13 lamp holder, a tempered borosilicate glass tube that is resistant to changes in heat and a white painted aluminium reflector. This lighting fixture features an "Ex e" terminal board housing that allows entry to the lamp with a cable gland with an "Ex" seal (normal) as specified in installation standard (EN/IEC 60079.14). The lighting fixture can be supplied in both the normal and emergency version. The round cross section of the lamp provides a better "Cx" coefficient with less resistance to the wind and less accumulation of dust. For this reason, these units are recommended for use in hazardous places where climatic and environmental conditions are severe and as they require less maintenance thanks to a very high ageing index. FLFE series has been designed to facilitate and speed up maintenance operations. As the electrical components are housed on a frame with guides, re-lamping is quick and efficient. The fact that the fixture is fitted with a glass tube as opposed to a plastic material, makes it more effective and with a longer lifespan.

Application sectors:



Oil refineries



Chemical and petrochemical plants



Oil and combustible liquid depots



Offshore plants



Onshore plants



Stair handrails



Chemical Farm produce applications



100% Cortem product

CERTIFICATION DATA

Classification:

Group II

Category 2GD

Installation: EN 60079.14

zona 1 - zona 2 (Gas)

zona 21 - zona 22 (Dust)

Marking:

CE 0722 Ex II 2GD Ex de IIC T6 Gb - Ex tb IIIC T67°C÷T80°C Db IP66

Certification:

ATEX CESA 09 ATEX 008

IEC Ex CES 11.0021

INMETRO DNV 12.0159

All IEC Ex and INMETRO certification data can be downloaded at www.cortemgroup.com

Standards:

CENELEC EN 60079-0: 2018, EN 60079-1: 2014, EN 60079-7: 2015/A1: 2018, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE
IEC 60079-0: 2011, IEC 60079-1: 2007, IEC 60079-7: 2007, IEC 60079-31: 2008
European Directive 2004/108 Electromagnetic compatibility
European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE
European Directive 2011/65/UE RoHS

Class temperature:



85°C (T6)

Ambient temperature:



Standard
-20°C +55°C

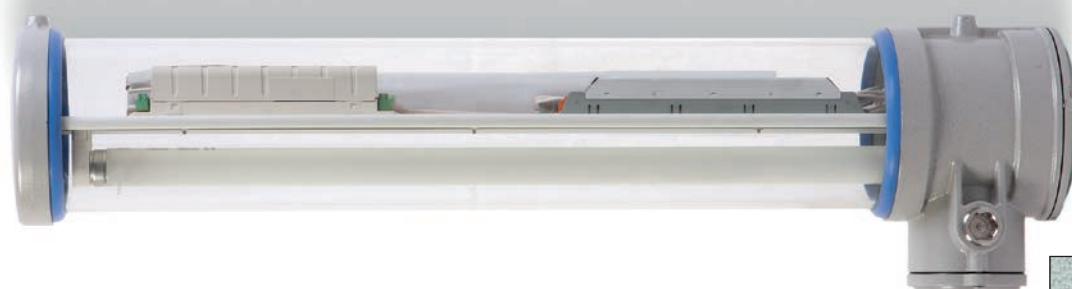


With emergency
-20°C +50°C

Special with emergency
-20°C +55°C

Degree of protection

IP66



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy heads
External tube:	Shock and high temperature resistant borosilicate glass
Gaskets:	Acid/hydrocarbon resistant NBR on covers
Inner frame:	White painted aluminium that acts as reflector
Bolts and screws:	Stainless steel
Cap chain:	Stainless steel
Mounting:	2 x M8 holes
Entries:	2 x ISO M25 entries. Fixture kit with PLG2IB plug and NAV25IB cable gland
Coating:	Epoxy coating Ral 7035 (Light grey)
Corrosion Resistance :	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)

ELECTRICAL FEATURES

Lamp holders:	Bi-pin G13
Ballast:	Single channel electronic
Rated voltage:	230 V AC
Rated frequency:	50/60 Hz
Connection:	Direct to the terminal board L, N, Pe section 4 mm ² with jumpers suitable for input/output
Power factor:	0.98
Emergency unit:	Electronic inverter 110/230V, 50/60Hz, 18...58W. Ni/Cd batteries, 4Ah or 7Ah, 6V, battery charging monitored by high luminosity red LED (estimated LED lifespan 50,000 hours)
Wiring:	Silicone rubber cables with glass braid insulation for high temperatures
Safety:	Emergency safety switch fitted inside lighting fixture

ACCESSORIES AVAILABLE / SPECIAL REQUESTS

2 pin Ø26 fluorescent tubes model T8
 Installation mounting brackets
 Stainless steel or galvanized steel guard with external aluminium protection
 External aluminium protection recommended for outdoor installations
 Re-lamping bracket for use on in-line lighting fixtures
 Rated voltage: 277 V with double channel electronic ballast (code FLFE-236EF4/277)
 110/240 V with double channel electronic ballast (code FLFE-236EF4S)
 Can also be supplied in single tube normal operation version: FLFE-118 / FLFE-136 / FLFE-158
 Lighting fixture with emergency system and ambient temperature -20°C +55°C with batteries housed in junction box SA141410
 Rated voltage: 24 Vdc only for normal operation (codice FLFE-118/24)
 Execution with LED tubes from 22 W. Rated voltage: 220/240 Vac (Code FLFE-122L and FLFE-222L). LED tubes included.
 Cable entry: 2 x ISO M20 holes. Lighting fixture with 1 model PLG1IB plugs and 1 model NAV20SIB cable glands for non-armoured cable (code FLFE-118EF4/20)

FLFE series selection chart

Double lamp

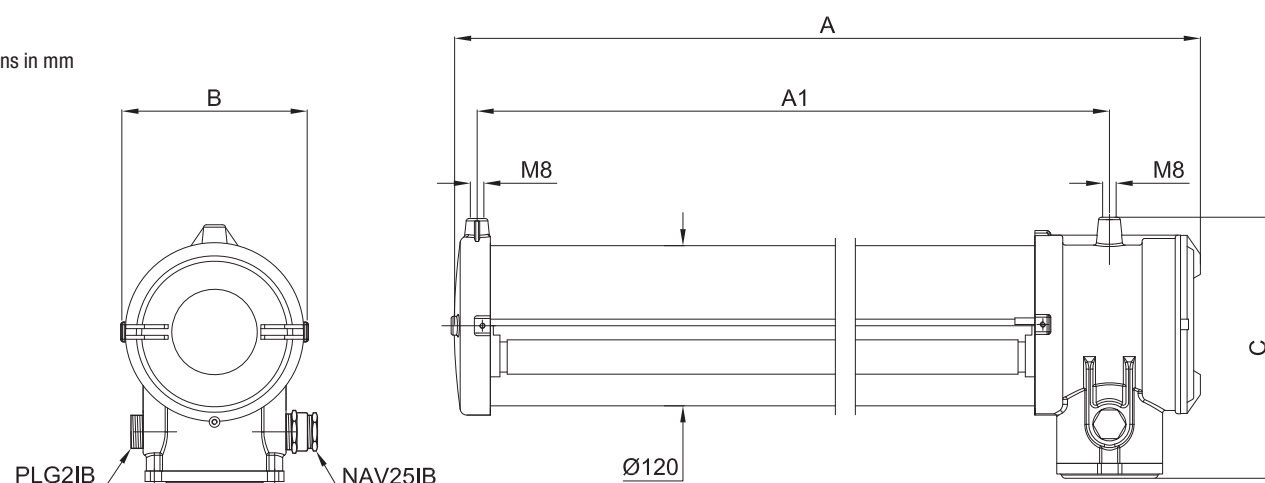
Codice	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	mm
	A	A1	B	C							
FLFE-218	725	640	142	197	-	2	230 V 50/60 Hz.	18	-	5,4	240x230x800
FLFE-236	1325	1240	142	197	-	2	230 V 50/60 Hz.	36	-	7,5	240x230x1410
FLFE-258	1625	1540	142	197	-	2	230 V 50/60 Hz.	58	-	10	240x230x1700
FLFE-218EF4	725	640	142	197	normal + emergency	2	230 V 50/60 Hz.	18	120'	6,1	240x230x800
FLFE-236EF4	1325	1240	142	197	normal + emergency	2	230 V 50/60 Hz.	36	90'	9,0	240x230x1410
FLFE-258EF4	1625	1540	142	197	normal + emergency	2	230 V 50/60 Hz.	58	70'	10,6	240x230x1700
FLFE-218EF7	725	640	142	197	normal + emergency	2	230 V 50/60 Hz.	18	200'	7,3	240x230x800
FLFE-236EF7	1325	1240	142	197	normal + emergency	2	230 V 50/60 Hz.	36	180'	9,4	240x230x1410
FLFE-258EF7	1625	1540	142	197	normal + emergency	2	230 V 50/60 Hz.	58	150'	12,9	240x230x1700

Lighting fixture in emergency for loop-in loop-out execution (see methods of installation)

Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	mm
	A	A1	B	C							
FLFE-218EF4EE	725	640	142	197	normal + emergency	2	230 V 50/60 Hz.	18	120'	8,8	240x230x800
FLFE-236EF4EE	1325	1240	142	197	normal + emergency	2	230 V 50/60 Hz.	36	90'	11,2	240x230x1410
FLFE-258EF4EE	1625	1540	142	197	normal + emergency	2	230 V 50/60 Hz.	58	70'	13,5	240x230x1700
FLFE-218EF7EE	725	640	142	197	normal + emergency	2	230 V 50/60 Hz.	18	200'	8,3	240x230x800
FLFE-236EF7EE	1325	1240	142	197	normal + emergency	2	230 V 50/60 Hz.	36	180'	11,7	240x230x1410
FLFE-258EF7EE	1625	1540	142	197	normal + emergency	2	230 V 50/60 Hz.	58	150'	14	240x230x1700


DIMENSIONAL DRAWING

Dimensions in mm




FLFE series selection chart

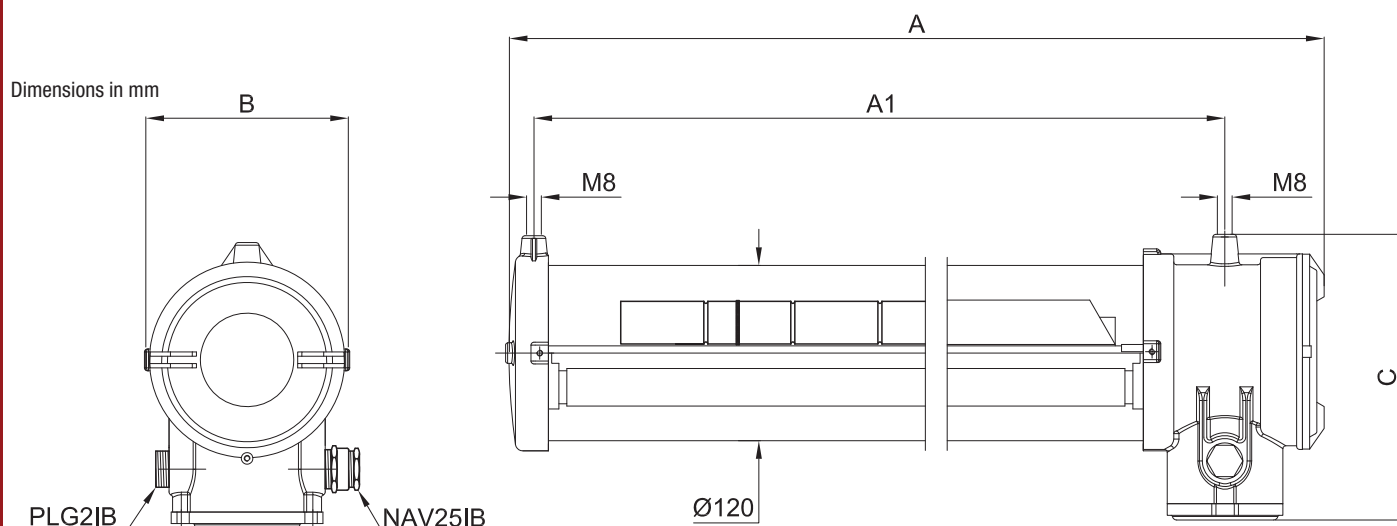
Single lamp

Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	 mm
	A	A1	B	C							
FLFE-118EF4	725	640	142	197	normal + emergency	1	230 V 50/60 Hz.	18	120'	6,8	240x230x800
FLFE-136EF4	1325	1240	142	197	normal + emergency	1	230 V 50/60 Hz.	36	90'	10,2	240x230x1410
FLFE-158EF4	1625	1540	142	197	normal + emergency	1	230 V 50/60 Hz.	58	70'	12,5	240x230x1700
FLFE-118EF7	725	640	142	197	normal + emergency	1	230 V 50/60 Hz.	18	200'	7,3	240x230x800
FLFE-136EF7	1325	1240	142	197	normal + emergency	1	230 V 50/60 Hz.	36	180'	10,7	240x230x1410
FLFE-158EF7	1625	1540	142	197	normal + emergency	1	230 V 50/60 Hz.	58	150'	13	240x230x1700
FLFE-118EE4	725	640	142	197	emergency	1	230 V 50/60 Hz.	18	120'	6,8	240x230x800
FLFE-136EE4	1325	1240	142	197	emergency	1	230 V 50/60 Hz.	36	90'	8,9	240x230x1410
FLFE-158EE4	1625	1540	142	197	emergency	1	230 V 50/60 Hz.	58	70'	12,5	240x230x1700
FLFE-118EE7	725	640	142	197	emergency	1	230 V 50/60 Hz.	18	200'	7,3	240x230x800
FLFE-136EE7	1325	1240	142	197	emergency	1	230 V 50/60 Hz.	36	180'	10,7	240x230x1410
FLFE-158EE7	1625	1540	142	197	emergency	1	230 V 50/60 Hz.	58	150'	13	240x230x1700

Lighting fixture in emergency for loop-in loop-out execution (see methods of installation)


Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	 mm
	A	A1	B	C							
FLFE-118EF4EE	725	640	142	197	normal + emergency	1	230 V 50/60 Hz.	18	120'	8,8	240x230x800
FLFE-136EF4EE	1325	1240	142	197	normal + emergency	1	230 V 50/60 Hz.	36	90'	11,2	240x230x1410
FLFE-158EF4EE	1625	1540	142	197	normal + emergency	1	230 V 50/60 Hz.	58	70'	13,5	240x230x1700
FLFE-118EF7EE	725	640	142	197	normal + emergency	1	230 V 50/60 Hz.	18	200'	8,3	240x230x800
FLFE-136EF7EE	1325	1240	142	197	normal + emergency	1	230 V 50/60 Hz.	36	180'	11,7	240x230x1410
FLFE-158EF7EE	1625	1540	142	197	normal + emergency	1	230 V 50/60 Hz.	58	150'	14	240x230x1700


DIMENSIONAL DRAWING



FLFE series selection chart

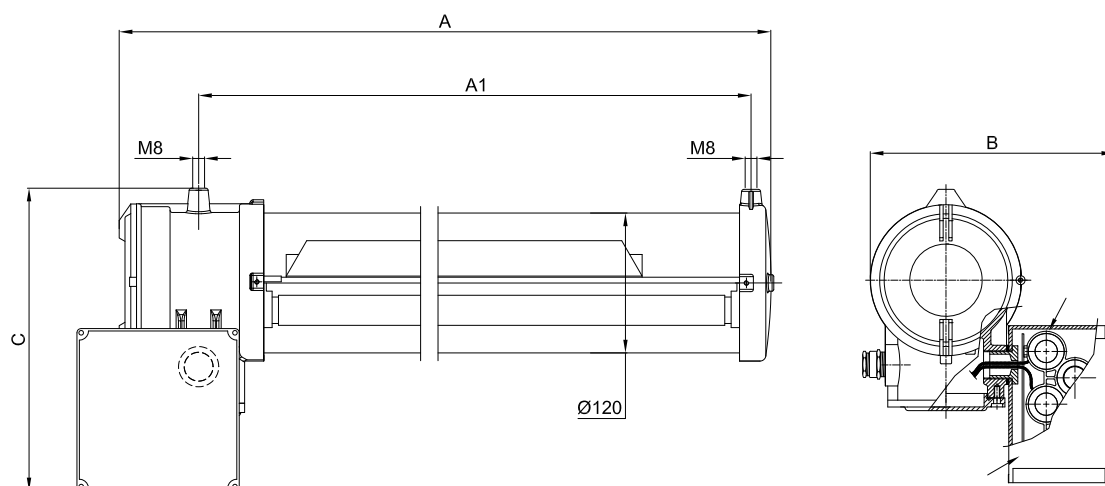
Lighting fixture in emergency for ambient temperature -20°C +55°C
manufactured with batteries housed in junction box type SA141410

Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	 mm
	A	A1	B	C							
FLFE-218EF4E	725	640	223	273	normale+emergenza	2	230 V 50/60 Hz.	18	120'	7,8	370x320x800
FLFE-236EF4E	1325	1240	223	273	normale+emergenza	2	230 V 50/60 Hz.	36	90'	11,2	370x320x1410
FLFE-218EF7E	725	640	223	273	normale+emergenza	2	230 V 50/60 Hz.	18	200'	8,3	370x320x800
FLFE-236EF7E	1325	1240	223	273	normale+emergenza	2	230 V 50/60 Hz.	36	180'	11,7	370x320x1410

Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	 mm
	A	A1	B	C							
FLFE-118EF4E	725	640	223	273	normal + emergency	1	230 V 50/60 Hz.	18	120'	7,8	370x320x800
FLFE-136EF4E	1325	1240	223	273	normal + emergency	1	230 V 50/60 Hz.	36	90'	11,2	370x320x1410
FLFE-118EF7E	725	640	223	273	normal + emergency	1	230 V 50/60 Hz.	18	200'	8,3	370x320x800
FLFE-136EF7E	1325	1240	223	273	normal + emergency	1	230 V 50/60 Hz.	36	180'	11,7	370x320x1410
FLFE-118EE4E	725	640	223	273	emergency	1	110/230 V 50/60 Hz.	18	120'	7,8	370x320x800
FLFE-136EE4E	1325	1240	223	273	emergency	1	110/230 V 50/60 Hz.	36	90'	11,2	370x320x1410
FLFE-118EE7E	725	640	223	273	emergency	1	110/230 V 50/60 Hz.	18	200'	8,3	370x320x800
FLFE-136EE7E	1325	1240	223	273	emergency	1	110/230 V 50/60 Hz.	36	180'	11,7	370x320x1410

Execution only possible for 18W and 36W lighting fixtures

DIMENSIONAL DRAWING



Dimensions in mm

DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture +
FLFE-218

Fluorescent tubes
LAMPL18W21

+

Installation bracket
G-258

+

other... see key



Accessori a richiesta e parti di ricambio serie FLFE...










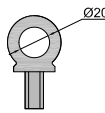


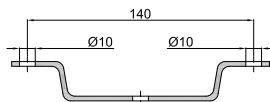


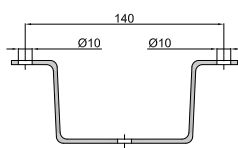


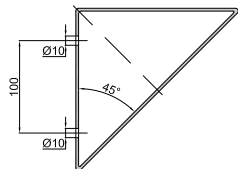


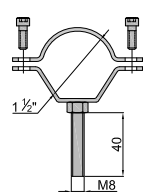


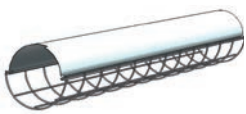


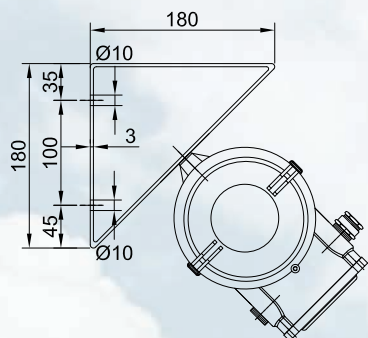
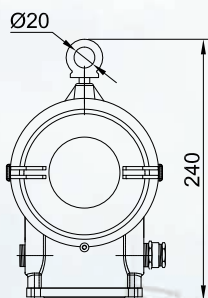
ILLUSTRAZIONE	DESCRIZIONE	MODELLO	CARATTERISTICHE	CODICE	LEGENDA
	Triphosphor fluorescent tubes G13 fitting 3.000K	18 W	1350 lm (FD18W)	LAMPL18W21	 
		36 W	3350 lm (FD36W)	LAMPL36W21	
		58 W	5200 lm (FD58W)	LAMPL58W21	
	Compact fluorescent tubes 2G11 fittings	36 W	2700 lm	LAMP-PLL36W	 
	Tige	Lunghezza: 250 mm	Material: stainless steel	BRF8MIN/250	 
	Type O eyebolt		Material: galvanised steel	GOF-8	 
	Type U bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0609	 
	Type V bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0610	 
	Type D bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0611	 
	Type P bracket		Material: galvanised steel	G-0480	 
	Guard with Light blue/white painted 10/10 aluminium external protection	18 W	Stainless steel guard	G18-0529	 
		36 W		G36-0529	
		58 W		G58-0529	
		18 W	Galvanized steel guard	G18-0529G	
		36 W		G36-0529G	
		58 W		G58-0529G	

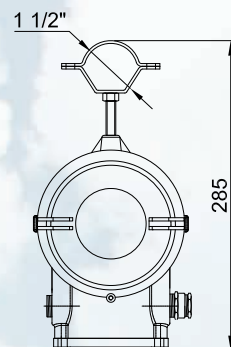
ILLUSTRAZIONE	DESCRIZIONE	MODELLO	CARATTERISTICHE	CODICE	LEGENDA
	External protection	18W	Light blue/white painted 10/10 aluminium external protection	G18-568	 
		36W		G36-568	
		58W		G58-568	
		18W	10/10 stainless steel AISI 304 external protection	G18-568IN	
		36W		G36-568IN	
		58W		G58-568IN	
	Cable gland	ISO M25	std. range cavo 11÷20	NAV25IB	
	Reflector inner frame	2 x 18 W	Painted 20/10 aluminium	G18-567	
		2 x 36 W		G36-567	
		2 x 58 W		G58-567	
		1 x 18 W		G18-661	
		1 x 36 W		G36-661	
		1 x 58 W		G58-661	
	Battery pack		4 Ah	BATT4AH/D	
			7 Ah	BATT7AH/D	
	Battery pack for execution with batteries housed in type SA141410 junction box	18W e 36W	4 Ah	G0309B	
			7 Ah	G-0309	
	Electronic ballast	2 x 18 W 2 x 36 W	230 V 50/60 Hz	RV-236	
		1 x 18 W 1 x 36 W		RV-136	
		2 x 58 W		R-258P	
		1 x 58 W		R-158P	
	Electronic inverter		110/230 V 50/60 Hz	INVERTER	
	Lamp holder	FLFE-1..	G13 250 V, 4 A	STU3249-12/S	
		FLFE-2..			
	Re-lamping bracket with clip system for use on in-line lighting fixtures		Material: galvanised steel	G-0318 + G-0318/1	 



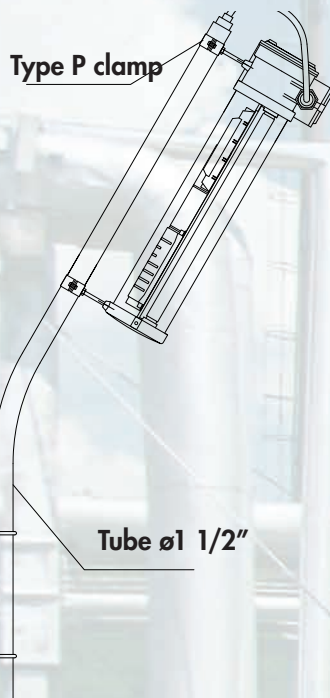
**45° angle mounting
TYPE "D"**



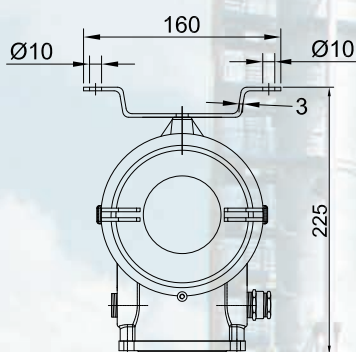
**Pendant mounting
eyebolt TYPE "O"**



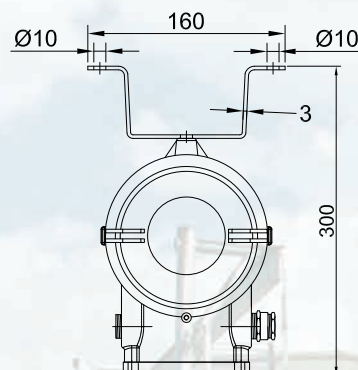
Mounting using 1.1/2" metal clamps TYPE "P"



**Pole mounting for FLFE with
barrier cable gland**

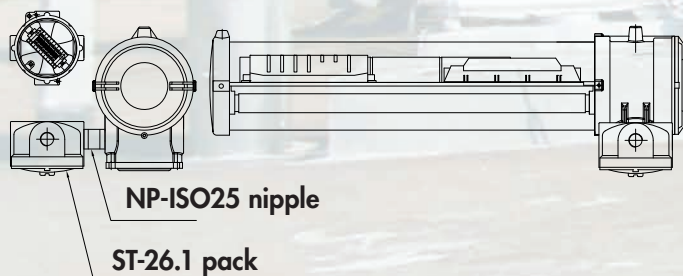


**Low ceiling mounting with
clamp TYPE "U"**

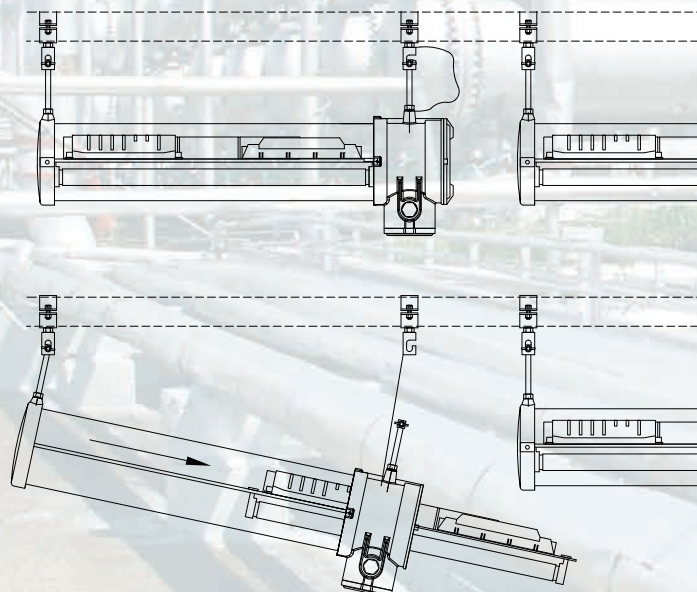


**High ceiling mounting with
clamp TYPE "V"**

Internal view

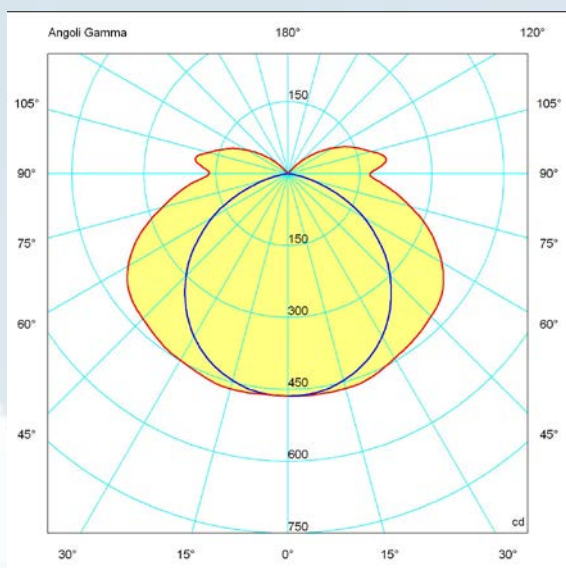


**FLFE assembly in emergency for
special execution with loop-in loop-out.**

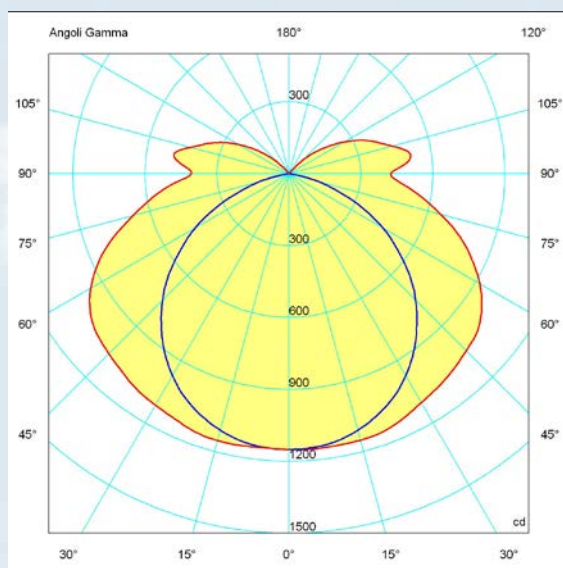


**Mounting system with release clip for easy fluorescent
tube replacement. System adopted for installing
in-line lighting fixtures.**

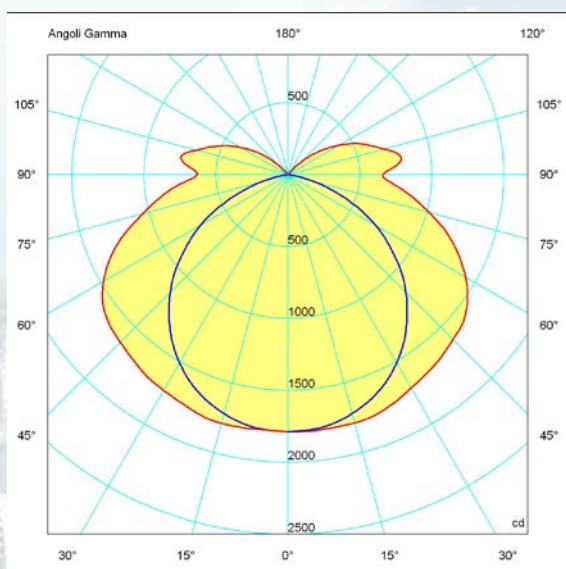
Dimensions in mm



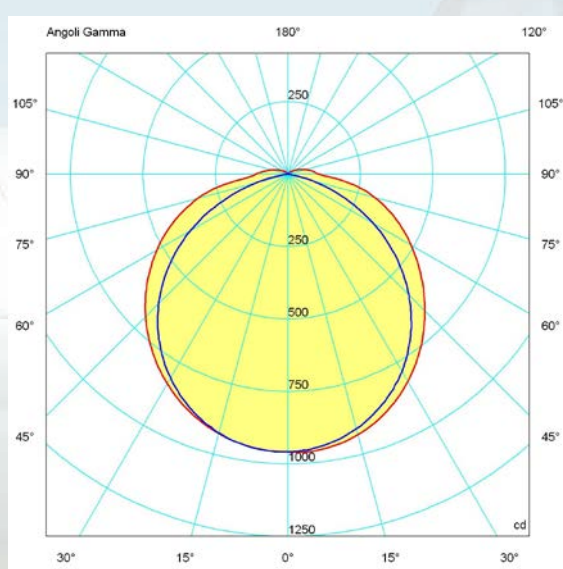
FLFE-218



FLFE-236



FLFE-258



FLFE-222L

On Cortem Group web site you can download .LDT and .IES lighting data files for the design and simulation of lighting levels in 2D and 3D, rendering and ray tracing.

— = plane 90270
— = plane C 0180

VIXLU



- Mechanically very robust
- Extremely lightweight
- Fast, safe and easy fluorescent tube change
- Anti-light pollution flat glass
- Multi-voltage double channel electronic reactor
- Zones 1, 2, 21, 22

G13 bi-pin
lamp holder

Stainless steel body

Cable gland and plugs
in nickel-plated brass



Closing clips in stainless steel



Silicone gasket and
tempered glass

VIXLU series... Lighting fixtures for fluorescent tubes stainless steel/glass series

Increased safety lighting fixtures VIXLU for series bi-pin fluorescent tubes feature an IP66 fixture with an AISI 304 stainless steel (AISI 316L on request) body and a tempered shock- and high temperature-resistant glass diffuser. This construction method makes them ideal for applications where greater protection is needed against chemically aggressive substances or where there is an elevated risk of accidental physical damage such as in certain areas of the chemical or pharmaceutical industries. They are also ideal for use in paint booths or even more specifically for use in areas where specialised electronic components are made for the aerospace industry. They are recommended for use in highly corrosive environments and in areas where water and dust are present or where there are severe variations in climate. Fluorescent tubes that reach the end of their working lives are monitored and turned off by the EOL (End of Life) safety system in compliance with EN 60079-7. If one of the two tubes stops working, the double channel multi-voltage electronic ballast allows the other to continue working independently. The lighting fixture is closed with 6 clips for the 18W version and 8 clips for the 36W. The clips keep the protective glass hooked to the body of the lighting fixture, making maintenance easier and speeding up fluorescent tube replacement.

Application sectors:



Offshore plants



Low temperatures



Onshore plants



Oil refineries



Chemical and petro-chemical plants



Anti-light pollution



Naval installations



Aeroplane hangars

CERTIFICATION DATA

Classification:

Group II

Category 2GD

Installation: EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

Marking:

CE 0722 Ex II 2GD - Ex e mb IIC T4 Gb - Ex tb IIIC T70°C Db IP66

Certification:

ATEX CESI 15 ATEX 037

IEC Ex IECEx CES 15.0019

Standards:

CENELEC EN60079-0: 2012, EN60079-7: 2007, EN60079-31: 2014, EN60079-18: 2009 and EUROPEAN DIRECTIVE 2014/34/UE.
IEC 60079-0: 2011, IEC 60079-18: 2009, IEC 60079-31: 2013, IEC 60079-7: 2006-07
European Directive 2004/108 Electromagnetic compatibility
European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE
European Directive 2011/65/UE RoHS

Temperature class:



135°C (T4)

Ambient temperature:



-40°C +55°C



Degree of protection:

IP66

VIXLU series... Lighting fixtures for fluorescent tubes stainless steel/glass series



ORIGINAL PRODUCT

MECHANICAL CHARACTERISTICS

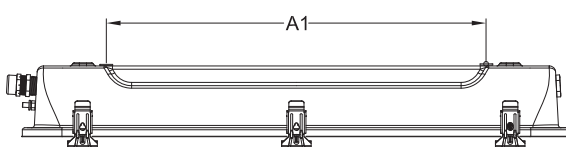
Body:	AISI 304 stainless steel
Diffuser:	Shock and high temperature resistant tempered glass
Lighting fixture hinge mechanism:	Stainless steel clips
Hinge:	Stainless steel and polyamides secured to the glass and light body
Gasket:	Acid/hydrocarbon resistant silicone
Stainless steel internal frame/reflector:	Painted white steel
Bolts and screws:	Stainless steel
Ground screw:	Stainless steel
Entries:	3 Ø20.5 entries. Lighting fixture complete with kit containing 2 PLG11B model plugs and 1 NAV20SIB model cable gland in nickel-plated brass for non-armoured cables.
Mounting:	2 M8 threaded holes

ELECTRICAL CHARACTERISTICS

Lamp holder:	Non-sparking and multi-voltage G13 bi-pin
Ballast:	Double channel electronic with EOL protection
Rated voltage:	110/240 V AC/DC
Rated frequency:	50/60 Hz
Connection:	Directly to the L, N, Pe terminal block 4mm ² cross-section, terminal block with jumper suitable for input-output
Power factor:	0.96
Wiring:	Silicone rubber cables with glass braid protection against high temperatures


ACCESSORIES AVAILABLE / SPECIAL REQUESTS

2 pin Ø26 fluorescent tubes model T8
 Reflector in extra-shiny aluminium to increase luminous output
 Installation mounting brackets
 Stainless steel cable gland NAV20SIS for non-armoured cables or NEV20SIS for armoured cables
 Body in AISI 316L stainless steel painted RAL 9016 for installations in marine or naval environments (order code VIXLU-236MP)
 Body in AISI 316L stainless steel for installations in marine environments (order code VIXLU-236M)

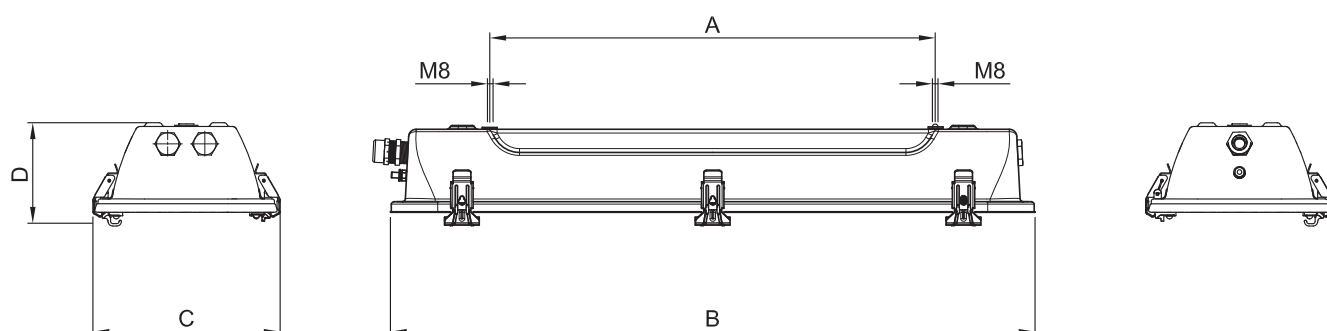


Lighting fixtures for marine environments	A1
VIXLU-118M..	430
VIXLU-136M..	950
VIXLU-218M..	430
VIXLU-236M..	950

Tabella di selezione serie VIXLU...

Code	Dimensions mm				Type of reactor	Lamp n°	Supply	Watt	Weight kg	
	A	B	C	D						
VIXLU-118	480	690	198	100	double channel electronic	1	110/240V 50/60Hz	18	3,9	750x220x150
VIXLU-218	480	690	198	100	double channel electronic	2	110/240V 50/60Hz	18	4,0	750x220x150
VIXLU-136	1090	1300	198	100	double channel electronic	1	110/240V 50/60Hz	36	6,3	1355x220x150
VIXLU-236	1090	1300	198	100	double channel electronic	2	110/240V 50/60Hz	36	6,5	1355x220x150

DIMENSIONAL DRAWINGS



VIXLU LIGHTING FIXTURE IN DETAIL

Fixture access

Speed - The fixture does not need to be disassembled to access the connection terminal block. Thanks to the removable frame system on which the fluorescent tubes are housed, in fact, you can directly access the inside of the lighting fixture extremely easily, simplifying any operator maintenance activities.



Opening/closing system

Protection - The lighting fixture is closed by 6 clips for the 18W version and 8 clips for the 36W. The clips keep the protective glass hooked to the body of the lighting fixture, making maintenance easier and speeding up fluorescent tube replacement.







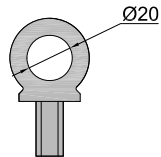





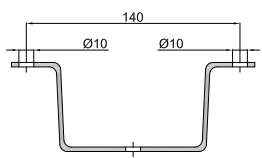


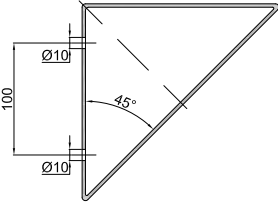


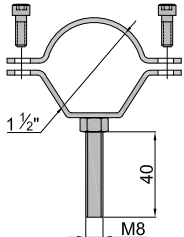




Materials



Duration - The body made entirely in AISI 304 stainless steel ensures high resistance to corrosion and duration over time in very harsh conditions. Also available in AISI 316L stainless steel or AISI 316L painted on request. Shock- and high temperature-resistant tempered glass.

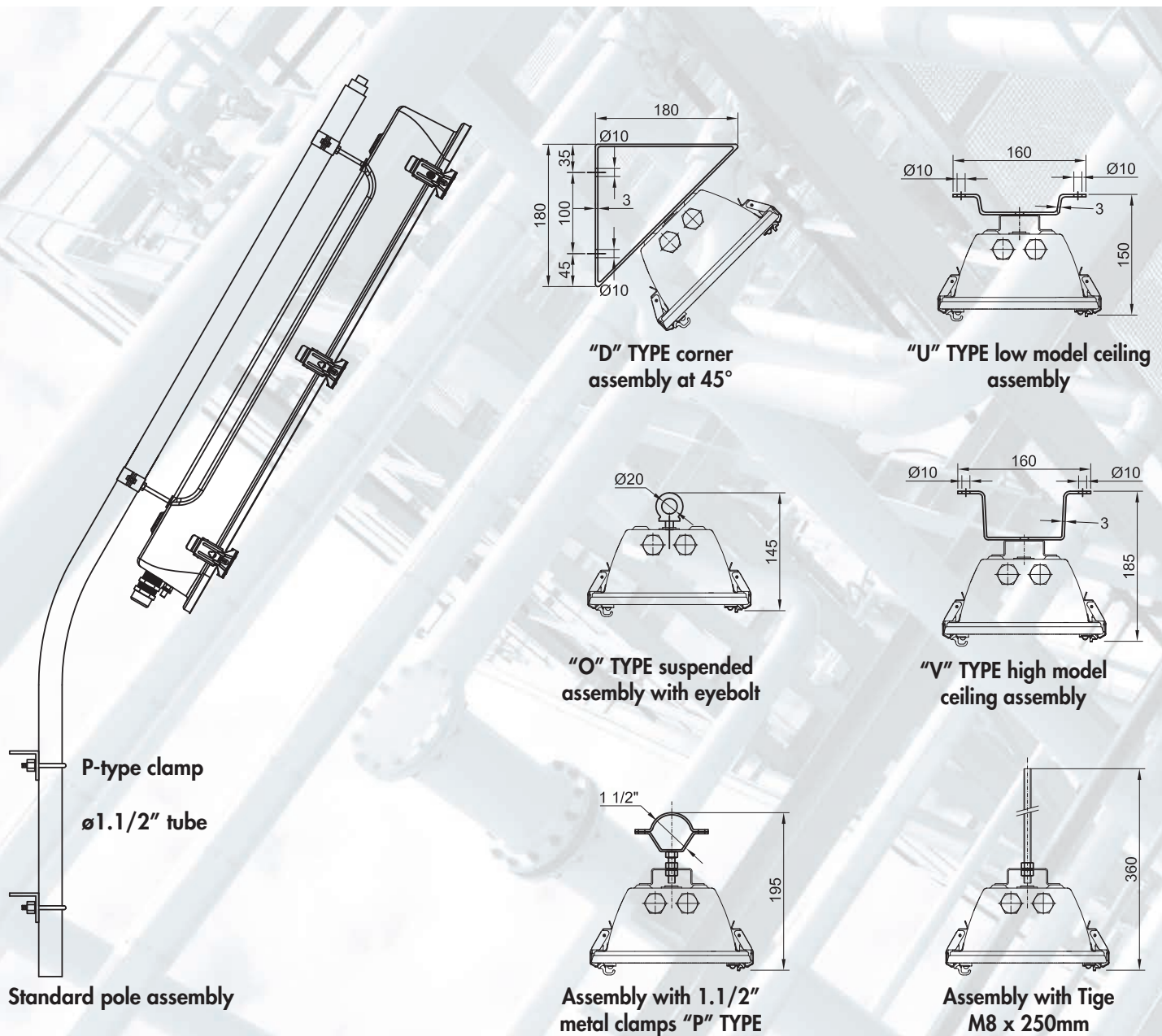


VIXLU series extra accessories and spare parts...

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	G13 coupling tri-phosphor fluorescent tubes 3.000K	18 W	1350 lm (FD18W)	LAMPL18W21	 
		36 W	3350 lm (FD36W)	LAMPL36W21	
	Tige	Length: 250 mm	Material: stainless steel	BRF8MIN/250	 
	Eyebolt		Material: galvanised steel	G0F-8	 
	U-type bracket complete with hardware		Material bracket: galvanised steel screws: stainless steel	G-0609	 
	V-type bracket complete with hardware		Material bracket: galvanised steel screws: stainless steel	G-0610	 
	D-type bracket complete with hardware		Material bracket: galvanised steel screws: stainless steel	G-0611	 
	P-type bracket		Material: galvanised steel	G-0480	 

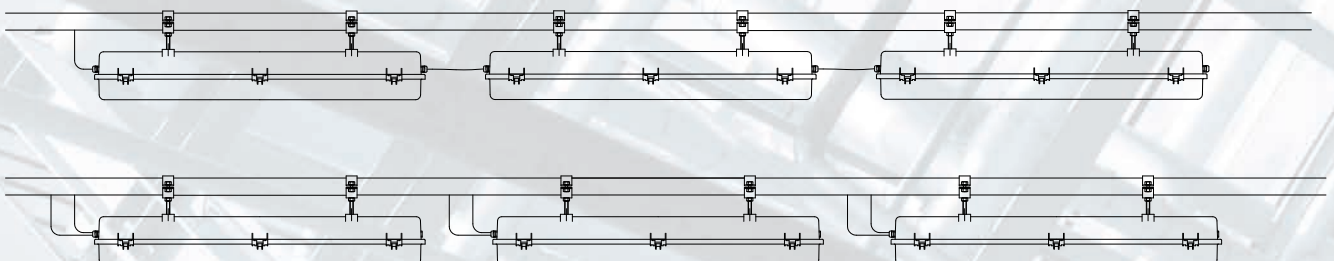
VIXLU series extra accessories and spare parts...

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Extra-shiny reflector	18 W	Material: aluminium	PC053960	 
		36 W		PC053961	
	Transparent cover complete with hooks	18 W	Material: tempered glass	PC054280	
		36 W		PC054281	
	Double channel multi-voltage electronic reactor	1 x 18 W 2 x 18 W 1 x 36 W 2 x 36 W	110/240 V 50/60 Hz	EBV-1	
	Bi-pin lamp holder	G13	320 V - 2 A	G-0598	
	Cable gland	ISO M20	std. range cavo 6,5÷14	NAV20IB	



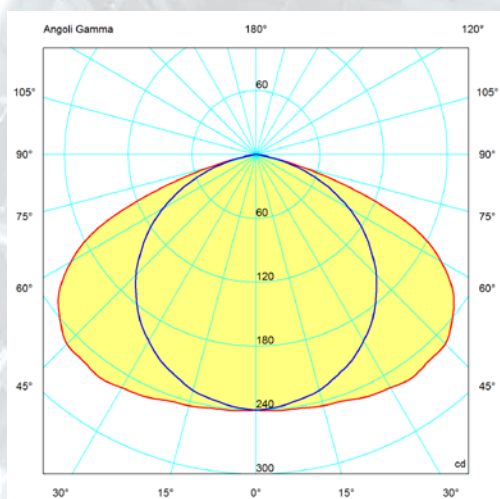
Note: check the fixing distances according to the chosen model

In-out connections can be made on one or both sides of the light body for quick, low-cost installation

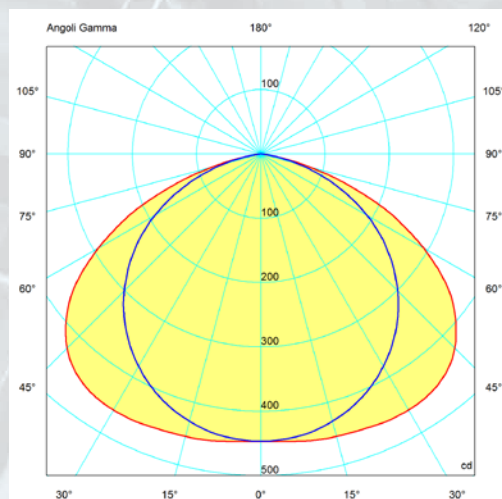




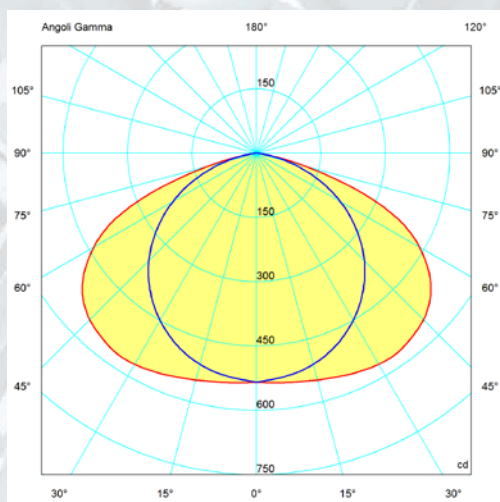
Example of lighting study made with lighting fixtures for VIXLU-236 fluorescent tubes



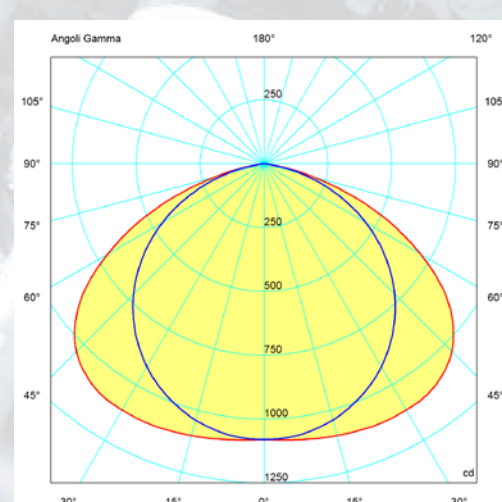
VIXLU-118



VIXLU-218



VIXLU-136



VIXLU-236

The lighting files are available at www.cortemgroup.com for designs and simulations of 2D-3D lighting levels, renderings and ray-tracing.

— = plane 90270
— = plane 0180

TIGER

- Suitable for high (+60°C) and low temperatures (-50°C)
- Fast maintenance
- Easy to wire
- Zones 2, 21, 22

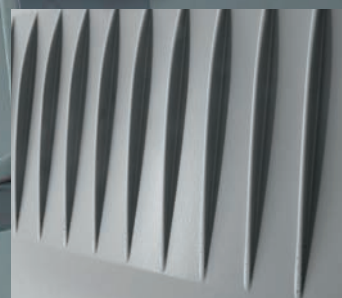
*Shock resistant
tempered glass*



*Corrosion resistant alumi-
nium clips*



Cooling fins



*Adjustable tracking
sonimeter*

TIGER series Rectangular floodlights

TIGER series floodlights have been manufactured and tested in compliance with European standards for use in hazardous areas classified as Zone 2 due to the presence of gases and as Zone 21, 22 for the presence of dusts. When fitted with a symmetrical internal reflector, they are ideal for lighting large areas and when fitted with an asymmetrical reflector they provide a concentrated beam of light exactly where it is required. Their IP66 degree of protection and excellent performance at high (+60°C) and low (-50°C) temperatures makes TIGER floodlights ideal for all those settings where climatic conditions are extreme. Wiring is greatly facilitated by the use of specially designated terminals that speed up installation and prevent wrong connections. The electrical components are easily accessed (ballast, capacitor, igniter) and are pre-wired to the terminal board this reducing maintenance time and installation costs.

Application sectors:



Oil refineries



Perimeter lighting



Aircraft storage facilities
Hangars



Service stations



Low temperatures



Oil loading/
unloading jetties



Fuel tanker loading/
unloading areas



Farm produce applications

CERTIFICATION DATA

Classification:

Group II

Category 3GD

Installation: EN 60079.14

zone 2 (Gas)

zone 22 (Dust)

zone 21
(for IECEx, TR CU e INMETRO)

Marking:

CE 0722 Ex II 3GD Ex nR IIC T3, T2 Gc; Ex tc IIIC T145°C ÷ T210°C Dc IP66

Certification:

ATEX CESI 06 ATEX 054

IEC Ex ITS 12.0004X

All IEC Ex certification data can be
downloaded at www.cortemgroup.com

Standards:

CENELEC EN 60079-0: 2012, EN 60079-15: 2010, EN60079-31: 2009, EN 60529:1991
and EUROPEAN DIRECTIVE 2014/34/UE
IEC 60079-0: 2011, IEC 60079-15: 2010, IEC 60079-31: 2008, IEC 60529: 2001
European Directive 2004/108 Electromagnetic compatibility
European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE
European Directive 2011/65/UE RoHS



Class temperature:



300°C (T2)



200°C (T3)



Ambient temperature:



Standard
-25°C +60°C

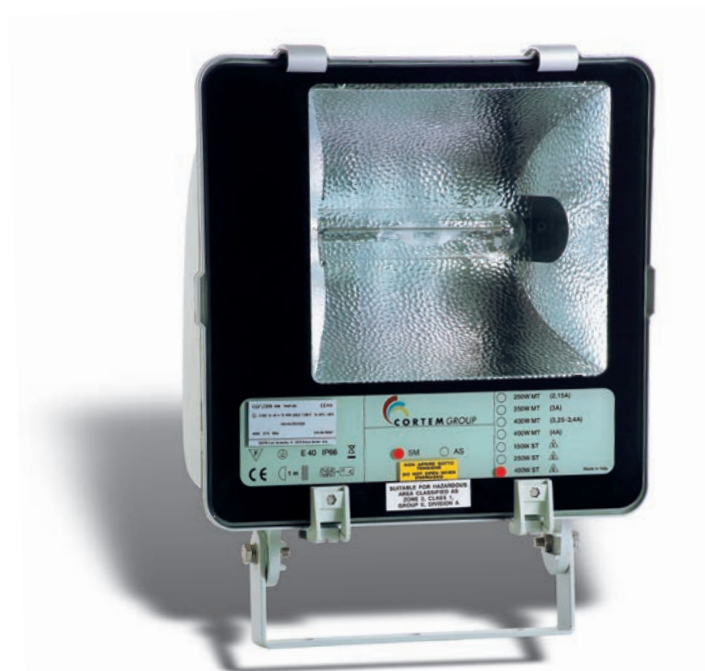


Special
-50°C +60°C

Degree of protection:

IP66

TIGER series Rectangular floodlights



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Die-cast aluminium (EN AB 46100)
Glass:	Tempered to withstand shock and high temperatures
Gaskets:	Acid, hydrocarbon and high temperature resistant silicone
Internal reflector:	Symmetrical and asymmetrical (see photometric diagrams) in 99.85 oxidised, polished aluminium
Supporting bracket:	5 mm galvanised steel with index for tracking goniometer
Mounting:	2 x Ø11 and 1 x Ø13 holes mm
Bolts and screws:	Stainless steel
Locking mechanism:	Aluminium clips
Hinge:	Stainless steel
Entries:	1xISO M20 entry. Floodlight fixture complete with cable gland UNI1LXE7 for non armoured cable
Coating:	Polyester Ral 7035 (Light grey)


ELECTRICAL FEATURES

Lamp holder:	E40 ceramic
Rated voltage:	230 V AC
Rated frequency:	50 Hz
Connection:	Direct connection to the terminal board L, N, Pe. Section 4mm ²
Power factor:	0.90

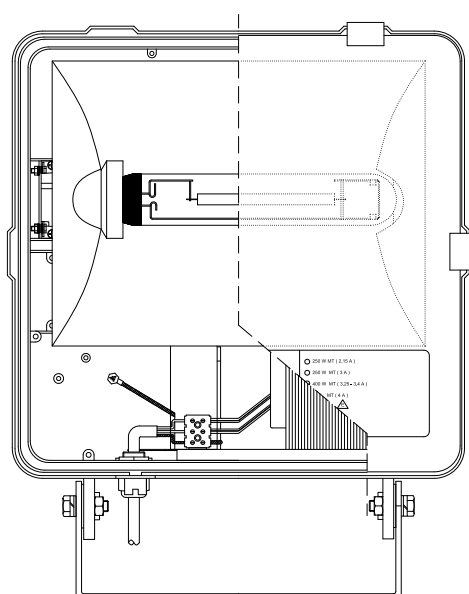
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Discharge lamp
Rated voltage: 277 V 60 Hz (code TIGER-400HA/277)
Rated voltage: 480 V 50 Hz (code TIGER-400HA/480)
Rated frequency: 60 Hz at 230 V (code TIGER-400HA/60)
Loop in / loop out on request
Other voltages available on request

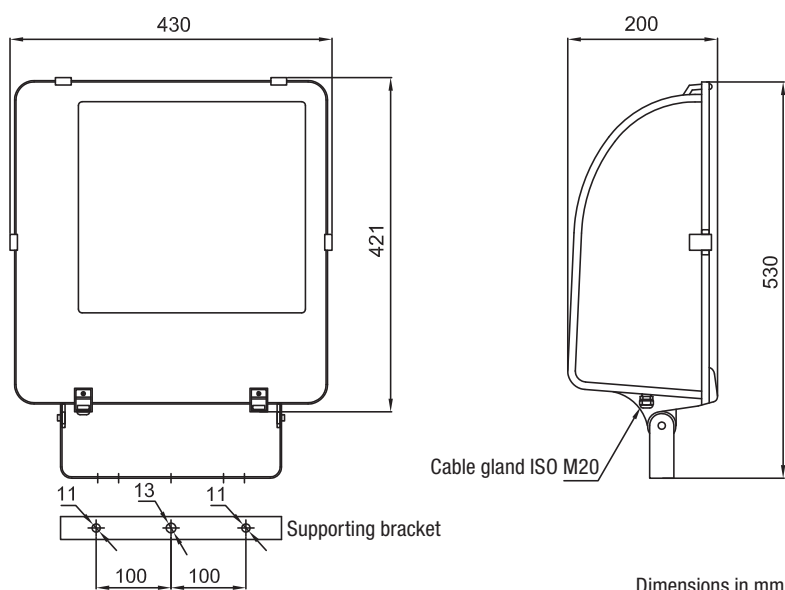
TIGER series selection chart

Code	Lamp type	Reflector	Watt	Class T.a. +55°C	Max surface temperature °C	Weight kg	 mm
TIGER-150NA	high pressure sodium	Symmetrical	150	T3	160	9	480x440x220
TIGER-150NAAS	high pressure sodium	Asymmetrical	150	T3	160	9	480x440x220
TIGER-250NA	high pressure sodium	Symmetrical	250	T3	160	10,2	480x440x220
TIGER-250NAAS	high pressure sodium	Asymmetrical	250	T3	160	10,2	480x440x220
TIGER-400NA	high pressure sodium	Symmetrical	400	T3-T2	189-210	11,5	480x440x220
TIGER-400NAAS	high pressure sodium	Asymmetrical	400	T3-T2	189-210	11,5	480x440x220
TIGER-250HA	metal halide	Symmetrical	250	T2	160	10,2	480x440x220
TIGER-250HAAS	metal halide	Asymmetrical	250	T2	160	10,2	480x440x220
TIGER-400HA	metal halide	Symmetrical	400	T3-T2	189-210	10,2	480x440x220
TIGER-400HAAS	metal halide	Asymmetrical	400	T3-T2	189-210	10,2	480x440x220

INTERNAL VIEW



DIMENSIONAL DRAWING



Dimensions in mm

DON'T FORGET TO ORDER THE ACCESSORIES

Example: Floodlight model
TIGER-250NA

+

Lamp
LAMPNAV250W

+

other... see key

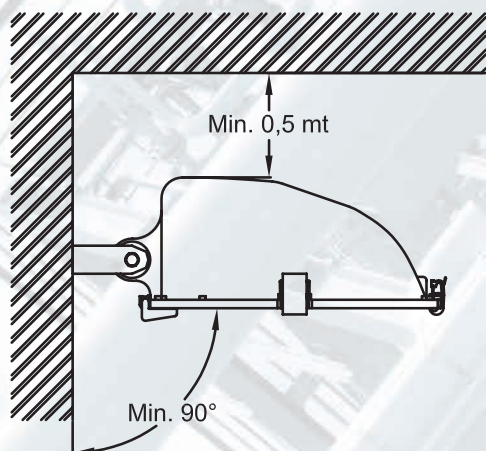


TIGER series Accessories and spare parts available on request

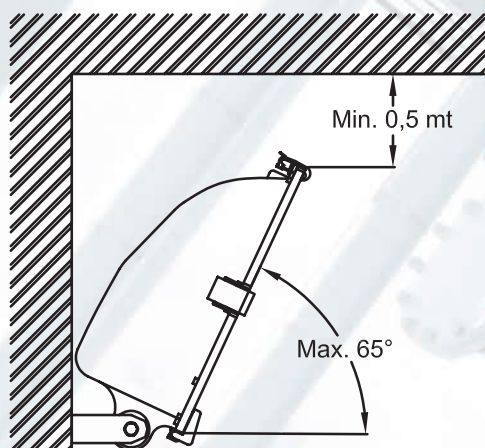
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	High pressure sodium vapour lamp	E40	150 W (ST150W)	LAMPNAV150WPLU	 
			250 W (ST250W)	LAMPNAV250WPLU	
			400 W (ST400W)	LAMPNAV400WPLU	
	Metal halide lamp	E40	230 W (MT250W)	LAMP230WJMT	 
			360 W (MT400W)	LAMP360WJMT	
	Supporting bracket		Material: galvanised steel	000040877	
	Non-armoured cable gland kit with rubbers, seal and lock nut	ISO M20	Ex e II IP 66/68 (std. cable range 7÷12)	UNI1LXE7	
	Front ring with glass and hinges		Material: tempered glass	G-0563	

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Lamp holder	E40	750W 16A	PORT E-40	
	Sodium vapour and metal halide ballast	150 W	230V 50 Hz	R-150 NA	
		250W		R-250 NA	
		400W		R-400 NA	
	Capacitor for metal halide	250W	20 µF 250V	F-30	
		400W	40 µF 250V	F-40	
	Capacitor for sodium vapour	250W	35 µF 250V	F-35	
		400W	50 µF 250V	F-50	
	Igniter	150 W 250 W 400 W		R 100	

At the maximum ambient temperature $T.a.+60^{\circ}\text{C}$, the temperature class and max surface temp of TIGER-400 model floodlights depends on the installation conditions.



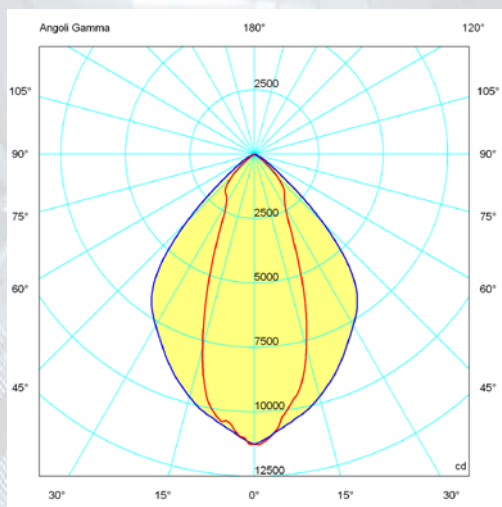
Temperature classes for floodlights installed at 180°		
LAMP	45° C	60°C
150 W	T3	T3
250 W	T3	T3
400 W	T3	T2



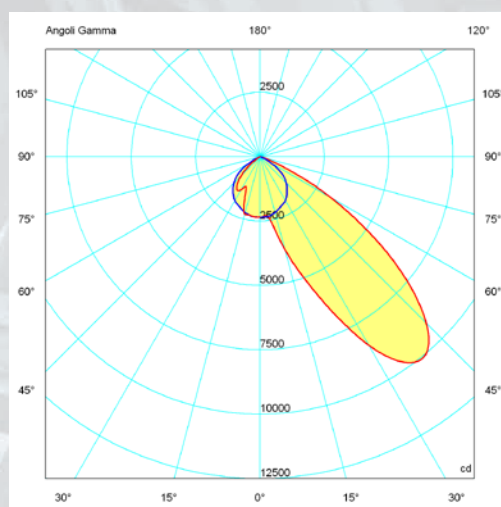
Temperature classes for floodlights installed at other angles		
LAMP	45° C	60°C
150 W	T3	T3
250 W	T3	T3
400 W	T3	T3



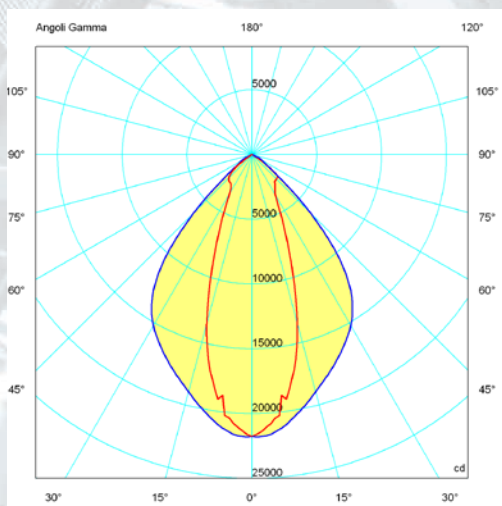
Photometric diagrams



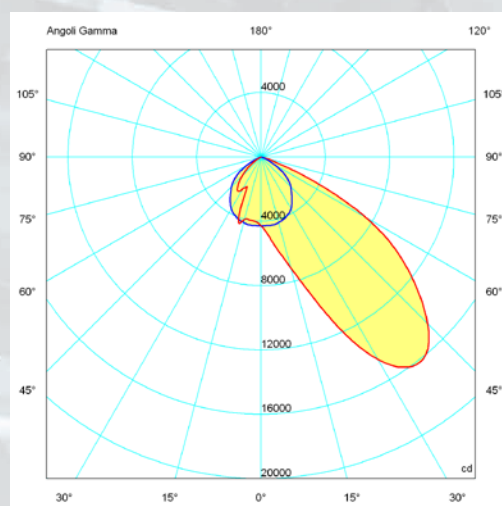
TIGER SYMMETRICAL 150W SODIUM



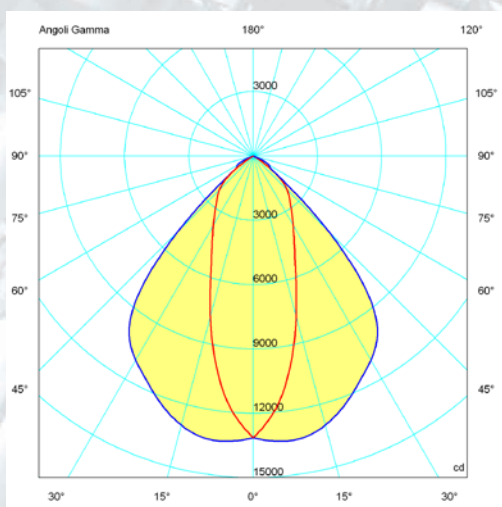
TIGER ASYMMETRICAL 150W SODIUM



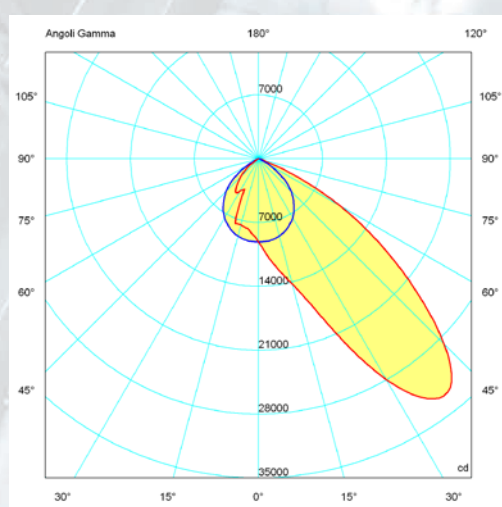
TIGER SYMMETRICAL 250W SODIUM



TIGER ASYMMETRICAL 250W SODIUM



TIGER SYMMETRICAL 400W SODIUM



TIGER ASYMMETRICAL 400W SODIUM

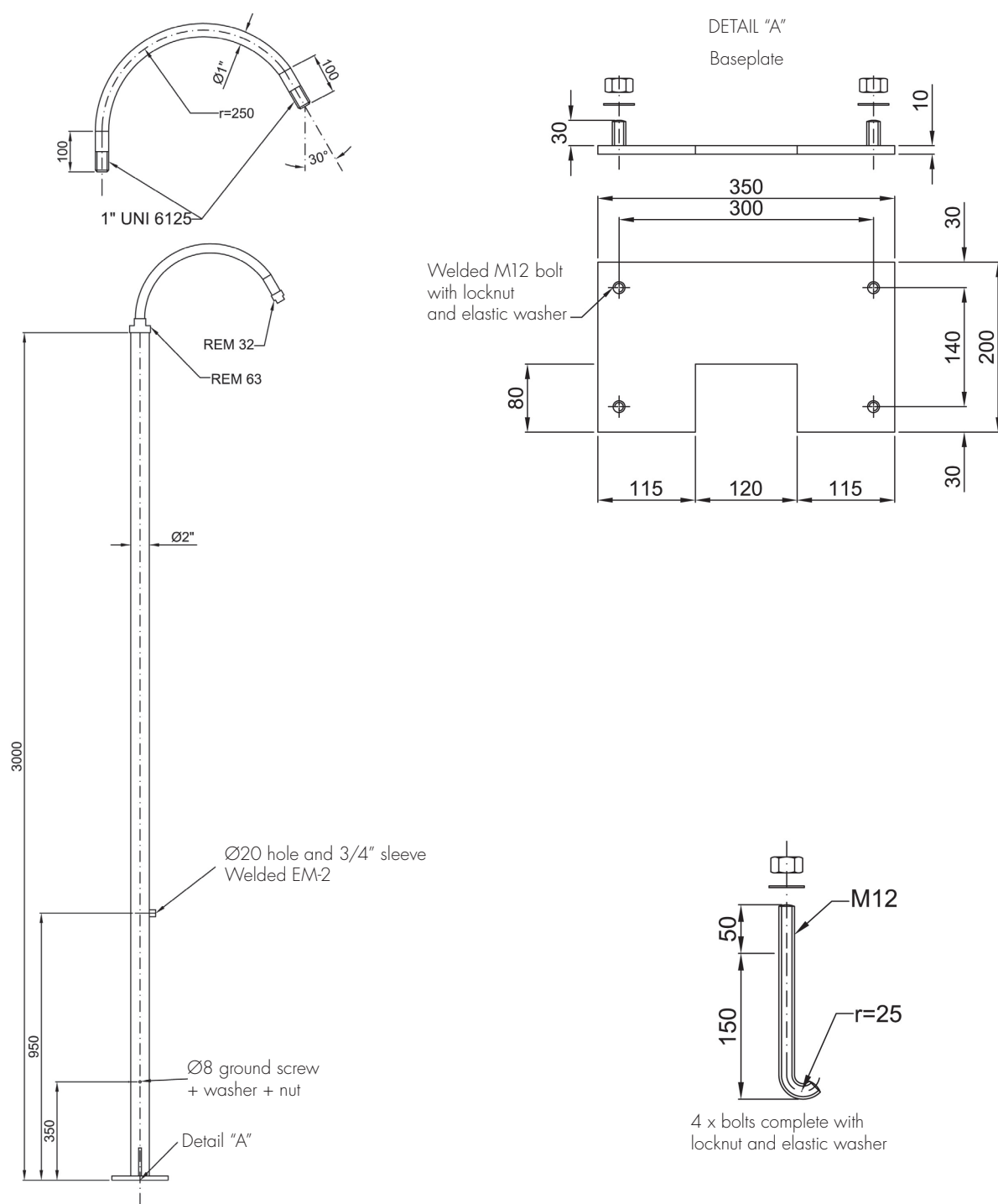
On Cortem Group web site you can download .LDT and .IES lighting data files for the design and simulation of lighting levels in 2D and 3D, rendering and ray tracing.

— = plane 90270
— = plane C 0180

FEATURES OF POLES FOR LIGHTING FIXTURES MOUNTING

PAL-01 PAL-02 Poles for base mounting

POLE FOR MOUNTING EVA, EW, EWAT, EVEA, EVE, EWE, EWAE, EWNT SERIES LIGHTING FIXTURES

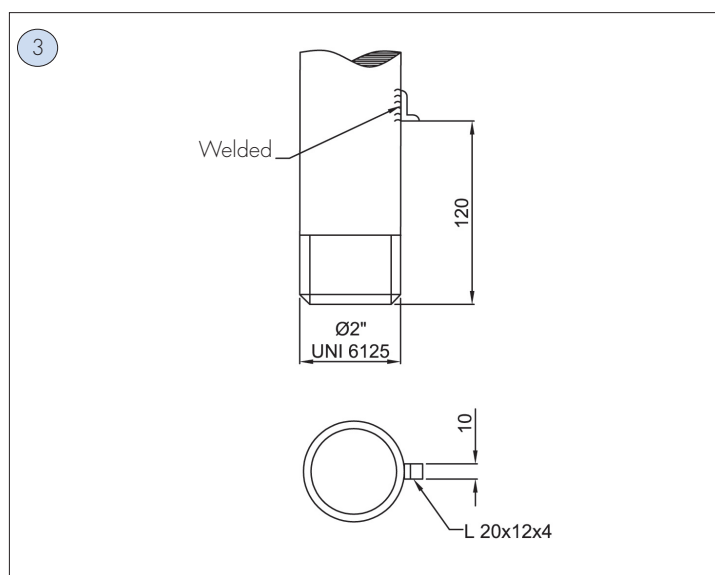
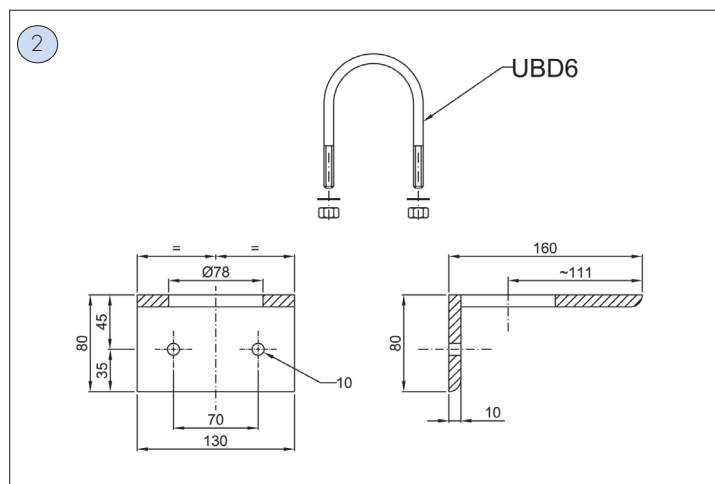
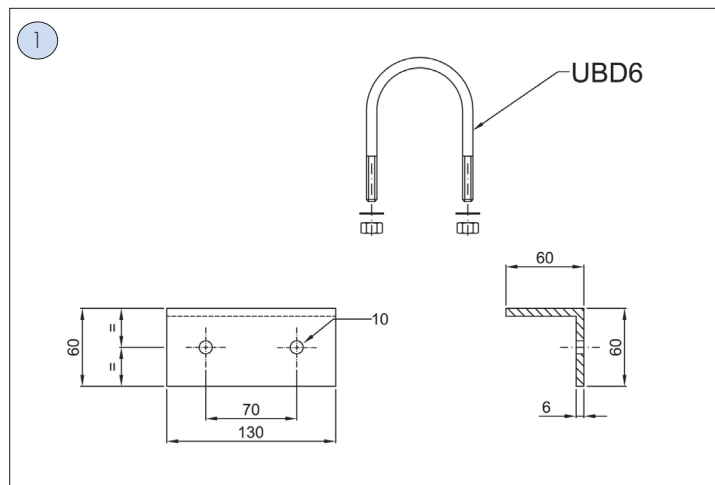
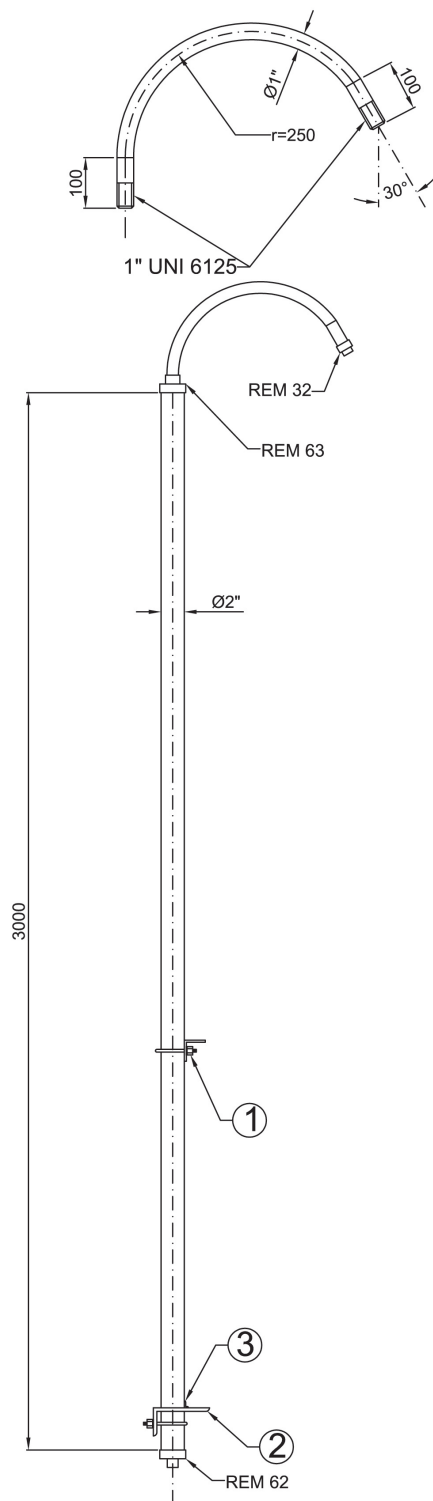


Dimensions in mm

CODE	DESCRIPTION
PAL-01	Pole supplied with welded plate and baseplate
PAL-02	Pole supplied with welded plate and bolts

PAL-03 Pole for structure mounting

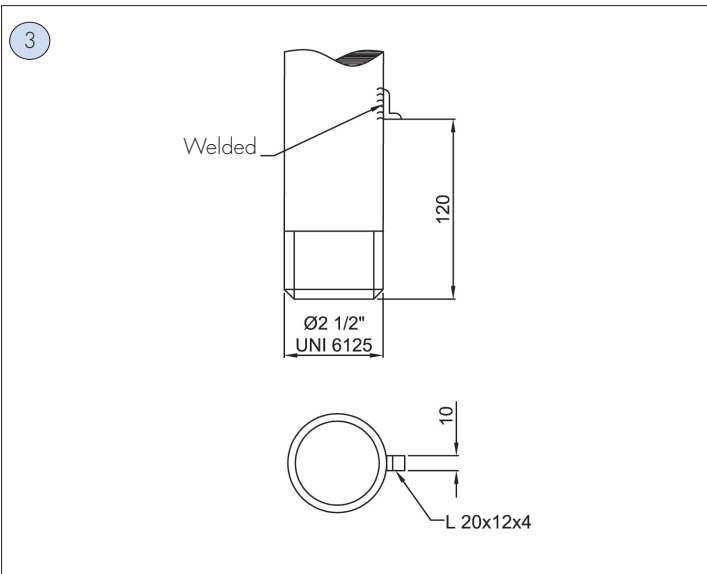
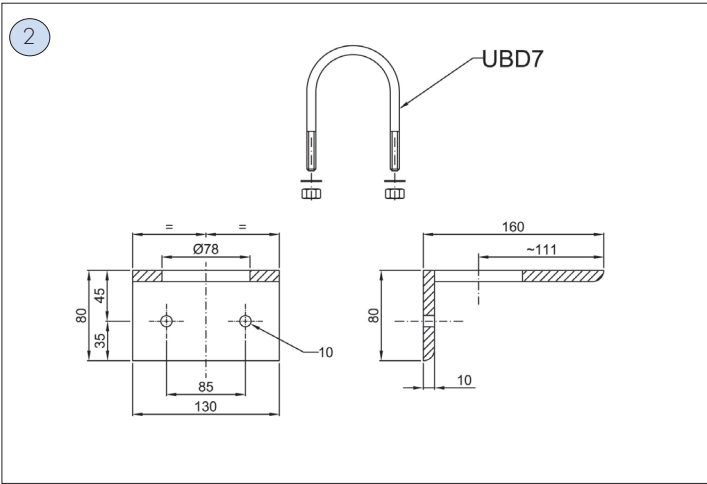
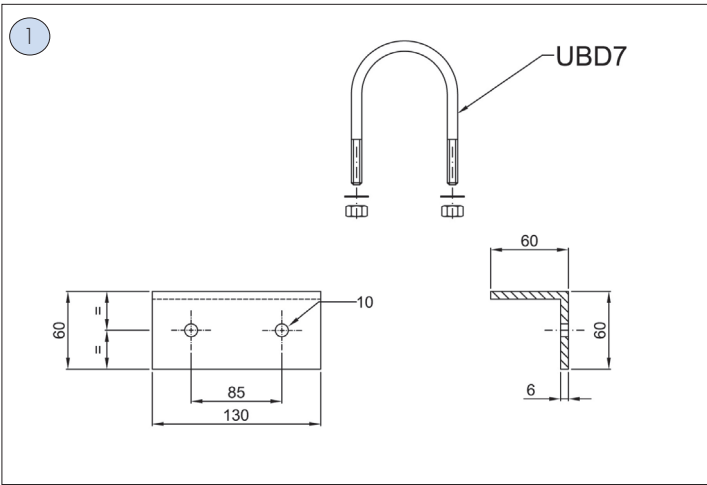
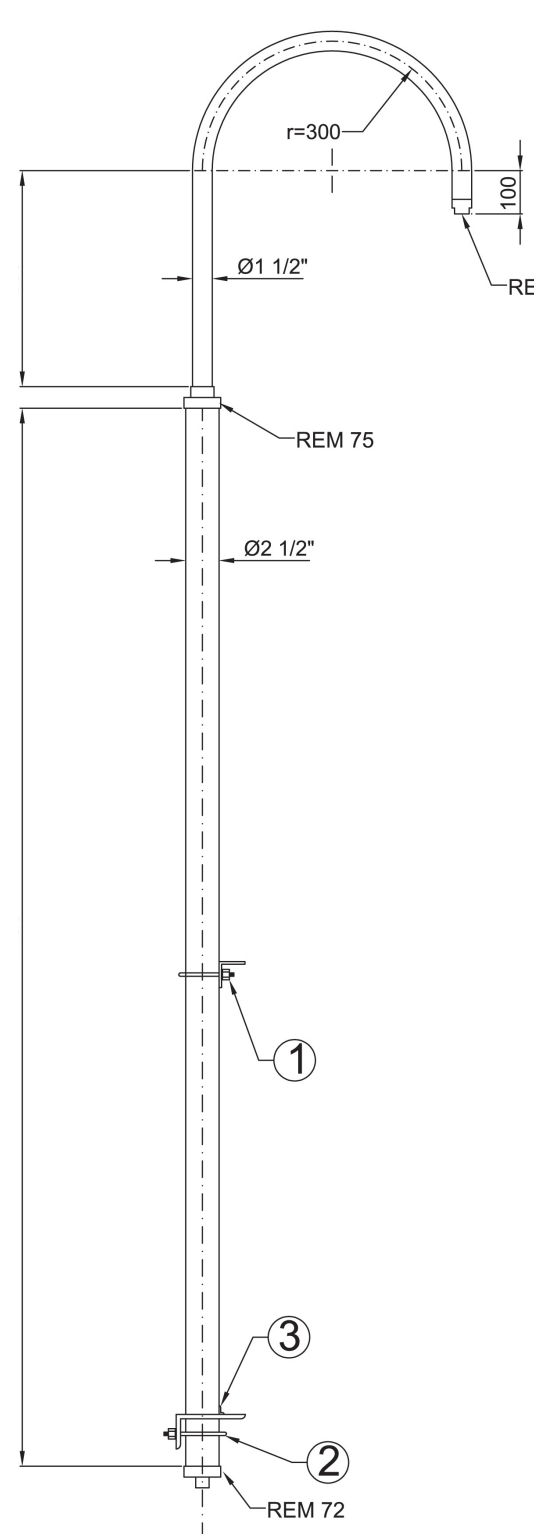
POLE FOR MOUNTING EVA, EW, EWAT, EVEA, EVE, EWE, EWAE, EWNT SERIES LIGHTING FIXTURES



Dimensions in mm

CODE	DESCRIPTION
PAL-03	Pole supplied with angled mounting (see fig.1-2-3)

POLE FOR MOUNTING
EVA, EW, EWAT, EVEA, EVE, EWE, EWAE, EWNT SERIES LIGHTING FIXTURES

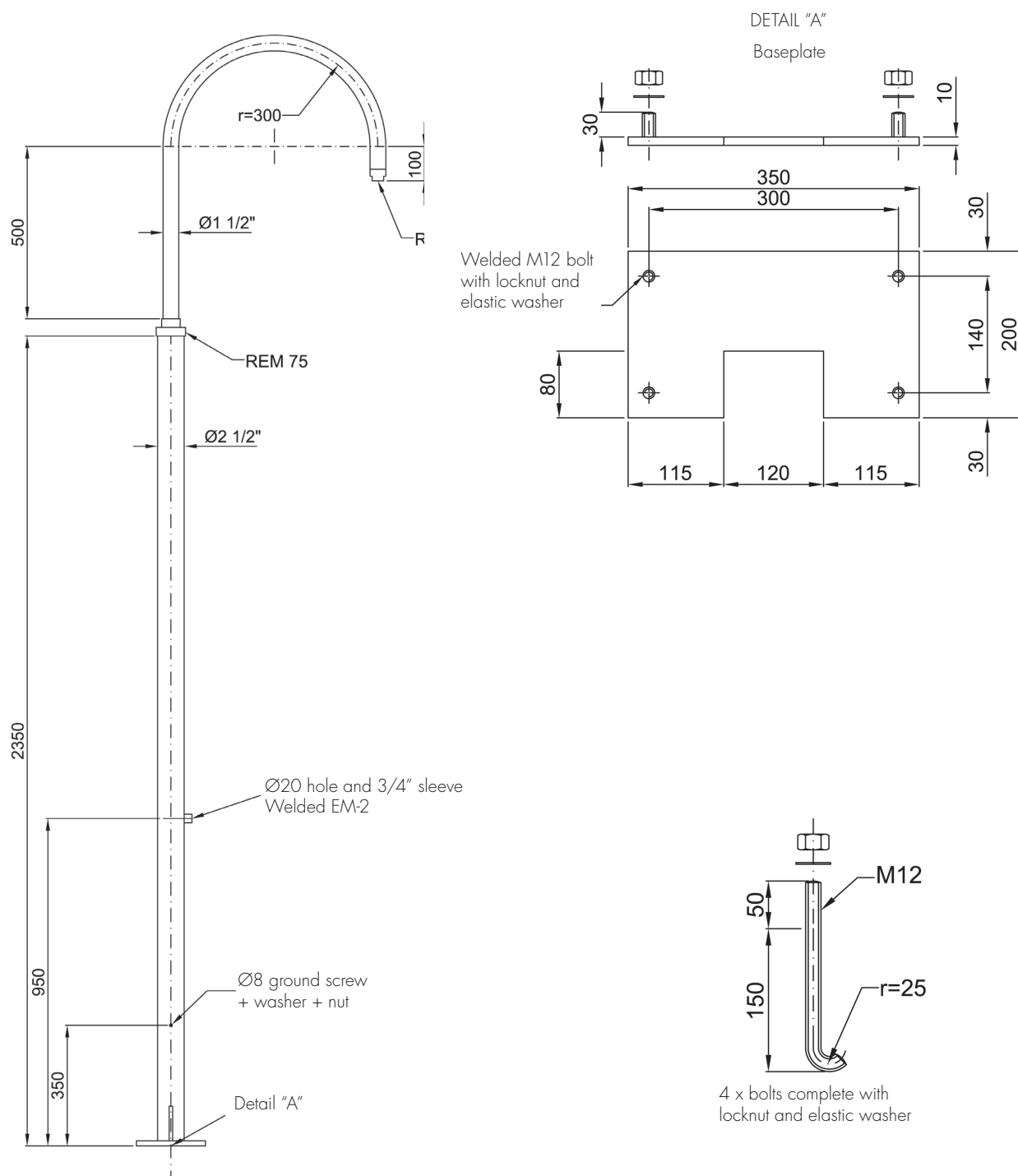


Dimensions in mm

CODE	DESCRIPTION
PAL-04	Pole supplied with angled mounting (see fig.1-2-3)

PAL-05 PAL-06 Poles for base mounting

POLE FOR MOUNTING EVA, EW, EWAT, EVEA, EVE, EWE, EWAE, EWNT SERIES LIGHTING FIXTURES

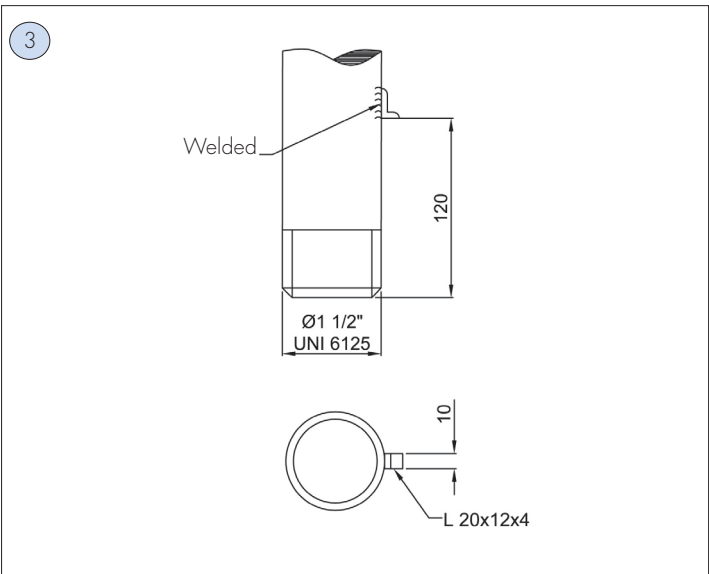
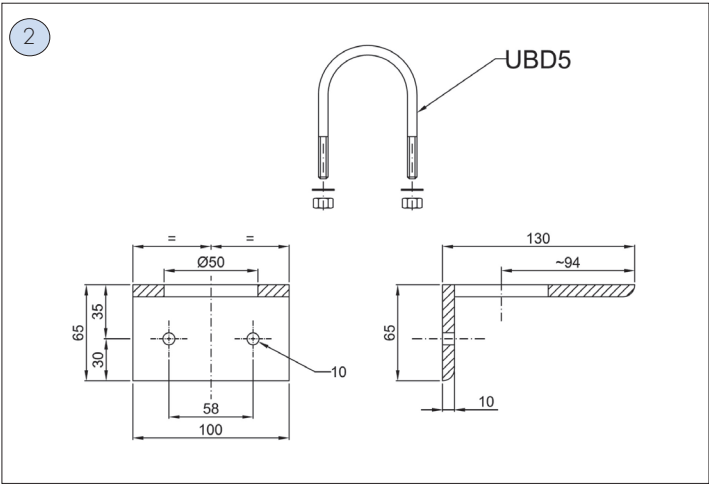
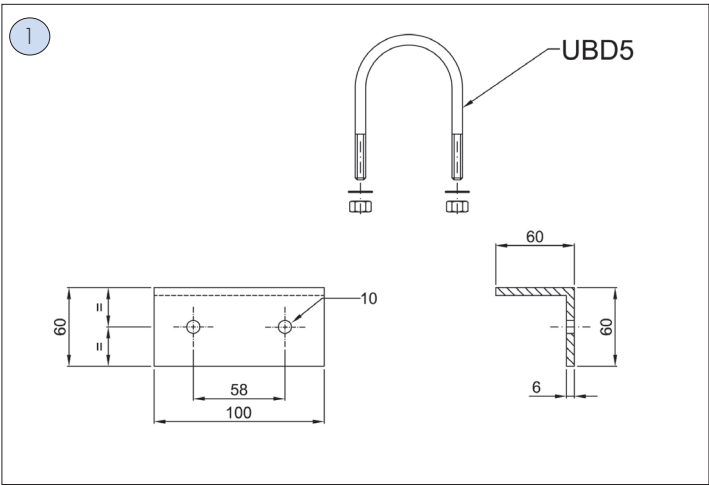
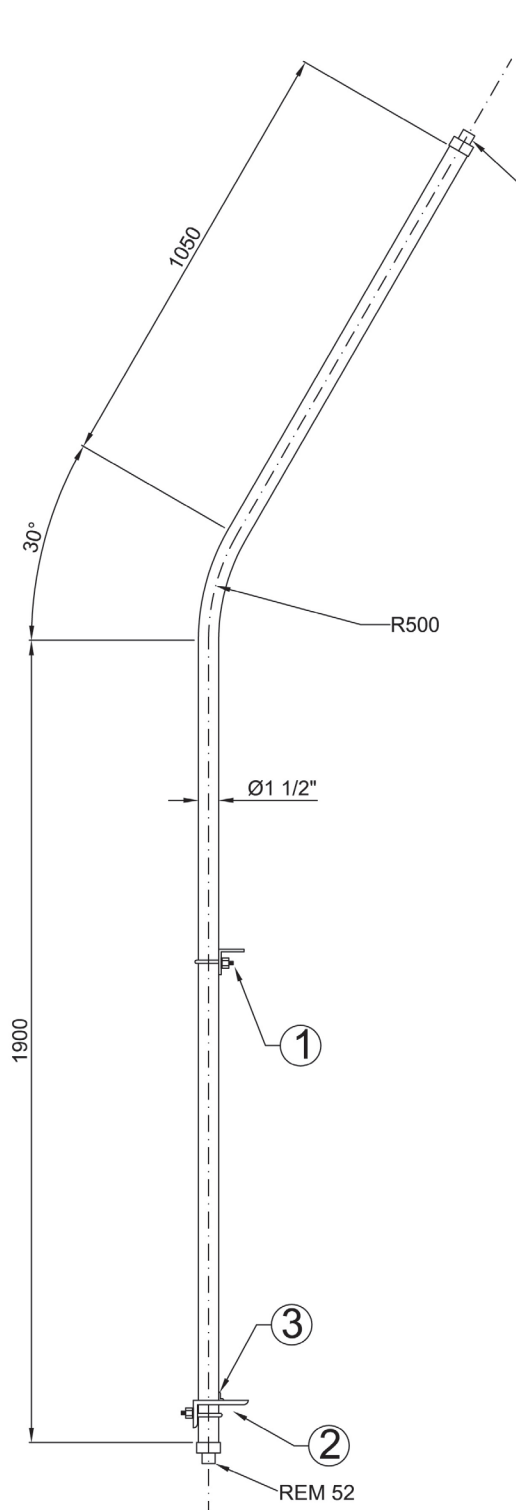


Dimensions in mm

CODE	DESCRIPTION
PAL-05	Pole supplied with welded plate and baseplate
PAL-06	Pole supplied with welded plate and bolts

PAL-07 Pole for structure mounting

POLE FOR MOUNTING
FLFE, EXEN, EVF..E, EVFD, EXEL, FLF, AVN LIGHTING FIXTURES

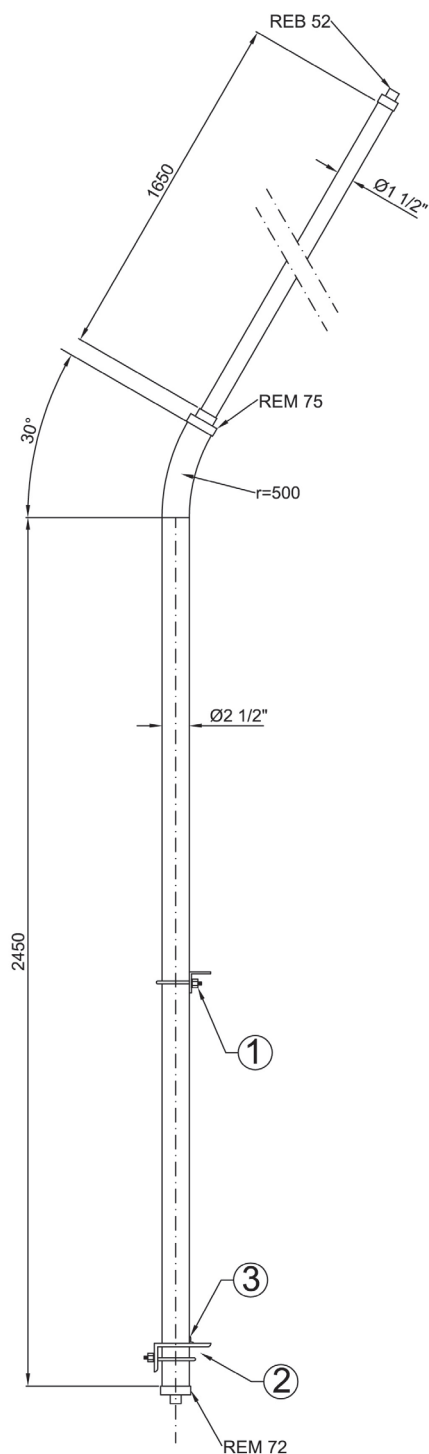


Dimensions in mm

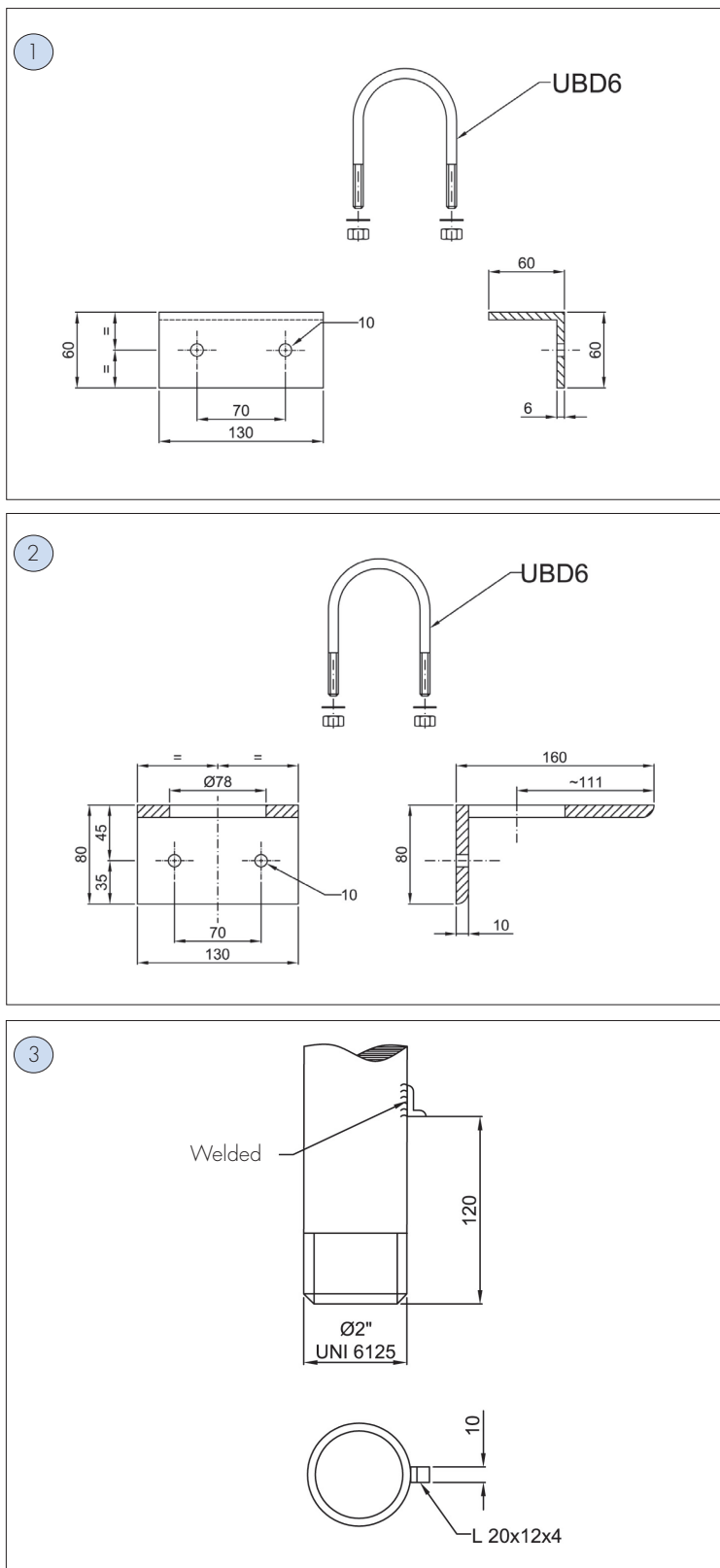
CODE	DESCRIPTION
PAL-07	Pole supplied with angled mounting (see fig.1-2-3)

PAL-08 Pole for structure mounting

POLE FOR MOUNTING FLFE, EXEN, EVF.E, EVFD, EXEL, FLF, AVN LIGHTING FIXTURES



Dimensions in mm



CODE

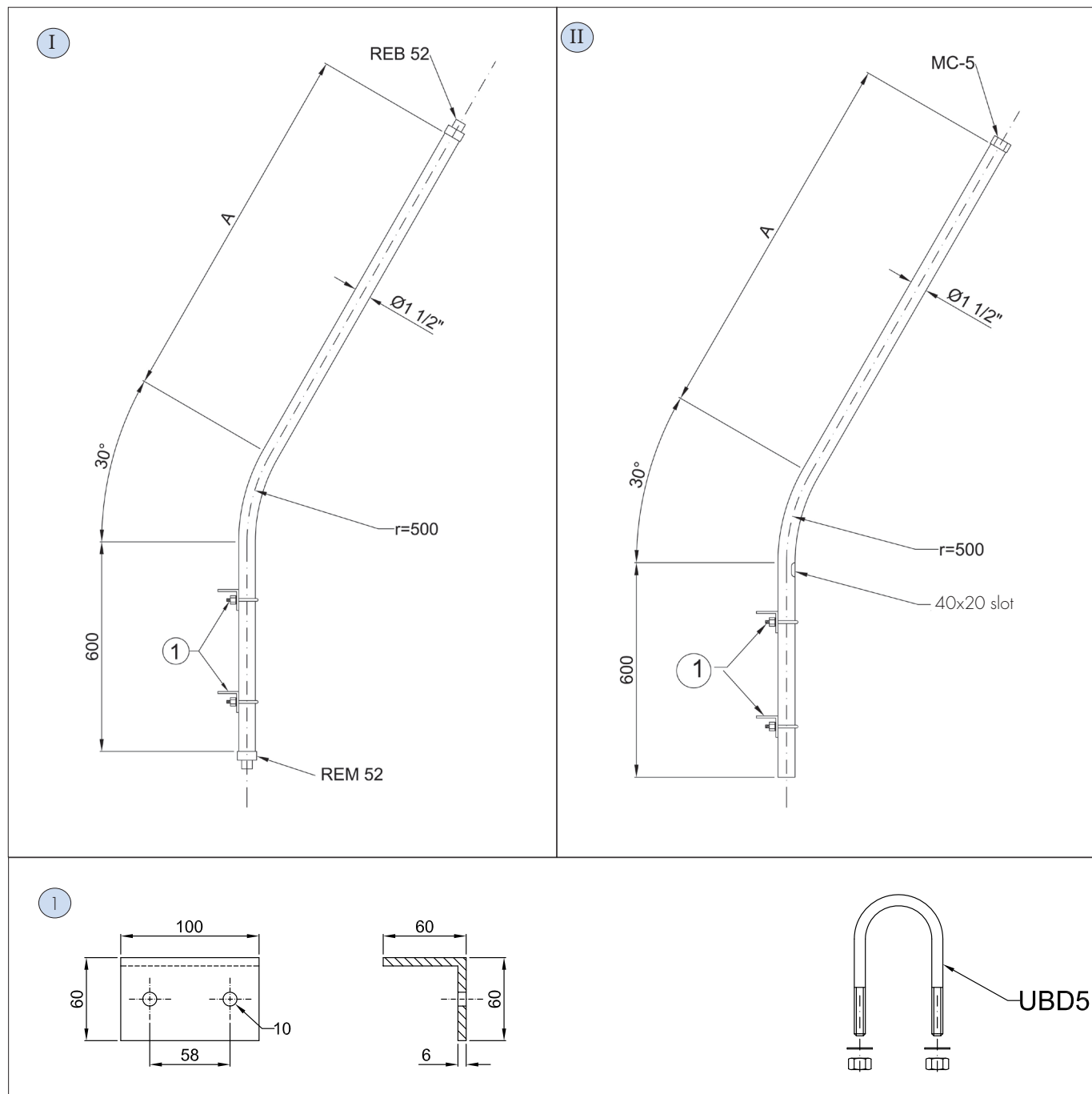
PAL-08

DESCRIPTION

Pole supplied with angled mounting (see fig.1-2-3)

PAL-09 PAL-10 PAL-15 PAL-16 Poles for base mounting

POLE FOR MOUNTING FLFE, EXEN, EVF.E, EVFD, EXEL, FLF, AVN LIGHTING FIXTURES

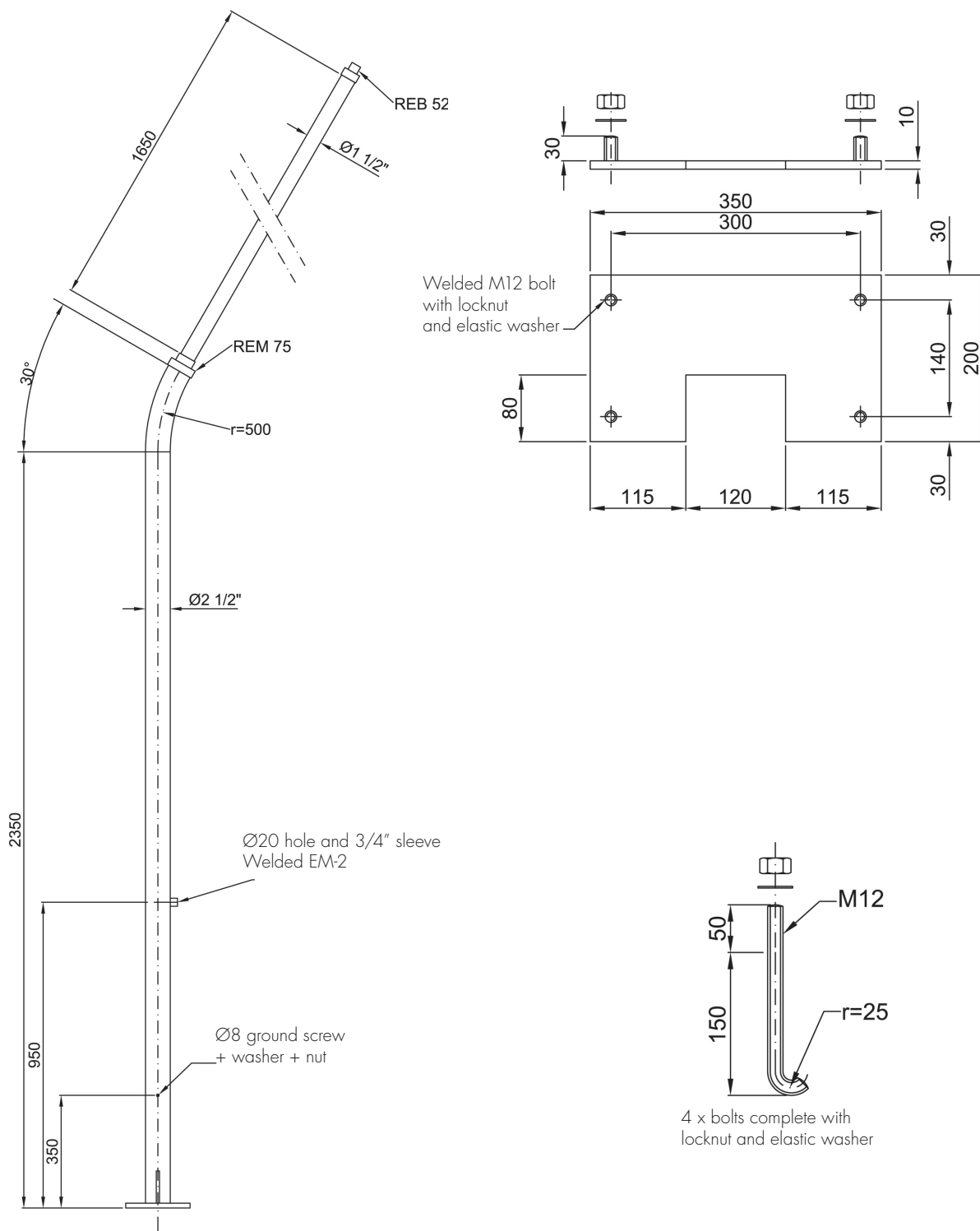


Dimensions in mm

CODE	DESCRIPTION	A (mm)
PAL-09	Pole(I) supplied with angled mounting (see fig.1)	1050
PAL-10	Pole(I) supplied with angled mounting (see fig.1)	1650
PAL-15	Pole(I) supplied with angled mounting (see fig.1)	1650
PAL-16	Pole(I) supplied with angled mounting (see fig.1)	1050

PAL-11 PAL-12 Poles for base mounting

POLE FOR MOUNTING FLFE, EXEN, EVF..E, EVFD, EXEL, FLF, AVN LIGHTING FIXTURES

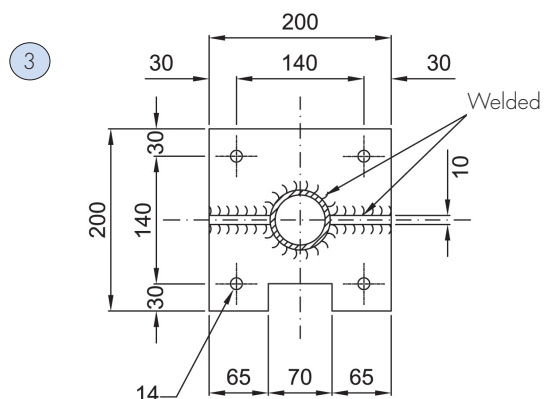
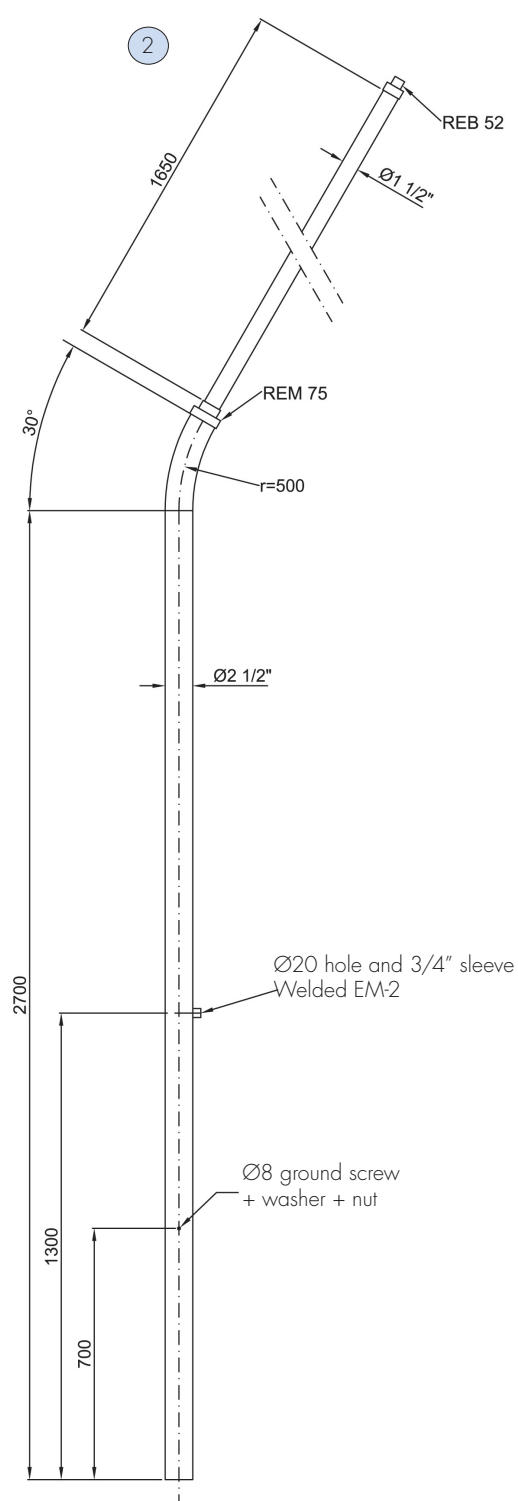
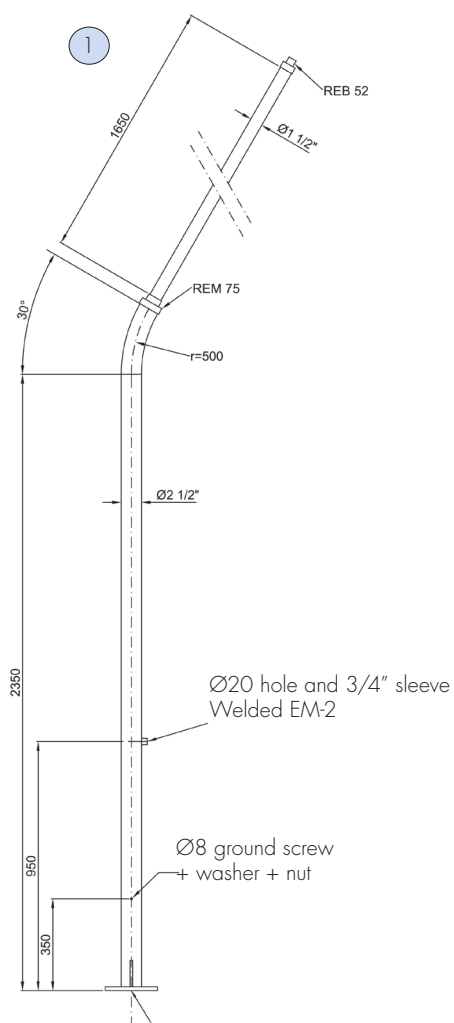


Dimensions in mm

CODE	DESCRIPTION
PAL-11	Pole supplied with welded plate and bolts
PAL-12	Pole supplied with welded plate and baseplate

PAL-13 PAL-14 Poles for base mounting

POLE FOR MOUNTING FLFE, EXEN, EVF..E, EVFD, EXEL, FLF, AVN LIGHTING FIXTURES



Dimensions in mm

CODE	DESCRIPTION
PAL-13	Pole supplied with welded plate and baseplate (see fig.1-3)
PAL-14	Pole (see fig.2)

XLF

- Zones 1, 2, 21, 22
- Obstruction warnings
- Stroboscopic lights
- Single or double fixtures
- Low wind resistance








XLF series XENON obstruction lighting fixtures

XLF series Xenon obstruction lighting fixtures are ideal for chimneys, towers, smokestacks, bell towers, buildings, cranes, bridges, radio/television masts, cable car and power line pylons, wind turbines, radar and telecommunication antennas and specifically for use in the petrochemical and oil industries. Their small size, light weight, ease of installation and robustness mean that XLF series lights do not deteriorate over time especially with exposure in salty environments. They are also resistant to the wind and the deposit of industrial dusts thanks to the low profile and aerodynamic properties of the body.

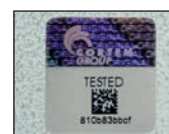
Application sectors:



CERTIFICATION DATA

Classification:	Group II	Category 2GD		
Installazione: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
Marking:	CE 0722 Ex II 2GD Ex d IIC T5 Gb; Ex tb IIIC Db IP66			
Certification:	ATEX	CESI 03 ATEX 046		
	IEC Ex	IECEX CES 12.0020	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com	
	TR CU	AVAILABLE		
Standards:	CENELEC EN 60079-0: 2009, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009, EN 60598-1:2008+A11:2009, EN 60598-2-1:1989 and EUROPEAN DIRECTIVE 2014/34/UE European Directive 2004/108 Electromagnetic compatibility European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE European Directive 2011/65/UE RoHS			
Class temperature:	 100°C (T5)			
Ambient temperature:	 -20°C +55°C 	 Special -50°C +40°C 		
Degree of protection:	IP66			

XLF series XENON obstruction lighting fixtures



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy
Globe:	Shock and temperature resistant borosilicate glass sealed with aluminium shade ring
Fresnel lens:	Transparent polycarbonate, shock and UV resistant
Gaskets:	Silicone acid/hydrocarbon resistant
Mounting:	See "XLF-1-2 series dimensional drawings"
Bolts and screws:	Stainless steel
Entries:	4 x 3/4" NPT threaded entries.
Coating:	Polyester coating Ral 7035 (light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)


ELECTRICAL FEATURES

Lamp holder:	E27 ceramic
Lamp:	Stroboscopic (about 30 flash/min.) 6J or 16J Xenon with electronic module (for further information see "EC SERIES ELECTRONIC MODULE CHARACTERISTICS")
Rated voltage:	24 VAC/DC, 110 VAC, 230 VAC
Rated frequency:	50/60 Hz
Connection:	Direct to lamp holder L, N, Pe. Max section 4mm ² The double lighting fixtures (XLF-....2) comes supplied wired and sealed up to the junction box, the connection is made to the terminal board inside the terminal box L, N, Pe. Max section 4mm ²
Power factor:	0.96
Wiring:	Silicone rubber cables with glass braid protection against high temperatures

ACCESSORIES AVAILABLE / SPECIAL REQUESTS

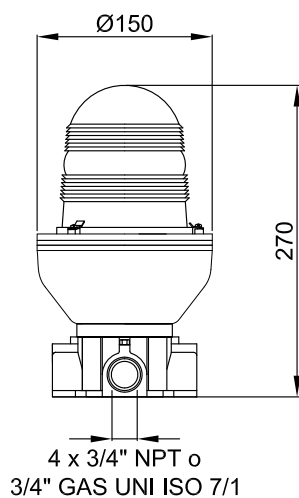
Cable gland: FGAB2NBK for armoured cable or FB2NBK for non-armoured cable
 Model for conduit or pendant mounting (code: XLFS-1V1101)
 Special markings in $\boxed{\text{Ex}} \text{ II 2GD Ex de IIC T5 Gb; Ex tb IIIC T.. Db IP66}$. (code: XLFE-1V1101)
 Ex or IP66 protected control panel with electronic modules
 GAS UNI ISO 7/1 thread
 Other colours: blue, yellow, green

XLF series selection chart

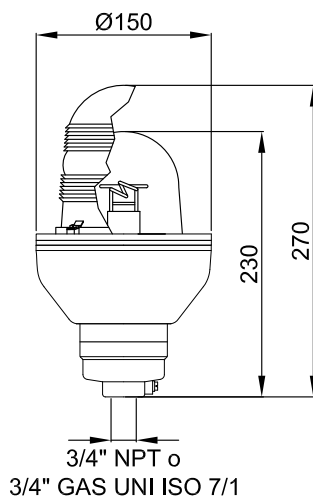
Code	Lamp	Colour	Lamp power xenon	Power supply	Weight Kg	 mm
XLF-10241	1	NO FRESNEL	6 Joule	24V Ac Dc	2,15	160x150x330
XLF-10242	2	NO FRESNEL	6 Joule	24V Ac Dc	5,00	440x175x425
XLF-11101	1	NO FRESNEL	6 Joule	110V Ac	2,15	160x150x330
XLF-11102	2	NO FRESNEL	6 Joule	110V Ac	5,00	440x175x425
XLF-12301	1	NO FRESNEL	6 Joule	230V Ac	2,15	160x150x330
XLF-12302	2	NO FRESNEL	6 Joule	230V Ac	5,00	440x175x425
XLF-1R0241	1	RED	6 Joule	24V Ac Dc	2,40	160x150x330
XLF-1R0242	2	RED	6 Joule	24V Ac Dc	5,00	440x175x425
XLF-1R1101	1	RED	6 Joule	110V Ac	2,40	160x150x330
XLF-1R1102	2	RED	6 Joule	110V Ac	5,00	440x175x425
XLF-1R2301	1	RED	6 Joule	230V Ac	2,40	160x150x330
XLF-1R2302	2	RED	6 Joule	230V Ac	5,00	440x175x425
XLF-20241	1	NO FRESNEL	16 Joule	24V Ac Dc	2,15	160x150x330
XLF-20242	2	NO FRESNEL	16 Joule	24V Ac Dc	5,00	440x175x425
XLF-21101	1	NO FRESNEL	16 Joule	110V Ac	2,15	160x150x330
XLF-21102	2	NO FRESNEL	16 Joule	110V Ac	5,00	440x175x425
XLF-22301	1	NO FRESNEL	16 Joule	230V Ac	2,15	160x150x330
XLF-22302	2	NO FRESNEL	16 Joule	230V Ac	5,00	440x175x425
XLF-2R0241	1	RED	16 Joule	24V Ac Dc	2,40	160x150x330
XLF-2R0242	2	RED	16 Joule	24V Ac Dc	5,00	440x175x425
XLF-2R1101	1	RED	16 Joule	110V Ac	2,40	160x150x330
XLF-2R1102	2	RED	16 Joule	110V Ac	5,00	440x175x425
XLF-2R2301	1	RED	16 Joule	230V Ac	2,40	160x150x330
XLF-2R2302	2	RED	16 Joule	230V Ac	5,00	440x175x425

XLF series dimensional drawings

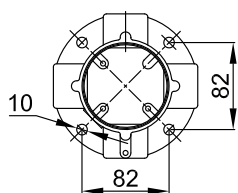
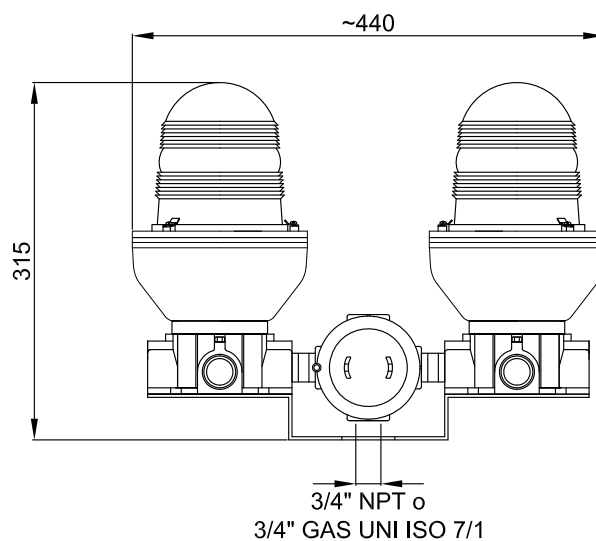
XLF-...
Structure mounting



XLFS-...
Conduit or
pendant mounting



XLF-...2
Double obstruction
lighting fixture



Dimensions in mm



Close up of 6J Xenon lamp



Close up of 16J Xenon lamp

DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture +
XLF-1R1101

Cable gland
FGAB2NBK

+ other ...see key



Accessories and spare parts available on request XLF series

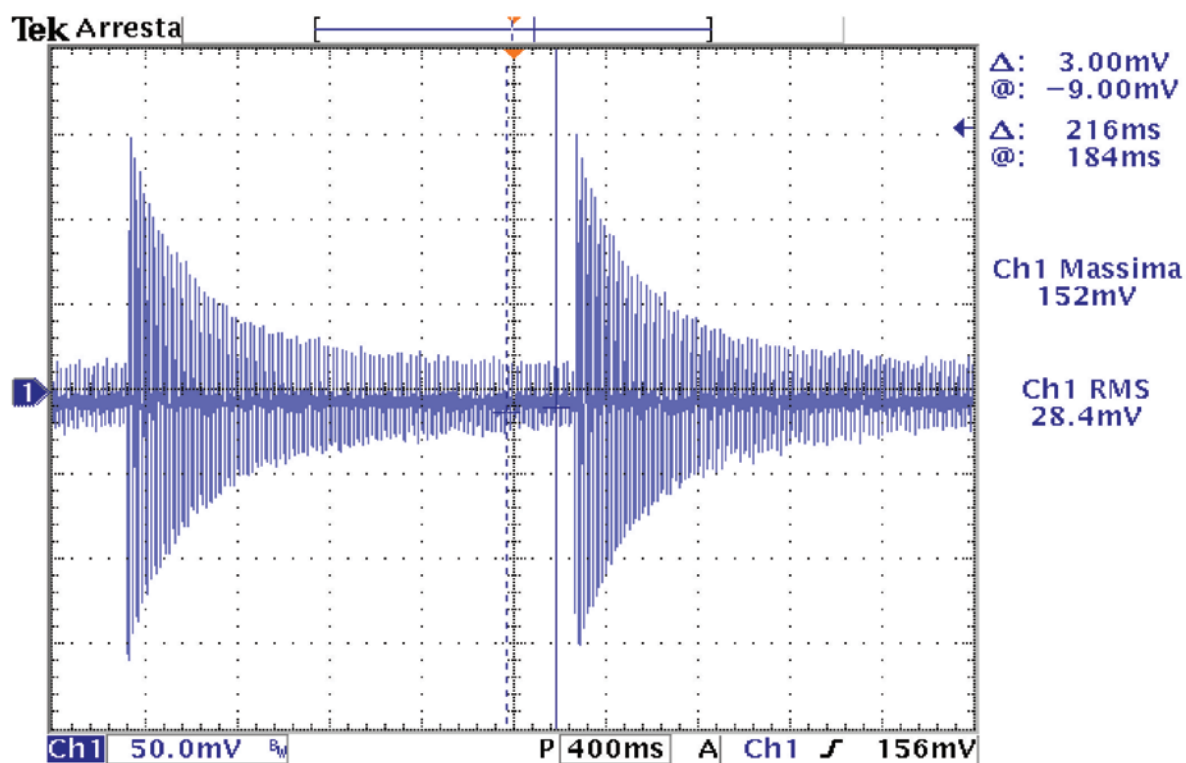
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Globe with shade ring		Borosilicate glass globe Aluminium ring shade ring	G50-0389FCM	
	Polycarbonate Fresnel lens		Red	SR-1300	
			Green	SR-1301	
			Yellow	SR-1302	
			Blue	SR-1303	
	O-ring		Material: silicone	OR-4512SH70S	
	Ceramic lamp holder	E27	250V 4A	PORT E-27/X	
	Structure mounting		4 x 3/4" entries G	G-0214	
	Pendant mounting		1 x 3/4" entry	G-0213	
	Stroboscopic light with integrated module	6 Joule	24V ac/dc	EC-06/624V	
		16 Joule		EC-06/24V	
		6 Joule	110-230V ac/dc	EC-06/6	
		16 Joule	230V ac	EC-06	
		16 Joule	110V ac	EC-06/110V	
	Protective cage only for XLF without Fresnel		Material: Electro-polished stainless steel	G50-0417	 
	Cable gland		For models and codes, visit www.cortemgroup.com	FB2NBK FGAB2NBK	 

Features of EC series electronic modules for XLF

CODE	DESCRIPTION	GRAPH	VOLTAGE
EC-06/110V	Stroboscopic light 110V 16J	1	110 V ac/dc
EC-06	Stroboscopic light 230V ac 16J	2	230 V ac/dc
EC-06/6	Stroboscopic light 110-230V ac/dc 6J	3 - 4	110-255 V ac/dc
EC-06/624V	Stroboscopic light 24V ac/dc 6J	5	24 V ac/dc

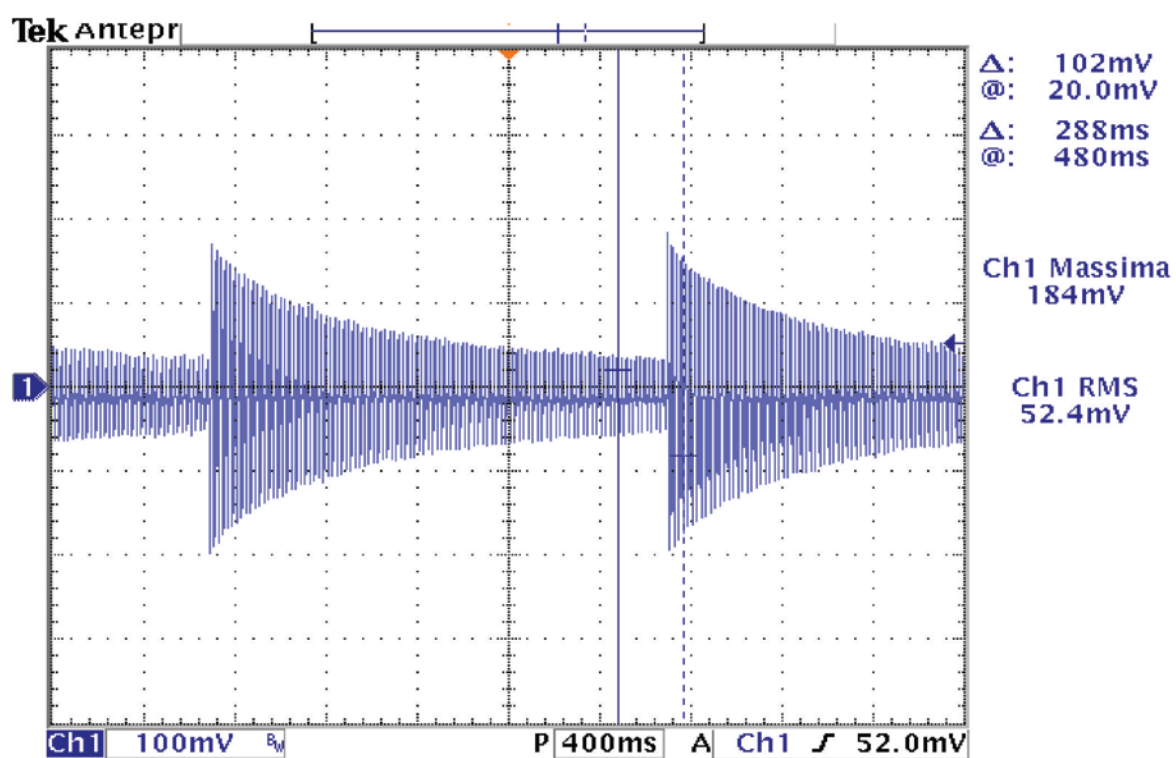
The waveforms have been designed to measure each module's exact consumption.
Tests have been carried out using a resistance of 1 Ohm connected in series with the power supply so as to make the voltage conversion immediate.

GRAPH 1 - 110 Vac

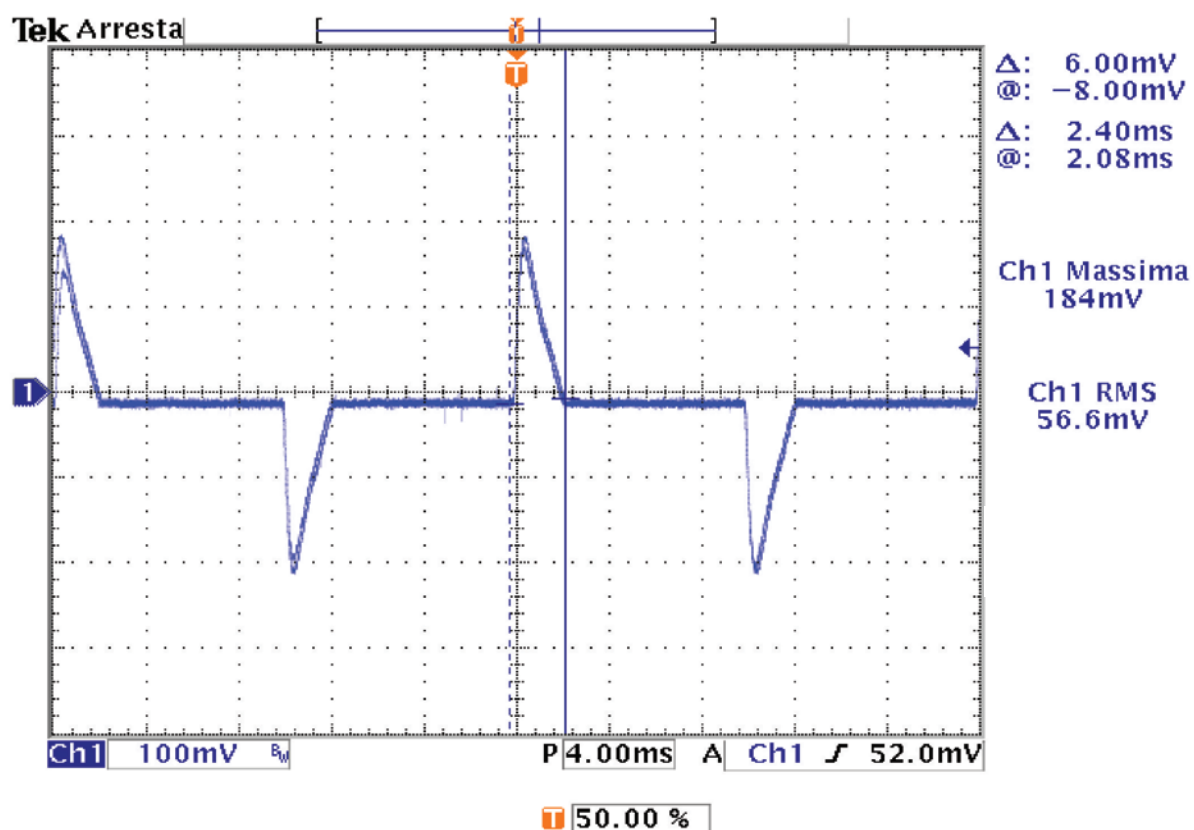


Features of EC series electronic modules for XLF

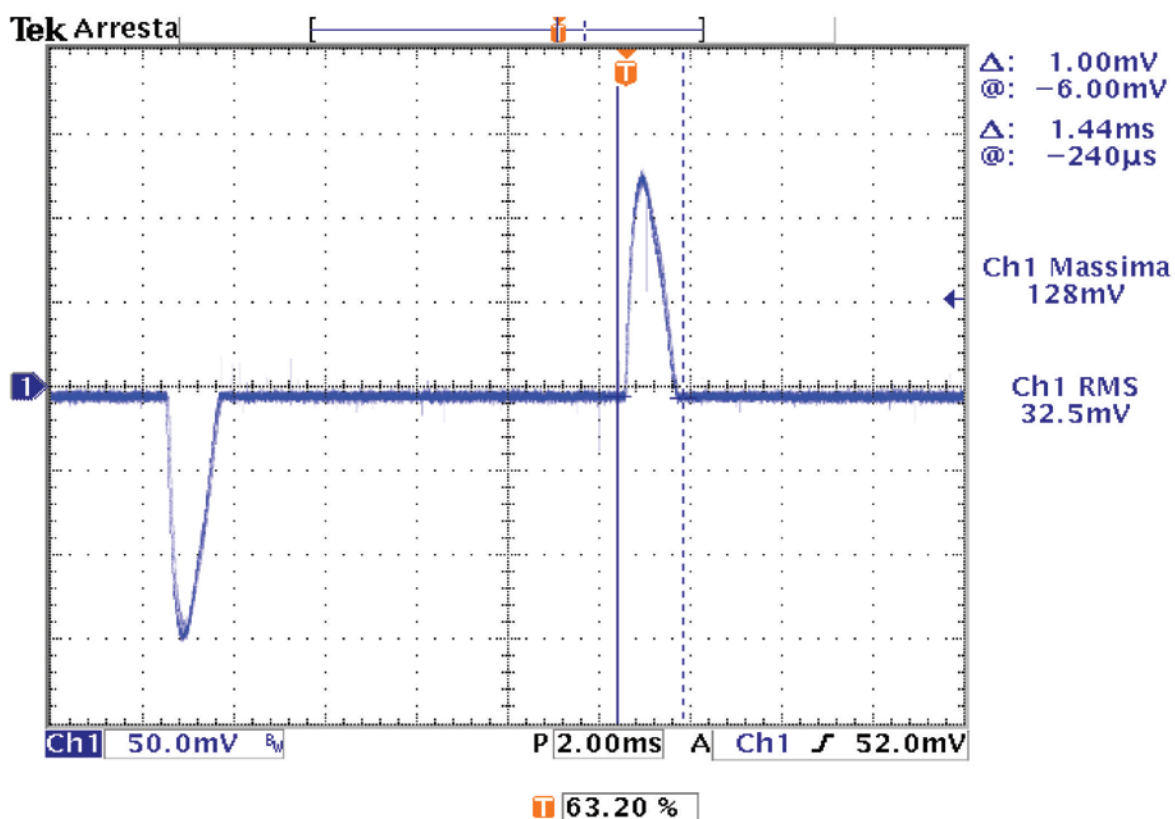
GRAPH 2 - 230 Vac



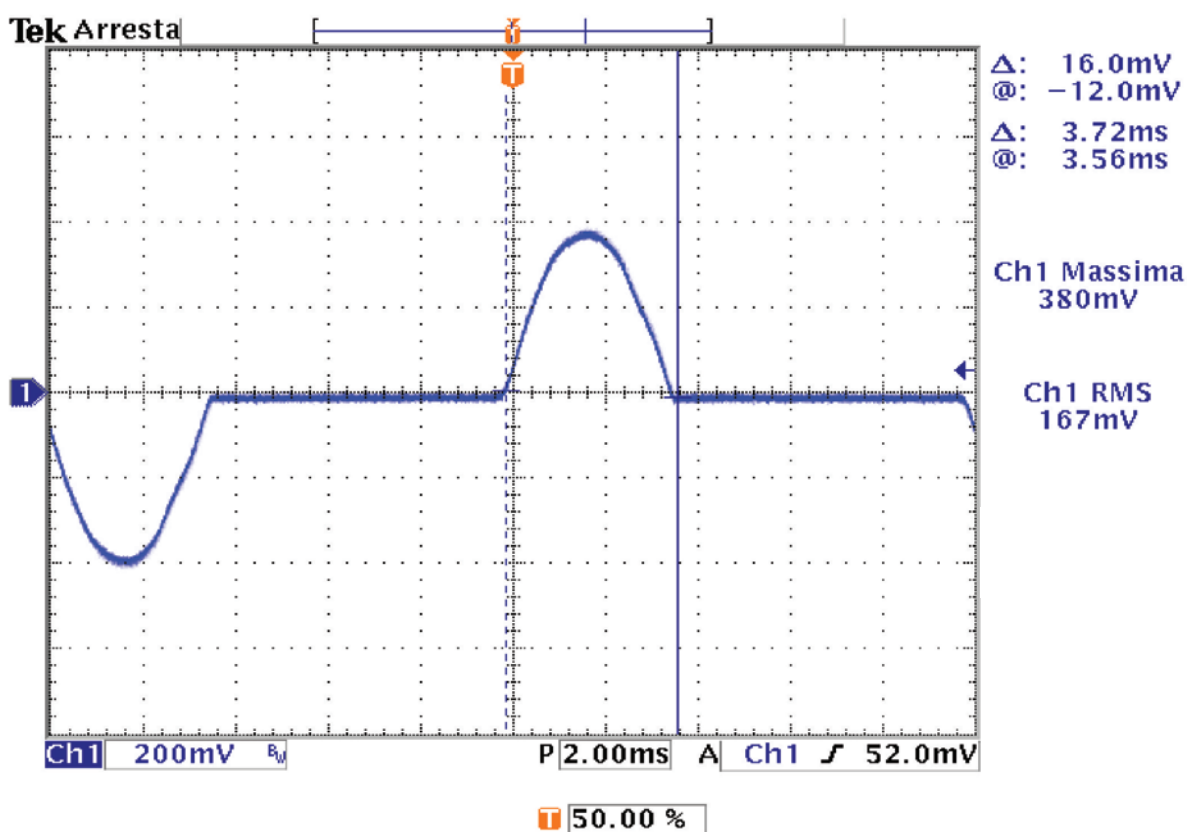
GRAPH 3 - 110 Vac



GRAPH 4 - 255 Vac



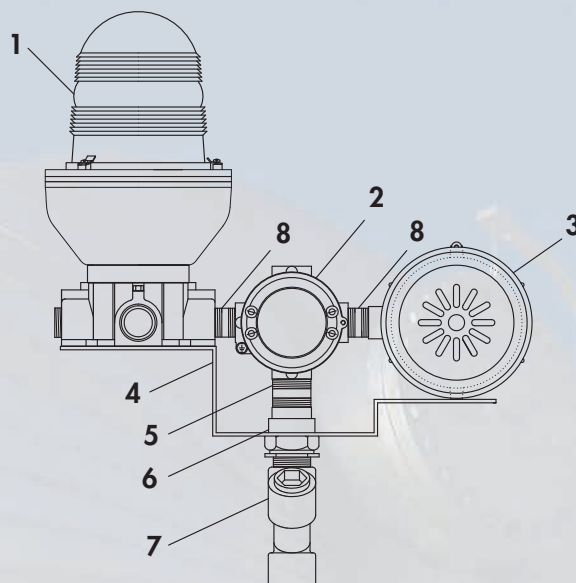
GRAPH 5 - 24 Vac



Installation and mounting methods XLF series

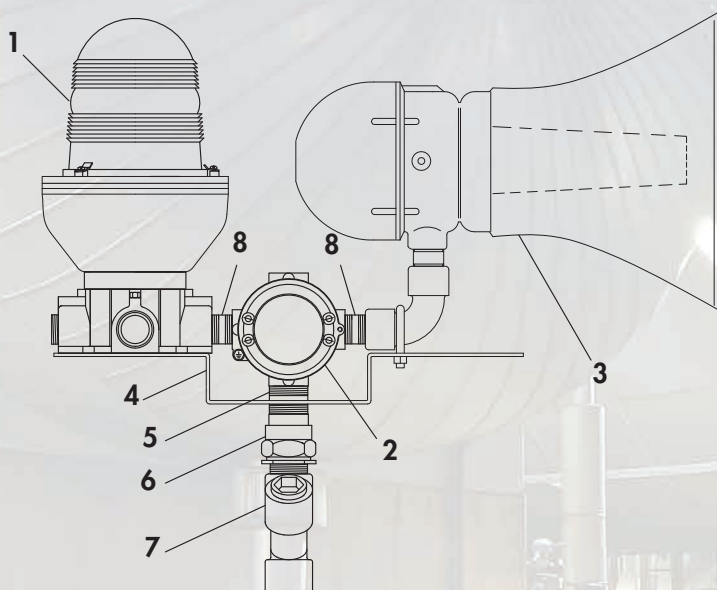
Example of XLF obstruction lighting fixture and ETS series siren installation

n	Description	Code
1	Obstruction lighting fixture	XLF-2R2301
2	Junction box	ST-26.1V
3	Rotating electromechanical siren	ETS60/109DB230V
4	Mounting plate	
5	Nipple	NP2G
6	3-piece union	RMF2G
7	Sealing fittings	EYS2
8	Sealed nipple	NPSF2



Example of XLF obstruction lighting fixture and ETH series siren installation

n	Descrizione	Code
1	Obstruction lighting fixture	XLF-2R2301
2	Junction box	ST-26.1V
3	Siren	ETS60/109DB230V
4	Mounting plate	
5	Nipple	NP2G
6	3-piece union	RMF2G
7	Sealing fittings	EYS2
8	Sealed nipple	NPSF2



Features of EC series electronic modules.. for XLF

- **EC-05** Double XLF power supply circuit in which a 16J stroboscopic lamp is the main light and the other lamp is a spare.
Power supply: 230VAC
Stroboscopic power: 16 J
- **EC-10** Power supply unit for EC-... with 230 VAC power supply.
This unit has both automatic and manual controls as well as a test button.
- **EC-13** Fixed synchroniser that turns on all the stroboscopic lamps wired with a 230 VAC power supply at the same time.

EVF-18X

- Suitable for lighting escape routes and emergency exits
- LED battery monitoring
- For 8W fluorescent tubes

*Warning
signs*

*Borosilicate
glass*

LED battery monitoring



*Lamp cover for
replacing fluorescent tubes*



*Compartment for
internal batteries*

EVF-18...X series Lighting fixtures for safety warnings

EVF-18...X series emergency lamps comply with ATEX Directive 2014/34/UE. They are certified to be installed in Zones 1, 2, 21 and 22. They also fully comply with Directive EN 60598-1 as regards the section on "emergency lamps". These lamps have been specially designed for high performance emergency lighting in areas with little overhead room especially near emergency exits or escape routes. EVF-18...X 8 Watt fluorescent tubes are fitted with electronic ballast. The red/green LED monitors battery function and warns the user in the event of a failure. In the event of a power failure, the system comes on automatically.

Application sectors:



Oil refineries



Chemical and petrochemical plants



Emergency exits



Offshore plants



Transit areas



Stairs Handrails



Farm produce applications



100% Cortem product

CERTIFICATION DATA

Classification:

Group II

Category 2GD

Installation: EN 60079.14

zone 1 - zone 2 (Gas)

zona 21 - zona 22 (Dust)

Marking:

CE 0722 Ex

II 2GD Ex d IIC T5 - Ex tD A21 IP 66

Certification:

ATEX

CESI 03 ATEX 098

Standards:

CENELEC EN 60079-0: 2006, EN 60079-1: 2007, EN 61241-0: 2006, EN 61241-1: 2004, EN 60598-1:2008+A11:2009, EN 60598-2-1_1989, EN 61547: 2009 and EUROPEAN DIRECTIVE 2014/34/UE
IEC 60079-0: 2004, IEC 60079-1: 2007, IEC 61241-0: 2004, IEC 61241-1: 2004
European Directive 2004/108 Electromagnetic compatibility
European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE WEEE
European Directive 2011/65/UE RoHS



Class temperature:



100°C (T5)



Ambient temperature:



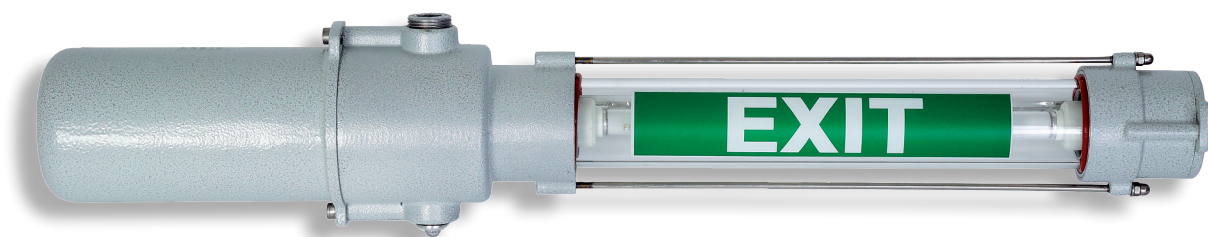
-20°C +55°C



Degree of protection:

IP66

EVF-18...X series Lighting fixtures for safety warnings



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body:	Low copper content aluminium alloy
External tube:	Shock and high temperature resistant borosilicate glass
Seal:	Silicone resin between the aluminium heads and the glass tubes
Gaskets:	Acid/hydrocarbon resistant NBR
Bolts and screws:	Stainless steel
Mounting:	2 x galvanised steel brackets with Ø9 slots
Entries:	2 x 3/4" threaded NPT. Lighting fixture complete with 1 x PLG2NA aluminium plug
Coating:	Polyester coating Ral 7035 (Light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)


ELECTRICAL FEATURES

Lamp holder:	Bi-pin G5
Ballast:	Electronic
Rated voltage:	230 V AC
Rated frequency:	50/60 Hz
Connection:	Direct to connectors fitted to electronic board L, N, Pe section 0.5 mm ² terminal board with jumpers for input/output
Emergency unit:	Batteries Ni/Cd 2.5 Ah - 6,5 V The LED is used to monitor battery function: the green LED indicates that the lamp is charged and red indicates a faulty battery
Wiring:	Silicone rubber cables with glass braid protection against high temperatures

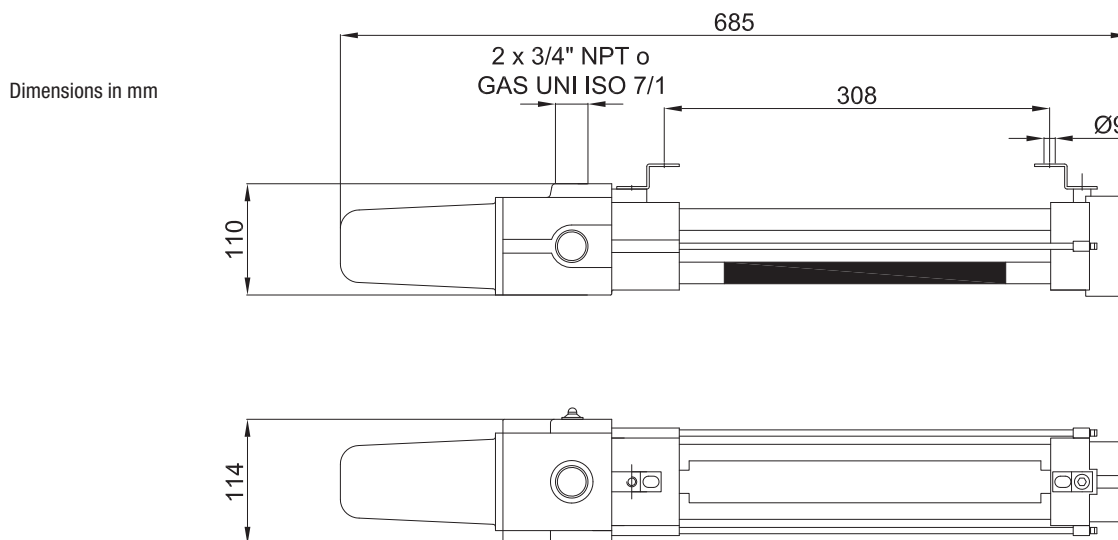
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

2 pin Ø16 fluorescent tubes model T5
Installation mounting brackets
Cable gland: NEVB2NB for armoured cable or NAVB2NB for non-armoured cable
Warning signs to be requested during ordering
Rated voltage: 120 V (code EVF-18ENX/**120**)
GAS UNI ISO 7/1 thread

EVF-18...X series selection chart

Code	Lamp n°	Operating type	Power supply	Watt	Discharge time of batteries	Weight kg	 mm
EVF-18X	1	normal	230V 50/60Hz	8	-	3,15	1175x120x155
EVF-18EX	1	emergency only	230V 50/60Hz	8	150'	3,40	1175x120x155
EVF-18ENX	1	normal + emergency	230V 50/60Hz	8	150'	3,50	1175x120x155

DIMENSIONAL DRAWINGS



DON'T FORGET TO ORDER THE ACCESSORIES

Example: Type of lighting fixture EVF-18EX + Fluorescent tubes LAMP-L18W21 + Installation bracket G-258 + Cable gland NEVB2NB + other...see key



Standard pictograms to be applied on glass tube

Reference standard: D. LGS. 81 del 09/04/08 V, Directive 92/58/CEE, UNI EN ISO 7010



U-420/SX



U-420/S










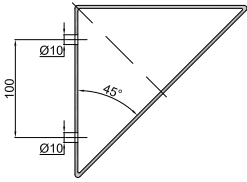


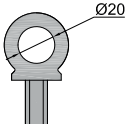


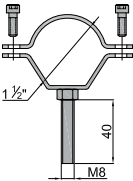








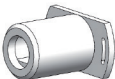

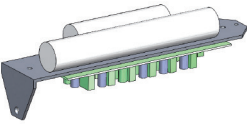





U-420/DX

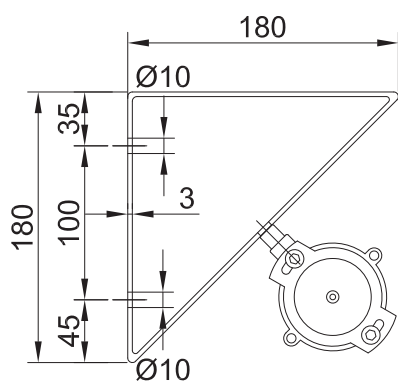


U-420/G

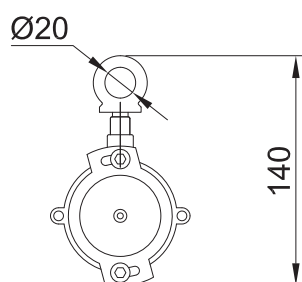
Series EVF-18...X Accessories and spare parts available on request

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Triphosphor fluorescent tubes G5 fitting	8 W (FD8W)	430 lm	LAMPL8W21	 
	Standard pictograms to be applied on glass tube		Material: Translucent film	Upon request	 
	Tige	Length: 250 mm	Material: stainless steel	BRF8MIN/250	 
	Type D bracket complete with screws		Material: bracket: galvanised steel screws: stainless steel	G-0611	 
	Type O eyebolt		Material: galvanised steel	GOF-8	 
	Type P bracket		Material: galvanised steel	G-0480	 
	Pressacavo		Per modelli e codici dei pressacavi vedi sito www.cortemgroup.com	NAV2NB NEVB2NB	 
	External frame for warning sign upon request		For models and codes, visit www.cortemgroup.com	G1-0591	 
	Lamp holder	G5 fitting	230V 4A	G-0448	
	Frame with battery pack and electronic board	EVF-18X	230V 50/60Hz normal operation	G-0452	
		EVF-18EX	230V 50/60Hz emergency only	G-0451	
		EVF-18ENX	230V 50/60Hz normal + emergency	G-0451/1	
	Battery pack	EVF-18EX EVF-18ENX	Ni-Cd 2,5 Ah - 6,5 V	BATT2,5AH/NC	

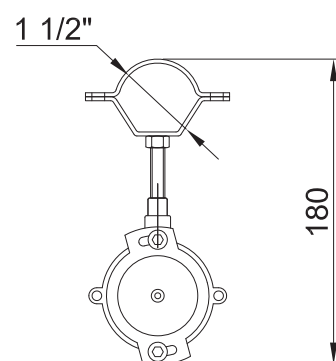
Installation and mounting methods EVF-18...X series



**45° angle mounting
TYPE "D"**



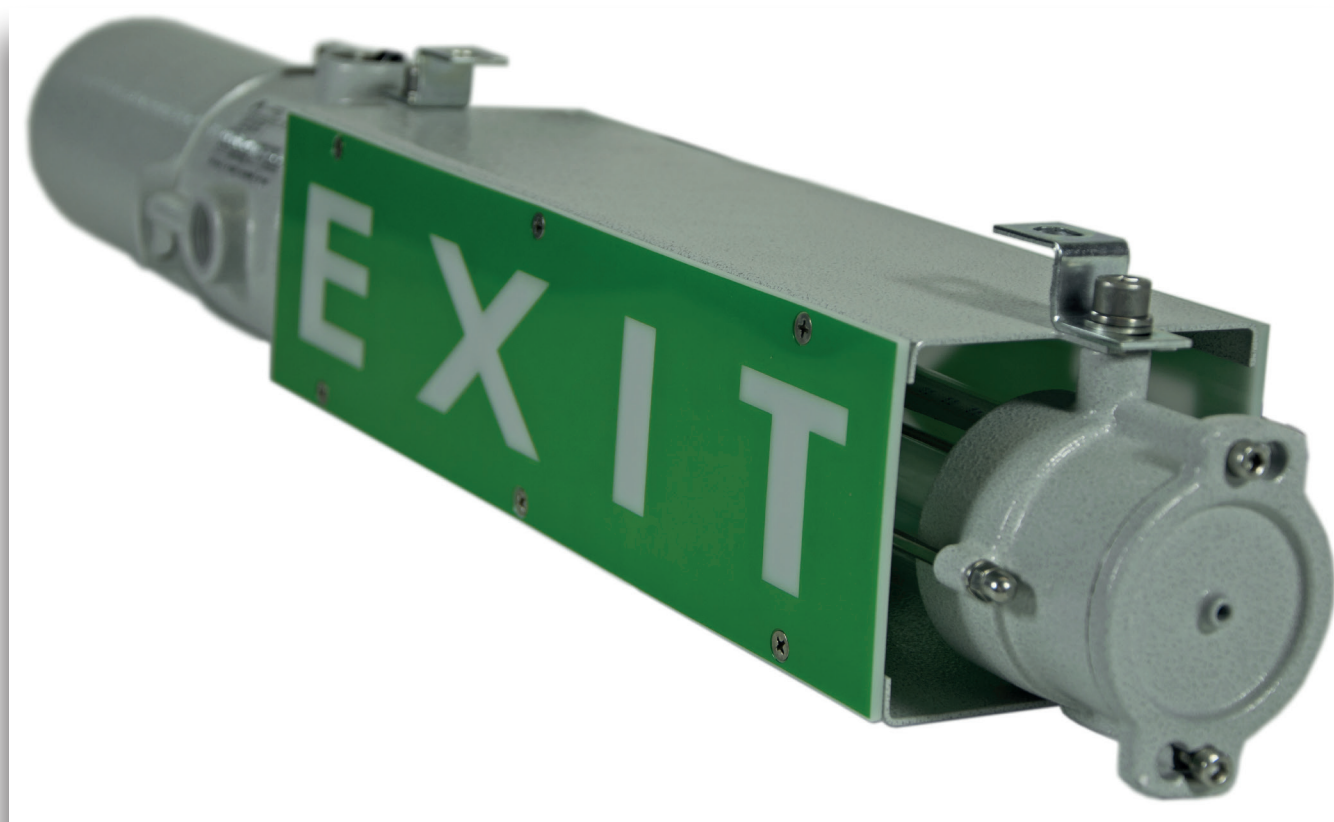
**Pendant mounting
with eyebolt TYPE "O"**



**Mounting with
metal clamps 1.1/2" TYPE "P"**

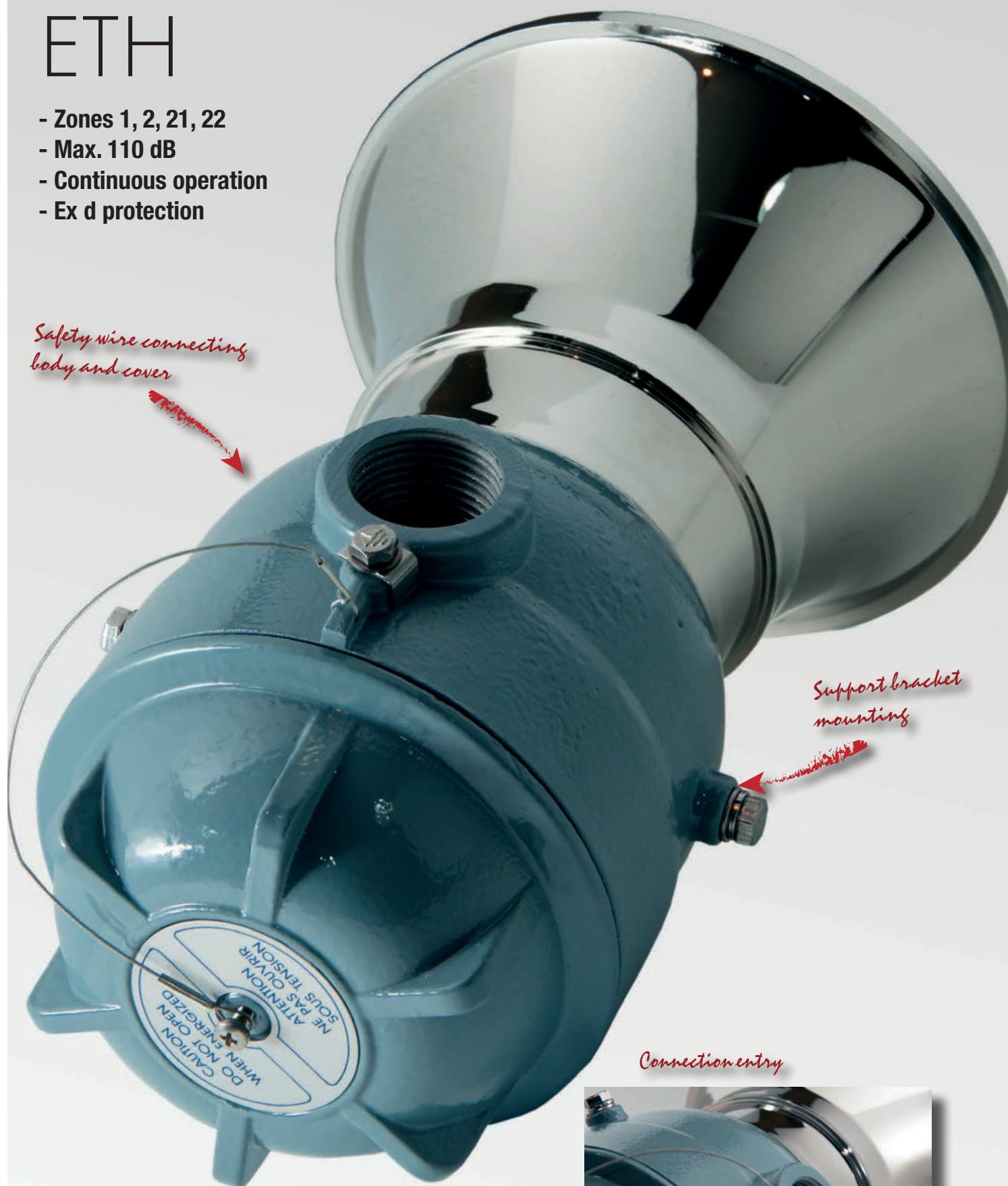
Dimensions in mm

Lighting fixture EVF-18EX with accessory G1-0591



ETH

- Zones 1, 2, 21, 22
- Max. 110 dB
- Continuous operation
- Ex d protection



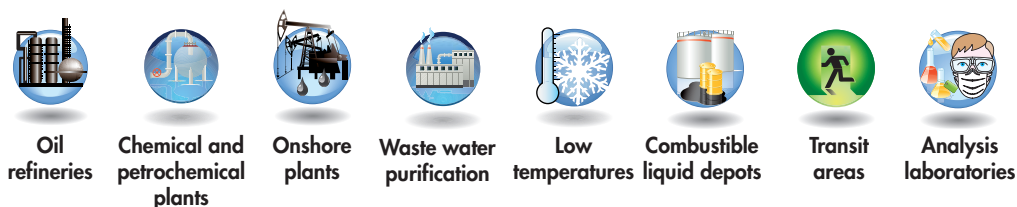
Connection entry



ETH series acoustic signals

ETH series sirens are used in closed environments where a warning system is needed and where the atmosphere is potentially explosive. ETH sirens are multi-functional. The five different types of sound can be programmed to provide warning in the event of danger or evacuation in the case of fire.

Application sectors:



CERTIFICATION DATA

Classification:	Group II	Category 2GD		
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)	ETH12	
	zone 1 - zone 2 (Gas)		ETH20	
Marking:	CE II 2 GD Ex d IIC T6 Ex tD A21 IP65		ETH12	
	CE II 2 G Ex d IIC - IIB+H2 T4 Gb IP6x		ETH20	
Certification:	ATEX INERIS 02 ATEX 0074X		ETH12	
	ATEX ISSeP 11 ATEX 040X		ETH20	
Standards:	CENELEC EN 60079-0: 2006/09, EN 60079-1: 2004/07, EN 61241-0: 2006, EN 61241-1: 2004, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE			
Class temperature:	85°C (T6)	135°C (T4)	200°C (T3)	
Ambient temperature:	-20°C +55°C	ETH12		
	-50°C +60°C	ETH20		



MECHANICAL FEATURES

Body and cover:	Low copper content aluminium alloy
Safety wire:	Steel
Bell housing:	Chrome coloured ABS plastic
Gasket:	Acid, hydrocarbon and high temperature resistant silicone
Bolts and screws:	Stainless steel
Mounting:	Direct to 3/4" entry or with mounting bracket (available on request)
Entries:	1 x 3/4" Rc UNI ISO 7/1
Coating:	Epoxy coating Ral 7000 (squirrel grey)

ELECTRICAL FEATURES

ETH-12 siren

Rated voltage:	12/24 - 48 - 110 - 230 V ac/dc
Frequency:	50/60/0 Hz
Driver impedance:	8 Ω
Operation:	Continuous

ETH-20 siren

Rated voltage:	12/24 - 48 - 110 - 230 V ac/dc
Frequency:	50/60/0 Hz
Driver impedance:	16 Ω
Operation:	Continuous

ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Cable gland: FGAB2BK for armoured cable or FB2BK for non-armoured cable
Adjustable support bracket
Epoxy vinyl coating in different colours
NPT or ISO M25 threads
Body in cast iron EN-GJL-200 or stainless steel AISI 316L

ETH series selection chart

Code	Programmable sounds	Voltage	Rated current	Power input	Sound level		Weight kg	mm
					Frequency	Db/1m		
ETH-12MD/12-24V	32	12 - 24 V ac/dc	0,10 - 0,12 A	7 W	340 - 2000 Hz	109	1,2	230x150x150
ETH-12MD/48VCA	32	48 V ac	0,06 A	7 W	340 - 2000 Hz	107	1,4	230x150x150
ETH-12MD/48VCC	32	48 V dc	0,06 A	7 W	340 - 2000 Hz	107	1,2	230x150x150
ETH-12MD/110VCA	32	110 V ac	0,02 A	7 W	340 - 2000 Hz	109	1,4	230x150x150
ETH-12MD/110VCC	32	110 V dc	0,02 A	7 W	340 - 2000 Hz	109	1,4	230x150x150
ETH-12MD/230VCA	32	230 V ac	0,012 A	7 W	340 - 2000 Hz	109	1,4	230x150x150
ETH-20MD/12-24V	32	12 - 24 V ac/dc	0,10 - 0,12 A	10 W	340 - 2000 Hz	113	3,1	390x280x280
ETH-20MD/48VCA	32	48 V ac	0,06 A	10 W	340 - 2000 Hz	111	3,2	390x280x280
ETH-20MD/48VCC	32	48 V dc	0,06 A	10 W	340 - 2000 Hz	111	3,1	390x280x280
ETH-20MD/110VCA	32	110 V ac	0,02 A	10 W	340 - 2000 Hz	113	3,2	390x280x280
ETH-20MD/110VCC	32	110 V dc	0,02 A	10 W	340 - 2000 Hz	113	3,2	390x280x280
ETH-20MD/230VCA	32	230 V ac	0,012 A	10 W	340 - 2000 Hz	113	3,2	390x280x280

Main sounds

(32 selectable sounds, view safety maintenance and mounting instructions)

TWIN TONE: 440 Hz / 0.4 sec alternated with 554 Hz / 0.1 sec

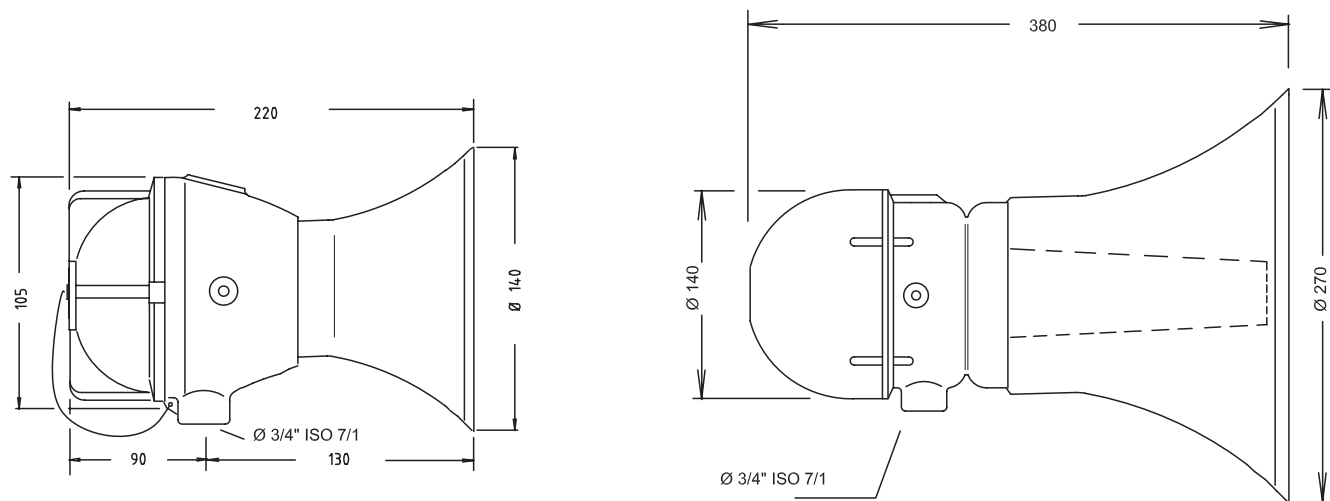
YELP: Increasing and decreasing scale. Fast from 650 to 1600 Hz

WAIL: Increasing and decreasing scale. Slow from 650 to 1600 Hz







INTERMITTENT: 554 Hz, 1 sec ON - 1 sec OFF

FIXED NOTE: 554 Hz continuous.

DIMENSIONAL DRAWINGS



Dimensions in mm

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Adjustable support bracket	ETH-12	Material: galvanised steel	K-340	 
		ETH-20		K-340/1	
	Cable gland		For cable gland models and codes see www.cortemgroup.com	NAVB2B NEVB2B	 

ETH20MDLOUD

- Zones 1, 2, 21, 22
- Output from 100 dB to 112 dB
- Ex d protection
- IP66



Entry for connection



ETH20MDLOU series Loudspeakers

The international standards for safety in industrial environments establish the mandatory installation of suitable audible warning device that can be activated in case of alarm, emergency or danger for the safety of workers which operate at the modern manufacturing processes. The explosion-proof loudspeakers ETH20MDLOUD series have been designed for use in potentially explosive atmospheres in presence of explosive gases and dusts. They have a high degree of protection (IP66) to withstand the harsh off-shore and on-shore plants environmental conditions. They are suitable for connection to standard amplification system with output 100V, to alarm systems and for public address.

The chamber of acoustic compression is separated from the outer atmosphere through a special filter of sintering.

They are equipped with a transformer offering the possibility to adapt and select the sound level according to the real needs of the installation point.

Application sectors:



Oil refineries



Chemical and petrochemical plants



Onshore plants



Waste water purification



Aircraft storage facilities
Hangars



Combustible liquid depots



Transit areas



Analysis laboratories

CERTIFICATION DATA

Classification:

Group II

Category 2G

Installation: EN 60079.14

zone 1 - zone 2 (Gas)

Marking:

CE Ex II 2 G - Ex db IIB+H₂ T5/T6 Gb - Ex tb IIIC T85°C/T100°C Db IP66

Certification:

ATEX INERIS 09 ATEX 0024X

Standards:

CENELEC EN 60079-0: 2012, EN 60079-1:2014, EN 60079-31:2014 y a la DIRECTIVA EUROPEA 2014/34/UE

Class temperature:



85°C (T6)



100°C (T5)

Ambient temperature:



Standard
-20°C +40°C



Special
-20°C +60°C

Degree of protection:

IP66

This equipment can be used in an environment containing explosive atmosphere and with the presence of hydrogen.

ETH20MDLOUD series Loudspeaker



MECHANICAL FEATURES

Body, cover and horn cone:	Light aluminium alloy
Gasket:	EPDM acid, hydrocarbon resistant
Bolts and screws:	Stainless steel
Mounting:	Adjustable galvanized steel bracket
Entries:	1 x 3/4" Rc UNI ISO 7/1 for entries with conduit or cable gland
Coating:	Epoxy coating Ral 7000 (Squirrel grey)

ELECTICAL FEATURES

Rated voltage:	100 V			
Audio line:	16 Ohm			
Output:	6 W	12 W	20 W	25 W
Sound level:	100 ÷ 102 dB	104 ÷ 106 dB	107 ÷ 108 dB	109 ÷ 112 dB
Frequency range:	650 ÷ 10000 Hz	450 ÷ 9000 Hz	400 ÷ 9000 Hz	350 ÷ 10000 Hz

Rated voltage:	24 - 48 Vdc (Loudspeaker with incorporate amplifier)			
Audio line:	8 Ohm			
Output:	1,57 W	5,4 W	21,5 W	30,4 W
Sound level:	20 dB	26 dB	32 dB	36 dB

Class D audio amplifier ETH20MDLOUD24VDC 24 - 48Vdc

Input signal: 0dB at 600ohm

Input sensitivity: 40mV / 150Kohm

Power supply: from 24Vdc to 48Vdc

Absorption at maximum power: 0,8A@48V - 1,2A@24Vdc

Piloting: 8ohm loudspeakers


Output power: 30W

Total harmonic distortion + noise: (f= 1Khz, PO= 20W) 0,2%

Signal report / noise: (f= 1Khz, Gain= 20dB) 102dB

Frequency response: from 20Hz to 20Khz

ETH20MDLOUD series selection chart

Code	Rated voltage	Output	Sound level		Weight kg	
			Frequency level	Db (1mt)		
ETH20MDLOUD/TR	100 V	6W-12W-20W-25W	650 - 10000 Hz	100 - 112	3,5	
ETH20MDLOUD24VDC	24 - 48 Vdc	1,57W-5,4W-21,5W-30,4W	20 - 20000 Hz	112	3,5	

ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Mounting bracket in stainless steel

Cable gland: NEVB2B for armoured cable or NAVB2B for non-armoured cable

Epoxy vinyl coating in different colours

Special execution Ex 2GD Ex d IIC T6/T5 Gb

Different threads

Horn cone in anodized aluminium

DIMENSIONAL DRAWING

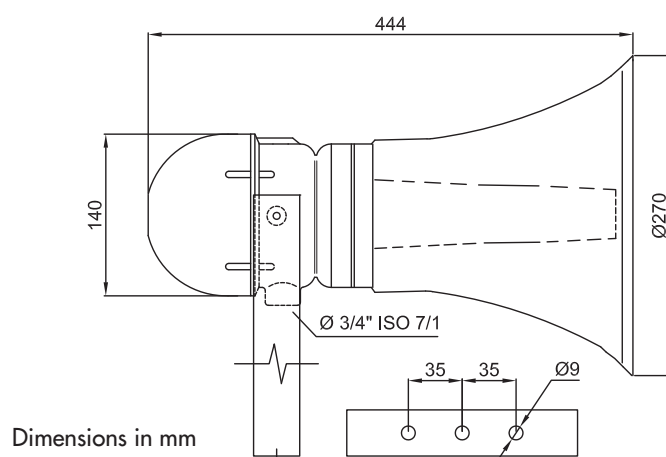





ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Cablegland		For models and codes, visit www.cortemgroup.com	NAVB2B NEVB2B	 

ETS

- Zones 1, 2, 21, 22
- Ex d protection
- Max. 114 dB



Chrome coloured ABS plastic protection



ETS series Rotating electromechanical siren

ETS electromechanical sirens are used in potentially explosive environments such as oil refineries and chemical and petrochemical plants or in areas where flammable dusts or substances are present. Given the high level of sound they emit, they are used outdoors in industrial environments where there is significant background noise. They are used for different applications such as fire alarms, safety alarms, for emergencies and to signal plant evacuation and intrusion.

Application sectors:



Oil refineries



Chemical and petrochemical plants



Onshore plants



Waste water purification



Offshore plants



Combustible liquid depots



Gas plants



Oil loading/unloading jetties

CERTIFICATION DATA

Classification:

Group

Category 2GD

Installation: EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

Marking:

CE Ex II 2 GD Ex d IIC T6 Ex tD A21 IP65

Certification:

ATEX INERIS 02 ATEX 0001

Standards:

CENELEC EN 60079-0: 2006, EN 60079-1: 2004, EN 61241-0: 2006, EN 61241-1: 2004 and EUROPEAN DIRECTIVE 2014/34/UE



Class temperature:



85°C (T6)



Ambient temperature:



-20°C +40°C

Degree of protection:

IP65

ETS series Rotating electromechanical siren



MECHANICAL FEATURES

Body and cover:	Low copper content aluminium alloy
Protection:	Chrome coloured ABS plastic
Gasket:	Acid, hydrocarbon and high temperature resistant silicone
Bolts and screws:	Stainless steel
Mounting:	Direct to 3/4" entry or with mounting bracket (available on request)
Entries:	1 x 3/4" Rc UNI ISO 7/1
Coating:	Epoxy vinyl coating Ral 7000 (squirrel grey)

ELECTRICAL FEATURES

ETS60/109 signaller

Rated voltage:	Vac/dc $\pm 10\%$	12	24	48	110	230
Frequency:	Hz	50/60	50/60	50/60	50/60	50/60
Current:	A	10,6	6,1	3,4	1,1	0,6
Operation:	Intermittent					


ETS60/114 signaller

Rated voltage:	Vac/dc $\pm 10\%$	12	24	115	230
Frequency:	Hz	50/60	50/60	50/60	50/60
Current:	A	11,5	5,9	1,6	0,9
Operation:	Intermittent				

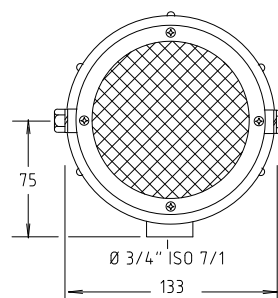
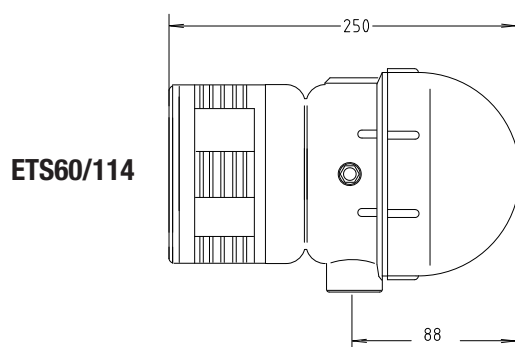
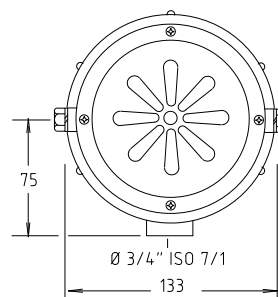
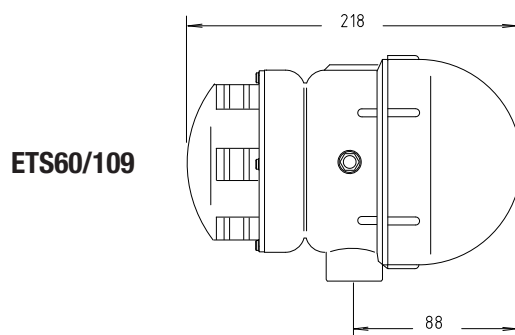
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Cable gland: NEVB2B for armoured cable or NAVB2B for non-armoured cable
Adjustable support bracket
Epoxy vinyl coating in different colours
NPT or ISO M25 threads
Different rated voltages

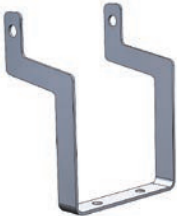





ETS series selection chart

Code	Intermittent operation	Voltage	Sound level		Weight kg	 mm
			Frequency	Db/m		
ETS60/109DB12V	2 Min. ON / 5 Min. OFF	12 V Ac/Dc	1150 Hz	109	2,8	230x140x140
ETS60/109DB24V	2 Min. ON / 5 Min. OFF	24 V Ac/Dc	1250 Hz	109	2,8	230x140x140
ETS60/109DB48V	2 Min. ON / 5 Min. OFF	48 V Ac/Dc	1300 Hz	109	2,8	230x140x140
ETS60/109DB115V	2 Min. ON / 5 Min. OFF	110 V Ac	1300 Hz	109	2,8	230x140x140
ETS60/109DB230V	2 Min. ON / 5 Min. OFF	230 V Ac	1300 Hz	109	2,8	230x140x140
ETS60/114DB12V	2 Min. ON / 5 Min. OFF	12 V Ac/Dc	650 Hz	114	3,4	260x140x140
ETS60/114DB24V	2 Min. ON / 5 Min. OFF	24 V Ac/Dc	650 Hz	114	3,4	260x140x140
ETS60/114DB115V	2 Min. ON / 5 Min. OFF	115 V Ac	650 Hz	114	3,4	260x140x140
ETS60/114DB230V	2 Min. ON / 5 Min. OFF	230 V Ac	650 Hz	114	3,4	260x140x140

DIMENSIONAL DRAWINGS

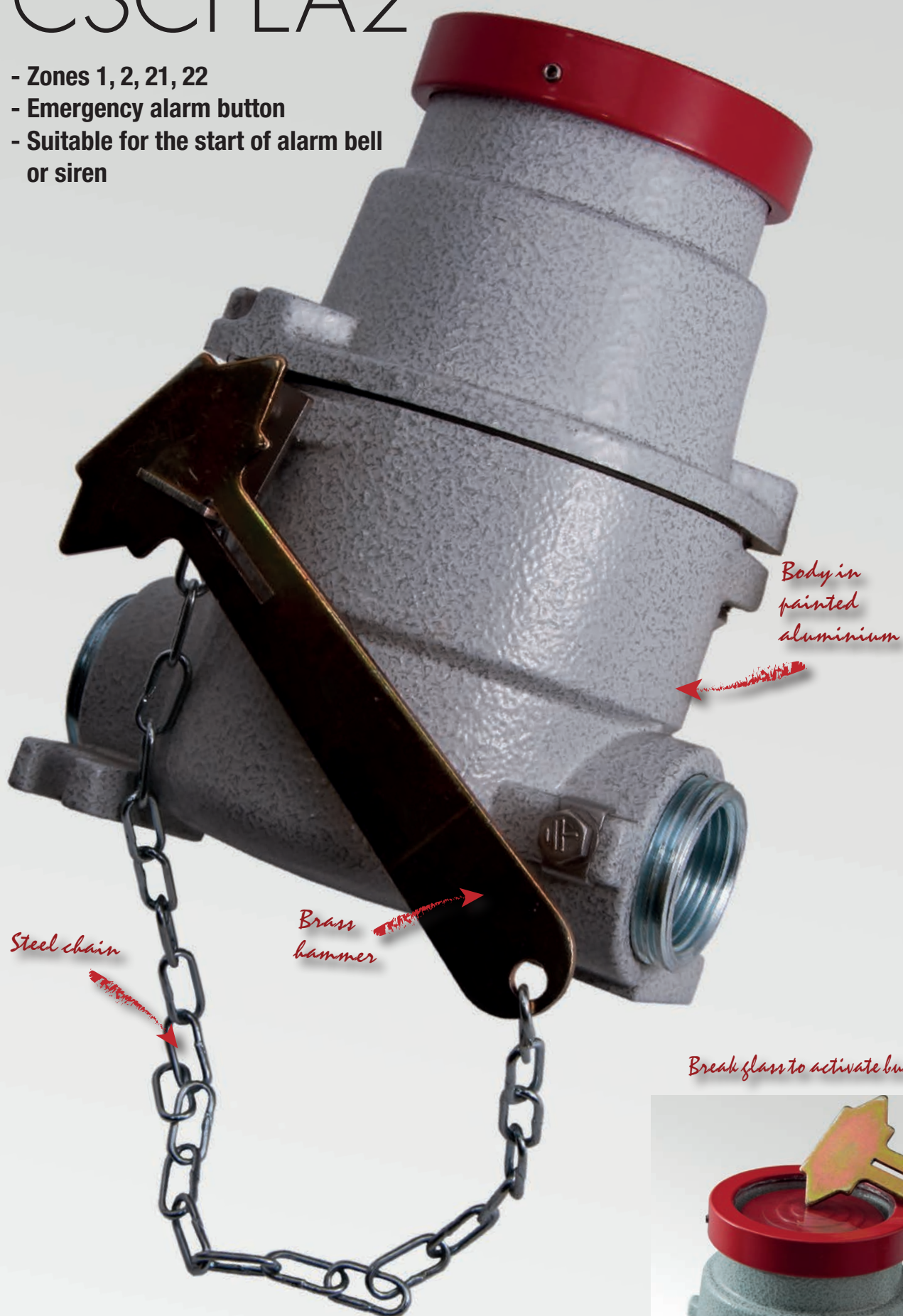


Dimensions in mm

ILLUSTRATION	DESCRIPTION	FEATURES	CODE	KEY
	Adjustable support bracket	Material: galvanised steel	K-340	 
			K-340/1	
	Cable gland	For cable gland models and codes see www.cortemgroup.com	NAVB2B NEVB2B	 

CSCPEA2

- Zones 1, 2, 21, 22
- Emergency alarm button
- Suitable for the start of alarm bell or siren



Break glass to activate button











CSCPEA2 Emergency alarm button

CSCPEA2 emergency alarm button with its glass protective cover is the ideal solution for setting off audible/visual alarms in the event of danger. The device comes complete with a hammer for breaking the glass. The emergency button is kept pressed by the actual glass. The contacts change when the glass is broken and the button is released automatically.

Application sectors:



CERTIFICATION DATA

Classification:	Group II	Category 2GD		
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)		
Marking:	CE  II 2 GD Ex d IIC T6 Ex tD A21 IP66			
Certification:	ATEX CESA 01 ATEX 092			
	ATEX TSA 06.0009			
	TR CU AVAILABLE	All TR CU certification data can be downloaded at www.cortemgroup.com		
Standards:	CENELEC EN 60079-0: 2006, EN 60079-1: 2007, EN 61241-0: 2006, EN 61241-1: 2004 and EUROPEAN DIRECTIVE 2014/34/UE IEC 60079-0: 2004, IEC60079-1: 2003, IEC61241-0: 2004, IEC 61241-1: 2004			
 Class temperature:	 85°C (T6)			
 Ambient temperature:	 Standard -20°C +60°C 	 Special -50°C +60°C 		
Degree of protection:	IP66			

CSCPEA2 Emergency alarm button



ORIGINAL PRODUCT

MECHANICAL FEATURES

Body and cover:	Low copper content aluminium alloy
Glass holder ring:	RAL3000 (Fire red) painted aluminium
Glass:	Transparent breakable glass
Hammer:	In brass with steel chain
Emergency button:	Resistant nylon
Gaskets:	Acid/hydrocarbon resistant NBR. For temperatures of -50°C, silicone gasket
Bolts and screws:	Stainless steel
Mounting:	Two 7x9.5 slots
Entries:	2 x 1" ISO 7/1 complete with type RE32G reduction from 1" to 3/4" ISO 7/1
Coating:	Epoxy coating Ral 7035 (light grey)
Corrosion Resistance:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot/humid cycles) and EN60068-2-11 (salt mist tests)
Contacts	
Contact operation:	low opening
Connection:	2 x 1.5 mm ² screw terminals
Torque setting:	0.8...1.2 N.m
Type of screw head:	Grooved, flat Ø 4 mm / Grooved, flat Ø 5.5 mm Star headed, Pozidriv No 1 / Star headed, Philips No 1
Contact material:	Silver alloy (Ag/Ni)

ELECTRICAL FEATURES

Rated voltage:	max. 600 V
Rated current:	max. 10 A
Rated frequency:	50/60 Hz
Operating current:	AC-15, A600 : Ue = 600 V Ie = 1.2 A AC-15, A600 : Ue = 240 V Ie = 3 A AC-15, A600 : Ue = 120 V Ie = 6 A
Board: Std contacts:	1No + 1Nc


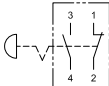
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Cable gland: FGAB2BK for armoured cable or FB2BK for non-armoured cable

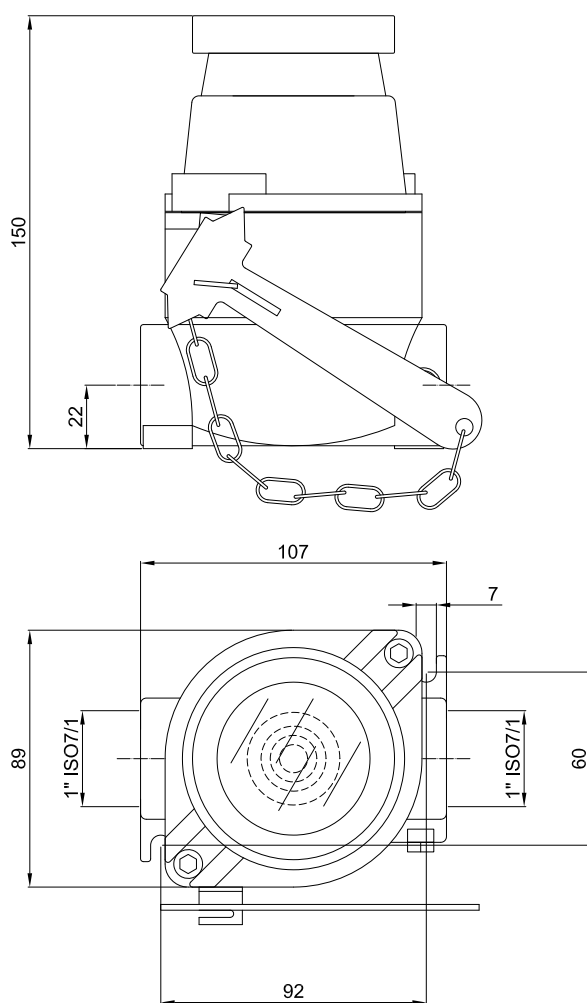
Plug: PLG2B

Ex d IIB marking with CSE housing complete with glass protection, hammer and red button M-0429 with 1NO + 1NC contacts (code **CSEPEA-2M**)






CSCPEA2 Emergency alarm button

Code	∅ Glass protection mm	Board	Weight kg	 mm
CSCPEA2	53		1,1	260x180x130

DIMENSIONAL DRAWINGS



Dimensions in mm

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Glass protection		Red painted aluminium ring Non-tempered glass	M-0521	
	Cable gland	3/4" ISO 7/1	std. range cable 12-17	NAVB2B NEVB2B	 

Product modifications and warranty

Cortem Group reserves the right, at its sole discretion, to make any modifications (at any time and without notice) in order to improve the functionality and performance of its products or meet technical and manufacturing requirements. The measurements and drawings of the products and their parts are indicative only and not binding, because they can be modified without notice.

The latest updated information, data and certificates of our products are available on www.cortemgroup.com web site.

All Cortem Group products are covered by warranty for a period of twelve months from the delivery date. For more information, refer to the "General Terms and Conditions of Sale" on www.cortemgroup.com web site.

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