FLFE..L

FLF..L

- Zone 1, 2, 21, 22
- With LED tubes
- Easy re-lamping
- Designed to last over time

"Ex e" terminal board housing

4 Joule shock resistant borosilicate glass

White painted reflector/frame

Simplified maintenance



Ex d execution type FLF..L



FLFE...L, FLF...L series Lighting fixtures with LED tubes

Lighting fixtures for LED tubes FLFE-...L (Ex de) and FLF-...L (Ex d) series 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. The 'Ex de' 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 entry to the 'Ex d' lighting fixtures 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" co-efficient 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. 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 petro-chemical plants | Oil and combustible liquid depots | Offshore plants | Onshore plants | Stair handrails | Farm produce applications | 100% Cortem product

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 db op is IIC T6 Gb - Ex tb op is IIIC T71÷T80°C Db IP66 (FLF)			
	CE 0722 Ex II 2GD Ex db eb op is II C T6 Gb - Ex tb op is IIIC T71÷T80°C Db IP66 (FLFE)			
Certification:	ATEX CESI 09 ATEX 008			
	IECEx CES 11.0021	All IEC Ex, INMETRO certification data can be downloaded at www.cortemgroup.com		
	INMETRO DNV 12.0159			
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 60079-0:2004, IEC 60079-1:2007, IEC 60079-7:2006, 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:	85°C (T6)	85°C (T6)		
Ambient temperature:	Standard -20°C +55°C	With emergency -20°C +50°C		
Degree of protection:	IP66			

FLFE...L, FLF...L series Lighting fixtures with LED tubes

FLFE-...L (Ex de)



FLF-...L (Ex d)



MECHANICAL FEATURES



ORIGINAL PRODUCT

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 for FLFE, fixture kit with PLG2IB plug and NAV25IB cable gland 2 x 3/4" threaded NPT for FLF. Fixture set with 1 x PLG2NA 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 holders:	Bi-pin G13
Rated voltage:	220/240 V AC
Rated frequency:	50/60 Hz
LED tubes:	11-22-31 W max.
Connection:	Direct to the terminal board L, N, Pe section 4 mm^2 with jumpers suitable for input/output
Power factor:	0,98
Wiring:	Silicone rubber cables with glass braid insulation for high temperatures
Safety:	Internal safety switch installed for emergency lighting fixtures

NOTE: The technical and electrical specifications may be changed without notice due to continuous developments of LED technology.

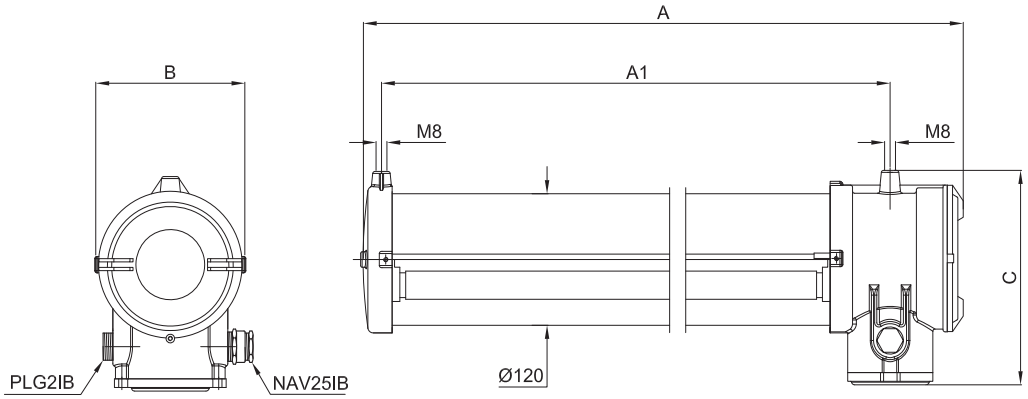
ACCESSORIES AVAILABLE / SPECIAL REQUESTS

Different rated voltages
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: NEVB2NB for armoured cable or NAVB2NB for non-armoured cable (only for FLF...L)
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-111L/**20**)

Ex de lighting fixtures										
Code	Dimensions mm				LED tubes n°	Power supply	Lumen*	Watt*	Weight kg	mm
	A	A1	B	C						
FLFE-111L	725	640	142	197	1	220/240 Vac	925	11	5,0	240x230x800
FLFE-211L	725	640	142	197	2	220/240 Vac	1850	11	5,0	240x230x800
FLFE-122L	1325	1240	142	197	1	220/240 Vac	2150	22	7,8	240x230x1410
FLFE-222L	1325	1240	142	197	2	220/240 Vac	4300	22	7,8	240x230x1410
FLFE-131L	1625	1540	142	197	1	220/240 Vac	2700	31	9,5	240x230x1700
FLFE-231L	1625	1540	142	197	2	220/240 Vac	5400	31	9,5	240x230x1700

* Indicative information depending on the installed tube

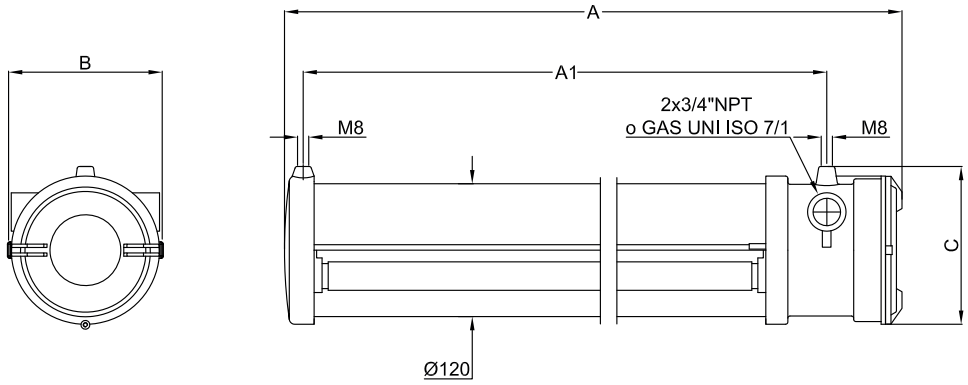
DIMENSIONAL DRAWING



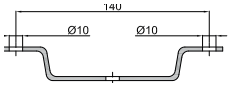
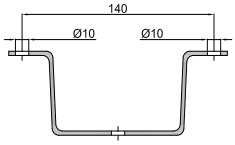
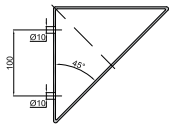
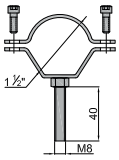
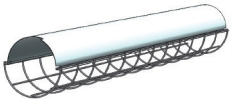
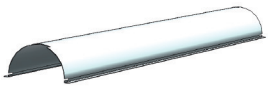
Ex d lighting fixtures										
Code	Dimensions mm				LED tubes n°	Power supply	Lumen*	Watt*	Weight kg	mm
	A	A1	B	C						
FLF-111L	725	640	142	145	1	220/240 Vac	925	11	4,5	240x230x800
FLF-211L	725	640	142	145	2	220/240 Vac	1850	11	4,5	240x230x800
FLF-122L	1325	1240	142	145	1	220/240 Vac	2150	22	7,3	240x230x1410
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FLF-131L	1625	1540	142	145	1	220/240 Vac	2700	31	9,0	240x230x1700
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* Indicative information depending on the installed tube

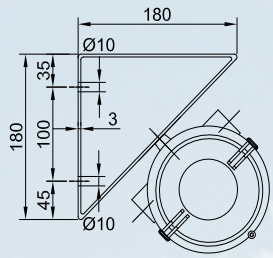
DIMENSIONAL DRAWING



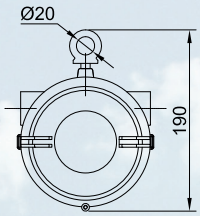
FLFE...L, FLF...L series Accessories and spare parts available

ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	LED tubes G13 fitting	11 W Max. 22 W Max. 31 W Max.	Contact our Sales Office for availability		
	Tige	Longitud: 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	11 W 22 W 31 W	Stainless steel guard	**G18-0529** **G36-0529** **G58-0529**	
		11 W 22 W 31 W	Galvanised steel guard	**G18-0529G** **G36-0529G** **G58-0529G**	
	External protection	11 W 22 W 31 W	Light blue/white painted 10/10 aluminium external protection	**G18-568** **G36-568** **G58-568**	
		11 W 22 W 31 W	10/10 stainless steel AISI 304 external protection	**G18-568IN** **G36-568IN** **G58-568IN**	
	Cable gland	FLF...L	For models and codes, visit www.cortemgroup.com	**NAVB2NB** **NEVB2NB**	
	Lamp holder	FLF..-1..L FLF..-2..L	G13 250 V, 4 A	**STU3249-12/S**	
	Re-lamping bracket with clip system for use on in-line lighting fixtures		Material: galvanised steel	**G-0318** **+** **G-0318/1**	

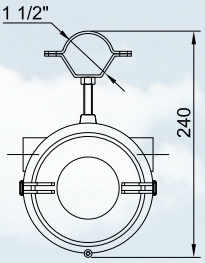
Installation and mounting methods and photometric diagrams



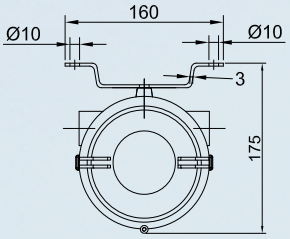
45° angle mounting
TYPE "D"



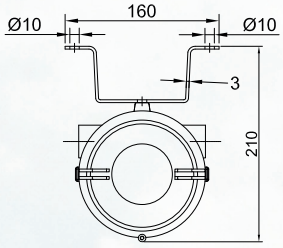
Pendant mounting with
eyebolt TYPE "O"



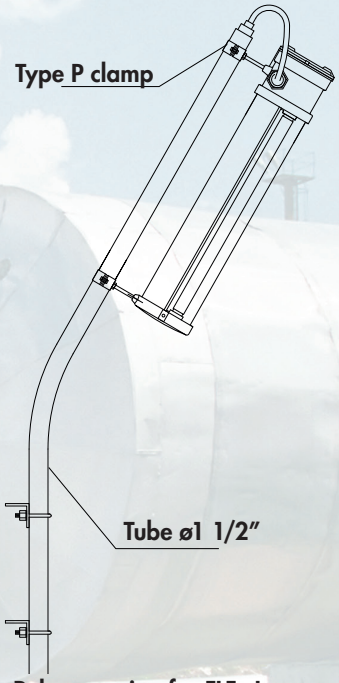
Mounting using 1.1/2"
metal clamps TYPE "P"



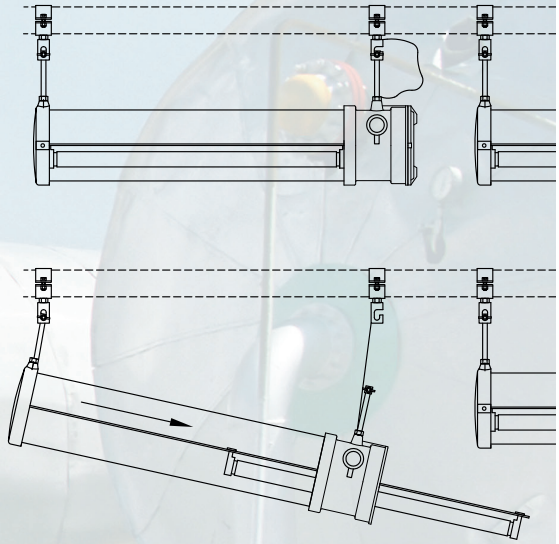
Low ceiling mounting with
clamp TYPE "U"



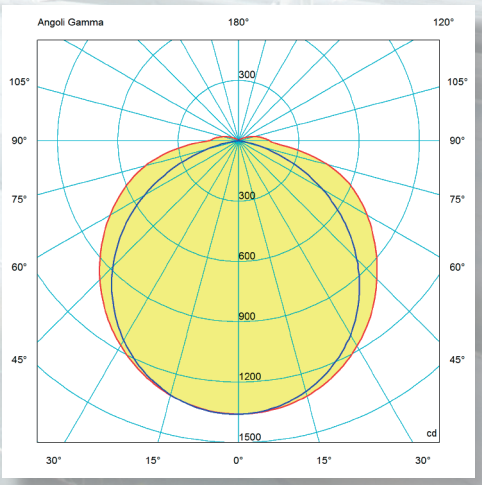
High ceiling mounting with
clamp TYPE "V"



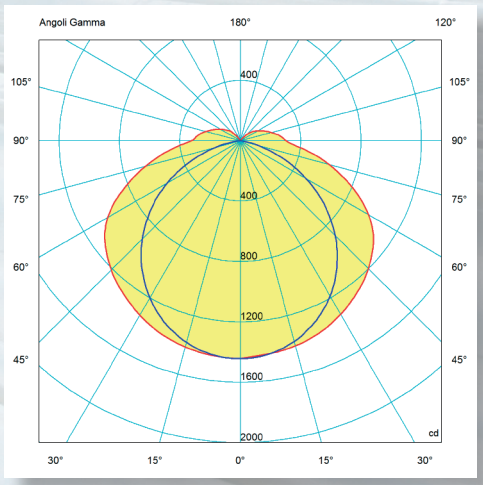
Pole mounting for FLF...L
with barrier cable gland



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



FLFE-222L / FLF-222L



FLFE-231L / FLF-231L

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