

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

TR CU AVAILABLE

INMETRO DNV 12.0159

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

Standards:

CENELEC EN60079-0: 2012, EN60079-1: 2007, EN60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE
IEC60079-0: 2011, IEC60079-1: 2007, IEC60079-31: 2008
European Directive 2006/95 Low voltage
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



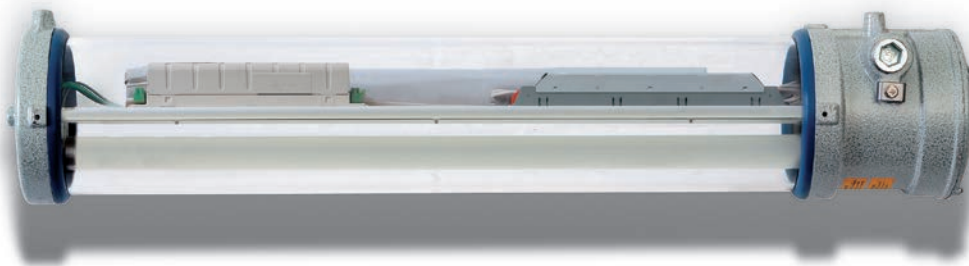
with emergency system
-20°C +50°C



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

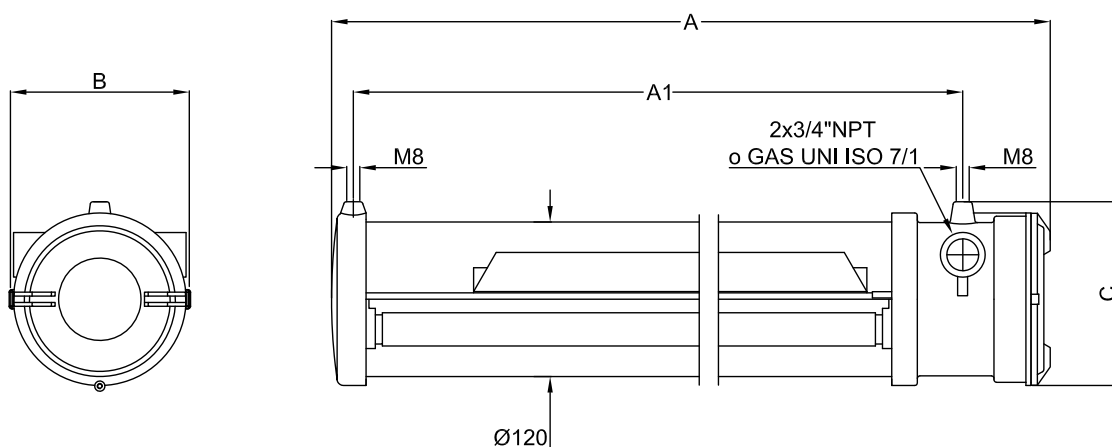
2 pin Ø26 fluorescent tubes model T8
 Installation mounting brackets
 Stainless steel or galvanized steel guard with external aluminium protection
 External aluminium protection recommended for outdoor installations
 Re-lamping bracket for use on in-line lighting fixtures
 Cable gland: FGAB2NBK for armoured cable or FB2NBK 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-236EF4**S**)
 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-136**C** e FLF-236**C**).
 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	 mm
	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



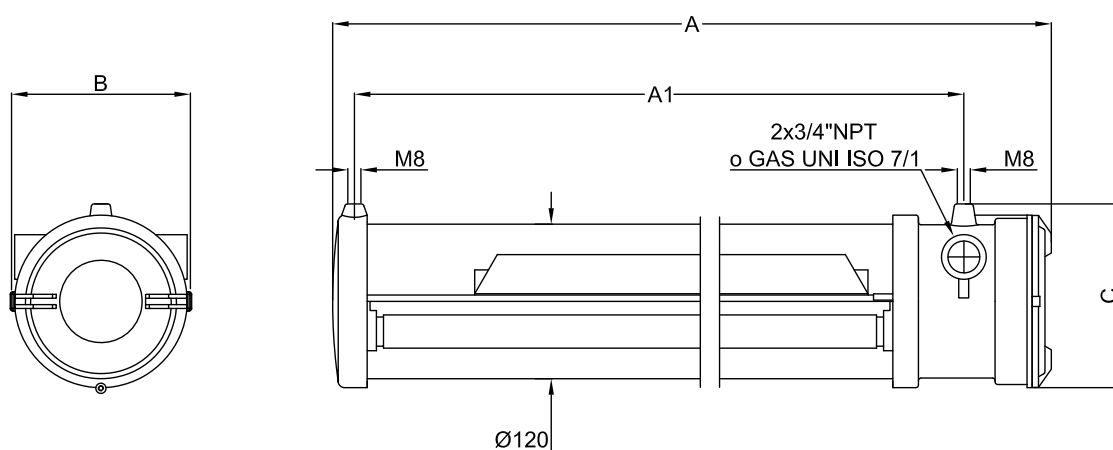
Dimensions in mm

FLF series selection chart

Single lamp

Code	Dimensions mm				Operating type	N° of lamps	Power supply	Watt	Discharge time	Weight kg	
	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

+

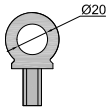
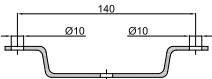
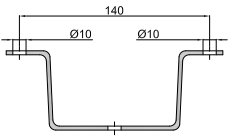
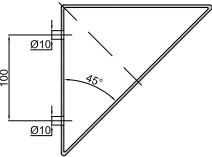
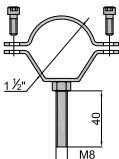
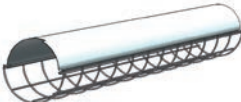
Installation bracket
G-258

+

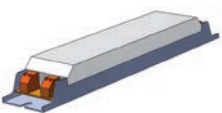
other... see key



FLF series Accessories and spare parts available on request

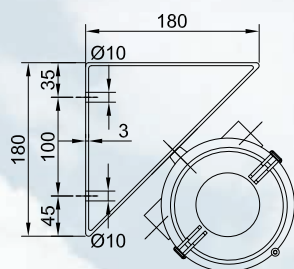
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	Tri-phosphor fluorescent tubes G13 fitting 3.000K	18 W	1350 lm (FD18W)	LAMPL18W21	 
		36 W	3350 lm (FD36W)	LAMPL36W21	
		58 W	5200 lm (FD58W)	LAMPL58W21	
	Compact fluorescent tubes 2G11 fittings	36 W	2700 lm	LAMP-PLL36W	 
	Tige	Lunghezza: 250 mm	Material: 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

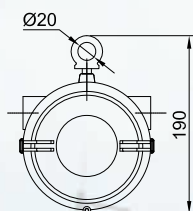
ILLUSTRATION	DESCRIPTION	MODEL	FEATURES	CODE	KEY
	External protection	18W	Light blue/white painted 10/10 aluminium external protection	G18-568	 
		36W		G36-568	
		58W		G58-568	
		18W	10/10 stainless steel AISI 304 external protection	G18-568IN	
		36W		G36-568IN	
		58W		G58-568IN	
	Cable gland		For models and codes, visit www.cortemgroup.com	FB2NBK FGAB2NBK	 
	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	RV236	
		1 x 18 W 1 x 36 W		RV136	
		2 x 58 W		R258P	
		1 x 58 W		R158P	
	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	 



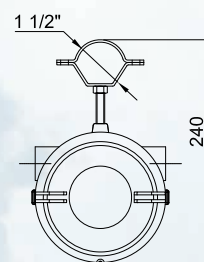
Installation and mounting methods FLF series



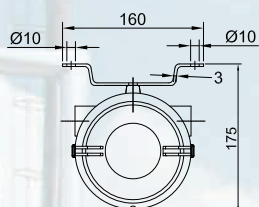
**45° angle mounting
TYPE "D"**



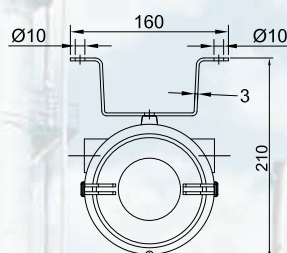
**Pendant mounting with
eyebolt TYPE "O"**



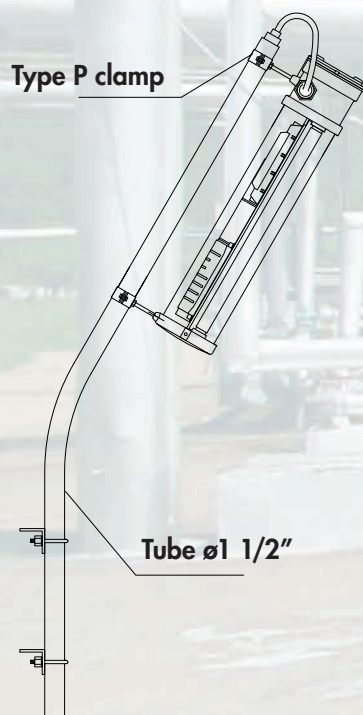
**Mounting using 1.1/2"
metal clamps TYPE "P"**



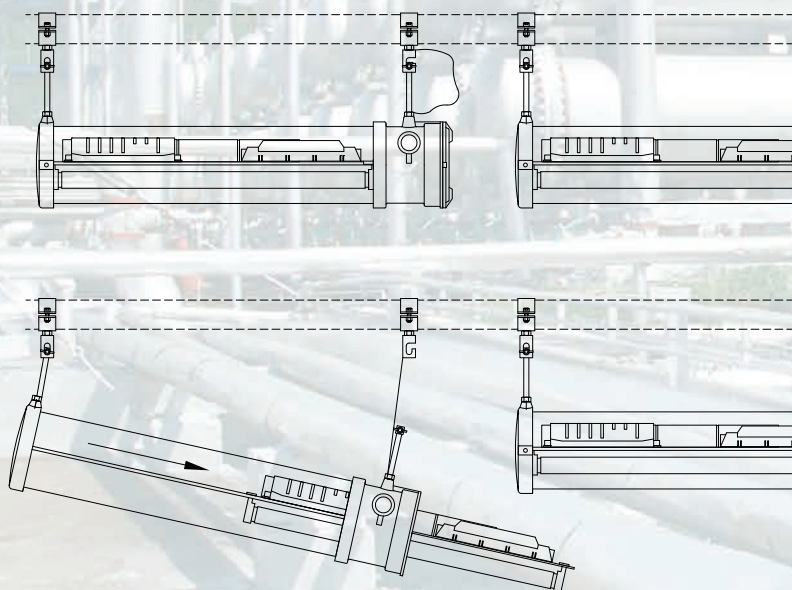
**Low ceiling mounting with
clamp TYPE "U"**



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



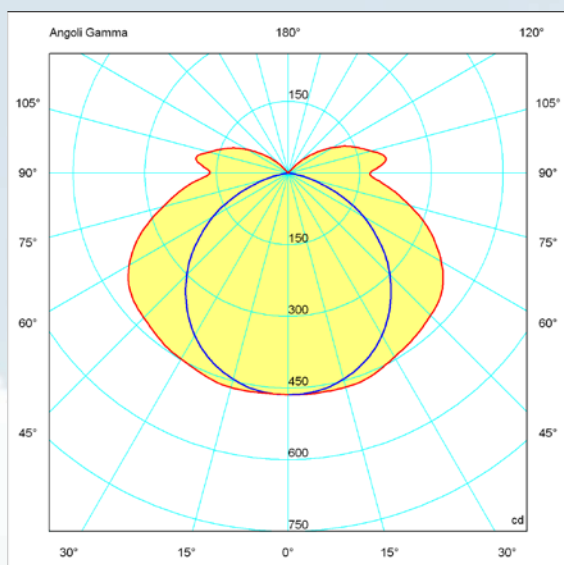
**Pole mounting for FLF... with
barrier cable gland**



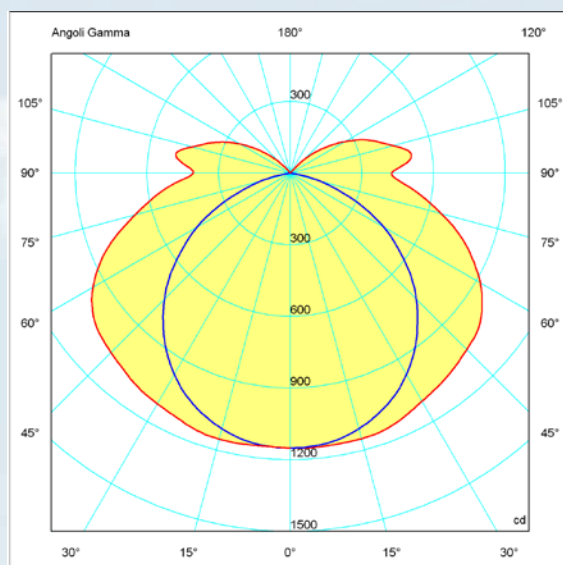
**Mounting system with quick release clip for easy
fluorescent tube replacement. System suitable for
installing in-line lighting fixtures.**

Dimensioni in mm

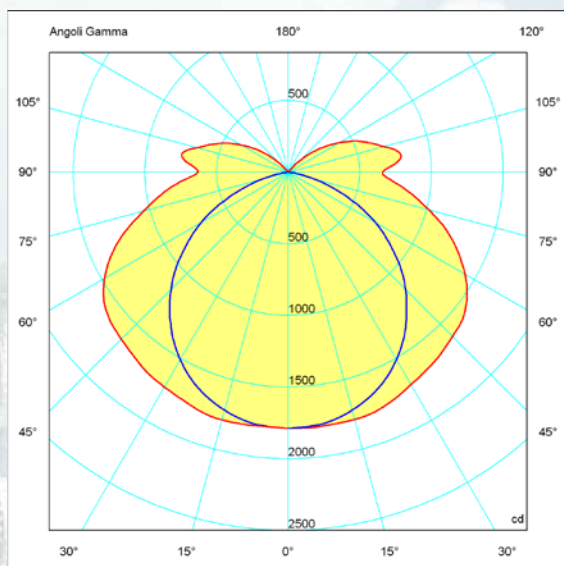
Photometric diagrams



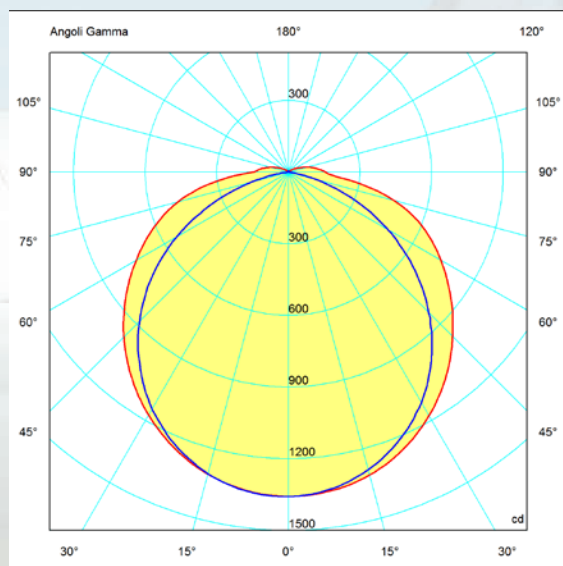
FLF-218



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