Tubular fittings
XFFL Tubular LED fitting - zones 1, 2, 21 & 22

Features
- Operating life up to 100 000h
- High lumen output - 5 000 lumens with 100% yield
  - LED module with diffuser
- All components mounted on sliding gear tray for easy installation and maintenance
- Including accessories (cable gland, plug & fixing brackets)
- Supplied with offshore grade paint

Specifications
- Manufactured from marine grade aluminum alloy copper free
- Borosilicate glass - thickness 7mm
- Rated voltage 100-240Vac 50/60Hz
- Wiring configuration: 5 wires
  - 2x entries 3/4” NPT
- LED module with diffuser
- All components mounted on sliding gear tray for easy installation and maintenance
- Including accessories (cable gland, plug & fixing brackets)
- Supplied with offshore grade paint

Standards
- Approved to:
  - EN 60079-0 : General requirements
  - EN 60079-1 : Flameproof enclosure “d”
  - EN 60079-31 : Enclosure “t”
  - EC Type examination certificate to: Directive 2014/34/EU
  - INERIS 13 ATEX 0050X
  - Ex d IIB or IIC T6 Gb for -20°C to +55°C
  - Ex tb IIIC T80°C or T70°C Db IP66 for -20°C to +55°C
  - Ex tB IIIC T80°C or T70°C Db IP66 for -20°C to +55°C

Photobiological safety:
- IEC62471 Exempt group

- EN 55015 : Conducted emission test and radiated emission test
- EN 61547 : CEM immunity
- EN 61000-3-2 : Harmonic current
- EN 61000-3-3 : Limitation of voltage changes and flickers

Low voltage Directive (2006/95/CE) - April 2016
- EN 60598-1 : Luminaire general requirements and tests, including dielectric strength and isolation resistance
- EN 60598-2-1: Luminaire general requirements and tests, including dielectric strength and isolation resistance

Glow wire test:
- 960°C

Operating temperature:
- -20°C to +55°C

IP test:
- IEC 60529: IP66

Impact protection index:
- IEC 62262: IK08

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01 Remove existing fluorescent gear tray
02 Replace with LED gear tray
03 Connect gear tray to power supply
**Tubular fittings**

**XFFL Tubular LED fitting - zones 1, 2 & 21, 22**

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**XFFL Tubular LED fitting**
- 5 wires
- Glass Diffuser
- Equipped with 1 cable gland & 1 plug
- Suitable for use in Zones 1, 2, 21, 22

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**Dimensions**

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**XFFL 5 wires: Glass Diffuser Equipped with 1 cable gland & 1 plug**

<table>
<thead>
<tr>
<th>Type</th>
<th>Light Rating W @ 230V</th>
<th>Current A</th>
<th>Lumen Output lm</th>
<th>Operating life at 25°C h</th>
<th>Efficiency lm/W</th>
<th>Gas</th>
<th>Dust A</th>
<th>B</th>
<th>Weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>XFFL120V-00000</td>
<td>1 x 12</td>
<td>0.07</td>
<td>1 194</td>
<td>100 000</td>
<td>45 000</td>
<td>95</td>
<td>IIC</td>
<td>T70°C</td>
<td>775</td>
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<tr>
<td>XFFL140V-00000</td>
<td>1 x 25</td>
<td>0.12</td>
<td>2 353</td>
<td>90 000</td>
<td>75 000</td>
<td>94</td>
<td>IIB</td>
<td>T70°C</td>
<td>1 390</td>
</tr>
<tr>
<td>XFFL165V-00000</td>
<td>1 x 31</td>
<td>0.16</td>
<td>4 250</td>
<td>80 000</td>
<td>60 000</td>
<td>79</td>
<td>IIB</td>
<td>T80°C</td>
<td>1 690</td>
</tr>
<tr>
<td>XFFL220V-00000</td>
<td>1 x 19</td>
<td>0.10</td>
<td>1 613</td>
<td>80 000</td>
<td>35 000</td>
<td>85</td>
<td>IIC</td>
<td>T70°C</td>
<td>775</td>
</tr>
<tr>
<td>XFFL240V-00000</td>
<td>1 x 56</td>
<td>0.27</td>
<td>4 257</td>
<td>70 000</td>
<td>50 000</td>
<td>76</td>
<td>IIB</td>
<td>T80°C</td>
<td>1 390</td>
</tr>
<tr>
<td>XFFL265V-00000</td>
<td>1 x 71</td>
<td>0.34</td>
<td>5 076</td>
<td>70 000</td>
<td>50 000</td>
<td>71</td>
<td>IIB</td>
<td>T80°C</td>
<td>1 690</td>
</tr>
</tbody>
</table>

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**Technical information**

**LED installed**
- Set of LED modules with integrated diffuser
- Colour temperature 4 000°K
- L70/B10 at 25°C (70% lumen output/ 90% active LED) according to operating life

**Photometric curve**
- See page 189

**Rated voltages**
- Electronic driver: 100-240Vac 50/60Hz

**Power factor**
- 0.9

**CRI**
- 84

**Wiring Configuration**
- 5 wires

**Dielectrical class**
- I

**Over-current protection**
- The power supply shall be self-recovery when the fault condition is removed

**Grounding system**
- TNS, TNC, TT, IT neutral system

**Inrush current**
- for the part XFFL240
  - I peak = 60A @230Vac
  - delta t = 275μs

**Max. light fittings per circuit breaker**
- Type: 10A: 4, 16A: 7, 20A: 9, 25A: 11
- C: 7, 12, 15, 18

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**External grounding lug**
- Screw M4x20 (stainless steel 316L) (nearby cable gland)
- Terminal block (screws plug in terminal block)
  - 10mm² (rigid wire), 6mm² (flexible wire)
  - Terminals supplied L1, L2, L3, N, PE (looping possible with one additional cable gland)

**Cable entries**
- Two entries 3/4” NPT
  - Included: One 3/4” nickel plated brass plug (EXN/075/SP) and one 3/4”nickel plated brass cable gland for non armoured cable, diameter 6-12mm (EXN05ASC3)

**Casting**
- Casting Marine grade aluminum alloy according to standard: EN 1706: EN AC-AlSi12 (Fe) DF or EN AC-AlSi 10Mg(A) DF borosilicate glass thickness 7mm

**Colour of casting (std)**
- XF****-00000 - Yellow offshore, RAL 1003
- XF****-B0000 - Grey, RAL 7035

**Fixing**
- (included with product)
  - D023- 2x zinc plated steel articulated brackets for ceiling mounting
Fluorescent fitting to a LED fitting

What are the LED benefits?

The benefits of the LED technology consist in a significant improvement in the life expectancy of your product, lower power consumption and the improvement of the photometric features.

T8 fluorescent lamp - XFF240-0G000 3D view
- Lumen output (light fitting): 3,546 lm
- Lumen output (lamp): 6,700 lm
- Yield: 52%
- Rating per light fitting: 73.5 W
- Light source: 2x L36W/840 OSRAM Lumilux Cool White (corrector factor 1,00)

LED module - XFPL240-00000 3D view
- Lumen output (light fitting): 4,188 lm
- Lumen output (lamp): 4,257 lm
- Yield: 98%
- Rating per light fitting: 58,0 W
- Light source: 1x LED module (corrector factor 1,00)

MRO benefits

How can I upgrade my current light fitting?

Tubular fittings could be switched from fluorescent to LED technology by easy sliding gear tray without any specific tool. The fixture with 1 or 2 fluorescent tubes T8 could be replaced by only one LED module fixed on the new gear tray.

How is my upgraded LED light fitting certified?

The EC type (ATEX) certification, EC declaration and the installation notice of the fluorescent fitting remain valid for all the LED fittings (more details on demand).

Gear trays parts to upgrade from a “fluorescent” to a “LED” fitting - LED gear tray with driver 100-240 Vac 50/60 Hz:
- D0051X20WEL - To upgrade XFR120 to XFRL120
- D0051X40WEL - To upgrade XFR140 to XFRL140
- D0051X65WEL - To upgrade XFR165 to XFRL165
- D0052X20WEL - To upgrade XFF220 to XFFL220
- D0052X40WEL - To upgrade XFF240 to XFFL240
- D0052X65WEL - To upgrade XFF265 to XFFL265
### Tubular fittings - accessories & spare parts

**XFFL - zones 1, 2 & 21, 22**

#### Hinged bracket

<table>
<thead>
<tr>
<th>Type</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>D023</td>
<td>2x zinc plated steel articulated brackets for ceiling mounting (included with product)</td>
</tr>
<tr>
<td>D024</td>
<td>2x stainless steel 304L articulated brackets for ceiling mounting</td>
</tr>
</tbody>
</table>

#### U-bolt for pole mounting

<table>
<thead>
<tr>
<th>Type</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>D025</td>
<td>2x U-bolt and 2x zinc plated steel brackets for pole mounted 1” 1/4</td>
</tr>
<tr>
<td>D026</td>
<td>2x U-bolt and 2x zinc plated steel brackets for pole mounted 1” 1/2</td>
</tr>
<tr>
<td>D027</td>
<td>2x U-bolt and 2x zinc plated steel brackets for pole mounted 2”</td>
</tr>
<tr>
<td>D029</td>
<td>2x U-bolts and 2x stainless steel brackets (304L) for pole mounted 1” 1/2</td>
</tr>
<tr>
<td>D030</td>
<td>2x U-bolts and 2x stainless steel brackets (304L) for pole mounted 2”</td>
</tr>
</tbody>
</table>

#### Shock proof kit

<table>
<thead>
<tr>
<th>Type</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>D034</td>
<td>Stainless steel 304L canopy &amp; shock proof kit for XFRL120, XFFL220</td>
</tr>
<tr>
<td>D035</td>
<td>Stainless steel 304L canopy and shock proof kit for XFRL140, XFFL240</td>
</tr>
<tr>
<td>D036</td>
<td>Stainless steel 304L canopy and shock proof kit for XFRL165, XFFL265</td>
</tr>
</tbody>
</table>

#### Spare parts

<table>
<thead>
<tr>
<th>Type</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>D003</td>
<td>Gasket</td>
</tr>
<tr>
<td>D0051X20WEL</td>
<td>LED replacement gear tray with universal electronic driver and LED included 100-254V, 50-60 Hz for XFRL120</td>
</tr>
<tr>
<td>D0051X40WEL</td>
<td>LED replacement gear tray with universal electronic driver and LED included 100-254V, 50-60 Hz for XFRL140</td>
</tr>
<tr>
<td>D0051X65WEL</td>
<td>LED replacement gear tray with universal electronic driver and LED included 100-254V, 50-60 Hz for XFRL165</td>
</tr>
<tr>
<td>D0052X20WEL</td>
<td>LED replacement gear tray with universal electronic driver and LED included 100-254V, 50-60 Hz for XFFL220</td>
</tr>
<tr>
<td>D0052X40WEL</td>
<td>LED replacement gear tray with universal electronic driver and LED included 100-254V, 50-60 Hz for XFFL240</td>
</tr>
<tr>
<td>D0052X65WEL</td>
<td>LED replacement gear tray with universal electronic driver and LED included 100-254V, 50-60 Hz for XFFL265</td>
</tr>
<tr>
<td>EXN05ASC3K</td>
<td>Kit 3/4 NPT Exd Exe IIIC Ex-td nickel plated cable gland for non armoured cable diameter 6-12mm</td>
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</table>