Atex Zones

Lighting in

2, 21 and 22
THEY TRUST US

ACETEX CHIMIE • ADISSEO • ADNATCO (Abu Dhabi National Tanker Company) • AIRBUS • BRITISH PETROLEUM • EURENCO • Grand Port Maritime de Dunkerque • MISC (Malaysia International Shipping Corporation Berhad) • PANSN (Port Atlantique Nantes Saint-Nazaire) • PERENCO • PETRONAS • QAPCO (Qatar Petrochemical Company) • SANOFI • TEREOS • TOTAL and others
The quality of the chosen materials and our strict construction principles make our luminaires exceptionally resistant to polluted and corrosive environments and climatic influences such as ageing.

**IMPERVIOUS (IP68/IP69K)**

The absolute sealing (IP68) of our luminaires maintains their performance throughout their lifetime. Constructed to be hermetically sealed, they are weatherproof (heavy seas, spray, etc.) as well as impervious to cleaning with high pressure jets (IP69K).

**INCREASE SERVICE INTERVALS**

We offer a high resistance lighting solution with long life, especially suitable for areas that are difficult to reach. We thus guarantee our customers a return on their investment and reduced maintenance costs.

**EFFICIENT**

Our products include high-efficiency (lm/W) LED modules to reduce the energy consumption associated with lighting. The chosen technology ensures efficient operation even at very low temperatures.

**5 YEAR WARRANTY**

Sammode embodies its commitment to the quality and sustainability of its luminaires by offering a guarantee for its tubular ranges that exceeds the legal warranty. A Sammode product isn’t a consumable; it’s an investment!
OUR COMMITMENT:
TO WITHSTAND YOUR AGGRESSIVE ENVIRONMENT

Conditions in ATEX environments are often aggressive for installations and equipment (corrosive saline environments, UV, etc.). These constraints result in premature deterioration of materials that could lead to the spontaneous breakage of equipment. For this reason SAMMODE, with more than 40 years of experience in the design and use of ATEX luminaires, offers a selection of materials for your applications.

STAINLESS STEEL
Sammode offers two grades of stainless steel:
• 304L grade stainless steel suitable for most industrial applications
• 316L marine stainless steel (MR option) that solves problems of use in extreme conditions, particularly in corrosive ones such as marine environments.

COEXTRUDED POLYCARBONATE / PMMA (POME)
Combining the chemical resistance of methacrylate with the strength of polycarbonate (IK10), our POME diffuser is recommended for applications that require high resistance to mechanical shock. Thanks to its outer layer of methacrylate, which acts as barrier against UV rays and avoids yellowing, it is ideal for outdoor use.

BOROSILICATE GLASS DIFFUSER (PY)
Borosilicate glass is recommended for applications requiring exceptional chemical (acid environments, hydrocarbons, etc.) or abrasion (coal dust, cement, etc.) resistance. Because of the ease with which it can be cleaned it is recommended for environments such as paint shops.
PRINCIPLES OF CONSTRUCTION TO STAND THE TEST OF TIME

Decades of experience and expertise have enabled us to develop design principles (tubular structure, single-piece housing, closure systems, fixing systems, axial clamping by stainless steel screws, etc.) all of which guarantee an absolute seal and foolproof mechanical construction. Our light fittings demonstrate all their qualities in demanding environments.

LUMINAIRES FOR HARSH ENVIRONMENTS
Luminaires installed in «harsh environments» can be exposed to strong and permanent vibration, environmental pollution by hydrocarbons, corrosion due to salt spray, abrasion, etc.

Method of construction:
Monobloc enclosure with high mechanical and chemical resistance
Long-term sealing maintained by axial clamping
Materials:
Diffusers: Borosilicate glass (PY) or co-extruded polycarbonate/PMMA (POME)
External metallic parts: 304L or 316L stainless steel (MR option)

LUMINAIRES FOR NORMAL ENVIRONMENTS
Luminaires installed in «normal environments» may be exposed to shock, weather, humid atmospheres, washing with high pressure jets, UV, etc.

Method of construction:
Single-piece housing with reinforced seal [Patented] drawer opening system
Materials:
Diffusers: Co-extruded polycarbonate/PMMA (POME)
External metallic parts: 304L or 316L stainless steel [MR option]

Our design office is available to help you choose the best product to meet your requirements.
DEFINITIONS

General lighting
The high power of these products makes them especially suitable for lighting large areas with significant levels of illumination, acting as natural replacements for conventional fluorescent solutions (1 x 36 W, 2 x 36 W, etc).

Task lighting
Because of their small size, these product lines can be fitted in confined spaces and easily pointed at the area to be lit. They offer the best compromise between size and the right amount of light.

Low temperatures
These products are specifically designed for operation over a wide temperature range (-40 °C to + 40 °C) without any difference in their service life. The selected LED technology guarantees immediate 100% light output and efficient operation even at very low temperatures.

ZONE CLASSIFICATION

Gas and fumes
Zone 2
Location where an explosive atmosphere consisting of a mixture of air with flammable substances in the form of a gas, fumes or a mist is not likely to occur in normal operation but, if it does occur, is only short-lived.

Dust
Zone 21
Location where a hazardous explosive atmosphere in the form of a cloud of combustible dust may occur from time to time during normal operation.

Zone 22
Location where a hazardous explosive atmosphere in the form of a cloud of combustible dust is not likely to occur in normal operation but, if it does occur, is only short-lived.

PROTECTION MODES

Protection mode “n”
Electrical equipment that is designed to make it impossible, in normal operation, for any external source of ignition (spark, hot surface) to occur. Its temperature class takes into account the maximum surface temperature of the outer housing.
ATEX lighting solutions that stand the test of time

SELECTION GUIDE

<table>
<thead>
<tr>
<th>GENERAL LIGHTING</th>
<th>Product</th>
<th>Flux</th>
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<tbody>
<tr>
<td>Normal environments</td>
<td>Jamin 100</td>
<td>2775lm to 4625lm</td>
</tr>
<tr>
<td></td>
<td>Jamin 133</td>
<td>5550lm to 9250lm</td>
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<tr>
<td>Harsh environments</td>
<td>Boyle 100</td>
<td>2775lm to 4625lm</td>
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<td></td>
<td>Boyle 133</td>
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<td>Low temperatures</td>
<td>Hutton 100</td>
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</tr>
<tr>
<td>-40°C</td>
<td>Hutton 133</td>
<td>5550lm to 9250lm</td>
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<table>
<thead>
<tr>
<th>TASK LIGHTING</th>
<th>Product</th>
<th>Flux</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal environments</td>
<td>Jamin 100</td>
<td>1850lm</td>
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<tr>
<td>Harsh environments</td>
<td>Boyle 100</td>
<td>1850lm</td>
</tr>
<tr>
<td>Low temperatures</td>
<td>Hutton 100</td>
<td>1850lm</td>
</tr>
</tbody>
</table>

-40°C
General lighting

Particularly powerful, these products help illuminate large spaces with significant levels of illumination. They are designed to act as replacements for a conventional fluorescent solutions (1 x 36 W, 2 x 36 W, etc.) , providing identical illumination with reduced energy consumption.

Selection guide

<table>
<thead>
<tr>
<th>GENERAL LIGHTING</th>
<th>Flux</th>
<th>Glass diffuser</th>
<th>Coextruded diffuser</th>
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<tbody>
<tr>
<td>Normal environments</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Jamin 100</td>
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<td>Hutton 133</td>
<td>5550lm to 9250lm</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
JAMIN 100

DESCRIPTION

HOUSING
- Ø100 mm coextruded polycarbonate/PMMA diffuser for chemically aggressive environments and outdoor lighting
- End caps 1/2 ring press-formed in 304L stainless steel (316L also available)
- Gaskets moulded in EPDM
- Cable entry with cable gland
- Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
- Gear tray in white powder coated steel
- Light mixing chamber
- Aluminium heat sink
- Optical diffuser
- High-efficiency LED modules (145 lm/W)
- Service life: 50,000 hours L80/B50
- Colour temperature: 3000 K or 4000 K
- CRI > 80
- Integrated LED-Driver 220-240V 50/60Hz with constant current output

EASY MAINTENANCE
- Easy opening and closing with just one screw

IMPERVIOUS (IP68/IP69K)
- Absolute imperviousness
- No internal dust accumulation
- Maximum light output
- Adapted for pressure cleaning

PHOTOMETRY

PROTECTION AGAINST EXPLOSION
- Protection: Protection « n »
- Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31

INTEGRATION - MAINTENANCE
- Off-load opening in an explosive environment
- Connection to a 3x2,5mm² terminal block
- Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation [available with closure by HSHC screw]
- Maintenance: remove the end-cap and slide the guided gear tray (patented system)
- Electronic components (LED and driver) have a very long lifetime [50,000 hours] and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

ELECTRICAL CLASS: CLASS 1
FIRE RESISTANCE: 650°C
PROTECTION: IP68/IP69K
SHOCK RESISTANCE: IK10
OPERATING TEMPERATURE: -20°C to +40°C

ZONES 2, 21, 22

EASY MAINTENANCE IMPERVIOUS TUBULAR LIGHT FITTING FOR EXPLOSIVE ENVIRONMENTS

LED TECHNOLOGY
- Low in maintenance
- Instantaneous full light output on ignition over the entire temperature range of use
- Designed for repeated switching on and off

TUBULAR
- Increased mechanical resistance
- Easy to clean
- Limited dirt accumulation
- 360° orientation

IMPERVIOUS (IP68/IP69K)
- Absolute imperviousness
- No internal dust accumulation
- Maximum light output
- Adapted for pressure cleaning

EASY MAINTENANCE
- Easy opening and closing with just one screw

DURABLE
- High resistance to shocks and corrosion
- Single piece casing, material and components selected to ensure long-term investment

CE 0080
IECEx II 3G Ex nA IIC T4 Gc
IECEx II 2D Ex tb III C T80°C Db IP66/IP68

ZONE 2, 21 AND 22 - EASY MAINTENANCE - GENERAL LIGHTING -20°C/40°C - LED - 2775 TO 4625 LM
### MAIN REFERENCES

<table>
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<tr>
<th>POWER</th>
<th>FLUX (lm)</th>
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<th>CODE</th>
<th>OPTICS</th>
<th>TEMPERATURE (K)</th>
<th>WEIGHT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24W</td>
<td>2775</td>
<td>JAM100 13H830 POME 113</td>
<td>1987 0030</td>
<td>3000</td>
<td>1018</td>
<td>2,9</td>
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<tr>
<td>24W</td>
<td>2775</td>
<td>JAM100 13H840 POME 113</td>
<td>1987 0040</td>
<td>4000</td>
<td>1018</td>
<td>2,9</td>
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<tr>
<td>40W</td>
<td>4625</td>
<td>JAM100 15H830 POME 113</td>
<td>1987 0050</td>
<td>3000</td>
<td>1618</td>
<td>4,2</td>
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<tr>
<td>40W</td>
<td>4625</td>
<td>JAM100 15H840 POME 113</td>
<td>1987 0060</td>
<td>4000</td>
<td>1618</td>
<td>4,2</td>
</tr>
</tbody>
</table>

Equivalent to 1x36W T8

Equivalent to 1x58W T8

### OPTIONS

**DESCRIPTION** | **OPTION CODE**
--- | ---
1 or 2 cable glands in black polyamide | 113/213
1 or 2 cable glands in black polyamide and 1 blind plug (Hole Ø : 20 mm) | 113-1B
1 or 2 cable glands in nickel-coated brass | 116-1B
5-point terminal block for phase balancing C5P | C5P

**FINISHINGS** | **OPTION CODE**
--- | ---
End caps and fixing straps in 316L stainless steel | MR
Reinforced bolt-fitted fixing straps with HSHC screw* | BRV
(*Tamper-resistant Torx screw on request)

**FIXINGS**

**ACCESOIRIES**

**DESCRIPTION** | **OPTION CODE**
--- | ---
Protective covers |
Fixing for columns |

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Option codes to be added or to replace the designation codes of main references, subject to the compatibility of options.
EASY MAINTENANCE IMPERVIOUS TUBULAR LIGHT FITTING FOR EXPLOSIVE ENVIRONMENTS

LED TECHNOLOGY
Low in maintenance
Instantaneous full light output on ignition over the entire temperature range of use
Designed for repeated switching on and off

TUBULAR
Increased mechanical resistance
Easy to clean
Limited dirt accumulation
360° orientation

IMPERVIOUS (IP68/IP69K)
Absolute imperviousness
No internal dust accumulation
Maximum light output
Adapted for pressure cleaning

EASY MAINTENANCE
Easy opening and closing with just one screw

DURABLE
High resistance to shocks and corrosion
Single piece casing, material and components selected to ensure long-term investment

DESCRIPTION

HOUSING
- Ø133 mm coextruded polycarbonate/PMMA diffuser for chemically aggressive environments and outdoor lighting
- End caps 1/2 ring press-formed in 304L stainless steel (316L also available)
- Gaskets moulded in EPDM
- Cable entry with cable gland
- Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
- Gear tray in white powder coated steel
- Light mixing chamber
- Aluminium heat sink
- Optical diffuser
- High-efficiency LED moduls (145 lm/W)
- Service life: 50,000 hours L80/B50
- Colour temperature: 3000 K or 4000 K
- CRI > 80
- Integrated LED-Driver 220-240V 50/60Hz with constant current output

INSTALLATION - MAINTENANCE
- Off-load opening in an explosive environment
- Connection to a 3x2,5mm² terminal block
- Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation (available with closure by HSHC screw)
- Maintenance: remove the end-cap and slide the guided gear tray (patented system)
- Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

PHOTOMETRY

PHOTOMETRY

PROTECTION AGAINST EXPLOSION

- Protection : Protection « n »
- Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31

ELECTRICAL CLASS
CLASS 1

FIRE RESISTANCE
650°C

PROTECTION
IP68/IP69K

SHOCK RESISTANCE
IK10

OPERATING TEMPERATURE
-20°C +40°C

ZONES 2, 21, 22

CE 0080
II 3G Ex nA IIC T4 Gc
II 2D Ex tb IIIIC T80°C Db IP66/IP68

5 YEARS WARRANTY
### Options

<table>
<thead>
<tr>
<th>Description</th>
<th>Option Code</th>
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</thead>
<tbody>
<tr>
<td>CABLE ENTRIES</td>
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</tr>
<tr>
<td>1 or 2 cable glands in black polyamide</td>
<td>113/213</td>
</tr>
<tr>
<td>Cable Ø: 8-13 mm</td>
<td>113/213</td>
</tr>
<tr>
<td>Cable Ø: 10-15 mm</td>
<td>116/216</td>
</tr>
<tr>
<td>1 cable gland in black polyamide and 1 blind plug (Hole Ø : 20 mm)</td>
<td>113-1B</td>
</tr>
<tr>
<td>Cable Ø: 8-13 mm</td>
<td>113-1B</td>
</tr>
<tr>
<td>Cable Ø: 10-15 mm</td>
<td>116-1B</td>
</tr>
<tr>
<td>1 or 2 cable glands in nickel-coated brass</td>
<td>113LN/213LN</td>
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<tr>
<td>Cable Ø : 5-14 mm</td>
<td>113LN/213LN</td>
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<tr>
<td>GEAR UNITS</td>
<td></td>
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<tr>
<td>5-point terminal block for phase balancing CSP</td>
<td>CSP</td>
</tr>
</tbody>
</table>

Option codes to be added or to replace the designation codes of main references, subject to the compatibility of options.
BOYLE 100

DESCRIPTION

HOUSING
- Ø100 mm diffuser in borosilicate glass for corrosive environments
- Also available in coextruded polycarbonate/PMMA for chemically aggressive environments and outdoor lighting
- End caps 1/2 ring press-formed in 304L stainless steel (316L also available)
- Gaskets moulded in EPDM
- Cable entry with cable gland
- Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
- Gear tray in white powder coated steel
- Light mixing chamber
- Aluminium heat sink
- Optical diffuser
- High-efficiency LED modules (145 lm/W)
  - Service life: 50,000 hours L80/B50
  - Colour temperature: 3000 K or 4000 K
  - CRI > 80
- Integrated LED-Driver 220-240V 50/60Hz with constant current output

PHOTOMETRY

PROTECTION AGAINST EXPLOSION
- Protection : Protection « n »
- Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31

INSTALLATION - MAINTENANCE
- Off-load opening in an explosive environment
- Connection to a 3x2.5mm² terminal block
- Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation (available with closure by HSHC screw)
- Maintenance: release the 2 closing screws, remove the end cap and extract the gear
- Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.
MAIN REFERENCES

<table>
<thead>
<tr>
<th>POWER</th>
<th>FLUX (lm)</th>
<th>DESIGNATION</th>
<th>CODE</th>
<th>OPTICS</th>
<th>COLOUR</th>
<th>TEMPERATURE (K)</th>
<th>WEIGHT (kg)</th>
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<tbody>
<tr>
<td>VERSIONS WITH BOROSILICATE GLASS HOUSING</td>
<td>Equivalent to 1x36W T8</td>
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<td>24W</td>
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<td>1607</td>
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</table>

| VERSIONS WITH COEXTRUDED POLYCARBONATE / PMMA HOUSING | Equivalent to 1x36W T8 | | | | | | |
| 24W | 2775 | BOY100 13H830 POME 113 | 1983 0090 | | | 3000 | 1007 | 3,0 |
| 24W | 2775 | BOY100 13H840 POME 113 | 1983 0100 | | | 4000 | 1007 | 3,0 |
| 40W | 4625 | BOY100 15H830 POME 113 | 1983 0110 | | | 3000 | 1607 | 4,3 |
| 40W | 4625 | BOY100 15H840 POME 113 | 1983 0120 | | | 4000 | 1607 | 4,3 |

OPTIONS

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<th>DESCRIPTION</th>
<th>OPTION CODE</th>
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<tr>
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<td></td>
<td>FINISHINGS</td>
<td>MR</td>
</tr>
<tr>
<td>1 or 2 cable glands in black polyamide</td>
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<td>Reinforced bolt-fitted fixing straps with HSHC screw*</td>
<td>BRV</td>
</tr>
<tr>
<td>Cable Ø: 8-13 mm</td>
<td>113/213</td>
<td>(*Tamper-resistant Torx screw on request)</td>
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</tr>
<tr>
<td>Cable Ø: 10-15 mm</td>
<td>116/216</td>
<td></td>
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<tr>
<td>1 cable gland in black polyamide and 1 blind plug (Hole Ø: 20 mm)</td>
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<td>ACCESSOIRES</td>
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<td>Protective covers</td>
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<tr>
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Option codes to be added or to replace the designation codes of main references, subject to the compatibility of options.
BOYLE 133

IMPERVIOUS LIGHT FITTING FOR DIFFICULT EXPLOSIVE ENVIRONMENTS

LED TECHNOLOGY
Low in maintenance
Instantaneous full light output on ignition over the entire temperature range of use
Designed for repeated switching on and off

TUBULAR
Increased mechanical resistance
Easy to clean
Limited dirt accumulation
360° orientation

IMPERVIOUS (IP68/IP69K)
Absolute imperviousness
No internal dust accumulation
Maximum light output
Adapted for pressure cleaning

ROBUST
Mechanical assembly insensitive to external mechanical and/or chemical aggression

DURABLE
High resistance to shocks and corrosion
Single piece casing, material and components selected to ensure long-term investment

ELECTRICAL CLASS
CLASS 1

FIRE RESISTANCE
Cox. polycarbonate/PMMA 650°C
Borosilicate glass non-flammable

PROTECTION
IP68/IP69K

SHOCK RESISTANCE
Cox. polycarbonate/PMMA IK10
Borosilicate glass IK07

OPERATING TEMPERATURE
-20°C/+40°C

ZONES 2, 21, 22

DESCRIPTION

HOUSING
• Ø135 mm diffuser in borosilicate glass for corrosive environments
• Also available in coextruded polycarbonate/PMMA for chemically aggressive environments and outdoor lighting
• End caps 1/2 ring press-formed in 304L stainless steel (316L also available)
• Gaskets moulded in EPDM
• Cable entry with cable gland
• Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
• Gear tray in white powder coated steel
• Light mixing chamber
• Aluminium heat sink
• Optical diffuser
• High-efficiency LED modules (145 lm/W)
  - Service life: 50,000 hours L80/B50
  - Colour temperature: 3000 K or 4000 K
  - CRI > 80
• Integrated LED-Driver 220-240V 50/60Hz with constant current output

INSTALLATION - MAINTENANCE
• Off-load opening in an explosive environment
• Connection to a 3x2.5mm² terminal block
• Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation (available with closure by HSHC screw)
• Maintenance: release the 2 closing screws, remove the end cap and extract the gear
• Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

PHOTOMETRY

PROTECTION AGAINST EXPLOSION
• Protection : Protection « n »
• Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31

PHOTOMETRY

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PHOTOMETRY

PHOTOMETRY
Option codes to be added or to replace the designation codes of main references, subject to the compatibility of options.
HUTTON 100

IMPERVIOUS TUBULAR LUMINAIRE FOR DEMANDING EXPLOSIVE ENVIRONMENTS WITH WIDE OPERATING TEMPERATURE RANGE

LED TECHNOLOGY
Low in maintenance
Instantaneous full light output on ignition over the entire temperature range of use
Designed for repeated switching on and off

TUBULAR
Increased mechanical resistance
Easy to clean
Limited dirt accumulation
360° orientation

IMPERVIOUS [IP68/IP69K]
Absolute imperviousness
No internal dust accumulation
Maximum light output
Adapted for pressure cleaning

ROBUST
Mechanical assembly insensitive to external mechanical and/or chemical aggression

DURABLE
High resistance to shocks and corrosion
Single piece casing, material and components selected to ensure long-term investment

PROTECTION AGAINST EXPLOSION
• Protection : Protection « n »
• Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31

PHOTOMETRY

DESCRIPTION
HOUSING
• Ø100 mm diffuser in borosilicate glass for corrosive environments
• Also available in coextruded polycarbonate/PMMA for chemically aggressive environments and outdoor lighting
• End caps 1/2 ring press-formed in 304L stainless steel (316L also available)
• Gaskets moulded in silicone
• Cable entry with cable gland
• Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
• White powder coated gear tray
• Light mixing chamber
• Aluminium heat sink
• Optical diffuser
• High-efficiency LED moduls (145 lm/W)
  - Service life: 50,000 hours L80/B50
  - Colour temperature: 3000 K or 4000 K
  - CRI > 80
• Integrated LED-Driver 220-240V 50/60Hz with constant current output, specifically designed for operation over a wide temperature range

INSTALLATION - MAINTENANCE
• Off-load opening in an explosive environment
• Connection to a 3x2,5mm² terminal block
• Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation (available as a reinforced model and/or with closure by HSHC screw)
• Maintenance: release the 2 closing screws, remove the end cap and extract the gear tray
• Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

ELECTRICAL CLASS
CLASS 1

FIRE RESISTANCE
Coex. polycarbonate/PMMA 650°C
Borosilicate glass non-flammable

PROTECTION
IP68/IP69K

SHOCK RESISTANCE
Coex. polycarbonate/PMMA IK10
Borosilicate glass IK07

OPERATING TEMPERATURE
-40°C +40°C

CE 0080
II 3G Ex nA IIC T4 Gc
II 2D Ex tb IIIIC T80°C Db IP66/IP68

WARRANTY
5 YEARS
### MAIN REFERENCES

<table>
<thead>
<tr>
<th>POWER</th>
<th>FLUX (lm)</th>
<th>DESIGNATION</th>
<th>CODE</th>
<th>OPTICS</th>
<th>COLOUR</th>
<th>TEMPERATURE (K)</th>
<th>L (mm)</th>
<th>WEIGHT (kg)</th>
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<td><strong>VERSIONS WITH BOROSILICATE GLASS HOUSING</strong></td>
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<td></td>
<td><strong>FINISHINGS</strong></td>
<td>MR</td>
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<tr>
<td>1 or 2 cable glands in black polyamide</td>
<td>113/213</td>
<td>End caps and fixing straps in 316L stainless steel</td>
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</tr>
<tr>
<td>Cable Ø: 8-13 mm</td>
<td>116/216</td>
<td>Reinforced bolt-fitted fixing straps with HSHC screw*</td>
<td>BRV</td>
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<tr>
<td>1 cable gland in black polyamide and 1 blind plug (Hole Ø: 20 mm)</td>
<td>113-1B</td>
<td>(*Tamper-resistant Torx screw on request)</td>
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<td>Cable Ø: 8-13 mm</td>
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<td><strong>ACCESSOIRES</strong></td>
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<tr>
<td>Cable Ø: 10-15 mm</td>
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<td>Protective covers</td>
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HZONNS 2, 21 AND 22 - INCREASED RESISTANCE - GENERAL LIGHTING -40°C/40°C - LED – 5550 TO 9250 LM

HUTTON 133

IMPERVIOUS TUBULAR LUMINAIRE FOR DEMANDING EXPLOSIVE ENVIRONMENTS WITH WIDE OPERATING TEMPERATURE RANGE

LED TECHNOLOGY
Low in maintenance
Instantaneous full light output on ignition over the entire temperature range of use
Designed for repeated switching on and off

TUBULAR
Increased mechanical resistance
Easy to clean
Limited dirt accumulation
360° orientation

IMPERVIOUS [IP68/IP69K]
Absolute imperviousness
No internal dust accumulation
Maximum light output
Adapted for pressure cleaning

ROBUST
Mechanical assembly insensitive to external mechanical and/or chemical aggression

DURABLE
High resistance to shocks and corrosion
Single piece casing, material and components selected to ensure long-term investment

ELECTRICAL CLASS
CLASS 1

FIRE RESISTANCE
Coex. polycarbonate/PMMA 650°C
Borosilicate glass non-flammable

PROTECTION
IP68/IP69K

SHOCK RESISTANCE
Coex. polycarbonate/PMMA IK10
Borosilicate glass IK07

OPERATING TEMPERATURE
-40°C +40°C

DESCRIPTION

HOUSING
- Ø135 mm diffuser in borosilicate glass for corrosive environments
- Also available in coextruded polycarbonate/PMMA for chemically aggressive environments and outdoor lighting
- End caps 1/2 ring press-formed in 304L stainless steel (316L also available)
- Gaskets moulded in silicone
- Cable entry with cable gland
- Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
- White powder coated gear tray
- Light mixing chamber
- Aluminium heat sink
- Optical diffuser
- High-efficiency LED moduls (145 lm/W)
  - Service life: 50,000 hours L80/B50
  - Colour temperature: 3000 K or 4000 K
  - CRI > 80
- Integrated LED-Driver 220-240V 50/60Hz with constant current output, specifically designed for operation over a wide temperature range

INSTALLATION - MAINTENANCE
- Off-load opening in an explosive environment
- Connection to a 3x2,5mm² terminal block
- Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation (available as a reinforced model and/or with closure by HSHC screw)
- Maintenance: release the 2 closing screws, remove the end cap and extract the gear tray
- Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

PHOTOMETRY

PHOTOMETRY

PROTECTION AGAINST EXPLOSION
- Protection : Protection « n »
- Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31

CE 0080
II 3G Ex nA IIC T4 Gc
II 2D Ex tb IIIC T80°C Db IP66/IP68

ZONE2, 21, 22

WARRANTY

5 YEARS
### MAIN REFERENCES

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<tr>
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<td><strong>FINISHINGS</strong></td>
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<td>1 or 2 cable glands in black polyamide</td>
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<td><strong>FIXINGS</strong></td>
<td>BRV</td>
</tr>
<tr>
<td>Cable Ø: 8-13 mm</td>
<td>113/213</td>
<td>End caps and fixing straps in 316L stainless steel (Tamper-resistant Torx screw on request)</td>
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<td>Protective covers</td>
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Task lighting

Thanks to their small size, these products can be fitted in confined spaces and easily pointed at the area to be lit. They offer the best compromise between size and the right amount of light.

Selection guide

<table>
<thead>
<tr>
<th>TASK LIGHTING</th>
<th>Product</th>
<th>Flux</th>
<th>Glass diffuser</th>
<th>Coextruded diffuser</th>
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<td>Jamin 100</td>
<td>1850lm</td>
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<td>Harsh environments</td>
<td>Boyle 100</td>
<td>1850lm</td>
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<td>Low temperatures 40°C</td>
<td>Hutton 100</td>
<td>1850lm</td>
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</table>
ZONES 2, 21 AND 22 - EASY MAINTENANCE - TASK LIGHTING -20°C/40°C - LED – 1850 LM

JAMIN 100

EASY MAINTENANCE
COMPACT IMPERVIOUS TUBULAR LIGHT FITTING FOR EXPLOSIVE ENVIRONMENTS

LED TECHNOLOGY
Low in maintenance
Instantaneous full light output on ignition
over the entire temperature range of use
Designed for repeated switching on and off

TUBULAR
Increased mechanical resistance
Easy to clean
Limited dirt accumulation
360° orientation

IMPERVIOUS (IP68/IP69K)
Absolute imperviousness
No internal dust accumulation
Maximum light output
Adapted for pressure cleaning

EASY MAINTENANCE
Easy opening and closing with just one screw

DURABLE
High resistance to shocks and corrosion
Single piece casing, material and
components selected to ensure long-term investment

PHOTOMETRY

PHOTOMETRY

PROTECTION AGAINST EXPLOSION
• Protection : Protection « n »
• Compliant with the ATEX 94/9/EC directive and
standards IEC 60079-0, IEC 60079-15, IEC 60079-31

ELECTRICAL CLASS
CLASS 1

FIRE RESISTANCE
450°C

PROTECTION
IP68/IP69K

SHOCK RESISTANCE
IK10

OPERATING TEMPERATURE
-20°C +40°C

ZONES 2, 21, 22

CE 0080
II 3G Ex nA IIC T4 Gc
II 2D Ex tb IIIC T80°C Db IP66/IP68

DESCRIPTION
HOUSING
• Ø100 mm coextruded polycarbonate/PMMA diffuser for chemically aggressive environments and outdoor lighting
• End caps 1/2 ring press-formed in 304L stainless steel (316L also available)
• Gaskets moulded in EPDM
• Cable entry with cable gland
• Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
• Gear tray in white powder coated steel
• Light mixing chamber
• Aluminium heat sink
• Optical diffuser
• High-efficiency LED moduls [145 lm/W]
• Service life: 50,000 hours L80/B50
• Colour temperature: 3000 K or 4000 K
• CRI > 80
• Integrated LED-Driver 220-240V 50/60Hz with constant current output

INSTALLATION - MAINTENANCE
• Off-load opening in an explosive environment
• Connection to a 3x2,5mm² terminal block
• Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation (available with closure by HSHC screw)
• Maintenance: remove the end-cap and slide the guided gear tray (patented system)
• Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

5 YEARS WARRANTY
Option codes to be added or to replace the designation codes of main references, subject to the compatibility of options.
COMPACT IMPERVIOUS TUBULAR LUMINAIRE FOR DEMANDING EXPLOSIVE ENVIRONMENTS

LED TECHNOLOGY
Low in maintenance
Instantaneous full light output on ignition over the entire temperature range of use
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ROBUST
Mechanical assembly insensitive to external mechanical and/or chemical aggression

DURABLE
High resistance to shocks and corrosion
Single piece casing, material and components selected to ensure long-term investment

ELECTRICAL CLASS
CLASS 1

FIRE RESISTANCE
Cox. polycarbonate/PMMA 650°C
Borosilicate glass non-flammable

PROTECTION
IP68/IP69K

SHOCK RESISTANCE
Cox. polycarbonate/PMMA IK10
Borosilicate glass IK07

OPERATING TEMPERATURE
-20°C +40°C

ZONES 2, 21, 22

DESCRIPTION
HOUSING
• Ø100 mm diffuser in borosilicate glass for corrosive environments
• Also available in coextruded polycarbonate/PMMA for chemically aggressive environments and outdoor lighting
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• Maintenance: release the 2 closing screws, remove the end cap and extract the gear
• Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

PHOTOMETRY

PROTECTION AGAINST EXPLOSION
• Protection : Protection « n »
• Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31

ELECTRICITY AND SAFETY

CERTIFICATIONS

CE 0080
II 3G Ex nA IIC T4 Gc
II 2D Ex tb IIIC T80°C Db IP66/IP68
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#### VERSIONS WITH BOROSILICATE GLASS HOUSING

#### VERSIONS WITH COEXTRUDED POLYCARBONATE / PMMA HOUSING

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<tr>
<td>GEAR UNITS</td>
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<tr>
<td>5-point terminal block for phase balancing C5P</td>
<td>CSP</td>
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Option codes to be added or to replace the designation codes of main references, subject to the compatibility of options.
COMPACT IMPERVIOUS TUBULAR LUMINAIRE FOR DEMANDING EXPLOSIVE ENVIRONMENTS  
WIDE OPERATING TEMPERATURE RANGE

LED TECHNOLOGY
Low in maintenance  
Instantaneous full light output on ignition over the entire temperature range of use  
Designed for repeated switching on and off

TUBULAR
Increased mechanical resistance  
Easy to clean  
Limited dirt accumulation  
360° orientation

IMPERVIOUS [IP68/IP69K]
Absolute imperviousness  
No internal dust accumulation  
Maximum light output  
Adapted for pressure cleaning

ROBUST
Mechanical assembly insensitive to external mechanical and/or chemical aggression

DURABLE
High resistance to shocks and corrosion  
Single piece casing, material and components selected to ensure long-term investment

ELECTRICAL CLASS
CLASS 1

FIRE RESISTANCE  
Coex. polycarbonate/PMMA 650°C  
Borosilicate glass non-flammable

PROTECTION [IP68/IP69K]

SHOCK RESISTANCE  
Coex. polycarbonate/PMMA IK10  
Borosilicate glass IK07

OPERATING TEMPERATURE -40°C +40°C

ZONES 2, 21, 22

DESCRIPTION

HOUSING
• Ø100 mm diffuser in borosilicate glass for corrosive environments  
• Also available in coextruded polycarbonate/PMMA for chemically aggressive environments and outdoor lighting  
• End caps 1/2 ring press-formed in 304L stainless steel (316L also available)  
• Gaskets moulded in silicone  
• Cable entry with cable gland  
• Possibility for a model with 2 cable entries for looping-in (2 cable glands with stopper plug or 1 cable gland and 1 blind plug at the same cap)

GEAR TRAY WITH LED
• White powder coated gear tray  
• Light mixing chamber  
• Aluminium heat sink  
• Optical diffuser  
• High-efficiency LED modules (140 lm/W)  
  - Service life: 50,000 hours L80/B50  
  - Colour temperature: 3000 K or 4000 K  
  - CRI> 80  
• Integrated LED-Driver 220-240V 50/60Hz with constant current output, specifically designed for operation over a wide temperature range

INSTALLATION - MAINTENANCE
• Off-load opening in an explosive environment  
• Connection to a 3x2,5mm² terminal block  
• Attachment with 2 bolt-fitted stainless steel straps with variable centre distance and allowing 360° orientation (available as a reinforced model and/or with closure by HSHC screw)  
• Maintenance: release the 2 closing screws, remove the end cap and extract the gear tray  
• Electronic components (LED and driver) have a very long lifetime (50,000 hours) and can be easily replaced to extend the life of the luminaire and contribute to the sustainability of the investment and to environmental protection.

PHOTOMETRY

PROTECTION AGAINST EXPLOSION
• Protection : Protection « n »  
• Compliant with the ATEX 94/9/EC directive and standards IEC 60079-0, IEC 60079-15, IEC 60079-31
### MAIN REFERENCES

<table>
<thead>
<tr>
<th>POWER</th>
<th>FLUX (lm)</th>
<th>DESIGNATION</th>
<th>CODE</th>
<th>OPTICS</th>
<th>TEMPERATURE (K)</th>
<th>WEIGHT (kg)</th>
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<td>VERSIONS WITH BOROSILICATE GLASS HOUSING</td>
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### OPTIONS

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<tr>
<td><strong>CABLE ENTRIES</strong></td>
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<tr>
<td>1 or 2 cable glands in black polyamide</td>
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<tr>
<td>Cable Ø: 8-13 mm</td>
<td>113/213</td>
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<tr>
<td>Cable Ø: 10-15 mm</td>
<td>116/216</td>
</tr>
<tr>
<td>1 cable gland in black polyamide and 1 blind plug (Hole Ø : 20 mm)</td>
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</tr>
<tr>
<td>Cable Ø: 8-13 mm</td>
<td>113-1B</td>
</tr>
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<tr>
<td><strong>FINISHINGS</strong></td>
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<tr>
<td>End caps and fixing straps in 316L stainless steel</td>
<td>MR</td>
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<tr>
<td><strong>FIXINGS</strong></td>
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<tr>
<td>Reinforced bolt-fitted fixing straps with HSHC screw*</td>
<td>BRV</td>
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<td>(*Tamper-resistant Torx screw on request)</td>
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<td><strong>ACCESSOIRES</strong></td>
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<td>Protective covers</td>
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