Sammode lights the rolling mill of a steelworks, the inspection pits of a rail operator, the machine room of a power generating plant, the bridge of an ice-breaker, the conveyor of a cement plant, the crane of a harbour freight terminal, the benches of a pharmaceuticals laboratory...

IN 1.01

General lighting

Sammode

Industry

Contents

Sammode Industry
General lighting

Functional, durable, efficient and dependable, Sammode luminaires are made to last. Optimised down to the smallest detail, they offer users an exceptionally long and robust working life at minimal operating cost.

Values and expertise

Durability and dependability
For four generations, we have developed a unique level of experience in bringing light into the most critical locations and most severe environments under the most demanding conditions. Established in 1927, Sammode is now synonymous with high-durability, high-dependability technical lighting. Our expertise covers every link in the lighting chain, from design to manufacture, which means that we can guarantee to provide the best quality of lighting in all environments between -60 °C and +200 °C.

Experience and local presence
Our strength is built on almost 90 years of service to lighting. We are also an independent family business on the human scale. Combined with our proud history, this structure makes us efficient and responsive, and gives us the capability to take onboard the real-life needs of our customers and interpret them immediately to design and manufacture precisely the right product for the job.

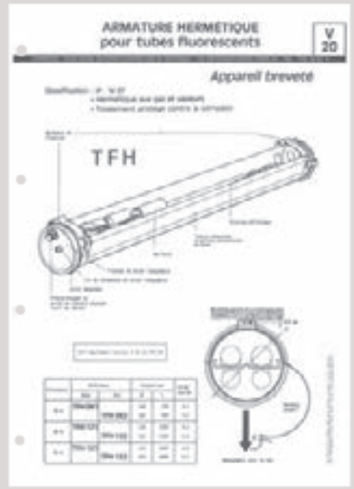
Robustness and adaptability
We design and manufacture functional lighting that has always been appreciated for its performance, quality and low operating cost. We continually refine all our products by improving their design, selecting the best-possible materials and incorporating new technologies validated by our own laboratory. The key characteristics of our luminaires are robustness, longevity, dependability and adaptability.

100% French design and manufacture
Based in the Vosges region throughout our history, we manufacture 100% French luminaires. We control every link in the production chain, and are committed to a rolling programme of investment in upgrading our facilities. We source only components manufactured in Europe, and work closely with our partners to refine our luminaires, reduce their environmental footprint and limit transport distances.

Attentiveness and commitment
As a family business on the human scale, we place great value on individual commitment. Listening attentively to customer requirements, analysing their needs, ensuring that our customers make the right choices and minimising cost of ownership: our teams are dedicated to serving customers, advising them and finding the most appropriate solutions for their problems within their precise technical and budgetary constraints.

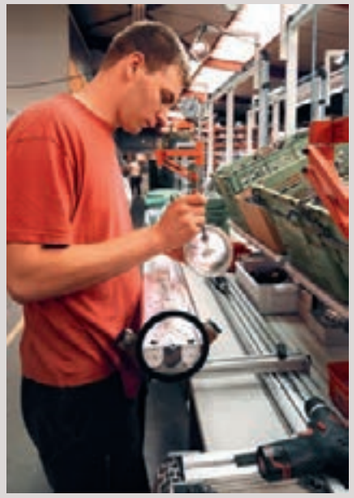
1

2

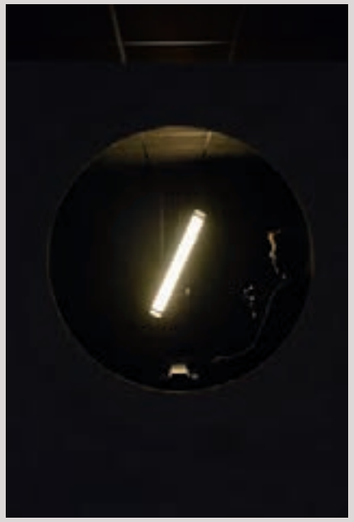


3

4



5



6

7

1. *L'éclairage de qualité* (High-quality lighting) general catalogue No. 1 (1927).
2. Lighting for damp environments from the 1938 catalogue.
3. A page from the 1968 Sammode catalogue.

4. Sealing of Darwin lamp tubes.
5. Luminaire assembly. The Sammode production plant at Châtillon-sur-Saône in the Vosges region of France.

6. Photometric measurement.
7. Seal testing. The Sammode test laboratory in Paris.

Sustainable lighting

Respect for the environment	Our environmental policy has always been clear and simple: we reject the idea of throwaway products and planned obsolescence, we select recyclable materials, prefer maintenance and component-by-component renovation, and reduce waste to the minimum. We understand that by designing efficient, dependable products, we limit production and reduce the need for maintenance. For every project we undertake, we help our customers to limit their energy consumption and use of natural resources.
Innovation	Our continual commitment to research and the creation of new lighting solutions is motivated by technological progress and solving the individual problems specific to each customer. A demanding approach to technical issues is central to this commitment, as is minute attention to detail in design and manufacture, both of which contribute to meeting an exacting set of product functionality and durability criteria. Often invisible to the naked eye, these innovations always deliver improved performance.
LED technologies	The development of light-emitting diodes (LEDs) is both a major technological revolution and a significant challenge for lighting manufacturers. Our Research & Innovation Department has been working for a decade on these new lighting systems. They offer enormous opportunities in terms of functionality, lighting precision and light control, as well as the promise of even greater energy savings.
Quality	Our luminaires are created from the highest quality materials, including 304 L stainless steel and borosilicate glass, and incorporate electrical and electronic components selected in our laboratories for their ability to meet the most demanding specifications. The exacting quality and inspection processes developed over many years and applied to our products for ATEX environments and NF AEAS emergency lighting are also applied to our industrial luminaires: assembled with enormous attention to detail in our Châtillon-sur-Saône production plant, they are individually inspected and tested. Each then has its own individual serial number to guarantee full unit and component traceability.
5-year guarantee	We design, manufacture and install lighting that is built to last: the absolute opposite of the throwaway mentality and programmed obsolescence. From the light source itself to the electronic circuits that control it and its mechanical structure, every component is designed to stand the test of time and be replaceable. This commitment to luminaire quality and durability is backed by our 5-year guarantee of 24/7 operation, which applies to all our ranges.

Our 5 key strengths

Five key strengths that guarantee the dependability of a long-term investment.

Robustness	Our luminaires are IK10 impact and vibration rated. They are designed in accordance with rigorous quality and structural integrity principles, and manufactured using only the most robust materials.
Ingress protection	Our luminaires carry the IP68 ingress protection rating (hermetically sealed against dust, vapours and liquids) and the IP69K high-pressure water protection rating. The absence of internal dirt build-up guarantees maximum long-term light flow.
Resistance	Our luminaires are resistant to chemical attack (from detergents, greases and hydrocarbons) and corrosion, thanks to the use of resistant materials, such as stainless steel and co-extruded polycarbonate/PMMA.
Durability	Our luminaires are made to last. Light source, electronic circuits and mechanical structure: every component is designed to last and be replaceable.
Performance	Installation scheduling, selection of the right components for each application, light source positioning and layout, and overall energy consumption: our solutions optimise space lighting performance in accordance with individual requirements and budgets.

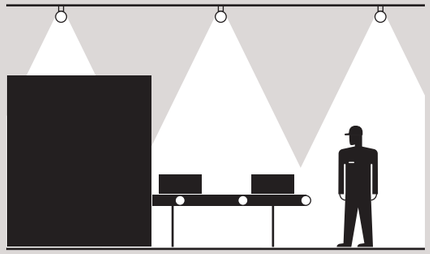
The different types of lighting

Each type of installation requires the use of luminaires with specific individual characteristics. Installations for particularly high spaces, clean rooms, inspection pits, low glare environments, task lighting and general lighting... Whatever the application, our luminaires offer exceptional longevity and meet the full spectrum of regulatory and functional requirements.

General lighting

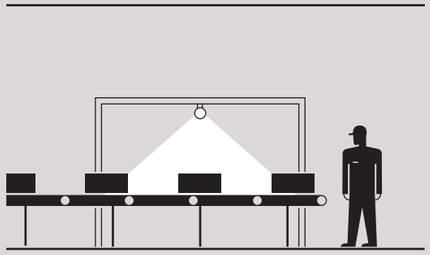
For industrial process environments
- with a floor area in excess of 20 m²
- less than 7 metres high
- with a lighting level above 150 lx

Appropriate general lighting contributes to production team wellbeing, reduces fatigue and contributes to efficiency.



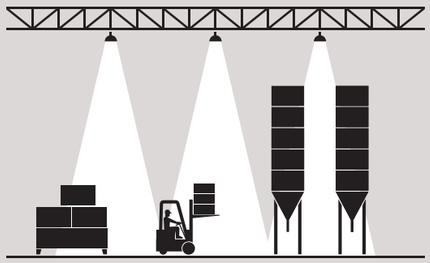
Task lighting

Task lighting is appropriate for spaces less than 20 m² in floor area and less than 3 metres in height. In the majority of cases, it complements general lighting in smaller or confined spaces. These luminaires are subject to frequent on/off cycles involving a large number of switching operations, and achieve optimum lighting efficiency quickly. Our LED lighting solutions deliver the perfect response to these requirements.



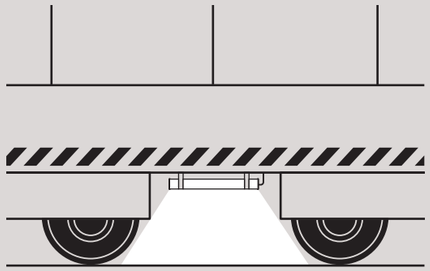
Hall lighting

Industrial production halls between 7 metres and 15 metres in height require special lighting that limits any loss of light and is resistant to dust, vibration and extreme temperature ranges. Because they are photometrically optimised, our luminaires reduce the number of light sources required, and therefore the amount of energy consumed. Both our solutions–ceiling light fittings and floodlights–are adaptable to every type of fixing requirement.



Compact design

Lighting confined industrial spaces requires the use of extremely compact hermetically sealed luminaires capable of resisting external pollution, impacts and UV-induced ageing, and require minimal maintenance. Our small-diameter (70 mm) tubular luminaires are the perfect solution for these particularly demanding environments.

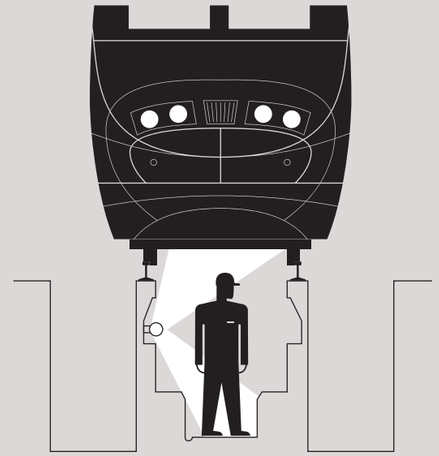


Low glare lighting

Many industrial workstations are dedicated to high-precision tasks, such as electronic assembly, ultra-small-scale mechanical assembly and visual inspection.
Lighting these workstations requires special “low glare” luminaires to deliver a high level of visual comfort.

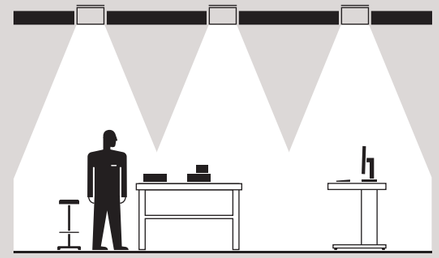
Inspection pits

Inspection pits are working environment subject to many constraints and special requirements, including confined space working, the potential for aggressive liquids to be sprayed, and the need for lighting in specific locations. The work done by maintenance teams in inspection pits demands that the underside of the rolling stock is evenly lit by luminaires that limit glare, are hermetically sealed and can withstand regular cleaning by high-pressure water jet.



Clean rooms

The very high safety and hygiene requirements applying to clean rooms impose specific precautions in terms of their lighting. Totally stripped back and sterile, with rounded wall corners and seamless surfaces with no areas where contamination could possibly accumulate, clean rooms require hermetically sealed lighting solutions that can be easily disinfected and maintained from above via walkable ceilings.



Materials

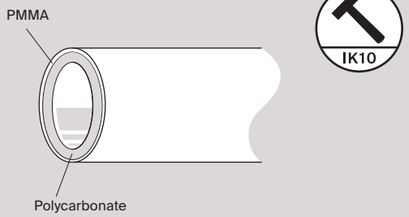
50 years of experience in the design and use of tubular luminaires for industry have led us to select only the most appropriate materials for use in polluted and corrosive environments; materials that can also resist the weather and the processes of ageing. The choice of these materials guarantees the exceptionally long working life of our products under extreme conditions of use.

External metal components

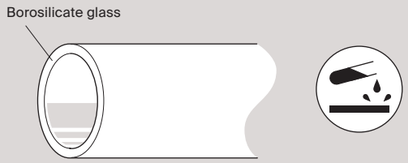
Stainless steel
We offer two grades of stainless steel for all external components (end caps, mounting straps, etc.):
- 304 L stainless steel, suitable for most industrial applications
- 316 L marine-grade stainless steel to resolve the issues raised by use in extreme conditions, and especially corrosive conditions like those found in marine environments.

Diffusers

Coextruded polycarbonate/PMMA diffuser
Since PMMA resists chemical attack and polycarbonate offers excellent mechanical strength, our composite diffuser is recommended for demanding applications requiring a high level of mechanical impact resistance (IK10). It comprises a polycarbonate diffuser with an integral coextruded PMMA layer to offer a unique level of resistance to detergents and hydrocarbons (cutting oil, lubricants, etc.). Since this external layer of PMMA also acts as a protective barrier against UV radiation to avoid the risk of yellowing, this diffuser is perfectly suited to outdoor use.



Borosilicate glass diffuser
Borosilicate glass is exceptionally resistant to chemical attack (acid atmospheres, hydrocarbons, etc.) and abrasion (from coal dust, cement dust, etc.). It is inherently suited to applications where ambient temperatures are high. Easy to clean, it is recommended for use in painting facilities and similar environments.

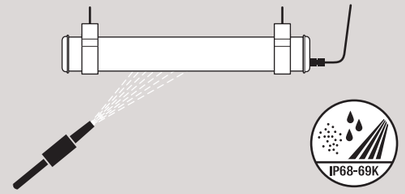


The strength of a tubular system

It was in 1967 that Sammode perfected the iconic TFH, Hermetic Fluorescent Tube luminaire, that would rapidly establish the reputation of the company. The design appears simple: a tube closed at both ends by a stainless steel cap. Continually improved and perfected, this concept is in reality a distillation of high technology and expertise.

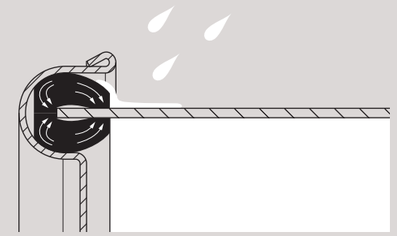
Ingress protection

A number of fundamental principles lie behind the ingress protection designed into our tubular luminaires, as a result of which they comply with IP68 in terms of immersion in still water, and IP69K in terms of high-pressure water protection.



Minimum length
The longer the seal, the greater the risk of infiltration: our tubular luminaires are sealed at each end of the tube, thereby minimising the sealing area.

Even sealing
The entire surface of the seal must be evenly compressed, and that compression must remain constant over time: the use of a single central stainless steel screw ensures even distribution of effort across the full seal seating surface.
The special shape of the press-formed 1/2 ring seal housing creates a triple seal.



Constant sealing performance
Elastic deformation of the stainless steel end cap absorbs the expansion and mechanical stresses imposed on the casing of the luminaire throughout its working life. The materials used for our seals (sulphur-free EPDM, silicone, etc.) have been selected for their high level of resistance to chemical attack, and ensure that the ingress protection seal is main-
tained long term regardless of external conditions in terms of thermal shock or mechanical impact.

Mechanical strength

The tubular body improves the mechanical strength of its basic materials by distributing mechanical stresses more effectively to create a heavy-duty level of rigidity. The absence of any longitudinal seal plane also ensures the consistent cohesion of the material and increases its impact resistance. These factors combine to ensure that the composite body versions of our luminaires achieve an exceptional level of impact resistance (IK10–20 joules) that guarantees their continued performance over time.

The limitations of traditional sealed luminaires

Originally designed for storage area or project site lighting, the traditional products offered by other manufacturers reveal their limitations in the demanding environments created by industrial processes. They comprise two sections produced using different materials: a ceiling-mounted casing containing the gear tray, and a transparent diffuser. This configuration makes them sensitive to heat fluctuations and mechanical impacts, which can cause relative distortion, resulting in compromised seal performance and the loss of closing clips. The long length of seal and its uneven compression as a result of using clips make it impossible to guarantee a long-term seal, and lead to electrical malfunctions due to the ingress of water or damp atmospheres.

Traditional luminaire seal measuring approx. 2.7 metres

Sammode tubular seal

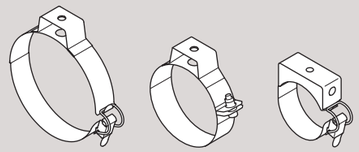
Wiring

The heat emitted by the lamps and their associated gear, combined with external temperature fluctuations, cause accelerated ageing of insulation, which may in turn result in random triggering of earth protection trips. This is the reason why the internal wiring used in all our luminaires has silicon insulation woven with glass fibre. With its ability to withstand constant temperatures of up to 180° C, the silicone ensures a long working life for the installation, while the glass fibre ensures that the wiring retains its mechanical integrity.

Fixings

Practical issues

All our luminaires use wraparound strap fixings to facilitate rapid fixing and removal. We offer the option of a series of technical strap fixings covering an enormous variety of uses: these include a screwed closure for luminaire security, an impact-resistant version for luminaires subject to severe mechanical stresses, and an articulated version where maintaining the luminaire requires it to be tilted.



Technical issues

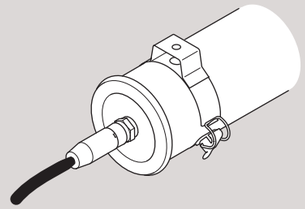
Tubes are at risk of radial mechanical and shear stresses, which may lead to cracking over time. This is why component geometry, wraparound strap elasticity, strap thickness and weld location have all been optimised to eliminate any risk to the diffuser. Elastic deformation of the mounting straps therefore absorbs the dimensional variances produced by the thermal shocks and mechanical impacts to which the body of the luminaire is subject throughout its working life.

Plugable connector

Our tubular luminaires are fitted with an IP68/IP69K plug-in connector for rapid disconnection.

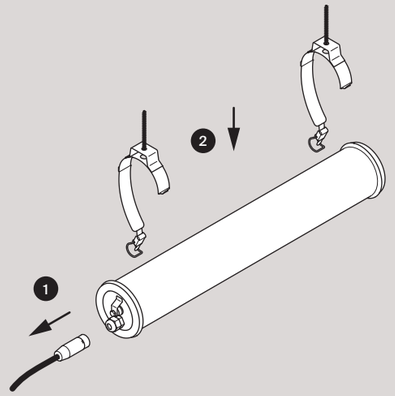
Heavy duty

Manufactured from ultra-strong and durable materials (polyamide body, nickel plated brass base and locking ring, etc.), this connector has been specially developed to match our housings in terms of quality. It therefore withstands the most aggressive chemical environments and mechanical impacts, and operates within a very wide temperature range (-40 °C to +90 °C).



Convenient

This connector is extremely easy to install, thanks to its screw ring locking system and screwed connector terminals. Fitted to an LED luminaire, it avoids the need to open the unit by using “plug and play” installation. Together with the toggle clamp mounting that enables the luminaire to be removed without tools, the pluggable connector makes it very simple to carry out maintenance operations outside the process area. It therefore removes the “glass risk”, despite the use of standard fluorescent tubes.



Vibration

Vibration resistance compliant with IEC 60068-2-6

Our ranges of industrial tubular luminaires have successfully completed the vibration resistance tests conducted by the external L2EC laboratory and defined in the extreme conditions of use section of the EN 60598-1 standard: the luminaire is secured to a vibration generator in the most unfavourable normal installation position, and is then subject to calibrated vibrations for a period of 30 minutes (amplitude 0.35 mm, frequency levels 10 Hz, 55 Hz and 10 Hz, and scan speed of one octave per minute). On completion of this test, no luminaire component capable of compromising safety should have been loosened. This aspect of resistance is improved on our SCREW type mechanical housing luminaires with special electronic power supply for industrial applications.

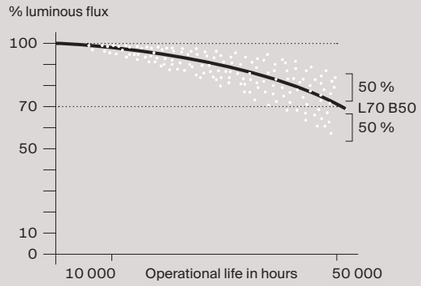
LED working life

The working life of a traditional lighting system extends to the failure of a certain percentage of its sources. There is no reason why a well-designed LED system should cease to function, even if it leads eventually to the loss of luminous flux. Rather than give a strict lifespan for an LED system, it is more useful to describe its behaviour over time.

Operational life

This is expressed as follows:
Operational life (in thousands of hours, or Kh) Lx By, where x = remaining luminous flux as a percentage of initial flux y = percentage of LEDs unlikely to maintain this value.

LED system performance is usually described on the basis of 50 Kh of operation: 50 Kh L70 B50 therefore means that after 50,000 operating hours, at least 50% of the LEDs in the system will maintain at least 70% of their original flux.



Influencing factors

The behaviour over time of an LED, and therefore that of the system in which it is fitted, is influenced by multiple factors, the most important of which are:

- Temperature: LEDs produce not only light, but also a large amount of heat. It is essential that this heat is dissipated within the lighting system using the basic principle that says “the colder the LED, the more effective and brighter it is and the longer its life will be”.
- The power supply: the amount of heat emitted by an LED module may be reduced by minimising its power supply current. The use of a current level specifically recommended for LEDs is therefore essential.
- Chemical pollution: some chemical compounds (chlorine-based, sulphur-based, saline atmospheres, etc.) and humidity are incompatible with the electronic circuits, connections and components used in LED systems. These are therefore protected from exposure using a high-IP housing system designed to cope with such environments.

The Sammode commitment

Our extensive expertise in LED technology and installation has been amassed over many years. Which is why we are committed to delivering an operating life of 50 kh L80 B50 across all our ranges, regardless of recommended operating temperature range.
This commitment sets one of the highest standards in the market, and imposes an uncompromising level of detailed technical expertise during the design of our luminaires. This means that we systematically opt for:

- robust components and suitable power supply solutions
- the most appropriate materials and efficient heat dissipation methods that are proven to be effective at the highest operating temperatures,
- a high level of protection by using a proven, fully-sealed housing appropriate for the environment concerned
- temperature testing of all luminaires.

Our principle is simple: the right components properly installed in the right housing.

The resulting techniques and processes are what substantiate the excellent reputation we have built over many years of serving the industrial lighting market. So today, our 5-Year Warranty applies to every one of our products, regardless of their application or light source technology.

LED technology

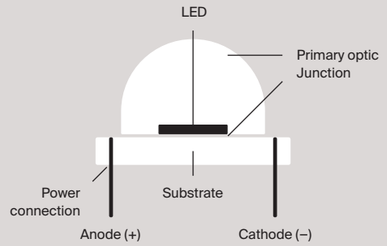
LED technology offers the highest level of energy efficiency and opens up new possibilities in terms of true service and functionality. However, the use of this technology is not without its challenges, because very high light levels generate significant heat, which can damage electronic components.

Thermal management

Managing the heat emitted by a luminaire has a significant effect on the performance of the light source and the control of its drivers.

Phenomena

An LED is a semiconductor that emits blue light when a direct current is passed through the active layer–or junction–in the forward bias direction. This blue light is converted by a photoluminescent powder. Depending on the performance of the LED, 35-40% of the energy is converted into visible light containing no infra-red, and 60-65% into heat within the component. This heat must be dissipated. Excessive junction temperature can considerably reduce semiconductor lifespan (by up to 50% for a 10 °C variation), significant loss of luminous flux and a colorimetricshift.

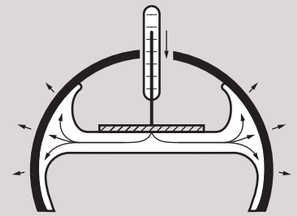


Our strategy

The gear trays used for our LED modules contain passive aluminium heat sinks to provide direct and even conduction of heat. We create thermal barriers between LED modules and power supplies in order to limit their reciprocal heating effect.
The offset mounting of our luminaires by using wraparound strap fixings to stand them slightly off from the surface to which they are fitted creates an airflow that helps to dissipate the heat generated.
Lastly, we use only superior quality LED modules powered by precisely the right level of current to ensure maximum lifespan under specified conditions.

Special high-temperature modules

These modules contain a ceramic LED housing that improves heat dissipation direct from the junction, and also use a PCB material that conducts heat more effectively. At like-for-like length and the same level of luminous flux, these modules contain more LEDs than standard modules: the individual LEDs are therefore driven at a lower level, thereby increasing their resistance to temperature.



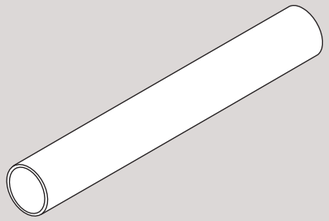
Validation testing

We conduct many tests and thermal simulations in our laboratory in order to ensure temperature qualification for all our luminaires. Our controlled climate facility uses thermal sensors to measure the most critical points of our luminaires.

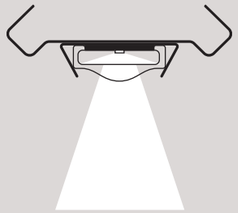
Optical management

Compared with standard fluorescent lamps, LEDs require a different approach to optical management, given their small size and high luminance (around 1 million cd/m²).

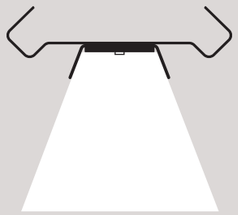
Diffuse extensive optics
This light distribution pattern is suitable for the majority of general process lighting applications. As a result, careful optical design, light diffusion, avoiding direct eye exposure and reducing the glare of these bright on-demand sources becomes essential. Our diffuse optical systems disperse the light emitted by the source in such a way that the source itself is not visible to the user: the result is an increase in the visible area of lighting in combination with reduced luminance. We have developed satin-finish diffusers that achieve exactly the right balance between performance and comfort. The distance between source and diffuser is a key optical parameter, so the degree of diffuser opalescence varies with product diameter.



Intensive optics
These optics direct light accurately to illuminate clearly defined areas. However, they are specific to a small number of special applications that impose a need for careful positioning of the visual fields of those people working in the room concerned. For example, our high-level ceiling fittings for use in high-level solutions are fitted with intensive optics that use a high-transmission (97%) semitransparent PMMA linear lens with a beam angle of 60°.



Light mixing chamber
LEDs emit monochromatic (blue) light, so it is necessary to convert a part of this wavelength to cover the full visible spectrum. To achieve this, a photoluminescent powder is applied to a substrate, such as glass or silicon, located a fixed distance from the LED. But this process can create a number of defects (edge effects) at the base level that are perceived as variations in colour temperature. All our LED luminaires are fitted with a light mixing chamber that eliminates these effects by creating multiple reflections. The light mixing chamber also has two other functions that improve overall photometric efficiency: reducing shadows cast by connectors or wiring inside the luminaire, and limiting indirect luminous flux.



Key characteristics of LEDs

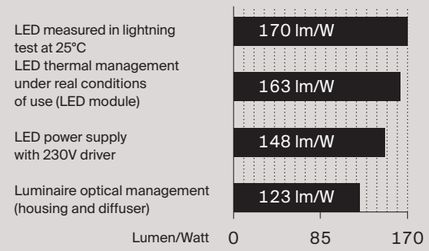
In a fast-changing market, it is important to have the ability to choose LED luminaires on the basis of clear, objective and comparable criteria. Especially since performance criteria will be included in future international standards now in preparation.

Obsolete benchmarks
The NF EN 13032 standard specifies that the performance of a fluorescent luminaire is determined by its luminous flux compared with that of the bare lamp at an ambient temperature of 25 °C for both. It indicates the efficiency of the luminaire for a given quantity of light as a percentage. However, the complexity of the LED market makes this concept obsolete, since each manufacturer uses either LEDs only, standard modules or its own modules, and the resulting “luminaire optical system” varies considerably depending on the level of LED integration. Promoting 100% efficiency on the photometric curves for LED luminaires is clearly meaningless, as is any comparison between fluorescent luminaires and LED luminaires. Furthermore, the PR NF EN 13032-4 standard requires only measurements for luminaires, making no distinction between light sources.

System efficiency
Correct sizing therefore relies only on system (or total) efficiency of the luminaire, as defined by the relationship between the luminaire output flux (in lumens) and its power consumption (in watts). It represents the quantity of energy to be injected into a luminaire in order to obtain a given level of luminous flux. This concept therefore takes account of the entire system: the LED used, its integration into the module, its power supply, the impact of thermal and optical management, etc.

Total luminous flux and data transparency
The luminous flux value is essential for comparing the LED luminaires offered by different suppliers. Some LED luminous flux and efficiency values at a temperature of 25 °C may become meaningless in real-life, because the performance delivered by an LED solution depends on many factors (cooling, power supply, optical system, etc.). Our technical datasheets clearly indicate the total luminous flux of our luminaires expressed in lumens, together with their actual power consumption in watts. These values are measured completely transparently using the most demanding configuration within the operating temperature range.

Illustration for a Napier

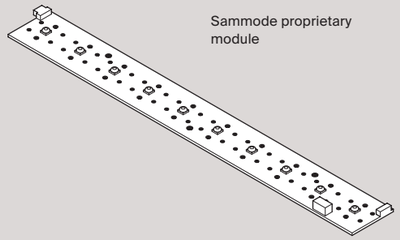


Comparison and limitations
Relevant for comparing luminaires that use different technologies, total efficiency is, however, useful only for luminaires that are very similar in terms of their function and light distribution. The best practical approach is to conduct a lighting study that takes account of the photometric aspects of the products and the characteristics of the rooms in which they are used (dimensions, volumes, light reflection ratios, etc.) to produce a given level of lighting, and compare the total amount of power consumed.

LED modules

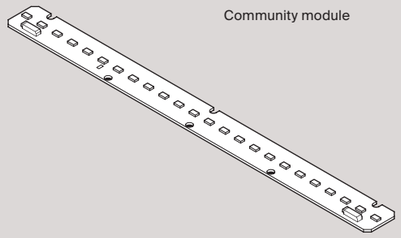
Our business culture is based on a rejection of throwaway products: we have always designed luminaires that have an exceptionally long working life, and are easily removable for future maintenance. Given the rapid advances in LED technology and our commitment to maintaining these values that our customers so appreciate, we have implemented a twin strategy.

Proprietary LED modules
We use this type of module in niche applications where the market offers no suitable or sufficiently robust solution. We then create a special module containing the appropriate LED electronics for the application concerned. As a pioneer in LED solutions for industrial environments, it was in 2009 that we developed lighting modules capable of operation at temperatures as low as -60 °C. Our central light source and machine lighting luminaires are also fitted with special modules. Our manufacturing expertise allows us to guarantee our customers a rolling programme of platform upgrades with long-term availability of new, higher performance components.



Sammode proprietary module

Community (Zhaga compatible) LED modules
These standard format modules are selected for their high level of quality. They are built in accordance with a shared specification to guarantee the interchangeability of modules from different manufacturers. Being able to draw on different suppliers of interchangeable LED modules allows us to ensure the availability of our lighting solutions and their long-term maintenance. And since these products are standard, their high-volume manufacture makes our solutions more affordable, at the same time as enabling their forward development to take advantage of the increased performance delivered by the latest generation of LED modules.



Community module

Zhaga
Zhaga is an international consortium of lighting and electronics companies formed in February 2010, which prepares industry standard specifications to ensure the interchangeability of LED light sources from different manufacturers. The resulting standards define the factors governing interface compatibility in terms of LED module dimensions, mechanical properties and photometric, thermal and electrical characteristics. Its aim is ultimately to transfer to the International Electrotechnical Commission (IEC) the process of managing the international standardisation of these specifications. They do not address LED module performance, quality or design, which remain specific to each manufacturer to ensure a full range of product options, from range entry to premium.

Our partners
Our approach to quality has always been uncompromising, and we use only superior quality modules supplied by leading manufacturers or partners, all of which are European companies. Our in-depth knowledge of our own products and their heat dissipation capabilities, and a decade of experience in designing LED modules for use in challenging environments, make us highly critical and selective when it comes to suppliers. Our Research & Innovation department selects only those companies prepared to provide us with transparent technical data, and we never introduce new components until they have passed a battery of qualification and endurance tests conducted in our own laboratory.

Photobiological safety

The EN 62471 standard

For each type of light source used, this standard defines the specifications to be complied with in order to avoid health risks that apply predominantly to the eyes and skin. Nevertheless, they contain a high intensity of blue light that poses a potential Blue Light Hazard, which can cause irreversible damage to the retina if viewed directly for prolonged periods. The likelihood of this risk becoming a reality depends on multiple factors, including the power of the LED, its colour temperature, its light distribution pattern and distance from the luminaire. To help users evaluate these risks clearly, EN 62471 subdivides lamps and casings into four risk groups.

Group 0 No Risk	No photobiological hazard, even when viewed continually
Group 1 Low Risk	Direct vision of the source limited to 10,000 sec. maximum (approx. 3 hr.)
Group 2 Moderate Risk	Direct vision of the source limited to 100 sec. maximum
Group 3 High Risk	Direct vision of the source limited to 0.25 sec. maximum, i.e. less than the natural eye protection reflex

Obligations

From risk level 2 onwards, the CE marking must show the level of photobiological safety, but only level 3 imposes the need for user protection measures, since correct use of the luminaires concerned suffices at the other levels. Although a user does not generally look at a light source for long periods, a technician must be able to check light sources for correct operation in complete safety.

Our products

The LED modules used in our products pose a level of photobiological hazard risk that falls either into Risk Group 0 or 1. They therefore pose no risk under normal conditions of use. Since these LED sources are also protected by a lens or diffuser, their luminance is clipped.

Fluorescent sources

Given their good performance in terms of lifespan and light efficiency, good range of colours and reasonable price, fluorescent sources have for decades provided the lighting of choice for general industrial use.

Linear tubes

T8 Tubes

Providing the ultimate light source for industrial applications, this proven technology offers the best compromise between robustness, efficiency and lifespan. Compatible with ferromagnetic gear, these 26 mm diameter tubes create lighting solutions that can cope with ambient temperatures of up to 70 °C. However, their efficiency falls off very significantly at temperatures approaching 0 °C.

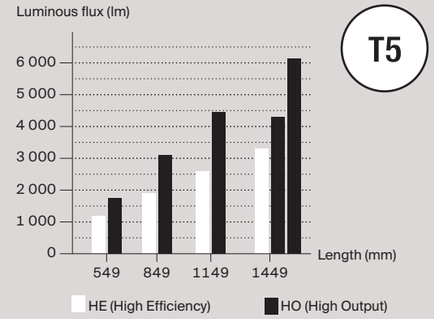
T8

T5 Tubes

Designed originally for commercial applications, the smaller 16 mm diameter of these tubes makes them ideal for luminaires with a more directional photometric profile. However, this smaller size makes them more sensitive to vibration and temperature fluctuations. Each length is available in two different luminous flux versions:

- The HE (High Efficiency) versions optimise luminous efficiency (lm/W) at the expense of lower luminous flux
- The HO (High Output) versions deliver higher linear flow in exchange for a level of efficiency comparable to that of the T8 tube.

T5



Compact fluorescent lamps

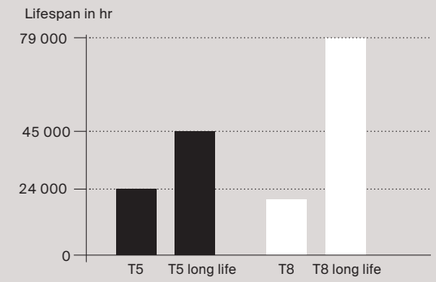
These 2G11 4-pin lamps offer high-density luminous flux at a shorter length, resulting in powerful, but extremely compact, lamps. They are most frequently used for task lighting solutions. However, this high-density flux creates a higher level of glare and a more restricted operating temperature range.

2G11

Special lamps

Long-life lamps

Equivalent in terms of luminous flux, these lamps have lifespans comparable to those offered by LED solutions, and are therefore longer than those offered by standard lamps. They offer the advantage of lower maintenance costs and waste generation as a direct result of the longer replacement intervals. They are ideal where relamping is costly (at extreme height, difficult access, etc.) or disruptive to the production process (tunnels, production lines, etc.).



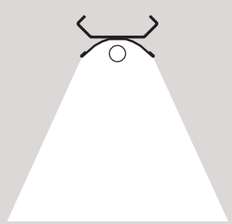
Eco lamps
These tubes deliver substantial savings in power consumption (up to 10% less than standard tubes) with no effect on lighting performance. Available only in T5 and T8 versions, they offer an economical alternative to LED technology.

Reflectors

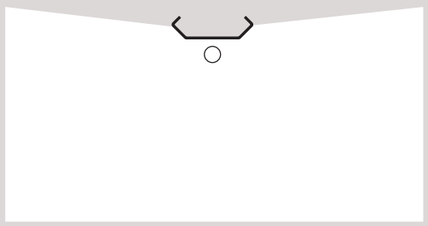
We offer a broad range of technical reflectors in mirror-finish aluminium sheet to cover the majority of industrial lighting challenges.

Extensive reflectors
These high-efficiency specular aluminium reflectors have an unusually wide angle of spread. They are perfectly suited to providing an even spread of general lighting for installation below 5 m in height.

Intensive reflectors
These mirror finish aluminium reflectors have a narrow angle of spread to concentrate the luminous flux. This type of directional lighting is indicated for corridors, public areas, specific areas or shelving.



Diffuse optics
Our white powder-coated gear trays are particularly effective reflectors for creating a diffuse light. They are recommended for use in rooms with white ceilings below 3 m in height, where they boost the perceived light level and increase visual comfort by minimising luminance contrast between the ceiling and walls. Less dazzling than traditional mirror finish reflectors because they are non-directional, they are ideal for vertically mounted luminaires.



Power supplies

Essential luminaire components, power supplies can optimise unit life when they are carefully selected to suit their operating environment.

Standard electronic power supplies

Referred to as drivers when used with LED technology, and standard electronic ballasts when used with fluorescent technologies, their role is to step down the mains supply voltage to provide the most appropriate current/voltage profile for the lighting source concerned.

Electronic ballasts
We use only A2 energy rated hot cathode ballasts, which offer the lowest power consumption in the market. By preheating the electrodes, this type of ballast limits the start-up current, thereby extending lamp lifespan. Pre-heating also reduces the dependency of lamp lifespan on the number of on/off switching operations. These ballasts automatically cut off the power from defective lamps and avoid end-of-life lamp flashing by using a high-frequency supply (> 40 kHz).

Drivers
We have selected drivers that offer high-efficiency AC/DC conversion and good power factors to ensure energy-efficient (lm/W) LED/driver combinations. These so-called “constant current drivers” generate the current characteristics required to operate LEDs. It is essential to use the right power supply for the LEDs concerned to avoid damaging the various components: the resulting assembly is referred to as an LED light engine. In practical terms, an LED module can be powered by a range of different currents, but variations will modify its characteristics: the lower the current, the less luminous flux it generates, but the higher its efficiency; conversely, the higher the current, the more luminous flux it generates, but the lower its efficiency and the shorter its lifespan. This power supply strategy is central to our expertise.

Limits
Standard electronic power supplies are efficient components, but are also fragile, and their lifespan depends on the ambient temperature and the quality of the mains current. Exceeding the recommended operating temperature for a luminaire by 10 °C can halve its lifespan. Nevertheless, it is possible to create long-life lighting solutions that use these power supplies, but only up to an ambient temperature of 30 °C for fluorescent luminaires or 35 °C for LED luminaires.

Mains electrical interference

The faults and fluctuations that can occur in industrial mains power supplies can damage luminaire gear not specifically designed to withstand them. Such faults and fluctuations take a number of different forms.

Transient voltage surges
Although the recommendation is to distribute loads over all its phases, a 3-phase supply can be sensitive to operational factors: an imbalance due to the temporary shut-down of a powerful machine on one of the phases (up to 320 V), incorrect voltage regulation by the power supply company, which occurs frequently where the energy source is intermittent (wind power, tidal power, etc.: in countries engaged in a process of energy transition, such as the UK and Germany, the voltage regulation systems originally designed for constant energy generating systems are not 100% compatible with renewables), etc. Voltage surges can also be triggered by fluctuating high power loads (welding machines, motor startup, etc.).

Voltage peaks
In a steady-state power supply network, the sudden stoppage of a powerful machine can trigger a voltage peak: the absence of current is then compensated for by an abrupt increase in voltage (of up to 4 kV) in that phase, which can feed back to the network. Other causes of voltage peaks include the switching from an AC supply to a DC supply, the use of a generator set and the indirect effects of electric arcing elsewhere in the industrial facility, etc. Lightning striking an installation directly or indirectly can also inject a voltage peak into the protective earth common to all parts of the building.

Special industrial power supplies

Robust electronic power supplies are designed to operate in environments that are challenging in terms of their permissible ambient temperature range, electrical system issues, vibration, etc. They can be installed on the same power line as ferromagnetic gear.

Power supply network resilience
The components used in these power supplies are subject to a stringent selection process. They use exceptionally robust input filters to protect them against transient voltage peaks of up to 4 kV. They can also withstand voltage surges of 320 V AC (up to 1 hour for fluorescent versions, and up to 48 hours for LED versions).

Optimum thermal management
Thermal management is optimised to enable use at high ambient temperatures. The larger format of these power supplies compared with standard power supplies effectively reduces component temperature by 50%. Added to which, the critical components are separated as far as possible from internal heat sources.

Vibration resilience
Particular care is taken to component positioning and fixing to obtain an exceptional level of resistance to vibration and permanent mechanical loadings.

Limits
The T5 and T8 fluorescent versions are available only for high-power luminaires, i.e. those intended to provide general lighting (IND version). Lighting solutions using these IND versions of fluorescent or LED luminaires are durable for ambient temperatures of up to 40 °C. Used in conjunction with special modules and appropriate thermal management, they can operate at temperatures up to 55 °C with no effect on their lifespan.

Ferromagnetic power supplies

Some extreme conditions are too challenging even for the most robust electronic power supplies. Extremely high temperatures increase the failure rate of electronic components. In ambient temperatures above 55 °C, ferromagnetic ballasts are the only possibility.

Heavy duty
Available only for T8 fluorescent tubes, ferromagnetic power supplies benefit from a particularly simple and robust design which allows them to cope with high temperatures, mains power supply interference (at the risk of damaging the lamp) and high amplitude vibrations.
The main component of a so-called “inductive” electromagnetic ballast is a winding.

Limits
A starter is essential to lighting fluorescent lamps, and its power is boosted by the use of a condenser. Tubes powered by a 50 Hz supply flicker at a frequency of 100 Hz, which although invisible to the eye, has a perceptible stroboscopic effect that can cause dizziness and fatigue. The “duo” mounting used in our luminaires attenuates this effect, and also enables our luminaires to operate at ambient temperatures of 70 °C. We use only “very low loss’ B1 class ballasts.

Commission Regulation (EC) No. 245/2009 Part 3

Regulation EC 245/2009 (as modified by EC 347/2010) refers to implementation of Directive 2005/32/EC–the EuP (Energy using Products) directive–with regard to eco-design requirements for lighting products used in industry. It imposes a tiered series of efficiency and performance criteria, as well as obligations governing information and marking.

Permitted use for special purposes
Contrary to what is frequently reported, the third stage, which will come into effect in April 2017, will not prohibit the use of ferromagnetic power supplies, but will limit that use to very specific applications. However, given the efficiency of ferromagnetic technology, a number of exemptions are planned. As a result, (EU) regulation 1194/2012 contains exemptions for “special purpose products” that “have to withstand extreme physical conditions (such as vibrations or temperatures below -20 °C or above 50 °C)”. Directive 2006/42/EC permits the use of ferromagnetic ballast products for applications in the nuclear industry. This is consistent with technical choices made by ourselves a long time ago.

Assured continuity of supply
The special partnerships we maintain with our suppliers mean that we can give a commitment to supply ferromagnetic ballast luminaires that comply fully with current regulations after 2017 and in future decades. Our sales teams are there to help our customers in selecting appropriate equipment in accordance with this regulation.

1

2

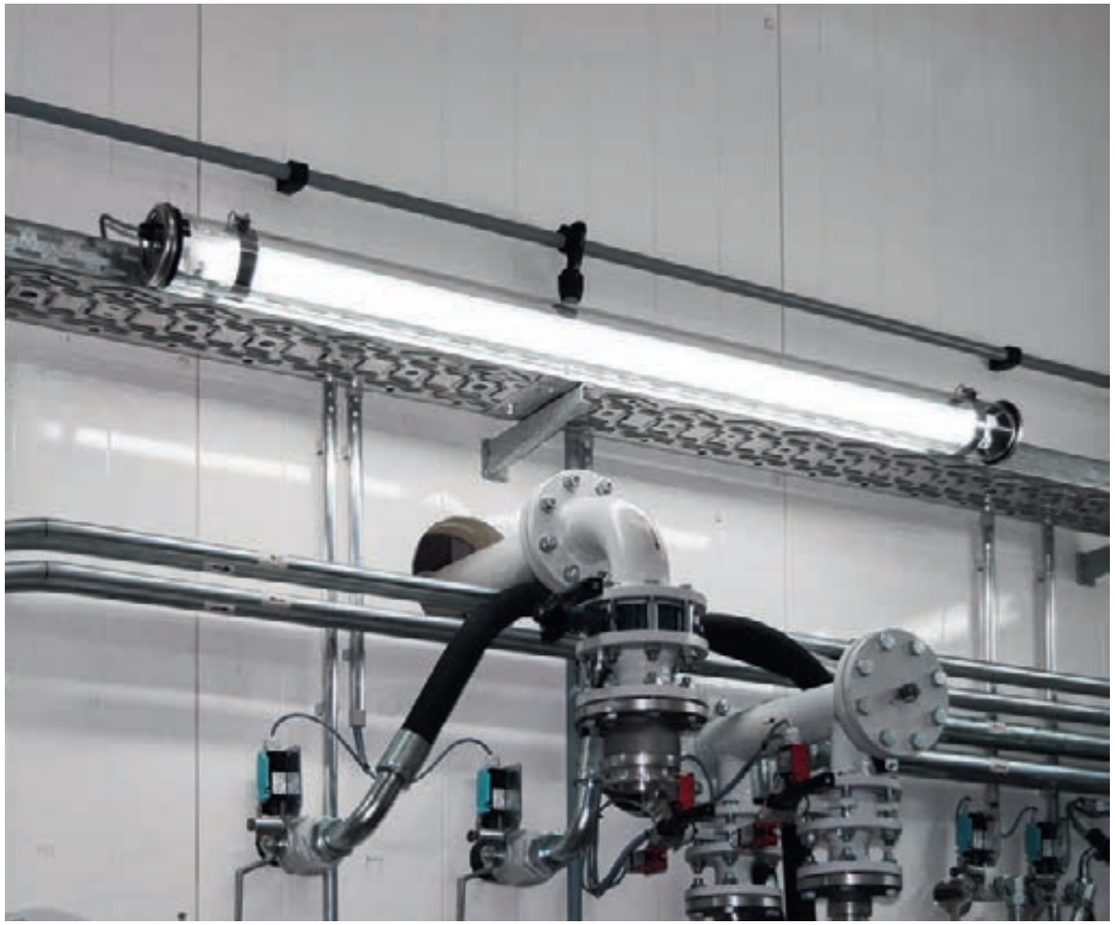
3

4

1 – 5. Steelmaking
ArcelorMittal
Dunkerque
France
Photo: Alain Caste

Sammode: Industry – General lighting

5



1

2

1,2. HYDAC International
Langenau
Germany

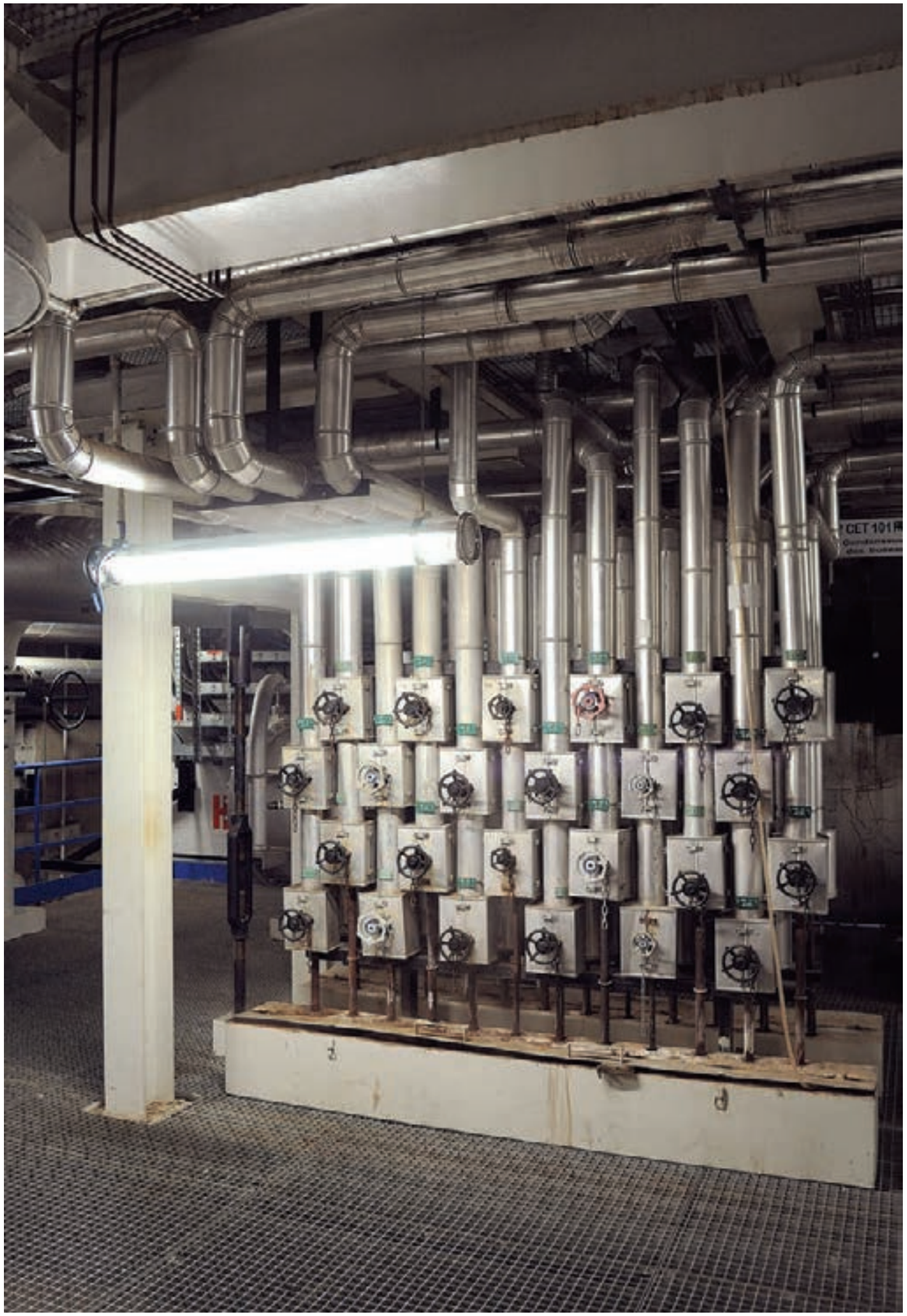
1

2

1, 2. Veolia Water
Wastewater treatment plant
Ginestous
France
Photo: Alain Caste

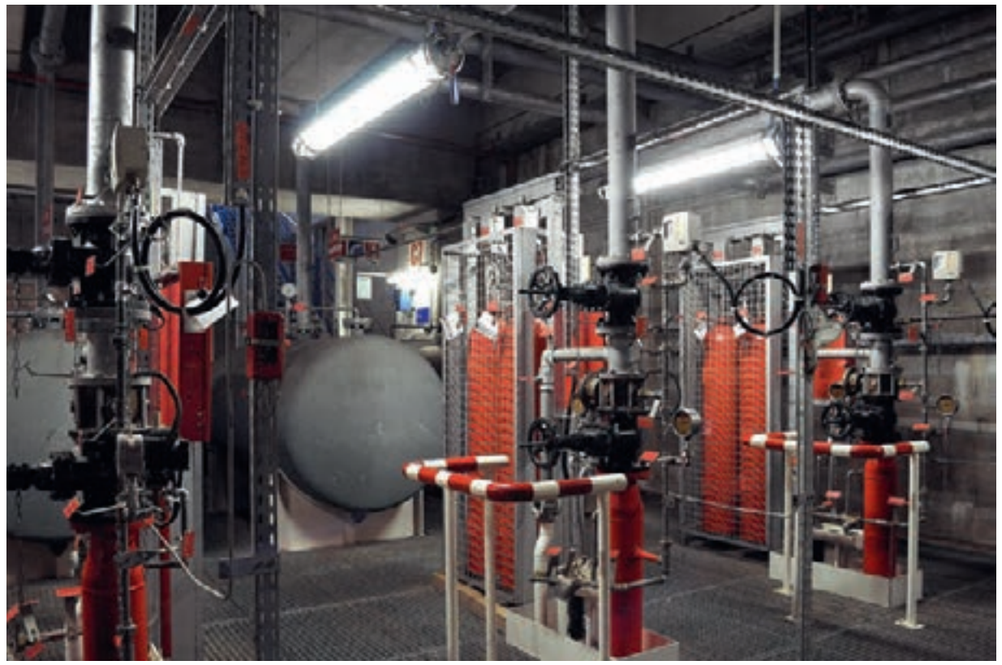
3. EDF
Nuclear power plant
Golfech
France
Photo: Alain Caste

3



1

2



3

1–4. EDF
Nuclear power plant
Golfech
France
Photo: Alain Caste

4

1

2

1, 2. Dalkia heating plant
La Rochelle
France
Architect: Arnold Velay
Photo: © Sebastien Andrei

3. BorsodChem
Kazincbarcika
Hungary

3

1

2

3

1. The Brittany Ferries ferry
Le Normandie
Photo: Alain Caste

2. The icebreaker
Arctic Express
MMC Norilsk Nickel
Russia

3. Buckser&Berging tug
Norway

1

2

1, 2. CSM Bessac
tunneller
Clichy
France

3. Le Perthus Tunnel
Eiffage/SNCF
Spain
Photo: © Frederic Hedelin

3

1

2

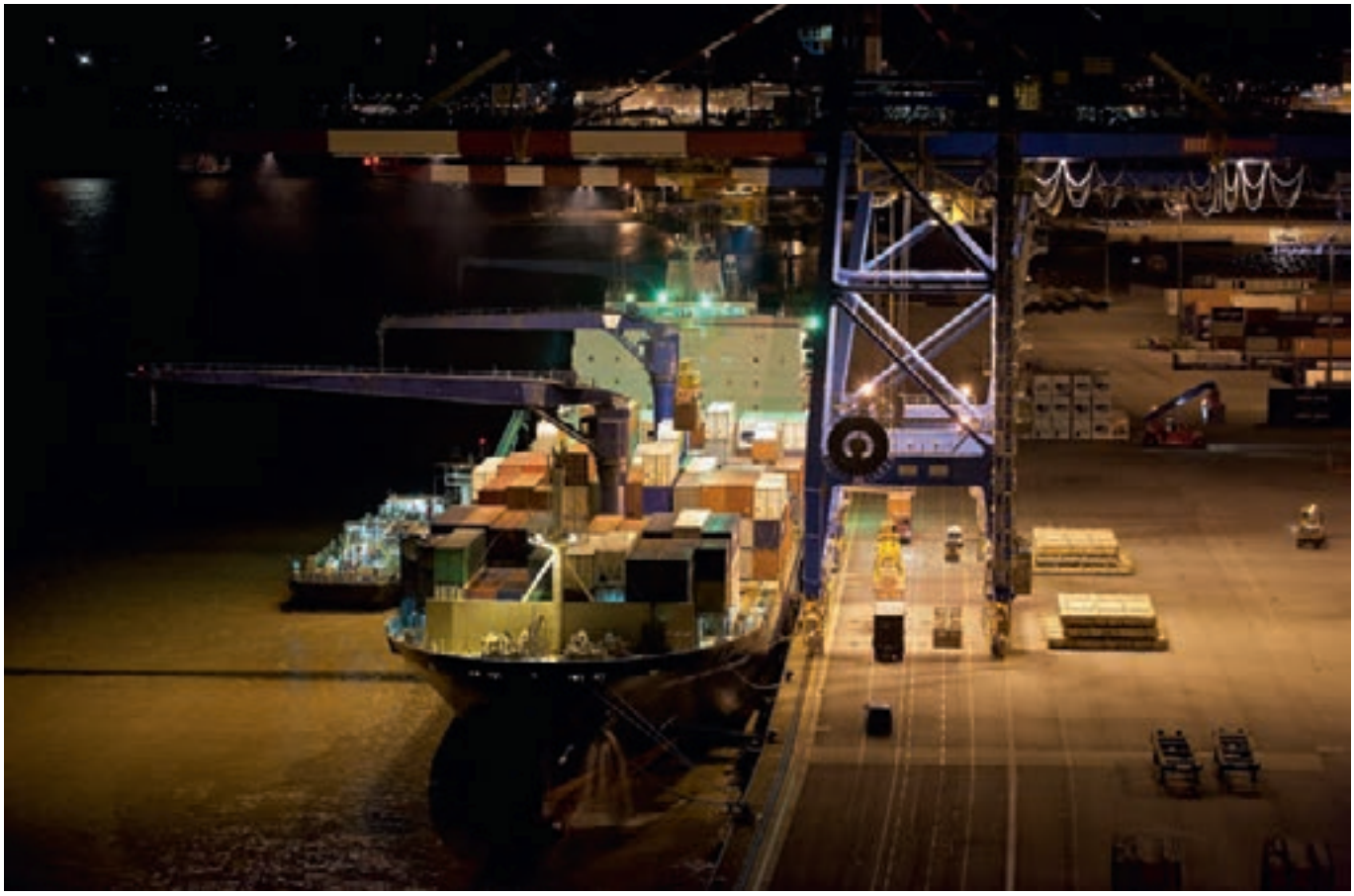
3

1, 2. SNCF
Maintenance Workshop
Villeneuve-Saint-Georges
France

3. Track maintenance train
TSO
Chelles
France

Sammode: Industry – General lighting

1



2

1, 2. Nantes Saint-Nazaire Port
France
Photo: © André Bocquel

General lighting

These particularly powerful products are used to provide high levels of lighting for large spaces in order to carry out everyday industrial activities with maximum comfort and efficiency.

These lighting solutions are designed for:
- floor area is greater than 20 m^2
- ceiling heights below 7 m

Demanding environments 51

Durable lighting solutions specially designed to withstand impacts, storms, humid atmospheres, jet washers, UV radiation, etc.

Extreme environments 67

Durable lighting solutions specially designed to withstand high levels of continual vibration, chemical attack, exposure to impact, storms, saline mist corrosion, abrasion, etc.

General lighting
Demanding environments

Tmax	Ranges	Sources	Tmax	Energy performance	Page
Standard electrical systems					
30 – 35 °C	Pascal 100	LED	35 °C	●●●●	54
	Pascal 133	LED	35 °C	●●●●	55
	Darwin 100 T8	T8	30 °C	●●●	56
	Darwin 133 T8	T8	30 °C	●●●	57
	Darwin 100 T5	T5	30 °C	●●	58
	Darwin 133 T5	T5	30 °C	●●	59
High-risk electrical systems					
40 °C	Carnot 100	LED	40 °C	●●●●	60
	Carnot 133	LED	40 °C	●●●●	61
	Darwin 100 IND T8	T8	40 °C	●●●	62
	Darwin 133 IND T8	T8	40 °C	●●●	63
	Darwin 100 IND T5	T5	40 °C	●●	64
	Darwin 133 IND T5	T5	40 °C	●●	65

Lighting for demanding environments

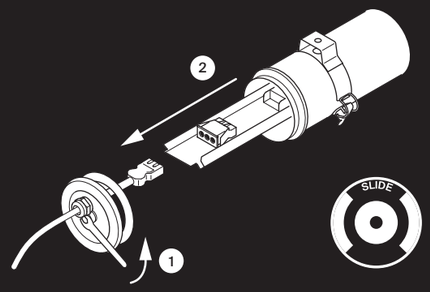
Developed out of our long-term expertise in challenging environments, our permanent lighting solutions are suited to all types of industrial environment.

Resistance

Our luminaires installed in demanding environments are resistant:
- to impacts
- to frequent handling
- to humid atmospheres
- to jet washing
- to storms
- to solar UV radiation
- to saline atmospheres
- to marine spray and large waves

The SLIDE system

Easy maintenance
Installers and maintenance teams benefit from an incredibly simple sealed luminaire solution: the user-friendly patented SLIDE system. This gear tray guide system facilitates light source changes with no need to remove the product. The result is the shortest ultra-sealed luminaire maintenance times in the market.



A heavy-duty casing

Since this luminaire is closed by a single centrally located stainless steel screw, a consistent pressure is applied to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/ IP69K). The composite coextruded polycarbonate/ PMMA diffuser combines exceptional resistance to hydrocarbons and solar UV radiation with high impact resistance (IK10). The combination of housing specifications and material quality guarantee a long luminaire lifespan, and therefore long-term permanence of the installation.

Fluorescent lamps

T8 lamps
These are the most commonly used light sources, and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.

T8

T5 lamps
These sources consume slightly more energy, but are particularly well suited to applications using powerful luminaires with directional photometry. The HO (High Output) versions significantly reduce luminaire dimensions, at the same time as delivering lighting performance similar to that of a T8 lamp.

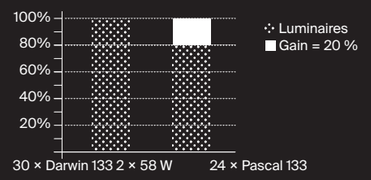
T5

LED

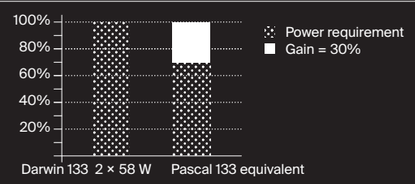
LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to 40 °C without compromising their lifespan, and which are free from the size constraints of traditional lighting sources. Our two innovative approaches are suitable for all types of installation.

LED

New installation versions
The new installation versions are sized to deliver the same luminous flux as a traditional installation, but with fewer luminaires: the lighting level and uniformity are identical, but with lower power consumption. For example, achieving the regulatory average lighting level of 200 lux with a new installation in a 25 m × 10 m × 3 m space represents a reduction of:
- 35% in energy consumption
- 20% in products to be purchased and installed
- 20% in power supply points to be installed
- 20% in products to be maintained and cleaned



Retrofit and like-for-like replacement versions
To avoid the need to redesign installation layout simply in order to optimise the existing system, we offer Retrofit versions that simply replace existing luminaires to deliver identical lighting at lower power consumption.



Mains electrical interference

The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them. Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.

Temperatures

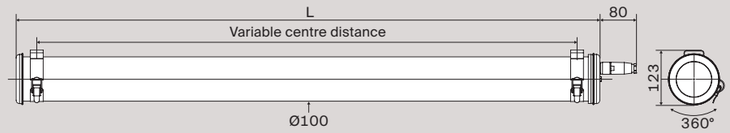
The IND versions of our fluorescent luminaires and our Carnot LED range contain robust electronic power supplies whose thermal management has been optimised for operation at temperatures up to 40 °C with no effect on their lifespan.

°C

Pascal 100

Technology	LED
Max. temp.	35 °C
Light output	2775 to 5550 lm

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Long maintenance intervals
Durable and maintainable luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	PAS100 14H830 POME PS3 SA BRS	4160 5067	31		3000	1318
	PAS100 14H840 POME PS3 SA BRS	4160 5022			4000	
5550	PAS100 16H830 POME PS3 SA BRS	4160 5115	46		3000	1850
	PAS100 16H840 POME PS3 SA BRS	4160 5116			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	PAS100 13H830 POME PS3 SA BRS	4160 5117	23		3000	1018
	PAS100 13H840 POME PS3 SA BRS	4160 5023			4000	
Equivalent to 1 × 58 W T8						
4625	PAS100 15H830 POME PS3 SA BRS	4160 5118	39		3000	1618
	PAS100 15H840 POME PS3 SA BRS	4160 5119			4000	

* Light output of the luminaire

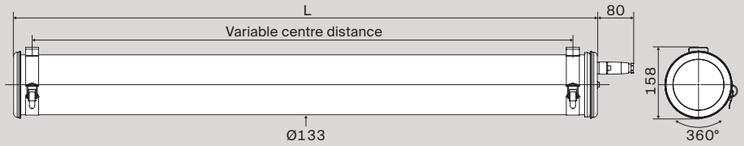
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Pascal 133

Technology	LED
Max. temp.	35 °C
Light output	5550 to 11100 lm

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Long maintenance intervals
Durable and maintainable luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	PAS133 24H830 POME PS3 SA BRS	2260 0280	63		3000	1295
	PAS133 24H840 POME PS3 SA BRS	2260 5043			4000	
11100	PAS133 26H830 POME PS3 SA BRS	2260 5079	92		3000	1850
	PAS133 26H840 POME PS3 SA BRS	2260 5066			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	PAS133 23H830 POME PS3 SA BRS	2260 5080	46		3000	995
	PAS133 23H840 POME PS3 SA BRS	2260 5031			4000	
Equivalent to 2 × 58 W T8						
9250	PAS133 25H830 POME PS3 SA BRS	2260 5081	78		3000	1595
	PAS133 25H840 POME PS3 SA BRS	2260 5082			4000	

* Light output of the luminaire

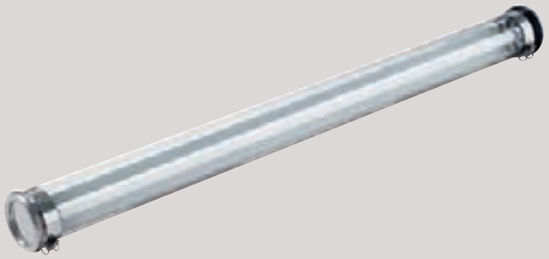
Specifications

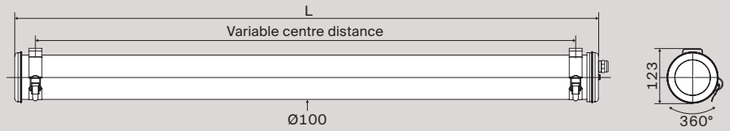
Technical data	
Light source	• High efficiency LED modules (155 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 36 W and 1 × 58 W

AF0719





Key features

Impervious luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	DAR100 136E G13 POME 113 BRS	4102 5685		1318
1 × 58 W	DAR100 158E G13 POME 113 BRS	4102 5687		1618
Versions with extensive reflector				
1 × 36 W	DAR100 136E G13 POME 113 RE BRS	4702 0201		1318
1 × 58 W	DAR100 158E G13 POME 113 RE BRS	4102 5688		1618
Versions with intensive reflector				
1 × 36 W	DAR100 136E G13 POME 113 RI BRS	4102 5686		1318
1 × 58 W	DAR100 158E G13 POME 113 RI BRS	4102 5689		1618

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

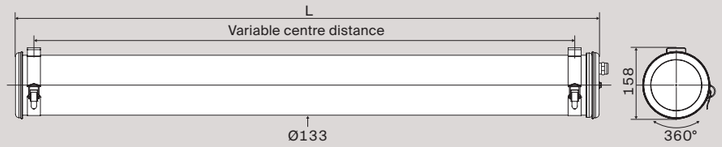
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 36 W and 2 × 58 W

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	DAR133 236E G13 POME 113 BRS	2202 5040		1355
2 × 58 W	DAR133 258E G13 POME 113 BRS	2202 5041		1655
Versions with extensive reflector				
2 × 36 W	DAR133 236E G13 POME 113 RE BRS	2202 5025		1355
2 × 58 W	DAR133 258E G13 POME 113 RE BRS	2202 5033		1655

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

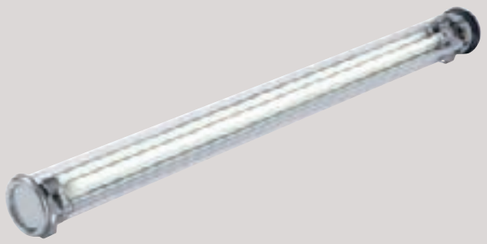
Specifications

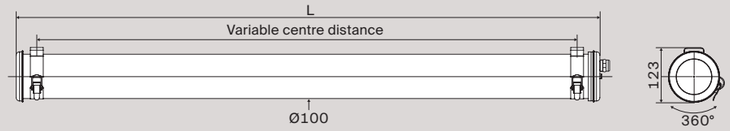
Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 39 W to 1 × 80 W

AF0719





Key features

Impervious luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 39 W	DAR100 139E G5 POME 113 RE BRS	4151 5158		1018
1 × 54 W	DAR100 154E G5 POME 113 RE BRS	4151 5162		1318
1 × 49 W	DAR100 149E G5 POME 113 RE BRS	4151 5160		1618
1 × 80 W	DAR100 180E G5 POME 113 RE BRS	4151 5164		
Versions with intensive reflector				
1 × 39 W	DAR100 139E G5 POME 113 RI BRS	4151 5159		1018
1 × 54 W	DAR100 154E G5 POME 113 RI BRS	4151 5163		1318
1 × 49 W	DAR100 149E G5 POME 113 RI BRS	4151 5161		1618
1 × 80 W	DAR100 180E G5 POME 113 RI BRS	4151 5165		

Available for 21, 28, and 35 W T5 lamps

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

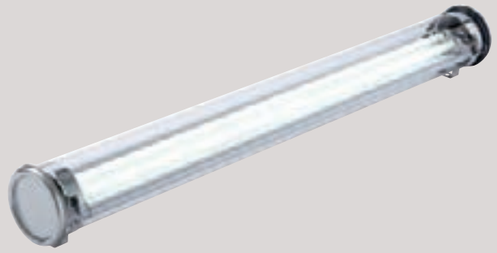
Specifications

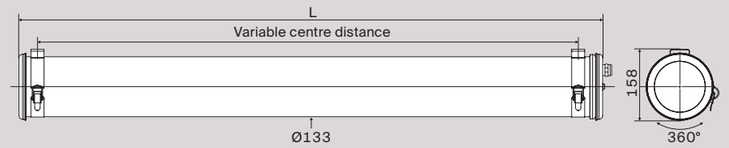
Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 39 W to 2 × 80 W

AF0719





Key features

Impervious luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 39 W	DAR133 239E G5 POME 113 RE BRS	2251 5083		995
2 × 54 W	DAR133 254E G5 POME 113 RE BRS	2804 0031		1295
2 × 49 W	DAR133 249E G5 POME 113 RE BRS	2251 5084		1595
2 × 80 W	DAR133 280E G5 POME 113 RE BRS	2251 5085		

Available for 21, 28, and 35 W T5 lamps

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

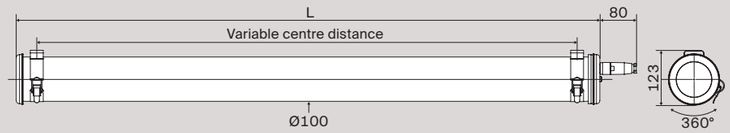
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Carnot 100

Technology	LED
Max. temp.	40 °C
Light output	2775 to 5550 lm
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Long maintenance intervals
Durable and maintainable luminaire
Resistant to external UV-rays

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	CAR100 14H830 POME PS3 SA BRS	3102 0050	33		3000	1318
	CAR100 14H840 POME PS3 SA BRS	3102 0060			4000	
5550	CAR100 16H830 POME PS3 SA BRS	3102 0090	49		3000	1850
	CAR100 16H840 POME PS3 SA BRS	3102 0100			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	CAR100 13H830 POME PS3 SA BRS	3102 0030	25		3000	1018
	CAR100 13H840 POME PS3 SA BRS	3102 0040			4000	
Equivalent to 1 × 58 W T8						
4625	CAR100 15H830 POME PS3 SA BRS	3102 0070	41		3000	1618
	CAR100 15H840 POME PS3 SA BRS	3102 0080			4000	

* Light output of the luminaire

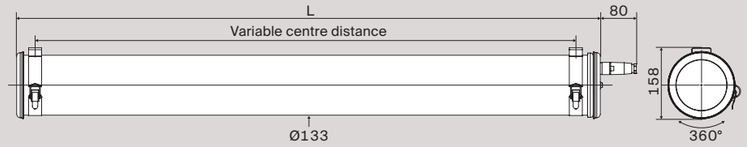
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Carnot 133

Technology	LED
Max. temp.	40 °C
Light output	5550 to 11100 lm
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Long maintenance intervals
Durable and maintainable luminaire
Resistant to external UV-rays

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Specifications

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	CAR133 24H830 POME PS3 SA BRS	3202 0030	65		3000	1295
	CAR133 24H840 POME PS3 SA BRS	3202 0040			4000	
11100	CAR133 26H830 POME PS3 SA BRS	3202 0070	95		3000	1850
	CAR133 26H840 POME PS3 SA BRS	3202 0080			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	CAR133 23H830 POME PS3 SA BRS	3202 0010	49		3000	995
	CAR133 23H840 POME PS3 SA BRS	3202 0020			4000	
Equivalent to 2 × 58 W T8						
9250	CAR133 25H830 POME PS3 SA BRS	3202 0050	81		3000	1595
	CAR133 25H840 POME PS3 SA BRS	3202 0060			4000	

* Light output of the luminaire

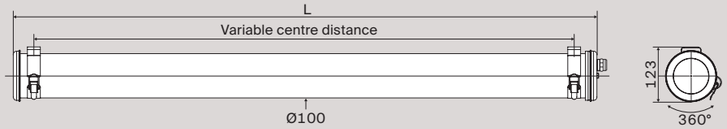
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 IND T8

Technology	T8
Max. temp.	40 °C
Power	1 × 36 W and 1 × 58 W
Control gear	"Industry" rated

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	DAR100 136I G13 POME 113 BRS	4102 5676		1318
1 × 58 W	DAR100 158I G13 POME 113 BRS	4102 5679		1618
Versions with extensive reflector				
1 × 36 W	DAR100 136I G13 POME 113 RE BRS	4102 5677		1318
1 × 58 W	DAR100 158I G13 POME 113 RE BRS	4102 5680		1618
Versions with intensive reflector				
1 × 36 W	DAR100 136I G13 POME 113 RI BRS	4102 5678		1318
1 × 58 W	DAR100 158I G13 POME 113 RI BRS	4102 5681		1618

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

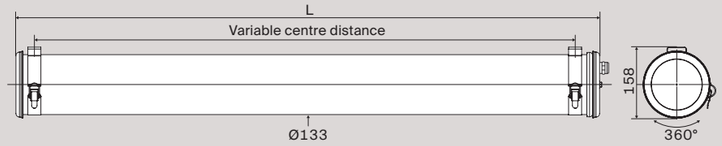
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 IND T8

Technology	T8
Max. temp.	40 °C
Power	2 × 36 W and 2 × 58 W
Control gear	"Industry" rated

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	DAR133 236I G13 POME 113 BRS	2202 5035		1355
2 × 58 W	DAR133 258I G13 POME 113 BRS	2202 5037		1655
Versions with extensive reflector				
2 × 36 W	DAR133 236I G13 POME 113 RE BRS	2202 5036		1355
2 × 58 W	DAR133 258I G13 POME 113 RE BRS	2202 5038		1655

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

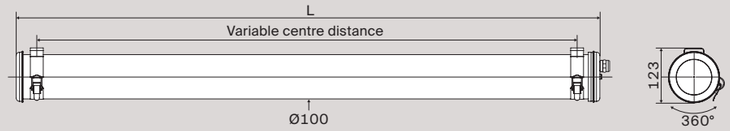
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 IND T5

Technology	T5
Max. temp.	40 °C
Power	1 × 49 W to 1 × 80 W
Control gear	"Industry" rated

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 54 W	DAR100 154I G5 POME 113 RE BRS	4151 5151		1318
1 × 49 W	DAR100 149I G5 POME 113 RE BRS	4151 5149		1618
1 × 80 W	DAR100 180I G5 POME 113 RE BRS	4151 5153		
Versions with intensive reflector				
1 × 54 W	DAR100 154I G5 POME 113 RI BRS	4151 5152		1318
1 × 49 W	DAR100 149I G5 POME 113 RI BRS	4151 5150		1618
1 × 80 W	DAR100 180I G5 POME 113 RI BRS	4151 5154		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

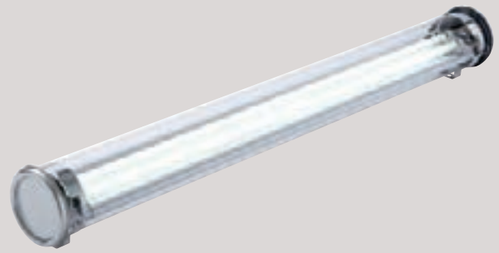
Specifications

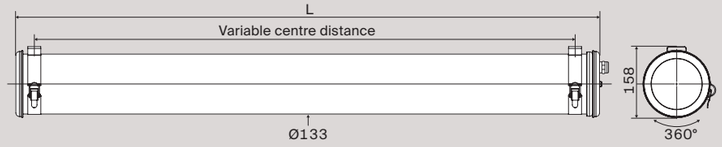
Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 IND T5

Technology	T5
Max. temp.	40 °C
Power	2 × 49 W to 2 × 80 W
Control gear	"Industry" rated

AF0719





Key features

Impervious luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 54 W	DAR133 254I G5 POME 113 RE BRS	2251 5079		1295
2 × 49 W	DAR133 249I G5 POME 113 RE BRS	2251 5078		1595
2 × 80 W	DAR133 280I G5 POME 113 RE BRS	2251 5080		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Extensive (large beam)
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

General lighting
Extreme environments

Luminaires with coextruded polycarbonate/PMMA diffusers

Tmax	Ranges	Sources	Tmax	Energy performance	Page
Standard electrical systems and low-intensity vibration					
30 – 35 °C	Stevin 100	LED	35 °C	●●●●	72
	Stevin 133	LED	35 °C	●●●●	73
	Einstein 100 T8	T8	30 °C	●●●	74
	Einstein 133 T8	T8	30 °C	●●●	75
	Einstein 100 T5	T5	30 °C	●●	76
	Einstein 133 T5	T5	30 °C	●●	77
High-risk electrical systems and high-intensity vibration					
40 °C	Cugnot 100	LED	40 °C	●●●●	78
	Cugnot 133	LED	40 °C	●●●●	79
	Einstein 100 IND T8	T8	40 °C	●●●	80
	Einstein 133 IND T8	T8	40 °C	●●●	81
	Einstein 100 IND T5	T5	40 °C	●●	82
	Einstein 133 IND T5	T5	40 °C	●●	83
55 – 70 °C	Bunsen 100	LED	55 °C	●●●●	84
	Bunsen 133	LED	55 °C	●●●●	85
	Einstein 100 HT	T8	70 °C	●	86
	Einstein 133 HT	T8	60 °C	●	87

Luminaires with borosilicate glass diffusers

Tmax	Ranges	Sources	Tmax	Energy performance	Page
Standard electrical systems and low-intensity vibration					
30 – 35 °C	Crookes 100	LED	35 °C	●●●●	88
	Crookes 133	LED	35 °C	●●●●	89
	Einstein 100 PY T8	T8	30 °C	●●●	90
	Einstein 133 PY T8	T8	30 °C	●●●	91
	Einstein 100 PY T5	T5	30 °C	●●	92
	Einstein 133 PY T5	T5	30 °C	●●	93
High-risk electrical systems and high-intensity vibration					
40 °C	Napier 100	LED	40 °C	●●●●	94
	Napier 133	LED	40 °C	●●●●	95
	Einstein 100 IND PY T8	T8	40 °C	●●●	96
	Einstein 133 IND PY T8	T8	40 °C	●●●	97
	Einstein 100 IND PY T5	T5	40 °C	●●	98
	Einstein 133 IND PY T5	T5	40 °C	●●	99
55 – 70 °C	Leslie 100	LED	55 °C	●●●●	100
	Leslie 133	LED	55 °C	●●●●	101
	Einstein 100 HT PY	T8	70 °C	●	102
	Einstein 133 HT PY	T8	60 °C	●	103

Lighting for extreme environments

Our lighting solutions deliver exceptionally long working life under extreme operating conditions, thanks to their housing system and specially designed components.

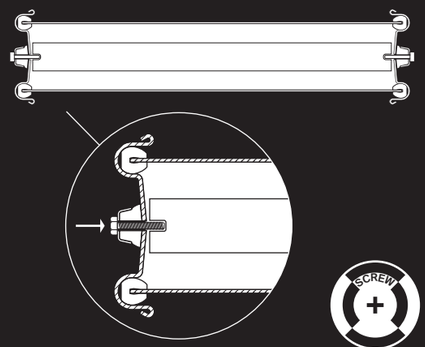
Resistance

Our luminaires installed in extreme environments subject to high levels of continual vibration are resistant:
- to environments polluted by hydrocarbon
- to exceptionally corrosive agents
- to acid and alkaline atmospheres
- to abrasion
- to high temperatures
- to wide variations in temperature

These stresses can cause premature damage to materials, followed by the spontaneous failure of standard equipment. Other factors, such as availability, bulk and accessibility, also require luminaire maintenance to be reduced to the minimum level achievable.

The SCREW system

A single-piece housing
A simple mechanical assembly of ultra-strong materials, the SCREW construction principle makes our products true single-piece housings offering high mechanical strength and chemical resistance. The diffuser and gear tray are held in compression by stainless steel end caps that make the system immune to impacts (IK10) and vibration. The luminaire is closed by the axial tightening of two stainless steel screws that apply a consistent pressure to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/IP69K). Throughout their life, the elastic deformation of the stainless steel end caps absorbs the expansion and mechanical stresses imposed on the casing of the luminaire. This ensures that it remains sealed long-term in the event of thermal shock or mechanical impact, independently of external conditions.



The right diffuser for every application

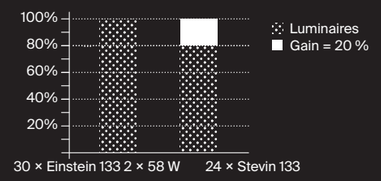
We offer two types of diffuser suitable for use with all types of aggression encountered in challenging industrial environments. The composite coextruded polycarbonate/PMMA diffusers combine exceptional resistance to hydrocarbons and solar UV radiation with high impact resistance (IK10). Borosilicate glass diffusers are recommended for applications requiring exceptional resistance to extreme chemical or abrasive aggression.

LED

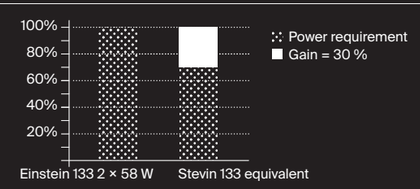
LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to 40 °C without compromising their lifespan, and which are free from the size constraints of traditional lighting sources. Our two innovative approaches are suitable for all types of installation.

LED

New installation versions
The new installation versions are sized to deliver the same luminous flux as a traditional installation, but with fewer luminaires: the lighting level and uniformity are identical, but with lower power consumption. For example, achieving the regulatory average lighting level of 200 lux with a new installation in a 25 m × 10 m × 3 m space represents a reduction of:
- 35% in energy consumption
- 20% in products to be purchased and installed
- 20% in power supply points to be installed
- 20% in products to be maintained and cleaned



Retrofit and like-for-like replacement versions
To avoid the need to redesign installation layout simply in order to optimise the existing system, we offer Retrofit versions that simply replace existing luminaires to deliver identical lighting at lower power consumption.



Fluorescent lamps

T8 lamps
These are the most commonly used light sources and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.

T8

T5 lamps
These sources consume slightly more energy, but are particularly well suited to applications using powerful luminaires with directional photometry. The HO (High Output) versions significantly reduce luminaire dimensions, at the same time as delivering lighting performance similar to that of a T8 lamp.

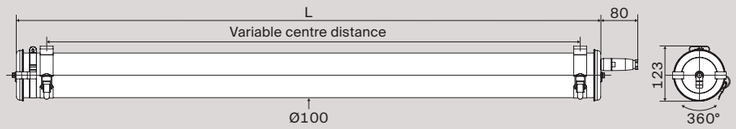
T5

Mains electrical interference	The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them. Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.
Temperatures	The IND versions of our LED and fluorescent solutions contain robust electronic power supplies enabling operation in ambient temperatures of up to 40 °C. Above that level, our LED luminaires are manufactured using high-temperature modules that use a special thermal management system to operate at temperatures of up to 55 °C with no effect on their lifespan. HT fluorescent versions using ferromagnetic gear are used in lighting solutions that can cope with ambient temperatures of up to 70 °C.
Vibration resistance	All our luminaires offer a high level of resistance to vibrations, but we also offer an even higher level of resistance with the IND and HT versions of our fluorescent luminaires. In the same way as our LED luminaires, they contain robust power supplies specifically designed for this purpose.

Stevin 100

Technology	LED
Max. temp.	35 °C
Light output	2775 to 5550 lm

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Vibration resistance
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	STE100 14H830 POME PS3 SA BRS	3101 0050	31		3000	1307
	STE100 14H840 POME PS3 SA BRS	3101 0060			4000	
5550	STE100 16H830 POME PS3 SA BRS	3101 0090	46		3000	1850
	STE100 16H840 POME PS3 SA BRS	3101 0100			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	STE100 13H830 POME PS3 SA BRS	3101 0030	23		3000	1007
	STE100 13H840 POME PS3 SA BRS	3101 0040			4000	
Equivalent to 1 × 58 W T8						
4625	STE100 15H830 POME PS3 SA BRS	3101 0070	39		3000	1607
	STE100 15H840 POME PS3 SA BRS	3101 0080			4000	

* Light output of the luminaire

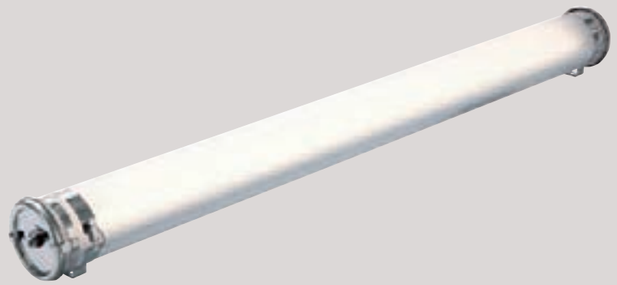
Specifications

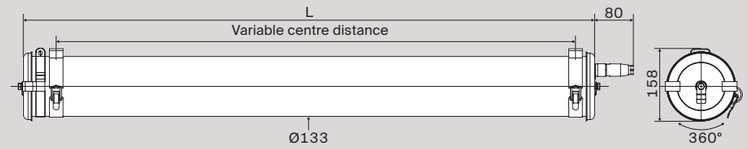
Technical data	
Light source	• High efficiency LED modules (155 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Stevin 133

Technology	LED
Max. temp.	35 °C
Light output	5550 to 11100 lm

AF0719





Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Vibration resistance
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	STE133 24H830 POME PS3 SA BRS	3201 0030	63		3000	1287
	STE133 24H840 POME PS3 SA BRS	3201 0040			4000	
11100	STE133 26H830 POME PS3 SA BRS	3201 0070	92		3000	1850
	STE133 26H840 POME PS3 SA BRS	3201 0080			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	STE133 23H830 POME PS3 SA BRS	3201 0010	46		3000	987
	STE133 23H840 POME PS3 SA BRS	3201 0020			4000	
Equivalent to 2 × 58 W T8						
9250	STE133 25H830 POME PS3 SA BRS	3201 0050	78		3000	1587
	STE133 25H840 POME PS3 SA BRS	3201 0060			4000	

* Light output of the luminaire

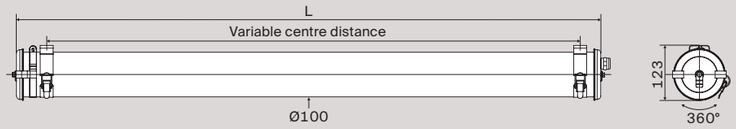
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 36 W and 1 × 58 W

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136E G13 POME 113 BRS	1502 5038		1307
1 × 58 W	EIN100 158E G13 POME 113 BRS	1502 5041		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136E G13 POME 113 RE BRS	1502 5039		1307
1 × 58 W	EIN100 158E G13 POME 113 RE BRS	1502 5006		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136E G13 POME 113 RI BRS	1502 5040		1307
1 × 58 W	EIN100 158E G13 POME 113 RI BRS	1502 5042		1607

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

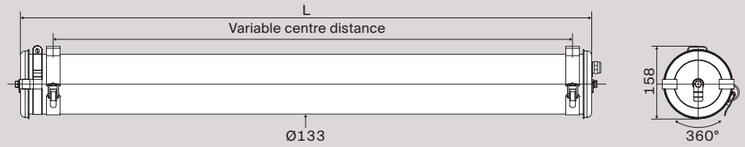
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 36 W and 2 × 58 W

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236E G13 POME 113 BRS	1602 5054		1287
2 × 58 W	EIN133 258E G13 POME 113 BRS	6602 0121		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236E G13 POME 113 RE BRS	1602 5055		1287
2 × 58 W	EIN133 258E G13 POME 113 RE BRS	1602 5056		1587

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

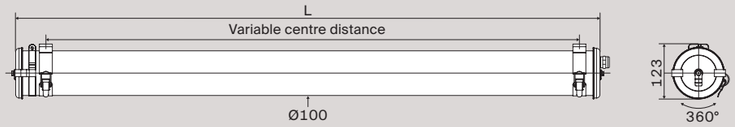
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 39 W to 1 × 80 W

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 39 W	EIN100 139E G5 POME 113 RE BRS	1551 5032		1007
1 × 54 W	EIN100 154E G5 POME 113 RE BRS	1551 5036		1307
1 × 49 W	EIN100 149E G5 POME 113 RE BRS	1551 5034		1607
1 × 80 W	EIN100 180E G5 POME 113 RE BRS	1551 5038		
Versions with intensive reflector				
1 × 39 W	EIN100 139E G5 POME 113 RI BRS	1551 5033		1007
1 × 54 W	EIN100 154E G5 POME 113 RI BRS	1551 5037		1307
1 × 49 W	EIN100 149E G5 POME 113 RI BRS	1551 5035		1607
1 × 80 W	EIN100 180E G5 POME 113 RI BRS	1551 5039		

Available for 21, 28, and 35 W T5 lamps

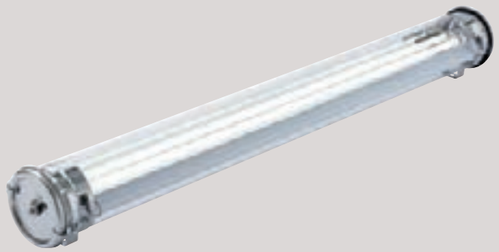
Specifications

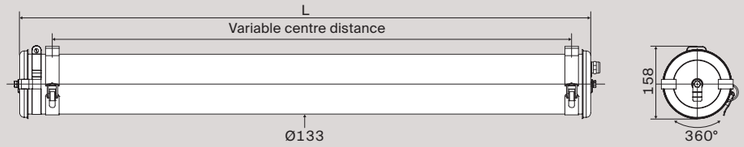
Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 39 W to 2 × 80 W

AF0719





Key features

Impervious luminaire
Resistant to external UV-rays
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 39 W	EIN133 239E G5 POME 113 RE BRS	1651 5047		987
2 × 54 W	EIN133 254E G5 POME 113 RE BRS	1651 5051		1287
2 × 49 W	EIN133 249E G5 POME 113 RE BRS	1651 5049		1587
2 × 80 W	EIN133 280E G5 POME 113 RE BRS	1651 5053		
Versions with intensive reflector				
2 × 39 W	EIN133 239E G5 POME 113 RI BRS	1651 5048		987
2 × 54 W	EIN133 254E G5 POME 113 RI BRS	1651 5052		1287
2 × 49 W	EIN133 249E G5 POME 113 RI BRS	1651 5050		1587
2 × 80 W	EIN133 280E G5 POME 113 RI BRS	1651 5054		

Available for 21, 28, and 35 W T5 lamps

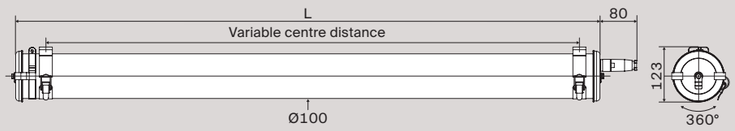
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Cugnot 100

Technology	LED
Max. temp.	40 °C
Light output	2775 to 5550 lm
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	CUG100 14H830 POME PS3 SA BRS	3103 0050	33		3000	1307
	CUG100 14H840 POME PS3 SA BRS	3103 0060			4000	
5550	CUG100 16H830 POME PS3 SA BRS	3103 0090	49		3000	1850
	CUG100 16H840 POME PS3 SA BRS	3103 0100			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	CUG100 13H830 POME PS3 SA BRS	3103 0030	25		3000	1007
	CUG100 13H840 POME PS3 SA BRS	3103 0040			4000	
Equivalent to 1 × 58 W T8						
4625	CUG100 15H830 POME PS3 SA BRS	3103 0070	41		3000	1607
	CUG100 15H840 POME PS3 SA BRS	3103 0080			4000	

* Light output of the luminaire

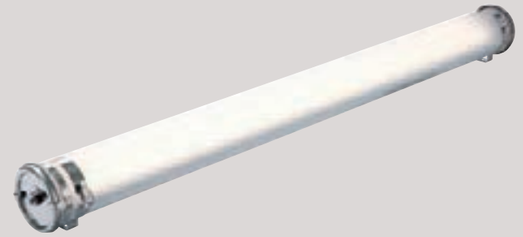
Specifications

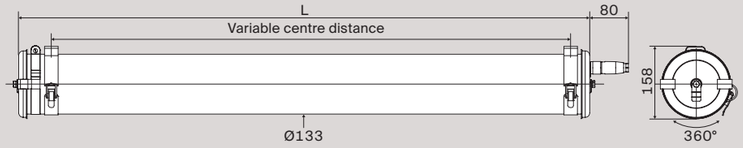
Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Cugnot 133

Technology	LED
Max. temp.	40 °C
Light output	5550 to 11100 lm
Control gear	"Industry" rated

AF0719





Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	CUG133 24H830 POME PS3 SA BRS	3203 0030	65		3000	1287
	CUG133 24H840 POME PS3 SA BRS	3203 0040			4000	
11100	CUG133 26H830 POME PS3 SA BRS	3203 0070	95		3000	1850
	CUG133 26H840 POME PS3 SA BRS	3203 0080			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	CUG133 23H830 POME PS3 SA BRS	3203 0010	49		3000	987
	CUG133 23H840 POME PS3 SA BRS	3203 0020			4000	
Equivalent to 2 × 58 W T8						
9250	CUG133 25H830 POME PS3 SA BRS	3203 0050	81		3000	1587
	CUG133 25H840 POME PS3 SA BRS	3203 0060			4000	

* Light output of the luminaire

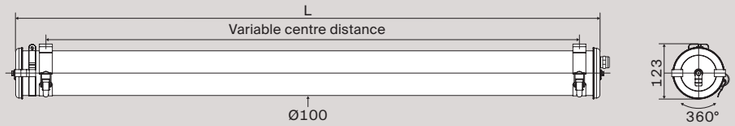
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 IND T8

Technology	T8
Max. temp.	40 °C
Power	1 × 36 W and 1 × 58 W
Control gear	"Industry" rated

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136I G13 POME 113 BRS	1502 5044		1307
1 × 58 W	EIN100 158I G13 POME 113 BRS	1502 5046		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136I G13 POME 113 RE BRS	1502 5045		1307
1 × 58 W	EIN100 158I G13 POME 113 RE BRS	1502 5047		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136I G13 POME 113 RI BRS	1502 5048		1307
1 × 58 W	EIN100 158I G13 POME 113 RI BRS	1502 5049		1607

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

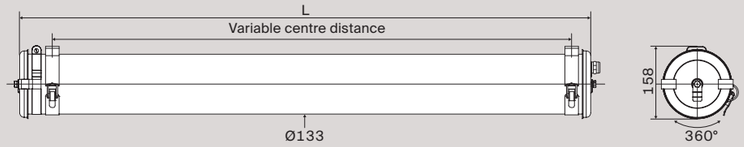
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 IND T8

Technology	T8
Max. temp.	40 °C
Power	2 × 36 W and 2 × 58 W
Control gear	"Industry" rated

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236I G13 POME 113 BRS	1602 5057		1287
2 × 58 W	EIN133 258I G13 POME 113 BRS	6602 0221		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236I G13 POME 113 RE BRS	1602 5058		1287
2 × 58 W	EIN133 258I G13 POME 113 RE BRS	1602 5059		1587

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

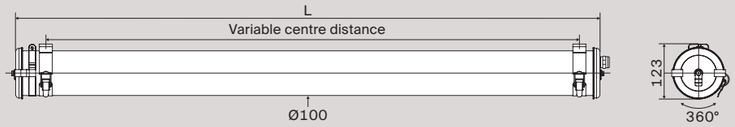
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 IND T5

Technology	T5
Max. temp.	40 °C
Power	1 × 49 W to 1 × 80 W
Control gear	"Industry" rated

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 54 W	EIN100 154I G5 POME 113 RE BRS	1551 5040		1307
1 × 49 W	EIN100 149I G5 POME 113 RE BRS	1551 5041		1607
1 × 80 W	EIN100 180I G5 POME 113 RE BRS	1551 5042		
Versions with intensive reflector				
1 × 54 W	EIN100 154I G5 POME 113 RI BRS	1551 5043		1307
1 × 49 W	EIN100 149I G5 POME 113 RI BRS	1551 5044		1607
1 × 80 W	EIN100 180I G5 POME 113 RI BRS	1551 5045		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

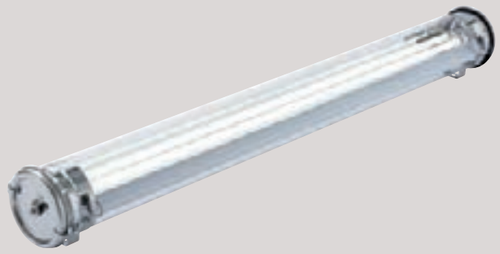
Specifications

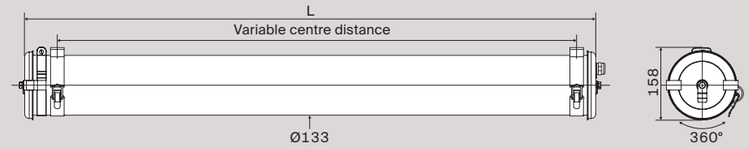
Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 IND T5

Technology	T5
Max. temp.	40 °C
Power	2 × 49 W to 2 × 80 W
Control gear	"Industry" rated

AF0719





Key features

Impervious luminaire
Resistant to external UV-rays
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 54 W	EIN133 254I G5 POME 113 RE BRS	1651 5039		1287
2 × 49 W	EIN133 249I G5 POME 113 RE BRS	1651 5037		1587
2 × 80 W	EIN133 280I G5 POME 113 RE BRS	1651 5041		
Versions with intensive reflector				
2 × 54 W	EIN133 254I G5 POME 113 RI BRS	1651 5040		1287
2 × 49 W	EIN133 249I G5 POME 113 RI BRS	1651 5038		1587
2 × 80 W	EIN133 280I G5 POME 113 RI BRS	1651 5042		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

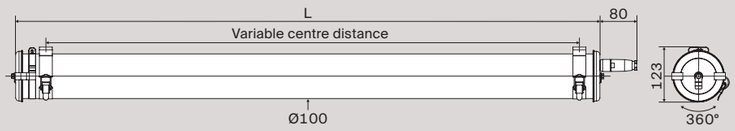
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Bunsen 100

Technology	LED
Max. temp.	55 °C
Light output	2775 to 5550 lm
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
3700	BUN100 14H830 POME PS3 SA BRS	3105 0050	33		3000	1307
	BUN100 14H840 POME PS3 SA BRS	3105 0060			4000	
5550	BUN100 16H830 POME PS3 SA BRS	3105 0090	50		3000	1850
	BUN100 16H840 POME PS3 SA BRS	3105 0100			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 1 × 36 W T8						
2775	BUN100 13H830 POME PS3 SA BRS	3105 0030	25		3000	1007
	BUN100 13H840 POME PS3 SA BRS	3105 0040			4000	
Equivalent to 1 × 58 W T8						
4625	BUN100 15H830 POME PS3 SA BRS	3105 0070	43		3000	1607
	BUN100 15H840 POME PS3 SA BRS	3105 0080			4000	

* Light output of the luminaire

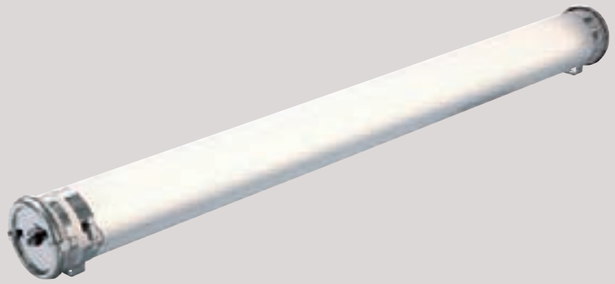
Specifications

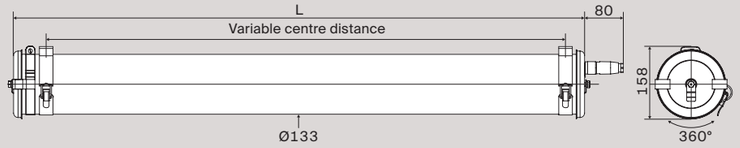
Technical data	
Light source	• High efficiency LED modules (155 lm/W) • LED modules for high temperature • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Electronic driver for high temperature (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Bunsen 133

Technology	LED
Max. temp.	55 °C
Light output	5550 to 11100 lm
Control gear	"Industry" rated

AF0719





Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Versions for new installations						
7400	BUN133 24H830 POME PS3 SA BRS	3205 0030	66		3000	1287
	BUN133 24H840 POME PS3 SA BRS	3205 0040			4000	
11100	BUN133 26H830 POME PS3 SA BRS	3205 0070	96		3000	1850
	BUN133 26H840 POME PS3 SA BRS	3205 0080			4000	
Retrofit versions: Like-for-like replacement						
Equivalent to 2 × 36 W T8						
5550	BUN133 23H830 POME PS3 SA BRS	3205 0010	50		3000	987
	BUN133 23H840 POME PS3 SA BRS	3205 0020			4000	
Equivalent to 2 × 58 W T8						
9250	BUN133 25H830 POME PS3 SA BRS	3205 0050	80		3000	1587
	BUN133 25H840 POME PS3 SA BRS	3205 0060			4000	

* Light output of the luminaire

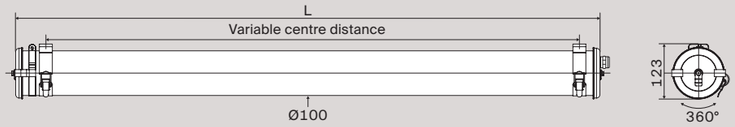
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • LED modules for high temperature • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Electronic driver for high temperature (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 HT

Technology	T8
Max. temp.	70 °C
Power	1 × 36 W and 1 × 58 W

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136C G13 POME 113 BRS	1501 5022		1307
1 × 58 W	EIN100 158C G13 POME 113 BRS	1501 5050		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136C G13 POME 113 RE BRS	1501 5048		1307
1 × 58 W	EIN100 158C G13 POME 113 RE BRS	1501 5051		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136C G13 POME 113 RI BRS	1501 5049		1307
1 × 58 W	EIN100 158C G13 POME 113 RI BRS	1501 5052		1607

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

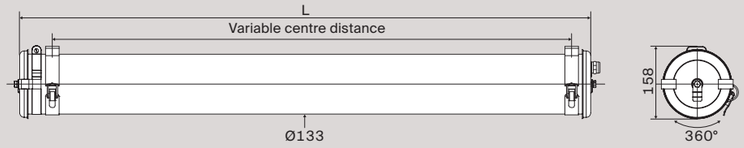
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +70 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 HT

Technology	T8
Max. temp.	60 °C
Power	2 × 36 W and 2 × 58 W

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236C G13 POME 113 BRS	1601 5061		1287
2 × 58 W	EIN133 258C G13 POME 113 BRS	1601 5037		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236C G13 POME 113 RE BRS	1601 5062		1287
2 × 58 W	EIN133 258C G13 POME 113 RE BRS	1601 5045		1587

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

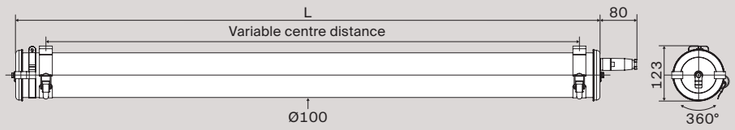
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +60 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Crookes 100

Technology	LED
Max. temp.	35 °C
Light output	2775 to 4625 lm
Housing	Borosilicate glass

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Vibration resistance
Resistant to aggressive chemical environments
Long maintenance intervals
Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Equivalent to 1 × 36 W T8						
2775	CRO100 13H830 PY PS3 BRS	3106 0030	23		3000	1007
	CRO100 13H840 PY PS3 BRS	3106 0040			4000	
Equivalent to 1 × 58 W T8						
4625	CRO100 15H830 PY PS3 BRS	3106 0050	38		3000	1607
	CRO100 15H840 PY PS3 BRS	3106 0060			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

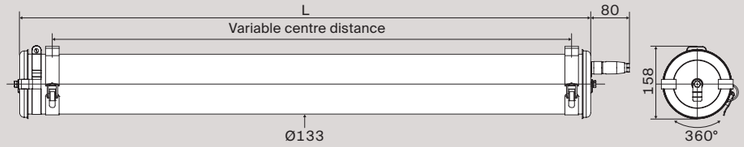
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Crookes 133

Technology	LED
Max. temp.	35 °C
Light output	5550 to 9250 lm
Housing	Borosilicate glass

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Vibration resistance
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Equivalent to 2 × 36 W T8						
5550	CRO133 23H830 PY PS3 BRS	3206 0010	45		3000	987
	CRO133 23H840 PY PS3 BRS	3206 0020			4000	
Equivalent to 2 × 58 W T8						
9250	CRO133 25H830 PY PS3 BRS	3206 0030	75		3000	1587
	CRO133 25H840 PY PS3 BRS	3206 0040			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

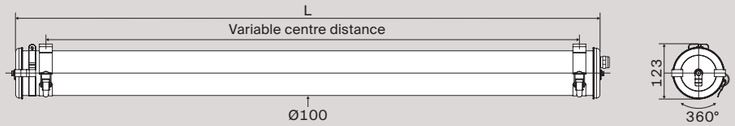
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 PY T8

Technology	T8
Max. temp.	30 °C
Power	1 × 36 W and 1 × 58 W
Housing	Borosilicate glass

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136E G13 PY 113 BRS	3502 0021		1307
1 × 58 W	EIN100 158E G13 PY 113 BRS	3502 0031		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136E G13 PY 113 RE BRS	1502 5031		1307
1 × 58 W	EIN100 158E G13 PY 113 RE BRS	1502 5033		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136E G13 PY 113 RI BRS	1502 5032		1307
1 × 58 W	EIN100 158E G13 PY 113 RI BRS	1502 5034		1607

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

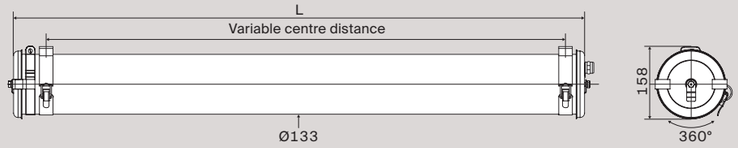
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 PY T8

Technology	T8
Max. temp.	30 °C
Power	2 × 36 W and 2 × 58 W
Housing	Borosilicate glass

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236E G13 PY 113 BRS	3602 0021		1287
2 × 58 W	EIN133 258E G13 PY 113 BRS	3602 0031		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236E G13 PY 113 RE BRS	1602 5018		1287
2 × 58 W	EIN133 258E G13 PY 113 RE BRS	3602 0321		1587

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

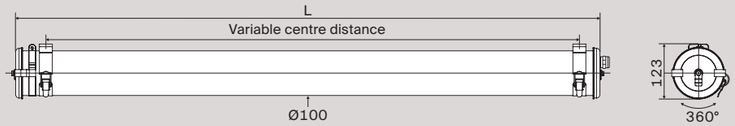
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 PY T5

Technology	T5
Max. temp.	30 °C
Power	1 × 39 W to 1 × 80 W
Housing	Borosilicate glass

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

T5 · CORROSION + · GUARANTEE 5 YEARS · IK08

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 39 W	EIN100 139E G5 PY 113 RE BRS	3504 0221		1007
1 × 54 W	EIN100 154E G5 PY 113 RE BRS	3504 0231		1307
1 × 49 W	EIN100 149E G5 PY 113 RE BRS	1551 5026		1607
1 × 80 W	EIN100 180E G5 PY 113 RE BRS	3504 0241		
Versions with intensive reflector				
1 × 39 W	EIN100 139E G5 PY 113 RI BRS	3504 0021		1007
1 × 54 W	EIN100 154E G5 PY 113 RI BRS	3504 0031		1307
1 × 49 W	EIN100 149E G5 PY 113 RI BRS	1551 5027		1607
1 × 80 W	EIN100 180E G5 PY 113 RI BRS	3504 0041		

Available for 21, 28, and 35 W T5 lamps

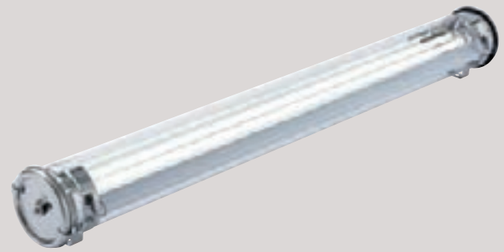
Specifications

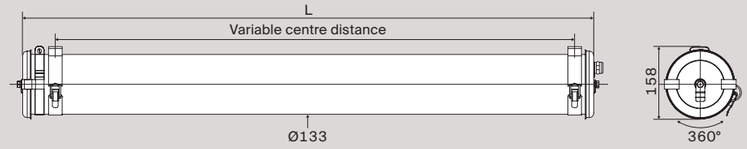
Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 PY T5

Technology	T5
Max. temp.	30 °C
Power	2 × 39 W to 2 × 80 W
Housing	Borosilicate glass

AF0719





Key features

Impervious luminaire
Resistant to aggressive chemical environments
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

T5 · CORROSION + · GUARANTEE 5 YEARS · IK08

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 39 W	EIN133 239E G5 PY 113 RE BRS	3604 0021		987
2 × 54 W	EIN133 254E G5 PY 113 RE BRS	3604 0031		1287
2 × 49 W	EIN133 249E G5 PY 113 RE BRS	1651 5055		1587
2 × 80 W	EIN133 280E G5 PY 113 RE BRS	3604 0041		
Versions with intensive reflector				
2 × 39 W	EIN133 239E G5 PY 113 RI BRS	3604 0251		987
2 × 54 W	EIN133 254E G5 PY 113 RI BRS	3604 0261		1287
2 × 49 W	EIN133 249E G5 PY 113 RI BRS	1651 5056		1587
2 × 80 W	EIN133 280E G5 PY 113 RI BRS	3604 0271		

Available for 21, 28, and 35 W T5 lamps

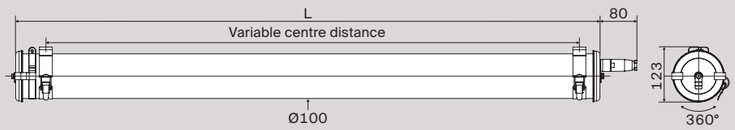
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Napier 100

Technology	LED
Max. temp.	40 °C
Light output	2775 to 4625 lm
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Resistant to aggressive chemical environments
Long maintenance intervals
Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Equivalent to 1 × 36 W T8						
2775	NAP100 13H830 PY PS3 BRS	3104 0030	23		3000	1007
	NAP100 13H840 PY PS3 BRS	3104 0040			4000	
Equivalent to 1 × 58 W T8						
4625	NAP100 15H830 PY PS3 BRS	3104 0070	38		3000	1607
	NAP100 15H840 PY PS3 BRS	3104 0080			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

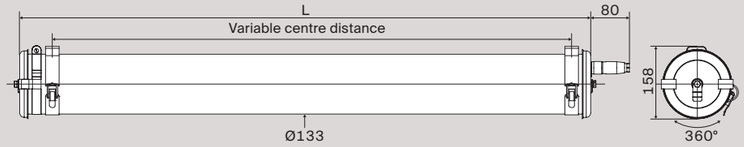
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Napier 133

Technology	LED
Max. temp.	40 °C
Light output	5550 to 9250 lm
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Equivalent to 2 × 36 W T8						
5550	NAP133 23H830 PY PS3 BRS	3204 0010	45		3000	987
	NAP133 23H840 PY PS3 BRS	3204 0020			4000	
Equivalent to 2 × 58 W T8						
9250	NAP133 25H830 PY PS3 BRS	3204 0050	75		3000	1587
	NAP133 25H840 PY PS3 BRS	3204 0060			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

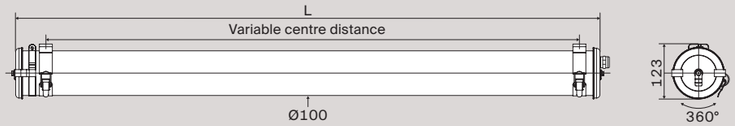
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 IND PY T8

Technology	T8
Max. temp.	40 °C
Power	1 × 36 W and 1 × 58 W
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136I G13 PY 113 BRS	3502 0351		1307
1 × 58 W	EIN100 158I G13 PY 113 BRS	3502 0361		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136I G13 PY 113 RE BRS	1502 5043		1307
1 × 58 W	EIN100 158I G13 PY 113 RE BRS	3502 0521		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136I G13 PY 113 RI BRS	1502 5066		1307
1 × 58 W	EIN100 158I G13 PY 113 RI BRS	1502 5067		1607

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

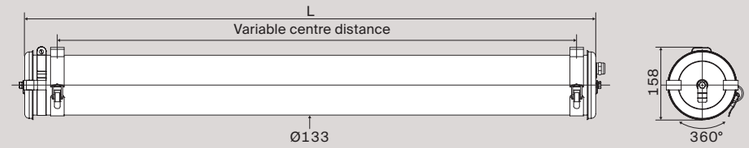
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 IND PY T8

Technology	T8
Max. temp.	40 °C
Power	2 × 36 W and 2 × 58 W
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236I G13 PY 113 BRS	3602 0401		1287
2 × 58 W	EIN133 258I G13 PY 113 BRS	3602 0341		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236I G13 PY 113 RE BRS	1602 5049		1287
2 × 58 W	EIN133 258I G13 PY 113 RE BRS	1602 5050		1587

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

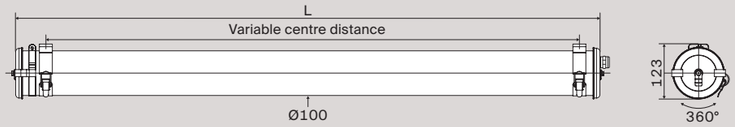
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 IND PY T5

Technology	T5
Max. temp.	40 °C
Power	1 × 49 W to 1 × 80 W
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

- Impervious luminaire
- Resistant to aggressive chemical environments
- Very high resistance to vibrations
- Very high resistance to corrosion
- Durable and maintainable luminaire

T5 · 5 YEARS GUARANTEE · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 54 W	EIN100 154I G5 PY 113 RE BRS	1551 5022		1307
1 × 49 W	EIN100 149I G5 PY 113 RE BRS	1551 5020		1607
1 × 80 W	EIN100 180I G5 PY 113 RE BRS	1551 5024		
Versions with intensive reflector				
1 × 54 W	EIN100 154I G5 PY 113 RI BRS	1551 5023		1307
1 × 49 W	EIN100 149I G5 PY 113 RI BRS	1551 5021		1607
1 × 80 W	EIN100 180I G5 PY 113 RI BRS	1551 5025		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

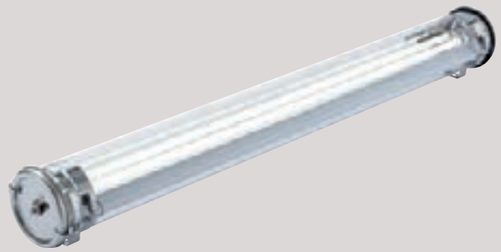
Specifications

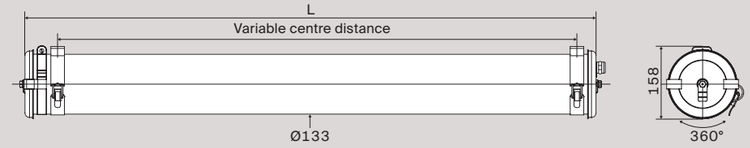
Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 IND PY T5

Technology	T5
Max. temp.	40 °C
Power	2 × 49 W to 2 × 80 W
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719





Key features

- Impervious luminaire
- Resistant to aggressive chemical environments
- Very high resistance to vibrations
- Very high resistance to corrosion
- Durable and maintainable luminaire

T5 · 5 YEARS GUARANTEE · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 54 W	EIN133 254I G5 PY 113 RE BRS	1651 5033		1287
2 × 49 W	EIN133 249I G5 PY 113 RE BRS	1651 5031		1587
2 × 80 W	EIN133 280I G5 PY 113 RE BRS	1651 5035		
Versions with intensive reflector				
2 × 54 W	EIN133 254I G5 PY 113 RI BRS	1651 5034		1287
2 × 49 W	EIN133 249I G5 PY 113 RI BRS	1651 5032		1587
2 × 80 W	EIN133 280I G5 PY 113 RI BRS	1651 5036		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

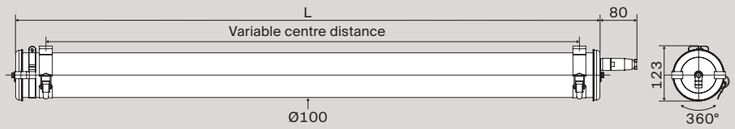
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Leslie 100

Technology	LED
Max. temp.	55 °C
Light output	2775 to 4625 lm
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Resistant to aggressive chemical environments
Long maintenance intervals
Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Equivalent to 1 × 36 W T8						
2775	LES100 13H830 PY PS3 BRS	3107 0030	25		3000	1007
	LES100 13H840 PY PS3 BRS	3107 0040			4000	
Equivalent to 1 × 58 W T8						
4625	LES100 15H830 PY PS3 BRS	3107 0050	43		3000	1607
	LES100 15H840 PY PS3 BRS	3107 0060			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Accessories	
Protective roof	
Fixings for columns	

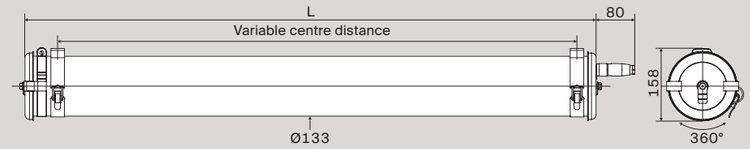
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • LED modules for high temperature • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	• Electronic driver for high temperature (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Leslie 133

Technology	LED
Max. temp.	55 °C
Light output	5550 to 9250 lm
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
Equivalent to 2 × 36 W T8						
5550	LES133 23H830 PY PS3 BRS	3207 0010	50		3000	987
	LES133 23H840 PY PS3 BRS	3207 0020			4000	
Equivalent to 2 × 58 W T8						
9250	LES133 25H830 PY PS3 BRS	3207 0030	80		3000	1587
	LES133 25H840 PY PS3 BRS	3207 0040			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Accessories	
Protective roof	
Fixings for columns	

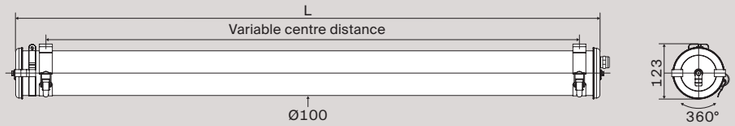
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • LED modules for high temperature • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	• Electronic driver for high temperature (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 HT PY

Technology	T8
Max. temp.	70 °C
Power	1 × 36 W and 1 × 58 W
Housing	Borosilicate glass

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 36 W	EIN100 136C G13 PY 113 BRS	3501 0021		1307
1 × 58 W	EIN100 158C G13 PY 113 BRS	3501 0031		1607
Versions with extensive reflector				
1 × 36 W	EIN100 136C G13 PY 113 RE BRS	1501 5055		1307
1 × 58 W	EIN100 158C G13 PY 113 RE BRS	1501 5057		1607
Versions with intensive reflector				
1 × 36 W	EIN100 136C G13 PY 113 RI BRS	1501 5056		1307
1 × 58 W	EIN100 158C G13 PY 113 RI BRS	1501 5058		1607

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

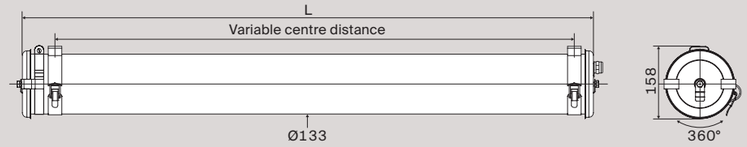
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +70 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 HT PY

Technology	T8
Max. temp.	60 °C
Power	2 × 36 W and 2 × 58 W
Housing	Borosilicate glass

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 36 W	EIN133 236C G13 PY 113 BRS	3601 0021		1287
2 × 58 W	EIN133 258C G13 PY 113 BRS	3601 0031		1587
Versions with extensive reflector				
2 × 36 W	EIN133 236C G13 PY 113 RE BRS	1601 5027		1287
2 × 58 W	EIN133 258C G13 PY 113 RE BRS	3601 0329		1587

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +60 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Task lighting

The reduced size of these products means that they can be installed in confined spaces and easily orientated towards the area to be lit. They offer the best compromise between exactly the right quantity of light and physical bulk.

These lighting solutions are designed for:
- lighting small production spaces (floor areas below 20 m^2)
- additional lighting for working areas

Task lighting
Demanding environments

Tmax	Ranges	Sources	Quantity of light	Compactness	T°max	Energy performance	Page
Standard electrical systems							
30 – 35 °C	Pascal 100	LED	●●	●●	35 °C	●●●●	110
	Darwin 100 T8	T8	●	●●	35 °C	●●●	111
	Darwin 100 T5	T5	●	●●	30 °C	●●	112
	Darwin 133 T8	T8	●●	●	30 °C	●●●	113
	Darwin 133 T5	T5	●●●	●	30 °C	●●	114
	Darwin 100 FC	2G11	●●●	●●●	30 °C	●●	115
High-risk electrical systems							
40 °C	Carnot 100	LED	●●	●●	40 °C	●●●●	116

Lighting in demanding environments

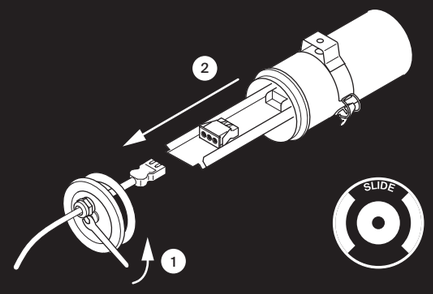
Permanent lighting solutions specially designed to withstand impacts, storms, humid atmospheres, jet washers, UV radiation, etc.

Resistance

Our luminaires installed in demanding environments are resistant:
- to impacts
- to frequent handling
- to humid atmospheres
- to jet washing
- to storms
- to solar UV radiation
- to saline atmospheres
- to marine spray and large waves

The SLIDE system

Easy maintenance
Installers and maintenance teams benefit from an incredibly simple sealed luminaire solution: the user-friendly patented SLIDE system. This gear tray guide system facilitates light source changes with no need to remove the product. The result is the shortest ultra-sealed luminaire maintenance times in the market.



A heavy-duty casing

Since this luminaire is closed by a single centrally located stainless steel screw, a consistent pressure is applied to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/IP69K). The composite coextruded polycarbonate/PMMA diffuser combines exceptional resistance to hydrocarbons and solar UV radiation with high impact resistance (IK10). The combination of housing specifications and material quality guarantees a long luminaire lifespan, and therefore long-term permanence of the installation.

LED

LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to 40 °C without compromising their lifespan.

LED

Fluorescent lamps

T8 lamps
These are the most commonly used light sources and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.

T8

T5 lamps
These sources are particularly well suited to applications using powerful luminaires with directional photometry. Their luminous flux is more than 30% higher than that of a T8 lamp of the same length.

T5

Compact fluorescent lamps

These lamps offer the highest density of luminous flux at a shorter length, and the luminaires that use them are the most compact of all. Over short distances, they emit twice as much light as T5 lamps.

2G11

Electrical interference

The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them. Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.

Temperatures

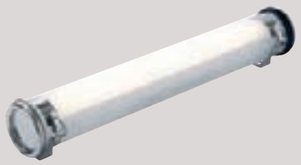
The Carnot range contains robust electronic power supplies whose thermal management has been optimised for operation at temperatures up to 40 °C with no effect on their lifespan.

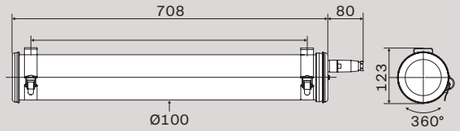
°C

Pascal 100

Technology	LED
Max. temp.	35 °C
Light output	1850 lm

AF0719





Key features

- Plug&Play-installation by disconnectable Plug
- Suitable for repeated switching on and off
- Long maintenance intervals
- Durable and maintainable luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons

LED · SLIDE · GUARANTEE 5 YEARS

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	PAS100 12H830 POME PS3 SA BRS	4160 0311	16		3000	708
	PAS100 12H840 POME PS3 SA BRS	4160 5095			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

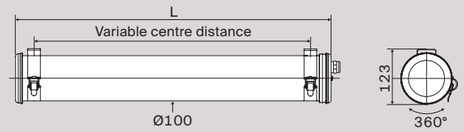
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 18 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

T8 · SLIDE · GUARANTEE 5 YEARS · 08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	DAR100 118E G13 POME 113 BRS	4102 5682		708
Versions with extensive reflector				
1 × 18 W	DAR100 118E G13 POME 113 RE BRS	4102 5683		708
Versions with intensive reflector				
1 × 18 W	DAR100 118E G13 POME 113 RI BRS	4102 5684		708

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

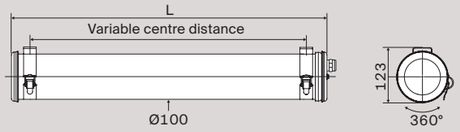
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 14 W and 1 × 24 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

T5 · SLIDE · GUARANTEE 5 YEARS · 08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 14 W	DAR100 114E G5 POME 113 RE BRS	4151 5155		708
1 × 24 W	DAR100 124E G5 POME 113 RE BRS	4151 5135		
Versions with intensive reflector				
1 × 14 W	DAR100 114E G5 POME 113 RI BRS	4151 5156		708
1 × 24 W	DAR100 124E G5 POME 113 RI BRS	4151 5157		

Available for 21, 28, and 35 W T5 lamps

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

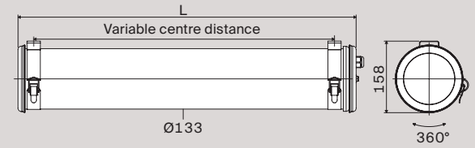
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 18 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

T8 · SLIDE · GUARANTEE 5 YEARS · 08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	DAR133 218E G13 POME 113 BRS	2202 5039		745
Versions with extensive reflector				
2 × 18 W	DAR133 218E G13 POME 113 RE BRS	2202 5026		745

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

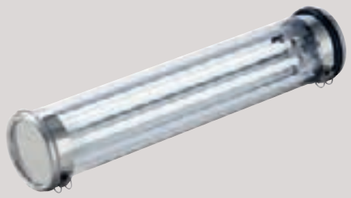
Specifications

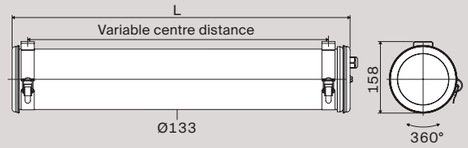
Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 14 W and 2 × 24 W

AF0719





Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

T5 · SLIDE · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 14 W	DAR133 214E G5 POME 113 RE BRS	2251 5081		685
2 × 24 W	DAR133 224E G5 POME 113 RE BRS	2251 5082		1285

Available for 21, 28, and 35 W T5 lamps

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

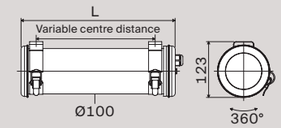
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 FC

Technology	2G11 fluorescent lamp
Max. temp.	30 °C
Power	1 × 18 W to 1 × 40 W

AF0719



Key features

- Impervious luminaire
- Small luminaire
- Easy lamp change
- Durable and maintainable luminaire

2G11 · SLIDE · GUARANTEE 5 YEARS

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	DAR100 118E 2G11 POME 113 BRS	4112 5037		340
1 × 24 W	DAR100 124E 2G11 POME 113 BRS	4112 5039		448
1 × 36 W	DAR100 136E 2G11 POME 113 BRS	4112 5042		530
1 × 40 W	DAR100 140E 2G11 POME 113 BRS	4112 5045		650
Versions with extensive reflector				
1 × 18 W	DAR100 118E 2G11 POME 113 RE BRS	4712 0131		340
1 × 24 W	DAR100 124E 2G11 POME 113 RE BRS	4112 5040		448
1 × 36 W	DAR100 136E 2G11 POME 113 RE BRS	4112 5043		530
1 × 40 W	DAR100 140E 2G11 POME 113 RE BRS	4112 5046		650
Satinised versions for diffuse lighting				
1 × 18 W	DAR100 118E 2G11 POME 113 SA BRS	4112 5038		340
1 × 24 W	DAR100 124E 2G11 POME 113 SA BRS	4112 5041		448
1 × 36 W	DAR100 136E 2G11 POME 113 SA BRS	4112 5044		530
1 × 40 W	DAR100 140E 2G11 POME 113 SA BRS	4112 5047		650

When used vertically, the lamp cap must be on the bottom

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3

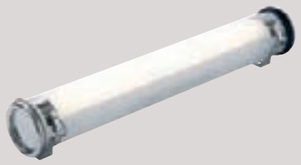
Specifications

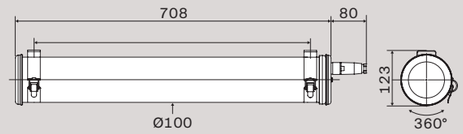
Technical data	
Light source	1x 2G11compact fluorescent lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Satin-finish housing for diffuse lighting
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Carnot 100

Technology	LED
Max. temp.	40 °C
Light output	1850 lm
Control gear	"Industry" rated

AF0719





Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Long maintenance intervals
Durable and maintainable luminaire
Resistant to external UV-rays

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	CAR100 12H830 POME PS3 SA BRS	3102 0010	17		3000	708
	CAR100 12H840 POME PS3 SA BRS	3102 0020			4000	

* Light output of the luminaire

Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Task lighting
Extreme environments

Luminaires with coextruded polycarbonate/PMMA diffusers

Tmax	Ranges	Sources	Quantity of light	Compactness	Tmax	Energy Performance	Page
Standard electrical systems and low-intensity vibration							
30 – 35 °C	Stevin 100	LED	●●	●●	35 °C	●●●●	122
	Einstein 100 T8	T8	●	●●	30 °C	●●●	123
	Einstein 100 T5	T5	●	●●	30 °C	●●	124
	Einstein 133 T8	T8	●●	●	30 °C	●●●	125
	Einstein 133 T5	T5	●●●	●	30 °C	●●	126
	Hooke 100	2G11	●●●	●●●	30 °C	●●●	127
High-risk electrical systems and high-intensity vibration							
40 °C	Cugnot 100	LED	●●	●●	40 °C	●●●●	128
55 – 70 °C	Hooke 100 HT	2G11	●●●	●●●	50 °C	●●●	129
	Bunsen 100	LED	●●	●●	55 °C	●●●●	130
	Einstein 100 HT	T8	●	●●	70 °C	●	131
	Einstein 133 HT	T8	●●	●●●	60 °C	●	132

Luminaires with glass diffusers

Tmax	Ranges	Sources	Quantity of light	Compactness	Tmax	Energy Performance	Page
Standard electrical systems and low-intensity vibration							
30 – 35 °C	Crookes 100	LED	●●	●●	35 °C	●●●●	133
	Einstein 100 T8 PY	T8	●	●●	30 °C	●●●	134
	Einstein 100 T5 PY	T5	●	●●	30 °C	●●	135
	Einstein 133 T8 PY	T8	●●	●	30 °C	●●●	136
	Einstein 133 T5 PY	T5	●●●	●	30 °C	●●	137
High-risk electrical systems and high-intensity vibration							
40 °C	Napier 100	LED	●●	●●	40 °C	●●●●	138
55 °C	Leslie 100	LED	●●	●●	55 °C	●●●●	139
	Einstein 100 HT PY	T8	●	●●	70 °C	●	140
	Einstein 133 HT PY	T8	●●	●●●	60 °C	●	141

Lighting for extreme environments

Our lighting solutions deliver exceptionally long working life under extreme operating conditions, thanks to their housing system and specially designed components.

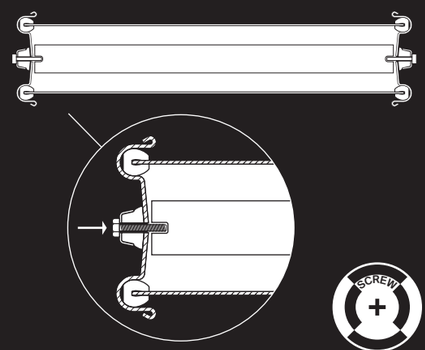
Resistance

Our luminaires installed in extreme environments subject to high levels of continual vibration are resistant:
- to environments polluted by hydrocarbons
- to exceptionally corrosive agents
- to acid and alkaline atmospheres
- to abrasion
- to high temperatures
- to wide variations in temperature

These stresses can cause premature damage to materials, followed by the spontaneous failure of standard equipment. Other factors, such as availability, bulk and accessibility, also require luminaire maintenance to be reduced to the minimum level achievable.

The SCREW system

A single-piece housing
A simple mechanical assembly of ultra-strong materials, the SCREW construction principle makes our products true single-piece housings offering high mechanical strength and chemical resistance. The diffuser and gear tray are held in compression by stainless steel end caps that make the system immune to impacts (IK10) and vibration. The luminaire is closed by the axial tightening of two stainless steel screws that apply a consistent pressure to the entire surface of the seal to guarantee a perfect hermetic seal (IP68/IP69K). Throughout their life, the elastic deformation of the stainless steel end caps absorbs the expansion and mechanical stresses imposed on the casing of the luminaire. This ensures that it remains sealed long term in the event of thermal shock or mechanical impact, independently of external conditions.



The right diffuser for every application

We offer two types of diffuser suitable for use with all types of aggression encountered in challenging industrial environments. The composite coextruded polycarbonate/PMMA diffusers combine exceptional resistance to hydrocarbons and solar UV radiation with high impact resistance (IK10). Borosilicate glass diffusers are recommended for applications requiring exceptional resistance to extreme chemical or abrasive aggression.

LED

LED technology offers the highest level of energy efficiency. It is therefore recommended for luminaires that must reach the required luminous flux rapidly and tolerate a high number of on/off switching operations. We offer lighting solutions that operate at temperatures of up to +55 °C without compromising their lifespan.

Fluorescent lamps

T8 lamps
These are the most commonly used light sources, and offer the best compromise between robustness, efficiency and lifespan. These are also the only lamps to provide lighting solutions for ambient temperatures of up to 70 °C.

T5 lamps
These sources are particularly well suited to applications using powerful luminaires with directional photometry. Their luminous flux is more than 30% higher than that of a T8 lamp of the same length.

Compact fluorescent lamps

These lamps offer the highest density of luminous flux at a shorter length, and the luminaires that use them are the most compact of all. Over short distances, they emit twice as much light as T5 lamps.

Mains electrical interference

The faults and fluctuations that can occur in industrial mains power supplies (3-phase imbalance, frequent voltage fluctuations, etc.) can damage luminaire gear not specifically designed to withstand them.Our products for “high-risk electrical systems” contain robust electronic power supplies that are specifically protected against mains electrical interference and withstand voltage peaks of up to 4 kV and voltage surges of up to 320 V. They can also coexist with ferromagnetic products on the same electrical system.

Temperatures

Our Carnot and Cugnot LED solutions contain robust electronic power supplies enabling operation in ambient temperatures of up to 40 °C. Above that level, our LED luminaires are manufactured using high-temperature modules that use a special thermal management system to operate at temperatures of up to +55 °C with no effect on their lifespan. HT fluorescent versions using ferromagnetic gear are used in lighting solutions that can cope with ambient temperatures of up to 70 °C.

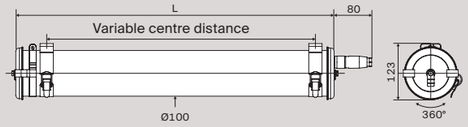
Vibration resistance

All our luminaires offer a high level of resistance to vibrations, but we also offer an even higher level of resistance with the IND and HT versions of our fluorescent luminaires. In the same way as our LED luminaires, they contain robust power supplies specifically designed for this purpose.

Stevin 100

Technology	LED
Max. temp.	35 °C
Light output	1850 lm

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Vibration resistance
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	STE100 12H830 POME PS3 SA BRS	3101 0010	16		3000	697
	STE100 12H840 POME PS3 SA BRS	3101 0020			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

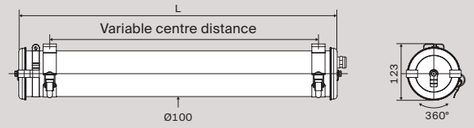
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 18 W

AF0719



Key features

Impervious luminaire
Resistant to external UV-rays
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	EIN100 118E G13 POME 113 BRS	1502 5035		697
Versions with extensive reflector				
1 × 18 W	EIN100 118E G13 POME 113 RE BRS	1502 5036		697
Versions with intensive reflector				
1 × 18 W	EIN100 118E G13 POME 113 RI BRS	1502 5037		697

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

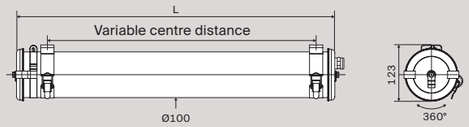
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 14 W and 1 × 24 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Vibration resistance
- Very high resistance to corrosion
- Durable and maintainable luminaire

T5 · CORROSION + · GUARANTEE 5 YEARS · 08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 14 W	EIN100 114E G5 POME 113 RE BRS	1551 5028		697
1 × 24 W	EIN100 124E G5 POME 113 RE BRS	1551 5030		
Versions with intensive reflector				
1 × 14 W	EIN100 114E G5 POME 113 RI BRS	1551 5029		697
1 × 24 W	EIN100 124E G5 POME 113 RI BRS	1551 5031		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

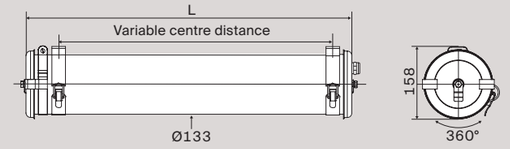
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T8

Technology	T8
Max. temp.	30 °C
Power	2 × 18 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Vibration resistance
- Very high resistance to corrosion
- Durable and maintainable luminaire

T8 · CORROSION + · GUARANTEE 5 YEARS · 08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	EIN133 218E G13 POME 113 BRS	1602 5052		677
Versions with extensive reflector				
2 × 18 W	EIN133 218E G13 POME 113 RE BRS	1602 5053		677

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

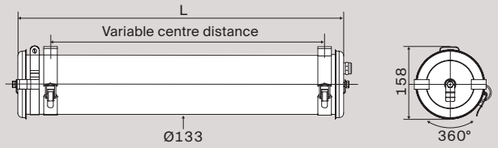
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 T5

Technology	T5
Max. temp.	30 °C
Power	2 × 14 W and 2 × 24 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Vibration resistance
- Very high resistance to corrosion
- Durable and maintainable luminaire

T5 · 5 YEARS GUARANTEE · 08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 14 W	EIN133 214E G5 POME 113 RE BRS	1651 5043		677
2 × 24 W	EIN133 224E G5 POME 113 RE BRS	1651 5045		
Versions with intensive reflector				
2 × 14 W	EIN133 214E G5 POME 113 RI BRS	1651 5044		677
2 × 24 W	EIN133 224E G5 POME 113 RI BRS	1651 5046		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

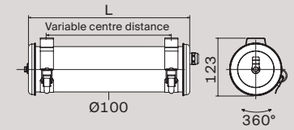
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Hooke 100

Technology	2G11 fluorescent lamp
Max. temp.	30 °C
Power	1 × 18 W to 1 × 40 W

AF0719



Key features

- Impervious luminaire
- Small luminaire
- Vibration resistance
- Very high resistance to corrosion
- Durable and maintainable luminaire

2G11 · 5 YEARS GUARANTEE

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	HOO100 118E 2G11 POME 113 BRS	1563 0010		357
1 × 24 W	HOO100 124E 2G11 POME 113 BRS	1563 0020		436
1 × 36 W	HOO100 136E 2G11 POME 113 BRS	1563 0030		519
1 × 40 W	HOO100 140E 2G11 POME 113 BRS	1563 0040		600
Versions with extensive reflector				
1 × 18 W	HOO100 118E 2G11 POME 113 RE BRS	1563 0050		357
1 × 24 W	HOO100 124E 2G11 POME 113 RE BRS	1563 0060		436
1 × 36 W	HOO100 136E 2G11 POME 113 RE BRS	1563 0070		519
1 × 40 W	HOO100 140E 2G11 POME 113 RE BRS	1563 0080		600
Satinised versions for diffuse lighting				
1 × 18 W	HOO100 118E 2G11 POME 113 SA BRS	1563 0090		357
1 × 24 W	HOO100 124E 2G11 POME 113 SA BRS	1563 0100		436
1 × 36 W	HOO100 136E 2G11 POME 113 SA BRS	1563 0110		519
1 × 40 W	HOO100 140E 2G11 POME 113 SA BRS	1563 0120		600

When used vertically, the lamp cap must be on the bottom

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3

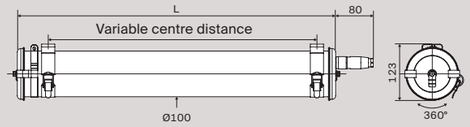
Specifications

Technical data	
Light source	1x 2G11compact fluorescent lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Satin-finish housing for diffuse lighting
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Cugnot 100

Technology	LED
Max. temp.	40 °C
Light output	1850 lm
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Very high resistance to corrosion
Long maintenance intervals
Durable and maintainable luminaire

LED · IP66/IP68 · GUARANTEE 5 YEARS

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	CUG100 12H830 POME PS3 SA BRS	3103 0010	17		3000	697
	CUG100 12H840 POME PS3 SA BRS	3103 0020			4000	

* Light output of the luminaire

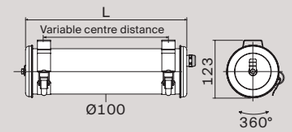
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Hooke 100 HT

Technology	2G11 fluorescent lamp
Max. temp.	50 °C
Power	1 × 18 W and 1 × 36 W

AF0719



Key features

Impervious luminaire
Small luminaire
Very high resistance to vibrations
Very high resistance to corrosion
Durable and maintainable luminaire

2G11 · IP66/IP68 · GUARANTEE 5 YEARS

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	HOO100 118C 2G11 POME 113 BRS	1561 0010		357
1 × 36 W	HOO100 136C 2G11 POME 113 BRS	1561 0020		519
Versions with extensive reflector				
1 × 18 W	HOO100 118C 2G11 POME 113 RE BRS	1561 0030		357
1 × 36 W	HOO100 136C 2G11 POME 113 RE BRS	1561 0040		519
Satinised versions for diffuse lighting				
1 × 18 W	HOO100 118C 2G11 POME 113 SA BRS	1561 0050		357
1 × 36 W	HOO100 136C 2G11 POME 113 SA BRS	1561 0060		519

When used vertically, the lamp cap must be on the bottom

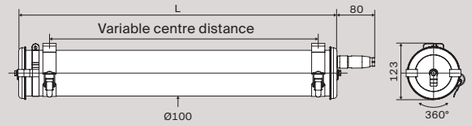
Specifications

Technical data	
Light source	1x 2G11compact fluorescent lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Satin-finish housing for diffuse lighting
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +50 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Bunsen 100

Technology	LED
Max. temp.	55 °C
Light output	1850 lm
Control gear	"Industry" rated

AF0719



Key features

- Plug&Play-installation by disconnectable Plug
- Suitable for repeated switching on and off
- Very high resistance to vibrations
- Very high resistance to corrosion
- Long maintenance intervals
- Durable and maintainable luminaire

LED · GUARANTEE 5 YEARS

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	BUN100 12H830 POME PS3 SA BRS	3105 0010	17		3000	697
	BUN100 12H840 POME PS3 SA BRS	3105 0020			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

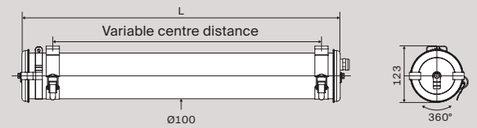
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • LED modules for high temperature • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Electronic driver for high temperature (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 HT

Technology	T8
Max. temp.	70 °C
Power	1 × 18 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very high resistance to vibrations
- Very high resistance to corrosion
- Durable and maintainable luminaire

T8 · GUARANTEE 5 YEARS · 108

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	EIN100 118C G13 POME 113 BRS	1501 5021		697
Versions with extensive reflector				
1 × 18 W	EIN100 118C G13 POME 113 RE BRS	1501 5046		697
Versions with intensive reflector				
1 × 18 W	EIN100 118C G13 POME 113 RI BRS	1501 5047		697

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

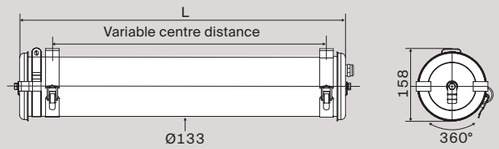
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminum sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +70 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 HT

Technology	T8
Max. temp.	60 °C
Power	2 × 18 W

AF0719



Key features

- Impervious luminaire
- Resistant to external UV-rays
- Very high resistance to vibrations
- Very high resistance to corrosion
- Durable and maintainable luminaire

T8 · CORROSION + · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	EIN133 218C G13 POME 113 BRS	1601 5059		677
Versions with extensive reflector				
2 × 18 W	EIN133 218C G13 POME 113 RE BRS	1601 5060		677

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

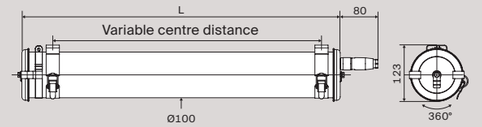
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +60 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Crookes 100

Technology	LED
Max. temp.	35 °C
Light output	1850 lm
Housing	Borosilicate glass

AF0719



Key features

- Plug&Play-installation by disconnectable Plug
- Suitable for repeated switching on and off
- Vibration resistance
- Resistant to aggressive chemical environments
- Long maintenance intervals
- Durable and maintainable luminaire

LED · CORROSION + · GUARANTEE 5 YEARS

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	CRO100 12H830 PY PS3 BRS	3106 0010	16		3000	697
	CRO100 12H840 PY PS3 BRS	3106 0020			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

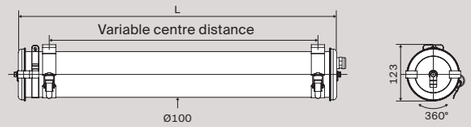
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	Constant Current Driver (non-dimmable)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 PY T8

Technology	T8
Max. temp.	30 °C
Power	1 × 18 W
Housing	Borosilicate glass

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

T8 · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	EIN100 118E G13 PY 113 BRS	3502 0011		697
Versions with extensive reflector				
1 × 18 W	EIN100 118E G13 PY 113 RE BRS	1502 5013		697
Versions with intensive reflector				
1 × 18 W	EIN100 118E G13 PY 113 RI BRS	1502 5030		697

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

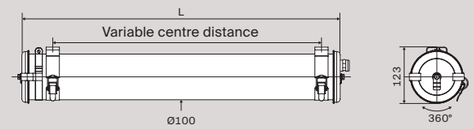
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 PY T5

Technology	T5
Max. temp.	30 °C
Power	1 × 14 W and 1 × 24 W
Housing	Borosilicate glass

AF0719



Key features

Impervious luminaire
Resistant to aggressive chemical environments
Vibration resistance
Very high resistance to corrosion
Durable and maintainable luminaire

T5 · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 14 W	EIN100 114E G5 PY 113 RE BRS	3503 0211		697
1 × 24 W	EIN100 124E G5 PY 113 RE BRS	3504 0211		
Versions with intensive reflector				
1 × 14 W	EIN100 114E G5 PY 113 RI BRS	3503 0011		697
1 × 24 W	EIN100 124E G5 PY 113 RI BRS	3504 0011		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

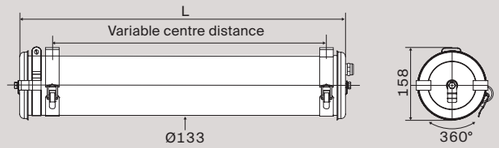
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 PY T8

Technology	T8
Max. temp.	30 °C
Power	2 × 18 W
Housing	Borosilicate glass

AF0719



Key features

- Impervious luminaire
- Resistant to aggressive chemical environments
- Vibration resistance
- Very high resistance to corrosion
- Durable and maintainable luminaire

T8 · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	EIN133 218E G13 PY 113 BRS	3602 0011		677
Versions with extensive reflector				
2 × 18 W	EIN133 218E G13 PY 113 RE BRS	1602 5051		677

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

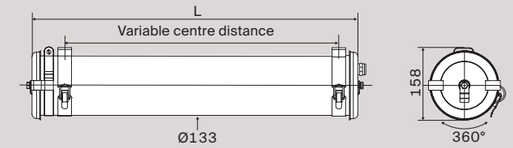
Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 PY T5

Technology	T5
Max. temp.	30 °C
Power	2 × 14 W and 2 × 24 W
Housing	Borosilicate glass

AF0719



Key features

- Impervious luminaire
- Resistant to aggressive chemical environments
- Vibration resistance
- Very high resistance to corrosion
- Durable and maintainable luminaire

T5 · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
2 × 14 W	EIN133 214E G5 PY 113 RE BRS	3603 0011		677
2 × 24 W	EIN133 224E G5 PY 113 RE BRS	3604 0011		
Versions with intensive reflector				
2 × 14 W	EIN133 214E G5 PY 113 RI BRS	3603 0241		677
2 × 24 W	EIN133 224E G5 PY 113 RI BRS	3604 0241		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

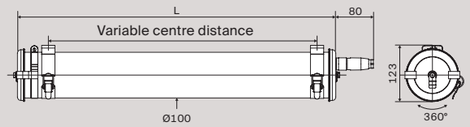
Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Napier 100

Technology	LED
Max. temp.	40 °C
Light output	1850 lm
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Resistant to aggressive chemical environments
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	NAP100 12H830 PY PS3 BRS	3104 0010	16		3000	697
	NAP100 12H840 PY PS3 BRS	3104 0020			4000	

* Light output of the luminaire

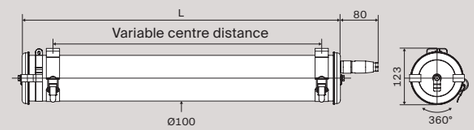
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Leslie 100

Technology	LED
Max. temp.	55 °C
Light output	1850 lm
Housing	Borosilicate glass
Control gear	"Industry" rated

AF0719



Key features

Plug&Play-installation by disconnectable Plug
Suitable for repeated switching on and off
Very high resistance to vibrations
Resistant to aggressive chemical environments
Long maintenance intervals
Durable and maintainable luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Accessories	
Protective roof	
Fixings for columns	

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
1850	LES100 12H830 PY PS3 BRS	3107 0010	17		3000	697
	LES100 12H840 PY PS3 BRS	3107 0020			4000	

* Light output of the luminaire

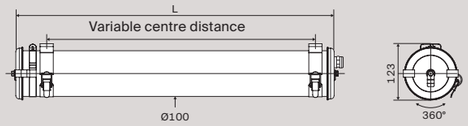
Specifications

Technical data	
Light source	• High efficiency LED modules (155 lm/W) • LED modules for high temperature • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor
Heat management	Heatsink in aluminium
Control Gear	• Electronic driver for high temperature (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +55 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 100 HT PY

Technology	T8
Max. temp.	70 °C
Power	1 × 18 W
Housing	Borosilicate glass

AF0719



Key features

- Impervious luminaire
- Resistant to aggressive chemical environments
- Very high resistance to vibrations
- Very high resistance to corrosion
- Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	EIN100 118C G13 PY 113 BRS	3501 0011		697
Versions with extensive reflector				
1 × 18 W	EIN100 118C G13 PY 113 RE BRS	1501 5053		697
Versions with intensive reflector				
1 × 18 W	EIN100 118C G13 PY 113 RI BRS	1501 5054		697

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

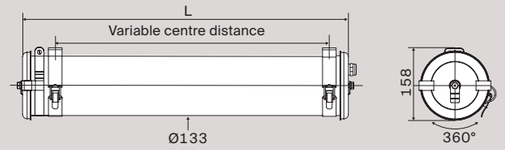
Specifications

Technical data	
Light source	1x T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +70 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Einstein 133 HT PY

Technology	T8
Max. temp.	60 °C
Power	2 × 18 W
Housing	Borosilicate glass

AF0719



Key features

- Impervious luminaire
- Resistant to aggressive chemical environments
- Very high resistance to vibrations
- Very high resistance to corrosion
- Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
2 × 18 W	EIN133 218C G13 PY 113 BRS	3601 0011		677
Versions with extensive reflector				
2 × 18 W	EIN133 218C G13 PY 113 RE BRS	3601 0391		677

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Accessories	
Protective roof	
Fixings for columns	

Specifications

Technical data	
Light source	2x T8 lamps, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet
Control Gear	Ferromagnetic Control Gear with very low losses (EEI B1)
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-20 °C to +60 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Borosilicate glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK07
Fire resistance	Non-flammable
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Hall lighting

Robust high-power lighting solutions for industrial production halls up to 10 m in height.

Ceiling fittings

Ranges	Sources	Gear unit	Tmax	Energy performance	Pages
Fresnel 133	LED	Robust	50 °C	●●●	146

Floodlights

Ranges	Sources	Gear unit	Tmax	Energy performance	Pages
Huygens	E40	Integrated	40 °C	●	147
Huygens G12	G12	Integrated	40 °C	●	148
Huygens SEP	E40	Separated, max 40 m	40 °C	●	150

Lighting for industrial production halls

The production hall environment is severely testing for luminaire robustness, so luminaires installed in this environment must be resistant to dust, humidity, vibration, impact and extreme temperature ranges. We offer two types of appropriate solution: ceiling fittings and floodlights.

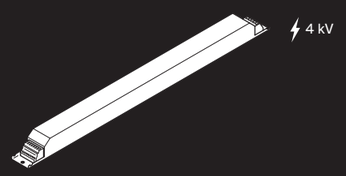
Ceiling fittings

Our Fresnel 133 range offers LED lighting solutions that are particularly suitable for the most severe production hall environments.

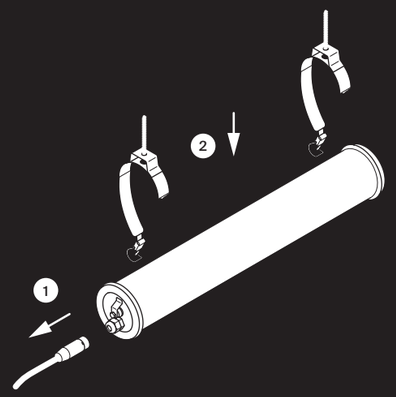
Heavy duty casing
Our ceiling fittings use the SCREW construction principle to guarantee a perfect hermetic seal (IP68/IP69K), and boast heavy duty mechanical strength thanks to its axially tightened closure. Their composite coextruded polycarbonate/ PMMA diffuser combines exceptional resistance to chemical attack with high impact resistance (IK10). Their tubular shape reduces external dirt accumulation and facilitates cleaning.

Special light engine
To obtain standard-compliant lighting levels at high temperatures, we have selected a dedicated light engine: High-efficiency LED modules specially designed to withstand high temperatures, combined with an intensive optical system to optimise photometric properties. Module thermal management is provided by a passive aluminium heatsink to provide guaranteed operation of 50,000 hours L80 B50 at 50 °C.

Robust electronic power supplies
Our products contain robust electronic power supplies that are specifically protected against mains electrical interference (3-phase imbalance, voltage peaks, frequent voltage fluctuations, etc.) and high-intensity mechanical vibration. Rigorous selection of their components ensures operation at temperatures of up to +50 °C without compromising lifespan.

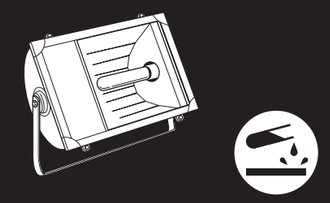


Rapid installation and easy maintenance
The conditions in which luminaires are used (accessibility, high temperatures, resulting interruptions to production, etc.) and the cost involved in their use require installation and maintenance to be simple and rapid. Fully aware of these constraints, we offer the Fresnel 133 range, whose high-strength, long-life products reduce the need for maintenance. They are lightweight and easy to secure in place using two single-screw wraparound spring-loaded fixing straps, and their plug-in connector system means that they do not have to be opened for wiring.

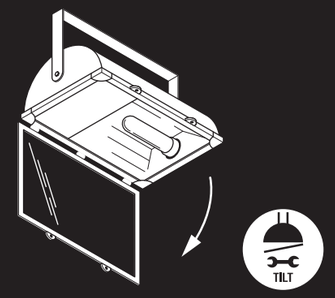


Floodlights

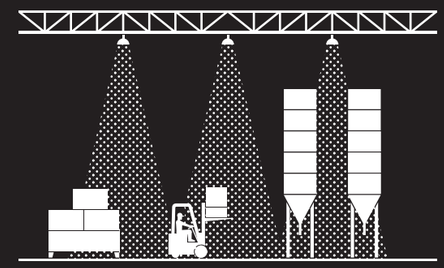
Decades of experience, much of it in steelmaking and port operations, have enabled us to develop floodlights that offer unrivalled corrosion resistance.



A construction principle: the TILT system
The TILT system comprises a robust housing in combination with a half-cylindrical body, a 304 L stainless steel closure (316 L available as an option) and tempered safety glass protection permanently bonded to its frame. The fact that the glass is mounted on 2 stainless steel hinges makes for simple access and rapid relamping. The gear is accessed via the hinged tray. Our floodlights are fitted with on/off phase pressure balancing membranes to facilitate opening.



Optics
We offer a broad choice of mirror-finish aluminium reflectors: intensive (narrow beam), extensive (broad beam) and semi-intensive (intermediate beam). This range covers the great majority of lighting requirements.



Products

Huygens
For High Pressure Sodium (HPS) or Metal Iodine (MI) lamps with E40 fittings, this product uses the most standard industrial light sources.

E40

Huygens G12
For Metal Iodine (MI) lamps with G12 fittings, this product offers the most compact solutions ideal for use in restricted spaces.

G12

Huygens SEP
For High Pressure Sodium (HPS) or Metal Iodine (MI) lamps with E40 fittings, this product enables the gear to be located remotely up to 40 m from the lamp to facilitate maintenance operations.

E40

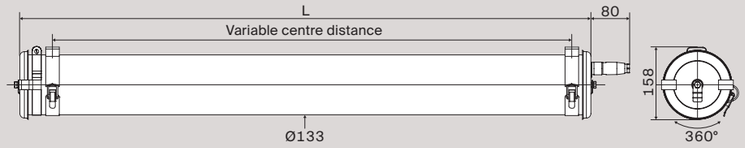
Our products are trusted by all these companies

ArcelorMittal Steel
Comilog
DCNS
EDF
E.ON
Nantes Saint-Nazaire
Port
Intermalta
Keroman
Koniambo Nickel
Malteurop
MacGregor
Marine nationale française
Tata Steel
Yara

Fresnel 133

Technology	LED
Max. temp.	50 °C
Light output	9500 lm
Control gear	"Industry" rated

AF0719



Key features

- Plug&Play-installation by disconnectable Plug
- Suitable for industrial environments
- Very high resistance to vibrations
- Very high resistance to corrosion
- Durable and maintainable luminaire

LED · Protect + · Guarantee 5 Years

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO

Specifications

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
9500	FRE133 16H830 POME PS3 BRS	3211 0010	81		3000	1850
	FRE133 16H840 POME PS3 BRS	3211 0020			4000	

* Light output of the luminaire

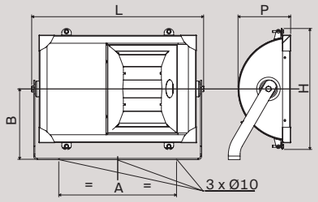
Specifications

Technical data	
Light source	• High efficiency LED modules (150 lm/W) • LED modules for high temperature • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Intensive linear lens
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +50 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 reinforced Stainless Steel fixing straps
Method of Construction	• Housing in one piece with high mechanical and chemical resistance • Long-lasting imperviousness by axial screw fitting
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Huygens G12

Technology	Metal halide G12 (MI)
Max. temp.	40 °C
Power	1 × 70 W and 1 × 150 W

AF0719



Size	L	H	P	A	B
HUY1	440	310	129	300	180

Key features

- Access to the lamp by opening the front
- Suitable for industrial environments
- Resistant to aggressive chemical environments
- Durable and maintainable luminaire

G12 · Tilt · Guarantee 5 Years

Options

Finishings	
Casing, mounting bracket and frame in Stainless Steel 316L	MR
Optics	
External black louvre grill	GDN
Fixings	
Yoke mount for ceiling fixing	PL

Principal part numbers

Power	Designation	Part No.	Optic	Size
Versions with extensive reflector				
1 × 70 W	HUY1-N 70 IM G12 113LN RE	1201 0480		HUY1
1 × 150 W	HUY1-N 150 IM G12 113LN RE	1201 5013		
Versions with semi-intensive reflector				
1 × 70 W	HUY1-N 70 IM G12 113LN RSI	1201 5016		HUY1
1 × 150 W	HUY1-N 150 IM G12 113LN RSI	1201 5017		
Versions with intensive reflector				
1 × 70 W	HUY1-N 70 IM G12 113LN RI	1201 5015		HUY1
1 × 150 W	HUY1-N 150 IM G12 113LN RI	1201 5014		

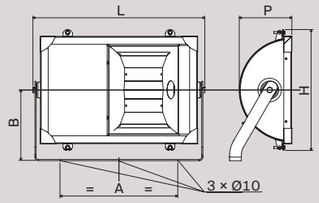
Specifications

Technical data	
Light source	1x G12 metal halide lamp (MI), not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam) • Semi-intensive (average beam)
Control Gear	Ferromagnetic Control Gear with starter
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-30 °C to +40 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²)
Fixing	• Wall mounting bracket (orientation over 180°) • Fixing in three points (3 holes Ø10 mm) • Access to the lamp by opening the front
Method of Construction	• Stainless Steel housing in form of a half cylinder • Frame with 2 Stainless Steel hinges • Tiltable gear tray • Diaphragm for pressure balancing while switching on and off
Materials	
Protective cover	Tempered glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	Silicone
Standards	
Imperviousness	IP65
Shock resistance	IK07
Fire resistance	Non-flammable

Huygens

Technology	MI / HPS E40
Max. temp.	40 °C
Power	1 × 100 W to 1 × 400 W

AF0719



Size	L	H	P	A	B
HUY2	520	310	129	300	180
HUY3	570	410	178	400	240
HUY4	660	465	207	400	250

Key features

- Access to the lamp by opening the front
- Suitable for industrial environments
- Resistant to aggressive chemical environments
- Durable and maintainable luminaire

E40

Principal part numbers

Power	Designation	Part No.	Optic	Size
Versions with extensive reflector				
1 × 100 W	HUY2-N 100 SHP E40 113LN RE	1202 5007		HUY2
1 × 150 W	HUY2-N 150 SHP E40 113LN RE	1202 5010		
1 × 250 W	HUY3-N 250 SHP E40 113LN RE	1203 5007		HUY3
1 × 400 W	HUY4-N 400 SHP E40 113LN RE	1204 5015		HUY4
Versions with semi-intensive reflector				
1 × 100 W	HUY2-N 100 SHP E40 113LN RSI	1202 5009		HUY2
1 × 150 W	HUY2-N 150 SHP E40 113LN RSI	1202 5012		
1 × 250 W	HUY3-N 250 SHP E40 113LN RSI	1203 5009		HUY3
1 × 400 W	HUY4-N 400 SHP E40 113LN RSI	1204 5017		HUY4
Versions with intensive reflector				
1 × 100 W	HUY2-N 100 SHP E40 113LN RI	1202 5008		HUY2
1 × 150 W	HUY2-N 150 SHP E40 113LN RI	1202 5011		
1 × 250 W	HUY3-N 250 SHP E40 113LN RI	1203 5008		HUY3
1 × 400 W	HUY4-N 400 SHP E40 113LN RI	1204 5016		HUY4

Options

Finishings	
Casing, mounting bracket and frame in Stainless Steel 316L	MR
Optics	
External black louvre grill	GDN
Fixings	
Yoke mount for ceiling fixing	PL
Yoke mount locking and one-way screws (HUY3 and HUY4)	RV

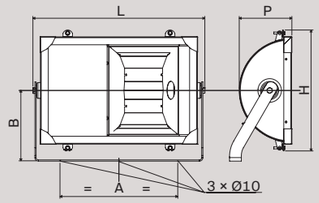
Specifications

Technical data	
Light source	• 1x E40 high pressure sodium lamp (HPS), not included • Or 1x E40 metal halide lamp (MI), not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam) • Semi-intensive (average beam)
Control Gear	Ferromagnetic Control Gear with starter
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-30 °C to +40 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²)
Fixing	• Wall mounting bracket (orientation over 180°) • Fixing in three points (3 holes Ø10 mm)
Method of Construction	• Access to the lamp by opening the front • Stainless Steel housing in form of a half cylinder • Frame with 2 Stainless Steel hinges • Tiltable gear tray • Diaphragm for pressure balancing while switching on and off
Materials	
Protective cover	Tempered glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	Silicone
Standards	
Imperviousness	IP65
Shock resistance	IK07
Fire resistance	Non-flammable

Huygens SEP

Technology	MI / HPS E40
Max. temp.	40 °C
Power	1 × 250 W to 1 × 1000 W
Control gear	Max. distance: 40 m

AF0719



Size	L	H	P	A	B
HUY3	570	410	178	400	240
HUY4	660	465	207	400	250

Key features

- Access to the lamp by opening the front
- Suitable for industrial environments
- Resistant to aggressive chemical environments
- Durable and maintainable luminaire

E40 · IK7 · GUARANTEE 5 YEARS

Principal part numbers

Power	Designation	Part No.	Optic	Size
Versions with extensive reflector				
1 × 250 W	HUY3-N 250 E40 113LN RE	1203 5013		HUY3
1 × 400 W	HUY4-N 400 E40 113LN RE	1204 5021		HUY4
1 × 1000 W	HUY4-N 1000 E40 113LN RE	1204 5022		
Versions with semi-intensive reflector				
1 × 250 W	HUY3-N 250 E40 113LN RSI	1203 5014		HUY3
1 × 400 W	HUY4-N 400 E40 113LN RSI	1204 5023		HUY4
1 × 1000 W	HUY4-N 1000 E40 113LN RSI	1204 5024		
Versions with intensive reflector				
1 × 250 W	HUY3-N 250 E40 113LN RI	1203 5015		HUY3
1 × 400 W	HUY4-N 400 E40 113LN RI	1204 5025		HUY4
1 × 1000 W	HUY4-N 1000 E40 113LN RI	1204 5026		
Mounting box for Control Gears to be ordered separately:				
Mounting box EDISON				
Mounting box for floodlight for 250 W HPS or MI lamp				
1 × 250 W	EDIS 250 SHP-IM 213	1702 0100		
Mounting box for floodlight for 400 W HPS or MI lamp				
1 × 400 W	EDIS 400 SHP-IM 213	1702 0110		
Mounting box for floodlight for 1000 W HPS or MI lamp				
1 × 1000 W	EDIS 1000 SHP-IM 213	1703 0050		

Max. distance between floodlight and mounting box : 40 m for 100 pF/m cables

Options

Finishings	
Casing, mounting bracket and frame in Stainless Steel 316L	MR
Optics	
External black louvre grill	GDN
Fixings	
Yoke mount for ceiling fixing	PL
Yoke mount locking and one-way screws	RV

Specifications

Technical data	
Light source	• 1x E40 high pressure sodium lamp (HPS), not included • Or 1x E40 metal halide lamp (MI), not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam) • Semi-intensive (average beam)
Control Gear	• Control Gear in seperate box • Ferromagnetic Control Gear with starter • Ignition voltage 1,8-2,3 kV / 3-4 kV
Power supply	230 V 50 Hz
Electrical class	Class I
Operating temperature	-10 °C à +40 °C
Connection	Floodlight : • Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²) Mounting box separate : • 2 cable glands in black polyamide for Ø cable 5 to 12 mm (3 × 4 mm²)
Fixing	• Wall mounting bracket (orientation over 180°) • Fixing in three points (3 holes Ø10 mm)
Method of Construction	• Access to the lamp by opening the front • Stainless Steel housing in form of a half cylinder • Frame with 2 Stainless Steel hinges • Diaphragm for pressure balancing while switching on and off
Materials	
Protective cover	Tempered glass
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	Silicone
Mounting box	Glass fibre reinforced polyester
Standards	
Imperviousness	Floodlight : IP65 / Mounting box : IP67
Shock resistance	Floodlight : IK07 / Mounting box : IK10
Fire resistance	Floodlight : non-flammable / Mounting box : 850 °C

Inspection pits

Robust horizontal lighting solutions delivering a high level of visual comfort for use in inspection pits.

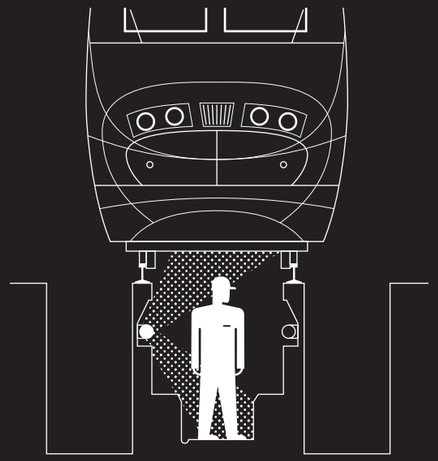
Ranges	Sources	Comfort in use	Compactness	Electrical class	Energy performance	Pages
Niépce 70 FV	T5	●●	●●	Classe I	●●	156
Niépce 70 FV CL2	T5	●●	●●	Classe II	●●	157
Darwin 100 FV	T5	●●●	●	Classe I	●●	158
Darwin 100 FV CL2	T5	●●●	●	Classe II	●●	160
Foucault 70	LED	●	●●	Classe I	●●●●	162
Foucault 70 CL2	LED	●	●●	Classe II	●●●●	163

Inspection pit lighting

Inspection pits are demanding working environments subject to many constraints, including confined space working, the potential for aggressive liquids to be sprayed, and the need for lighting in specific locations. Our partnerships with leading rail industry stakeholders provide us with a unique source of knowledge as the basis for offering lighting solutions.

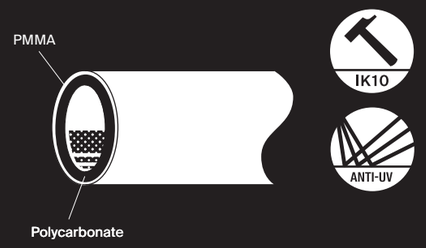
Special optics

The work done by maintenance and inspection teams demands that the underside of the rolling stock is evenly lit by luminaires that limit glare. A sufficient quantity of light is also required at the bottom of the pit for tool handling and to avoid obstacles when moving around the pit. We have developed a special optical system that optimises lighting levels, at the same time as ensuring visual comfort for technicians. This direct/indirect system provides a consistent spread of direct lighting beneath rolling stock, and indirect lighting for the bottom of the inspection pit, at the same time as limiting glare by ‘wrapping’ the T5 fluorescent tube. The best balance between lighting comfort and efficiency is achieved by products of 100 mm diameter.



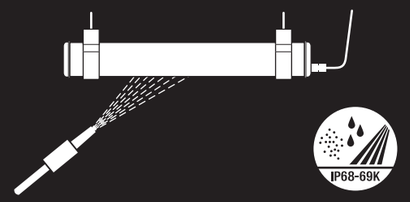
A heavy-duty casing IK 10

Inspection pits are extremely testing environments for luminaires, which are subject to impact as a result of the work done by technical teams. This is why our products incorporate the all-new coextruded polycarbonate/PMMA diffuser, which combines the mechanical properties of polycarbonate with the oil and hydrocarbon resistance of PMMA. The strength of the casing and the quality of the materials and components used make these products a sensible and secure long-term investment.



An absolute seal: IP68/ IP69K

Subject to spraying with hydraulic fluid and sometimes exposed to bad weather, inspection pit luminaires are regularly cleaned using pressure washers. For these conditions, we have designed detailed closure principles and carefully selected materials in order to achieve an absolute seal (IP68) for the full working life of the luminaire, and resistance to chemical attack and pressure cleaning (IP69K).



Products

Niépce 70 FV and Niépce 70 CL2
These products are designed for T5 fluorescent tubes with G5 fittings, and incorporate a direct/indirect optical system. Unusually compact thanks to their 70 mm diameter, they offer the best compromise between user comfort and small size. They use the ergonomic CLOSE’N CONNECT system developed and patented by Sammode, which separates installation from maintenance procedures: the seal of the end cap and cable gland are set once only as part of the luminaire installation process. Access for maintenance is provided at the end opposite the power supply to protect the quality of the installation in terms of its seal and light direction.

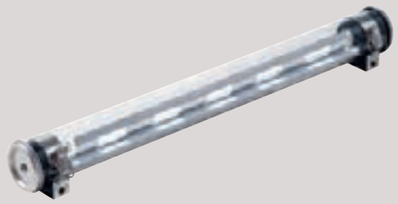
Darwin 100 FV and Darwin 100 FV CL2
These luminaires are designed for T5 fluorescent tubes with G5 fittings, are fitted with the most efficient direct/indirect optical system, and use the user-friendly SLIDE principle. At 100 mm diameter, they offer the highest level of user comfort. The patented SLIDE gear tray guide system ensures that lamps can be changed with no need to remove the product, thereby minimising the time spent on maintenance.

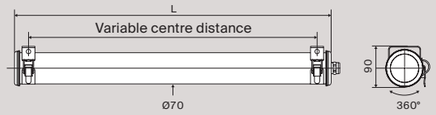
Foucault 70 and Foucault 70 CL2
These products use high-efficiency LED (lm/W) modules that reduce lighting energy consumption. They are fitted with a diffuse optical system that provides an even spread of luminous flux, at the same time as limiting glare. They are fitted with the ergonomic CLOSE’N CONNECT system, which separates installation from maintenance procedures to offer installers and maintenance teams an incredibly simple solution for a totally sealed luminaire.

Niépce 70 FV

Dimensions	Compact
Technology	T5
Power	1 × 14 W to 1 × 54 W
Electr. class	Class I

AF0629





Key features

- Small luminaire
- Very good resistance to oils and hydrocarbons
- Resistant to external UV-rays
- Resists to cleaning with high pressure jet
- Durable and maintainable luminaire

T5 · CLOSE'N CONNECT · GUARANTEE 5 YEARS · IK08

Options

Finishings	
End caps and fixing straps in stainless steel 316 L	MR
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Disconnectable plug (IP68/IP69K)	
3 pole disconnectable plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 plug (length 0,80 m)	
Output cord with a 3 pole WIELAND plug	CW3

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions for T5 HE lamp				
1 × 14 W	NIE70 FV 114E G5 POME 113	6420 0010		695
1 × 21 W	NIE70 FV 121E G5 POME 113	6420 0020		995
1 × 28 W	NIE70 FV 128E G5 POME 113	6420 0030		1295
1 × 35 W	NIE70 FV 135E G5 POME 113	6420 0040		1595
Versions for T5 HO lamp				
1 × 24 W	NIE70 FV 124E G5 POME 113	6421 0010		695
1 × 39 W	NIE70 FV 139E G5 POME 113	6421 0020		995
1 × 54 W	NIE70 FV 154E G5 POME 113	6421 0030		1295
1 × 49 W	NIE70 FV 149E G5 POME 113	6421 0160		1595

ATTENTION: The reflector is asymmetrical, the reversible gear tray can be turned over to change the orientation of the reflector. For more information please read the mounting instruction.

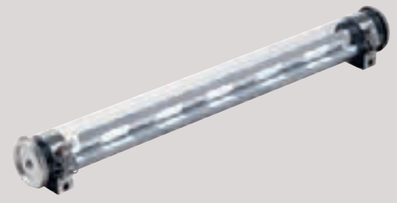
Specifications

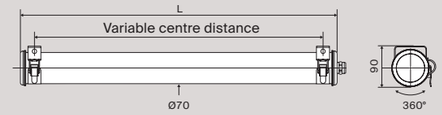
Technical data	
Light source	1 T5 lamp, not included
Optic	• Direct/indirect asymmetrical reflector in anodised aluminium to light the train bottom and the pit • No direct glare
Control gear	Hot cathode electronic Control gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 spring-loaded stainless steel fixing straps
Construction concept	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply • Gear tray can be used on both sides for free orientation of the reflector
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Niépce 70 FV CL2

Dimensions	Compact
Technology	T5
Power	1 × 14 W to 1 × 54 W
Electr. class	Class II

AF0629





Key features

- Small luminaire
- Very good resistance to oils and hydrocarbons
- Resistant to external UV-rays
- Resists to cleaning with high pressure jet
- Durable and maintainable luminaire

T5 · CLOSE'N CONNECT · GUARANTEE 5 YEARS · IK08

Options

Finishings	
End caps and fixing straps in stainless steel 316 L	MR
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Disconnectable plug (IP68/IP69K)	
2 pole disconnectable plug, lockable with a threaded ring	PS2
Disconnectable output cords with IP68 plug (length 0,80 m)	
Output cord with a 2 pole WIELAND plug	CW2

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions for T5 HE lamp				
1 × 14 W	NIE70 FV CL2 114E G5 POME 113	6421 0300		695
1 × 21 W	NIE70 FV CL2 121E G5 POME 113	6421 0310		995
1 × 28 W	NIE70 FV CL2 128E G5 POME 113	6421 0320		1295
1 × 35 W	NIE70 FV CL2 135E G5 POME 113	6421 0330		1595
Versions for T5 HO lamp				
1 × 24 W	NIE70 FV CL2 124E G5 POME 113	6421 0340		695
1 × 39 W	NIE70 FV CL2 139E G5 POME 113	6421 0350		995
1 × 54 W	NIE70 FV CL2 154E G5 POME 113	6421 0360		1295
1 × 49 W	NIE70 FV CL2 149E G5 POME 113	6421 0380		1595

ATTENTION: The reflector is asymmetrical, the reversible gear tray can be turned over to change the orientation of the reflector. For more information please read the mounting instruction.

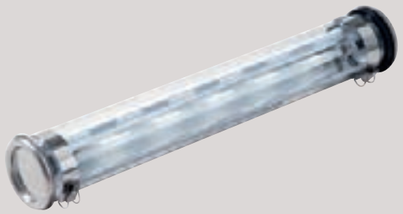
Specifications

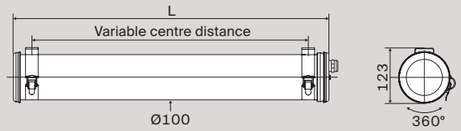
Technical data	
Light source	1 T5 lamp, not included
Optic	• Direct/indirect asymmetrical reflector in anodised aluminium to light the train bottom and the pit • No direct glare
Control gear	Hot cathode electronic Control gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class II
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (2 × 2,5 mm²)
Fixing	2 spring-loaded stainless steel fixing straps
Construction concept	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply • Gear tray can be used on both sides for free orientation of the reflector
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 FV

Technology	T5
Power	1 × 14 W to 1 × 80 W
Electr. class	Class I

AF0719





Key features

- Visual comfort
- Very good resistance to oils and hydrocarbons
- Resistant to external UV-rays
- Resists to cleaning with high pressure jet
- Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions for T5 HE lamp				
Right type				
1 × 14 W	DAR100 FVD 114E G5 POME 113 BRS	4720 5020		708
1 × 21 W	DAR100 FVD 121E G5 POME 113 BRS	4720 5021		1018
1 × 28 W	DAR100 FVD 128E G5 POME 113 BRS	4720 5022		1318
1 × 35 W	DAR100 FVD 135E G5 POME 113 BRS	4720 5023		1618
Left type				
1 × 14 W	DAR100 FVG 114E G5 POME 113 BRS	4721 5012		708
1 × 21 W	DAR100 FVG 121E G5 POME 113 BRS	4721 5013		1018
1 × 28 W	DAR100 FVG 128E G5 POME 113 BRS	4721 5014		1318
1 × 35 W	DAR100 FVG 135E G5 POME 113 BRS	4721 5015		1618
Versions for T5 HO lamp				
Right type				
1 × 24 W	DAR100 FVD 124E G5 POME 113 BRS	4721 0019		708
1 × 39 W	DAR100 FVD 139E G5 POME 113 BRS	4720 5024		1018
1 × 54 W	DAR100 FVD 154E G5 POME 113 BRS	4720 5026		1318
1 × 49 W	DAR100 FVD 149E G5 POME 113 BRS	4720 5025		1618
1 × 80 W	DAR100 FVD 180E G5 POME 113 BRS	4720 5027		
Left type				
1 × 24 W	DAR100 FVG 124E G5 POME 113 BRS	4721 0059		708
1 × 39 W	DAR100 FVG 139E G5 POME 113 BRS	4721 5016		1018
1 × 54 W	DAR100 FVG 154E G5 POME 113 BRS	4721 5018		1318
1 × 49 W	DAR100 FVG 149E G5 POME 113 BRS	4721 5017		1618
1 × 80 W	DAR100 FVG 180E G5 POME 113 BRS	4721 5019		

ATTENTION: The luminaire is equipped with an asymmetrical reflector, there are two versions available: type right and type left. Use the selection instruction to find the rightversion corresponding to your needs.

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3

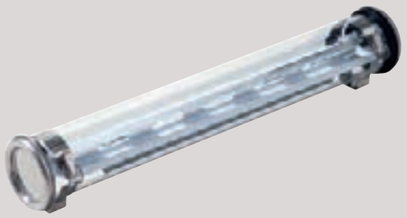
Specifications

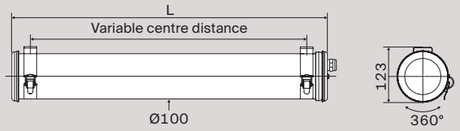
Technical data	
Light source	1x T5 lamp, not included
Optic	• Direct/indirect asymmetrical reflector in anodised aluminium to light the train bottom and the pit • No direct glare
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 FV CL2

Technology	T5
Power	1 × 14 W to 1 × 80 W
Electr. class	Class II

AF0719





Key features

- Visual comfort
- Very good resistance to oils and hydrocarbons
- Resistant to external UV-rays
- Resists to cleaning with high pressure jet
- Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions for T5 HE lamp				
Right type				
1 × 14 W	DAR100 FVD CL2 114E G5 POME 113 BRS	4722 5007		708
1 × 21 W	DAR100 FVD CL2 121E G5 POME 113 BRS	4722 5008		1018
1 × 28 W	DAR100 FVD CL2 128E G5 POME 113 BRS	4722 5010		1318
1 × 35 W	DAR100 FVD CL2 135E G5 POME 113 BRS	4722 5011		1618
Left type				
1 × 14 W	DAR100 FVG CL2 114E G5 POME 113 BRS	4723 5004		708
1 × 21 W	DAR100 FVG CL2 121E G5 POME 113 BRS	4723 5005		1018
1 × 28 W	DAR100 FVG CL2 128E G5 POME 113 BRS	4723 5007		1318
1 × 35 W	DAR100 FVG CL2 135E G5 POME 113 BRS	4723 5008		1618
Versions for T5 HO lamp				
Right type				
1 × 24 W	DAR100 FVD CL2 124E G5 POME 113 BRS	4722 5009		708
1 × 39 W	DAR100 FVD CL2 139E G5 POME 113 BRS	4722 5012		1018
1 × 54 W	DAR100 FVD CL2 154E G5 POME 113 BRS	4722 5005		1318
1 × 49 W	DAR100 FVD CL2 149E G5 POME 113 BRS	4722 5004		1618
1 × 80 W	DAR100 FVD CL2 180E G5 POME 113 BRS	4722 5013		
Left type				
1 × 24 W	DAR100 FVG CL2 124E G5 POME 113 BRS	4723 5006		708
1 × 39 W	DAR100 FVG CL2 139E G5 POME 113 BRS	4723 5009		1018
1 × 54 W	DAR100 FVG CL2 154E G5 POME 113 BRS	4723 5002		1318
1 × 49 W	DAR100 FVG CL2 149E G5 POME 113 BRS	4723 5001		1618
1 × 80 W	DAR100 FVG CL2 180E G5 POME 113 BRS	4723 5010		

ATTENTION: The luminaire is equipped with an asymmetrical reflector, there are two versions available: type right and type left. Use the selection instruction to find the rightversion corresponding to your needs.

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Cable entries (black polyamide)	
1 cable gland - Ø cable: 7 to 14 mm	116
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
Disconnectable Plug (IP68/IP69K)	
2 pole disconnectable Plug, lockable with a threaded ring	PS2
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 2 pole WIELAND Plug	CW2

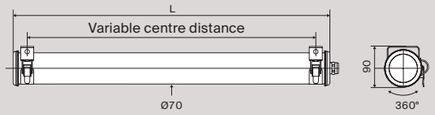
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	• Direct/indirect asymmetrical reflector in anodised aluminium to light the train bottom and the pit • No direct glare
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class II
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in black polyamid for Ø cable 5–12 mm (2 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Foucault 70

Technology	LED
Max. temp.	35 °C
Light output	2000 to 3330 lm
Control gear	"Industry" rated

AF0719



Key features

Small luminaire
Suitable for repeated switching on and off
Long maintenance intervals
Durable and maintainable luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
2000	FOU70 13H830 POME 113LN SA	3403 0250	18		3000	995
	FOU70 13H840 POME 113LN SA	3403 0260			4000	
2660	FOU70 14H830 POME 113LN SA	3403 0270	23		3000	1275
	FOU70 14H840 POME 113LN SA	3403 0280			4000	
3330	FOU70 15H830 POME 113LN SA	3403 0290	30		3000	1560
	FOU70 15H840 POME 113LN SA	3403 0300			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3

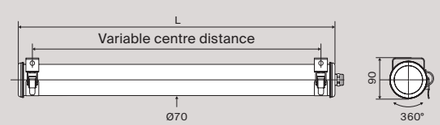
Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 1 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Foucault 70 CL2

Technology	LED
Max. temp.	35 °C
Light output	2000 to 3330 lm
Control gear	"Industry" rated
Electr. class	Class II

AF0719



Key features

Small luminaire
Suitable for repeated switching on and off
Long maintenance intervals
Durable and maintainable luminaire
Resistant to external UV-rays
Very good resistance to oils and hydrocarbons

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
2000	FOU70 CL2 13H830 POME 113LN SA	3403 0370	18		3000	995
	FOU70 CL2 13H840 POME 113LN SA	3403 0380			4000	
2660	FOU70 CL2 14H830 POME 113LN SA	3403 0390	23		3000	1275
	FOU70 CL2 14H840 POME 113LN SA	3403 0400			4000	
3330	FOU70 CL2 15H830 POME 113LN SA	3403 0410	30		3000	1560
	FOU70 CL2 15H840 POME 113LN SA	3403 0420			4000	

* Light output of the luminaire

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Disconnectable Plug (IP68/IP69K)	
2 pole disconnectable Plug, lockable with a threaded ring	PS2
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 2 pole WIELAND Plug	CW2

Specifications

Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 1 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class II
Operating temperature	-20 °C to +35 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (2 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Low glare lighting

Lighting solutions that deliver high visual comfort for workstations and inspection points.

Ranges	Sources	Installation height	Robust power supply	Pages
Darwin 100 GBL	T5	<3 m		168
Darwin 100 GBL IND	T5	<3 m	●	169
Darwin 133 GBL	T5	> 3 m		170
Darwin 133 GBL IND	T5	> 3 m	●	171

Lighting for industrial workstations

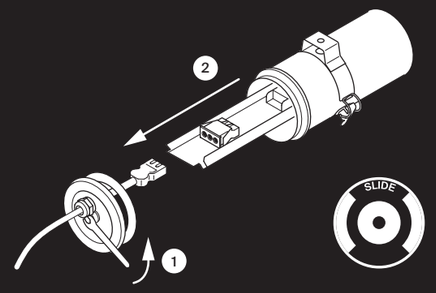
Many industrial workstations are dedicated to high-precision tasks, such as electronic assembly, ultra-small-scale mechanical assembly and visual inspection. Lighting them requires the use of special luminaires that provide the required level of lighting in combination with high-quality visual comfort: no glare, no flickering, but an even spread of light with balanced intensity.

A specially designed optical system

Our low glare luminaires are designed to provide a specific and high level of luminous flux with an equally high level of visual comfort (UGR <19). To eliminate dazzle, we have developed mirror-finish anodised aluminium optics with symmetrical parabolic baffles. These limit any direct view of the lamps from certain angles of vision in the longitudinal axis of the luminaire. The transversal distribution of light is controlled by the reflector.

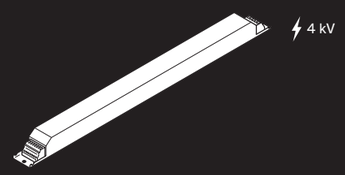
Easy maintenance

All our low glare luminaires use the ergonomically designed and patented SLIDE system. This gear tray guide system facilitates lamp changes with no need to remove the product, thereby minimising maintenance time. Their perfect hermetic seal (IP68/IP69K) prevents any dirt from entering our products, which are also easy to clean thanks to their tubular shape. When relamping, the grille remains attached to the body of the luminaire, and the lamp is changed without touching it to guarantee the maximum level of continuous luminous flux.



Robust power supplies

The IND versions of our low glare luminaires contain robust electronic power supplies that are specifically protected against mains electrical interference (3-phase imbalance, voltage peaks, frequent voltage fluctuations, etc.). Thermal management has been optimised for operation at temperatures of up to +40 °C without compromising lifespan.



Products

Darwin 100 GBL and Darwin 100 GBL IND
These luminaires are designed for T5 fluorescent tubes with G5 fittings, and are fitted with an optimised low glare optical system for use at heights up to 3 m.

T5

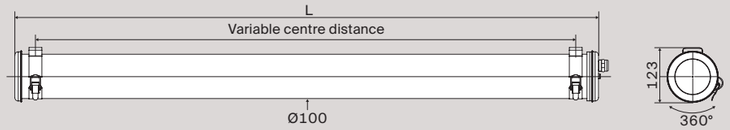
Darwin 133 GBL and Darwin 133 GBL IND
These luminaires are designed for T5 fluorescent tubes with G5 fittings, and are fitted with an optimised low glare optical system for use at heights between 3 m and 5 m.

T5

Darwin 100 GBL

Comfort	Low glare
Technology	T5
Max. temp.	30 °C
Power	1 × 39 W to 1 × 80 W

AF0719



Key features

Impervious luminaire
Visual comfort
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
1 × 39 W	DAR100 GBL 139E G5 POME 113LN BRS	4153 5057		1018
1 × 54 W	DAR100 GBL 154E G5 POME 113LN BRS	4153 5058		1318
1 × 49 W	DAR100 GBL 149E G5 POME 113LN BRS	4153 5059		1618
1 × 80 W	DAR100 GBL 180E G5 POME 113LN BRS	4153 5060		

Available for 21, 28, and 35 W T5 lamps

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

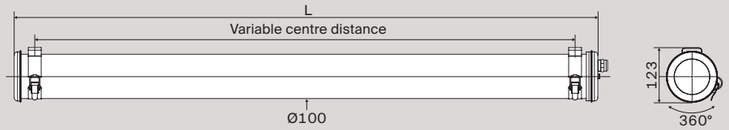
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Low glare louvre with mirror finish anodised aluminum reflector and grid
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 100 GBL IND

Comfort	Low glare
Technology	T5
Max. temp.	40 °C
Power	1 × 49 W to 1 × 80 W
Control gear	"Industry" rated

AF0719



Key features

Impervious luminaire
Visual comfort
Very good resistance to oils and hydrocarbons
Easy lamp change
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
1 × 54 W	DAR100 GBL 154I G5 POME 113LN BRS	4153 5061		1318
1 × 49 W	DAR100 GBL 149I G5 POME 113LN BRS	4153 5062		1618
1 × 80 W	DAR100 GBL 180I G5 POME 113LN BRS	4153 5063		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

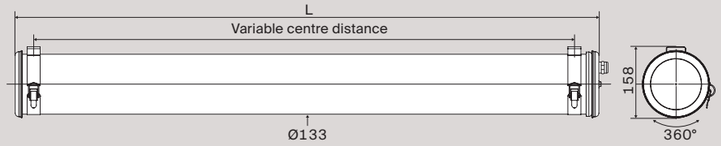
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Low glare louvre with mirror finish anodised aluminum reflector and grid
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 GBL

Comfort	Very low glare
Technology	T5
Max. temp.	30 °C
Power	1 × 39 W to 1 × 80 W

AF0719



Key features

- Impervious luminaire
- Visual comfort
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

T5 · SLIDE · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
1 × 39 W	DAR133 GBL 139E G5 POME 113LN BRS	2150 5019		995
1 × 54 W	DAR133 GBL 154E G5 POME 113LN BRS	2150 5005		1295
1 × 49 W	DAR133 GBL 149E G5 POME 113LN BRS	2150 5020		1595
1 × 80 W	DAR133 GBL 180E G5 POME 113LN BRS	2150 5001		

Available for 21, 28, and 35 W T5 lamps

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Hinged fixing straps for maintenance by tilting	BAR
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

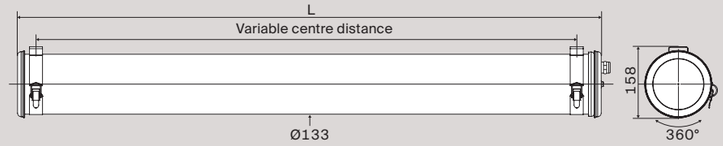
Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Very low glare louvre with mirror finish anodised aluminum reflector and grid
Control Gear	Hot cathode electronic Control Gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Darwin 133 GBL IND

Comfort	Very low glare
Technology	T5
Max. temp.	40 °C
Power	1 × 49 W to 1 × 80 W
Control gear	"Industry" rated

AF0719



Key features

- Impervious luminaire
- Visual comfort
- Very good resistance to oils and hydrocarbons
- Easy lamp change
- Durable and maintainable luminaire

T5 · SLIDE · GUARANTEE 5 YEARS · IK08

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
1 × 54 W	DAR133 GBL 154I G5 POME 113LN BRS	2150 5021		1295
1 × 49 W	DAR133 GBL 149I G5 POME 113LN BRS	2150 5022		1595
1 × 80 W	DAR133 GBL 180I G5 POME 113LN BRS	2150 5023		

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Reinforced fixing straps with HSHC screw	BRV
Shock-resistant fixing straps with HSHC screw	BAC
Cable entries (black polyamide)	
1 cable gland - Ø cable: 5 to 12 mm	113
1 cable gland - Ø cable: 7 to 14 mm	116
2 cable glands - Ø cable: 5 to 12 mm	213
2 cable glands - Ø cable: 7 to 14 mm	216
Cable entries (nickel-coated brass)	
2 cable glands - Ø cable: 5 to 14 mm	213LN
Disconnectable Plug (IP68/IP69K)	
3 pole disconnectable Plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3
Accessories	
Protective roof	
Fixings for columns	

Specifications

Technical data	
Light source	1x T5 lamp, not included
Optic	Very low glare louvre with mirror finish anodised aluminum reflector and grid
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–14 mm (3 × 2,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness • Patented SLIDE opening system
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Compact design

Ranges	Sources	Type of lighting	Energy performance	Page
Foucault 70	LED	Diffuse	●●●	176
Niépce 70 T8	T8	Directional	●●	177
Niépce 70 T8 SA	T8	Diffuse	●●	178
Niépce 70 T5	T5	Directional	●	179
Niépce 70 T5 SA	T5	Diffuse	●	180

Lighting for confined spaces

Lighting confined industrial spaces requires the use of extremely compact hermetically sealed luminaires capable of resisting external pollution, impacts and UV-induced ageing, and require minimal maintenance. With our extensive experience in industrial lighting, we have developed lighting solutions specifically designed for their compact size.

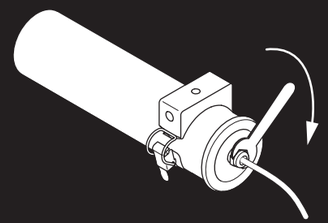
A well proven composite diffuser

Our small-diameter (70 mm) tubular luminaires have been designed to meet the requirements of confined working environments. Their coextruded polycarbonate/PMMA diffuser combines exceptional resistance to hydrocarbons and solar UV radiation with high impact resistance (IK10).

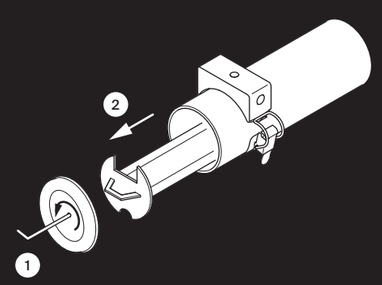
Ergonomically innovative: the CLOSE'N CONNECT system

Our compact luminaires use the ergonomic CLOSE'N CONNECT system developed and patented by Sammode. By separating installation from maintenance, we offer installers and maintenance teams an incredibly simple solution for a sealed luminaire.

Installation phase
The seal of the end cap and cable gland are set once only as part of the luminaire installation process. The cable no longer needs to be handled, and the seal remains fully intact.

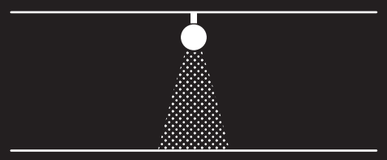


Maintenance phase
Access for maintenance is provided at the end opposite the power supply via a single CHC screw. The power supply is disconnected/ reconnected automatically when the unit is opened/ closed: the quality, seal and light direction of the installation remain intact.

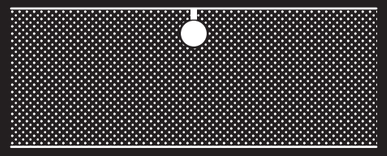


Optical management solutions

Directional optics
Our Niépce 70 T5 and Niépce 70 T8 ranges offer intensive (narrow beam) and extensive (broad beam) mirror-polish aluminium reflectors. They are designed for situations in which accurately directional luminous flux is essential.



Diffuse optics
Our satin-finish diffuser limits glare and delivers maximum lighting comfort. It is particularly well suited to confined spaces where an even spread of light is crucial.



Products

Niépce 70 T8
The Niépce 70 T8 and Niépce 70 T8 SA ranges are designed for T5 fluorescent tubes with G13 fittings; the most standard light sources used on industrial sites. Their energy efficiency is optimal for fluorescent solutions.

T8

Niépce 70 T5
The Niépce 70 T5 and Niépce 70 T5 SA ranges are designed for T5 fluorescent tubes with G5 fittings and offer a superior density of luminous flux.

T5

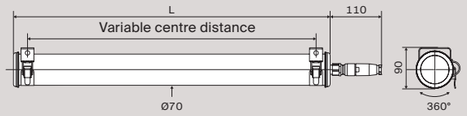
Foucault 70
The Foucault 70 range uses high-efficiency LED (lm/W) modules for reduced energy consumption. The LED technology selected guarantees immediate availability on power up of 100% of lighting flux and efficient operation even at very low temperatures. This solution is ideal for outdoor use.

LED

Foucault 70

Technology	LED
Max. temp.	35 °C
Light output	2000 to 3330 lm
Control gear	"Industry" rated

AF0719



Key features

- Small luminaire
- Plug&Play-installation by disconnectable Plug
- Suitable for repeated switching on and off
- Long maintenance intervals
- Durable and maintainable luminaire
- Resistant to external UV-rays
- Very good resistance to oils and hydrocarbons

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	T (K)	L (mm)
2000	FOU70 13H830 POME PS3 SA	3403 0010	18		3000	995
	FOU70 13H840 POME PS3 SA	3403 0020			4000	
2660	FOU70 14H830 POME PS3 SA	3403 0030	23		3000	1275
	FOU70 14H840 POME PS3 SA	3403 0040			4000	
3330	FOU70 15H830 POME PS3 SA	3403 0050	30		3000	1560
	FOU70 15H840 POME PS3 SA	3403 0060			4000	

* Light output of the luminaire

On request also available in class II

Options

Finishings	
End caps and fixing straps in Stainless Steel 316 L	MR
Housing	
Housing in Polycarbonate	PO
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Cable entries (nickel-coated brass)	
1 cable gland - Ø cable: 5 to 14 mm	113LN
Disconnectable output cords with IP68 Plug (length 0,80 m)	
Output cord with a 3 pole WIELAND Plug	CW3

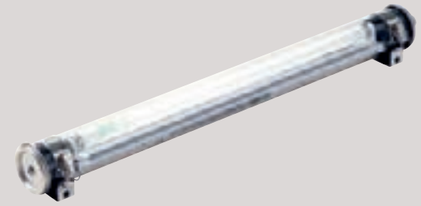
Specifications

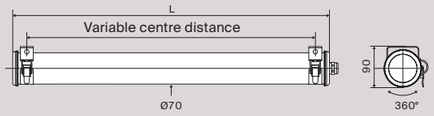
Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Satin Diffuser to minimise glare
Heat management	Heatsink in aluminium
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 1 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +35 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	2 Stainless Steel fixing straps with Spring Clip
Method of Construction	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless Steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Niépce 70 T8

Technology	T8
Max. temp.	30 °C
Power	1 × 18 W to 1 × 58 W

AF0629





Key features

- Small luminaire
- Easy lamp change
- Very good resistance to oils and hydrocarbons
- Resists to cleaning with high pressure jet
- Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions without reflector				
1 × 18 W	NIE70 118E G13 POME 113	1455 5033		748
1 × 36 W	NIE70 136E G13 POME 113	1455 5030		1358
1 × 58 W	NIE70 158E G13 POME 113	6401 0050		1658
Versions with extensive reflector				
1 × 18 W	NIE70 118E G13 POME 113 RE	1455 5011		748
1 × 36 W	NIE70 136E G13 POME 113 RE	1455 5012		1358
1 × 58 W	NIE70 158E G13 POME 113 RE	1455 5013		1658
Versions with intensive reflector				
1 × 18 W	NIE70 118E G13 POME 113 RI	1455 5014		748
1 × 36 W	NIE70 136E G13 POME 113 RI	6401 0080		1358
1 × 58 W	NIE70 158E G13 POME 113 RI	1455 5015		1658

On request also available in class II

Options

Finishings	
End caps and fixing straps in stainless steel 316 L	MR
Housing	
Housing in polycarbonate	PO
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Disconnectable plug (IP68/IP69K)	
3 pole disconnectable plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 plug (length 0,80 m)	
Output cord with a 3 pole WIELAND plug	CW3

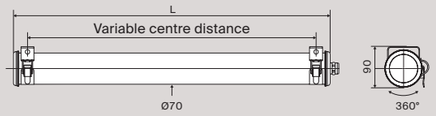
Specifications

Technical data	
Light source	1 T8 lamp, not included
Optic	• White powder coated gear tray serving as reflector for diffuse general lighting • Extensive reflector (wide beam) in anodised aluminum sheet • Intensive reflector (narrow beam) in anodised aluminium sheet
Control gear	Hot cathode electronic Control gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 spring-loaded stainless steel fixing straps
Construction concept	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Niépce 70 T8 SA

Technology	T8
Max. temp.	30 °C
Power	1 × 18 W to 1 × 58 W
Housing	Satin-finish

AF0629



Key features

Small luminaire
Easy lamp change
Very good resistance to oils and hydrocarbons
Resists to cleaning with high pressure jet
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Satinised versions for diffuse lighting				
1 × 18 W	NIE70 118E G13 POME 113 SA	1455 5034		748
1 × 36 W	NIE70 136E G13 POME 113 SA	1455 5035		1358
1 × 58 W	NIE70 158E G13 POME 113 SA	6401 0040		1658

On request also available in class II

Options

Finishings	
End caps and fixing straps in stainless steel 316 L	MR
Housing	
Housing in polycarbonate	PO
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Fixings	
Disconnectable plug (IP68/IP69K)	
3 pole disconnectable plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 plug (length 0,80 m)	
Output cord with a 3 pole WIELAND plug	CW3

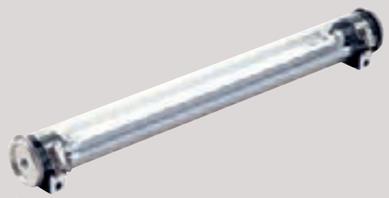
Specifications

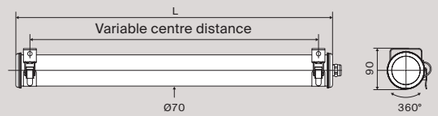
Technical data	
Light source	1 T8 lamp, not included
Optic	Satin-finish housing for diffuse lighting
Control gear	Hot cathode electronic Control gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 spring-loaded stainless steel fixing straps
Construction concept	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Niépce 70 T5

Technology	T5
Max. temp.	30 °C
Power	1 × 24 W to 1 × 54 W

AF0629





Key features

Small luminaire
Easy lamp change
Very good resistance to oils and hydrocarbons
Resists to cleaning with high pressure jet
Durable and maintainable luminaire

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with extensive reflector				
1 × 24 W	NIE70 124E G5 POME 113 RE	6407 0510		695
1 × 39 W	NIE70 139E G5 POME 113 RE	6407 0560		995
1 × 54 W	NIE70 154E G5 POME 113 RE	6407 0600		1295
1 × 49 W	NIE70 149E G5 POME 113 RE	6407 0710		1595
Versions with intensive reflector				
1 × 24 W	NIE70 124E G5 POME 113 RI	6407 0010		695
1 × 39 W	NIE70 139E G5 POME 113 RI	6407 0020		995
1 × 54 W	NIE70 154E G5 POME 113 RI	6407 0030		1295
1 × 49 W	NIE70 149E G5 POME 113 RI	1460 5113		1595

Available for 14, 21, 28, and 35 W T5 lamps

On request also available in class II

Options

Finishings	
End caps and fixing straps in stainless steel 316 L	MR
Housing	
Housing in polycarbonate	PO
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Disconnectable plug (IP68/IP69K)	
3 pole disconnectable plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 plug (length 0,80 m)	
Output cord with a 3 pole WIELAND plug	CW3

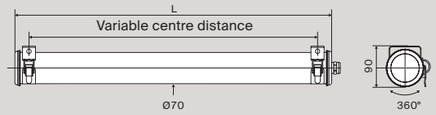
Specifications

Technical data	
Light source	1 T5 lamp, not included
Optic	Reflector in anodised aluminium: • Intensive (narrow beam) • Extensive (large beam)
Control gear	Hot cathode electronic Control gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5–12 mm (3 × 2,5 mm²)
Fixing	2 spring-loaded stainless steel fixing straps
Construction concept	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Niépce 70 T5 SA

Technology	T5
Max. temp.	30 °C
Power	1 × 14 W to 1 × 54 W
Housing	Satin-finish

AF0629



Key features

Small luminaire
Easy lamp change
Very good resistance to oils and hydrocarbons
Resists to cleaning with high pressure jet
Durable and maintainable luminaire

T5 · GUARANTEE 5 YEARS · 08

Options

Finishings	
End caps and fixing straps in stainless steel 316 L	MR
Housing	
Housing in polycarbonate	PO
Fixings	
Hinged fixing straps for maintenance by tilting	BAR
Fixing straps with HSHC screw	BAV
Disconnectable plug (IP68/IP69K)	
3 pole disconnectable plug, lockable with a threaded ring	PS3
Disconnectable output cords with IP68 plug (length 0,80 m)	
Output cord with a 3 pole WIELAND plug	CW3

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions for T5 HE lamp				
1 × 14 W	NIE70 114E G5 POME 113 SA	6402 0070		695
1 × 21 W	NIE70 121E G5 POME 113 SA	1460 5228		995
1 × 28 W	NIE70 128E G5 POME 113 SA	1460 5075		1295
1 × 35 W	NIE70 135E G5 POME 113 SA	1460 5076		1595
Versions for T5 HO lamp				
1 × 24 W	NIE70 124E G5 POME 113 SA	1460 5037		695
1 × 39 W	NIE70 139E G5 POME 113 SA	6407 0730		995
1 × 54 W	NIE70 154E G5 POME 113 SA	1460 5321		1295
1 × 49 W	NIE70 149E G5 POME 113 SA	6407 0740		1595

On request also available in class II

Specifications

Technical data	
Light source	1 T5 lamp, not included
Optic	Satin-finish housing for diffuse lighting
Control gear	Hot cathode electronic Control gear (EEI A2)
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +30 °C
Connection	Cable gland in nickel-coated brass for Ø cable 5-12 mm (3 × 2,5 mm²)
Fixing	2 spring-loaded stainless steel fixing straps
Construction concept	• Housing in one piece with reinforced imperviousness by radial expansion of the sealing • Closing by tightening the nut on the cable gland • Patented system with automatic electrical connection on closure (CLOSE'N CONNECT) • Maintenance without intervention at the cable by extracting the gear tray on the opposite side of the power supply
Materials	
Housing	Polycarbonate protected by a coextruded layer of PMMA
End caps, fixing straps, ...	Stainless steel 304L
Gaskets	EPDM
Standards	
Imperviousness	IP66, IP68 and IP69K
Shock resistance	IK10
Fire resistance	650 °C
Vibration resistance	Meets the severe application requirements of the standard EN 60598-1 (tested according to CEI 60068-2-6)

Clean rooms

Clean room lighting solutions that are maintained from above via walkable ceilings.

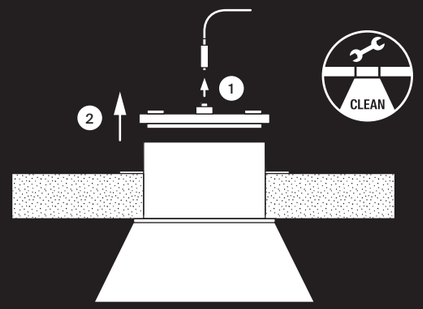
Ranges	Sources	Quantity of light	Energy performance	Pages
Calmette	LED	●●	●●●●	186
Pasteur T8	T8	●	●●●	188
Pasteur T5	T5	●●	●●	189

Lighting for clean rooms

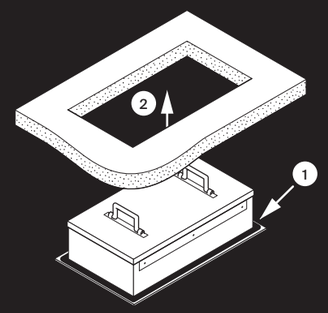
Clean rooms (as defined by the ISO 14644-1 standard) are used in high-technology industries, such as electronics, micromechanics, biogenetics, chemicals and pharmaceuticals. They require an optimum level of cleanliness, safety and hygiene.

The CLEAN System

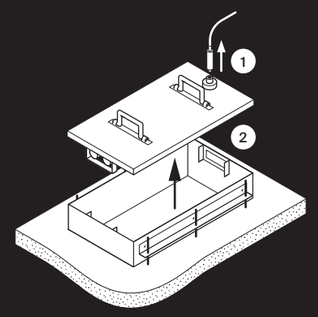
We have developed a mechanical system for luminaires to be inset into ceilings and suspended ceilings. These luminaires may be inset into insulation panels with no need for additional fire protection. They are also constructed from two sections of epoxy powder-coated steel: the lower (visible) casing containing the reflectors is closed by a PMMA pane (for increased resistance to detergents) in a stainless steel frame; the upper cover section contains the gear and light sources, as well as acting as a cap.



Installation
These luminaires are inserted from below in the supporting ceiling. The interface between the cover and the ceiling is sealed with a bead of silicone. The lower casing is secured within the thickness of the ceiling (max 150 mm) by 2 stainless steel brackets above the ceiling, and by 6 threaded studs.

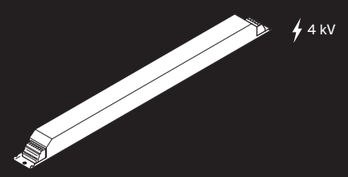


Maintenance
These luminaires are maintained by opening the removable upper cover section containing the gear tray. To facilitate this operation, the tray is fitted with two handles and a sealed plug-in external connector. Since these products are open from above, maintenance work remains outside the production area, and can be carried out in complete safety.



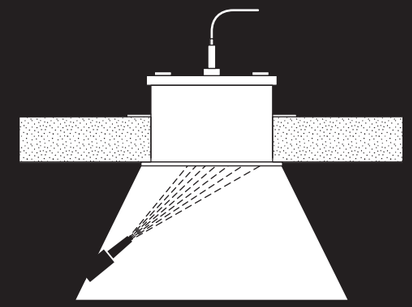
Robust power supplies

Whether they use LED or fluorescent technology, all our luminaires contain robust electronic power supplies that are specifically protected against mains electrical interference (3-phase imbalance, voltage peaks, frequent voltage fluctuations, etc.). Their efficient thermal management and carefully selected components ensure their operation at temperatures of up to +40 °C without compromising lifespan.



Easy cleaning

These totally stripped back and sterile areas, with rounded wall corners, lack of skirtings and seamless surfaces with no areas where contamination could possibly accumulate, are designed to be easily disinfected. The stainless steel framed PMMA pane fitted to our luminaires is completely smooth to facilitate disinfection. In this quest for ultra-cleanliness, the daily use of extremely aggressive cleaning products also demands a highly resistant luminaire casing. Our closure principle ensures an absolute seal (IP68) for the full working life of the luminaire, combined with resistance to aggression by detergents.



Products

Pasteur T8
Designed for two T8 fluorescent tubes with G13 fittings, this product uses the standard light sources most commonly found on industrial sites as a result of the excellent energy efficiency delivered by their fluorescent solutions.

T8

Pasteur T5
Designed for two T5 fluorescent tubes with G5 fittings, this product offers a higher level of luminous flux density. It is therefore recommended for higher level installations.

T5

Calmette
This product uses high-efficiency LED (lm/W) modules that reduce lighting energy consumption. Its luminous flux is optimised for applications where the chilled temperature remains above zero, and limits the number of light sources needed to achieve the desired level of lighting. Unaffected by repeated on/off switching cycles, it offers the ideal solution for sensor-controlled lighting.

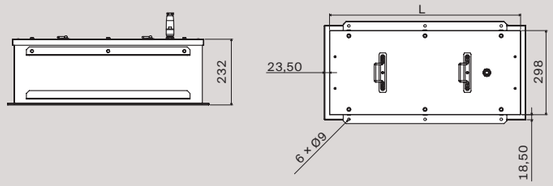
LED

Our products are trusted by all these companies	Brocéliande	Inserm	Nova Sea
	Cooperl Arc Atlantique	Laïta	St Sever
	Ingredia	Lactalis	UCPA St Priest

Calmette

Technology	LED
Max. temp.	40 °C
Light output	3600 to 9000 lm
Maintenance	From above
Control gear	"Industry" rated

AF0719



Key features

- Maintenance outside of the production area
- Plug&Play-installation by disconnectable Plug
- Resists aggressive detergents
- Easy cleaning
- Durable and maintainable luminaire

Principal part numbers

Lumens	Designation	Part No.	Cons. (W)	Optic	L (mm)
Versions with protective cover in PMMA (compatible with cleaning agents)					
3600	CAL 22H830 ME PS3	1714 0010	33		677
	CAL 22H840 ME PS3	1714 0020			
7200	CAL 24H830 ME PS3	1714 0030	65		1277
	CAL 24H840 ME PS3	1714 0040			
9000	CAL 25H830 ME PS3	1714 0050	81		1577
	CAL 25H840 ME PS3	1714 0060			
Versions with protective cover in Polycarbonate					
3600	CAL 22H830 PO PS3	1714 0070	33		677
	CAL 22H840 PO PS3	1714 0080			
7200	CAL 24H830 PO PS3	1714 0090	65		1277
	CAL 24H840 PO PS3	1714 0100			
9000	CAL 25H830 PO PS3	1714 0110	81		1577
	CAL 25H840 PO PS3	1714 0120			

Options

Finishings	
Frame in Stainless Steel 316L	MR

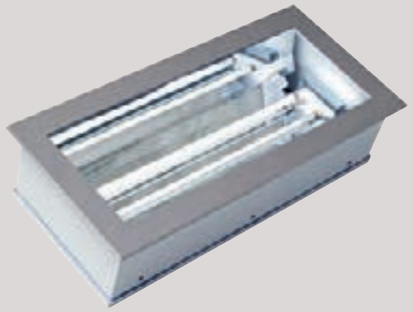
Specifications

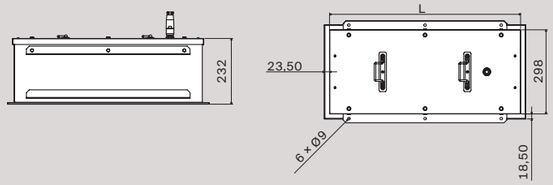
Technical data	
Light source	• High efficiency LED modules (160 lm/W) • 50 000 h L80/B50 at max. operating temperature • Replaceable LED modules • CRI > 80
Optic	• Light mixing chamber • Optical distributor • Reflector in anodised aluminum
Control Gear	• Resistant electronic driver, "Industry" rated (non-dimmable) • Resistance to voltage surge: 320 V AC, 48 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	• Embedding from the bottom into the ceiling • Thickness of the ceiling: max. 150 mm • Sealing of the luminaire by a silicone gasket in between the frame and the ceiling • Plucking into the ceiling by iron angle sections in Stainless Steel and threaded rods
Method of Construction	• Casing in 2 parts enabling the maintenance from above • Embedding by insertion from the bottom into the loadbearing ceiling • Removable top cover with gear tray
Materials	
Protective cover	• PMMA (compatible with cleaning agents) • UV-resistant Polycarbonate
End caps, fixing straps, ...	Stainless Steel 304L
Casing, top cover	• White coated steel sheet • Embedding in sandwich panels without supplementary fire safety
Gaskets	Neoprene
Standards	
Imperviousness	• Bottom (clean room): IP66, IP68 • Top (maintenance): IP65
Shock resistance	• Protective cover in PMMA: IK09 • Protective cover in Polycarbonate: IK10
Fire resistance	• Protective cover in PMMA: 650° C • Protective cover in Polycarbonate: 850 °C

Pasteur T8

Technology	T8
Max. temp.	40 °C
Power	2 × 36 W and 2 × 58 W
Maintenance	From above
Control gear	"Industry" rated

AF0719





Key features

Maintenance outside of the production area
Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Durable and maintainable luminaire

T8 CLEAN GUARANTEE 5 YEARS

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with protective cover in PMMA (compatible with cleaning agents)				
2 × 36 W	PAST 236I G13 ME PS3 R	1712 0060		1277
2 × 58 W	PAST 258I G13 ME PS3 R	1712 0040		1577
Versions with protective cover in Polycarbonate				
2 × 36 W	PAST 236I G13 PO PS3 R	1712 5003		1277
2 × 58 W	PAST 258I G13 PO PS3 R	1712 5004		1577

Options

Finishings	
Frame in Stainless Steel 316L	MR

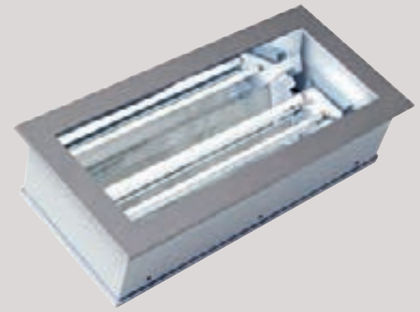
Specifications

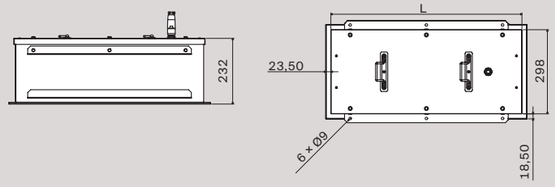
Technical data	
Light source	2x T8 lamps, not included
Optic	Reflector in anodised aluminum
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	• Embedding from the bottom into the ceiling • Thickness of the ceiling: max. 150 mm • Sealing of the luminaire by a silicone gasket in between the frame and the ceiling • Plucking into the ceiling by iron angle sections in Stainless Steel and threaded rods
Method of Construction	• Casing in 2 parts enabling the maintenance from above • Embedding by insertion from the bottom into the loadbearing ceiling • Removable top cover with gear tray
Materials	
Protective cover	• PMMA (compatible with cleaning agents) • UV-resistant Polycarbonate
End caps, fixing straps, ...	Stainless Steel 304L
Casing, top cover	• White coated steel sheet • Embedding in sandwich panels without supplementary fire safety
Gaskets	Neoprene
Standards	
Imperviousness	• Bottom (clean room): IP66, IP68 • Top (maintenance): IP65
Shock resistance	• Protective cover in PMMA: IK09 • Protective cover in Polycarbonate: IK10
Fire resistance	• Protective cover in PMMA: 650° C • Protective cover in Polycarbonate: 850 °C

Pasteur T5

Technology	T5
Max. temp.	40 °C
Power	2 × 49 W to 2 × 80 W
Maintenance	From above
Control gear	"Industry" rated

AF0719





Key features

Maintenance outside of the production area
Plug&Play-installation by disconnectable Plug
Resists aggressive detergents
Easy cleaning
Durable and maintainable luminaire

T5 CLEAN GUARANTEE 5 YEARS

Principal part numbers

Power	Designation	Part No.	Optic	L (mm)
Versions with protective cover in PMMA (compatible with cleaning agents)				
2 × 54 W	PAST 254I G5 ME PS3 R	1713 5010		1277
2 × 49 W	PAST 249I G5 ME PS3 R	1713 5009		1577
2 × 80 W	PAST 280I G5 ME PS3 R	1713 5011		
Versions with protective cover in Polycarbonate				
2 × 54 W	PAST 254I G5 PO PS3 R	1713 5007		1277
2 × 49 W	PAST 249I G5 PO PS3 R	1713 5008		1577
2 × 80 W	PAST 280I G5 PO PS3 R	1712 0070		

Options

Finishings	
Frame in Stainless Steel 316L	MR

Specifications

Technical data	
Light source	2x T5 lamps, not included
Optic	Reflector in anodised aluminum
Control Gear	• Resistant electronic Control Gear , "Industry" rated (EEI A2) • Resistance to voltage surges: 320 V AC, 1 h • Supports voltage peaks < 4 kV
Power supply	220-240 V 50/60 Hz
Electrical class	Class I
Operating temperature	-20 °C to +40 °C
Connection	Disconnectable Plug Ø cable 8–10 mm (3 × 1,5 mm²)
Fixing	• Embedding from the bottom into the ceiling • Thickness of the ceiling: max. 150 mm • Sealing of the luminaire by a silicone gasket in between the frame and the ceiling • Plucking into the ceiling by iron angle sections in Stainless Steel and threaded rods
Method of Construction	• Casing in 2 parts enabling the maintenance from above • Embedding by insertion from the bottom into the loadbearing ceiling • Removable top cover with gear tray
Materials	
Protective cover	• PMMA (compatible with cleaning agents) • UV-resistant Polycarbonate
End caps, fixing straps, ...	Stainless Steel 304L
Casing, top cover	• White coated steel sheet • Embedding in sandwich panels without supplementary fire safety
Gaskets	Neoprene
Standards	
Imperviousness	• Bottom (clean room): IP66, IP68 • Top (maintenance): IP65
Shock resistance	• Protective cover in PMMA: IK09 • Protective cover in Polycarbonate: IK10
Fire resistance	• Protective cover in PMMA: 650° C • Protective cover in Polycarbonate: 850 °C

Options and accessories

To simplify fitting, adaptation and installation safety, Sammode offers all the options and accessories needed to install the right luminaire for your needs.

Fixings

CHC screw fixing straps	Compatibility	Code
• Set of two screw-clamped stainless steel fixing straps • This screw closure ensures secure luminaire mounting • For even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BRVT)	All Ø 70 tubular ranges	BAV

CHC screw reinforced fixing straps	Compatibility	Code
• Set of two reinforced screw-clamped stainless steel fixing straps • This screw closure ensures secure luminaire mounting • Recommended for surface-mounted luminaires • Recommended where the luminaire is subject to mechanical stress (vibration, etc.) • For even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BRVT)	Ø 100 and Ø 133 tubular ranges, excluding Bunsen, Fresnel and HT versions with PO/POME diffuser	BRV

Shock-resistant CHC screw fixing straps	Compatibility	Code
• Set of two reinforced screw-clamped stainless steel fixing straps with bracing legs • Recommended for surface-mounted luminaires • Recommended where the luminaire will be subject to severe mechanical stresses • For even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BACT)	Ø 100 and Ø 133 tubular ranges: Bunsen, Fresnel and HT versions with PO/POME diffuser	BAC

Hinged fixing straps for maintenance by tilting	Compatibility	Code
• Set of two raised stainless steel fixing straps, one hinged with a screw closure, and the other fixed with a hasp enabling maintenance to be carried out by tilting the luminaire • Recommended for installations where the horizontal free space available is not sufficient to extract the tray. • We recommend that this option is used in combination with a plug-in connector • For even greater security, we recommend Torx Tamper-Proof screws that require the use of a suitable tool (code: BART)	All Ø 70 tubular ranges	BAR

	Ø 100 and Ø 133 tubular ranges fitted with the slide system	BAR

Ceiling fixing	Compatibility	Code
• Flat stainless steel yoke mount for ceiling fitting • Angular movement: 60°	Huygens	PL

Spare parts are available for all our luminaires. For orders or additional information, please contact us by phone on +33 (0) 1 43 14 84 90 or e-mail us at enquiry@sammode.com.

Fixings (cont.)

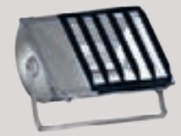
Yoke mount locking and one-way screws	Compatibility	Code
• Yoke mount locking, lamp bracket and support system using one-way screws to lock the floodlight in the required position. • Recommended for high-vibration environments	HUY3 et HUY4	RV

Finishings

316 L marine grade stainless steel	Compatibility	Code
• Luminaire external metal components in 316 L stainless steel and screws in A4 stainless steel (in the basic option, these are 304 L stainless steel, with screws in A2 stainless steel) • Excellent resistance to corrosion by pitting, and specifically recommended for marine applications	All tubular and floodlight ranges	MR

Optics

External spill shield	Compatibility	Code
• Straight-bladed spill shield in black-finished stainless steel mounted perpendicular to the axis of the lamp. • Recommended for limiting light in the longitudinal axis of the floodlight	Huygens	GDN



Cable entries

1 cable gland in black polyamide for cable Ø: 5 to 12 mm	Compatibility	Code
• Luminaires supplied with a cable gland fitted to the end caps • Capacities – Cable Ø: 5 to 12 mm – Terminal: screw connection, 3 × 2.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: black polyamide 6 • Recommended for luminaires in contact with acids in sprayed or gaseous form	All Ø 100 and Ø 133 tubular ranges	113

2 cable glands in black polyamide for cable Ø: 5 to 12 mm	Compatibility	Code
• Luminaires supplied with 2 cable glands fitted to the end caps and a 3 × 2.5 mm² two-stage plug-in terminal to enable looped cabling. • Capacities – Cable Ø: 5 to 12 mm – Terminal: screw connection, 3 × 2.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: black polyamide 6 • Recommended for luminaires in contact with acids in sprayed or gaseous form	All Ø 100 and Ø 133 tubular ranges	213

Cable entries (cont.)

1 cable gland in black polyamide for cable Ø: 7 to 14 mm	Compatibility	Code
• Luminaires supplied with a polyamide cable gland • Capacities: – Cable Ø: 7 to 14 mm – Terminal: screw connection, 3 × 2.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: black polyamide 6 • Recommended for luminaires in contact with acids in sprayed or gaseous form	All Ø 100 and Ø 133 tubular ranges	116

2 cable glands in black polyamide for cable Ø: 7 to 14 mm	Compatibility	Code
• Luminaires supplied with 2 cable glands fitted to the end caps and a 3 × 2.5 mm² two-stage plug-in terminal to enable looped cabling • Capacities: – Cable Ø: 7 to 14 mm – Terminal: screw connection, 3 × 2.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: black polyamide 6 • Recommended for luminaires in contact with acids in sprayed or gaseous form	All Ø 100 and Ø 133 tubular ranges	216

1 cable gland in nickel plated brass	Compatibility	Code
• Luminaires supplied with a double capacity nickel plated brass cable gland • Capacities: – Cable Ø: 5 to 14 mm – Terminal: screw connection, 3 × 2.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: nickel plated brass • Recommended for luminaires used in the presence of mineral oils and/or hydrocarbons	All Ø 100 and Ø 133 tubular ranges	113 LN

2 cable glands in nickel plated brass	Compatibility	Code
• Luminaires supplied with 2 nickel plated cable glands fitted to the end caps and a 3 × 2.5 mm² two-stage plug-in terminal to enable looped cabling • Capacities: – Cable Ø: 5 to 14 mm – Terminal: screw connection, 3 × 2.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: nickel plated brass • Recommended for luminaires used in the presence of mineral oils and/or hydrocarbons	All Ø 100 and Ø 133 tubular ranges	213 LN

IP68/IP69K plug-in connector for Class I luminaires	Compatibility	Code
• Luminaires supplied with a straight plug-in connector with locking ring • The base is end-cap mounted for Ø 100 and Ø 133 luminaires, and mounted to the cable gland body using an adapter for Ø 70 luminaires. • Female socket supplied non-cabled • Capacities: – Cable Ø: 8 to 10 mm – Terminal: screwed, 3 × 1.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: – Nickel plated brass base and adapter – Polyamide 6 body – Nickel plated brass locking ring • Recommended for off-site maintenance of luminaires and for Plug and Play installations	All tubular ranges	PS3

Cable entries (cont.)

IP68/IP69K plug-in connector for Class II luminaires	Compatibility	Code
• Luminaires supplied with a straight plug-in connector with locking ring • The base is end-cap mounted for Ø 100 and Ø 133 luminaires, and mounted to the cable gland body using an adapter for Ø 70 luminaires. • Female socket supplied non-cabled • Capacities: – Cable Ø: 8 to 10 mm – Terminal: screwed, 2 × 1.5 mm² • Ingress protection: IP66/IP68/IP69K • Materials: – Nickel plated brass base and adapter – Polyamide 6 body – Nickel plated brass locking ring • Recommended for off-site maintenance of luminaires and for Plug and Play installations	Ranges Niépce 70 CL2, Niépce 70 SA CL2, Niépce 70 FV CL2, Darwin FV CL2 and Foucault CL2	PS2

IP68 plug-in cord for Class I luminaires	Compatibility	Code
• Luminaires fitted with an 80 cm Wieland RST mail cord and non-cabled female socket • Capacities: – Cable Ø: 6 to 10 mm – Female socket: screw connection, 3 × 4 mm² • Ingress protection: IP66/IP68/IP69K • Materials: – Contacts: Surface treated brass – Insulating components: PA 66 – Seal material: NBR • Recommended for off-site maintenance of luminaires and for Plug and Play installations	All tubular ranges	CW3

IP68 plug-in cord for Class II luminaires	Compatibility	Code
• Luminaires fitted with an 80 cm Wieland RST male cord and non-cabled female socket • Capacities: – Cable Ø: 6 to 10 mm – Female socket: screw connection, 2 × 4 mm² • Ingress protection: IP66/IP68/IP69K • Materials: – Contacts: Surface treated brass – Insulating components: PA 66 – Seal material: NBR • Recommended for off-site maintenance of luminaires and for Plug and Play installations	Ranges Niépce 70 CL2, Niépce 70 SA CL2, Niépce 70 FV CL2, Darwin FV CL2 and Foucault CL2	CW2

Accessories

Folded 304 L stainless steel protective cover	Compatibility	Code
304 L stainless steel protective cover for installation on the fixing straps of Ø 100 and 133 ranges of luminaires. The fixing holes are to be drilled on site to suit the space between fixing straps.	All tubular Ø 100 and Ø 133 ranges	
Folded 304 L stainless steel protective cover L 800 mm	12H LED 14/24 W T5 18 W T8	PU6362
Folded 304 L stainless steel protective cover L 1100 mm	13H/23H LED 21/39 W T5	CP00595
Folded 304 L stainless steel protective cover L 1400 mm	14H/24H LED 28/54 W T5 36 W T8	PU6286
Folded 304 L stainless steel protective cover L 1700 mm	15H/25H LED 35/49/80 W T5 58 W T8	PU6363
Folded 304 L stainless steel protective cover L 1950 mm	16H/26H LED	CP00597

Folded 316 L stainless steel protective cover	Compatibility	Code
316 L stainless steel protective cover for installation on the fixing straps of Ø 100 and 133 ranges of luminaires. The fixing holes are to be drilled on site to suit the space between fixing straps.	All tubular Ø 100 and Ø 133 ranges	
Folded 316 L stainless steel protective cover L 800 mm	12H LED 14/24 W T5 18 W T8	CP00565
Folded 316 L stainless steel protective cover L 1100 mm	13H/23H LED 21/39 W T5	CP00596
Folded 316 L stainless steel protective cover L 1400 mm	14H/24H LED 28/54 W T5 36 W T8	CP00566
Folded 316 L stainless steel protective cover L 1700 mm	15H/25H LED 35/49/80 W T5 58 W T8	CP00567
Folded 316 L stainless steel protective cover L 1950 mm	16H/26H LED	CP00598

304 L column mounting fixing straps	Compatibility	Code
Kit of two 304 L stainless steel column mounting fixing straps to arry standard Sammode luminaire fixing straps	All tubular ranges	
Kit of two 304 L stainless steel 1 ¼" (42 mm) column strap mountings		CP00568
Kit of two 304 L stainless steel 1 ½" (49 mm) column strap mountings		CP00569
Kit of two 304 L stainless steel 2" (60 mm) column strap mountings		CP00570

316 L column mounting fixing straps	Compatibility	Code
Kit of two 316 L stainless steel column mounting fixing straps to carry standard Sammode luminaire fixing straps	All tubular ranges	
Kit of two 316 L stainless steel 1 ¼" (42 mm) column strap mountings		CP00571
Kit of two 316 L stainless steel 1 ½" (49 mm) column strap mountings		CP00572
Kit of two 316 L stainless steel 2" (60 mm) column strap mountings		CP00573

Materials

Our 50+ years of experience in the design and use of tubular luminaires have led us to select only the most appropriate materials for use in your industrial environments.

Materials	Features	Special benefits	Precautions and limitations on use
304 L stainless steel		• Low-carbon chrome-nickel Austenitic stainless steel • Good corrosion resistance, superior to that offered by 304 stainless steel • Good crack resistance • Good mechanical properties	• Corrosion by pitting in acid or chlorinated environments
316 L stainless steel (MR option)	This grade of stainless steel is particularly resistant to corrosion, and is recommended for marine environments	• Low-carbon chrome-nickel-molybdenum Austenitic stainless steel • Very good corrosion resistance, especially in acid or chlorinated (marine) environments • Excellent resistance to intergranular corrosion (pitting) • Good crack resistance • Good mechanical properties	
Coextruded polycarbonate/ PMMA (POME option)	This composite diffuser has been specially developed to exploit the mechanical impact protection of polycarbonate (IK10 20-joule) in combination with the chemical and UV resistance of polymethyl methacrylate. Its use is recommended for outdoor lighting applications	• Excellent mechanical properties: crack resistance, strength and impact resistance • Consistency of key characteristics over a broad temperature range • Dimensional stability • Water vapour impermeability • Good scratch resistance • Good chemical resistance • Good UV resistance	• Combustible (650 °C in the glow wire test)
Polycarbonate (PO option)	The polycarbonate we use for our tubular diffusers offers the best compromise between mechanical resistance (IK10 20-joule) and fire resistance for industrial applications	• Consistency of key characteristics over a broad temperature range • Dimensional stability • Water vapour impermeability • Good fire resistance (960 °C in the glow wire test)	• Attacked by certain detergents and bactericides • Poor resistance to hydrocarbons (oils, solvents, etc.) • Yellowing in outdoor applications • Poor scratch resistance
Borosilicate glass (PY option)	The borosilicate glass diffuser has been developed for our high-temperature range of luminaires. It is also recommended for use in applications requiring exceptional resistance to chemical attack (acid atmospheres, hydrocarbons, etc.) and abrasion (from coal dust, cement dust, etc.).	• High heat resistance • Thermal shock resistance • Excellent resistance to chemicals (except fluorinated products) • Good scratch resistance • Good mechanical strength • Non-combustible	• Relative fragility (IK07) • Weight

Material resistance

The following table provides an indication of the degree to which our diffusers resist some of the most commonly encountered chemicals. Ambient temperature and product concentrations and combinations may alter the level of resistance offered by some materials. For this reason, only those tests conducted in the specific environment and in contact with chemicals can validate and guarantee luminaire resistance. Our design office is at your disposal to help you identify the materials best suited to your operating constraints.

	Polycarbonate	Coextruded Polycarbonate/ PMMA	Borosilicate glass
50% Acetic acid	●●	●	●●
37% Hydrochloric acid	●	○	●●
98% +100% Formic acid	●●	●	●●
10% Nitric acid	●●	●●	●●
60% Sulphuric acid	●	○	●●
Aluminium chloride	●●	●	●●
Calcium chloride	●●	●●	●●
Petroleum spirit	●●	○	●●
Ethanol (ethyl alcohol)	●	●●	●●
Petroleum ether	○	●●	×
Ethyl acetate	●	●	×
Ethylene glycol (Glycol)	●●	●●	●●
Glycerine	●●	●●	●●
Diesel oil (Fuel oil)	○	●	●●
Mineral oil (for engines)	●●	●●	●●
30% Ammonium hydroxide (Ammonia)	●●	●	●
Calcium hydroxide	●●	●	●
Potassium hydroxide	●●	●	●
Methanol	●	●●	●●
Ozone	●●	●	●●
Water-based paint	●●	●●	●●
Oil-based paint	○	●●	×
Perchloroethylene	○	●	●●
Potassium permanganate	●●	●●	●●
35% Hydrogen peroxide	●	●●	●●
Petroleum	●●	○	●●
Ammonium sulphate	●●	●●	●●
Copper sulphate	●●	●●	●●
Turpentine	●●	●	●●
Carbon tetrachloride	○	●	●●

N.B.: These indications are provided purely for information purposes and refer to an ambient temperature of 20 °C.
The table above must be treated as a non-exhaustive guide for which we accept no liability.

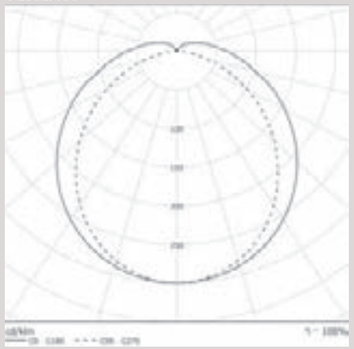
●● Resistant
● Fairly resistant
○ Non-resistant
× Not applicable

Photometric polar diagrams

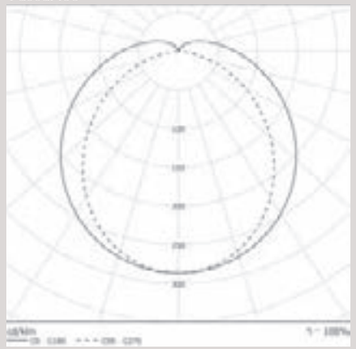
Correct sizing of your installation can make a considerable contribution to energy savings. We are available to help you plan the layout of your installation. Please e-mail us at enquiry@sammode.com

General lighting for demanding environments

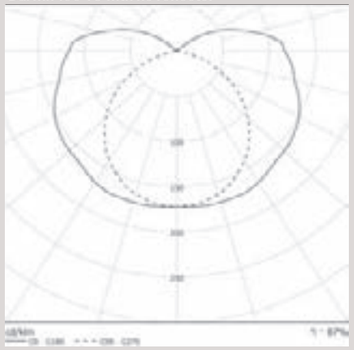
Pascal 100



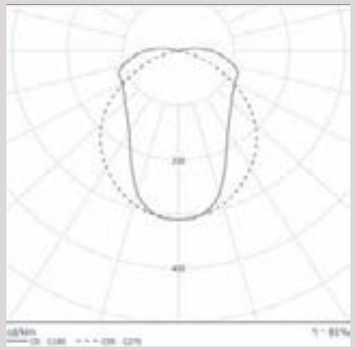
Pascal 133



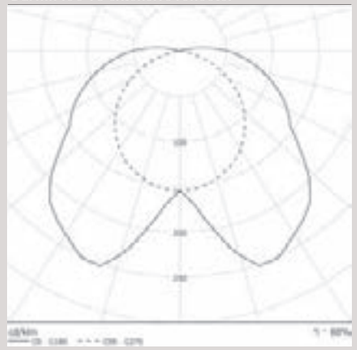
Darwin 100 T8 with no reflector



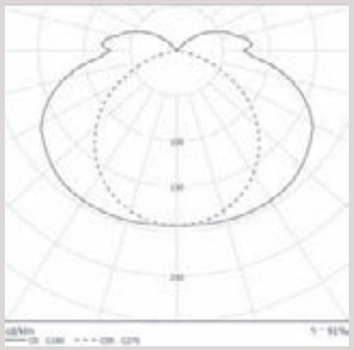
Darwin 100 T8 intensive reflector



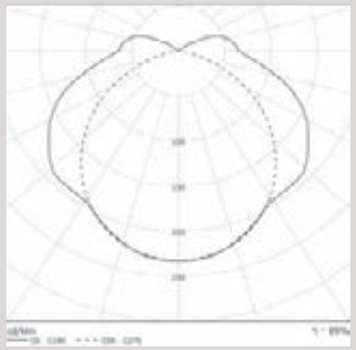
Darwin 100 T8 extensive reflector



Darwin 133 T8 with no reflector

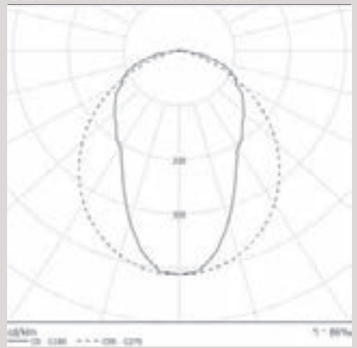


Darwin 133 T8 extensive reflector



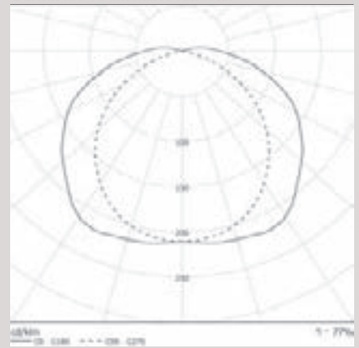
General lighting for demanding environments (cont.)

Darwin 100 T5 intensive reflector

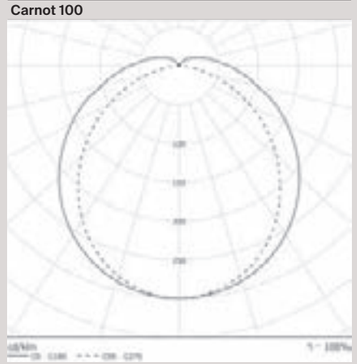


Darwin 100 T5 extensive reflector

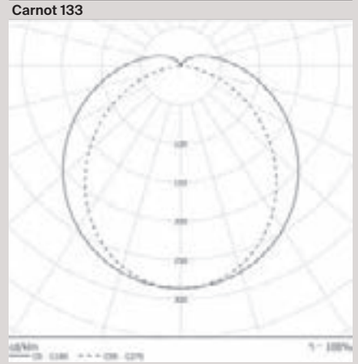
Darwin 133 T5 extensive reflector



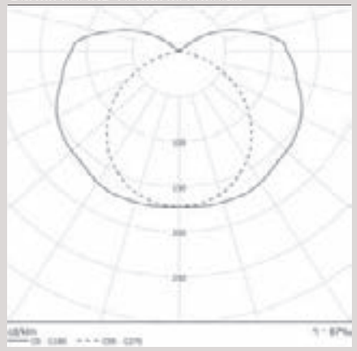
Carnot 100



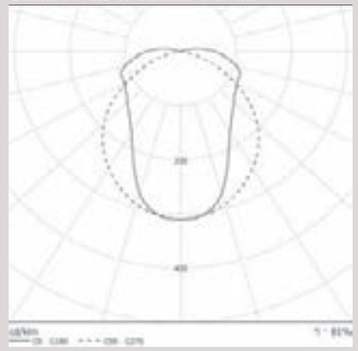
Carnot 133



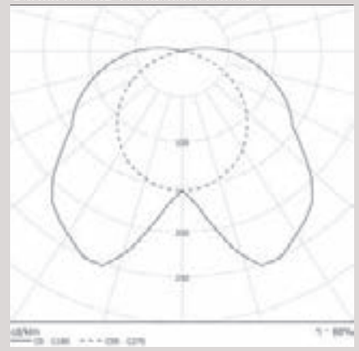
Darwin 100 IND T8 with no reflector



Darwin 100 IND T8 intensive reflector

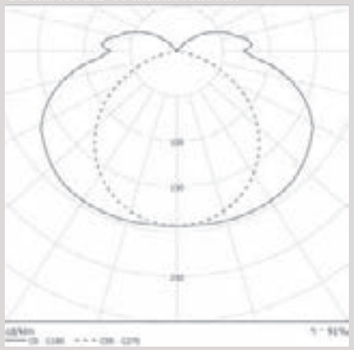


Darwin 100 IND T8 extensive reflector

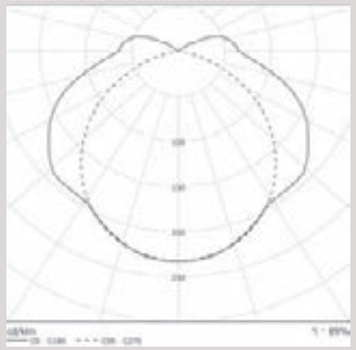


General lighting for demanding environments (cont.)

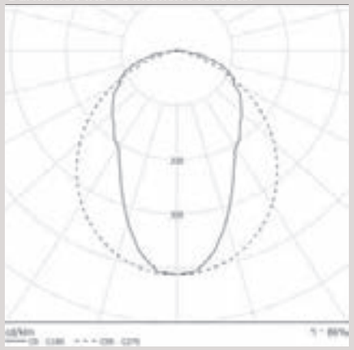
Darwin 133 IND T8 with no reflector



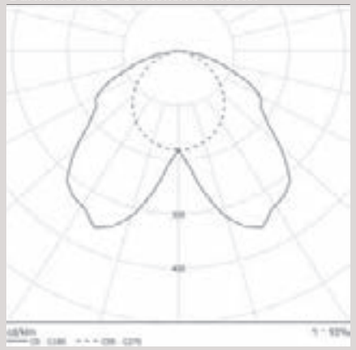
Darwin 133 IND T8 extensive reflector



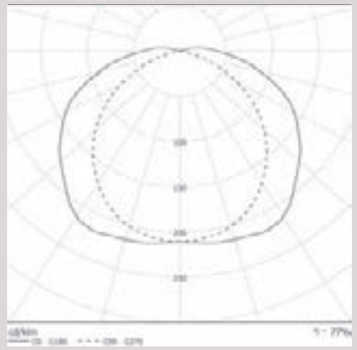
Darwin 100 IND T5 intensive reflector



Darwin 100 IND T5 extensive reflector

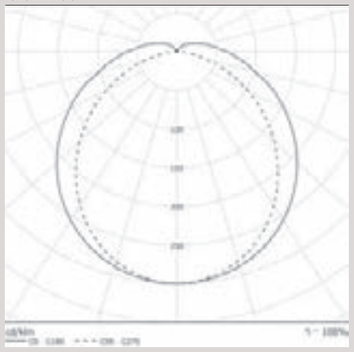


Darwin 133 IND T5 extensive reflector

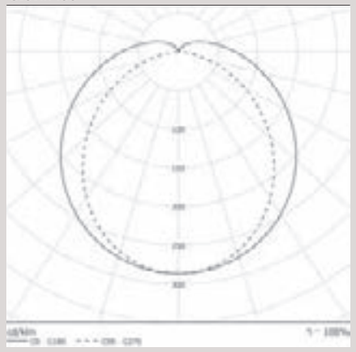


General lighting for extreme environments

Stevin 100



Stevin 133

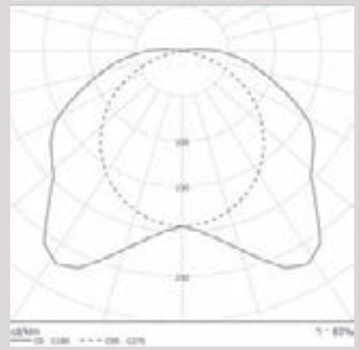


General lighting for extreme environments (cont.)

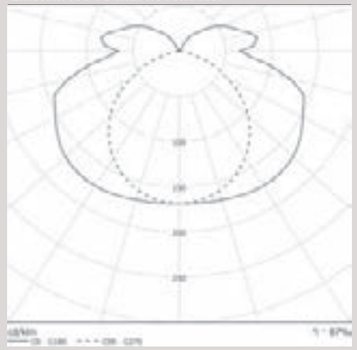
Einstein 100 T8 with no reflector

Einstein 100 T8 intensive reflector

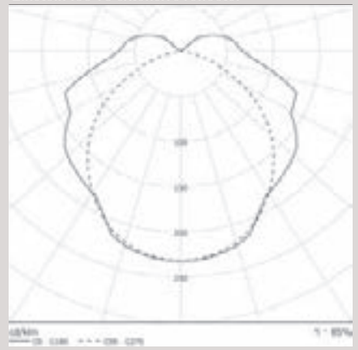
Einstein 100 T8 extensive reflector



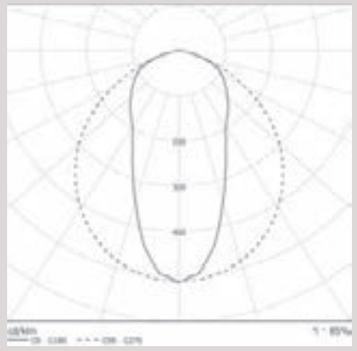
Einstein 133 T8 with no reflector



Einstein 133 T8 extensive reflector



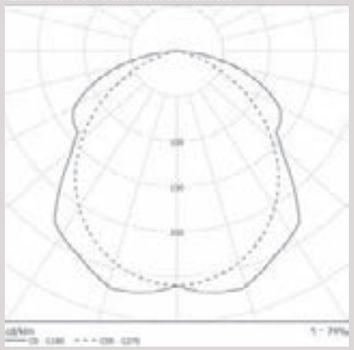
Einstein 100 T5 intensive reflector



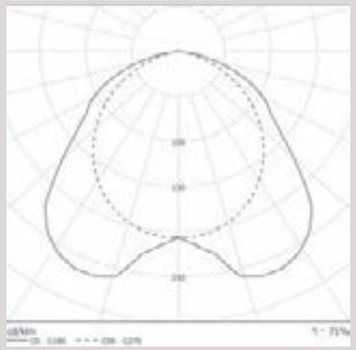
Einstein 100 T5 extensive reflector

General lighting for extreme environments (cont.)

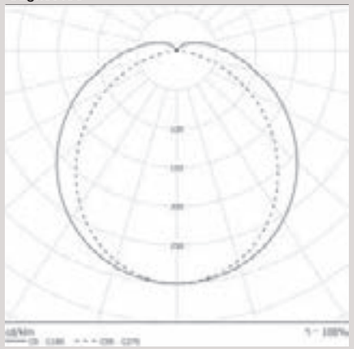
Einstein 133 T5 intensive reflector



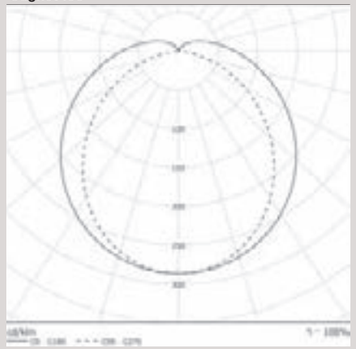
Einstein 133 T5 extensive reflector



Cugnot 100



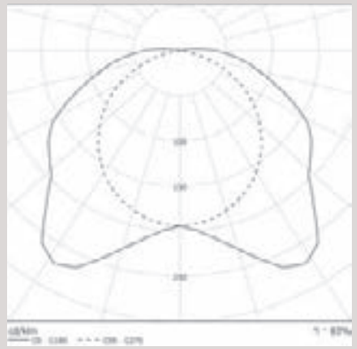
Cugnot 133



Einstein 100 IND T8 with no reflector

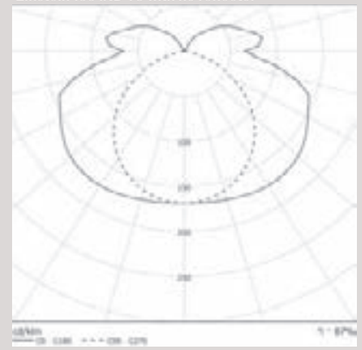
Einstein 100 IND T8 intensive reflector

Einstein 100 IND T8 extensive reflector

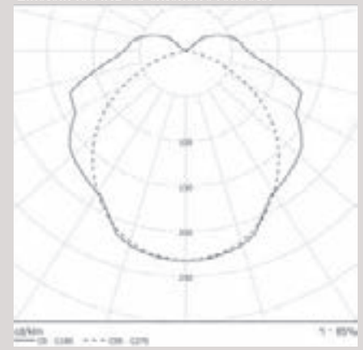


General lighting for extreme environments (cont.)

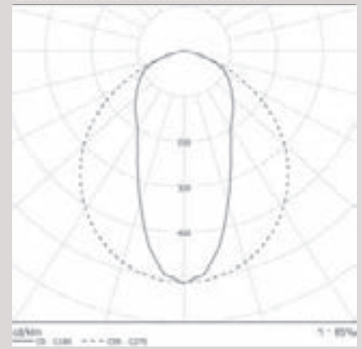
Einstein 133 IND T8 with no reflector



Einstein 133 IND T8 extensive reflector

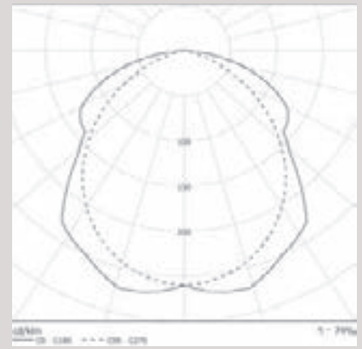


Einstein 100 IND T5 intensive reflector

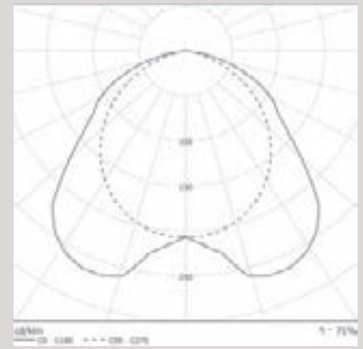


Einstein 100 IND T5 extensive reflector

Einstein 133 IND T5 intensive reflector

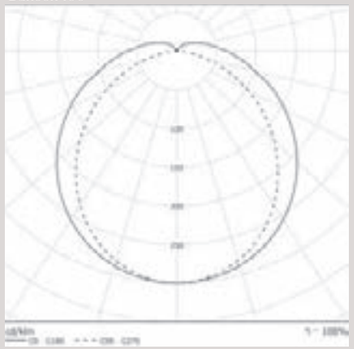


Einstein 133 IND T5 extensive reflector

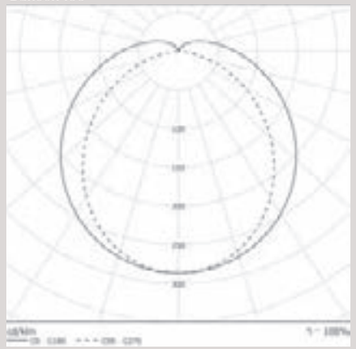


General lighting for extreme environments (cont.)

Bunsen 100



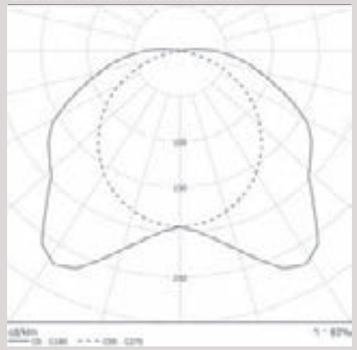
Bunsen 133



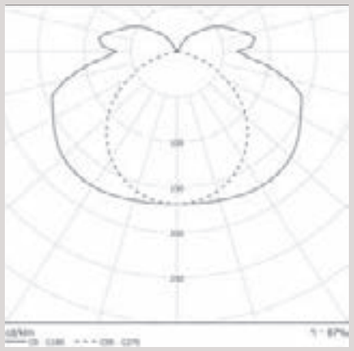
Einstein 100 HT with no reflector

Einstein 100 HT intensive reflector

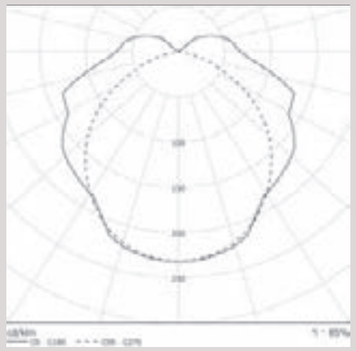
Einstein 100 HT extensive reflector



Einstein 133 HT with no reflector

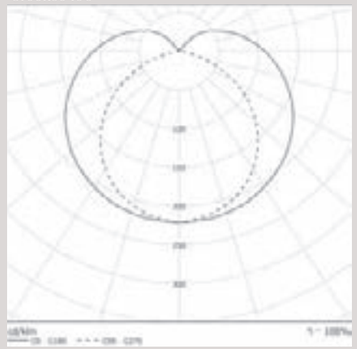


Einstein 133 HT extensive reflector

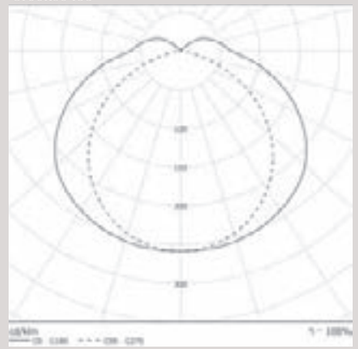


General lighting for extreme environments (cont.)

Crookes 100



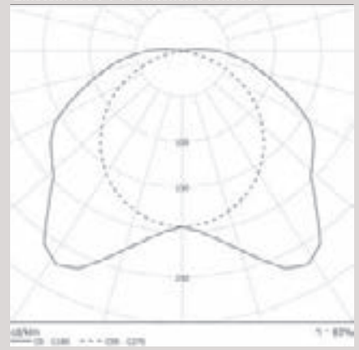
Crookes 133



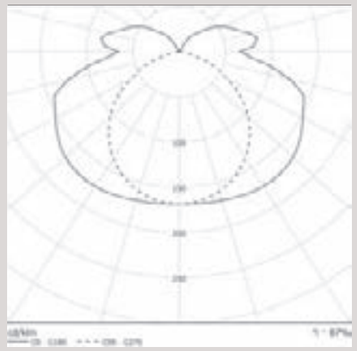
Einstein 100 PY T8 with no reflector

Einstein 100 PY T8 intensive reflector

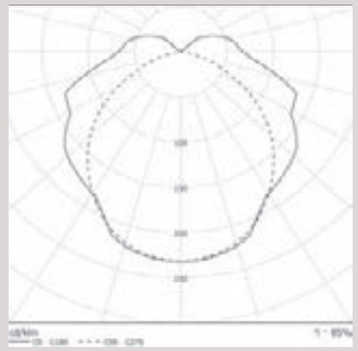
Einstein 100 PY T8 extensive reflector



Einstein 133 PY T8 with no reflector

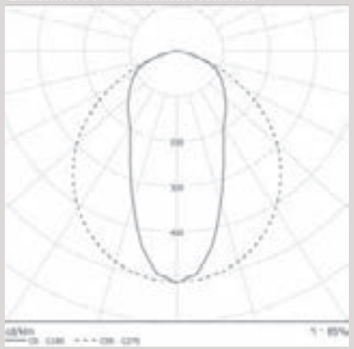


Einstein 133 PY T8 extensive reflector



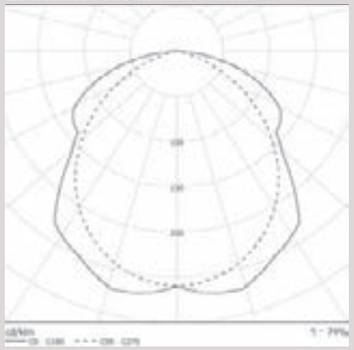
General lighting for extreme environments (cont.)

Einstein 100 PY T5 intensive reflector

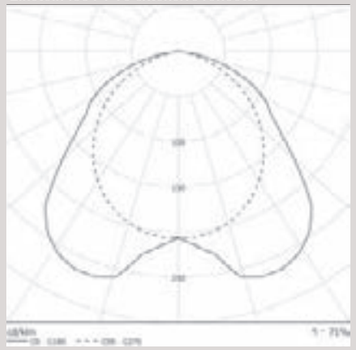


Einstein 100 PY T5 extensive reflector

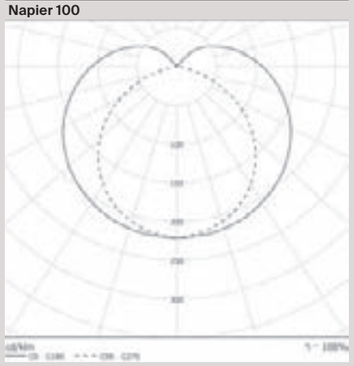
Einstein 133 PY T5 intensive reflector



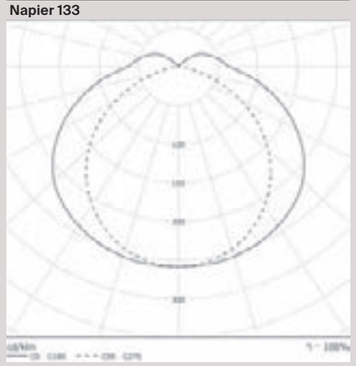
Einstein 133 PY T5 extensive reflector



Napier 100



Napier 133

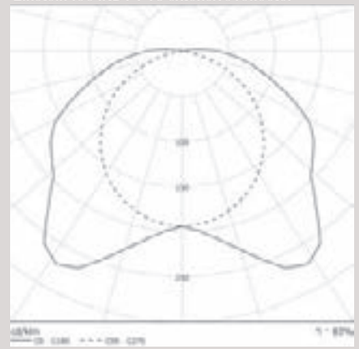


General lighting for extreme environments (cont.)

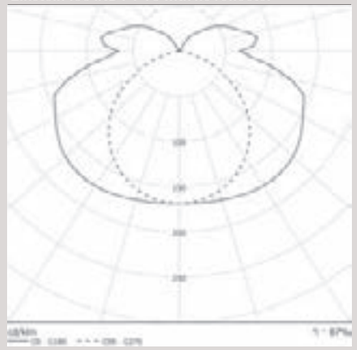
Einstein 100 IND PY T8 with no reflector

Einstein 100 IND PY T8 intensive reflector

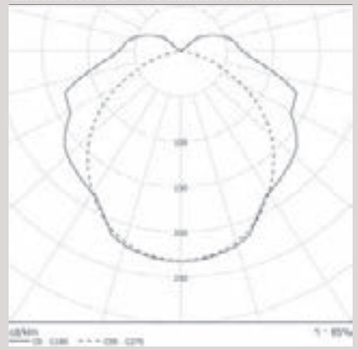
Einstein 100 IND PY T8 extensive reflector



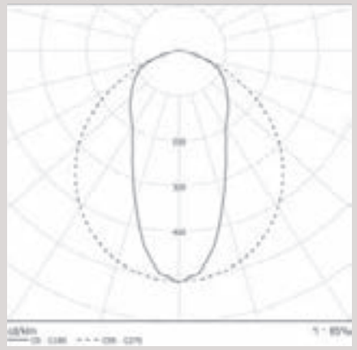
Einstein 133 IND PY T8 with no reflector



Einstein 133 IND PY T8 extensive reflector



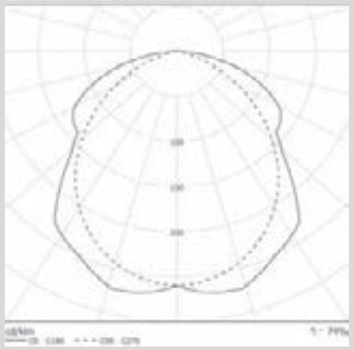
Einstein 100 IND PY T5 intensive reflector



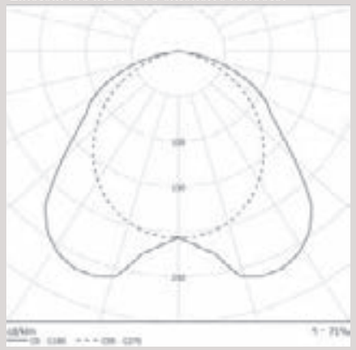
Einstein 100 IND PY T5 extensive reflector

General lighting for extreme environments (cont.)

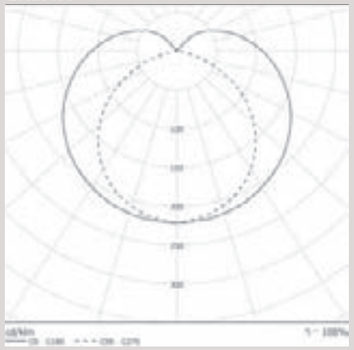
Einstein 133 IND PY T5 intensive reflector



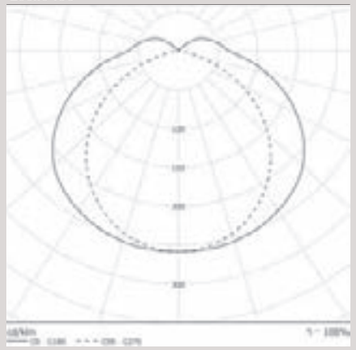
Einstein 133 IND PY T5 extensive reflector



Leslie 100

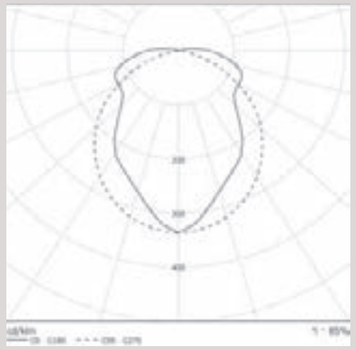


Leslie 133

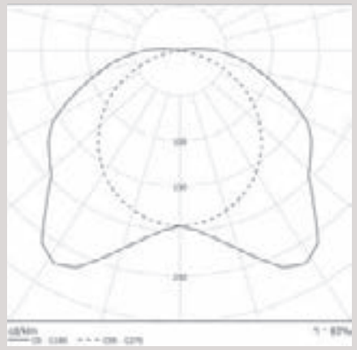


Einstein 100 HT PY with no reflector

Einstein 100 HT PY intensive reflector

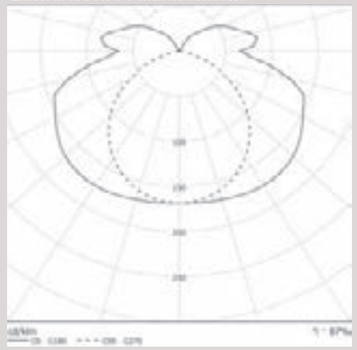


Einstein 100 HT PY extensive reflector

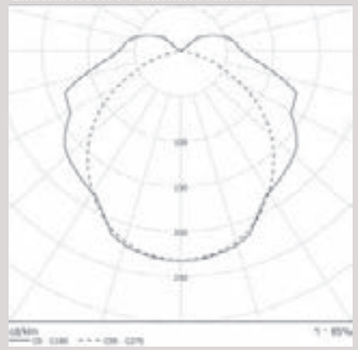


General lighting for extreme environments (cont.)

Einstein 133 HT PY with no reflector

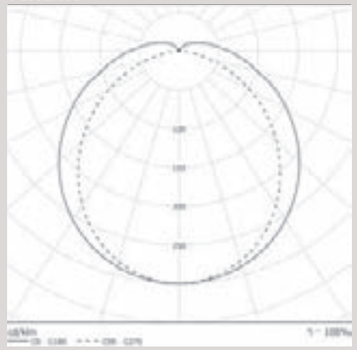


Einstein 133 HT PY extensive reflector

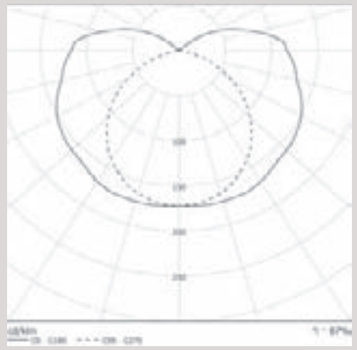


Task lighting for demanding environments

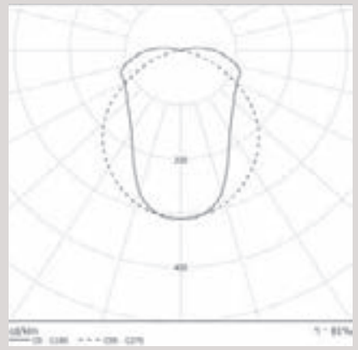
Pascal 100



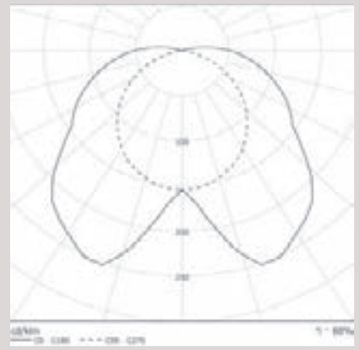
Darwin 100 T8 with no reflector



Darwin 100 T8 intensive reflector

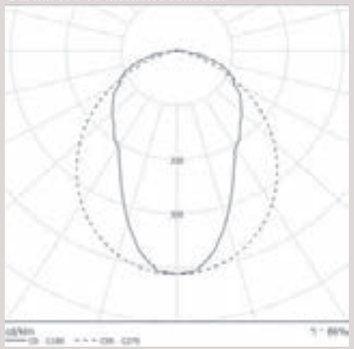


Darwin 100 T8 extensive reflector

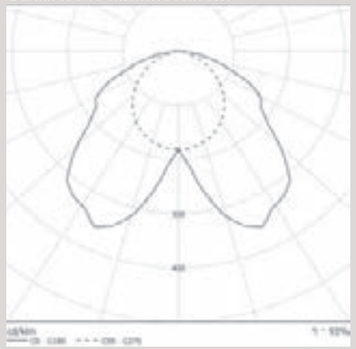


Task lighting for demanding environments (cont.)

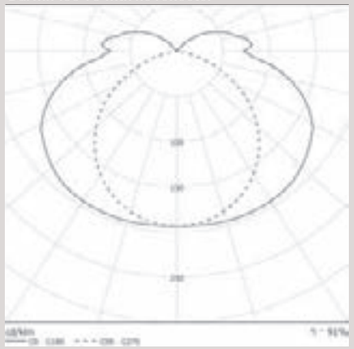
Darwin 100 T5 intensive reflector



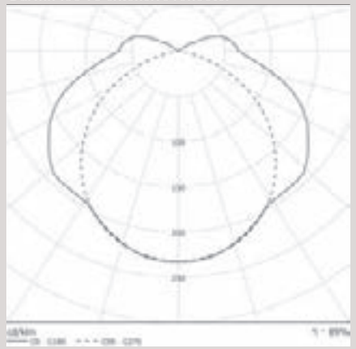
Darwin 100 T5 extensive reflector



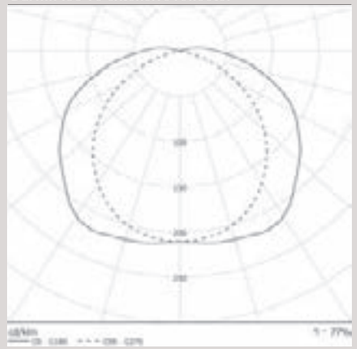
Darwin 133 T8 with no reflector



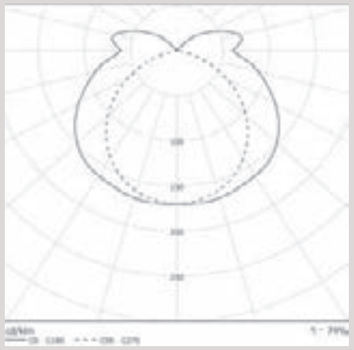
Darwin 133 T8 extensive reflector



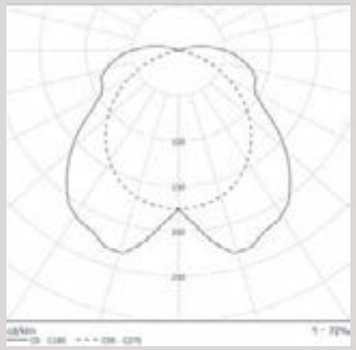
Darwin 133 T5 extensive reflector



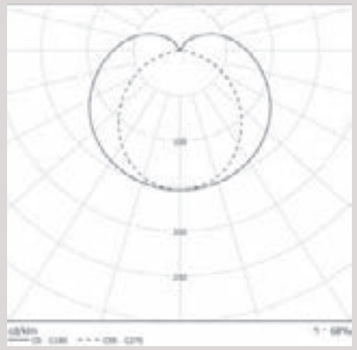
Darwin 100 FC with no reflector



Darwin 100 FC extensive reflector

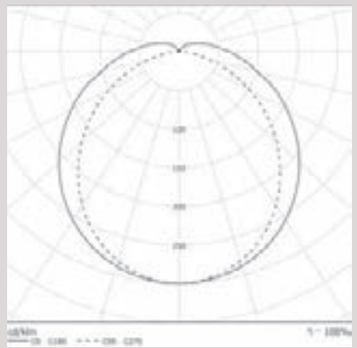


Darwin 100 FC satin-finish



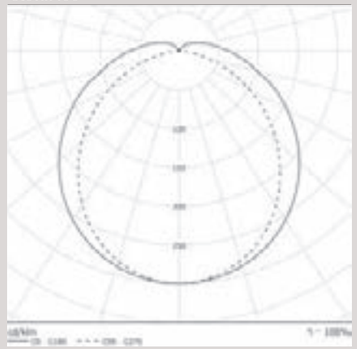
Task lighting for demanding environments (cont.)

Carnot 100



Task lighting for extreme environments

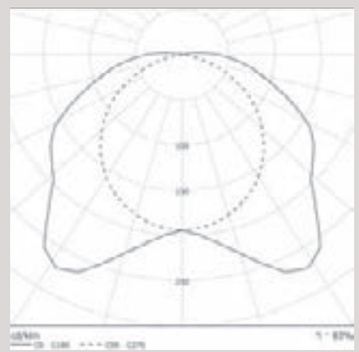
Stevin 100



Einstein 100 T8 with no reflector

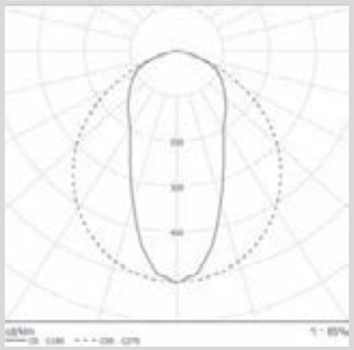
Einstein 100 T8 intensive reflector

Einstein 100 T8 extensive reflector



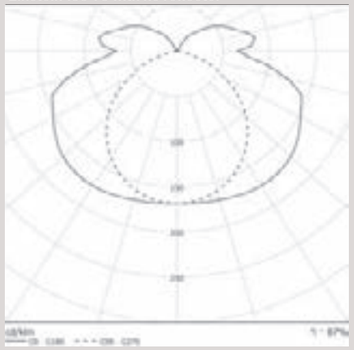
Task lighting for extreme environments (cont.)

Einstein 100 T5 intensive reflector

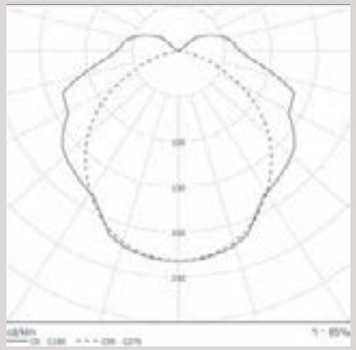


Einstein 100 T5 extensive reflector

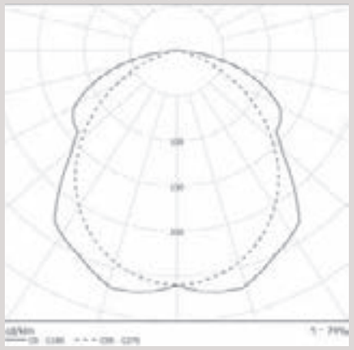
Einstein 133 T8 with no reflector



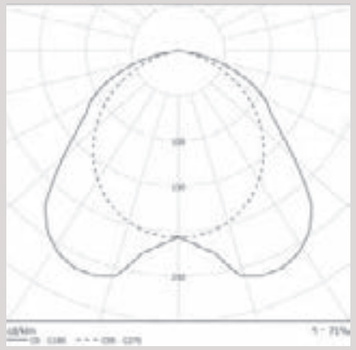
Einstein 133 T8 extensive reflector



Einstein 133 T5 intensive reflector



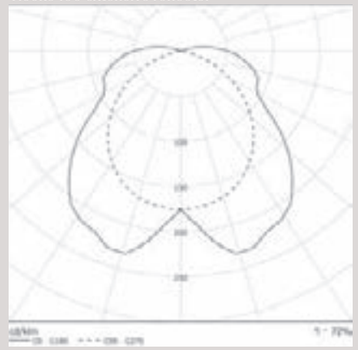
Einstein 133 T5 extensive reflector



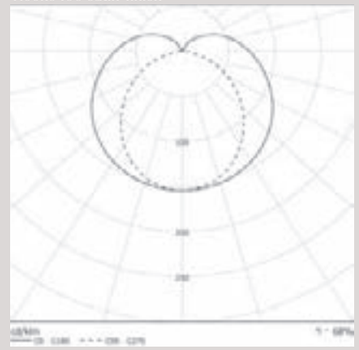
Task lighting for extreme environments (cont.)

Hooke 100 with no reflector

Hooke 100 extensive reflector



Hooke 100 satin-finish



Cugnot 100

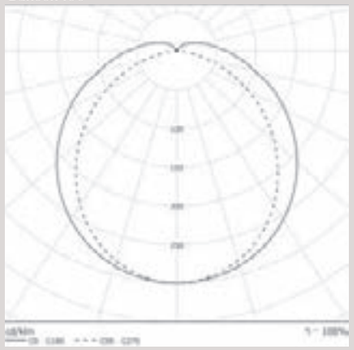
Hooke 100 HT with no reflector

Hooke 100 HT extensive reflector

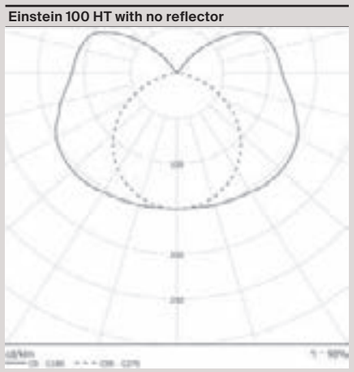
Hooke 100 HT satin-finish

Task lighting for extreme environments (cont.)

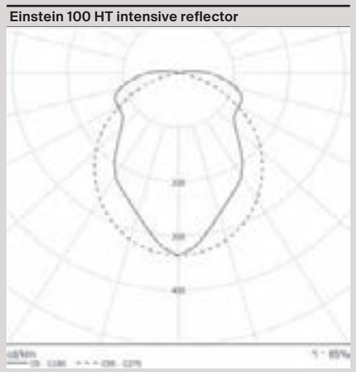
Bunsen 100



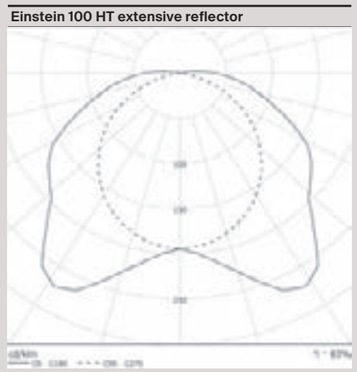
Einstein 100 HT with no reflector



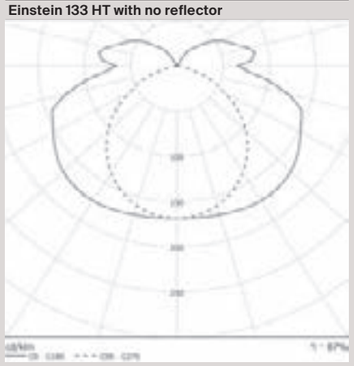
Einstein 100 HT intensive reflector



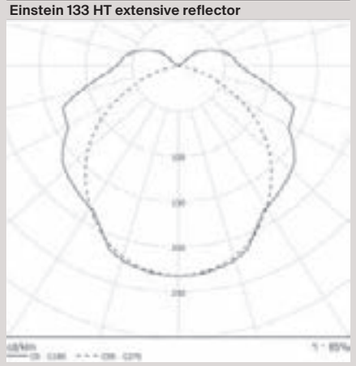
Einstein 100 HT extensive reflector



Einstein 133 HT with no reflector

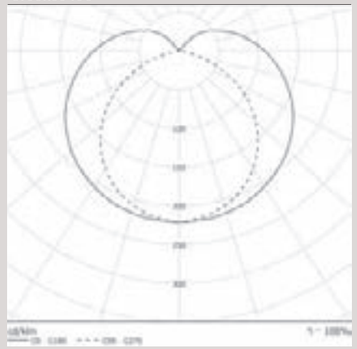


Einstein 133 HT extensive reflector

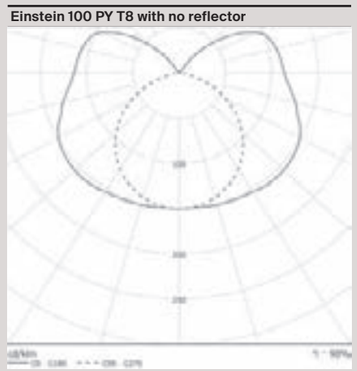


Task lighting for extreme environments (cont.)

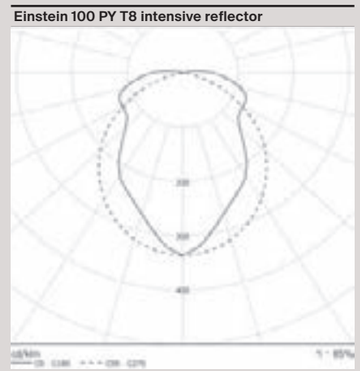
Crookes 100



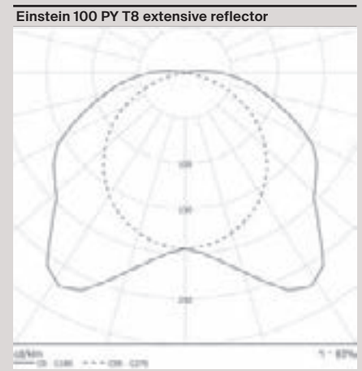
Einstein 100 PY T8 with no reflector



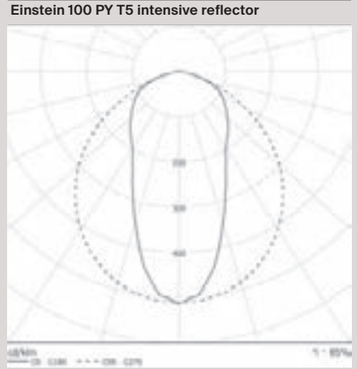
Einstein 100 PY T8 intensive reflector



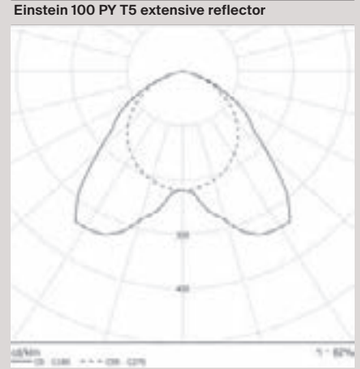
Einstein 100 PY T8 extensive reflector



Einstein 100 PY T5 intensive reflector

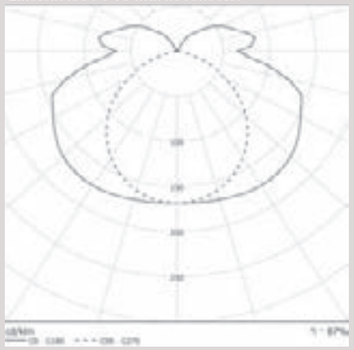


Einstein 100 PY T5 extensive reflector

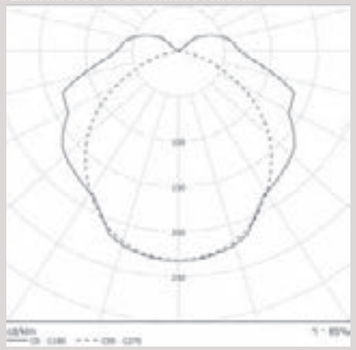


Task lighting for extreme environments (cont.)

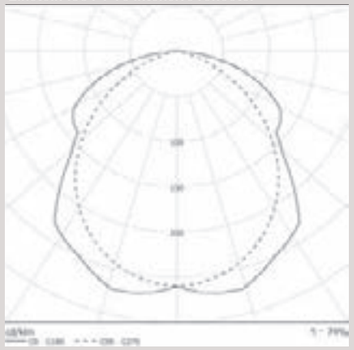
Einstein 133 PY T8 with no reflector



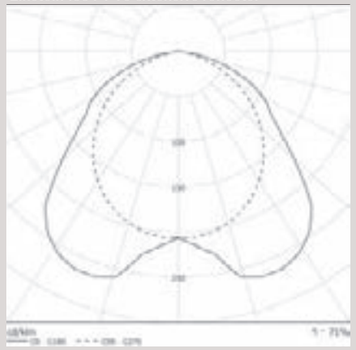
Einstein 133 PY T8 extensive reflector



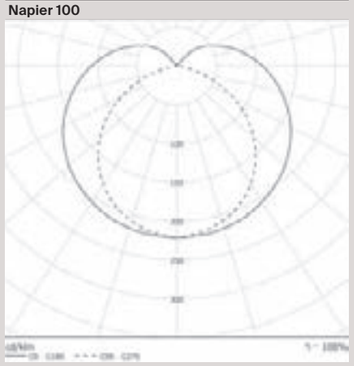
Einstein 133 PY T5 intensive reflector



Einstein 133 PY T5 extensive reflector



Napier 100



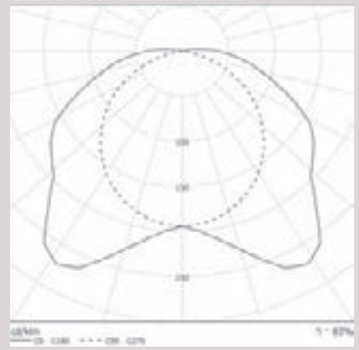
Leslie 100

Task lighting for extreme environments (cont.)

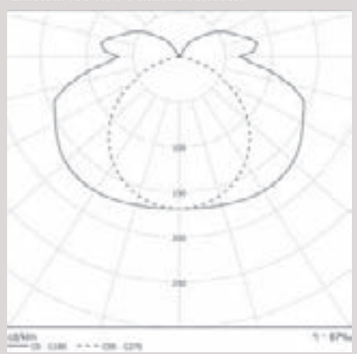
Einstein 100 HT with no reflector

Einstein 100 HT intensive reflector

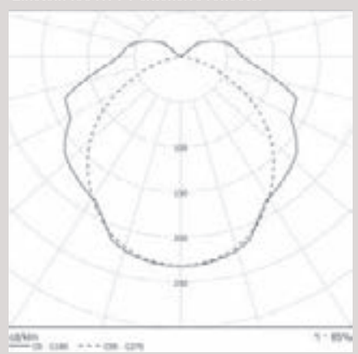
Einstein 100 HT extensive reflector



Einstein 133 HT PY with no reflector

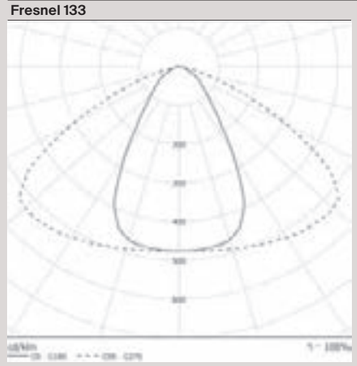


Einstein 133 HT PY extensive reflector



Hall lighting

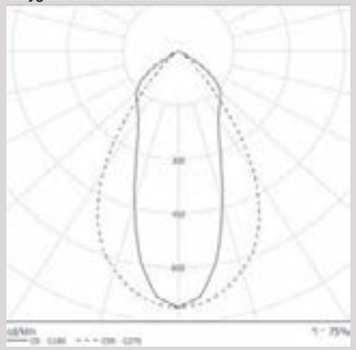
Fresnel 133



High bay lighting (cont.)

Huygens intensive reflector

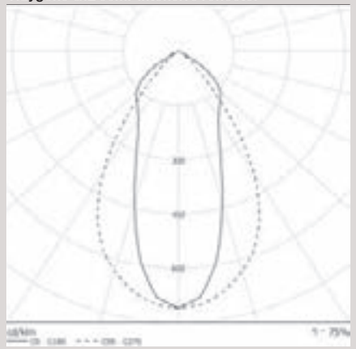
Huygens semi-intensive reflector



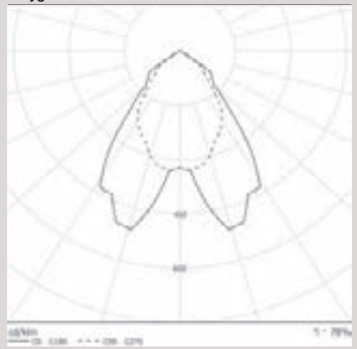
Huygens extensive reflector

Huygens G12 intensive reflector

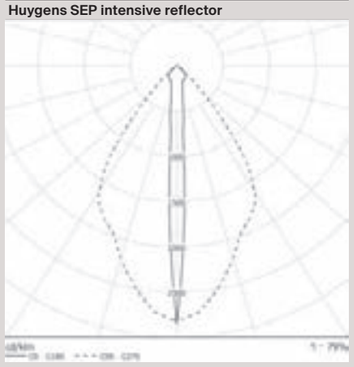
Huygens G12 semi-intensive reflector



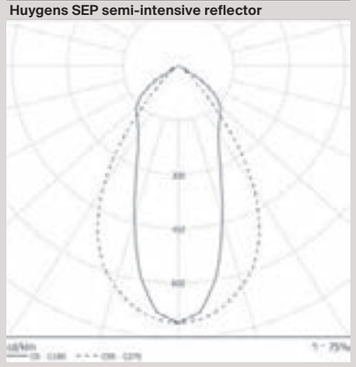
Huygens G12 extensive reflector



Huygens SEP intensive reflector



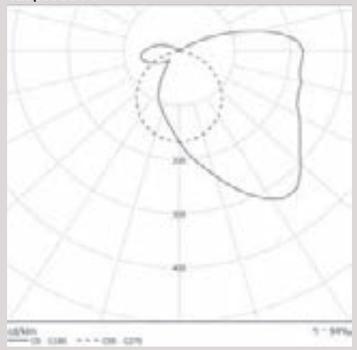
Huygens SEP semi-intensive reflector



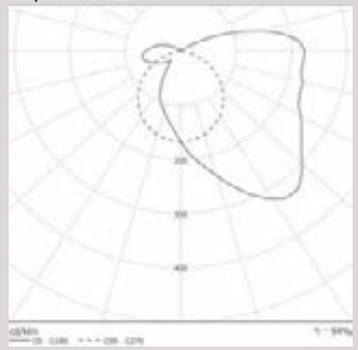
Huygens SEP extensive reflector

Inspection pits

Niépce 70 FV



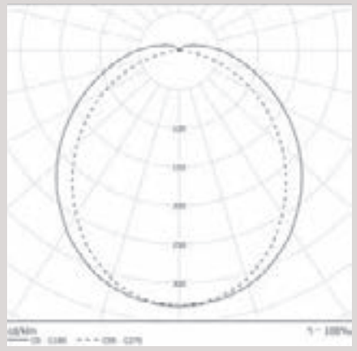
Niépce 70 FV CL2



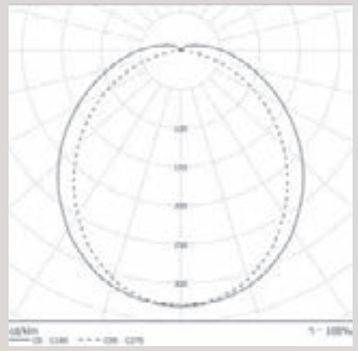
Darwin 100 FV

Darwin 100 FV CL2

Foucault 70

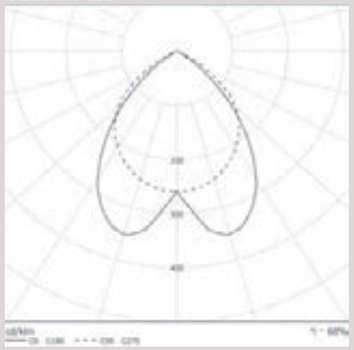


Foucault 70 CL2

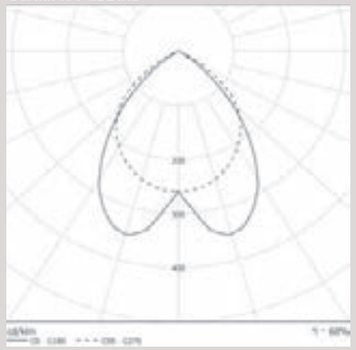


Low glare lighting

Darwin 100 GBL



Darwin 100 GBL IND



Darwin 133 GBL

Darwin 133 GBL IND

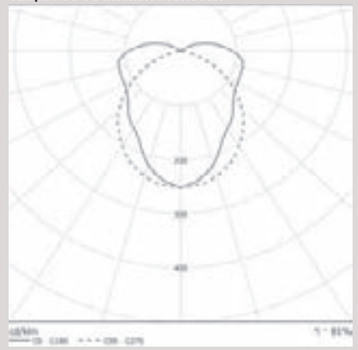
Compact design

Foucault 70

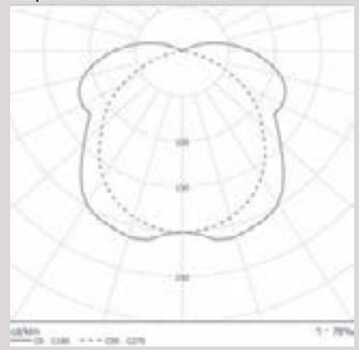
Compact design (cont.)

Niépce 70 T8 with no reflector

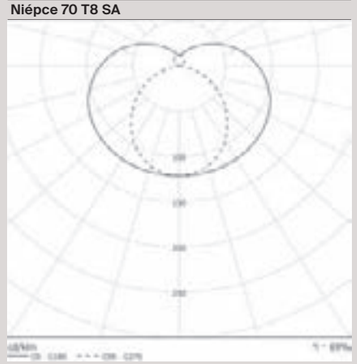
Niépce 70 T8 intensive reflector



Niépce 70 T8 extensive reflector



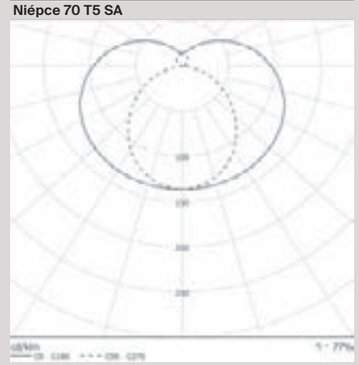
Niépce 70 T8 SA



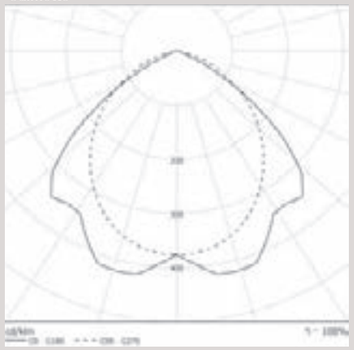
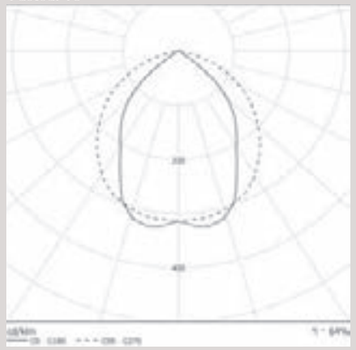
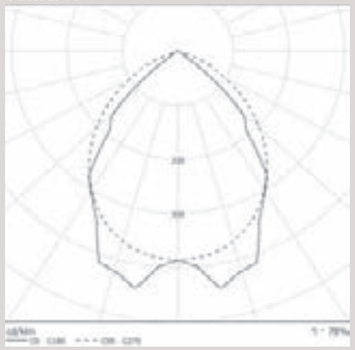
Niépce 70 T5 intensive reflector

Niépce 70 T5 extensive reflector

Niépce 70 T5 SA



Clean rooms

Calmette	Pasteur T8	Pasteur T5
		

Lighting levels

This guide sets out the average recommended lighting level for each application. The lighting requirement must be calculated at the location where the task is performed and at the level of the work surface, which is usually 80 cm above the floor (except where indicated otherwise).

Indoor lighting

EN 12464-1 standard of 2011: Indoor workplaces

Common spaces	Type	Type of use	Lighting level
	Circulation areas	Circulation areas and corridors	100 lux at floor
		Circulation with vehicles on the route	150 lux at floor
		Stairs	100 lux at floor
		Passenger and goods lifts	100 lux
		In front of goods lifts	200 lux
		Loading bays	150 lux
	Store rooms, cold stores	Store and stock rooms: not continuously occupied	100 lux
		Store and stock rooms: continuously occupied	200 lux
		Handling, packaging and shipping areas	300 lux
	Storage rack areas	Gangways: unmanned	20 lux at floor
		Gangways: manned	150 lux at floor
		Control stations	150 lux
		Vertical face of racking [1]	200 lux
		1. portable lighting may be used.	
Industrial activities and crafts	**Cement, cement goods, concrete, bricks**	Drying	50 lux
		Preparation of materials: work on kilns and mixers	200 lux
		General machine work	300 lux
		Rough forms	300 lux
	Ceramics, tiles, glass, glassware	Drying	50 lux
		Preparation, general machine work	300 lux
		Enameling, lamination, moulding, shaping simple pieces, satin-finishing, glass blowing	300 lux
		Grinding, engraving, glass polishing, shaping precision parts, manufacturer of glass instruments	750 lux
		Grinding of optical glass, crystal, hand grinding and engraving	750 lux
		Precision work, e.g. decorative grinding, hand painting	1000 lux
		Manufacture of synthetic precious stones	1500 lux
	Chemicals, plastics and rubber industry	Remote-operated processing installations	50 lux
		Processing installations with limited manual intervention	150 lux
		Constantly manned workplaces in processing installations	300 lux
		Precision measuring rooms, laboratories	500 lux
		Pharmaceutical production	500 lux
		Tyre production	500 lux
		Colour inspection	1000 lux
		Cutting, finishing, inspection	750 lux
	Electrical and electronics industries	Cable and wire manufacture	300 lux
		Winding (large coils)	300 lux
		Winding (medium-sized coils)	500 lux
		Winding (small coils)	750 lux
		Coil impregnating	300 lux
		Galvanising	300 lux
		Large-scale assembly work (e.g. large transformers)	300 lux
		Medium-scale assembly work (e.g. switchboards)	500 lux
		Small-scale assembly work (e.g. telephones, radios, IT hardware, computers)	750 lux
		Precision assembly work (e.g. measuring equipment, printed circuit boards)	1000 lux
		Electronic workshops, testing, adjusting	1500 lux
	Railways	Maintenance and servicing sheds	300 lux
	Foundries and metal casting	Man-size underfloor tunnels, cellars, etc.	50 lux
		Platforms	100 lux
		Send preparation	200 lux
		Dressing rooms	200 lux
		Work places at cupola and mixer	200 lux
		Casting bay	200 lux
		Shake out areas	200 lux
		Machine moulding	200 lux
		Hand and core moulding	300 lux
		Die casting	300 lux
		Model building	500 lux

Indoor lighting

	Type	Type of use	Lighting level
Industrial activities and crafts (suite)	**Metal working and processing**	Open die forging	200 lux
		Drop forging	300 lux
		Welding	300 lux
		Rough and average machining: tolerances ≥ 0.1 mm	300 lux
		Precision machining, grinding: tolerances <0.1 mm	500 lux
		Scribing, inspection	750 lux
		Wire and pipe drawing shops, cold forming	300 lux
		Plate machining: thickness ≥ 5 mm	200 lux
		Sheet metalwork: thickness <5 mm	300 lux
		Tool making, cutting equipment manufacture	750 lux
		Rough assembly	200 lux
		Medium assembly	300 lux
		Fine assembly	500 lux
		Precision assembly	750 lux
		Galvanising	300 lux
		Surface preparation and painting	750 lux
		Tool, template and jig making, precision mechanics, micro-mechanics	1000 lux
	Paper and paper goods	Edge runners, pulp mills	200 lux
		Paper manufacture and processing, paper and corrugated machines, cardboard manufacture	300 lux
		Standard bookbinding work, e.g. folding, sorting, gluing, cutting, embossing, sewing	500 lux
	Power stations	Fuel supply plant	50 lux
		Boiler house	100 lux
		Machine halls	200 lux
		Side rooms, e.g. pump rooms, condenser rooms, etc., switchboards (inside buildings)	200 lux
		Control rooms [1]	500 lux
		1. Dimming may be required.	
	Printers	Cutting, gilding, embossing, block engraving, work on stones and platens, printing machines, matrix making	500 lux
		Paper sorting and hand printing	500 lux
		Typesetting, retouching, lithography	1000 lux
		Colour print inspection	1500 lux
		Steel and copper engraving	2000 lux
	Rolling mills, iron and steelworks	Production plants without manual operation	50 lux
		Production plants with continuous manual operation	200 lux
		Slab store	50 lux
		Furnaces	200 lux
		Mill train, coiler, shear line	300 lux
		Control platforms; control panels	300 lux
		Test, measurement and inspection	500 lux
		Underfloor man-sized tunnels, belt sections, cellars, etc.	50 lux
	Vehicle construction and repair	Bodywork and assembly	500 lux
		Painting, spraying bay, polishing bay	750 lux
		Painting: touch-up, inspection	1000 lux
		Upholstery manufacture (manned)	1000 lux
		Final inspection	1000 lux
		General maintenance, repair and testing	300 lux
	Wood working and processing	Automated processing, e.g. drying, plywood manufacture	50 lux
		Steam pits	
		Saw frame	300 lux
		Work at joiners bench, gluing, assembly	300 lux
		Polishing, painting, fancy joinery	750 lux
		Work on wood working machines, e.g. turning, fluting, dressing, rebating, grooving, cutting, sawing, sinking	500 lux
		Selection of the near woods	750 lux
		Marquetry, inlay work	750 lux
		Quality control, inspection	1000 lux

Outdoor lighting

Norm EN 12464-2 of March 2014: Outdoor workplaces

	Type	Type of use	Lighting level
Common spaces	**Circulation areas**	Walkways exclusively for pedestrians	5 lux at floor
		Traffic areas for slow-moving vehicles (max. 10 kph), e.g. bicycles, trucks and excavators	10 lux at floor
		Regular vehicle traffic (max. 40 kph)	20 lux at floor
		Pedestrian passages, vehicle turning, loading and unloading points	50 lux at floor
		Cleaning and maintenance	50 lux at floor
	Industrial sites and storage areas	Short-term handling of large units and raw materials, loading and unloading of solid bulk goods	20 lux
		Continuous handling of large units and raw materials, loading and unloading of freight, lifting and lowering location for cranes, open loading platforms	50 lux
		Reading of addresses, covered loading platforms, use of tools, ordinary reinforcement and casting tasks in concrete plants	100 lux
		Electrical, machinery and pipeline installations with a large lighting requirement, inspection [1]	200 lux
		1. Use local lighting	
Industrial activities and crafts	**Railways**	Inspection pit [1]	100 lux
		1. Use low glare local lighting	
	Water and sewage plants	Handling of service tools, use of manually operated valves, starting and stopping of motors, pipe sealing and raking plants	50 lux
		Handling of chemicals, leak detection, pump replacement, general maintenance work, instrument reading	100 lux
		Repair of motors and electrical devices	200 lux
	Electricity generating, gas and heat plants	Pedestrian movements within electrically safe areas	5 lux at floor
		Handling of servicing tools, coal	
		Overall inspection	50 lux
		General maintenance work and instrument reading	100 lux
		Repair of electrical devices [1]	200 lux
		1. Use local lighting.	
	Shipyards and docks	General lighting of shipyard, prefabricated goods storage areas	20 lux
		Short-term handling of large units	20 lux
		Scraping, cleaning and painting	
		Painting and welding	100 lux
		Fitting of electrical and mechanical components	200 lux
	Canals, locks and harbours	Canalside and dockside quays	10 lux at floor
		Gangways and passages exclusively for pedestrians	10 lux at floor
		Lock control and ballasting areas	20 lux
		Cargo handling, loading and unloading (without label reading)	30 lux
		Cargo handling, loading and unloading (with label reading)	50 lux
		Passenger areas in passenger port terminals	50 lux
		Connection of pipes, hoses and ropes	50 lux
		Hazardous sections of walkways and access routes	50 lux

Fluorescent lamps*

* Data sourced from leading lamp manufacturers, and subject to change.

The following tables give the maximum power consumption data for our luminaires fitted with fluorescent light sources. CELMA (Federation of National Manufacturers Associations for Luminaires and Electrotechnical components in the European Union) provides a classification of ballasts (or EEIs) based on the combined power consumption values of the lamp system + ballast. Sammode has selected only energy-efficient ballasts:

- B1 ferromagnetic ballasts.
- A2 electronic ballasts with reduced losses (min. standard).

Standard lamps

These are the most commonly used lamps

							A2 ballast		B1 ballast	
		P (W)	L (mm)	Flux[1] (lm)	Colour temp (K)	IRC	Conso.[2] (W)	Lifespan[3] (hr)	Cons.[2] (W)	Lifespan[3] (hr)
T5 tubes, 16 mm diameter, G5 fitting										
	HE (High Efficiency)	14	549	1200	3000 / 4000	85	≤ 17	24 000	NC	NC
		21	849	1900			≤ 24			
		28	1149	2600			≤ 32			
		35	1449	3300			≤ 39			
	HO (High Output)	24	549	1750	3000 / 4000	85	≤ 26	24 000	NC	NC
		39	849	3100			≤ 43			
		49	1449	4300			≤ 56			
		54	1149	4450			≤ 60			
		80	1449	6150			≤ 88			
T8 tubes, 26 mm diameter, G13 fitting										
		18	590	1350	3000 / 4000	85	≤ 19	20 000	≤ 24	15 000
		36	1200	3350			≤ 36		≤ 41	
		58	1500	5200			≤ 55		≤ 64	
Compact fluorescent lamps, 2G11 fitting										
		18	217	1200	3000 / 4000	85	≤ 19	20 000	≤ 24	15 000
		24	317	1800			≤ 25		≤ 30	
		36	411	2900			≤ 36		≤ 41	
		40	533	3500			≤ 45		NC	

N.B.

(1) Lamp luminous flux data refer to a temperature of 25 °C to enable efficiency calculation in accordance with EN13032

(2) The consumption figures shown are standardised maximum values. For precise consumption data, please contact us.
The average lifespan of a lamp refers to a mortality rate of 50% (with continued luminous flux greater than 90% for surviving lamps). It refers to a 3-hour cycle (2 hours, 45 minutes on/15 minutes off).

Eco lamps

These tubes deliver substantial savings in power consumption (up to 10% less than standard tubes) with no effect on lighting performance (identical luminous flux). However, our IND luminaires provide an increase in luminous flux, rather than a reduction in power consumption.

							A2 ballast		B1 ballast	
		P (W) eco lamp	P (W) equiv. lamp	L (mm)	Colour temp (K)	IRC	Cons.[2] (W)	Lifespan[3] (h)	Cons.[2] (W)	Lifespan[3] (hr)
T5 tubes, 16 mm diameter, G5 fitting										
	HE (High Efficiency)	13	14	549	3000 / 4000	85	**≤ 16**	24 000	NC	NC
		19	21	849			**≤ 22**			
		25	28	1149			**≤ 29**			
		32	35	1449			**≤ 36**			
	HO (High Output)	20	24	549	3000 / 4000	85	**≤ 22**	24 000	NC	NC
		34	39	849			**≤ 38**			
		45	49	1449			**≤ 52**			
		50	54	1149			**≤ 56**			
		73	80	1449			**≤ 81**			
T8 tubes, 26 mm diameter, G13 fitting										
		16	18	590	3000 / 4000	85	**≤ 17**	20 000	**≤ 22**	15 000
		32	36	1200			**≤ 32**		**≤ 37**	
		51	58	1500			**≤ 48**		**≤ 57**	

Long-life lamps

These lamps offer a longer lifespan than standard lamps, which is comparable to that of LED solutions, but with no effect on lighting performance (identical luminous flux).

Benefits:

- Lower maintenance costs as a direct result of the longer replacement intervals.
- Ideal where lamp replacement is costly (at extreme height, difficult access, etc.) or disruptive to the production process (tunnels, production lines, etc.).
- Reduced waste
- Low early failure rate

Limits:

- To achieve the lifespans given by lamp manufacturers, it is not advised to dim lamps to less than 30%.
- Some lamp powers are not available in long-life versions.

						A2 ballast		B1 ballast	
		P (W)	L (mm)	Colour temp (K)	IRC	Cons.[2] (W)	Lifespan[3] (h)	Cons.[2] (W)	Lifespan[3] (hr)
T5 tubes, 16 mm diameter, G5 fitting									
	HE (High Efficiency)	14	549	3000 / 4000	85	≤ 17	45 000	NC	NC
		NC	NC			NC			
		28	1149			≤ 32			
		35	1449			≤ 39			
	HO (High Output)	NC	NC	3000 / 4000	85	NC	45 000	NC	NC
		NC	NC			NC			
		49	1449			≤ 56			
		54	1149			≤ 60			
		80	1449			≤ 88			
T8 tubes, 26 mm diameter, G13 fitting									
		18	590	3000 / 4000	85	≤ 19	79 000	≤ 24	47 000
		36	1200			≤ 36		≤ 41	
		58	1500			≤ 55		≤ 64	
Compact fluorescent lamps, 2G11 fitting									
		18	217	3000 / 4000	85	≤ 19	36 000	≤ 24	21 000
		24	317			≤ 25		≤ 30	
		36	411			≤ 36		≤ 41	
		40	NC			NC		NC	

High-intensity discharge lamps*

The following tables give the technical data for the different types of discharge lamp used in our luminaires.

* Data sourced from leading lamp manufacturers, and subject to change.

	P (W)	Flux (lm)	Colour temp (K)	IRC	Cons.[1] (W)	Lifespan[2] (hr)
Compact metal iodine lamps, G12 fitting						
	70	5 300 to 8 400	2500 to 4200	70 to 95	85	9 000 to 20 000
	150	12 000 to 15 100	3000 to 4200	77 to 96	169	9 000 to 15 000
Clear tubular metal iodine lamps, E40 fitting						
	100	9 500 to 12 000	2800 to 4200	80 to 88	115	18 000 to 27 000
	150	11 200 to 17 300	2800 to 4200	80 to 96	169	18 000 to 27 000
	250	19 000 to 32 000	3000 to 5500	65 to 92	278	10 000 to 24 000
	400	32 000 to 40 000	3700 to 5500	62 to 92	430	10 000 to 20 000
	1000	85 000 to 110 000	3000 to 6000	57 to 81	1050	9 000 to 12 000
Clear tubular high pressure sodium lamps, E40 fitting						
	100	9 000 to 10 700	2000	25	115	24 000 to 40 000
	150	15 000 to 18 000			169	24 000 to 48 000
	250	28 000 to 33 300			278	24 000 to 48 000
	400	48 000 to 57 000			430	24 000 to 48 000
	1000	130 000 to 140 000			1050	20 000

N.B.

1. The consumption figures shown refer to the use of ferromagnetic ballasts. For 70 W, 100 W, 150 W and 250 W lamps: A3 ballast. or 400 W and 1000 W lamps: A2 ballast.

2. The average lifespan of a lamp refers to a mortality rate of 50%.

Calculating the luminous flux of a luminaire

The luminous flux of a luminaire (in lumens) is obtained by multiplying the flux of the lamp (s) by the efficiency of the luminaire (available in the Photometric Polar Diagram chapter): Φ luminaire = Φ lamp (s) × η

Example:
Luminous flux of a Darwin 100 T5 with extensive reflector and T5 HO 54 W lamp:

Φ luminaire = 4450 lm × 94% = 4183 lm

Luminous flux is a simple criterion that enables a first level of comparison between luminaires, particularly comparison of fluorescent products with LED products. However, it is important to bear in mind that luminous flux does not always equate to high light levels in the working area.

So efficient lighting is not just about the quantity of light, but how well the luminous flux is directed. This is referred to as ‘useful flux’, and photometric polar diagrams (charting the spatial distribution of light intensity) remain the most relevant criterion.

Our sales and technical teams are available to assist you in selecting the correct product for your needs.

LED tubes

LED tubes are ready to install and fit the sockets of fluorescent luminaires. Using luminaires specifically designed for LED tubes brings with it certain advantages, but replacing a fluorescent source directly with an LED source compromises the quality, service, comfort and safety of the lighting system.

Safety
Although major manufacturers (Philips, Osram, etc.) offer solutions that remove the risk of electrocution when relamping, many hazardous products are still in use. However, many LED tubes have been withdrawn from the market by the European Union as part of the Rapid Alert System to flag up non-compliance with the Low Voltage Directive 2006/95/EC and the EN 6059 standard.

The benefits
LED sources offer many practical benefits for operators: reduced energy consumption and longer lifespan than traditional sources, simple maintenance and easy end-of-life replacement.

The drawbacks
Replacing fluorescent lamps with LED tubes in existing luminaires invalidates EC certification. Doing so requires the product to be modified: in most cases, the wiring has to be adapted and components within the luminaire replaced or shunted. The liability of the luminaire manufacturer no longer applies, and all warranties are void. Most importantly, the quality of service is reduced, since each luminaire has been optimised for a particular source and light distribution pattern at the design stage. The results include reduced lighting levels, unbalanced spread of light, frequent dazzling, etc.

Our vision
We believe that a luminaire is a coherent assembly of light source, power supply and casing. We have applied this philosophy since 1927 to all our products and in the many applications we offer.

Relamping
A replacement light source should always use the same technology as the original. For example, to improve the performance of a fluorescent luminaire, we offer long-life and energy-efficient fluorescent tubes perfectly matched to the design of the luminaire.

LED luminaires
Our LED products are designed around standardised modules selected specifically for their high quality. They therefore benefit long term from the latest generation of components that offer efficient thermal management even in a sealed casing. This optimises the energy efficiency and lifespan, depending on their application. Lastly, our dedicated LED module optical systems cover every lighting need.

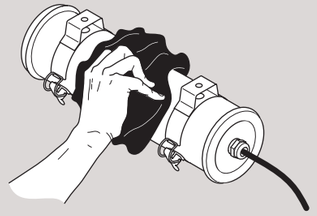
Our commitment
Choosing a Sammode luminaire means choosing the best light source in a casing that is completely appropriate for its application. Since every component within the luminaire is easy to maintain, you are assured of the highest-possible level of service continuity.

Maintenance

Throughout our history, we have always maintained a culture of uncompromising quality and design our luminaires for exceptionally long life in the most aggressive environments. Nevertheless, maintaining their characteristics and performance in these environments also relies on the quality of luminaire installation and maintenance.

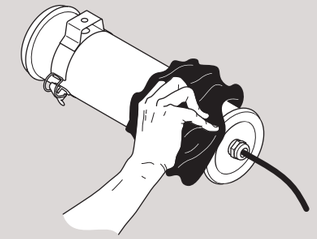
Diffusers

Regular cleaning of the luminaire avoids the accumulation of surface deposits, and ensures that it retains its original appearance and specifications. The best cleaning method is to use a little soap in warm water with the optional addition of a gentle domestic detergent, and wipe the luminaire using a soft fabric or non-abrasive sponge. The surfaces should then be rinsed with cold water and dried immediately with a soft cloth to avoid residual water marks. Never use abrasive cleaning or highly alkaline materials, and never scrape luminaires using scrapers, razor blades or other sharp tools.



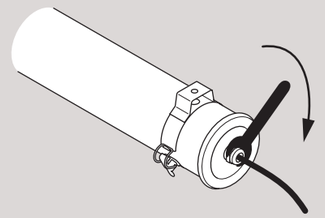
Stainless steel components

Regular washing of stainless steel components (end caps, fixings, etc.) with clean water improves their resistance and avoids the accumulation of the conductive deposits that result in pitting (galvanic corrosion). It is also preferable to use stainless steel fixings (A2 for use with 304 L, and A4 for use with 316 L) when mounting luminaires and to protect them against molten metal spatter (from arc welding, etc.) and contamination as a result of an unprotected mounting (rust streaking, etc.).



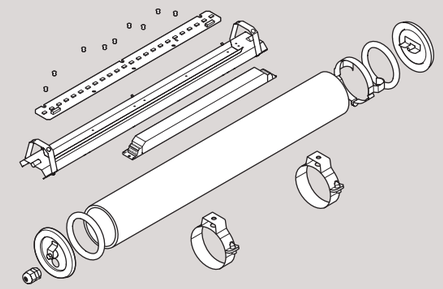
Ingress protection

The best-possible long-term seal is maintained by following the installation instructions available in our online publications (www.sammode.com). Particular care should be taken to tighten cable glands and their suitability for the type of cable used.



Spare parts

The simple assembly methods (nuts and bolts, rivets, etc.) used in our luminaires ensure that they can be easily dismantled to facilitate maintenance. From light source (LED modules, etc.) to electronic power supplies, mechanical structure (strap mountings, diffusers, etc.) and consumables (lamps, starters, condensers, sockets, batteries, etc.), every part of the luminaire is designed to last and be replaceable. Spare parts are available for all our luminaires.
For orders or additional information, please call us on +33 (0) 1 43 14 84 90 or e-mail us at enquiry@sammode.com.



Specifications

Ingress Protection (IP)

The IP rating refers to the degree of protection provided by electrical equipment enclosures against the ingress of solid objects and moisture in accordance with EN 60529.

IP X Y

X	Protection against the ingress of solid objects	Y	Protection against the ingress of moisture
0	No protection	0	No protection
1	Objects ≥ 50 mm diameter	1	Vertically falling drops of water
2	Objects ≥ 12.5 mm diameter	2	Direct sprays of water up to 15° from vertical
3	Objects ≥ 2.5 mm diameter	3	Direct sprays of water up to 15° from vertical (rain)
4	Objects ≥ 1.0 mm diameter	4	Water splashed from all directions
5	Protected against dust (no harmful deposit)	5	Low-pressure water jets from all directions
6	Totally protected against dust	6	High-pressure water jets or heavy seas
		7	Temporary immersion
		8	Prolonged immersion at a depth specified by the manufacturer
		9	K* High-pressure steam/water jet cleaning

Sammode floodlights are rated IP 65, and Sammode tubular luminaires are rated IP 66, 68 and 69K. The following tests have been conducted under laboratory conditions in accordance with ISO 20653. Materials and design choices are optimised to maintain this level of ingress protection throughout the life of the luminaire.

Up to, and including, the second figure 6, the rating implies compliance with the requirements of all lower numbers.

Rating	Use	Test procedure
IP65	Indoor	Spraying the enclosure from all practicable directions with a stream of water from a standard-compliant test nozzle. • Test duration: 3 minutes • Flow rate: 12.5 l/min • Distance between the nozzle and enclosure surface: 2.5 m–3 m • Pressure: 30 kPa
IP66	Outdoor	Spraying the enclosure from all practicable directions with a stream of water from a standard-compliant test nozzle. • Test duration: 3 minutes • Flow rate: 100 l/min • Distance between the nozzle and enclosure surface: 2.5 m–3 m • Pressure: 100 kPa
IP68	Outdoor	• Immersion of the luminaire in cold water • Immersion of the luminaire at a depth of 4 m (0.4 Bar) • The luminaire is switched on for 1 hour before commencement of the test • the luminaire is switched off during the test • Immersion duration: 1 hour
IP69K	Pressure washing	Spraying the enclosure with a high-pressure jet of hot water to reproduce food industry cleaning conditions. • Test duration: 2,5 minutes • Flow rate: 15 l/min • Distance between the nozzle and enclosure surface: 100 and 150 mm • Pressure: 10000 kPa • Water temperature: 80 °C

Impact Resistance (IK)

Sammode luminaires with borosilicate glass bodies are IK07 rated; all others are IK10 rated. The following tests have been conducted under laboratory conditions in accordance with EN 62 262. Materials and design choices are optimised to maintain this level of impact resistance throughout the life of the luminaire. The ingress protection levels of our luminaires remain intact following mechanical impact, as long as this remains below the impact energy guaranteed by the IK rating.

IK XX

XX	Protection against the ingress of solid objects
00	No protection
01	Impacts of 0.14 joules impact energy (the energy of a 14 g weight falling 1 m)
02	Impacts of 0.2 joules impact energy (the energy of a 20 g weight falling 1 m)
03	Impacts of 0.35 joules impact energy (the energy of a 35 g weight falling 1 m)
04	Impacts of 0.5 joules impact energy (the energy of a 50 g weight falling 1 m)
05	Impacts of 0.7 joules impact energy (the energy of a 70 g weight falling 1 m)
06	Impacts of 1 joules impact energy (the energy of a 100 g weight falling 1 m)
07	Impacts of 2 joules impact energy (the energy of a 200 g weight falling 1 m)
08	Impacts of 5 joules impact energy (the energy of a 500 g weight falling 1 m)
09	Impacts of 10 joules impact energy (the energy of a 1 kg weight falling 1 m)
10	Impacts of 20 joules impact energy (the energy of a 2 kg weight falling 1 m)

Electrical safety classification

The electrical safety classification defines a level of electrical protection for the user as the basis for measuring the potential risk of a person coming into contact with mains voltage (230 V AC) or any other voltage hazardous to humans (above 50 V in dry surroundings). Sammode luminaires comply with electrical safety classes I, II and III in accordance with EN 60598-1.

Class	Protection	Symbol
Class I	Equipment that is electrically insulated and provided with a connection to earth to protect exposed metal parts that could become live accidentally	
Class II	Equipment that has double or reinforced insulation of its active components (functional and physical insulation) with no earthing of metal parts	
Class III	Operation at very low voltage (<50 V)	

Fire resistance

The glow wire test is governed by the IEC 60695-2-10 standard and is applied to determine whether the luminaire installed in a building could potentially burn and, more importantly, could contribute to the spread of fire. Sammode luminaire diffusers pass the glow wire test at a temperature of 650 °C for the coextruded polycarbonate/polymethyl methacrylate versions, and 960 °C for the polycarbonate versions.

The borosilicate glass diffuser and metal luminaire components are deemed non-flammable. All our emergency lighting luminaires pass the glow wire test at 960 °C. The test consists of applying a wire heated to a fixed temperature (650 °C, 850 °C, 960 °C, etc.) for a fixed period (5 or 30 seconds, for example) and examining the behaviour of the luminaire housing, especially if it catches fire. This requirement for luminaires was removed in 2010 from regulations governing public buildings, but remains in force for high-rise buildings: see article GH48 of the French Decree of 30 December 2011 setting out safety regulations governing the construction of high-rise buildings and their protection against the risks of fire and panic:

- a test compliance temperature of 650 °C for luminaires in general
- a test compliance temperature of 850 °C for luminaires in staircases, horizontal public traffic areas, and emergency lighting luminaires (in accordance with IEC 60598-2-22).

Our products are trusted by all these commpanies and organisations

Airbus
Acetex Chimie
ADNATCO Abu Dhabi National Tanker Company
Air France-KLM
Airbus
Alstom
AMLOR
Appryl
Arc International
ArcelorMittal
Areva
Arjowiggins
AstraZeneca
Bayer
Borealis
BorsodChem
Bosch
BP
Bridgestone
Brittany Ferries
Buksér og Berging
Clear Channel
Communauté urbaine de Lyon
Corus Group
CPCU
Croda
Dalkia
DCNS
Dillinger
Eau de Paris
EDF
Engie
ERCA
ESID Toulon
General Electric
Groupe PSA
GRTgaz
International Paper
Jordan Phosphate Mines Company
Kuwait Oil Tanker Company
Laboratoire français du fractionnement et des biotechnologies
Liebherr
MISC Malaysia International Shipping Corporation Berhad
MSE Münchner Stadtentwässerung
Nantes Saint-Nazaire Port
Naphtachimie
NCL Norwegian Cruise Line
Nippon Jordan Fertilizer Company
Norilsk Nickel
Oslo Havn
Perenco
Petronas Petroliam Nasional Berhad
Plastic Omnium
Procter & Gamble
PWR Pack
Q CELLS
QAPCO Qatar Petrochemical Company
RATP
Rio Tinto Alcan
Royal Caribbean Cruise Line
Royal Navy
Saint-Gobain
Sanofi
Saur
Shell
SIAAP
SIC Processing
SNCB
SNCF
Snecma
Société de traitement chimique des métaux
Solvay
Stora Enso
STX Europe
Tärntank Reder
Tata Steel
Tereos
ThyssenKrupp
Total
Toyota
United Chemical Technologies
UPM-Kymmene
Vallourec
Veolia
...

Sammode

Head office and showroom
24 rue des Amandiers
F-75020 Paris
T +33 (0) 1 43 14 84 90
F +33 (0) 1 47 00 59 29
enquiry@sammode.com
sammode.com

International

Deutschland
Sammode Lichttechnik GmbH
Lebacher Str. 4
D-66113 Saarbrücken
T +49 (0) 681 9963550
F +49 (0) 681 9963551
info@sammode.de
sammode.de

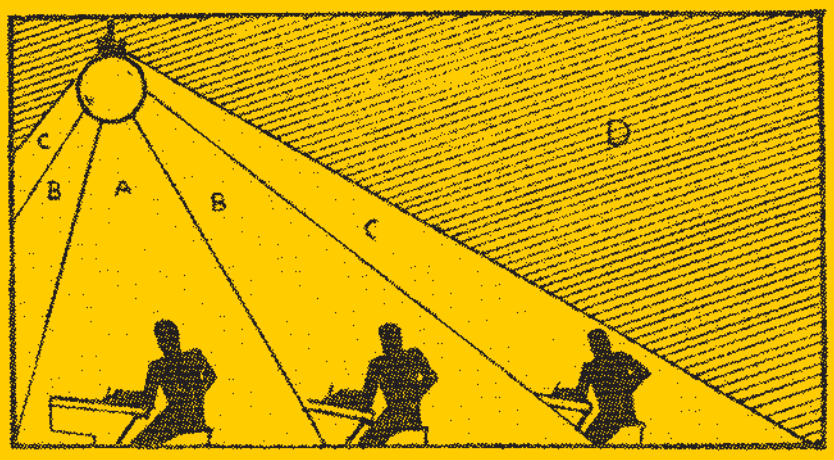
Australia
Sammode Lighting Australasia Pty Ltd
15 Industrial Avenue
WACOL QLD 4076
AUS-Queensland
T +61 (0) 7 3335 3504
F +61 (0) 7 3335 3533
info@sammode.com.au
sammode.com.au

Graphic design
WA75
WA75.com

Printing
Presses du Louvre, Paris

Photographic credits
p. 3 © Alain Caste, Eloi Chafaï, Morgane Le Gall, Sammode
p. 54–189 © Alain Caste, Rodrigo Rojas, Sammode

Products	General lighting		Task lighting							
	Demanding environments	Extreme environments	Demanding environments	Extreme environments	Hall lighting	Inspection pits	Low glare lighting	Compact design	Clean rooms	LED
Bunsen 100		84		130						●
Bunsen 133		85								●
Calmette									186	●
Carnot 100	60		116							●
Carnot 133	61									●
Crookes 100		88		133						●
Crookes 133		89								●
Cugnot 100		78		128						●
Cugnot 133		79								●
Darwin 100 FC			115							
Darwin 100 FV						158				
Darwin 100 FV CL2						160				
Darwin 100 GBL							168			
Darwin 100 GBL IND							169			
Darwin 100 IND T5	64									
Darwin 100 IND T8	62									
Darwin 100 T5	58		112							
Darwin 100 T8	56		111							
Darwin 133 GBL							170			
Darwin 133 GBL IND							171			
Darwin 133 IND T5	65									
Darwin 133 IND T8	63									
Darwin 133 T5	59		114							
Darwin 133 T8	57		113							
Einstein 100 HT		86		131						
Einstein 100 HT PY		102		140						
Einstein 100 IND T5		82								
Einstein 100 IND T8		80								
Einstein 100 IND PY T5		98								
Einstein 100 IND PY T8		96								
Einstein 100 PY T5		92		135						
Einstein 100 PY T8		90		134						
Einstein 100 T5		76		124						
Einstein 100 T8		74		123						
Einstein 133 HT		87		132						
Einstein 133 HT PY		103		141						
Einstein 133 IND T5		83								
Einstein 133 IND T8		81								
Einstein 133 IND PY T5		99								
Einstein 133 IND PY T8		97								
Einstein 133 PY T5		93		137						
Einstein 133 PY T8		91		136						
Einstein 133 T5		77		126						
Einstein 133 T8		75		125						
Foucault 70						162		176		●
Foucault 70 CL2						163				●
Fresnel 133					146					●
Hooke 100				127						
Hooke 100 HT				129						
Huygens					148					
Huygens G12					147					
Huygens SEP					150					
Leslie 100		100		139						●
Leslie 133		101								●
Napier 100		94		138						●
Napier 133		95								●
Niépce 70 FV						156				
Niépce 70 FV CL2						157				
Niépce 70 T5								179		
Niépce 70 T5 SA								180		
Niépce 70 T8								177		
Niépce 70 T8 SA								178		
Pascal 100	54		110							●
Pascal 133	55									●
Pasteur T5									189	
Pasteur T8									188	
Stevin 100		72		122						●
Stevin 133		73								●



Extract
from the 1930
catalogue

Sammode

Sammode S.A.
24 rue des Amandiers
F-75020 Paris
T +33 (0)1 43 14 84 90
sammode.com