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## Enviropar-L - Highlights

Enviropar-L is an exciting new development that can replace any existing PAR38 flood or spot light with energy efficient LED lighting. It is the only PAR38-compatible weatherproof spot light with 20W LED output, which can replace the complete family of PAR38 reflector lamps worldwide with one single design.

Key features of Enviropar-L:

### PAR38-compatible

Enviropar-L has been designed to replace any of the millions of incandescent PAR38 lamps installed around the world. Many Governments are offering incentives for the replacement of conventional incandescent PAR38 lamps. With the latest LEDs (capable of about 100Lm/W efficacy) the complete family of PAR38 reflector lamps, rated up to 150W, can now be replaced by a single design using LEDs of up to 20W output.

### Weatherproof

Suitable for indoor and outdoor applications

### Efficient

Enviropar-L achieves illumination comparable to that of a 150W PAR38 globe with 20W of LED power.

### Technically mature

Enviropar-L's unique design is the result of extensive engineering development over many years. It is now a refined and mature product. [MORE INFORMATION](#)

### Freely configurable

The family of Enviropar-L spotlights offers two designs:

- ➔ "Enviropar-L with a large LED mounting area for clusters of single or multi-chip LEDs with or without reflectors
- ➔ "Mini Enviropar-L", optimised for a single LED array with or without reflector; this version is the most advanced from a technical and environmental/ESD perspective. It is also the most compact and commercially attractive design. The development and availability of high power LED arrays with superior thermal characteristics and efficacy make Mini Enviropar-L the compelling design of choice for the future.

### Versatile

The prototypes have been designed to primarily meet the targeted cooling and lighting performance. The spot/floodlight body can however be aesthetically modified as required, provided the black heat sink characteristics are not compromised.

### Technically superior

With its unique heat sink configuration, Enviropar-L is technically superior to all other comparable products on the market as confirmed by its low weight to power ratio. [MORE INFORMATION](#)

### Proven

Prototypes have been extensively tested to prove performance under all conceivable ambient conditions. [MORE INFORMATION](#). They are available to interested parties for evaluation and testing.

### Patented

The design has been tested and patented in Australia (AU 2009202051). Patent protection in USA has been initiated.

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## Technology



Enviropar-L is the only PAR38-compatible and patented weatherproof spot light with 20W LED output, which can replace the complete family of PAR38 reflector lamps worldwide with one single design.

Enviropar-L with LEDs is superior to all comparable products on the market as confirmed by its weight/output ratio and its patented weatherproof design.

The LED enclosure is thermally decoupled from the power supply because the spot light body is configured as a 2-part assembly.

Weatherproof ventilation prevents condensation.

Thermal isolation of the power supply from the LEDs allows the power supply to operate at low temperatures for all anticipated ambient conditions.

The heat sink with maximised cooling surface area is designed for environmental compatibility: Weight and material usage have been minimised – the entire 20W LED fitting weighs only 400g.

The thermally tested Enviropar-L body includes a large, protected surface area for the mounting of the LEDs. It can accommodate virtually any available 20W LED cluster with either integrated collimators, individual reflectors or a common reflector.

Enviropar-L can be manufactured in a variety of configurations

As a spot light body - tested to accommodate a power supply and LEDs rated up to 20W total

As a spot light body with potted 20W power supply – to accommodate preferred LEDs.

As a complete spot light with LED/reflector

The design of the Enviropar-L allows universal use of practically any available LED modules as there is adequate protected space for mounting of the LEDs. The patented design optimises thermal management. The low weight of Enviropar-L is proof of the outstanding cooling concept.

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## Competing Products



PAR38 Brand	Enviropar	Enviropar	Enviropar	Cast Alloy Types
Model	Enviropar-L	Mini Enviropar-L	Mini Enviropar-L80	All
Light source	LEDs on removable star PCB or LEDs that are permanently attached	LED Array Note: This permits a more compact design with better cooling, fewer parts and less material	LED Array Note: This permits a more compact design with better cooling, fewer parts and less material	Various LEDs
Output	20W	20W	16W	typically 16W
Heat sink diameter	120mm	100mm	80mm	~ 120mm
Service life	50,000 hours	50,000 hours	50,000 hours	< 50,000 hours Note: Reduced service life due to heat stress from the LED heat sink
Weight	400g	< 380g	< 300g	500 – 900g
Weight / output ratio	20 g/W	19 g/W	19 g/W	> 30 g/W
Suitable for outdoor installation	Yes	Yes	Yes	As down light only
Condensation protection	Yes	Yes	Yes	Only suitable for use in favorable climates
Heat sink cooling	Via free ambient air flow	Via free ambient air flow	Via free ambient air flow	Via conduction to outer surface then ambient air
Cooling at LED base	Conduction and convection	Conduction and convection	Conduction and convection	Conduction only
Construction	Light weight metal	Light weight metal	Light weight metal	Heavy cast metal
Weather protection	Fully weatherproof regardless of orientation	Fully weatherproof regardless of orientation	Fully weatherproof regardless of orientation	Only usable as a down light in favorable climatic conditions

Many PAR38 style spotlights with LEDs are already available on the market, however these light fittings are only suitable for indoor applications. Those marketed as outdoor lights can only be used in protected locations and as down lights.

With their heavy, cast metal bodies, they are susceptible to harmful condensation whenever the ambient humidity is high and large temperature variations occur - unless they are suitably ventilated.

Some suppliers offer PAR38-compatible spotlights in glass bulbs up to about 16W output. Their cooling capacity is restricted and their PSU operates under heat stress. This limits their service life to about 10,000 hours, which is comparable to that of CFL lamps.

Several lighting suppliers are still using compact fluorescent light sources in glass bulbs for their PAR38-compatible spotlights. These models have the disadvantages of inefficient light source utilisation in the reflector, a relatively short service life and a mercury content that creates environmental problems on disposal.

Mini Enviropar-L is inherently non-sensitive to condensation, but it can be fitted with weather-protected venting of the LED enclosure

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## Commercial Value

Enviro-par-L is clearly an invaluable addition to any existing range of LED lights and it is available for manufacture and marketing under license.

Please use [this link](#), if you would like to request further information on Enviro-par-L, details of available licensing arrangements or a prototype for testing.



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## Background

The Enviropar-L design is a further development of the patented spot/flood light Enviropar, which used a 50W ELV or ELV IRC halogen lamp and was able to replace PAR38 reflector lamps up to 120W. The prototypes developed for that model, were used to optimise Enviropar-L's thermal performance and to perfect the adaptable weatherproof ventilation concept. As such, the Enviropar versions developed in the late 90s have formed the basis for Enviropar-L.

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## About Us



### The Creator of Enviropar

Enviropar-L is the brain child of Walter Oechsle, a former General Manager for Siemens Australia. Walter recognised the need back in 1995 to develop an energy efficient replacement for the millions of PAR38 globes installed around the world and has been developing the Enviropar concept ever since then. Initial designs revolved around the use of ELV halogen lights. The experience and lessons learned in the development and testing of these early versions have formed the basis of Enviropar-L.



### Marketing and Planning Support

Manfred Oechsle is an Electrical Engineer with an MBA in Technology Management. He is a Project Director with Construction Giant John Holland.

Manfred has been supporting the Enviropar project since its inception and has contributed engineering, testing, commercial planning and marketing expertise.

Enviropar-L has been developed in Melbourne, Australia and is represented in both Melbourne and Sydney.

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## Contact Us / Download

For further information, general enquiries and details of available licensing arrangements, please contact

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