INTRODUCTION TO FIBRE OPTICS

Fibre optic lighting systems offer the most versatile way to light up your pool and the surrounding area, with a rainbow of colours and varying beautiful effects.

Fibre optics can be used in various ways. **Perimeter lighting** is perhaps the best known example (where you have a line running around under the coping stones for example) but, although this gives a nice effect, it will not illuminate inside the pool.

We can however also install '**spot lights**' using **End-emitting** fibre optics which are designed to illuminate the pool. External mood lighting (**garden or wall lamps**) can also be added to the landscape around the pool.

A brief summary of how we select the equipment:

Each **Generator** will illuminate up to 600 strands, and multiple generators can be linked for larger installations.

Perimeter cable has 42 strands. With a perimeter illumination system, the fibre comes out of the generator, runs around the pool perimeter and returns to the generator. This means that 84 strands total are connected to the light source/generator. With one generator you could therefore add a maximum of 516 additional strands in the form of spot lights, or possibly even garden lights too.

The **end-emitting cable** (used for **spot lights**) comes in various sizes from 25 – 150 strands. We recommend that when calculating the spot lights, a minimum of 8 strands per m2 are used.

So for example, for a 75m2 pool we would recommend using a total of 600 strands. Depending on the effect you wish to create, 4 x 150 strand spotlights could be selected (or 8 x 75-strand, or 50 x 12-strand etc..) to give a total of 600 strands. One generator is therefore required.

Installation details-perimeter cable:

There are various mounting options available, for concrete pools we recommend **track type LT8501161**, this is manufactured from transparent plastic material and supplied in 15 metre lengths. It can be fixed in place with silicone, but we would strongly recommend using flat-head stainless steel screws to fix the track in place for a better result and longer durability. The track guide is flexible but for corners or very small radii (less than 5cm) it may be necessary to cut the track and fix the fibre right into the corner with silicone.

There are 2 types of perimeter optic. The **Cabled type** (42 cabled fibres), has a maximum recommended length of around 45m for this type of cable. The **Linear type** (42 linear fibres) has a maximum recommended length of 61 metres). The luminosity of the **Cabled fibre** is better than the **Linear type** as there is less light loss through the length of the cable. The Linear cable however emits a more uniform light as it is not twisted.

Generators

We offer 2 types of Generator. Both have a 600-fibre capacity and specifications as below. The difference is in the type of lamp used as a light source

HM Series generator has a 150W metal halide bulb with an approximate life of 6000 hours.
H series generator has a 250W halogen bulb with an approximate life of 1000 hours.

Installation of the Generator

The HM series generator can be sited outdoors without risk of damage from weather, it is IP54 and weatherproof. It should not be positioned where there is a risk of flooding. It could also of course be placed in the plant room if there is one so long as it is at least 3 metres away from the water, in accordance with European norms (or in accordance with the applicable regulations in your country). However if the generator is sited more than 4.8 metres away there will be a loss in luminosity (the further away the generator is positioned, the greater the losses and the more strands required to compensate).

Advantages of this system
Auto synchronization – if more than 1 generator is used. The generators are auto synchronizing without the need for master / slave generators. The generator simply needs connecting with 2 cables regardless of generator type. These cables have 2-wires and no polarity. In addition, generators from different ranges may be connected within a single installation.

Remote control – a remote control is supplied for all generator ranges.

Large 600 fibre capacity – a large fibre capacity meaning that less generators are required in any given installation.

Eight different colours – standard colours are: White, Dark Green, Cyan, Pink, Blue, Lime Green, Yellow and Aquamarine.

Colour change – the use of a step by step motor allows the colour to be controlled with instant changes.

Timed off switch – variable timer with automatic off switch adjustable for ½ hour to 4 hour operation.

Variable speed continual colour change – in this mode the colour wheel can be set to a constant speed of anywhere between 30-180 seconds per turn. This speed is programmable via the generator.

Sequential colour change with variable timing by colour – allows colour changes with predetermined duration of between 10 seconds-10 minutes which can be set individually fo each colour via the generator.
Keypad disablement function (optional) – for public pools where the generator is located within reach of the swimmers, the keypad can be disabled to avoid accidental interference.

Start up functionality – A new design feature means that the generator will always start up in the same operating mode as the last time the power supply was switched off (continual colour change, sequential colour change, generator off or white light). This feature applies following any interruption to the power supply including for example power cut, or where an external timer is in use.

Should you require a proposal for any installation please contact us.