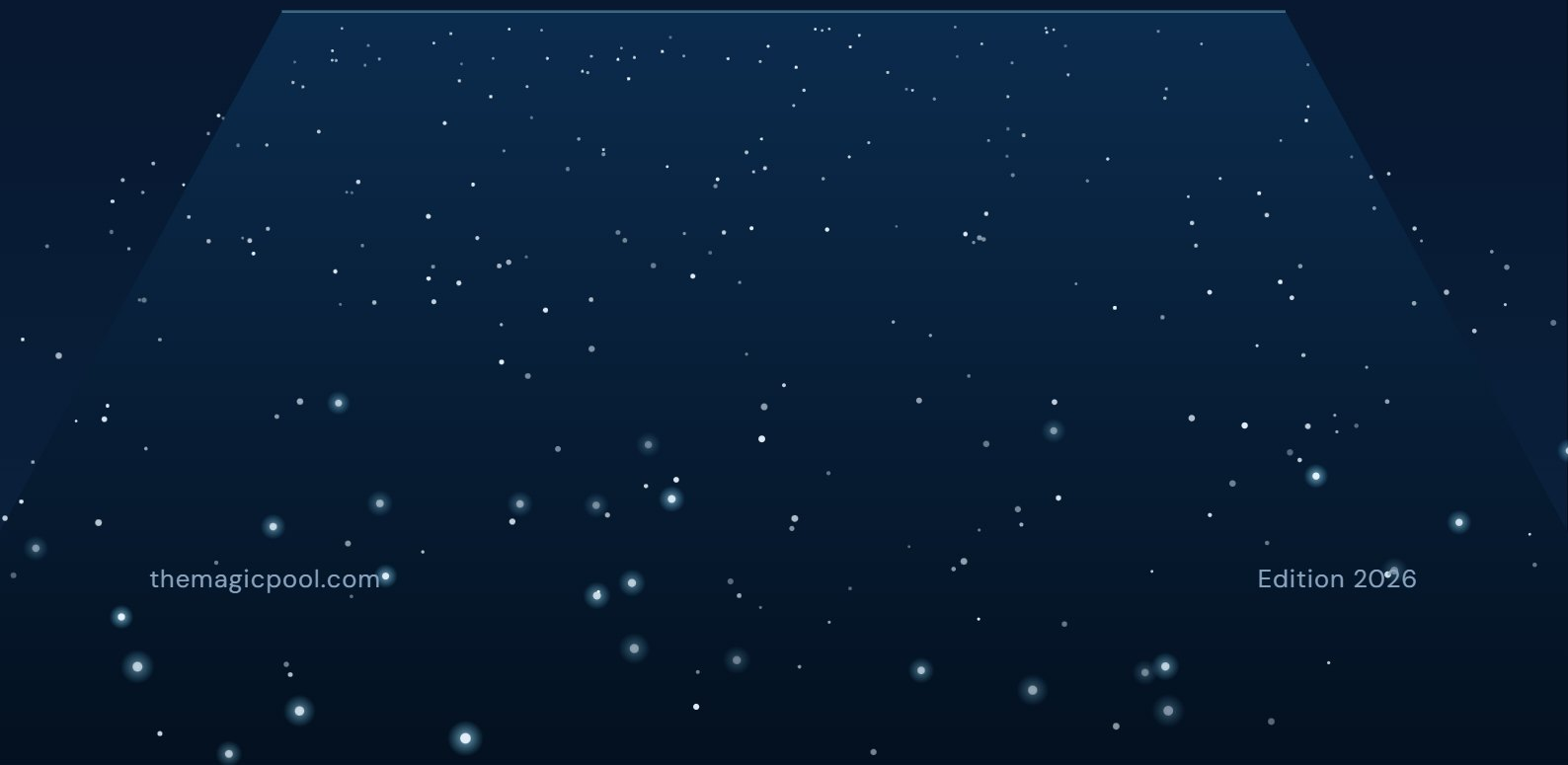
The Magic Pool

DESIGN GUIDE

Planning a *starry pool*

Fiber optic starry-sky lighting for pools, spas, water features and gardens: the decisions that shape the result, and when to make them.



themagicpool.com

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The Magic Pool

DESIGN GUIDE

Planning a *starry pool*

A starry pool floor is decided long before the tiles are laid. This guide sets out the choices that shape the result and the moment in the works when each one has to be made, so that you can brief your pool builder, architect or tiler with confidence.

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02 Four design decisions

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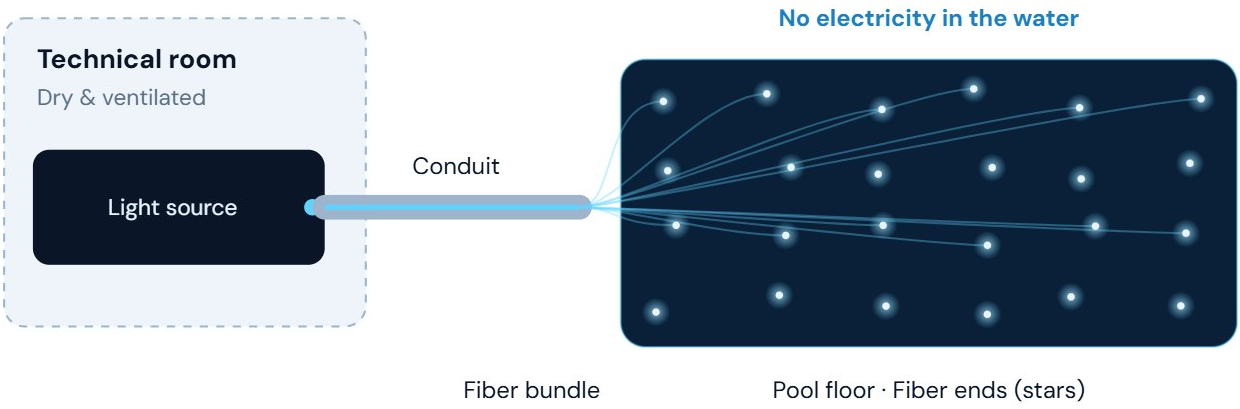
05 Your project checklist

CHAPTER 1

Light travels, *not current*

An underwater starry sky is made of three elements: a **light source** (also called an illuminator), a **bundle of optical fibers** that carries the light, and **end fittings** that hold each fiber flush with the finished surface.

The light source is installed in a dry, ventilated place — the technical room or a dry box near the pool. The fibers run to the pool in a conduit and are spread under the floor before tiling. At night, each fiber end shines like a star.



No current in the water

Only light reaches the pool. All electrical parts stay in the technical room.

Membrane not pierced

Fibers are laid on top of the waterproofing and set in the tile bed.

Maintenance at the source

The light source is accessible and replaceable without draining the pool.

Chlorine and salt water

IP68 end fittings designed for permanent immersion.

Fiber or individual LED points?

	Optical fiber	Individual LED points
In the water	Light only: passive fiber ends	One electrical component per point
Wiring	One light source for all points	Cabling to every point
Servicing	At the light source, out of the water	At the point concerned, in the pool
Effect	Fine, natural twinkle; white or RGB	Depends on the product

CHAPTER 2

Four *design decisions*

Four choices shape the result. Each one is fixed on the plan, before the works start.

1 Point density

From 1 point per m² (a discreet sky) to 3 points per m² (an intense sky). Two points per m² is the most common choice for residential pools.

2 Position of the light source

In a dry, ventilated place, as close to the pool as practical: the technical room is usually ideal. Fiber lengths are calculated from this position.

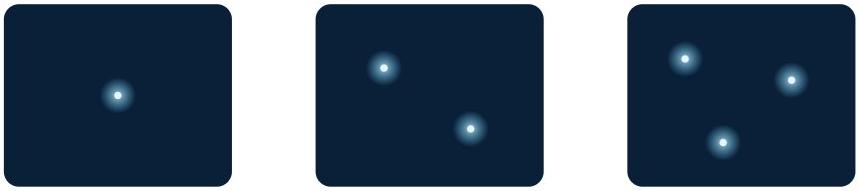
3 Conduits

Plan a conduit from the light source to the pool when the structure is built. The layout plan specifies its route.

4 Effect

White with natural twinkle for a night-sky look, or RGB to change the mood with a remote control (starry white, night blue, aurora).

How many points for your pool?



Discreet
1 / m²

Standard
2 / m²

Intense
3 / m²

Pool surface	Discreet (1/m²)	Standard (2/m²)	Intense (3/m²)
20 m² (e.g. 5 × 4 m)	20	40	60
32 m² (e.g. 8 × 4 m)	32	64	96
50 m² (e.g. 10 × 5 m)	50	100	150
72 m² (e.g. 12 × 6 m)	72	144	216

Indicative figures. The final layout also depends on the shape of the pool and the areas you want to highlight.

Which kit?

Up to 30 m²
Stars kit

30 to 80 m²
Galaxy kit

Over 80 m²
Custom project, several light sources

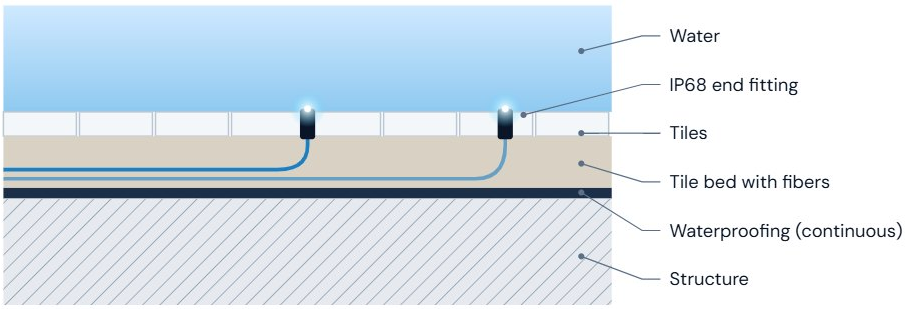
CHAPTER 3

When to plan *what*

The starry sky follows the construction sequence. Each step has its moment — miss the first ones and the fibers can only be added by lifting the tiles.

Stage	What to do	Who
1 **Design**	Choose density and effect, place the light source on the plan, request the point layout.	Owner, architect, The Magic Pool
2 **Structure**	Lay the conduit from the technical room to the pool.	Pool builder
3 **Waterproofing**	Complete the waterproofing. Nothing goes through it.	Pool builder
4 **Before tiling**	Spread the fibers on the floor following the layout.	Pool builder or tiler
5 **Tiling**	Hold each fiber end in its fitting, flush with the tile surface; lay the tiles around it.	Tiler
6 **Commissioning**	Connect the bundle to the light source, trim and test.	Installer

Cross-section of the pool floor



A complete residential kit takes about 2 to 4 hours to fit, carried out by your pool builder or tiler with our illustrated installation guide.

Plan the starry sky **before tiling**. Once a pool is finished, the fibers can only be added by lifting the tiles. For a renovation, the right moment is when the pool is stripped and re-tiled.

CHAPTER 4

Beyond *the pool*

Because only light reaches the surface, the same principle works wherever electricity should not go.

Spas & hot tubs
Starry floors, benches and steps; the light source stays in the plant room.

Hammams & steam rooms
Ceilings, domes and walls; the light source is installed outside the steam room.

Ponds & water features
Points set into the bottom or the edges; the light source stays on the bank in a dry box.

Walkways, terraces & walls
Points flush with paving, steps and walls, to extend the sky around the pool.

Setting fibers into other surfaces

Surface	Method	When to plan it
Concrete, screed	Fibers positioned, then cast into the concrete or mortar	Before pouring
Paving, tiles	Fiber ends in the joints or through drilled slabs	Before laying
Natural stone	Fibers through drilled holes in the stone	Before laying or fixing
Rendered walls	Fibers set before the final render coat	Before rendering
Planted areas	Fibers buried, ends at ground level	Before planting

> For large gardens or several pools, the area is split between several light sources placed close to each zone.

CHAPTER 5

Your project *checklist*

Send us these elements and we prepare the layout and the quote.

What to send us

- Dimensions and shape of the pool, or a plan
- Stage of the works: design, structure, waterproofing or renovation
- Where the light source can go, and its distance from the pool
- Preferred density: discreet, standard or intense
- Effect: white twinkle or RGB
- Type of water: chlorine or salt
- Planned date for tiling
- Country of delivery

What you receive

- A point layout on your plan
- The light-source position and the fiber lengths
- The recommended kit
- A quote within 24 hours on working days, delivery to your country included

In each kit

- Light source (white twinkle or RGB), installed out of the water
- Fiber bundle in Mitsubishi PMMA, cut to the lengths of your plan
- IP68 end fittings holding each fiber flush with the surface
- Fixing accessories for laying the fibers
- Illustrated installation guide with diagrams

Key specifications

Fiber	Mitsubishi PMMA optical fiber (Japan)
End fittings	IP68, sealed
Water	Chlorinated or salt water
Electricity in the water	None
Effects	White twinkle, or RGB with remote
Warranty	2 years
Delivery	International

The Magic Pool

Ready to plan *your sky*?

Calculate your pool online or send us your plan. We reply within 24 hours on working days, in English, French, Spanish or Arabic.

Configurator & free quote
themagicpool.com/quote/

WhatsApp / phone
+212 661 462 845

E-mail
contact@themagicpool.com

Website
themagicpool.com

Workshop
Lot 14, Zone Industrielle Sud-Ouest, Tranche 2, Mohammedia 28830, Morocco

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Our reference installation: a 21 × 7 m mirror pool in Morocco, with saline well water, whose floor we turned into a starry sky.