



# LED COOLING SOLUTIONS For Zhaga LED modules

Book 2 / Book 3 / Book 5 / Book 6 / Book 11

- Validated Thermal Designs
- Adaptable to your Needs
- Functional & Aesthetic

 Zhaga

  
**MechaTronix**



## Zhaga & ECO Partnerships

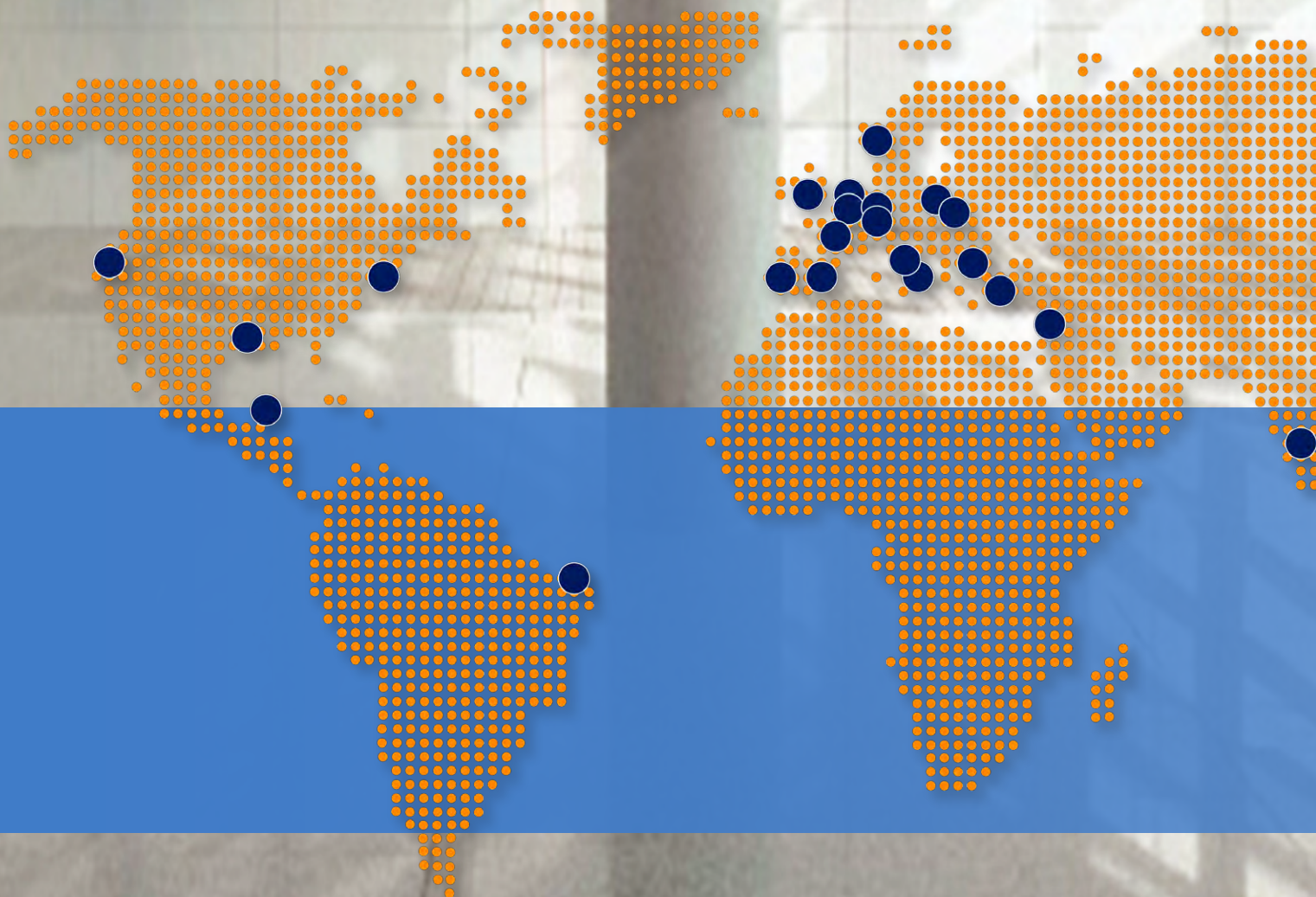
In conjunction with several world leading LED manufacturers and other stakeholders in the field, MechaTronix whole heartedly supports the emerging Zhaga industry standard. To that end, many off-the-shelf MechaTronix heat sinks - passive as well as active - are compatible with these Zhaga specifications, making them instantly ready for assembly with Zhaga designed LED engines or secondary optics, such as lenses or reflectors.

Despite Zhaga's efforts, the international market still offers a great diversity in unique mechanical formats for LED engines. MechaTronix appreciates the need for LED coolers to be modular plug and play components, matching all varieties of LED engines and secondary optics.

Not surprisingly, MechaTronix has been able to forge strong alliances with - and establish specific heat sink ranges for many leading LED manufacturers. Amongst these are the likes of Bridgelux, Citizen, Cree, Edison, GE Lighting, LG Innotek, Lustrous, Osram, Osram Opto Semiconductors, Philips Lighting, Philips Lumileds, Prolight Opto, Seoul Semiconductor, Sharp, Tridonic, Vossloh Schwabe and Xicato. Countless hours of compatibly testing enable us to present you with complete and validated thermal data of all feasible combinations of heat sinks and LED engines.

As a result of these efforts, MechaTronix has found a score of LED manufacturers and other specialist parties in the business to form ECO partnerships with. The mutual sharing of data and R&D and the adherence to Zhaga specifications comes with great benefits to all involved, not forgetting the end users. MechaTronix now is being endorsed as the preferred brand of heat sinks within these ECO Partnerships, guaranteeing a perfect mechanical fit, reliable thermal performance and an overall aesthetic design.

## OUR PROCESS STARTS WITH LISTENING—((( )))





# LED COOLING SOLUTIONS

## For Zhaga Book 2 socketable LED engines

Zhaga Interface Specification Book 2 defines the interfaces of a type-A LED light engine (socketable with integrated control gear).

The LED light engine has a round drum shape with maximum dimensions of 70.2 mm diameter and 45 mm height. It has a circular light-emitting surface with a typical diameter of 59 mm and a PHJ65d type base.

### Zhaga Book 2 compliant LED engines <sup>\*1</sup>

- Megaman Teco
- Philips Fortimo TDLM
- Tridonic Talexx Stark DLE twist

<sup>\*1</sup> This list is a non-binding overview of available Zhaga book 2 LED engines at press



## For Zhaga Book 3 Spot Light Modules

Zhaga Interface Specification Book 3 defines the interfaces of a type-D LED light engine (non-socketable LED module with separate electronic control gear). The LED light engine LLE has a round disc shape with a maximum height of 7.2 mm and a typical diameter of 50 mm.

It is suitable for spot-lighting and other applications that benefit from a small, circular source. Book 3 specifies a circular light-emitting surface (LES) that can have a range of diameters, namely 9 mm, 13.5 mm, 19 mm and 23 mm.

### Zhaga book 3 compliant LED Spot Light modules <sup>\*1</sup>

- Edison Edilex SLM
- Philips Fortimo SLM
- Vexica Lumaera
- Osram PrevaLED
- Tridonic Talexx Stark SLE
- Vossloh Schwabe Luga Shop

<sup>\*1</sup> This list is a non-binding overview of available Zhaga book 3 LED engines at press



## For Zhaga Book 3 mounting through the use of LED holders and connectors

With the use of Zhaga Book 3 mechanical compatible LED holders, a wide variety of LED COB's can be mounted in the same way on these LED coolers.

Zhaga Book 3 compatible LED holders can be found from BJB, Tyco Electronics Connectivity (TE), Molex, AAG Stucchi and Ideal.

### LED COB's for which Zhaga book 3 LED holders are available

- Bridgelux V15, V18, ES rectangular
- Citizen CitiLED CLU034, CLU036, CLU044, CLU046
- Cree XLamp CXA18/25/30, CXB18/25/30
- Edison Opto HM16, HM24, HM30, HM40
- Lextar Nimbus 2000, 3000
- LG Innotek LEMWM18, LEMWM28
- Lumileds Luxeon 1203, 1204, 1205, 1208, 1211 and 1216
- Luxeon K12 and K16
- Lustrous Lustron LL613F, LL620F, LL630F, LL630D, LL660D
- Nichia J216, J360, L110, L121, L204
- Osram Soleriq P13, S13, S19, E30
- Prolight Opto PABA, PACC, PACD, PACF, PACG
- Samsung LC026, LC040
- Seoul Semiconductor ZC12, ZC18, ZC25, ZC40, ZC60
- Sharp Mega Zenigata and Tiger Zenigata
- Tridonic Talexx Stark SLE Gen3 Mini LES 17



## For Zhaga Book 5 socketable LED engines

Zhaga Interface Specification Book 5 defines the interfaces of a type-B LED light engine (socketable LED module with separate electronic control gear).

### Zhaga Book 5 compliant LED engines <sup>\*1</sup>

- GE Infusion LED modules M1000, M1500, M2000, M3000, M4500 and NPM

<sup>\*1</sup> This list is a non-binding overview of available Zhaga book 5 LED engines at press

## For Zhaga Book 6 socketable LED engines

Zhaga Interface Specification Book 6 defines the interfaces of a type-A LED light engine (socketable with integrated control gear).

### Zhaga Book 6 compliant LED engines <sup>\*1</sup>

- Toshiba E-Core LED Light Engine LED LEV11 and LEV16

<sup>\*1</sup> This list is a non-binding overview of available Zhaga book 6 LED engines at press



## For Zhaga Book 11 Spot Light Modules

Zhaga Interface Specification Book 11 defines the interfaces of LED light engines (LLEs) comprising a circular, non-socketable LED module with a separate LED driver (electronic control gear). The LED modules in Book 11 have an overall diameter of 35 mm and a height of 3.5 mm. It is suitable for spot-lighting and other applications that benefit from a small, circular source. Book 11 specifies a circular light-emitting surface (LES) that can have a range of diameters, namely 6.3 mm, 9.0 mm, 13.5 mm.

### LED COB's for which Zhaga book 11 LED holders are available

- Bridgelux V10 / V13
- Citizen CitiLED CLU024, CLU026
- Cree XLamp CXA13/15, CXB13/15
- Edison Opto HM05, HM09, HM13
- Lextar Nimbus 1500
- Osram Soleriq P6, P9, P13, S13
- Prolight Opto PACB, PACE
- Seoul Semiconductor ZC6
- Sharp Mini Zenigata
- Tridonic Talexx Stark SLE Gen3 Mini LES 10





# LED COOLING SOLUTIONS

## For Zhaga LED modules

Book 2 / Book 3 / Book 5 / Book 6 / Book 11

### LPF3550-ZHC

LED Pin Fin cooler

For Zhaga Book 11 LED modules

ø35mm - h50mm

Cooling performance 300 - 1,000 lm

Thermal resistance Rth 7.41°C/W



### LPF4768-ZHP

LED Pin Fin cooler

For Zhaga Book 3, Book 11 LED modules

ø47mm - h68mm

Cooling performance 600 - 2,200 lm

Thermal resistance Rth 3.9°C/W



### LPF6050-ZHC

LED Pin Fin cooler

For Zhaga Book 3, Book 11 LED modules

ø60mm - h50mm

Cooling performance 500 - 1,700 lm

Thermal resistance Rth 4.0°C/W



### LPF6768-ZHP

LED Pin Fin cooler

For Zhaga Book 3, Book 11 LED modules

ø67mm - h68mm

Cooling performance 1,100 - 3,300 lm

Thermal resistance Rth 2.1°C/W



### LPF8050-ZHC

LED Pin Fin cooler

For Zhaga Book 3 LED modules

ø80mm - h50mm

Cooling performance 1,000 - 3,000 lm

Thermal resistance Rth 2.34°C/W



### LPF8668-ZHC

LED Pin Fin cooler

For Zhaga Book 3 LED modules

ø86mm - h68mm

Cooling performance 1,500 - 4,600 lm

Thermal resistance Rth 1.46°C/W



### LPF11180-ZHE

LED Pin Fin cooler

For Zhaga Book 3 LED modules

ø111mm - h80mm

Cooling performance 2,000 - 6,000 lm

Thermal resistance Rth 1.07°C/W





### ModuLED Pico 4750

Modular Passive LED Star cooler  
For Zhaga Book 3, Book 11 LED modules  
ø47mm - h50mm  
Cooling performance 400 - 1,400 lm  
Thermal resistance Rth 5.3°C/W



### ModuLED Pico 4780

Modular Passive LED Star cooler  
For Zhaga Book 3, Book 11 LED modules  
ø47mm - h80mm  
Cooling performance 600 - 1,800 lm  
Thermal resistance Rth 4.2°C/W



### ModuLED Nano 7050

Modular Passive LED Star cooler  
For Zhaga Book 3, Book 11 LED modules  
ø70mm - h50mm  
Cooling performance 1,000 - 3,100 lm  
Thermal resistance Rth 2.2°C/W



### ModuLED Nano 7080

Modular Passive LED Star cooler  
For Zhaga Book 3, Book 11 LED modules  
ø70mm - h80mm  
Cooling performance 1,200 - 3,800 lm  
Thermal resistance Rth 1.8°C/W



### ModuLED Micro 8630

Modular Passive LED Star cooler  
For Zhaga Book 3, Book 11 LED modules  
ø86mm - h30mm  
Cooling performance 1,200 - 3,800 lm  
Thermal resistance Rth 1.8°C/W



### ModuLED Micro 8650

Modular Passive LED Star cooler  
For Zhaga Book 3, Book 11 LED modules  
ø86mm - h50mm  
Cooling performance 1,500 - 4,500 lm  
Thermal resistance Rth 1.5°C/W



### ModuLED Micro 8680

Modular Passive LED Star cooler  
For Zhaga Book 3, Book 11 LED modules  
ø86mm - h80mm  
Cooling performance 1,800 - 5,500 lm  
Thermal resistance Rth 1.2°C/W



### ModuLED Xtra 9950

Modular Passive LED Star cooler  
For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED modules  
ø99mm - h50mm  
Cooling performance 1,600 - 5,000 lm  
Thermal resistance Rth 1.34°C/W



### ModuLED Xtra 9980

Modular Passive LED Star cooler  
For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED modules  
ø99mm - h80mm  
Cooling performance 2,100 - 6,400 lm  
Thermal resistance Rth 1.02°C/W



### ModuLED Mega 13420

Modular Passive LED Star cooler  
For Zhaga Book 3 LED modules  
ø134mm - h20mm  
Cooling performance 1,600 - 5,000 lm  
Thermal resistance Rth 1.32°C/W





### ModuLED Mega 13450-HBG

High Bay LED cooler with direct mounting holes for Mean Well HBG series driver  
For Zhaga Book 3 LED modules  
ø134mm - h50mm  
Cooling performance 2,400 - 7,300 lm  
Thermal resistance Rth 0.88°C/W



### ModuLED Mega 134100-HBG

High Bay LED cooler with direct mounting holes for Mean Well HBG series driver  
For Zhaga Book 3 LED modules  
ø134mm - h100mm  
Cooling performance 3,300 - 10,000 lm  
Thermal resistance Rth 0.67°C/W



### ModuLED Giga 15220

Modular Passive LED Star cooler  
For Zhaga Book 3 LED modules  
ø152mm - h20mm  
Cooling performance 2,000 - 6,000 lm  
Thermal resistance Rth 1.13°C/W



### ModuLED Giga 15250

Modular Passive LED Star cooler  
For Zhaga Book 3 LED modules  
ø152mm - h50mm  
Cooling performance 3,000 - 9,000 lm  
Thermal resistance Rth 0.7°C/W



### ModuLED Giga 152100-HBG

High Bay LED cooler with direct mounting holes for Mean Well HBG series driver  
For Zhaga Book 3 LED modules  
ø152mm - h100mm  
Cooling performance 8,000 - 14,000 lm  
Thermal resistance Rth 0.52°C/W



### ModuLED Giga 152150-HBG

High Bay LED cooler with direct mounting holes for Mean Well HBG series driver  
For Zhaga Book 3 LED modules  
ø152mm - h150mm  
Cooling performance 10,000 - 16,000 lm  
Thermal resistance Rth 0.46°C/W



### CoolBay® Giga-A

High Bay LED cooler with CoolTube® heat tube and direct mounting holes for Mean Well HBG series driver  
For Zhaga Book 3 LED modules  
ø152mm - h200mm  
Cooling performance 12,000 - 22,000 lm  
Thermal resistance Rth 0.34°C/W



### CoolBay® Tera-A

High Bay LED cooler with CoolTube® heat tube and direct mounting holes for Mean Well HBG series driver  
For Zhaga Book 3 LED modules  
ø192mm - h250mm  
Cooling performance 15,000 - 35,000 lm  
Thermal resistance Rth 0.22°C/W



### IceLED Xtra 550

Modular Active LED Star cooler  
For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED modules  
ø99mm - h55mm  
Cooling performance 4,200 - 12,800 lm  
Thermal resistance Rth 0.46°C/W



### IceLED Xtra Ultra

Modular Active LED Star cooler  
For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED modules  
ø99mm - h75mm  
Cooling performance 5,000 - 20,000 lm  
Thermal resistance Rth 0.25°C/W



Your local distributor:

OUR PROCESS STARTS WITH LISTENING 



No.818, Dashun 2nd Rd., Sanmin Dist.  
Tel: +886-7-3815892  
[led@mechatronix-asia.com](mailto:led@mechatronix-asia.com)

Kaohsiung City 80787 Taiwan  
Fax: +886-7-3839293  
[www.led-heatsink.com](http://www.led-heatsink.com)