



# LED

**xLED**

**xLED-VOS-4530 Pin Fin LED Heat Sink  $\Phi$ 45mm for Vossloh-Schwabe**

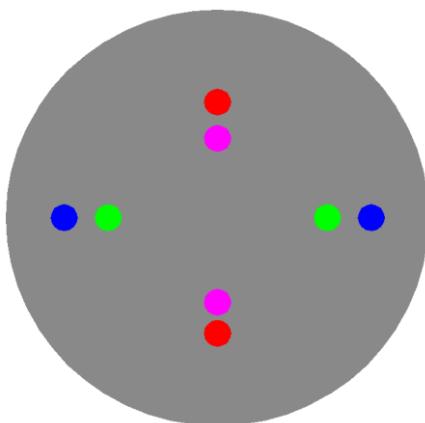
### Features VS Benefits

- \* The xLED-VOS-4530 Vossloh-Schwabe Pin Fin LED Heat Sinks are specifically designed for luminaires using the Vossloh-Schwabe LED engines.
- \* Mechanical compatibility with direct mounting of the LED engines to the LED cooler and thermal performance matching the lumen packages.
- \* For spotlight and downlight designs from 300 to 1,200 lumen.
- \* Thermal resistance range Rth 7.14°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Vossloh-Schwabe COB series.
- \* Diameter 45.0mm - standard height 30.0mm Other heights on request.
- \* Forged from highly conductive aluminum.



### Zhaga LED engine and radiator assembly is a unified future international standardization

- \* Below you find an overview of Vossloh-Schwabe COB's and LED modules which standard fit on the Pin Fin LED Heat Sinks.
- \* In this way mechanical after work and related costs can be avoided, and lighting designers can standardize their designs on a limited number of LED Pin Fin LED Heat Sink.



### Vossloh-Schwabe LED Modules directly Mounting Options

Vossloh-Schwabe LUGA Shop Gen. 5/ Gen.6 COB Series (13.5\*13.5) :

- DMS124\*\*\*H;
- DMS123\*\*\*G;

With the Zhaga Book 11 holders for the green indicator marks.

BJB holder: 47.319.6294.50;

AAG.STUCCHI: 8100-G2

Without the holders for the pink indicator marks.

Direct mounting with machine screws M3x6.5mm.

### Vossloh-Schwabe LUGA Shop Gen. 5/ Gen.6 COB Series (19.0\*19.0):

- DMS124\*\*\*G; DMS125\*\*\*H;
- DMS125\*\*\*G; DMS126\*\*\*H;
- DMS126\*\*\*G; DMS128\*\*\*H;
- DMS128\*\*\*G;

### Vossloh-Schwabe LUGA Shop TW COB Series:

TW1914;

With the Zhaga Book 3 holders for the blue indicator marks.

BJB holder: 47.319.2021.50;

AAG.STUCCHI: 8101-G2

Without the holders for the red indicator marks.

Direct mounting with machine screws M3x6.5mm.

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## Mounting Options and Drawings & Dimensions

Example: xLED-VOS-4530-B-1,2

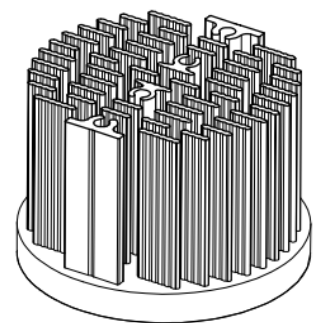
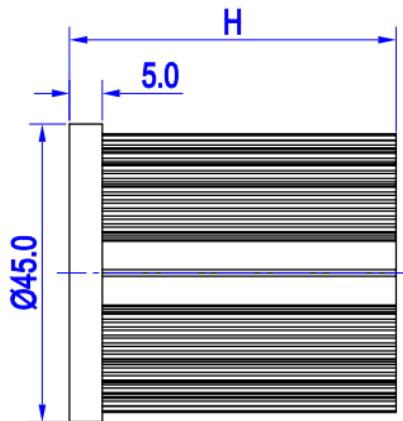
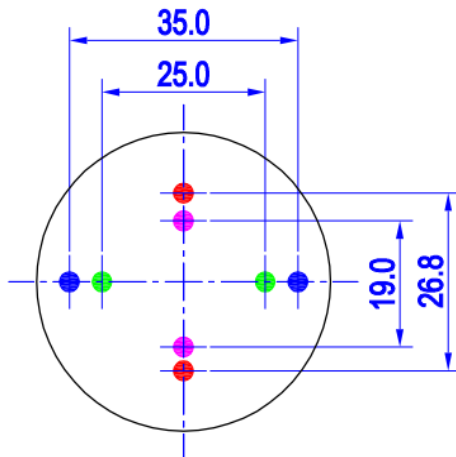
Example: xLED-VOS-45 **1** - **2** - **3**

- 1** Height (mm)
- 2** Anodising Color
  - B-Black
  - C-Clear
  - Z-Custom
- 3** Mounting Options - see graphics for details Combinations available  
 Ex.order code - 12  
 means option 1 and 2 combined

### Notes:

- Mentioned models are an extraction of full product range.
- For specific mechanical adaptations please contact MingfaTech.
- MingfaTech reserves the right to change products or specifications without prior notice.


| MOUNTING OPTION | Module type            | Holder NO.                                       | THREAD | THREAD DEPTH | THREAD HOLE DISTANCE            |
|-----------------|------------------------|--|--------|--------------|---------------------------------|
| 1               | COB series (13.5*13.5) | /  | M3     | 6.5mm        | 19.0mm/ 2-@180°                 |
| 2               |                        | BJB Holder 47.319.6294.50<br>AAG.STUCCHI 8100-G2 | M3     | 6.5mm        | 25.0mm/ 2-@180° (Zhaga book 11) |
| 3               | COB series (19.0*19.0) | /  | M3     | 6.5mm        | 26.8mm/ 2-@180°                 |
| 4               |                        | BJB Holder 47.319.2021.50<br>AAG.STUCCHI 8101-G2 |        |              | 35.0mm/ 2-@180° (Zhaga book 3)  |



## xLED

### xLED-VOS-4530 Pin Fin LED Heat Sink $\Phi 45\text{mm}$ for Vossloh-Schwabe

#### The product data table

|   |  |                                |
|---|--|--------------------------------|
|  | <b>Model No.</b>                             | xLED-VOS-4530                  |
|   | <b>Heatsink Size</b>                         | $\Phi 45 \times H 30\text{mm}$ |
|   | <b>Heatsink Material</b>                     | AL1070                         |
|   | <b>Finish</b>                                | Black Anodized                 |
|   | <b>Weight (g)</b>                            | 45.0                           |
|   | <b>Dissipated power (Ths-amb,50°C)</b>       | 7.0 (W)                        |
|   | <b>Cooling surface area (mm<sup>2</sup>)</b> | 22830                          |
|   | <b>Thermal Resistance (Rhs-amb)</b>          | 7.14 (°C/W)                    |

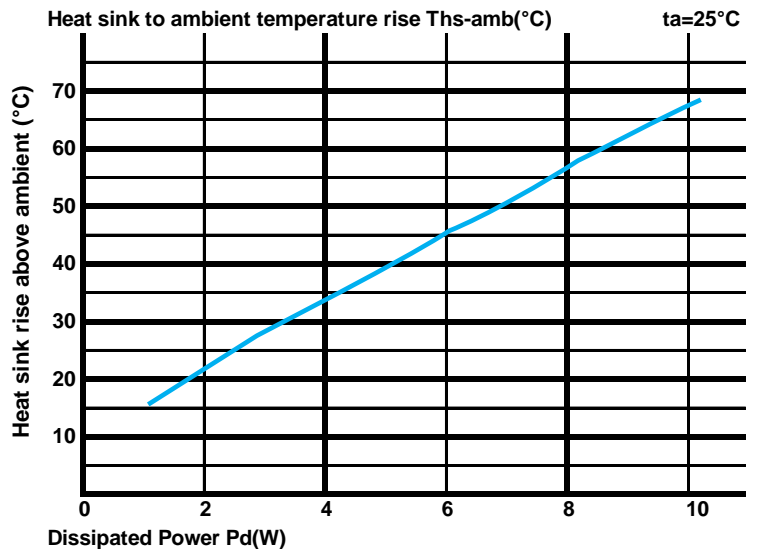
#### The thermal data table

\* Please be aware the dissipated power Pd is not the same as the electrical power Pe of a LED module.

\* To calculate the dissipated power please use the following formula:  $P_d = P_e \times (1 - \eta_L)$ .

Pd - Dissipated power ; Pe - Electrical power ;  $\eta_L$  = Light efficiency of the LED module;

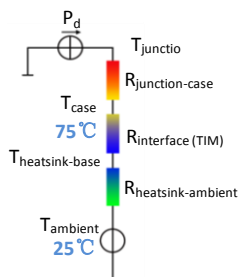
| Dissipated Power Pd(W) | Pd = Pe x (1- $\eta_L$ ) | Heat sink to ambient thermal resistance Rhs-amb (°C/W) | Heat sink to ambient temperature rise Ths-amb (°C) |
|------------------------|--------------------------|--|--|
|                        |                          | xLED-VOS-4530  |  |
| 2.0                    |                          | 10.50  | 21.0   |
| 4.0                    |                          | 8.50   | 34.0   |
| 6.0                    |                          | 7.50   | 45.0   |
| 8.0                    |                          | 7.00   | 56.0   |
| 10.0                   |                          | 6.70   | 67.0   |



\*The aluminum substrate side of the package outer shell is thermally connected to the heat sink via TIM (Thermal interface material).

MingFa recommends the use of a high thermal conductive interface between the LED module and the LED cooler.

Either thermal grease, A thermal pad or a phase change thermal pad thickness 0.1-0.15mm is recommended.



\*Thermal resistance is a heat property and a measurement of a temperature difference by which an object or material resists a heat flow.

Geometric shapes are different, the thermal resistance is different. Formula:  $\theta = (T_{hs} - T_a) / P_d$

$\theta$  - Thermal Resistance [°C/W] ;  $T_{hs}$  - Heatsink temperature ;  $T_a$  - Ambient temperature ;

\*The thermal resistance between the junction section of the light-emitting diode and the aluminum substrate side of the package outer shell is  $R_{\text{junction-case}}$ , the thermal resistance of the TIM outside the package is  $R_{\text{interface (TIM)}}$  [°C/W], the thermal resistance with the heat sink is  $R_{\text{heatsink-ambient}}$  [°C/W], and the ambient temperature is  $T_{\text{ambient}}$  [°C].

\*Thermal resistances outside the package  $R_{\text{interface (TIM)}}$  and  $R_{\text{heatsink-ambient}}$  can be integrated into the thermal resistance  $R_{\text{case-ambient}}$  at this point. Thus, the following formula is also used:

$$T_{\text{junction}} = (R_{\text{junction-case}} + R_{\text{case-ambient}}) \cdot P_d + T_{\text{ambient}}$$