

### **Installation for best Airflow.**

The exceptional power densities of Vega are achieved by careful thermal design and forced air cooling from an integral fan. Airflow can be forward in which case air is drawn in at the fan end and exhausted from the module or reverse in which air is drawn in at the module end and exhausted via the fan end. In the specification "Ambient air temperature" is taken to be the air entering the fan (forward) or entering the module end (reverse).

Best performance is achieved using forward flow air. Forward or reverse airflow must be specified at time of purchase. The available output power is de-rated for reverse air applications. Contact Technical sales to discuss carefully any reverse air requirements to ensure adequate cooling is maintained or the correct de-rating of output power is adhered to.

In both forward and reverse flow, adequate cooling can only be maintained by ensuring that obstructions to airflow are kept 50mm from the fan end and 50mm from the module end of the power supply where air is drawn in / exhausted.

Always design a system so that the coolest possible air is routed to the intake of the power supply. Try and avoid using "re-circulated air" by having highly enclosed boxes with the exhaust in the box itself. A clear flow path from an intake of the coolest available air (ie outside of an installation box), through power supply and exhausted back out into the same air is always best. Where Vega is used in a fully enclosed box with re-circulating air it is important to ensure that the air temperature being drawn into the Vega itself is sufficiently cool.

### **Audible noise from the Fans.**

Measurements have been taken with a background noise level of approximately 38dB. All measurements were taken at a distance of 1m from the fan grill, with the fan end closest to the noise meter.

### **Results**

Fan option nomenclature	Air Direction	Fan Type	Typ fan Voltage	Audible Noise (dB @ 1m)
F	Forward	Papst 612NHH	12.5V	55.0
	Forward	Sanyo 109R0614E402	14V	57.0
Q	Forward	Papst 612	12.2V	49.1
	Forward	Papst 612NH	12.4V	49.7
R	Reverse	Sanyo 109R0614E402	14V	61.0
	Reverse	Papst 612NHH	12.5V	60.3
P	Reverse	Papst 612	12.2V	56.4
	Reverse	Papst 612NH	12.4V	53.2

Restricting the air intake by placing (for example) another grill in front of the fan can cause a "chopping" effect created by non-planar flow of the air into the fan which may increase the audible noise as well as reduce airflow.