

# Control cabinet cooling

Optimizing airflow with RadiCal® EC impellers.

**ebmpapst**

the engineer's choice



**RadiCal® R3G250**

## Background

Control cabinets, or enclosures, house and protect electrical equipment and components. They are typically made of a rigid plastic or metal, and can vary widely in size depending on the quantity and dimensions of the electronics contained within them. They are found everywhere – both indoors and outdoors, in countless applications – and can be customized into almost any configuration. These enclosures safeguard internal components from outside influences like temperature fluctuations, contaminants, and possible tampering, while also protecting the public from coming into direct contact with any of the sensitive electronic equipment.

No matter the size or style, the one thing all enclosures have in common is that the electrical components inside them generate heat. Excessive heat can lead to a decrease in the overall efficiency of the system, underperformance, or even malfunction of one or more of the components leading to complete system failure and costly downtime. Maintaining the optimal temperature in the enclosure is critical to ensure safe and reliable operation.

## Application

A leading manufacturer of enclosures was developing a next generation cabinet. They wanted to incorporate an intelligent cooling system that would keep the cabinet operating at a consistent temperature while also maximizing the efficiency and overall service life of the enclosure.



Our RadiCal® R3G250 delivered exceptional energy savings, particularly when compared to the traditional AC fans that are commonly used in these types of applications.

## Solution

The optimized airflow resulted in an enclosure that provided:

- 75% energy savings thanks to speed control adapted to output
- Longer service life of the components in the enclosure (and the cooling unit itself) due to component-friendly, on-demand cooling
- Options for international use due to multi-voltage support
- Intuitive operation via touch display and intelligent interfaces
- Contactless local information exchange via an app
- Remote monitoring

We offer a variety of solution options for cabinet cooling including any of our AC/DC/EC RadiCal impellers, axial fans, and Diagonal Compact Modules, just to name a few. Customer specifications and overall goals help guide the best choice for optimal air movement and power consumption.

