

# COOLER AIR SAVING

## PATENTED SYSTEM



**VR Series** coolers and **AM Series** amplifiers used together to introduce cold air and extract hot air from electrical cabinets at the same time, using a single compressed air supply.

- Effective ventilation of the electrical cabinet
- Reduction of compressed air consumption
- Optimisation of cooling results

No matter how much cold air is introduced into an electrical cabinet, the effectiveness and efficiency of cooling will never be optimal unless the hot air generated by the electrical components is properly ventilated at the same time. With ventilation we mean both the creation of convection flows inside the cabinet which effectively distribute the air around the components, and the actual extraction of hot air from the cabinet itself.

By using the Cooler Air Saving patented system by Simian Project, two results are obtained: the first, using the VR Series coolers, is the prompt and precise cooling of the components that heat the cabinet the most. This thanks to the flexibility of installation (brackets and magnets) and the fact that the flow of cold air can be precisely directed on the main heat sources (by using adjustable nozzles). The second result is the proper ventilation of the electrical cabinet, thanks to the extraction power generated by the AM Series air amplifier, which is actuated by the hot air exhausted from the cooler.

The picture shows the system set up inside an electrical cabinet:

The VRX-500 cooler (fig.1) is actuated with compressed air from outside; the flow of cold air is directed, by using adjustable nozzles, on the electrical components that give off the most heat, while the exhaust of hot air is channelled by the red hose (fig. 3) to actuate the AM Series amplifier

The amplifier (fig.2) is mounted on the top right-hand side of the electrical cabinet; the pass-through installation allows it to suction and extract air from the cabinet; in the example of the picture, its position in the upper part of the cabinet ensures that the extraction occurs where most of the hot air accumulates and that even the electrical components located on the opposite side of the source of cold air remain at a temperature suitable for optimal functioning.

Even where pass-through mounting is not possible (for example in the event of installations in cabinets where IP protection must be guaranteed), the

fitting of the amplifier inside the cabinet ensures forced recycling of air, which eliminates the concentration of hot air in the areas located furthest away from sources of cold air.

The patented system also works well together with industrial air-conditioners in electrical cabinets with the following characteristics:

- Large electrical cabinets where the cold air generated by the air-conditioner has trouble in reaching all parts of the cabinet;
- Electrical cabinets with electrical components laid out in such a way that the convection of air around the components is tricky;
- Electrical cabinets where the heat is generated by a few components that are located far from the area where the air-conditioner introduces the cold air.

**N.B.:** The Cooler Air Saving system works with VRX-300, VRX-500, and VRX-1000 coolers together with AM-20ES and AM-40ES amplifiers.

