



SimV+AC is primarily the result of two entities that have provided the best air-conditioning units for the world of simulators, both for the civilian and military network.

These have ensured that SimV-AC designs and manufactures the only air-conditioning specifically designed for simulators. Since the introduction of the first unit a few years ago, dozens of units have been installed around the world. Different models have been designed and manufactured to meet the requirements and needs of various stakeholders.

We're well positioned to meet the extensive needs of both the civil and defense market.

Since SimV+AC carries out flight simulator ventilation and air-conditioning system research, development, testing, and manufacturing, we can modify an existing unit to suit your simulators' needs. Moreover, depending on potential, a unit can be designed from A to Z according to your needs.

By partnering with SimV+AC, you'll see how technology can make your life easier.



#### SIMULATOR FOR CIVIL AVIATION

SimV+AC is an ideal air-conditioning system for flight simulators capable of offering governments and original equipment manufacturers (OEMs) across the air, land, sea and public sectors a comprehensive range of innovative air-conditioning solutions with modulation technologies, and designed to cost-effectively meet specific requirements for civil market needs.

#### SIMULATOR FOR MILITARY AVIATION

SimV+AC is an ideal air-conditioning system for flight simulators capable of offering governments and armed forces across the air, land and sea sectors a comprehensive range of innovative air-conditioning solutions with modulation technologies, and designed to cost-effectively meet specific requirements for military market needs.



Trust our product  
in your operation

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## HIGH-PERFORMANCE Flight Simulator Ventilation and Air-Conditioning System

**CUSTOMIZE YOUR FLIGHT SIMULATOR VENTILATION AND AIR-CONDITIONING SYSTEM.**

**ADAPTING OUR VENTILATION AND AIR-CONDITIONING SYSTEMS TO YOUR REALITY.**

Since SimV+AC carries out flight simulator ventilation and air-conditioning system research, development, testing, and manufacturing, we can modify an existing unit to suit your simulators' needs. Moreover, depending on potential, a unit can be designed from A to Z according to your needs.



## THE VENTILATION AND AIR-CONDITIONING SYSTEM

Thanks to CVBM IV modulating technology, the unit's compressor can adapt to a wide range of incoming water temperatures, as well as a wide range of airflows toward the simulator cockpit.

This means it can be cooled with an optional closed-loop fluid cooler or with a central fluid chiller already installed in the field. In fact, the lower the incoming water temperature, the lower the electricity consumption for the same cockpit cooling load. In the same vein, the lower the cockpit cooling load (or airflow), the lower the electricity consumption.

Moreover, the modulating feature also applies to a variable airflow blower and ensures perfect and constant airflow to each cockpit air outlet, no matter how many outlets are open or closed.

### 3 DESIGNS AND THEIR SPECIFIC FUNCTIONS AND OPTIONS

SIMVAC SR



#### WITH SMOKE GENERATOR OPTION

German technology EC motor, backward inclined impeller.

Each blower is controlled in constant static pressure mode at +3.5" IWC. Blowers are constantly "ON" when the unit is powered.

Smoke extractor option includes 3x blade dampers with Belimo motors and HEPA filter for "dirty" air discharge. Fresh air inlet port and dirty air discharge port are added on unit.

Dedicated sheet metal cabinet, 41"x48" footprint, 60" height. Caster wheels and leveling pads included.

#### INTEGRATED SMOKE GENERATOR OPTION

Look Solutions Viper NT smoke generator in dedicated compartment. Easy access for servicing (fluid filling). 2" inner diameter smoke piping and fitting concentric in return air port.

SIMVAC SRB



#### WITH INTEGRATED INTELLIGENT BACKUP SYSTEM

SIMVAC S



#### WITH DIFFERENT VOLTAGE OPTION

Available with 220 volts 1Ph low pressure. Top adaptor for 12" pipe. Same quality components as SR model.

## ONLY QUALITY COMPONENTS FOR MAXIMUM RELIABILITY

### MECHANICAL COMPONENTS

- Dedicated sheet metal cabinet.
- Robust construction.
- Easy maintenance and service access doors.
- Soundproofing material used throughout the interior of the HVAC unit, for very quiet operation.
- Recessed electrical and water/refrigerant connection panels.

### ELECTRICAL COMPONENTS

- Power: 400Vac 3Ph, + Neutral... 240Vac 1Ph option is available.
- 24V transformer included for standard thermostat control. "Y" terminal input as per standard.
- HVAC spec for cooling demand. "C" and "R" terminals for thermostat power supply.
- Carel drive for compressor speed control.
- SimV+ac's proprietary advanced heatpump electronic control with Flight Sim specific firmware.

### VENTILATION SYSTEM

- EC German Backward inclined blowers.
- Each blower is controlled in constant static pressure mode at +3.5" IWC.
- Blowers are constantly "ON" when the unit is powered up.
- Return and supply air ports are 12" dia. Designed for easy attachment of flexible ducts adapted for full-flight simulator requirements.

### REFRIGERATION SYSTEM

- Variable speed Mitsubishi BLDC compressor. 36 000BTU/hr. max. cooling capacity.
- Carel drive for compressor speed control.
- Electronic expansion valve from Carel.
- SimV+ac's proprietary advanced heatpump electronic control with Flight Sim specific firmware.
- No-freeze system thanks to Calorek's electronic control. The compressor speed is modulated in order to avoid freezing the coil no matter what airflow is passing through it.
- Choice of water-cooled or external condenser unit.
- If water-cooled, an external fluid cooler is available as an option. It includes fluid pump, fluid cooler (exchanger coil and fan), expansion tank and feeder in a single unit for warm climates and two units for sub-zero climates.
- If a condenser unit option is chosen, customers need a qualified technician to connect the HVAC unit to the condenser unit. The HVAC unit will be precharged with the correct amount of refrigerant for 25' length lines to the condenser unit. Additional refrigerant may be needed for longer linesets. Service valves provided.

### MAINTENANCE SOFTWARE

- Labview-based maintenance software can be provided. Used for diagnosis of the machine and air pressure adjustments as per application needs. Easy-to-use interface.
- Connect via USB to any laptop.



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