OJ Drives®

Fan Arrays

Reliability, Redundancy, and Efficiency for Fan Arrays — Optimized by Intelligent Drive Control

Fan Arrays also – Known as Fan Walls

They are rapidly becoming the standard for air-handling units, clean rooms, data centers, hospitals, and other mission-critical facilities. Instead of a single large fan, fan arrays use multiple smaller fans working together to deliver airflow. The result is greater redundancy, quieter operation, higher efficiency, and easier service.

Pairing fan arrays with OJ Drives® and Controls unlocks even greater performance, ensuring fans operate as a unified, optimized system with intelligent load sharing, demand-based control, and seamless building management integrationinstallations.

OJ Ventilation Drives for Fan Arrays are Ideal In:

- **Data Centers** (redundancy + energy optimization)
- **Healthcare** (hospital AHUs, labs, isolation rooms)
- **Clean Rooms** (precision airflow, redundancy)
- **Airports** (high-volume, 24/7 systems)
- **Commercial Buildings** (retrofit and new AHUs)
- **Industrial Process Ventilation** (where uptime is critical)

Why Fan Arrays + OJ Ventilation Drives?

- **Redundancy Built In**
  Multiple fans prevent downtime – if one fails, others maintain airflow while service is scheduled.
- **Higher Efficiency, Lower Energy Use**
  Drives optimize fan staging and load distribution, trimming energy consumption by matching demand.
- **Scalable Flexibility**
  Easily add or remove fan modules for future capacity needs without redesigning the system.
- **Quiet, Balanced Operation**
  Smaller fans running in parallel minimize noise, while OJ drives ensure synchronized performance.
- **Smart BMS Integration**
  Native BACnet MS/TP and Modbus support make system-level monitoring and optimization simple.

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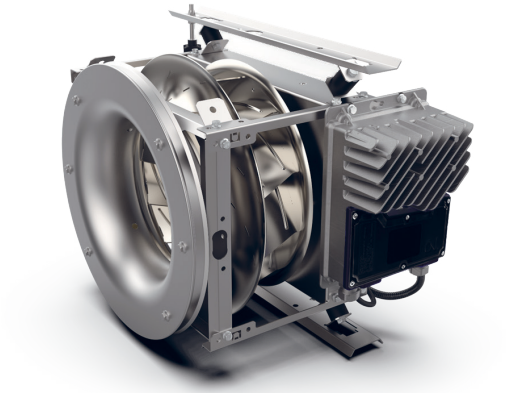

Plug fan

Fan array

Fan Array Configurations	Benefits
Parallel Arrays	+ Ideal for AHUs and data centers – precise airflow and redundancy
Stacked Walls	+ Compact footprint with higher pressure output
Retrofit Arrays	+ Replace aging large fans in existing housings with multiple smaller fans

Control Strategies for Fan Arrays

- Load Sharing / Equal Runtime
  OJ drives balance operating load across fans, reducing wear and extending motor life.
- Demand-Controlled Ventilation
  CO_2 or pressure sensors allow fans to scale back during low-load periods for maximum efficiency or controlled from BMS system.
- Sequencing / Staging Drives
  Bring additional fans online only as needed, preventing wasted energy.
- Redundancy
  Logic Automatic switchover if a fan or drive fails, ensuring airflow continuity.
- Soft Start / Stop
  Reduce inrush current, extend bearing, and avoid pressure shocks.

OEM & Retrofit Advantages

- **OEM-Friendly:** Preloaded drive settings streamline factory integration.
- **Retrofit Ready:** Replace aging single-fan systems with scalable arrays.
- **Flexible Motor Support:** Operates AC, PM, and PMsynRM motors seamlessly.
- **EC Motor Compatible:** Several options available with the optional cards installed enables hybrid and all-EC arrays.

Built for Fan Arrays. Backed by Experts.

OJ ventilation drives are purpose-built for HVAC fan systems – engineered with installers, OEMs, and service technicians in mind. With intuitive interfaces, robust communication options, and HVAC-specific functionality, they make fan arrays smarter, simpler, and more reliable.

Let's Build Better Exhaust Systems Together

Contact us today to explore how OJ ventilation drives can enhance your next exhaust fan project!

Learn More

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