

FAN & PUMP

VARIABLE FREQUENCY DRIVE BYPASS FOR CONTINUOUS OPERATION

The Customer

Commercial buildings and industrial facilities, including office buildings, hospitals, schools, universities, water/wastewater plants, booster stations, city municipalities, fish farms, grain handling facilities, and more.

The Challenge

Balancing supply with demand is a crucial challenge since demand is often a moving target. Fans that move cubic feet per minute (CFM) of air or pumps that move gallons per minute (GPM) of liquids must adjust the volume delivered. Typically, the system has a desired setpoint for volume, pressure, or temperature. When process interruptions occur, the system must re-adjust to return to the desired setpoint. Maintaining a comfortable or safe work environment or ensuring product quality control is essential.

The Solution

Adding a VFD (Variable Frequency Drive) bypass unit to a fan or centrifugal pump application helps optimize supply to meet variable load requirements. It also reduces energy costs by lowering energy consumption - Reducing the flow of gallons per minute (GPM) or cubic feet per minute (CFM) directly decreases motor energy (horsepower) consumption. Additionally, reducing equipment wear and tear lowers overall maintenance costs. All of this is achieved through precise control of motor speed.



WORLDWIDE
ELECTRIC CORPORATION

User Benefits

The Worlddrive Flex Control VFD Bypass Panel provides the following benefits in this application:

- Slim, compact design requires small space to install
- Display of system operation and fault status on the VFD keypad
- Manual selections for automatic VFD operation or full-voltage bypass
- Additional safety modes, such as Motor Overload (OL), Trip Detection
- Operation can be stand-alone
- Operation can interface to most PLC and computer-controlled system
- Integrated PID Loop Control for ease of fan and pump setpoint control
- 100 kA short circuit current rating (SCCR) for reliability and safety