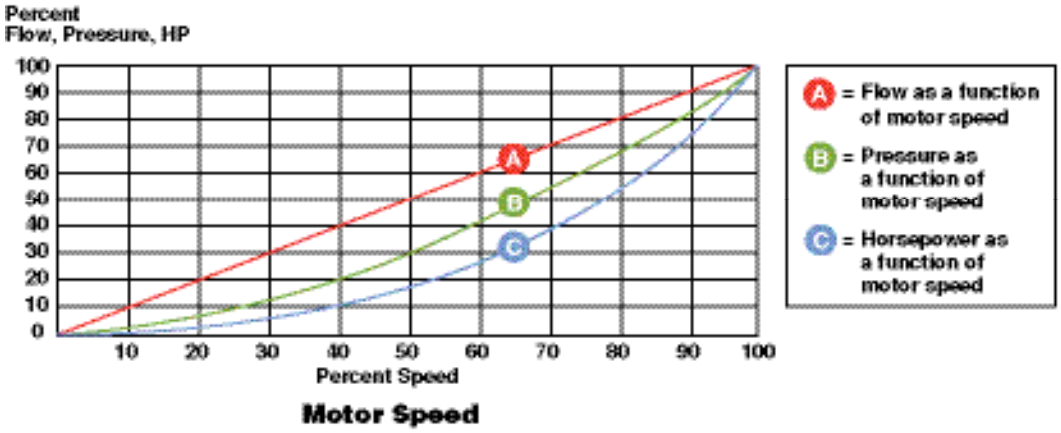
Go *green* with
Altivar® 21 drives!

Let the Altivar 21 drives operate your buildings with greater efficiency; using them on fans and pumps can significantly reduce your energy costs. In many instances, the payback period for installing adjustable frequency drives in place of other flow control methods is less than 12 months.

Most HVAC systems are designed to keep the building cool on the hottest days and warm on the coldest days. Therefore, the HVAC system only needs to work at full capacity on the 10 or so hottest days and the 10 or so coldest days of the year. On the other 345 days, the HVAC system may operate at a reduced capacity. This is where a variable air volume system with variable frequency drives (VFDs) can be used to match air flow to actual heating and cooling demands. The VFD can reduce the motor speed when full flow is not required, thereby reducing the power required and the electrical energy used.



Motor Speed

An example of an energy saving calculation*

A fan with a 20 horsepower motor supplies air 10 hours a day for 260 days a year and the energy cost is $0.10 cents per kilowatt-hour.

Cost of running the motor at full speed:

20 HP x 0.746 kW/HP x 2600 hours x $0.10/kWhr = ***$3,879.20***

Assuming the fan does not need to run at full speed for the full 2600 hours, let's use an example where it runs at full speed 25% of the time, at 80% for 50% of the time, and at 60% for the remaining 25% of the time:

Cost of running with an AC drive controlling the motor:

20 HP x (1)3 x 0.746 kW/HP x 650 hours x $0.10/kWhr	=	$969.80
20 HP x (0.8)3 x 0.746 kW/HP x 1300 hours x $0.10/kWhr	=	$993.08
20 HP x (0.6)3 x 0.746 kW/HP x 650 hours x $0.10/kWhr	=	$209.48
Total		***= $2,172.36***

Annual savings: $3,879.20 - $2,172.36 = $1,706.84

**Actual results may vary for closed loop pumping and variable air volume systems.*