

Managing Peak Demand...

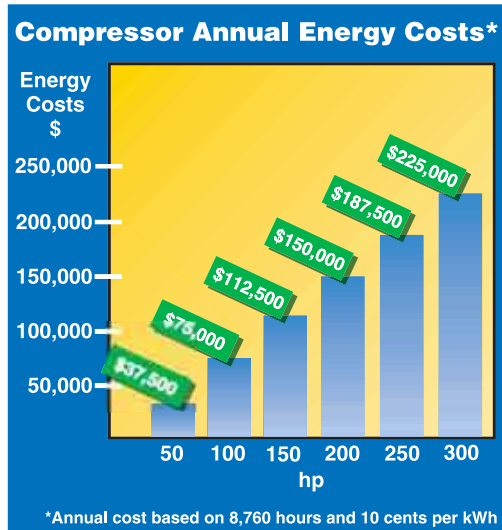
...while maintaining efficiency and reliability

With the country's aging fleet of power plants, most US utilities levy steep "peak demand charges." These are premium fees assessed when businesses exceed the allotted, un-penalized power consumption. Peak demand charges are a particular concern for today's manufacturers who need to optimize operating efficiency and reduce overall costs at every turn.

Consider the average industrial facility. Machining, assembly, processing and conveying equipment requires an extensive amount of compressed air. Depending on the plant's operational characteristics and equipment usage rates, actual air demand may vary. Bringing additional air compressors online can incur peak demand charges by exceeding the allotted consumption or by causing energy consumption spikes as the compressor's motor comes on line. In either case, plant managers agree, "you still need air."

A Shift in Design

The philosophy of one large compressor, and one equal sized spare is



a thing of the past. Bringing a large compressor on line and consuming the full horsepower, when only a portion of the capacity is needed is not efficient. Add in peak demand charges, and the cost of getting air and doing business dramatically increases.

Today's air system design takes a more practical approach. The primary compressor is sized to handle the minimum "base load," while several smaller units wait to be called on-line incrementally as demand increases. The smaller units with lower horsepowers limit energy

spikes. Further, these multiple units can also provide back-up to avoid unplanned downtime and the resulting impact on production. This type of system design is especially efficient for facilities with wide variations in air flow demand.

An Alternative Power Source

Other manufacturers seek to avoid using additional electricity all together by installing portable compressors running on diesel fuel. With a few simple modifications, portable rotary screw compressors can be

Application Hints

Get a Baseline Audit

Seek the assistance of a qualified compressed air representative in assessing your baseline usage and demand. A complete review of your facility and system performance may reveal leaks that can be easily plugged, inefficient uses of valuable compressed air, and re-quired changes in the sequencing and control of existing compressors.

Selecting the Correct Capacity

Especially when purchasing a unit, select sufficient but not excessive capacity. Most diesel units operate on the modulation control principal and will cycle off when air is not required. However, purchasing a larger compressor than needed will cost more in the initial purchase price.

Think Long Term on Portables

Purchase or Rent? Purchasing a unit is a better investment if using a portable compressor is part of a plant's long term, industrial back-up solution. Renting is more practical for those who see industrial back-up as a solution for a planned yet temporary interruption in the air system, or who will require supplemental air for only a short period of time during a transitional phase in the plant's production.

hooked right in to the plant's main distribution and clean air treatment system. Available in a wide range of sizes and capacities, they provide the same reliable source of quality compressed air.

Portable air compressors are also an excellent option for providing back-up air.

This type of „industrial back-up“ maintains critical plant functions and eliminates peak demand charges all together. Reported cost savings in some cases approach \$30,000 per year!

System Planning

Like any improvement or system upgrade, begin with a firm, accurate grasp of the system's current operational status. Complete air system

audits provide a base line or profile of existing output and operating conditions. Compressor manufacturers offer comprehensive air demand analysis software to monitor and asses current system conditions. A qualified compressed air representative will be able to interpret audit and analysis results, and determine base load and peak demand needs. A well designed system based on application requirements and proper planning can provide efficiency, reliability, and still reduce operating costs by limiting peak demand charges.

System Management

Once the components are installed, consider investing in a comprehensive air management system. Along

with sequencing and monitoring, integrated PC-based systems offer advanced controls, HTML reporting and long term trend analysis. These options ensure optimized system performance and added control flexibility. Air management systems are a relatively small investment compared with the potential savings and efficiency gains.

for more info

M260

Kaeser's M260 portable compressor features the proprietary Sigma Profile engine and a turbo-charged Mercedes Benz. This fuel-efficient unit is capable of producing 950 cfm using only 10.7 gallons of fuel per hour. Operating at full load output of 950 cfm everyday, the M260 could provide up to 25% of a 70,000 sq. ft forge and casting facility's total air consumption.



Sigma Air Manager (SAM)

Sigma Air Manager is the first master controller to combine a modern industrial PC with Internet technology in a compressed air system. Sigma Air Manager provides in-creased system reliability and energy-saving, demand-related pressure band control with a clear picture of operational data through HTML reports.

