Northwest Pump

PETROLEUM & INDUSTRIAL

FAQ

"What type of air compressor is best for my business?"

This is an excellent question because the wrong air compressor can cost you big bucks and cause untold headaches. Each type of compressor (reciprocating, rotary screw, and rotary vane are the primary types) has its own "pros and cons", but it is not difficult to determine the most appropriate type for your application once you know a little about each one.

Reciprocating, or piston, air compressors are the most familiar. An industrial quality machine will last a long time with routine maintenance. Reciprocating compressors are also very efficient because they only run when there is a demand for compressed air. When there is no demand, they turn off, saving wear and tear on the machine and, most importantly, saving on your power bill. Reciprocating air compressors are available in a wide range of sizes from fractional horsepower up through hundreds of horsepower.

Rotary screw air compressors run continuously, producing a steady flow of compressed air. They are suited for applications that require a constant supply of compressed air that would never give a reciprocating machine rest. Sometimes a rotary screw machine is used to provide a base amount of compressed air for which there is a constant demand and a reciprocating machine is used to "trim" the system, operating only when demand exceeds the capacity of the rotary screw. Rotary screw compressors are available in the range of five horsepower up. Each horsepower will produce about 4-5 cfm of compressed air depending on the specific design.

Rotary vane air compressors are suitable for the same types of applications as rotary screws, but they have some advantages. They operate with fewer moving parts, have fewer potential oil leak points, and utilize a superior hydraulic-controlled inlet system. Rotary vane machines are generally available from two horsepower through 300 horsepower. With proper preventive maintenance, these machines can serve well for 100,000 hours or more.

"Once I know the type compressor I need, how do I determine the appropriate size?"

The best way to size your air compressor is to measure your actual compressed air use for at least one week of typical operations and allow for reasonable estimates of expected changes. One might logically assume that if a 15-hp compressor is good for your application, then a 30-hp would be better, but that is not the case, at least not for rotary machines. Although a rotary machine (unless it is a variable speed

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unit) will run at a constant speed even with fluctuating air demand, if the demand is too low for a sufficient time, the machine will shut off. Industrial air compressors are too expensive to make a mistake by buying a machine too small for your application, or too big, which is the more common mistake.

"How can I tell if my rotary machine is too big?"

There are some telltale symptoms of a seriously oversized rotary air compressor:

- The compressor is an oily mess
- You have to buy extra oil between services
- You are having problems with your condensate drains
- You are frequently replacing downstream filters
- You are experiencing corrosion in your compressed air system

"Why should I buy a dryer for my compressed air? I mean, what's a little water going to hurt?"

Water in your compressed air will flush away lubricants in your air tools and air powered machines, increasing wear and causing premature breakdowns. It can mix with soluble and corrosive solder fluxes in your compressed air piping system and corrode machines and tools downstream. Appropriately sized refrigerated or desiccant air dryers effectively remove all the moisture from your compressed air. Add particulate and coalescing filters to remove particulate and oil contamination, and your compressed air will be clean, dry and ready to effectively perform the work you prescribe for it. However, as with your compressor, the appropriate size and type of dryer is critical.