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Piston or Screw Compressor - Which One is Right for Me?

by Brian S. Elliott



Two-Stage Reciprocating (Piston) Compressor

When faced with buying an air compressor, the question of what type of compressor should be specified: reciprocating (piston) or rotary screw? If the application requires a compressor greater than 30 horsepower, then the question is automatically answered by the industry. Practically speaking, there are no reciprocating air compressors made in sizes that exceed 30 horsepower.

For compressors 30 HP and smaller, the way that the compressed air is used should be taken into consideration. Reciprocating compressors are a better choice for intermittent applications, such as auto repair shops, small machine shops, dry cleaners, cabinet making and limited pneumatic controls. Screw compressors are typically better suited for

continuous flow applications, such as production painting, food processing, blow molding, packing and printing.

The cost of the equipment may also have a bearing on the selection. Generally speaking, screw compressors are more expensive from both a capital and maintenance standpoint. Additionally, screw compressors usually have a shorter life expectancy than reciprocating units. Maintenance requirements for a screw compressor are considerably more stringent than their piston counterparts. Allowing the maintenance to slip on a screw compressor usually results in significant damage to the unit.

On the other hand, piston compressors are famous for their ability to endure less-than-ideal maintenance procedures. The proof of this is the large number of reciprocating compressors that are still on the job after 30 to 40 years. By comparison, it's rather difficult to find a screw compressor that is still providing good service after 15 to 20 years.

It's important to select a compressor that is appropriate for your application. Don't get caught up in the glitz of sales brochures and smooth talk of the salespeople. Spend some quality time researching compressors, do your homework and make the right decision for your application. After all, you're going to have to live with your decision for a very long time.



Skid-Mounted Rotary Screw Compressor

Air Options, Inc. P.O. Box 35984 Houston, Texas 77235-5984 Ph.: 713-721-9619 E.Mail: Info@Air-Options.com



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