Title:
All About Air Motors

Word Count:
763

Summary:
Air motors are engines which convert the energy of compressed air into mechanical work. They use the power of air (thus are also known as air powered motors or air driven motors) in order to generate the necessary torque to produce rotational motion.

Keywords:
air motors, air powered motors, air driven motors, shoulder screws, ball bearings, speed reducers

Article Body:
Air motors are engines which convert the energy of compressed air into mechanical work. They use the power of air (thus are also known as air powered motors or air driven motors) in order to generate the necessary torque to produce rotational motion. Air driven motors and their concept to use air as an energy carrier is not a new idea. Historically, it has been applied since the 19th century to power mine locomotives. The most recent development uses pressurized air as fuel in an engine. The advantage of air motors lies in the fact that they are easy to use, maintain and handle. They are available in different types of designs and are used for many purposes in different applications.

Advantages of air powered motors

Air motors offer many advantages in comparison to electric motors. Some of the advantages of air motors are:

Because air powered motors do not need any electric power to run, they can be safely used in volatile atmospheres.

Power density of air driven motors is higher. Therefore an air driven motor

of the same size as that of an electric motor offers more power.

Overloads cause no harm to air powered motors. On the other hand, electric motors can easily trip the circuits which have to be restored.

Air motors generate very less heat in comparison to electric motors.

Air motors can easily be transported to areas where electricity is not available

The advantage of air motors is evident from the above mentioned benefits. They are much more convenient and easy to use as compared to other power generating motors. They are also less polluting and require lesser maintenance.

Types/Designs of air motors

Many designs of air driven motors are available. Axial piston, rotary vane, radial piston, V type, diaphragm, turbine and the generator are most commonly used. The reason for popularity of these designs is the added efficiency they provide in comparison to other air motors. Apart from being efficient air motor designs, their life is greater and they need less conservation. Vane air motors are the most popular of the air motor designs.

Piston air motors are the most efficient type of air powered motors. They are used in applications where high power as well as high starting torsion is required. They are also applied where accurate speed control is needed. In piston air motors, there are two to six cylinders attached either radially or axially. High rotation is produced by pressure that acts on the pistons which reciprocate in cylinders.

The advantage of piston air motors is derived from the fact that their uses are many fold. Also, they are more user friendly. The volume of air needed is less which means less air leaks. You get more precise control with piston air motors which makes them ideal for low speed – high torque applications. Speed of motor can be adjusted to fine limits. Reversing is also possible. Piston air motors give near instant response even under load. These factors make piston air motors highly useful and apt to be used in almost all conditions. Efficiency of piston air motors ensures that they give the maximum output while requiring

little care.

About the author

Rino Mechanical Components Inc. is a manufacturing resource which specializes in production of all types of mechanical components, including air motors. Mechanical parts are custom made as per the client's specifications. A guarantee of two years is provided with all products. All equipment is of top quality made exactly to the consumer's liking.