

Generators, Light Towers, Compressors, and Heaters

Used Compressors Inglewood - Air compressors are valuable equipment that transfers power into potential energy which is stored in pressurized air. Air compressors use diesel, gasoline or electric motors, forcing air into a storage tank to pressurize it. After the tank reaches a certain limit, it is turned off and the compressed air is held in the tank until it needs to be used. There are many applications that require compressed air. As the kinetic energy in the air is used, the tank depressurizes. The pressurization restarts after the air compressor turns on again, which is triggered after the lower limit is reached.

Positive Displacement Air Compressors There are multiple methods for air compression. They are divided into roto-dynamic or positive-displacement categories. In the positive-displacement method, air compressors force the air into a space with decreased volume and this compresses the air. A port or valve opens one maximum air pressure is achieved. Next, the air is discharged from the compression chamber into the outlet system. Popular types of positive-displacement compressors include Piston-Type, Rotary Screw Compressors and Vane Compressors.

Dynamic Displacement Air Compressors The dynamic air compressors consist of centrifugal air compressors and axial compressors. These units rely on a rotating component to discharge the kinetic energy and transform it into pressure energy. Pressurization is attained from a spinning impeller that creates centrifugal force to accelerate and decelerate contained air. Heat is generated by air compressors and these machines need a heat disposal method, generally with some form of air or water cooling component. Atmospheric changes are also taken into consideration during compressor cooling. Certain equipment factors need to be considered including the available compressor power, inlet temperature, ambient temperature and the location of the application.

Air Compressor Applications There are many uses for air compressors and they are used frequently in a variety of industries. Air compressors are used to provide pneumatic power to equipment such as air tools and jackhammers, to fill tires with air, to supply clean air with moderate pressure to divers and much more. Copious amounts of moderate pressure air are generated for numerous industrial applications.

Types of Air Compressors The majority of air compressors are either the rotary screw type, the rotary vane model or the reciprocating piston type. These air compressors are chosen for smaller and more portable jobs.

Air Compressor Pumps Oil-less and oil-injected are the two main kinds of air-compressor pumps. The oil-free system is more expensive compared to oil-lubed systems and they last less time. The system that functions without oil has been recognized with delivering better quality.

Power Sources There are numerous power sources that are compatible with air compressors. The most popular models are diesel-powered, gas and electric air compressors. Additional models are available on the market that have been built to use hydraulic ports or engines that are commonly utilized by mobile units and rely on power-take-off. Isolated work sites with limited electricity commonly use diesel and gas-powered machines. They need adequate ventilation for their gas exhaust and are quite noisy. Indoor applications including warehouses, production facilities, garages and workshops that offer easy access to electricity typically rely on electric-powered air compressors.

Rotary-Screw Compressor One of the most sought after compressors is the rotary-screw compressor. This model of gas compressor relies on a positive-displacement mechanism of the rotary type. These units are commonly used in industrial settings to replace piston compressors for jobs that require high-pressure air. Impact wrenches and high-power air tools are common. Gas compression of a rotary-screw model features a sweeping, continuous motion, allowing minimal pulsation which is common in piston model compressors and may cause a less desirable flow surge. Rotors are used by the rotary-screw compressors to make gas compression possible. Timing gears come into play with dry-running rotary-screw compressor models. These items ensure the perfect alignment of the male and female rotors. In oil-flooded rotary-screw compressors, the space between the rotors is lubricated. A hydraulic seal is created which transforms the mechanical energy in between the rotors at the same time. Starting at the suction area, gas moves through the threads as the screws rotate. This makes the gas pass through the compressor and leaves

through the ends of the screws. Overall success is effective when particular clearances are achieved regarding the sealing chamber of the compression cavities, the rotors and the helical rotors. Fast speed and rotation are behind minimizing the ratio of a leaky flow rate or an effective flow rate. Food processing plants, industrial applications requiring constant air and automated manufacturing facilities use rotary-screw compressors. Other than fixed models, there are mobile units in tow behind trailers that run on diesel engines. Commonly called “construction compressors,” these portable compression units are useful for road construction, pneumatic pumps, riveting tools, industrial paint systems and sandblasting jobs.

Scroll Compressor This type of popular air compressor specializes in compressing refrigerant or air. It is common in vacuum pumps, to supercharge vehicles and in air conditioning equipment. A variety of air conditioning systems, residential heat pumps and a variety of automotive air conditioner utilize a scroll compressor in place of wobble-plate, reciprocating and traditional rotary compressors. Fluids including gases and liquids are pumped, compressed and pressurized with the dual interleaving scrolls on this compressor. As one of the scrolls is often fixed, the other scroll eccentrically orbits with zero rotation. This motion traps and pumps the fluid between the scrolls. Compression motion may be achieved by co-rotating the scrolls synchronously with their centers of rotation offset to create a similar motion to orbiting. Acting like a peristaltic pump, the Archimedean spiral is contained within flexible tubing variations’ similar to a tube of toothpaste. There is a lubricant on the casings to stop exterior pump abrasion. The lubricant diverts heat. Since there are no moving parts coming into contact with the fluid, this pump is an affordable option. With zero valves, seals or glands, this equipment stays simple to operate in maintenance terms. In comparison to other pump units, the hose or tube feature is very inexpensive.