

Generators, Light Towers, Compressors, and Heaters

Used Compressors Murrieta - Air compressors are popular equipment that stores pressurized air by transferring power into potential energy. Air compressors use diesel, gasoline or electric motors, forcing air into a storage tank to pressurize it. Once the tank reaches its' upper limit, the air compressor turns off, as the compressed air is held into the tank until needed. There are many applications that require compressed air. As the kinetic energy in the air is used, the tank depressurizes. After the lower limit has been attained, the air compressor roars back to life to begin the process of pressurization.

Positive Displacement Air Compressors There are a variety of air compression methods. They are divided into roto-dynamic or positive-displacement categories. The air is forced into a chamber with decreased volume in the positive-displacement model and this is how the air becomes compressed. 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. Air compressors create heat and need a method to dispose of the heat, typically with some kind of water or air cooling mechanism. Compressor cooling also relies on atmospheric changes. 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 Numerous industries rely on air compressors. 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. Moderate pressurized air is used in large capacities for a variety of industrial jobs.

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

Air Compressor Pumps Two of the main kinds of air-compressor pumps include oil-injected and oil-less kinds. The oil-free system relies on more technical components; however, it lasts for less time in comparison to oil-lubed pumps and is more expensive. Overall, the oil-less system is considered to deliver higher quality.

Power Sources Air compressors can be utilized with many different power sources. Gas, electric and diesel-powered air compressors are among the most popular types. There are other models that have been created to rely on power-take-off, hydraulic ports or vehicle engines that are commonly used for mobile systems. Often, gas and diesel-powered models are used in remote places that do not have great electricity access. 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. A rotary-type, positive-displacement mechanism is what this type of gas compressor relies on. These compressors are often used in industrial applications in place of piston compressors. They are popular for jobs that depend on 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. Compressors use rotors to create gas compression in the rotary-screw compressor. Timing gears come into play with dry-running rotary-screw compressor models. These items ensure the perfect alignment of the male and female rotors. There are oil-flooded rotary-screw compressors that rely on lubricating oils to fill the gaps between the rotors. This serves as a hydraulic seal while simultaneously transferring mechanical energy between the rotors. 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. Success and overall effectiveness rely on specific clearances being achieved between 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. Many applications including food processing plants, automated manufacturing facilities and other industrial job sites rely on rotary-screw compressors. Other than fixed models, there are mobile units in tow behind trailers that run on diesel engines. Also known as “construction compressors,” portable compression systems are popular for sandblasting, industrial paint systems, construction crews, pneumatic pumps, riveting tools and more. Scroll Compressor This type of popular air compressor specializes in compressing refrigerant or air. It is popular with supercharging vehicles, in vacuum pumps and commonly used in air-conditioning. These compressors are used in a variety of places to replace reciprocating and traditional wobble-plate compressors. They are used in residential heat pumps, automotive air-conditioning units and other air-conditioning systems. This apparatus features dual interleaving scrolls that are responsible for pumping, compressing and pressurizing fluids including gases and liquids. 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. The compression movement happens when the scrolls synchronously rotate with their rotation centers misaligned to create an orbiting motion. Flexible tubing variations contain the Archimedean spiral that operates similar to a tube of toothpaste and acts like a peristaltic pump. 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. Compared to many other pump models, this tube or hose feature is relatively low cost.