

Generators, Light Towers, Compressors, and Heaters

Used Compressors Rancho Cucamonga - Air compressors are popular equipment that stores pressurized air by transferring power into potential energy. These units use electric, diesel or gas motors to force air into a storing tank to increase the pressure. Once the tank reaches its' upper limit, the air compressor turns off, as the compressed air is held into the tank until needed. Compressed air is used for many applications. The tank depressurizes as the kinetic energy of the air is used. 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 different ways to compress air. 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. There are different kinds of positive-displacement compressors including Vane Compressors, Piston-Type and Rotary Screw Compressors. Dynamic Displacement Air Compressors Centrifugal air compressors, along with axial compressors fall under the dynamic displacement air compressor category. Pressure energy is transformed via discharged kinetic energy with a rotating component. A spinning impeller generates centrifugal force, accelerating and decelerating contained air, creating pressurization. Air compressors generate heat and require a method for heat disposal; usually with some type of air cooling or water. Changes in the atmosphere play a role in compressor cooling. Many factors need to be considered for this kind of equipment including the power available from the compressor, inlet temperature, the location of application and ambient temperature. Air Compressor Applications Air compressors are used in many different industries. For example, supplying clean air at moderate pressure to a diver that is supplied for surface submersion, supplying clean air of high-pressurization to fill gas cylinders and supplying pneumatic HVAC controls with moderately pressurized clean air to power pneumatic tools including jackhammers and filling up high-pressure air tanks to fill vehicle tires. Moderate pressurized air is used in large capacities for a variety of industrial jobs. 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 types of air compressors are favored for portable and smaller applications. Air Compressor Pumps Two of the main kinds of air-compressor pumps include oil-injected and oil-less kinds. The oil-free model depends on technical items; however, it costs more and lasts less than oil-lubed models. 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. Diesel and gas-powered models are often chosen for remote locations that offer limited access to electricity. These models are quite loud and require proper ventilation for their exhaust. Electric-powered air compressors are common in workshops, garages, production facilities and warehouses where electricity is abundant. Rotary-Screw Compressor One of the most sought after compressors is the rotary-screw compressor. This gas compressor requires a rotary type positive-displacement mechanism. 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. The rotary-screw gas compression unit has a continuous rhythm; featuring minimum pulsation which is a hallmark of piston model units. Pulsation can contribute to a less desirable flow surge. Compressors use rotors to create gas compression in the rotary-screw compressor. There are timing gears affixed on the dry-running rotary-screw compressors. These components are important to ensure the female and male rotors operate perfectly aligned. There are oil-flooded rotary-screw compressors that rely on lubricating oils to fill the gaps between the rotors. This design creates a hydraulic seal and transfers mechanical energy in between the rotors

simultaneously. 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. 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. 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 A scroll compressor is used to compress refrigerant. It is popular with supercharging vehicles, in vacuum pumps and commonly used in air-conditioning. Scroll compressors are used in many automotive air-conditioning units, residential heat pumps and air-conditioning systems to replace wobble-plate traditional and reciprocating rotary compressors. Fluids including gases and liquids are pumped, compressed and pressurized with the dual interleaving scrolls on this compressor. Usually, one of the scrolls is fixed, while the second scroll is capable of orbiting 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. Flexible tubing variations contain the Archimedean spiral that operates similar to a tube of toothpaste and acts like a peristaltic pump. Lubricant-rich casings stop exterior abrasion from occurring. The lubricant additionally helps to dispel heat. With zero moving items coming into contact with the fluid, the peristaltic pump is an inexpensive solution. Having no seals, glands or valves keeps this equipment easy to operate and quite inexpensive in maintenance. In comparison to other pump units, the hose or tube feature is very inexpensive.