

Reciprocating Air Compressors



Reciprocating Medical Air Compressors



Duplex 5 hp Reciprocating Air Compressor System



Triplex 15 hp Reciprocating Air Compressor System

The reciprocating medical air system has been highly reliable in its operation for many years in the medical air industry. At Amico, we further improve upon this technology by providing customers an even more reliable, oil-less reciprocating system that is easy to service, efficient and trouble free.

Benefits

- Integrated single point touch screen control for ease of operation
- Custom system configurations are available to meet customer's needs
- Single point connection for inlet, outlet and electric connections
- Embedded web server for remote monitoring
- E-mail alerts for alarm monitoring
- Ethernet connectivity for connection to the hospital network
- 3G connectivity to allow installation of the system anywhere without the use of a hospital network

Features

Taller Compressor Cooling Head

Cooling is a major concern for reciprocating compressors. During the discharge stroke, the compression of air generates a considerable amount of heat. All of this heat is localized at the top of the compressor head and needs to be released. To assist with the cooling process, Amico's compressor head has tall cooling fins which provide heat dissipation much more efficiently, allowing the compressor to run cooler.

V-Groove Top

To further assist with keeping the compressor relatively cool, the top of the compression chamber has a V-groove between the intake and the discharge. This ensures that a high percentage of highly pressurized hot air leaves the compressor and the air entering the compression chamber is fresh, cool air. The cylinder remains cool by not cycling hot air during each stroke.

Dryer Efficiency

The Amico medical air system utilizes a desiccant dryer system with dew point dependent purge technology. This provides quality dry air without excessive use and wear on the compressor(s), thus prolonging the life of the system. When the dew point is low, the system stops the purging of air from the dryer. Purge begins again when the dew point has raised to a certain point.

During the purge cycle, the dryer will go through a repressurization stage where it slowly repressurizes the desiccant tower. This stage reduces both desiccant dust in the air stream as well as damage to the valves.

Dryers are sized with the customer's flow in mind. The minimum size for the dryer is selected for each system, further decreasing the cost of the system and the cost of maintenance.

Final Line Filtration System

Another high efficiency coalescing after-filter is installed after the dryer to safeguard the airstream from any possible desiccant dust, providing the highest quality medical air to patients.

Serviceability

Ease of Service

The medical air system is designed with easy service in mind. All components are easily accessible. Should any component need to be changed, this can be completed with minimal labor hours.

Fittings and Connections

All fittings and connections used in the design of the system are commonly available, non-proprietary parts. Should a connection need to be changed, it can be purchased locally.

Belt Tensioning

A drive screw design on the motor allows for easy belt change, reducing the cost of labor during service.

Dryer Maintenance

Changing the desiccant can be difficult and messy when using a poorly designed desiccant tower. Amico dryer systems allow for the opening of the top cover of the dryer. The desiccant can then be removed via shop vac, thus making this a clean and easy job to do.

Control Panel

The Amico control panel optimizes a safe 24 V control circuit. This reduces the risk of shock during troubleshooting and system maintenance. All components in the control panel are non-proprietary parts – replacement parts are easy to find at any local supply store.



Cylinder Cross-Section



Air Valve Kit with Gasket



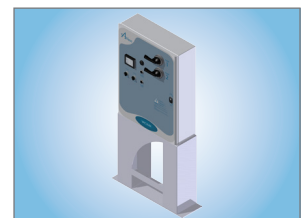
Dryer/Filter/Regulator System



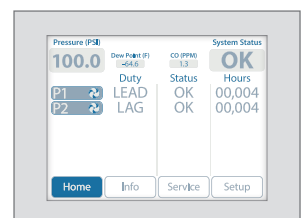
Air Compressor



Compressor Accessories



Control Panel



HMI Touch Screen

Air Technology Comparison Chart

Characteristics	Scroll	Dry Reciprocating	Lubricated Reciprocating	Rotary Screw
Format	<ul style="list-style-type: none"> • Modular Stacking • Horizontal Tank Mount • Skid Mount 	<ul style="list-style-type: none"> • Modular Stacking • Horizontal Tank Mount • Skid Mount 	<ul style="list-style-type: none"> • Modular Stacking • Horizontal Tank Mount • Skid Mount 	<ul style="list-style-type: none"> • Enclosed Unit
Lubrication	Oil Free	Oil Free	Lubricated	Oil Free
dBa*	74	84	82	72
SCFM*	32.0 @ 120 psig	32.5 @ 100 psig	32.8 @ 100 psig	85 @ 100 psig
LPM*	651 @ 828 kPa	920 @ 689 kPa	929 @ 689 kPa	2407 @ 689 kPa
High Pressure Application	Moderate	Moderate	Very Good	Poor
Maintenance	Low	Moderate	Moderate	High
Advantages	<ul style="list-style-type: none"> • Compact and low weight • Reliable • Low noise level (very quiet and vibration free) • No oil needed 	<ul style="list-style-type: none"> • Customizable configuration • Extremely reliable • Best efficiency CFM/HP • Able to produce high horsepower with one compressor unit • No oil needed 	<ul style="list-style-type: none"> • High pressure application • Very reliable • Low wear 	<ul style="list-style-type: none"> • Enclosed in a cabinet • Lower running temperature • Suitable for high demand application
Disadvantages	<ul style="list-style-type: none"> • Less convenient when servicing large capacities 	<ul style="list-style-type: none"> • Louder than scroll • Larger in size 	<ul style="list-style-type: none"> • Oil needed to run • More vibrations 	<ul style="list-style-type: none"> • High operating cost due to the need for water to cool • High maintenance • Difficult to install
Manufacturer	Hitachi	Hitachi	FS Curtis	FS Curtis

* All values are taken on pump at 10 hp except Rotary Screw which is taken at 20 hp

