

## • The Heart of your Rotary Screw:

The Airend is the most important part of your compressor, it is the heart of the machine that actually compresses the air. That is why here at, Emax Compressor we use only the best German and Finland name brand airends. The German made EVO Rotocomp have been producing these airends for over 65 years. Our Finland made G.D airends have been around since the early 1900'S. Most airends are only good for up to 40,000 hours and then they need a complete overhaul, with our airends they are good for 70,000 running hours as long as the unit is maintenance routinely and the correct oil is used. Polar Air Gives you a 10 year warranty on all their airends!

All Emax Air Rotary Screw air compressors are equipped with these state of the art screw airend compressors manufactured in Germany and Finland. These airends have precision-aligned back to back tapped roller bearings with close tolerances guarantee long life cycles and outstanding reliability. Each air end is tested to meet consistent high quality standards.

These airends use the highest quality duplex tapered roller bearings which extend the life time by double over the ball bearings design. These airends were designed with two separate bearings one to take the axial load and the other takes the radial loads. So even in the most severe conditions it gives longer bearing life to the airend. These State of the art airends air cooled by a flood of injected oil. The oil injection sprays directly onto the rotors and roller bearings, this helps efficiently cool the compressor. The oil helps to seal any gaps or clearances between the rotors and the housing. It works in the way of not allowing air to flow back the wrong way thus lowering your air ends efficiency and performance

## Premium Industrial Motors

We use only premium industrial name brand motors to run our compressors. Emax air uses only low 1750 RPM motors. We have chosen motors that come with the best certificates and quality assurances so we know that you are getting the best as well! We use High Efficiency inverter variable speed duty motors constructed with superior materials, higher service factors, longer bearing lives, lower waste- heat output and less vibration. We also pass the motor warranty on to you for a *full 5 year on single phase and a full 10 year on 3 phase!!*

The [Hyundai motors](#) are made of heavy duty cast iron construction. Hyundai motor Company has been around since 1967. We use TEFC (Total enclosed fan cooled ) , meaning the motor is dust tight and doesn't allow outside air in, it instead uses the fan to blow air over the frame of the motor to cool it. These motors all have copper bar rotors, this technology dates back to the 1920's. Copper helps improve the electrical energy efficiency of the motor because of its density and ability to transfer energy. Many motors are made of aluminum rotors, these inefficient electric motors waste electrical energy and therefore cost more to operate. Copper reduces the energy loss by 15-20% compared to aluminum. Inefficient motors cause many issues, they waste more energy, in turn increasing electrical demand,, thus increasing your electrical cost. Copper generates less heat and thermal stress therefore enabling longer life to the motor than aluminum.

## Save that energy!!

Since the motors consume a majority of the energy produced then the controls you put on the motor become an increase importance. When a motor starts at full load voltage it causes a voltage sag on the power system, it can cause shock damage creating long term damage to your motor. You can save 25-70% on energy by using motor controls or variable frequency drives. Our entire rotary screw line has the ability to have variable frequency drives installed in them. We use [Schneider Altivar71](#) Brand drives that carry a 5 year warranty. Schneider Electric has been around since 1981.What's the benefit you might ask? Lets break it down.

### Control:

When a motor is started it takes as much as 8 times the full load motor current to start. An adjustable speed drive can take on 50-70% of that motor full load current by starting the motor at zero frequency and voltage, it works by magnetizing the motor winding's and builds the frequency and voltage slowly, in short the variable speed drive starts as a zero speed and accelerates smoothly up to your settings. Programmable controls allow for adjustable operating speeds as well. These Schneider Altivar71 variable speed drives can be programmed to run at specific speeds, to stop at a specific position, they are even capable of applying a specific amount of torque. The ability to control these minimizes mechanical and electrical stress on the entire unit.

### Lower Power Demand:

Many power companies will offer rebates when running your system with a variable speed drive. In most cases the system will pay for its self over time, even in as short of time as one year. Because some power companies are limited then they put demand factors on industrial customers, so they charge you for surges in your power that may be robbing other customers during peak hours. The variable speed drive eliminates those surges. We have provided you with an example of the average energy savings from APE Energy. Use the link to see the potential savings. When 60 cycles of electricity are inducted into the electric motor, the motor RPM is a low 1750, however the Variable speed inverted drive will change the 60HZ to 60 Cycles of electricity from 60 cycles down to 18 cycles, depending on the pressure, The whole idea of energy savings with this unit is to lower the cycles, the lower the amp draw coming from your electric motor. The electricity amp draw that an electric motor is using determines what your electric bill is, so the lower the amp draw the lower your bill will be!

## VMC Inlet Valve

As mentioned earlier the airoend is the heart of the compressor but it does not work alone. The outside air is brought in and filtered before it hits the inlet valve to insure it is receiving clean air. The inlet valve regulates the amount of air that is sucked in by the rotary screw. When the valve is in a "loaded state it is compressing air and pumping it into the airoend, when it is in an "unloaded" state it shuts off the air supply, so the motor and screw air turning but not taking in air. Therefore not pumping any air to the system. Our VMC inlet valves have a counter weight which insures fast, tight closure when the air flow is reversed. This load and unload system has greater energy savings as well. When running the compressor in unloaded state it allows the compressor to store more air than is being used., a storage tank must be used in this case. The larger the storage tank the longer the no load cycle time, the greater the savings. This unit will save you hundreds on your electric bill because under start up the modulator valve is completely closed. This closes the air off to the screw intake making low load under start up. After the unit gets started, it has a 12-second time delay. This allows the unit to get running for 12 seconds before it starts pumping air. This makes no load starting and will save your magnetic starter contractor and motor because of low amp draw. [VMC was established in the 1970's.](#)

## Programmable Logistic Controller

These rotaries are controlled by a user friendly Logika PLC (Programmable Logistic Controller). This controller makes this unit bullet proof. These controllers have many many features that are extremely user friendly and easy to use. Here are some of its key features.

•variable speed ready to Control the speed of the motor

•Adjust Pressure - to what pressure range you need. This can be set by the customer, this unit has a shutdown in case the unit goes over pressure. the unit has a maximum pressure setting - the computer will sense that it is going over pressure and will shut down.

•Low Oil Shutdown - if the controller senses that the unit is going into high temperature it will shut it down. It will also shut down if the compressor runs low on oil.

•Reverse Fault - the controller will control when the unit is wired up if it is running backwards, it will sense a reverse rotation fault and shut the unit down

- High Voltage Fault** - if the voltage is 15% over the power supply voltage rated on the Polar compressor data plate, the unit will shut down. Also if the voltage is 15% under it will shut down as well.
- Over AMP Shut down** - if the motor is pulling to many amps it will shut down. You can check the amp draw of the electric motor as it is running and also on the exhaust fan motor
- Clock and Date** - Built in Clock and Date to help keep track of preventative maintenance services.
- Light** - Has a built in light for dark locations.
- Parameters**- has a maintenance parameter system to create and maintain the parameter and control information.
- Hour meter** - Built in hour meter to keep track of the running hour on the machine.
- Fault History** -The PLC stores history if the unit shuts down, information on why it shut down is stored
- Maintenance Service** - Keeps track of when to change the air filter, oil filter and the coalescing filter along with the unit needs greased. When they need changed the PLC will sound an alarm.After changing you simply reset that filter back to zero and start the maintenance tracker again.
- Air Differential Control**- with differential control you have a wide range of pressure settings. You can take the kick-in pressure all the way down to 100 PSI and all the way up to 145 PSI. You can adjust this range anywhere in between. You can also set the high end down to a lower pressure where ever the customer unit pressure is desired. The Polar Compressor is factory set at 120 kick in and 145 kick out. The lower the pressure the higher CFM and the more hours you will get on your screw compressor, so keep the pressure as low as possible.
- Built in Timer** -will sense when the unit is not being used for a period of 20 minutes under no load, this will shut down the machine automatically so it will restart as air pressure goes down to the kick- in set point.
- On- line demand** - this setting is made for high volume and will bypass the automatic kick-off mode. It allows the unit to keep running on continuous run mode for high air demand.
- Warranty** - These PLC's carry a 5 year warranty
- Daily / weekly Schedule** - This unit can be programmed to start in the morning, can shuts its self at lunch if needed and can turn itself in the even as well, or when ever needed.
- Self Start** - if the power is lost this unit will automatically restart itself, this eliminates a maintenance crew to have to restart after the shut down.
- Master Slave** - this controller can switch from one unit to the other and maintain the same use of hours, it can adjust the pressure to be the lead or the lag unit.

## Premium Mann Filters

Filters help protect the compressor from wear and damage. It is the most inexpensive way to prevent possible costly repairs. It is vital that these filters are replaced and inspected on a routine basis, the timing is important as it reduces the chances of component and air end contamination. It can decrease the energy efficiency of your machine as well if not done. Because we know the importance we use only genuine Mann Filters. These Filters are not exclusive to us therefore after your warranty is up you will still be able to find these parts. [Mann Filters](#) are made with exceptional quality and provide optimum protection against harmful elements. Our rotary's also have Pre-Filtration on the outside of the cabinets. Although this is an upgraded feature it is one that is well worth the cost to protect the life of your compressor. Even in environments that are not that dirty the build up over time can be damaging to the system and seriously impact the performance. ask about adding a [Pre-filter](#) kit to your system to save even more money!

## Components

When it comes to the smaller parts of our units we don't spare on quality neither. For Our electrical components are French made [Telemecanique](#), they are also UL/CSA compliant. We use High quality brass valves. We use V-Belts from top name brands that are rated for 25,000 hour life expectancy. The Rotary screw cabinet is made with heavy metal construction with easy latch doors that contain sound proof

material for ultra quiet operation. *We do not use china parts on any of our rotary screws!* We know that our units will prove themselves worthy of being the best air compressors on the market! Once you purchase one of our compressor from any of our series you are part of the Polar Compressor Family! If you have any questions or air ready for a quote please contact someone form our sales team and they will be happy to help!

## **The BEST Warranty Around!**

Emax Compressor backs all their compressors with the best warranty in the industry, and we are not kidding we did the homework! WE have provided you with the warranty comparison as well. Emax Compressor gives their Rotary screws a full 10 year warranty! The warranty is NOT pro-rated. We also pass the motor warranty on to you for a *full 5 year on single phase and a full 10 year on 3 phase* . We cover labor for the first 12 months for major repairs. Make sure to research and ask questions when warranty comparing. Be sure when you buy that you are buying a

FULL warranty. Just remember, a Pro-rated warranty means that the older the compressor gets the more risk you are in, the potential percentage is higher that you may pay out of your pocket. With our warranty we don't ask you to buy a service plan or extended warranty, we just ask that you purchase and use our oil and filters. This ensures the correct oil with the specs needed to run our pumps is used.

Our trained service and support team is ready if you ever need them and we carry a full line of new replacement parts.

# 5hp Standard Drive Complete Rotary Air System



Our Rotary screws are the most energy efficient with our soft start by limiting the voltage upon start up

- Reduces energy demand up to 33%
- 70,000 + running hours
- Premium Industrial motors – carry a 5 year warranty on single phase & 10 year on three phase
- Schneider Internal Electrical circuit
- breakers UL/CSA listed
- Mann Filters
- VMC inlet valve and load Solenoid
- Schneider y Delta magnetic contactors UL/CSA listed
- VMC inlet valve and load solenoid
- \*10 Year warranty on airend- 5 year on the cabinet and components

PLC Controller monitors maintenance, temp ,oil level, filtration, hours, plus remote start/stop, timed start/stop automatic restart



Patented swing arm mount for quick and easy maintenance, simply take out the pin and swing the dryer to the side accessing the door panel. Making the unit more compact taking up less space!

	ERSK050001	ERSK050003
<b>Running HP</b>	5	5
<b>CFM 100PSI</b>	20	20
<b>MAX PSI</b>	145	145
<b>Drive Type</b>	Belt	Belt
<b>Tank Size</b>	120 Gal	120 Gal
<b>Airend Model</b>	Rotocomp-EVO02	Rotocomp-EVO02
<b>Dryer CFM</b>	30 CFM	30 CFM
<b>Outlet size</b>	3/4"	3/4"
<b>Motor Phase</b>	Single 230V	Three
<b>Dimensions</b>	71" x 27" x 70"	71" x 27" x 70"
<b>Weight</b>	1180	1180
<b>Product Source</b>	USA, Germany, Italy	USA, Germany, Italy

\*10 year warranty is only valid with annual purchase of service kit



# 7.5hp -10hp Standard Drive Complete Rotary Air System



Our Rotary screws are the most energy efficient with our soft start by limiting the voltage upon start up



PLC Controller monitors maintenance, temp ,oil level, filtration, hours, plus remote start/stop, timed start/stop automatic restart



Patented swing arm mount for quick and easy maintenance, simply take out the pin and swing the dryer to the side accessing the door panel. Making the unit more compact taking up less space!



- Reduces energy demand up to 33%
- 70,000 + running hours
- Premium Industrial motors – carry a 5 year warranty on single phase & 10 year on three phase
- Schneider Internal Electrical circuit
- breakers UL/CSA listed
- Mann Filters
- VMC inlet valve and load Solenoid
- Schneider y Delta magnetic contactors UL/CSA listed
- VMC inlet valve and load solenoid
- \*10 Year warranty on airend- 5 year on the cabinet and components

	ERSK070001	ERSK070003	ESRK100001	ERSK100003
<b>Running HP</b>	7.5	7.5	10	10
<b>CFM 100PSI</b>	29	29	45	45
<b>MAX PSI</b>	145	145	145	145
<b>Drive Type</b>	Belt	Belt	Belt	Belt
<b>Tank Size</b>	120 Gal	120 Gal	120 Gal	120 Gal
<b>Airend Model</b>	Rotocomp-EVO02	Rotocomp-EVO02	Rotocomp-EVO02	Rotocomp-EVO02
<b>Dryer CFM</b>	30 CFM	30 CFM	58 CFM	58CFM
<b>Outlet size</b>	3/4"	3/4"	3/4"	3/4"
<b>Motor Phase</b>	Single 230V	Three	Single 230V	Three
<b>Dimensions</b>	71" x 27" x 70"	71" x 27" x 70"	71" x 27" x 70"	71" x 27" x 70"
<b>Weight</b>	1236	1236	1288	1288
<b>Product Source</b>	USA, Germany, Italy	USA, Germany, Italy	USA, Germany, Italy	USA, Germany, Italy

\*10 year warranty is only valid with annual purchase of service kit

1000 Cass Drive  
Englewood, OH 45315  
Toll Free: 866-294-4153  
Fax: 937-540-1157

[www.emaxcompressor.com](http://www.emaxcompressor.com)





# 15hp -20hp Standard Drive Complete Rotary Air System



Our Rotary screws are the most energy efficient with our soft start by limiting the voltage upon start up

- Reduces energy demand up to 33%
- 70,000 + running hours
- Premium Industrial motors – carry a 5 year warranty on single phase & 10 year on three phase
- Schneider Internal Electrical circuit
- breakers UL/CSA listed
- Mann Filters
- VMC inlet valve and load Solenoid
- Schneider y Delta magnetic contactors UL/CSA listed
- VMC inlet valve and load solenoid
- \*10 Year warranty on airend- 5 year on the cabinet and components

PLC Controller monitors maintenance, temp ,oil level, filtration, hours, plus remote start/stop, timed start/stop automatic restart



Patented swing arm mount for quick and easy maintenance, simply take out the pin and swing the dryer to the side accessing the door panel. Making the unit more compact taking up less space!

	<b>ERSK150003</b>	<b>ERSK200003</b>
<b>Running HP</b>	15	20
<b>CFM 100PSI</b>	70	86
<b>MAX PSI</b>	145	145
<b>Drive Type</b>	Belt	Belt
<b>Tank Size</b>	120 Gal	120 Gal
<b>Airend Model</b>	Rotocomp-EVO03	Rotocomp-EVO03
<b>Dryer CFM</b>	115 CFM	115 CFM
<b>Outlet size</b>	1"	1"
<b>Motor Phase</b>	Three	Three
<b>Dimensions</b>	71" x 27" x 70"	71" x 27" x 70"
<b>Weight</b>	1315	1315
<b>Product Source</b>	USA, Germany, Italy	USA, Germany, Italy

\*10 year warranty is only valid with annual purchase of service kit

1000 Cass Drive  
Englewood, OH 45315  
Toll Free: 866-294-4153  
Fax: 937-540-1157

[www.emaxcompressor.com](http://www.emaxcompressor.com)





# 7.5hp -10hp Variable Speed Drive Complete Rotary Air System



Variable Speed drive gradually increases the motor speed therefore saving on running demand , peak demand's and wear and tear on the compressor, huge savings!

- Reduces energy demand up to 33%
- 70,000 + running hours
- Premium Industrial motors – carry a 5 year warranty on single phase & 10 year on three phase
- Schneider Internal Electrical circuit
- breakers UL/CSA listed
- Mann Filters
- VMC inlet valve and load Solenoid
- Schneider y Delta magnetic contactors UL/CSA listed
- VMC inlet valve and load solenoid
- \*10 Year warranty on airend- 5 year on the cabinet and components

PLC Controller monitors maintenance, temp ,oil level, filtration, hours, plus remote start/stop, timed start/stop automatic restart



Patented swing arm mount for quick and easy maintenance, simply take out the pin and swing the dryer to the side accessing the door panel. Making the unit more compact taking up less space!

	ERVK070001	ERVK070003	ESVK100001	ERVK100003
<b>Running HP</b>	7.5	7.5	10	10
<b>CFM 100PSI</b>	29	29	45	45
<b>MAX PSI</b>	145	145	145	145
<b>Drive Type</b>	Belt	Belt	Belt	Belt
<b>Tank Size</b>	120 Gal	120 Gal	120 Gal	120 Gal
<b>Airend Model</b>	Rotocomp-EVO02	Rotocomp-EVO02	Rotocomp-EVO02	Rotocomp-EVO02
<b>Dryer CFM</b>	30 CFM	30 CFM	58 CFM	58CFM
<b>Outlet size</b>	3/4"	3/4"	3/4"	3/4"
<b>Motor Phase</b>	Single 230V	Three	Single 230V	Three
<b>Dimensions</b>	71" x 27" x 70"	71" x 27" x 70"	71" x 27" x 70"	71" x 27" x 70"
<b>Weight</b>	1236	1236	1288	1288
<b>Product Source</b>	USA, Germany, Italy	USA, Germany, Italy	USA, Germany, Italy	USA, Germany, Italy

\*10 year warranty is only valid with annual purchase of service kit

1000 Cass Drive  
Englewood, OH 45315  
Toll Free: 866-294-4153  
Fax: 937-540-1157

[www.emaxcompressor.com](http://www.emaxcompressor.com)







# 15hp -20hp Variable Speed Drive Complete Rotary Air System



Variable Speed drive gradually increases the motor speed therefore saving on running demand , peak demand's and wear and tear on the compressor, huge savings!

- Reduces energy demand up to 33%
- 70,000 + running hours
- Premium Industrial motors – carry a 5 year warranty on single phase & 10 year on three phase
- Schneider Internal Electrical circuit
- breakers UL/CSA listed
- Mann Filters
- VMC inlet valve and load Solenoid
- Schneider y Delta magnetic contactors UL/CSA listed
- VMC inlet valve and load solenoid
- \*10 Year warranty on airend- 5 year on the cabinet and components

PLC Controller monitors maintenance, temp ,oil level, filtration, hours, plus remote start/stop, timed start/stop automatic restart



Patented swing arm mount for quick and easy maintenance, simply take out the pin and swing the dryer to the side accessing the door panel. Making the unit more compact taking up less space!

	<b>ERVK150003</b>	<b>ERVK200003</b>
<b>Running HP</b>	15	20
<b>CFM 100PSI</b>	70	86
<b>MAX PSI</b>	145	145
<b>Drive Type</b>	Belt	Belt
<b>Tank Size</b>	120 Gal	120 Gal
<b>Airend Model</b>	Rotocomp-EVO03	Rotocomp-EVO03
<b>Dryer CFM</b>	115 CFM	115 CFM
<b>Outlet size</b>	1"	1"
<b>Motor Phase</b>	Three	Three
<b>Dimensions</b>	71" x 27" x 70"	71" x 27" x 70"
<b>Weight</b>	1315	1315
<b>Product Source</b>	USA, Germany, Italy	USA, Germany, Italy

\*10 year warranty is only valid with annual purchase of service kit

1000 Cass Drive  
Englewood, OH 45315  
Toll Free: 866-294-4153  
Fax: 937-540-1157

[www.emaxcompressor.com](http://www.emaxcompressor.com)

