

EnviroAire Series

Variable Speed Oil-Free
Rotary Screw Compressors



GD
GARDNER DENVER

Experience Proven Results™

Gardner Denver Oil-Free Rotary Screw Compressors



Peace of Mind

Where contaminated compressed air can result in expensive product spoilage, you can rest assured that a Gardner Denver oil-free compressor will eliminate oil-carryover in the compressed air supply. In addition, the removal of oil from the compression process enables compressed air users to operate with maximum environmental efficiency.

Gardner Denver's Oil-Free Pedigree

Gardner Denver has been designing, manufacturing and supplying oil-free compressors for more than 80 years. With a product design that has evolved from single cylinder, oil-free reciprocating compressors to multi-stage, oil-free rotary compressors, Gardner Denver has unrivalled experience in providing oil-free compressed air installations to industry.

A Diverse Range of Industries

Industries, both large and small, rely on Gardner Denver for a supply of consistently high quality clean compressed air, including automotive, aviation, petrochemical, power generation, shipping and the utilities. In situations where compressed air comes into direct contact with the products being manufactured: for example food and drink, pharmaceuticals, electronics and textiles, Gardner Denver compressors have been helping clients meet their quality and production objectives for many years. Ongoing investment in the latest design and manufacturing tools, and rigorous implementation of ISO 9001 approved quality systems, ensure you take delivery of a reliable, high quality product.

Factory performance and functional testing guarantee that your compressor will operate and perform perfectly.



Clean + Economical Compressed Air

Variable Speed Saves Energy

- ◆ High output single screw compression element
- ◆ Water injected for near isothermal compression
- ◆ Efficient direct drive arrangement
- ◆ High efficiency, IP55 drive motor, Variable Speed – saves energy

Reduced Downtime and Easy Servicing

- ◆ No oil or oil filter maintenance required
- ◆ No oil related waste disposal costs
- ◆ 4000 hour service interval
- ◆ Large doors provide easy access to all components

High Quality Air Output

- ◆ 100% Oil-Free construction
- ◆ No oil in compressor = no oil in air
- ◆ Clean, cool oil-free air guaranteed

Simplicity and Reliability

- ◆ Established and proven single stage compression element
- ◆ Simplified construction with no interstage or final air coolers
- ◆ Dependable direct drive system
- ◆ Reduced component count enhances reliability

Easy Installation

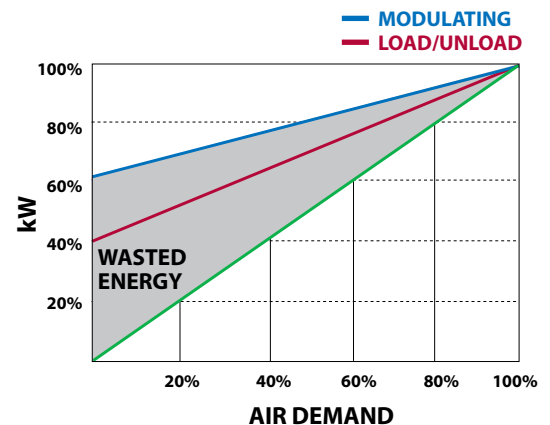
- ◆ Fully silenced package for low noise levels
- ◆ Free standing package

Monitoring and Control

- ◆ Microprocessor based compressor control system
- ◆ Clear text machine status display
- ◆ Remote control
- ◆ Accurate pressure transducer control

Components NOT Found in the EnviroAire

- ◆ Oil
- ◆ Oil Separator
- ◆ Oil Removal Filters
- ◆ Gearbox
- ◆ Starting Inrush Current

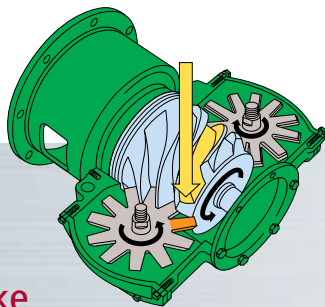


Extended surface water cooler provides efficient cooling and reliable operation in all operating conditions

Low noise radial cooling fans ventilate and cool the package and allow installation within the working environment

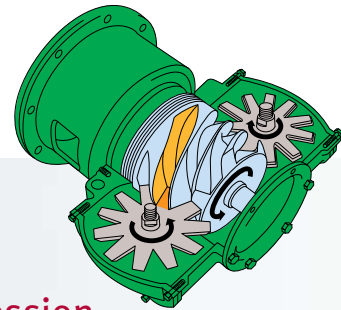
Enclosure filtration pre-filters air entering the compressor enclosure and maintains internal cleanliness and cooler performance

IP55, totally enclosed fan cooled high efficiency drive motor, flange coupled to the compression element for maximum drive efficiency
20 and 30 HP Models have frequency inverter. 50, 67, 100 and 150 HP models use the "SR" Switched Reluctance drive system



Intake

Atmospheric air enters the compression element and fills the flutes of the main rotor. The gate rotors engage with the flutes and form two compression chambers, above and below the main rotor.



Compression

The gate rotors automatically follow the rotation of the main rotor reducing the volume in the flutes and compressing the air along the compression chambers. Purified water injected into the compression element lubricates, seals and cools the process.



Water purification system provides high quality injection water for lubricating, sealing and cooling the compression process

Fully integrated silenced package including cooler and water purification system reduces installation costs

Single stage, single screw water injected compression element delivers class leading energy efficiency, extended life and low lifetime operating costs. A two stage, heavy duty intake filter with 99.9% efficiency at 3 microns protects the compression element

All models are Variable Speed. The speed of the motor and thus the output of the compressor is adjusted to match your changing demands. Meaning you use just the energy you need and no more.

A Reliable and Efficient Heart

At the heart of the compressor is an innovative single screw compression element, featuring a single main rotor with 6 flutes meshing with a pair of 11 tooth gate rotors, that is proven in thousands of installations.

Compression takes place in two chambers above and below the main rotor, as a result compression loads are balanced and bearing loads are significantly reduced. The low bearing loads extend compression element life and significantly reduce lifetime operating costs.

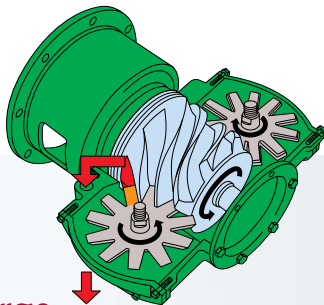
Water injected into the compression element provides lubrication, sealing and cooling. The superior cooling properties of water allows the compressor to operate at a low temperature providing near isothermal compression, low power consumption and class leading efficiency levels.

A reverse osmosis membrane cartridge filters the injection water entering the compressor; as a result the water is always maintained at a high purity level.

Direct coupling of the drive motor to the compression element, without gears or drive belts, ensures perfect alignment and efficient power transmission with minimum drive losses.

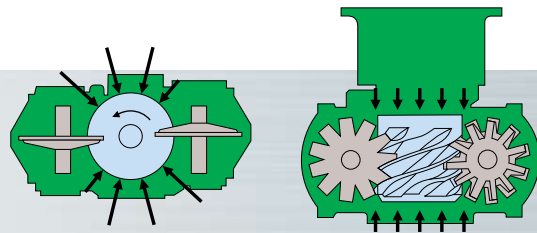
100% Oil-Free Construction

Low operating temperatures and bearing loads enable maintenance free sealed bearings to be used, totally removing the need for lubricating oil in the compressor. 100% oil-free compression is therefore guaranteed and the maintenance and environmental costs associated with oil and oil filter changes are eradicated.



Discharge

The gate rotors automatically follow the rotation of the main rotor reducing the volume in the flutes and compressing the air along the compression chambers. Purified water injected into the compression element lubricates, seals and cools the process.



Radial loads act on both the top and underside of the main rotor. Axial loads act on both sides of the main rotor flutes. As a result compression loads are balanced and bearing loads are low.

Maximum Efficiency EnviroAire 37 kW – EnviroAire 110 kW



Leading-Edge Technologies

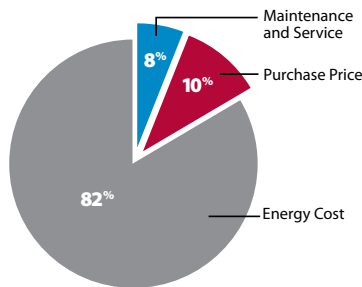
The EnviroAire Series combines leading-edge technologies of SR drives and water injected Oil-Free screws for maximum efficiency. New 3-phase motor with increased performance TEFC construction IP55 affects

- ◆ High reliability
- ◆ High energy efficiency
- ◆ Nominal max. power is continuously available

The water-injected screw is better suited for VSD application than a dry screw.

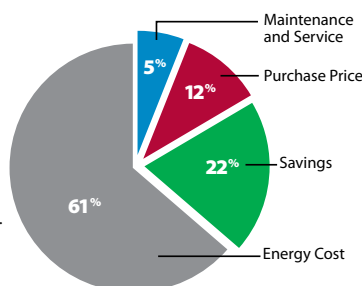
Annual Cost of Ownership

A typical oil lubricated rotary screw air compressor operating at 70% load.



EnviroAire 15 kW – EnviroAire 22 kW

A typical comparison of an SR-series compressor with a conventional air compressor.



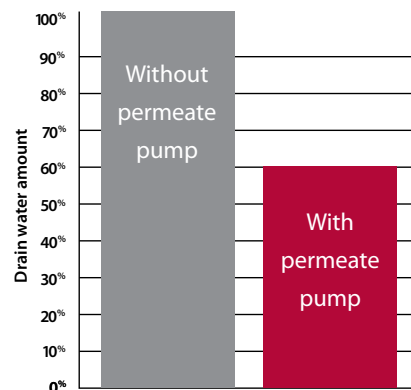
EnviroAire 37 kW – EnviroAire 110 kW



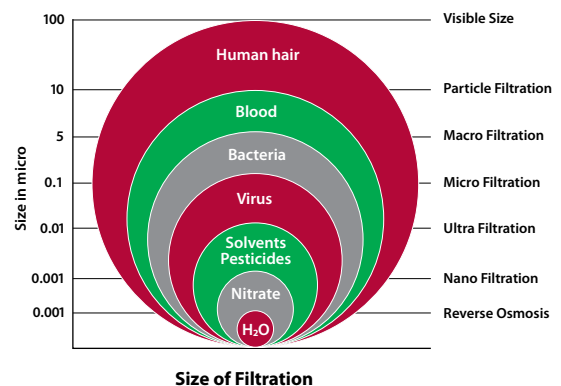
Reduce Operating Costs

The water purification system using a reverse osmosis membrane filtration system provides the high quality injection water.

By the employment of a permeate pump Gardner Denver reduces the necessary water requirement and thus the operating costs.



Comparison drain water amount Osmosis unit water net pressure 3.5 bar/50psi



TECHNICAL DATA

Model	Motor	Working Pressure psi g		Free Air Delivered at 100 psi g		Dimensions (Inches)			Noise level db (A)**	Weight lbs.
	Rating HP	MIN	MAX	MIN	MAX	Length	Width	Height		
EnviroAire 15 kW	20	72	145	31	89	66	34.2	59.5	72	1,510
EnviroAire 22 kW	30	72	145	46	127	66	34.2	59.5	73	1631
EnviroAire 37 kW	50	72	145	54	230	67.7	36.2	65.3	71	2139
EnviroAire 50 kW	67	72	145	73	274	84.9	55.6	77.6	75	4079
EnviroAire 75 kW	100	72	145	129	423	84.9	55.6	77.6	78	4410
EnviroAire 110 kW	150	72	145	116	634	84.9	55.6	77.6	78	4630

* At stated working pressure and measured and tested in accordance with Pneurop / Cagi PN2CPTC2 and Iso 1217 Edition 3 Annexe C at the following reference conditions.

Air intake pressure – 1 bar a (14.5 psia)

Air intake temperature – 20 °C (68 °F)

Humidity – 0 % (dry)

** Measured in accordance with Pneurop / Cagi PN8NTC.3, tolerance + / - 3 dB (A)

NFPA 99 Compliant Medical Air Package Available



Other Innovative Products



VS Series 11–170 kW (15–228 hp)

Designed from the ground up as a variable speed solution, the VS Series produces the widest turndown range in the industry. Coupled with the highest efficiency and maximum reliability the VS Series provides the most flexible solution in the market with unprecedented features and controls.

- 40–1056 cfm
- Variable Speed, Direct Drive
- 64–77 dBA
- Wide turndown range
- Air Smart Controller



Electra-Saver II 15–200 hp

Workhorse air compressors from 15 hp all the way to 200 hp. Electra-Saver II compressors are Direct Drive with oversized airends and bearings insuring energy savings and long life.

- 42–1000 cfm
- 15–200 hp
- Direct Drive
- Low-Noise
- Enclosed or Un-Enclosed



EndurAir 5–20 hp

Large compressor quality in a small package. The EndurAir Series 5–20 hp rotary screw compressors are equipped with all of the components needed for a quality compressor: Advanced airend for efficiency, low noise, and microprocessor control providing all necessary notifications to ensure long-life.

- 15–84 cfm
- 69–74 dBA
- Base or Tank Mounted
- Advanced AirPlus Controller

**Gardner
Denver®**



Member



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