

# EnviroAire Series

15kW–110kW

Oil-Less Rotary Screw Compressors

 **OILLESS**



 **OIL FREE** | **ISO CLASS : 0**  
PLUS SILICONE FREE  
ISO 8573-1 (2010)

**GD**  
**GARDNER DENVER**

Experience Proven Results™

# Gardner Denver

## Oil-Less Rotary Screw Compressors



### A Diverse Range of Industries

Industries, both large and small, rely on Gardner Denver for a consistent supply of 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.

### Why Oil-Free? Contaminant Free... Risk Free

When you choose an oil-free EnviroAire series compressor from Gardner Denver, you get a clean, reliable and efficient air supply that benefits both your business and your bottom line!

Air purity is critical for many applications where even the smallest drop of oil can cause product spoilage or damage production equipment. For this reason, the EnviroAire units from Gardner Denver contains **absolutely no oil** anywhere in the compressor and has been **certified ISO 8573-1 Class Zero (2010) and silicone free**, making it the **ultimate choice** with simply no risk of oil contamination.



**ISO CLASS : 0**  
PLUS SILICONE FREE  
ISO 8573-1 (2010)

## Why Silicone-Free?

Silicone contamination in compressed air systems will cause problems across a wide range of industries, not least of all the automotive industry where a high quality finish is essential.

Blisters, cracking, craters and a loss of adhesion are all symptoms of silicone contamination and will result in costly product spoilage and re-working in addition to production downtime.

The ISO 8573-1 CLASS 0 certified EnviroAire compressors from GD offer the following benefits:

- 100% silicone-free, guaranteed
- Specifically designed for use in pure-air critical applications such as the automotive industry
- Avoids contaminations and provides the highest air quality standards
- Independently tested and certified

Class	Concentration total oil (aerosol, liquid, vapour) mg/m <sup>3</sup>
0	As specified by the equipment user or supplier and more stringent than class 1
1	≤ 0.01
2	≤ 0.1
3	≤ 1
4	≤ 5

# Peace of Mind

## Gardner Denver EnviroAire Series: A Superior Choice

The EnviroAire's unique water-injected, variable speed design achieves lower speeds combined with lower operating temperatures —resulting in high efficiency and reduced component wear.

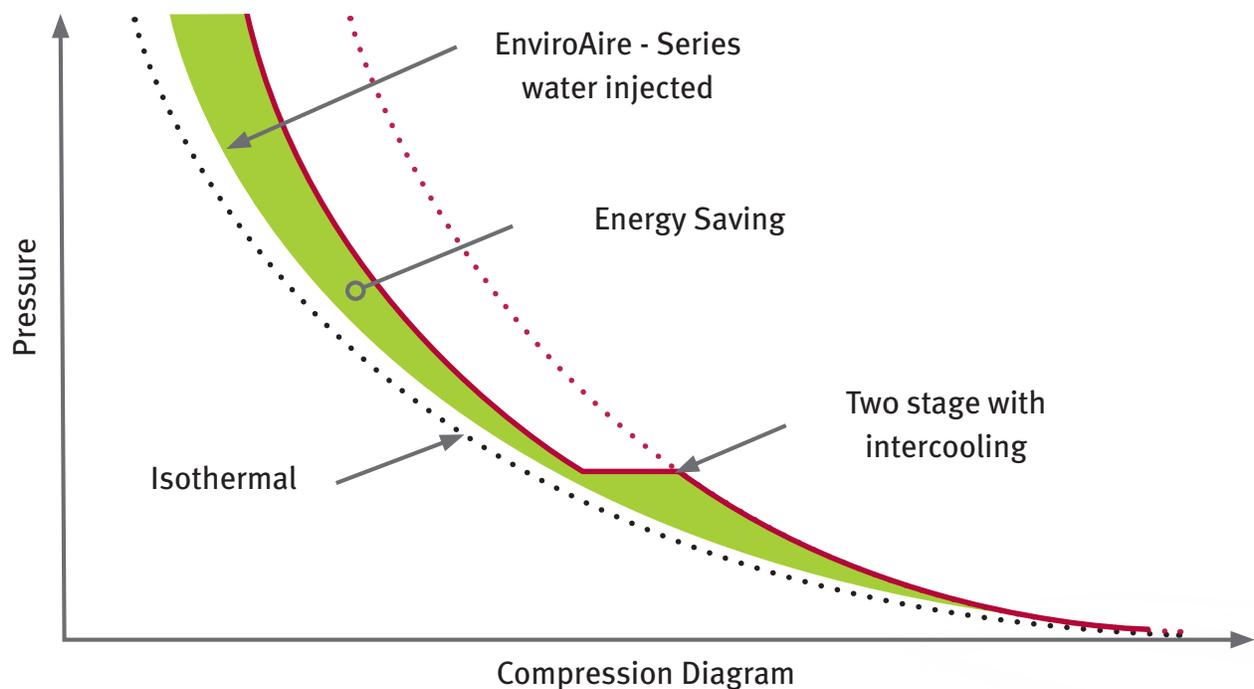
- Water injected into the compression element provides lubrication, sealing and cooling.
- The superior cooling properties of water allow the compressor to operate at a low temperature providing near isothermal compression, low power consumption and class leading efficiency levels.
- A reverse osmosis membrane cartridge filters the injection water entering the compressor; as a result the water is always maintained at a high purity level.

## Peace of Mind

Where contaminated compressed air can result in expensive product spoilage, you can rest assured that a Gardner Denver oil-less 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.

“Increasing pressures, both commercial and legislative, demand lower environmental impact from your business—issues that our oil free compressors meet head on.”

Water injection means lower temperatures, and lower temperatures mean more efficient compression



# Durable Innovation

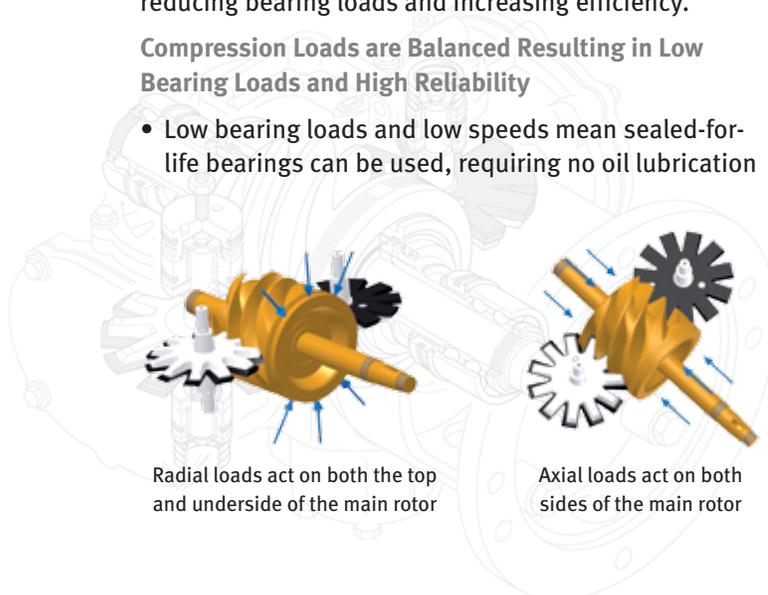


## Balanced Bearing Loads

The direct driven air-end offers the highest level of efficiency and reliability. With exceptionally low rotational speeds, the innovative design of the air-end compresses air on both sides of the rotor significantly reducing bearing loads and increasing efficiency.

**Compression Loads are Balanced Resulting in Low Bearing Loads and High Reliability**

- Low bearing loads and low speeds mean sealed-for-life bearings can be used, requiring no oil lubrication



Radial loads act on both the top and underside of the main rotor

Axial loads act on both sides of the main rotor

## Gardner Denver's EnviroAire Series compressors feature durable, twin gate rotors and single stage direct driven compression element

### Designed for Water Injection

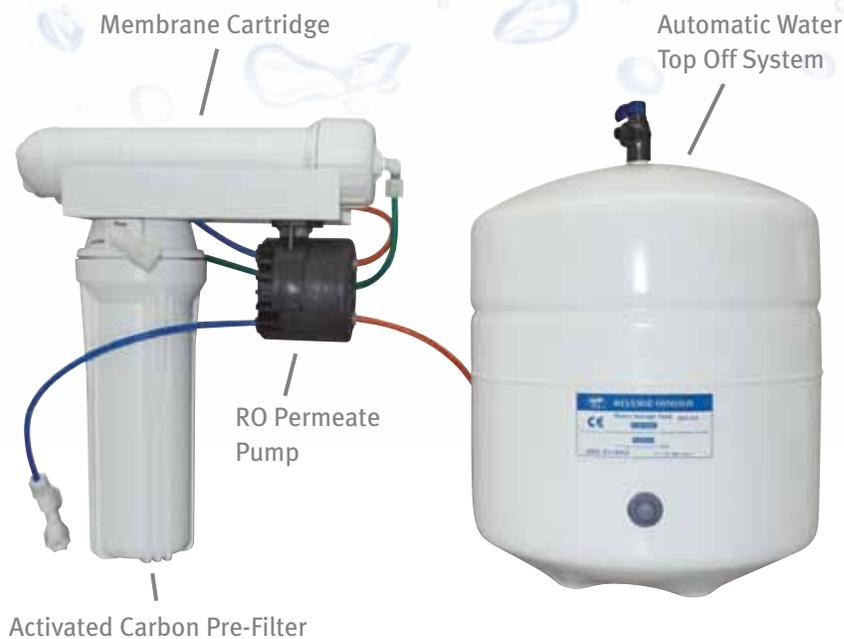
- Bronze single 6 flute main rotor
- Low temperature rise eliminates the need for a final air cooler, which reduces pressure losses
- No metal to metal mating parts and low pulsation levels ensure low vibration and noise levels
- Carbon fiber composite 11-tooth gate rotors deliver 12 pulses of air per revolution compared with 6 pulses for a convention screw
- Sealed grease-lubricated main rotor bearings and water-lubricated gate rotor bearings extend rotor and bearing life

# Robust Design

## High Efficiency Water Purification System

Reverse Osmosis (RO) membrane filtration system provides high quality water and reduces water requirements and operation costs

- Ensures reliable and trouble free operation
- Injection water is drained to low level point by opening water drain valve and refilled with purified water from the tank
- Connects to potable water supply with pressure between 32 & 87 psig
- Water consumption is 4–10 gallons per day from potable water inlet supply



# Oil-Free Construction

The EnviroAire from Gardner Denver sets the standards for air purity. These water-injected screw compressors are available in water-cooled and air-cooled versions and are ISO 8573-1 CLASS 0 certified. Offering not only 100% pure oil-free air but also improved energy efficiency, these compressors are made to meet the precise needs of a diverse range of industries.

- High efficiency IP55 TEFC motor ensures superior performance in the most rugged conditions
- Fully packaged and silenced enclosure reduces noise and simplifies installation
- Proven variable speed technology reduces energy costs and saves you money
- Comprehensive controller ensures safe and reliable operation
- Stainless steel separator vessel effectively separates air/water mixture from the compression element
- Design eliminates the need for a gearbox, which means no need for oil lubrication and zero chance of contamination

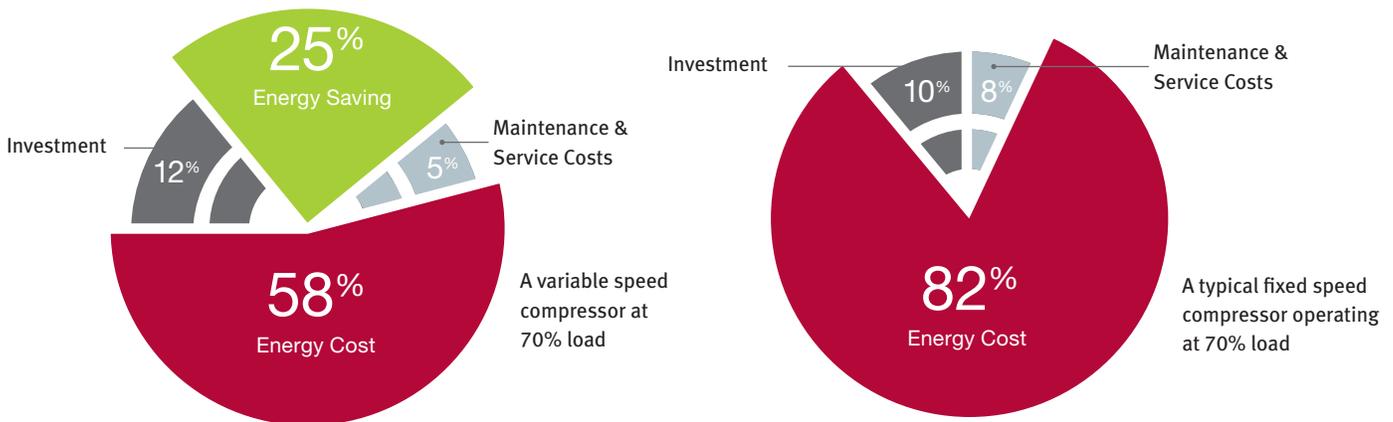


# Clean + Economical Compressed Air

## Reduce the Cost of Ownership and Minimize Your Energy Consumption

The largest cost component of a compressor during its lifetime is the power required to operate it.

### Variable Speed vs. Fixed Speed



Using a variable speed compressor can easily **save 25% energy** by using just the right amount of energy required to do the job and no more.

### Perfect response to your individual air demand

Variable speed compressors from Gardner Denver can efficiently and reliably handle the varying air demand. The right variable speed compressor in the right application delivers significant energy savings and a stable air supply at constant pressure.

## Reduced wear and tear

### Superior flexibility comes standard with the EnviroAire

With a wide capacity range, the EnviroAire features the market's quickest and widest response to air demand changes.

### Your benefits during varying air demand:

- Reduced wear and tear on inlet and discharge valve components
- No shock bearing loads for the air-end
- Minimized pulsating load (full load pressure/off load pressure) for all pressurized components within compressor package (hoses etc.)

“The EnviroAire  
Features the  
Market's Quickest  
and Widest  
Response to Air  
Demand Changes”



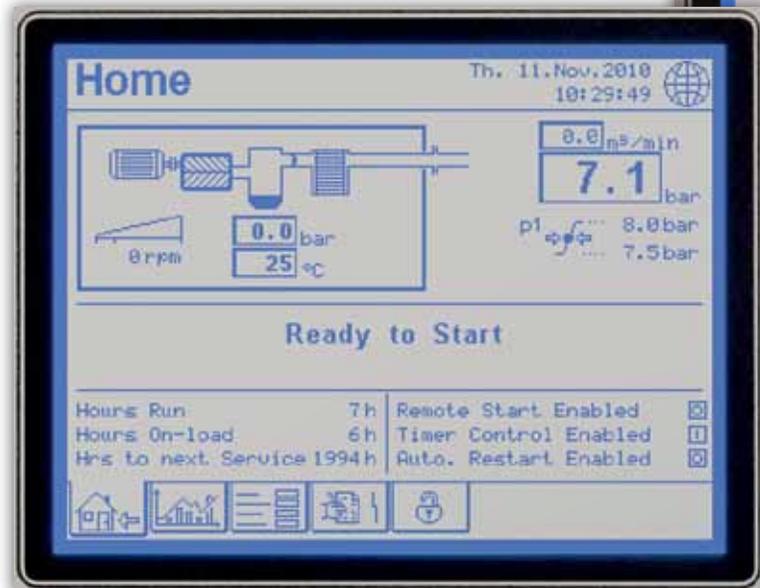
# Comprehensive Compressor Control

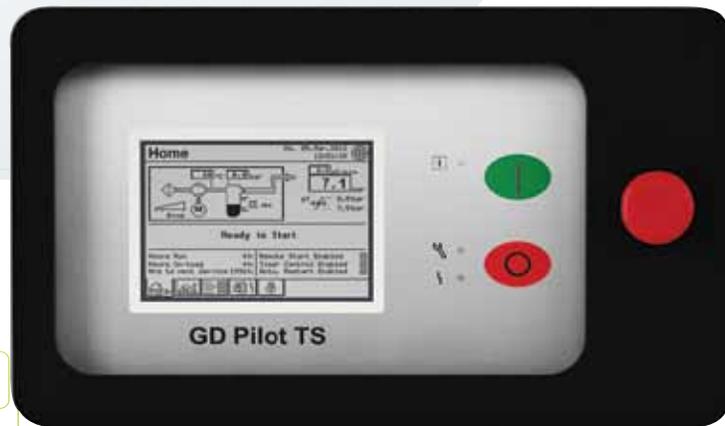
## GD Pilot TS

The multilingual GD Pilot TS touch screen control system ensures safe and reliable operation and protects your investment by continuously monitoring the operational parameters—essential for reducing your operating costs.

## Features & Functions

- Compressor Status
- Line/Network Pressure
- Motor Speed
- Real Time Clock—Allows Pre-Setting of Compressor Starting/Stopping
- Second Pressure Setting
- On Load Hours/Total Hours Run
- Auto Restart after Power Failure
- Fault History Log—for In-Depth Analysis
- Optional Base Load Sequencing
- Integrated Cooling and Dryer Control
- Remote Control via Programmable Inputs



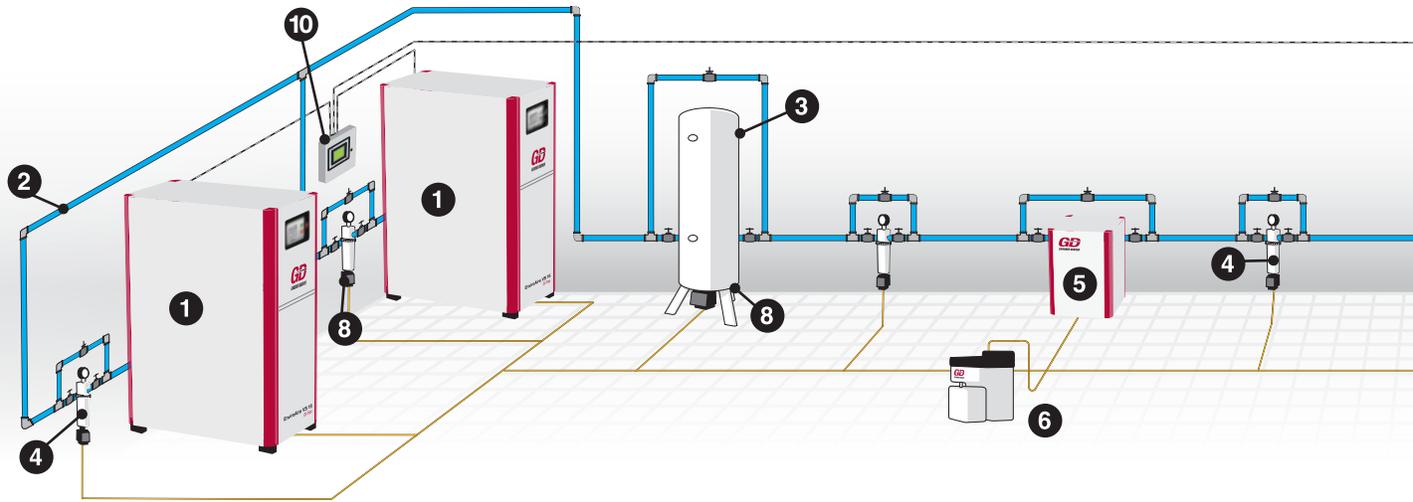


# Designing The Right System

## Let Gardner Denver Take Control

Gardner Denver's extensive distributor network is highly trained in the best practices associated with developing a reliable and efficient compressed air system.

One-stop shopping with your Gardner Denver distributor assures that all components of your system are compatible and backed by on-going customer support.



### 1 COMPRESSORS

The heart of the compressed air system is the air compressor. The type, size and number of compressors depend on the needs of the application. However, all compressors have the same general function: use energy to compress atmospheric air that can then be used to power processes and equipment.

### 2 PIPING

Properly sized, designed and installed piping is critical to system performance. Piping should be designed for minimum pressure drop at maximum flow conditions. Gardner Denver features the Quick-Lock and Big-Lock lines of compressed air tubing. In addition to corrosion-resistant aluminum piping, these lines also feature nickel-plated brass fittings that come with a 10 year leak-free guarantee.

### 3 STORAGE

Compressed air system storage is important to the overall performance of the compressed air system. Storage should take into account normal operating conditions and any large demand events. Air audits are a critical tool for the proper sizing of your system storage.

### 4 FILTRATION AND SEPARATION

Filters are used to improve the quality of compressed air in your system. Filters are used to remove solid particulate, liquid water aerosols and vapors. Sizing and design of filters are important to system performance and longevity of downstream equipment and processes.

### 5 AIR DRYERS

Air dryers are used to improve the quality of air in the system. The quality of air required is typically dependent on the down-stream processes and equipment.

Refrigerated air dryers remove moisture from the system by cooling the compressed air. Condensate forms as the air is cooled and the moisture is removed from the system.

Desiccant air dryers remove moisture from the air via the absorption process. Typically, a media is used to absorb moisture in compressed air.

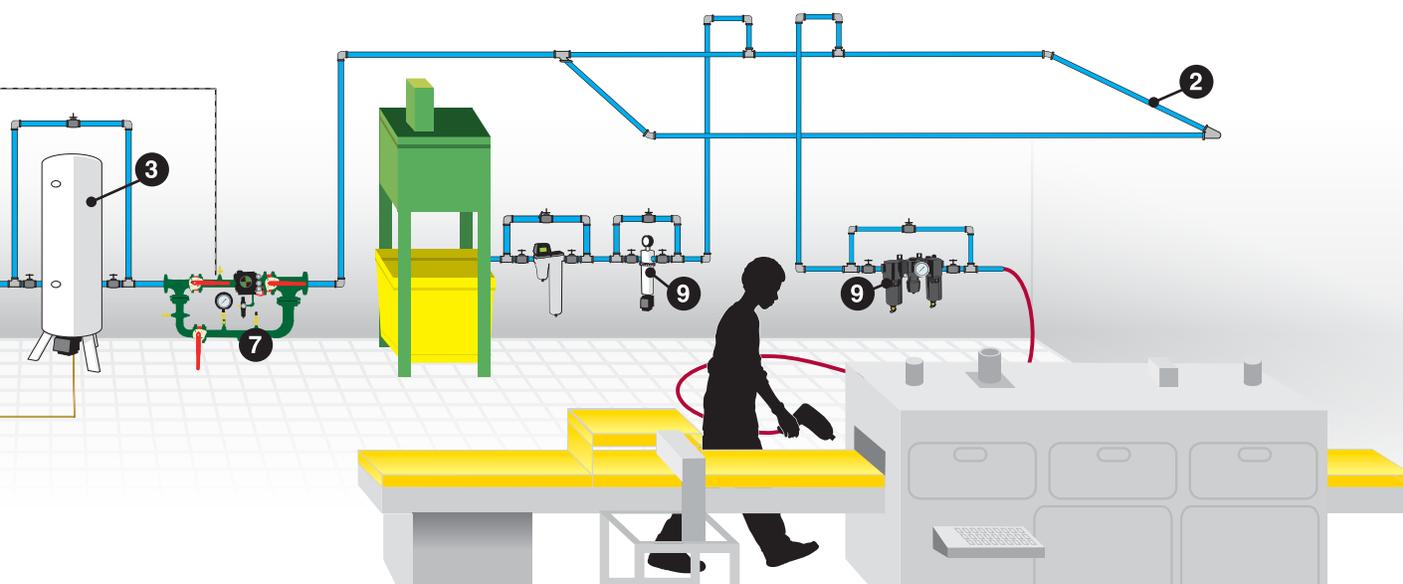
### 6 CONDENSATE MANAGEMENT

One by-product of the air compression process is condensation. Often the water from a compressed air system will contain oil and other contaminants. The condensate management system will aid in separating the water from the other contaminants so water may be discharged down the drain while the contaminants are dealt with appropriately.

### 7 FLOW CONTROL

Flow control valves provide physical separation of the supply and demand portions of the system. Distribution pressure is held tightly at target, regardless of compressor control band, thus eliminating excess waste in leakage and artificial demand. The flow control also manages the release of potential energy in receivers to enhance system stability.

For more information on these compressed air system components, contact your local distributor or visit:  
<http://www.gardnerdenverproducts.com/compressors>



## 8 DRAINS

Drains are used to remove liquids from filters, dryers, receivers, piping and compressors. Liquid removal is important to system performance as well as downstream equipment and processes.

## 9 POINT-OF-USE EQUIPMENT

Point-of-use solutions are available for special processes and downstream equipment that have unique requirements. These include compressors, dryers, filters, drains and regulators.

## 10 SYSTEM CONTROLLERS AND SEQUENCERS

For more complex, multi-compressor systems, system controllers and sequencers may be desirable. In addition to giving the user the ability to link multiple machines, system controllers may also add data logging capabilities, remote monitoring and logic to optimize the compressed air system. Sequencers bring machines on and off line to most efficiently match compressed air supply to the demand of the process.

### REMOTE MONITORING

Remote monitoring systems allow a machine to be observed from a remote location by the air compressor owner, the distributor or even the factory. By providing system performance data to the observer, a remote monitoring system ensures that the efficiency and lifespan of the compressed air system is maximized.

## Keeping the System Healthy

Just as vital as setting up the correct compressed air system is keeping that investment well maintained. By using Gardner Denver approved filters and accessories you can make sure the health of your system is maximized.



# A Better Approach

## EnviroAire Series vs. Traditional Oil-Free Technology

	EnviroAire	Traditional Oil-Free
Oil	No ✓	Yes
Speed	Up to 3500 rpm ✓	6000–25000 rpm
Compression Temperature	140° F ✓	Up to 392° F
Compression Elements	1 ✓	2
Number of Gears	0 ✓	5–7
Number of Bearings	7 ✓	More than 15
Number of Seals	2 ✓	More than 15

### The EnviroAire Series — for Total Peace of Mind

- Established and proven single-stage compression element
- Significantly fewer moving parts means fewer wear items
- Simplified construction with no interstage or final air coolers
- Lower speeds and balanced bearing loads extend the compression element service life
- Dependable direct-drive system
- Cooler operating temperatures reduce component wear
- No oil or oil laden parts to dispose of, saving time and expense



## EnviroAire–Technical Data

Variable Speed, Air And Water Cooled

Model	Cooling Method	Motor Rating (kW)	Working Pressure (psig)		Free Air Delivered (CFM)		Dimensions L x W x H (inches)	Noise Level (70% load) dB(A)**	Weight (lbs)
			Min.	Max.	Min.*	Max.*			
EnviroAire 15 kW	Air	15	73	145	11.3	82.64	53 x 35 x 63	67	1515
	Water								
EnviroAire 22 kW	Air	22	73	145	24	121.84	53 x 35 x 63	67	1556
	Water								
EnviroAire 37 kW	Air	37	73	145	38.5	242.61	68 x 36 x 65	71	2194
	Water								
EnviroAire 50 kW	Air	50	73	145	43.44	266.27	85 x 56 x 78	75	3461
	Water								
EnviroAire 75 kW	Air	75	73	145	65.69	400.47	85 x 56 x 78	77	4167
	Water					419.1			
EnviroAire 110 kW	Water	110	73	145	111.95	651.91	85 x 56 x 78	72	4850

\* Data measured and stated in accordance with ISO 1217 Edition 4, Annex C & E at the following conditions:

Air Intake Pressure 1 bar a/14.5 psi; Air Intake Temperature 20° C/68° F; Humidity 0 % (dry)

\*\* Measured in free field conditions in accordance with ISO 2151, tolerance  $\pm 3$  dB (A)



*If any EnviroAire unit doesn't perform as stated,  
we will buy the unit back within the first  
12 months after purchase*

## 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



### Refrigerated & Desiccant Dryers

A full line of high quality refrigerated and desiccant dryers with features and benefits unmatched by the competition.

- Refrigerated dryers designed to produce dew points as low as 38° F in compressed air
- Desiccant dryers for the removal of water vapor in compressed air to dew points as low as -100° F

# **Gardner Denver**®

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

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