Gardner Denver

ENVIROAIRE VS15–VS110 | 20–150 HP
OIL-LESS SINGLE-STAGE VARIABLE SPEED ROTARY SCREW COMPRESSOR

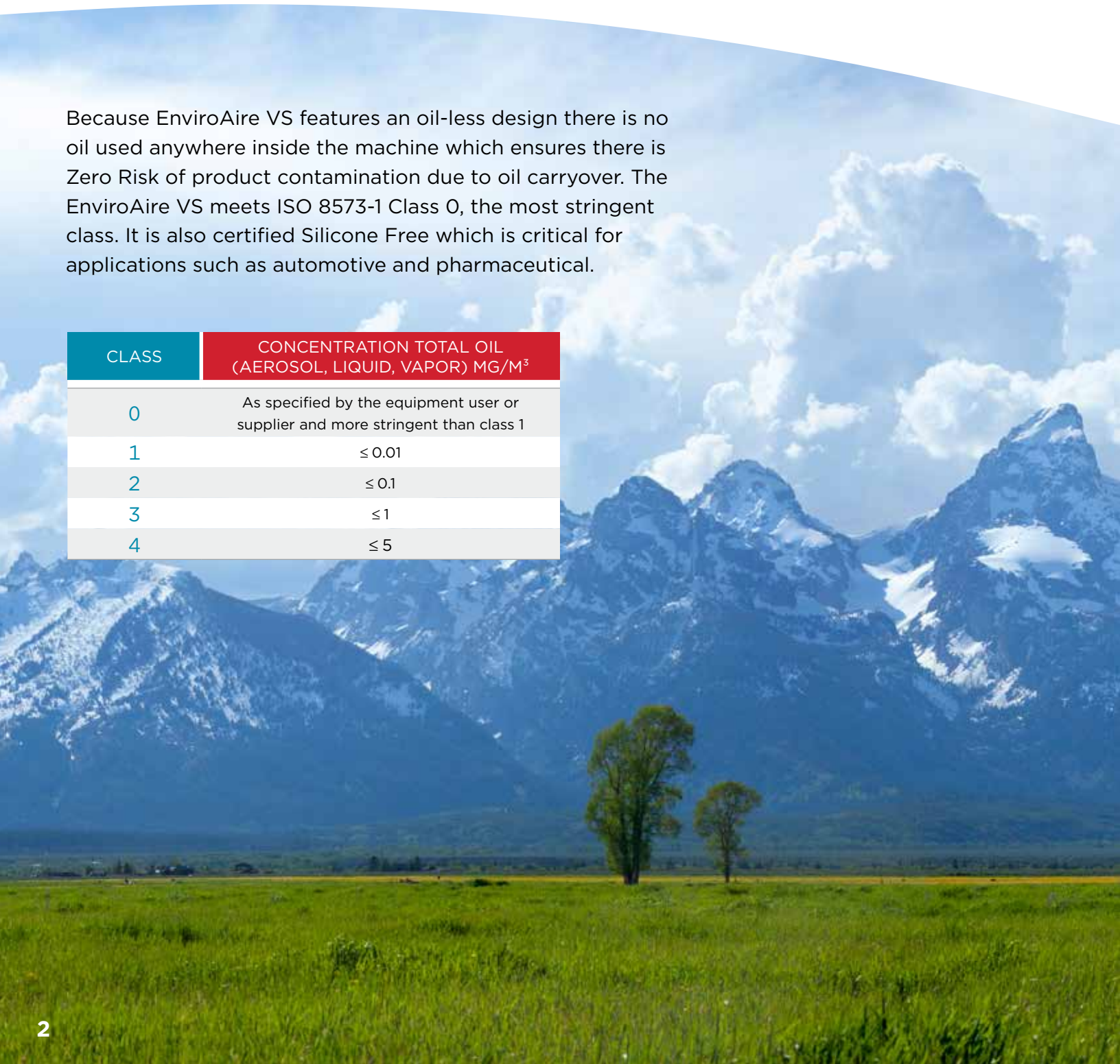
EnviroAire VS Series

Eliminate the Risk

Guaranteed 100% Oil-Less

Because EnviroAire VS features an oil-less design there is no oil used anywhere inside the machine which ensures there is Zero Risk of product contamination due to oil carryover. The EnviroAire VS meets ISO 8573-1 Class 0, the most stringent class. It is also certified Silicone Free which is critical for applications such as automotive and pharmaceutical.

CLASS	CONCENTRATION TOTAL OIL (AEROSOL, LIQUID, VAPOR) MG/M^3
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



Silicone-Free

Silicone contamination in compressed air systems cause problems across a wide range of industries such as electronics, pharmaceuticals and automotive. Costly product spoilage, re-work and production downtime can result from this contamination.

For example, a high quality paint finish is essential to the automotive industry. Blisters, cracking, craters and a loss of adhesion are all symptoms of silicone contamination.

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

Oil-Less Construction

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-less 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

The EnviroAire VS from Gardner Denver sets the standards for air purity

Peace of Mind

Gardner Denver EnviroAire VS Series: A Superior Choice

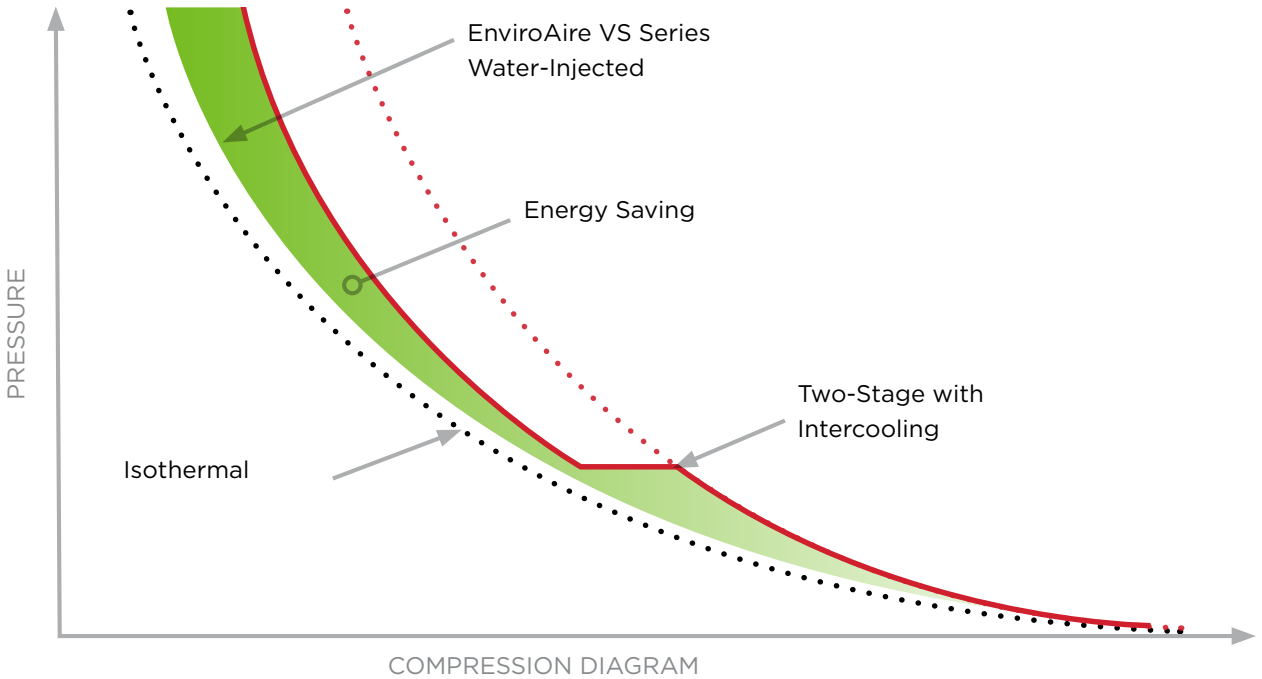
The unique water-injected, variable speed design of the EnviroAire VS achieves lower speeds combined with lower operating temperatures—resulting in higher efficiency and reduced component wear.

- 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.

Water Injection = Lower Temperatures
Lower Temperatures = More Efficient Compression



Durable Innovation

Balanced Bearing Loads

The direct drive 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 allow for sealed-for-life bearings, requiring no oil lubrication

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

Axial loads act on both sides of the main rotor

DESIGNED FOR WATER INJECTION: Featuring Durable, Twin-Gate Rotors and a Single-Stage Direct-Drive Compression Element

- 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

- Ensures reliable and trouble free operation
- Injection water is automatically 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 40 & 87 psig
- Water consumption is 4–10 gallons per day from potable water inlet supply

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

Reduce the Cost of Ownership

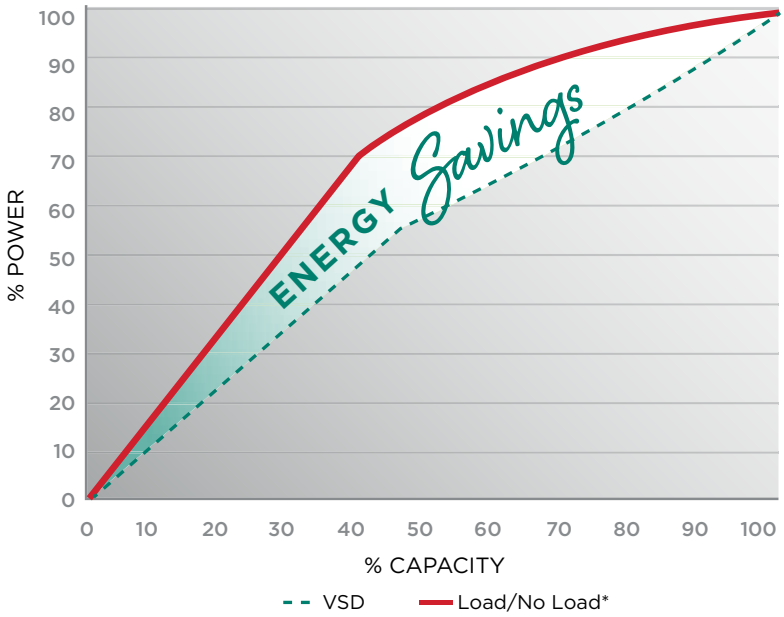
Minimize Your Energy Consumption

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

Perfect Response to Your Individual Air Demand

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

ENERGY SAVINGS with a Variable Speed Drive

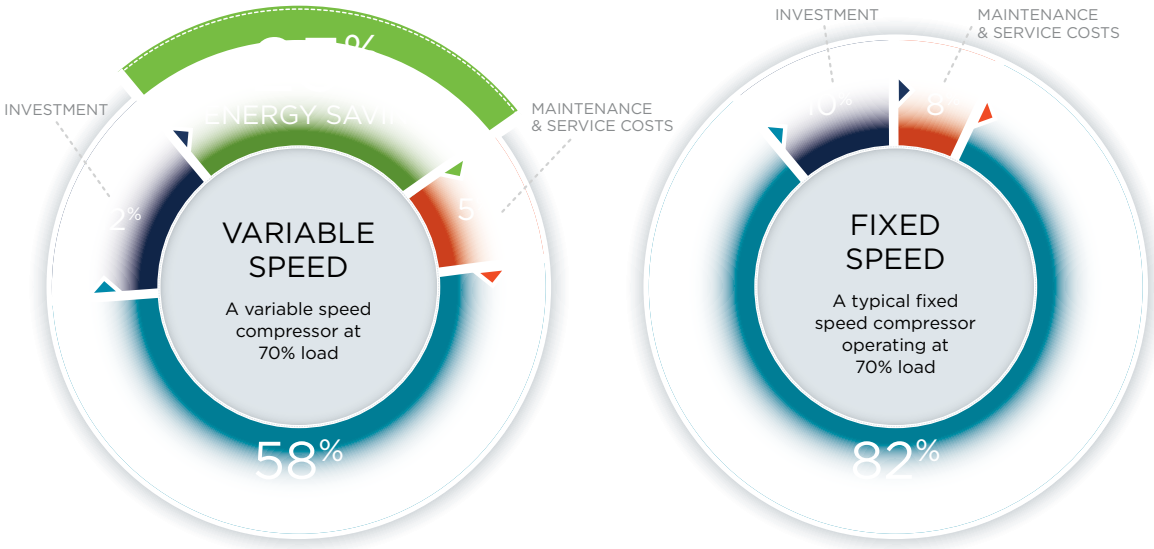


*Assumes 1 gal/cfm of receiver capacity

COST OF OWNERSHIP

Variable Speed vs. Fixed Speed

Using a variable speed compressor can easily save 25% on energy costs by supplying just the right amount of compressed air to do the job and no more.



Reduced Wear & Tear

Superior Flexibility Comes Standard with the EnviroAire VS

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

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 VS FEATURES THE MARKET'S QUICKEST & WIDEST RESPONSE TO AIR DEMAND CHANGES

GD Pilot TS:
State-of-the-Art Control

The “GD Pilot TS” with its 5.7” high resolution touch screen display is extremely user-friendly and easy to navigate. All functions are clearly structured in five main menus and are intuitively visual.

The multilingual “GD Pilot TS” control system ensures reliable operation and protects your investment by continuously monitoring the operational parameters, which is essential for reducing your operating costs.

With the ability to display detailed system analysis in the form of trend diagrams and graphs, operating parameters can be precisely set to maximize the efficiency.

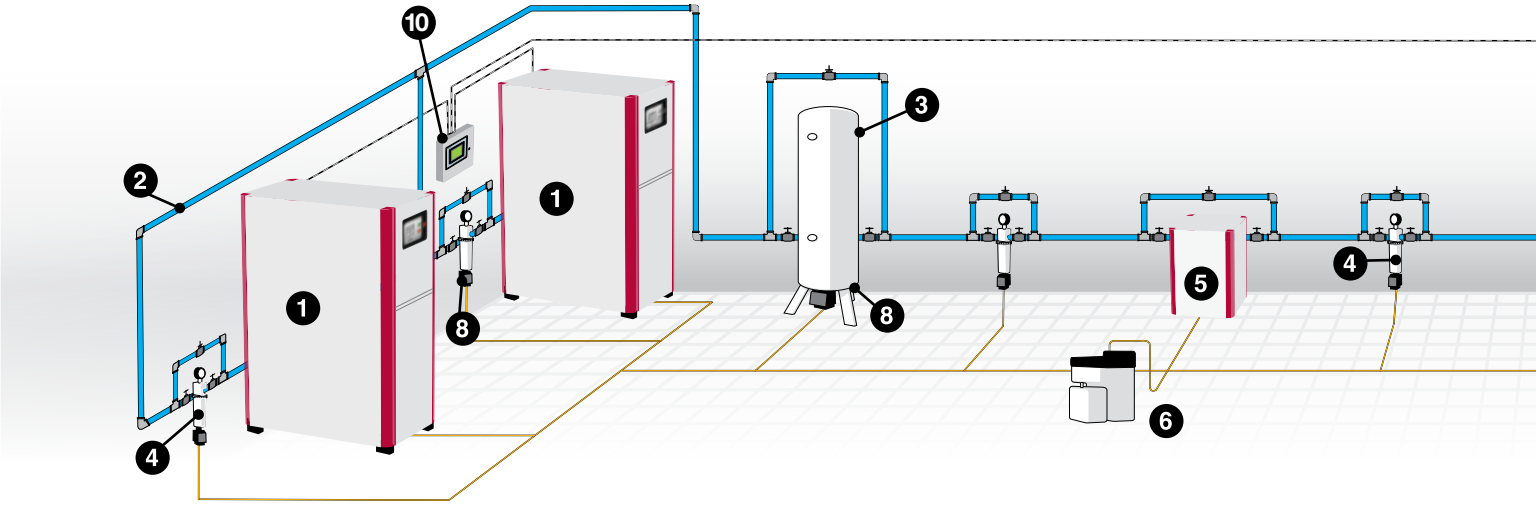
Features & Functions

- Compressor status
- Line/network pressure
- Motor speed
- On load hours/total hours run & average volume flow
- Weekly average volume flow
- Ambient pressure & temperature
- Inlet/outlet pressure and temperature at both stages
- Optional base-load sequencing for up to four compressors
- Real time clock–allows pre-setting of compressor starting/stopping
- Second pressure setting
- Auto restart after power failure
- Remote control via programmable inputs
- RS485 Modbus RTU standard
- Optional SD card for data logging


Home
Ready to Start
Trends
Statistics Weekly Profile
Average Volume Flow
Trends
Volume Flow
GD Pilot TS
PureAir
ISO CLASS: ZERO PLUS SILICONE FREE

Designing the Right System

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 & SEPARATION

Filters are used to improve the quality of compressed air in your system. Filters are used to remove solid particulates and moisture. 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.

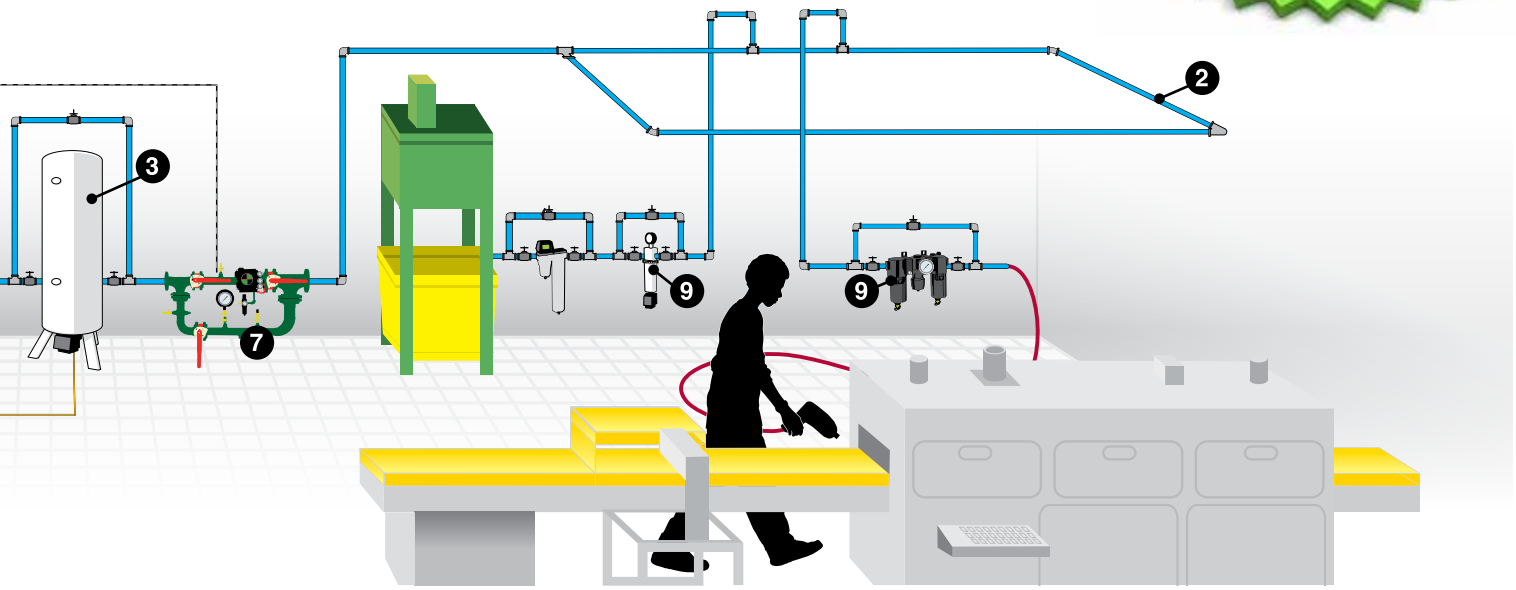
Refrigerated air dryers remove moisture from the system by cooling the compressed air. Condensate forms as the air is cooled and the moisture is removed from the system.

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

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.

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



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 contaminates. The condensate management system will aid in separating the water from the other contaminates so water may be discharged down the drain while the contaminates 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.

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 & 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.

A Better Approach

COMPARISON: ENVIROAIRE VS SERIES & TRADITIONAL OIL-FREE TECHNOLOGY

	ENVIROAIRE VS	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 VS 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 MACHINES

MODEL	COOLING METHOD	DRIVE MOTOR		WORKING PRESSURE PSIG (BAR)		FREE AIR DELIVERED @CFM (M^3/M)		DIMENSIONS L × W × H	NOISE LEVEL 70% LOAD**	WEIGHT	
		HP	KW	MIN.	MAX.	MIN.*	MAX.*	IN. (MM)	DB(A)	LBS	KG
VS15	Air	20	15	73 (5.0)	145 (10)	12.1 (0.34)	79.6 (2.25)	53 × 35 × 64 (1345 × 880 × 1612)	69	1515	687
	Water								66	1409	639
VS22	Air	30	22	73 (5.0)	145 (10)	24.3 (0.69)	118.8 (3.36)	53 × 35 × 64 (1345 × 880 × 1612)	69	1556	706
	Water								66	1451	658
VS37	Air	50	37	73 (5.0)	145 (10)	43.2 (1.22)	226.6 (6.42)	68 × 36 × 65 (1722 × 920 × 1659)	72	2194	995
	Water								61	1973	895
VS50	Air	60	45	73 (5.0)	145 (10)	43.4 (1.23)	266.27 (7.54)	85 × 56 × 78 (2158 ×1412 ×1971)	75	3461	1570
	Water								73	3285	1490
VS75	Air	100	75	73 (5.0)	145 (10)	65.7 (1.86)	399.7 (11.32)	85 × 56 × 78 (2158 × 1412 × 1971)	77	4167	1890
	Water						417.4 (11.82)		75	3990	1810
VS110	Water	150	110	73 (5.0)	145 (10)	112.0 (3.17)	652.0 (18.46)	85 × 56 × 78 (2158 × 1412 × 1971)	72	4850	2200

* 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 ± 3 dB (A)

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

The leader in every market we serve

by continuously improving all business processes

with a focus on innovation and velocity

Gardner Denver®

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Please recycle after use.