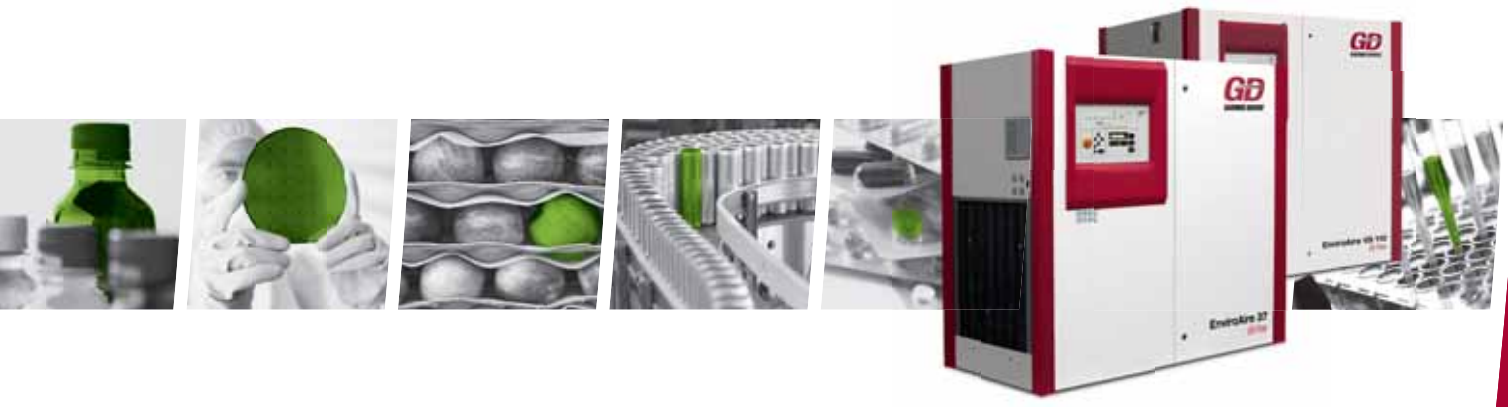
EnviroAire 15–110 Series

Oil-Free Rotary Screw Compressors

100 % Oil-Free



Think Smarter.

Think Gardner Denver.

GARDNER DENVER

Experience Proven Results™

Water-Injected Screw Compressors For 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, petrochemicals 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.

No Oil – No Risk

You can rest assured that the GD EnviroAire series is 100% oil-free with absolutely no oil present in any part of the compressor – unlike conventional 2-stage compressors, which use oil-flooded gear boxes.

Clean + Economical Compressed Air

High quality air output

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

Easy installation

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

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

Monitoring and control

- Microprocessor based compressor control system
- Machine status display
- Remote control
- Accurate pressure transducer control

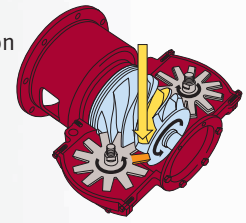
Reduced downtime and easy servicing

- 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

Unique Functionality

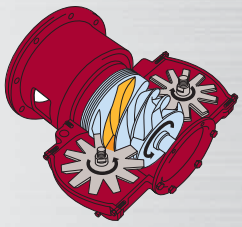
1) Intake

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.



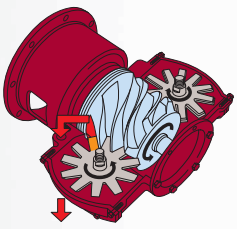
2) Compression

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.



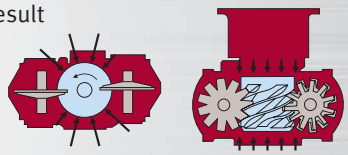
3) Discharge

The compressed air and water mixture is discharged from the compression element and passes into a water separation vessel. The low temperature rise of the air means that a final air cooler is not necessary.



4) Reliability

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.



Your benefits

✓ **100 % Oil-Free**

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.

✓ **Fully Integrated Silenced Package**

All components are mounted on a free standing steel base and contained within an acoustically insulated steel enclosure.

The compression element and drive motor assembly are mounted on flexible mountings that minimise transmitted vibration and noise. As a result the unit can stand on the floor with no fixings required.

Low cost and easy installation is ensured.

✓ **Easy Service**

The design of these packages assures the service points are readily accessible. The removable panels allow complete access to all grouped service parts.

To minimise maintenance costs the compressors have been designed for an extended 4000 hour interval between services.

✓ **IP55, Totally Enclosed Fan Cooled High Efficiency Motor**

Energy efficient compressors are a major contribution to reduced „Total Life“ costs.

at a glance!

Advanced Control System

The GD control system protects your investment and ensures safe operation coupled with operator friendly controls.

Water Purification System

Tried and tested reverse osmosis filtration, provides high quality purified water, to lubricate, seal and cool the compression process.
Thus ensuring reliable operation and extended air-end life.

By the employment of a permeate pump Gardner Denver reduces the necessary water required to an absolute minimum which is approx. 50 % of an average car wash.

Heavy Duty Intake Filter

The two-stage intake filter with 99.9 % efficiency at 3 microns protects the compression element.

Single Stage, Water Injected Air-End

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.

Advanced Motor - Air-End Arrangement

The high output single stage compression element is direct driven by an IP55 drive motor. The direct drive arrangement ensures efficient power transmission with minimum losses.

- No gear box
- No oil
- No maintenance

Advanced Totally Oil-Free Technology

Hard facts...

	GD EnviroAire Technology	Conventional Oil-Free Technology
Oil	**No, 100% oil-free compressor system**	Yes
Speed	Up to 3,500 rpm	6,000 – 25,000 rpm
Compression Temperature	60°C	Up to 200°C
Compression Elements	1	2
Number of Gears	0	5 – 7
Number of Bearings	7	More than 15
Number of Seals	2	More than 15

...and even more

- Single-stage, direct-driven drive maximises efficiency and minimises maintenance.
- High quality water injection lubricates, cools and seals the compression process, maximising efficiency.
- Fully packaged and silenced enclosure reduces noise and simplifies installation.
- Variable speed technology available to reduce energy costs.
- Comprehensive control ensures safe and reliable operation and includes remote communication capability.

Components NOT Found in the EnviroAire

- Oil
- Oil Separator
- Oil Removal Filters
- Gearbox
- Aftercooler
- Oil Pump
- Complex Seal Arrangements

Technical Data

Fixed Speed – Air and Water Cooled

Model	Cooling Method	Motor Rating (kW)	Working Pressure (bar g)	(bar g)	Free Air Delivered (m^3/min) 8 bar g*	10 bar g*	Dimensions (L x W x H) (mm)	Noise Level db (A)**	Weight (kg)
EnviroAire 15	Air	15	8	10	2.48	1.91	1477 x 868 x 1511	73	610
	Water							65	540
EnviroAire 22	Air	22	8	10	3.54	2.88	1477 x 868 x 1511	74	660
	Water							65	570
EnviroAire 37	Air	37	8	10	5.86	5.04	1722 x 920 x 1659	71	960
	Water							61	860

Variable Speed – Air and Water Cooled

Model	Cooling Method	Motor Rating (kW)	Working Pressure (bar g) min.	max.	Free Air Delivered (m^3/min at 7 bar g) min.*	max.*	Dimensions (L x W x H) (mm)	Noise Level db (A)**	Weight (kg)
EnviroAire VS 15	Air	15	5	10	0.67	2.29	1677 x 868 x 1511	72	685
	Water							65	615
EnviroAire VS 22	Air	22	5	10	1.09	3.40	1677 x 868 x 1511	73	740
	Water							65	650
EnviroAire VS 37	Air	37	5	10	1.23	6.38	1722 x 920 x 1659	71	970
	Water							61	870
EnviroAire VS 50	Air	50	5	10	2.03	7.48	2158 x 1412 x 1971	72	1850
	Water								1750
EnviroAire VS 75	Air	75	5	10	3.48	11.27	2158 x 1412 x 1971	75	2000
	Water					11.77			1900
EnviroAire VS 110	Water	110	5	10	3.29	17.96	2158 x 1412 x 1971	75	2100

* Data measured and stated in accordance with ISO 1217 Annex C and Pneurop/Cagi PN2CPTC2 and the following conditions:
Air Intake Pressure 1 bar a; Air Intake Temperature 20°C; Humidity 0% (Dry)

** Measured in free field conditions in accordance with the Pneurop/Cagi PN8TNC2.2 test code, ± 3 dB(A). EnviroAire VS 37 – EnviroAire VS 110 at 70% load.

Advanced Electronic Control System

Controlling and monitoring your station

The DELCOS 3100 microprocessor based compressor management system coupled with comprehensive instrumentation monitors and protects the compressor as well as providing the operator with full status indication.

The control system has the flexibility to provide a wide range of control options such as:

- Remote start / stop
- Remote load / unload
- Auto restart after power failure
- Remote group fault output
- Timed pressure reduction
- RS485 communication port
- Timed starting and stopping

Minimum Life Cycle Costs

The design of these packages assures the service points are readily accessible. The enclosure side doors are hinged and removable to allow complete access to all service points.

Gardner Denver carries a full line of after sales products to meet all your requirements. By using original spare parts, you will save both time and money in the long term.

- Dedicated, around the clock service
- Rapid response from highly qualified local GD distributors
- Genuine, quality spare parts where and when needed
- 100% oil-free compression is guaranteed and the maintenance and environmental costs associated with oil and oil filter changes are eradicated.

Whatever the Application – All from One

Gardner Denver is a recognised leader providing compressed air and gas, vacuum and fluid transfer technologies to industries throughout the world. With more than 150 years of manufacturing experience, we have earned the trust of our customers.

Our products and engineered solutions are sold through multi-channel, worldwide distribution systems and are used for applications in virtually every market sector, including industrial manufacturing, transportation, to environmental processes, to healthcare applications, and to energy production.

Other Innovative Products

High Quality Variable Speed Compressors

Designed from the ground up as a variable speed solution, the VS Series produces one of the widest turndown range in the industry.

Coupled with an extremely high efficiency and maximum reliability the VS Series provides a flexible solution in the market with convincing features and controls.

- Maximum output
- Variable speed
- Extremely low noise levels
- Wide turndown range
- Advanced microprocessor control system

Advanced Fixed Speed Compressors

Large compressor quality in a small package!
Even the Gardner Denver ranges from 2.2 up to 18.5 kW rotary screw compressors are equipped with all of the components needed in high quality compressor installations.

- Advanced microprocessor control system
- Maximum output
- Maximum flexibility with add-on dryer with or w/o tank
- Extremely low noise levels

For additional information please contact Gardner Denver or your local representative.

Gardner Denver

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