

**Gardner**  
**Denver**

# Screw Compressors

ESM 160 - 290 Fixed Speed  
VS 160 - 290 Variable Speed

LifeCycle  
SOLUTIONS



# German Engineering & Design



## The perfect fit to maximise productivity

The Gardner Denver compressor brand offers everything you need to set up a stable, clean and efficient compressed air system.

“**The perfect fit**” is not just a tagline, more proof of how meeting quality standards, functionality and environmental responsibilities can deliver increased productivity and profitability.

The ESM / VS 160-290 series is specifically designed to meet the demands of continuous 24-hour use and absolute uptime, as required in critical industrial processes.

Innovative design delivers great benefits:

- Efficiency
- Low Noise Operation
- Advanced Control System
- Modern Cooling System
- Easy Maintenance
- GD 5 Years Extended Warranty Protect 5 – our total commitment to quality and worry free ownership

**PROTECT**   
Extended Warranty for Gardner Denver Compressors

# Gardner Denver airends – built to stand the test of time

The design of the Gardner Denver airends makes operation reliable and maintenance easy ensuring minimal downtime.

The high-output compression element with slow rotational speed reduces energy costs. In addition, the innovative design of the fail safe shaft seal, integrated oil filter and oil regulation valve, ensures external hoses are reduced to a minimum to guarantee the highest levels of quality and reliability are achieved.



## Perfectly matched design of motor, direct drive & air-end

The efficient motor/drive/airend combination is designed to reduce specific power, which provides a benefit in the form of energy cost savings. In addition, these compressors utilise the TEFC IP55, high efficiency motors.

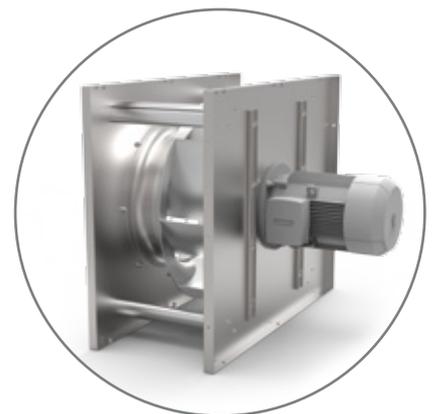
\* Optional IE4 motors available



## Optimised cooling system – high efficiency radial fan

The radial fan concept represents quiet and efficient operation. Additionally, peripheral speed means low noise and the power consumption is up to 50% lower than a comparable axial fan.

Another advantage is the high residual thrust (stable curve) that allows the use of exhaust ducting with a pressure drop of up to 130 Pa. The oversized after coolers used in the ESM / VS 160-290 series also ensure an optimum cooling and discharge temperature.



“GD Distributors provide **world class maintenance and service support** with a team of highly trained and skilled compressor service technicians”



## Quality in every detail

### Large surface aftercooler

Optimum cooling ensures low operating and compressed air discharge temperatures resulting in reduced power consumption of downstream dryer equipment.

### High performance separator filter

Two-stage filtration ensures that the highest quality air is delivered to your air treatment resulting in lower pressure drops across downstream filters between services.

### Zero loss autodrain

Fitted to the air aftercooler to remove bulk water - allowing greater flexibility of installation options.

### Automatic motor lubrication

Ensures the correct charge of lubrication in the bearings, increasing their life and eliminating maintenance.

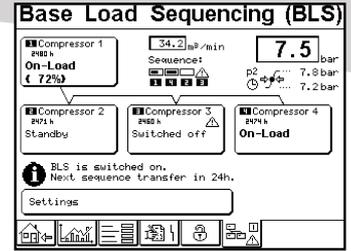
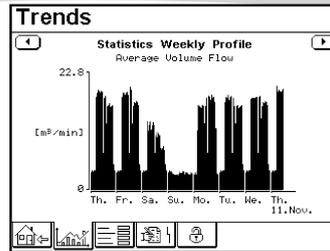
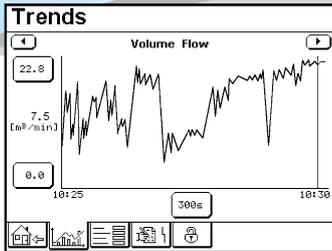
### Viton vitaulic couplings

High quality solid hose and pipe connections ensure leak free connections, keeping your compressor clean and service friendly.

### Easy servicing

The design of these systems ensures the service points are readily accessible. The enclosure side doors are hinged and removable to allow complete access to all service points, and the reduced number of moving parts also lowers maintenance costs.





## Everything under control - “GD Pilot TS” touch screen controller

The “GD Pilot TS” with its high resolution touch screen display is extremely user-friendly and self-explanatory. All functions are clearly structured in five main menus and are visually intuitive.

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 running costs.

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

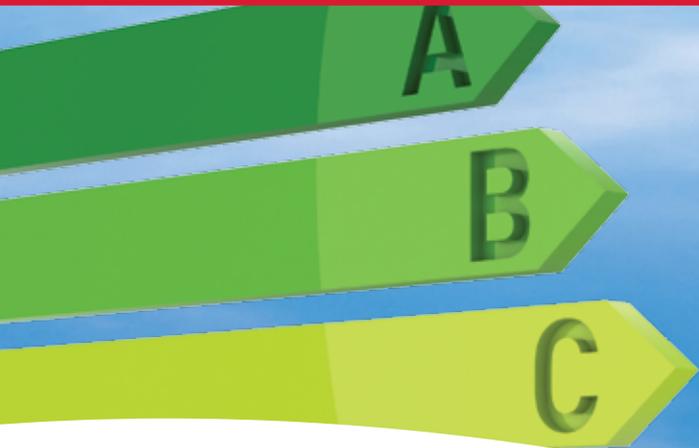
- Line/network pressure
- On load hours/total hours run & average volume flow
- Motor speed (variable speed)
- Weekly average volume flow

### Base load sequencing

Compressed air systems typically comprise of multiple compressors delivering air to a common distribution system. The addition of the optional base load sequencing module will allow to control centrally up to four compressors matching the delivery to the plant demand.

## Features & functions

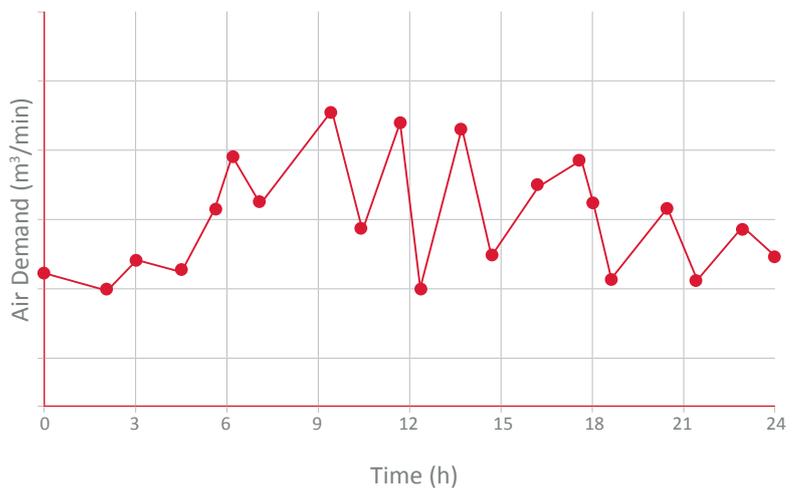
- Home page
  - instant overview of the compressor status
- Real time clock
  - allows pre-setting of compressor starting/stopping
- Second pressure setting
- Integrated cooling and dryer control
- Fault history log
  - for in-depth analysis
- Remote control via programmable inputs
- Auto restart after power failure
- Optional base load sequencing
- Optional SD Card
  - stores several run characteristics



## VS series: Our compressor solution for varying air demand

Typically, air demand in a plant varies widely throughout the day. In addition, fluctuations can occur from shift-to-shift, weekday-to-weekend, and season-to-season. Pressure requirements can also change from machine-to-machine or from one application to another. You need someone to evaluate your unique, often complex requirements and recommend a tailored solution.

Air demand can vary dramatically during a 24hr period



The Gardner Denver variable speed drive/motor/compressor combination and the controller, are designed to meet the varying demands of your system at the lowest possible specific power, which benefits you in the form of energy cost savings.

### Direct energy savings of up to 35%

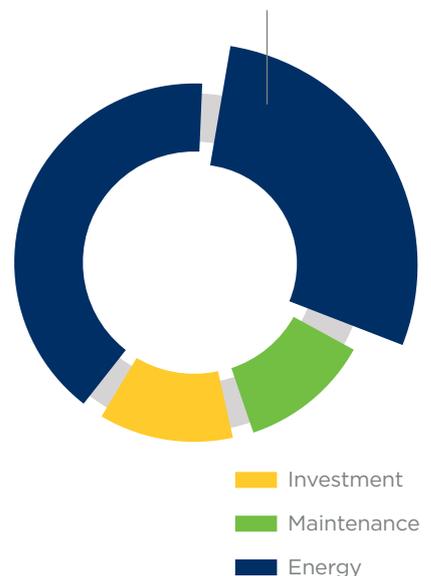
- The precise pressure control of the VS compressor allows for a tighter pressure band and a lower average working pressure, resulting in reduced energy consumption

### Indirect energy savings

The lower system pressure obtained by VS results in up to 10% additional yearly savings:

- Lower energy consumption of (other) base load machines
- Leakage loss is significantly reduced: e.g. leakage at 6 bar is 13% lower than at 7 bar
- Most compressed air applications consume less air at a reduced pressure

Energy savings with VS technology



# Reduced wear and tear thanks to a wider regulation range

## Superb flexibility comes as standard with the VS Series.

With up to 80% regulation range, the VS Series 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/of load pressure) for all pressurised components within compressor package (oil receiver, hoses etc.)

### Tried and tested inverter concept:

- Integrated in the electric cabinet
- Protected from dust by replaceable inlet filters
- Maximum reliability by optimised cooling system
- Ensures high availability and long life time



## GD Connect 12 sequencer with up to 35% energy savings!

- Easy to install
- Simple to operate
- Improved performance and efficiency
- Detailed management reports



GD Connect 12

Compressor systems are typically comprised of multiple compressors delivering air to a common header. The combined capacity of these machines is generally greater than the maximum site demand. To ensure the system is operated to the highest levels of efficiency, the "GD Connect 12" management system is essential.

The GD Connect 12 can intelligently control up to 12 fixed speed or variable speed compressors.

- Intelligently selects the right combination of compressors
- Reduces energy consumption by tightening the network pressure to the smallest possible band

Each 1 bar decrease potentially results in a 6% reduction in energy consumption and as much as 25% decrease in air leakage losses.

- Keeping off load running to the absolute minimum

## Optimise your energy usage with energy recovery systems

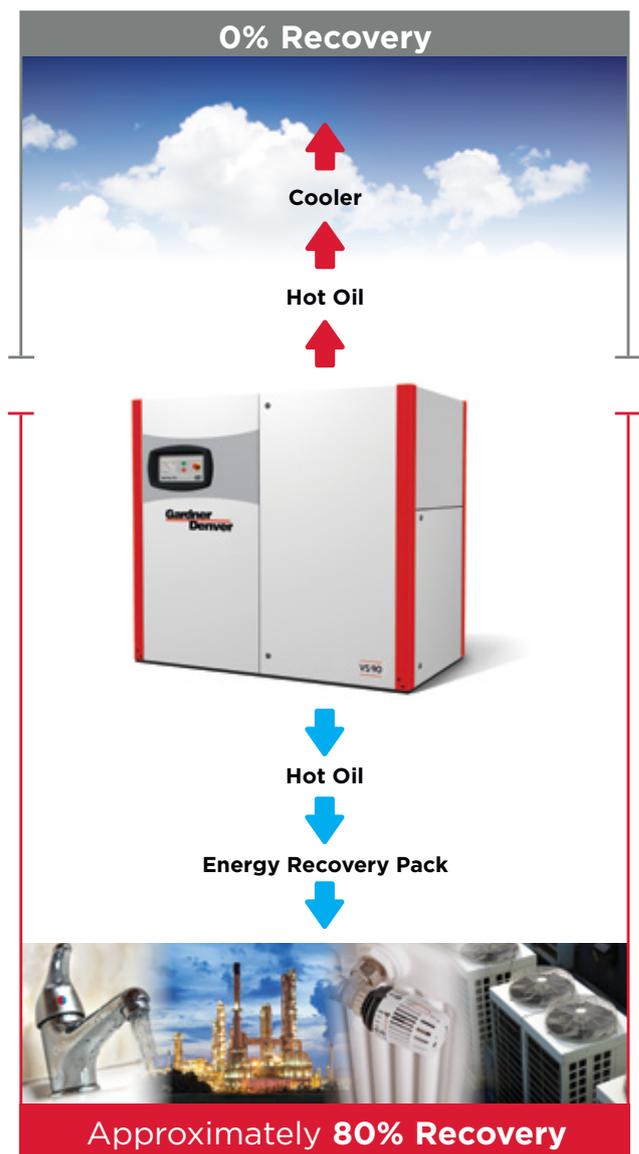
### Reduce your carbon footprint

There are plenty of ways to save energy within your compressed air system – and almost as many alternative ways to waste energy! Gardner Denver Compressors offer you reliable auditing tools allowing you to identify opportunities within your installation where energy savings can be made.

The heat generated during compression is paid for as part of the process, then paid for again during removal by way of cooling fans. Instead of simply removing the heat, it can be used to generate hot water, heating systems and application processes in other areas of the installation.



Scan to view our heat recovery video



# Gardner Denver Air Treatment Solutions

## One step ahead!



### Tailored compressed air treatment

An efficient and smart air solution is more than a line of high-quality compressors. It is a combination of air generation, filtering, drying, condensation and purification expertise and products. Gardner Denver's complete compressed air systems provide not only compression packages, but a full range of air treatment systems.

### Comprehensive design know-how

The Gardner Denver range of air treatment equipment is designed for optimum performance and life with a sensitive watch on energy consumption. Each Gardner Denver product has been designed to offer reduced energy usage or to include energy saving features.



## The synthetic efficiency advantage

with Gardner Denver AEON™ 9000 SP lubricant as a standard.

A unique synthetic lubricant designed specifically to maximise compressor efficiency and provide optimum lubricity.

#### Extended life time

Maximum protection for internal components.

#### “Green” advantage

- Extended drain intervals
- Energy Savings as a result of optimum operation under demanding temperature conditions
- Make considerable savings on your energy bill



## GD 5 Years Extended Warranty Protect 5 - our total commitment to **quality and worry free ownership**

GD 5 Years Warranty - a simple and free of charge extended warranty scheme from Gardner Denver.



## Genuine GD Parts – **The perfect fit** for maximum performance and efficiency

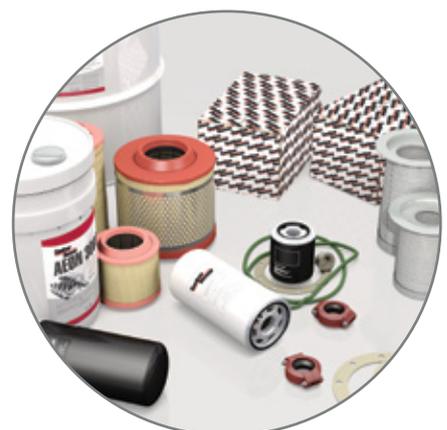
The vast experience and knowledge of GD’s highly qualified air specialists, coupled with the use of genuine GD parts and quality consumables that are guaranteed to perform, ensures the best possible efficiency from your GD air system.

### **High Efficient AEON Lubricants**

“AEON™ lubricants are specially formulated to combat the harsh elements of compression while maximising efficiency and equipment longevity”

### **Service Kits – all the parts you need in a single box!**

Using Service Kits allows you to plan compressor maintenance in advance, avoiding surprises and missing parts for a specific service or breakdown. No more wasted time searching for and ordering separate spare parts, service kits are a cost effective maintenance solution.





## Technical data

### ESM 160 - 290 - Fixed Speed Screw Compressors

Gardner Denver model	Nominal pressure	Drive motor	FAD <sup>1)</sup>	Noise level <sup>2)</sup>	Weight	Dimensions
	bar g	kW	m <sup>3</sup> /min	dB(A)	kg	L x W x H mm
ESM 160	7.5	160	32.04	76	4186	2907 x 2071 x 2193
	10	160	28.20	76	4186	2907 x 2071 x 2193
	13	160	23.91	76	4186	2907 x 2071 x 2193
ESM 200	7.5	200	39.23	77	4415	2907 x 2071 x 2193
	10	200	34.85	77	4415	2907 x 2071 x 2193
	13	200	29.38	77	4415	2907 x 2071 x 2193
ESM 250	7.5	250	42.03	78	4625	2907 x 2071 x 2193
	10	250	37.01	78	4625	2907 x 2071 x 2193
	13	250	32.64	78	4625	2907 x 2071 x 2193
ESM 290	7.5	250	47.10	79	4650	2907 x 2071 x 2193
	10	250	41.53	79	4650	2907 x 2071 x 2193
	13	250	36.44	79	4650	2907 x 2071 x 2193

### VS 160 - 290 - Variable Speed Screw Compressors

Gardner Denver model	Nominal pressure	Drive motor	FAD <sup>1)</sup>	Noise level <sup>2)</sup>	Weight	Dimensions
	bar g	kW	m <sup>3</sup> /min	dB(A)	kg	L x W x H mm
VS 160	5 - 13	160	6.54 - 32.33	75	4378	2907 x 2071 x 2193
VS 200	5 - 13	200	5.99 - 39.44	77	4573	2907 x 2071 x 2193
VS 250	5 - 13	250	5.83 - 42.80	78	4669	2907 x 2071 x 2193
VS 290	5 - 13	250	5.87 - 47.02	79	4684	2907 x 2071 x 2193

<sup>1)</sup> Data measured and stated in accordance with ISO 1217, Edition 4, Annex C and Annex E and the following conditions:  
Air Intake Pressure 1 bar a, Air Intake Temperature 20°C, Humidity 0 % (Dry).

<sup>2)</sup> Measured in free field conditions in accordance with ISO 2151, tolerance ± 3dB (A).

## Global Expertise

The GD rotary screw compressor range from 2.2 – 500 kW, available in both variable and fixed speed compression technologies, are designed to meet the highest requirements which the modern work environment and machine operators place on them.



The oil-free EnviroAire range from 15 – 160 kW provides high quality and energy efficient compressed air for use in a wide range of applications. The totally oil-free design eliminates the issue of contaminated air, reducing the risk and associated cost of product spoilage and rework.



A modern production system and process demands increasing levels of air quality. Our complete **Air Treatment Range** ensures the highest product quality and efficient operation.



Compressor systems are typically comprised of multiple compressors delivering air to a common header. The combined capacity of these machines is generally greater than the maximum site demand. To ensure the system is operated to the highest levels of efficiency, the **GD Connect** air management system is essential.



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

Specifications subject to change without notice.