Gardner Denver

A New Generation in Compression Technology

30 - 55kW

Single & Two-Stage Fixed & Regulated Speed

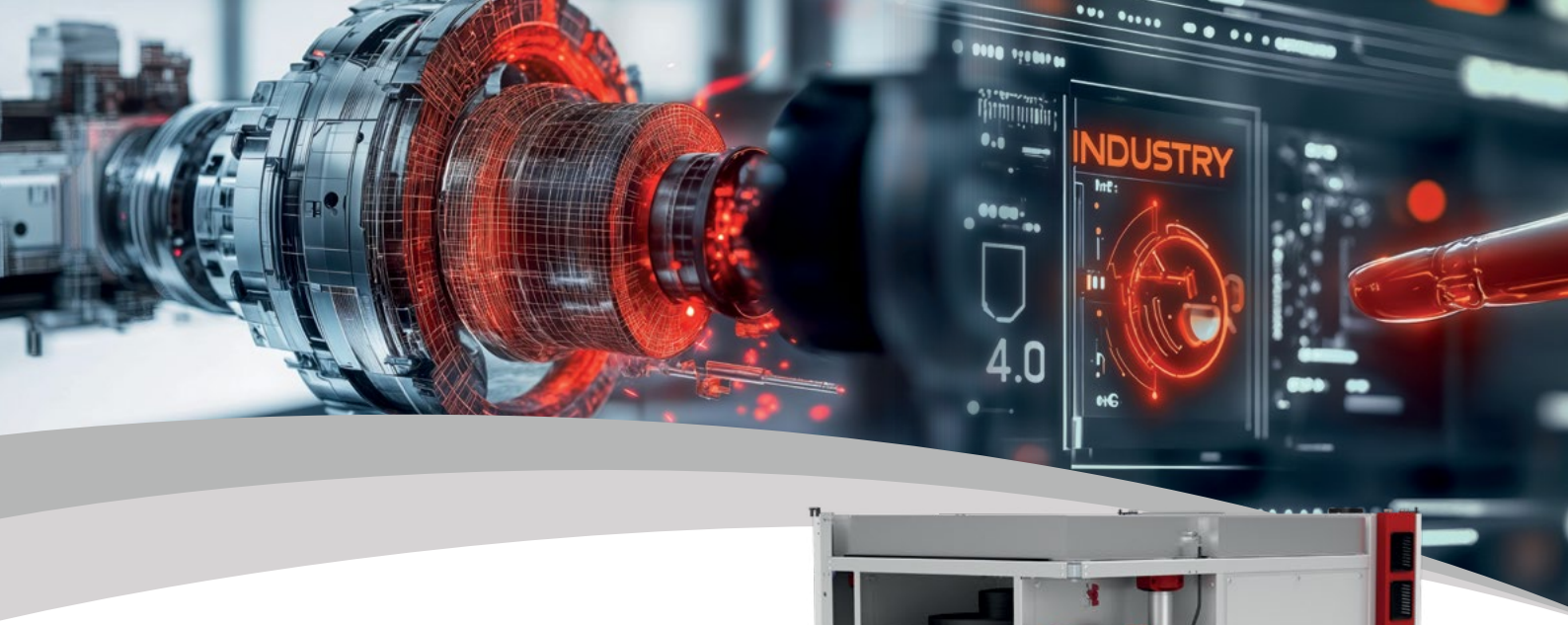
FOURCORE
ADVANCED COMPRESSION TECHNOLOGY

PROTECT 12 years
Extended Warranty for GD Compressors

SUSTAINABLE MANUFACTURING



Market leading
energy efficiency



A NEW era in compression technology has begun

The ALL-NEW ESM / VS Series from Gardner Denver

Well known in the industry for quality and reliability, Gardner Denver continuously develops the ESM / VS Series to achieve cutting-edge performance and efficiency. And so, a new era in air compression technology has begun. More sustainable, more powerful, more energy-efficient, and also, exceptionally small.



Pressure range
5 to 13 bar

Volume flow
1.47 - 11 m³/min

Motor power
30 - 55 kW

NOT a "next generation" of ESM / VS Series. An industry-defining NEW GENERATION!

We are proud to introduce the **ALL-NEW ESM / VS Series 30-55kW, single and two-stage, fixed & variable speed** oil-lubricated rotary screw air compressors – featuring brand new, innovative technology, engineered to provide next-level performance and efficiency for customers across a wide variety of industries.

Conceived with passion and positivity from the whole Gardner Denver Team. Determined that we should make a difference in the world we live. Not happy with just changing the game, we have reinvented it!

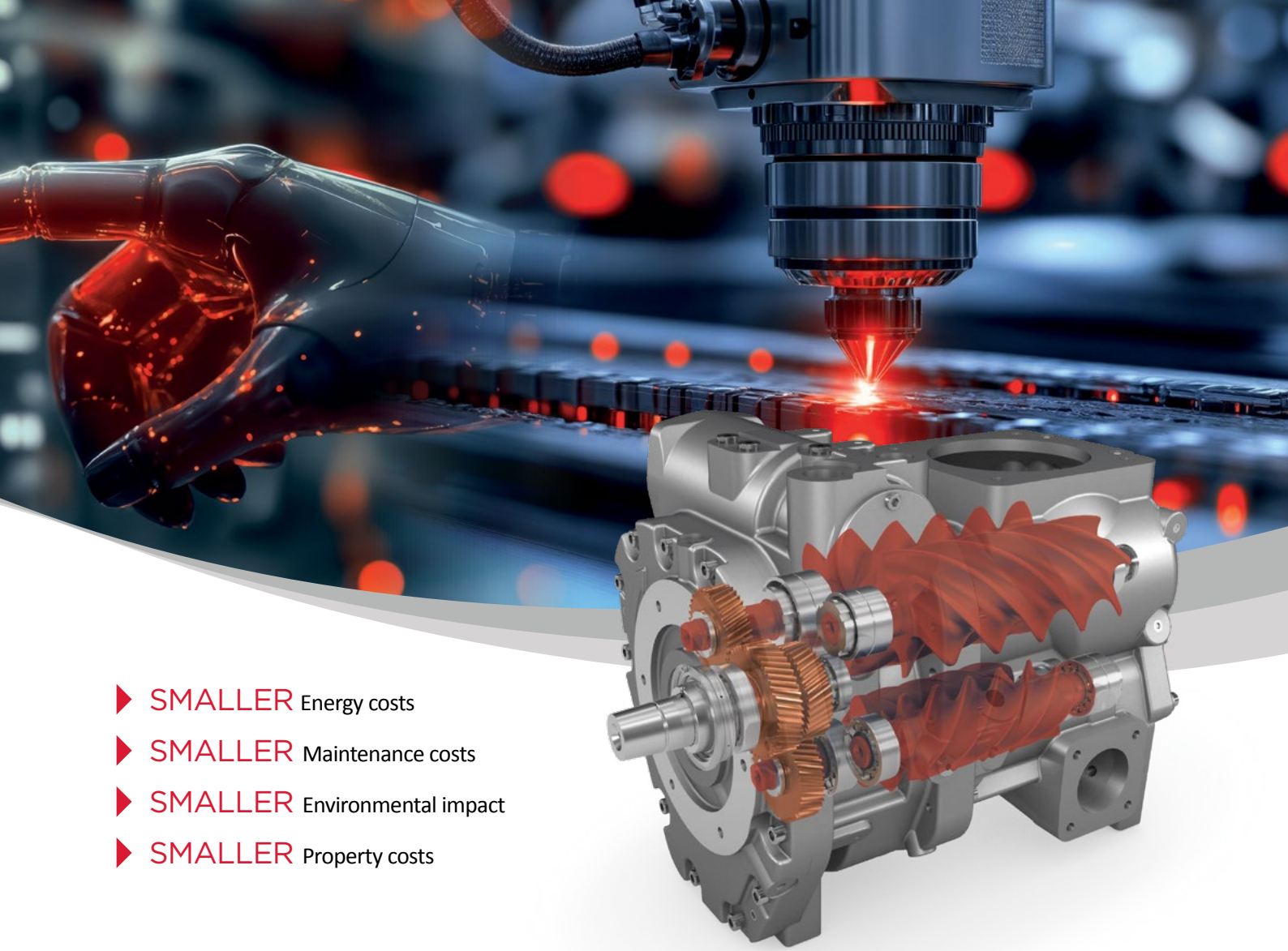
GERMANENGINEERING
DESIGN & MANUFACTURE

Did your air demand increase?

The new ESM / VS series variable speed compressors are easily upgraded from 30kW to 37kW, from 45kW to 55kW in the field without the need for a new compressor – they can be adjusted to match your real needs in real conditions.

Optimised energy saving and investment protection

An **advanced control system and integrated sensors** in the package optimise the compressor's operation to the actual working conditions, saving on energy and at the same time protecting your investment against condensate.



- SMALLER Energy costs
- SMALLER Maintenance costs
- SMALLER Environmental impact
- SMALLER Property costs

Premium efficiency airends – Engineered for excellence

Compressors are more than just a financial investment; they are a key component to ensure that manufacturers, processors and operators receive consistent, high-quality, low-cost air.

The screw compression element is the heart of the compressor, so Gardner Denver keeps the design and manufacture in-house, using the latest CNC rotor grinding machinery, coupled with online laser technology. The resulting reliability and performance ensure that operating costs will remain low throughout the compressor's life.

PROTECT 12 years

Extended Warranty for GD Compressors

The new highly efficient airend design delivers the highest quality compressed air at a low rotational speed to help minimise the unit's energy consumption and achieve excellent performance.

The semi-integrated airend design with integrated oil filter and oil regulation valve means fewer external components and pipework, taking less physical space, eliminating the risk of leakage and offering simplified maintenance.

We are so sure of our pioneering technology that we include a full 12-year warranty with a Protect 12 Agreement! **That's better than anything else on the market today!**

"A New Generation – SMART Engineering creating a lean package – less materials, less parts, less waste AND less energy consumption."

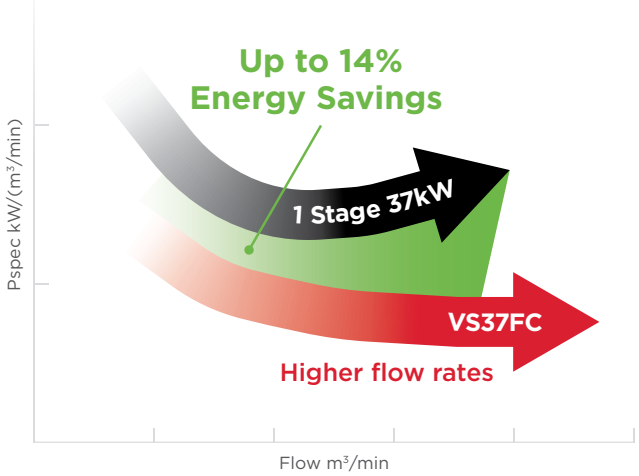


Best-in-class efficiency & energy savings

FourCore Technology – the power of 4!

Gardner Denver's centre of excellence at its Simmern production site in Germany has designed and engineered a brand new, patented technology that offers best-in-class energy efficiency.
Our application engineering team have developed a premium efficiency two-stage model for fixed and variable speed compressors using the new technology of the compact double stage airend. What's unique about this design is that the airend has one motor and four rotors located in a single, semi-integrated casting. This differs from traditional two-stage compressors, providing a compact package with high energy savings. These machines are the same size as a single-stage machine due to our new airend technology.

Up to 19% higher flow rate equating to 14% less energy consumption!



Flatter and longer curves for high energy savings across the different speeds – and air demands.

New generation FourCore airend technology

- Very compact & very low weight
- Highest efficiency
- Semi-integrated airends two-stage with integrated oil filter, thermostatic valve and check valve:
  - Fewer hoses and hydraulic pipes = **lower costs**
  - No leakages
  - Easier maintenance
  - Less spare parts and waste = **more sustainable**
- Two compression stage = **vastly more efficient**
- Oil-cooled permanent magnet motors with cooling integrated in the airend casting
- High flexibility by a two-step drive gear configuration, **UNIQUE to Gardner Denver**
  - Constant interstage pressure = **better efficiency**
  - Extremely compact design
- Designed to implement in the current ESM / VS Series, **UNIQUE to Gardner Denver**
- Fixed and variable speed models

FOURCORE
ADVANCED COMPRESSION TECHNOLOGY

Improved efficiency & flow rate

Gardner Denver's innovative **NEW GENERATION FourCore technology** delivers greater efficiency in a low-weight and compact size. The 45-55 kW models deliver **up to 12% energy savings** and **10% higher FAD**, while the expanded 30-37 kW range achieves **up to 14% energy savings and 19% higher FAD** (vs. previous models).
The series comprises best-in-class premium efficiency two-stage oil lubricated compressors across the range of 45 to 55kW. In some cases, payback times can be less than a year, delivering a fantastic return on investment and incredible energy savings to the user.
Two-stage compressors can not only be expensive, but they also take up valuable (and unnecessary) space due to their large footprint. Incorporating all of the benefits of two-stage compression in the same size package as a single-stage unit, Gardner Denver has developed in-house, a unique and optimised, ultra-efficient airend technology in FourCore.



- **Best-in-class compressed air efficiency**
- **Sustainable compact design & small footprint**
- **FourCore airend delivers the best possible performance**
- **Less pipework & connections minimise leaks and maintenance**



A very compact package

A core benefit of the **NEW GENERATION two-stage ESM / VS Series** is that it delivers much greater efficiency than single-stage compressors, but comes in a German-engineered package that is roughly the same size! Users in a variety of industries benefit from an amazing, space-saving package of just 1.19m^2 to 1.4m^2 – that's up to 40% smaller than our previous range, and smaller still than anything else on the market.



An industry-defining design concept & environmentally conscious solution!

Large surface aftercooler

Delivers optimum air and oil circuit cooling by drawing the coolest possible air into the coolers which are offset and cooled independently by separate radial fans and exhaust chambers, ensuring optimum oil temperature and the lowest achievable air discharge temperature. This results in longer component life and lower downstream air treatment running costs.

High-performance separator filter

Two-stage filtration ensures the highest quality air resulting in lower pressure drops and reduced overall system running costs.

High-efficiency electric motor

Premium efficiency motors fitted as standard – Permanent Magnet (PM) IE5 for variable speed variants and IE4 class motors for fixed speed variants. With the patented oil-cooled motors we can recover even the small percentage of the motor's lost efficiency by using integrated heat recovery.

MARKET LEADING energy efficiency

Thermostatically controlled radial fans – inverter regulated

High efficiency, high thrust, very low noise fans fitted on both air and oil coolers. The inverter driven fan avoids creation of condensate, protects the investment and assures optimised efficiency based on real environmental conditions.

Automatic oil regulation valve

This unique patented valve delivers high efficiency and protection against condensate.

Viton vitaulic couplings

High-quality solid hose and pipe connections ensure leak-free connections.

Tried and tested inverter concept

Integrated in the electric cabinet and protected from dust by replaceable inlet filters, it delivers maximum reliability and availability from optimised cooling system and ensures long life.

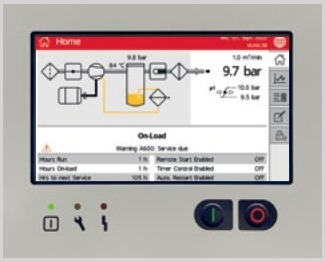
Power drive system

The new ESM / VS series 30-37 kW, 45-55 kW variable speed compressors include power drive system that meets and exceeds the IES2 efficiency standards.

GD Pilot TS SE innovative touch screen compressor controller

The high-resolution touch screen display, is highly user-friendly and self-explanatory. Advanced control system and integrated sensors optimise the compressor to the actual working conditions, saving on energy and protecting your investment against condensate.

Embedded IoT and includes onboard web server and Base Load Select for primary function for up to three secondary units. Both the board and controller have a high level of CS Standard for cyber security. Ecoplant-ready and iConn-inside for total control and monitoring.





Reduce energy waste

Gardner Denver are committed to creating products that have less impact on the planet, providing greener solutions for our partners in all industries, allowing for delivery of environmentally-friendly production processes. Energy-saving solutions including fuel-efficient products that aid in heat recovery, and reduce waste wherever possible.

The new ESMx and ESM / VS FC range delivers a breakthrough in compressor technology and provides enhanced efficiency and energy-savings during manufacture, use and disposal to also reduce CO_2 waste.

Investing in energy-saving machines shows corporate responsibility and a future-proofing mentality that will help your business tackle the environmental sustainability challenges that industrial companies will face in the future.

A vast amount of the energy can also be saved with variable speed (VS) technology – saving more money by matching output with demand.

Even greater efficiency with Variable Speed (VS)

- Variable speed compressors from Gardner Denver can efficiently and reliably handle the varying air demand found in most plant air systems
- 35% less energy in idle run compared to conventional two-stage compressors
- The annual cost of ownership can be significantly reduced using variable speed technology

Use waste heat to heat:

Upgrading your compressed air system with **heat recovery** or **heat recovery Plus delivers…**

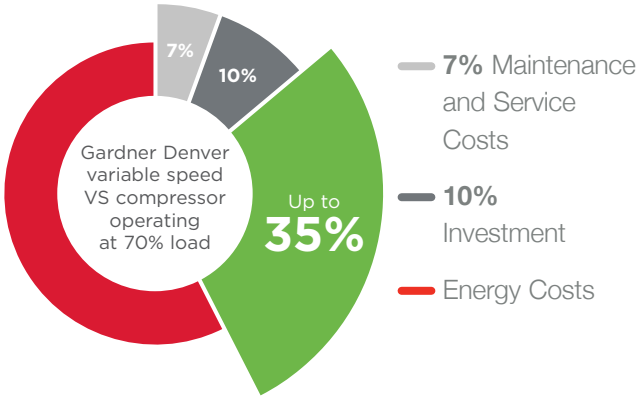


- **Significant 75% energy savings**
- **Lower CO_2 emissions**
- **Low investment costs**

Integrated or turnkey heat recovery adds up to 75% energy savings

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 it can be used to generate free hot process water or hot water heating systems by utilising a high-efficiency, factory-fitted or turnkey oil-to-water heat exchanger.

Up to 35% Energy Saving



More than just
Air Compressors

Designed and manufactured in-house by Gardner Denver, our extensive range of air treatment and downstream equipment delivers energy efficiency with low environmental impact and the lowest total cost of ownership.

High quality dry air is guaranteed, with the same quality, performance and efficiency standards we build into our air compressors.





SINGLE SOURCE 360° COMPRESSED AIR SOLUTIONS

Designed and manufactured by Gardner Denver

- **Air dryers** to improve productivity, system efficiency and product/process quality
- Leak-free, low-pressure drop **EPL Piping**
- **Drain Valves** remove contaminants from the system without losing compressed air
- **Flow and system controllers** for compressed air system optimisation
- **Filtration products** like high-quality in-line filters and activated carbon towers ensure clean air and improve productivity
- **Oil Water Separators** remove lubricant from compressed air condensate for an environmentally friendly disposal
- **Meeting & exceeding** expectations

Single Source Air Treatment Systems – The Latest Innovation, Air Quality Assured

The NEW Sub-Freezing Dryer from Gardner Denver

- Revolutionary & UNIQUE design concept sub-freezing dryer
- -20°C sub-zero pressure dew point (PDP) meeting Class 3 requirements according to ISO 8573-1
- Low operating, energy and upfront investment
- The first of its kind – delivers -20°C (-4°F) PDP at 70% lower costs compared to desiccant technologies!





"Gardner Denver's VS45FC and VS55FC with FourCore technology reduces the amount of CO_2 produced during manufacture, use and disposal."

Predictive Maintenance

Powered by

ECOPLANT

Machine intelligence drives greater energy efficiency

Ecoplant is an AI-driven energy efficiency solution that optimises compressed air systems. It continuously monitors, analyses, and adjusts compressor operations to reduce energy waste and lower CO_2 emissions.

Integrated with iConn, it ensures:

- Minimised outages & stable pressure
- ISO quality standards compliance
- Proactive issue detection to prevent downtime and enhance reliability
- Optimised energy use and reduced costs

iConn inside

iConn Compressed Air Service 4.0

The ESM / VS Series is equipped with iConn as standard. iConn is the smart, proactive real-time monitoring service that delivers in-depth and real-time knowledge on the system to compressed air users.

- Advanced remote analysis
- Predictive – evaluates historic data
- Maximises energy efficiency
- Optimises compressor performance
- Reduces downtime
- Works as an open standard
- Free on new compressors – can be retrofitted
- Proactive maintenance

...exactly why you cannot ignore iConn!



Protect your investment

PROTECT 12 years
Extended Warranty for GD Compressors

Invest in your future with a Service & Warranty Agreement

Compressed air is critical to your operation. A proper maintenance strategy is crucial to avoiding unplanned, unbudgeted downtime and production interruptions. By choosing a Service agreement including an extended warranty, you protect your investment.

Tailored service and warranty packages are available, tailored to your own specific needs.

We are so sure of our groundbreaking technology that we include a 12 year warranty on the airends!

It all adds up to peace of mind.

LOWER COST OF OWNERSHIP

Protect 12 Service and Warranty Agreements provide the most cost-effective solutions based on your customised maintenance strategy.

QUALITY RESULTS

Factory trained technicians allows you to focus on your core business, while they take care of your compressor system.

INCREASED UPTIME

Service & Warranty Agreements help decrease unplanned downtime and costly production interruptions.

EFFICIENT ENERGY USE

Peak system efficiency is achieved through properly performed maintenance and inspection.

PEACE OF MIND

Protect 12 Service agreements ensures an extended warranty. Depends on duration.

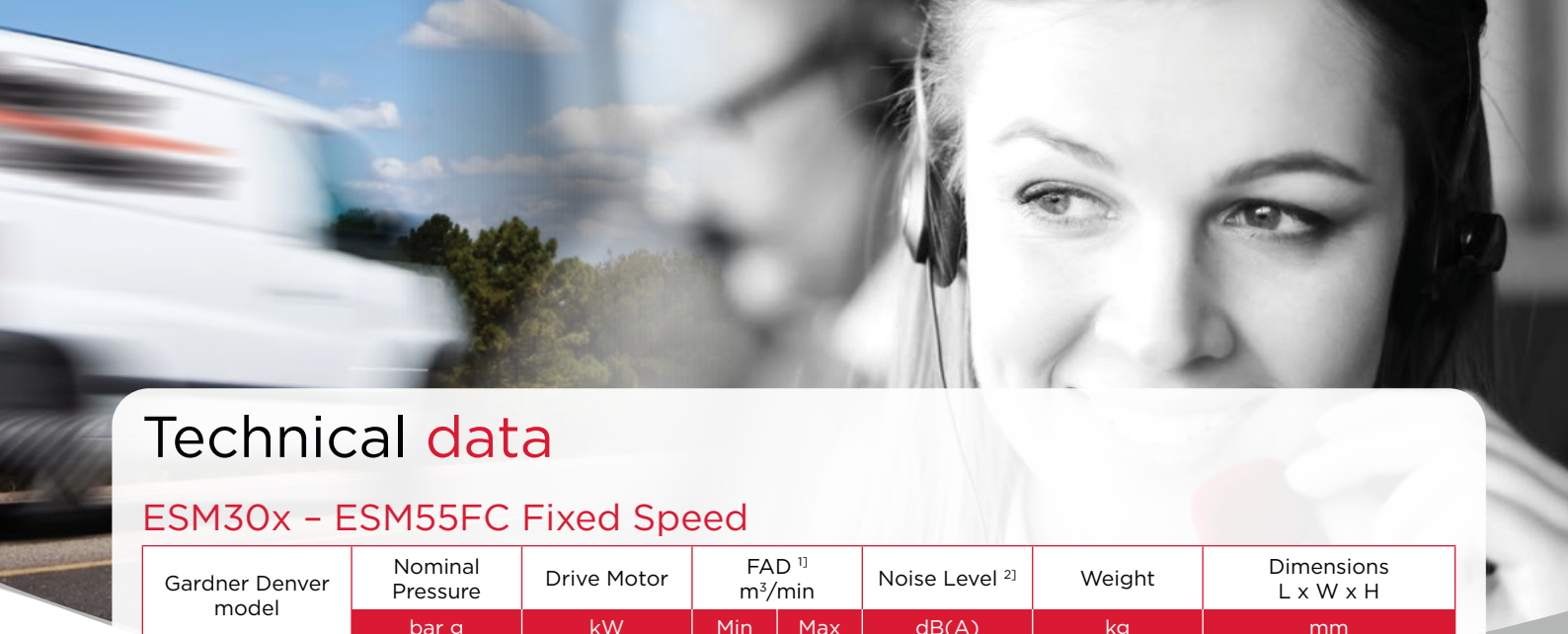


Gardner Denver genuine spare parts

Genuine Gardner Denver parts and lubricants ensure that compressed air plant reliability and efficiency is maintained at the highest standards. Gardner Denver spare parts and lubricants are distinguished by:

- Long service life, even under harshest conditions
- Minimum losses contributing to energy savings
- High reliability improves plant up-time
- Products manufactured with the strictest Quality Assurance Systems





Technical data

ESM30x – ESM55FC Fixed Speed

Gardner Denver model	Nominal Pressure	Drive Motor	FAD [1] m³/min		Noise Level [2]	Weight	Dimensions L x W x H
	bar g	kW	Min	Max	dB(A)	kg	mm
ESM30x	7.5	30	-	5.94	69	860	1328 x 898 x 1806
	10	30	-	5.06	69	900	
ESM30FC	7.5	30	-	6.33	68	940	
	10	30	-	5.48	68	940	
	13	30	-	4.79	68	940	
ESM37x	7.5	37	-	7.08	70	920	
	10	37	-	6.21	70	920	
ESM37FC	7.5	37	-	7.75	69	960	
	10	37	-	6.83	69	960	
	13	37	-	6.06	69	960	
ESM45x	7.5	45	-	8.5	70	1035	1448 x 968 x 1806
	10	45	-	7.4	71	1038	
ESM45FC	7.5	45	-	9.3	70	1075	
	10	45	-	8.3	70	1075	
	13	45	-	7.4	70	1075	
ESM55x	7.5	55	-	10.1	70	1070	
	10	55	-	9	71	1070	
ESM55FC	7.5	55	-	11.1	71	1110	
	10	55	-	10	71	1110	
	13	55	-	8.9	71	1110	

VS30x – VS55FC Variable Speed

Gardner Denver model	Nominal Pressure	Drive Motor	FAD [1] m³/min		Noise Level at 100% Load [2]	Weight	Dimensions L x W x H
	bar g	kW	Min	Max	dB(A)	kg	mm
VS30x	5-10	30	1.47	6.03	72	830	1328 x 898 x 1806
VS30FC	6-10	30	2.25	6.40	69	870	
	6-13	30	TBC	TBC	69	870	
VS37x	5-10	37	1.47	7.27	72	830	
VS37FC	6-10	37	2.25	7.70	70	870	
	6-13	37	TBC	TBC	70	870	
VS45x	5-10	45	1.6	8.9	69	950	1448 x 968 x 1806
VS45FC	6-10	45	2.5	9.25	69	990	
	6-13	45	2.5	9.1	69	990	
VS55x	5-10	55	1.6	10.5	70	950	
VS55FC	6-10	55	2.5	11.07	69	990	
	6-13	55	2.5	10.94	69	990	

[1] 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).

[2] 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 – 355 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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www.gardnerdenver.com

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

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