Gardner Denver

Leading oil-free innovation

PureAir

ISO CLASS: ZERO PLUS SILICONE FREE

SUSTAINABLE MANUFACTURING

PureAir from Gardner Denver

– Guaranteed 100% oil-free compressed air

Think of it as the best compressed air insurance you can get

As manufacturers and suppliers of oil-free compressors for over 90 years, Gardner Denver are committed to quality and innovation and understanding the customers' operational and business needs. Nowhere is this more apparent than in the development of our PureAir range.

Our oil-free compressors are helping industries across the globe to meet and exceed quality and production objectives in food and beverage, pharmaceutical, electronic, healthcare and power generation applications to name just a few.

Today, we remain at the forefront of oil-free compressor technology with breakthrough innovations such as Ultima.

Broadest range of oil-free compressed air technology

Air purity is critical for many applications where even the smallest drop of oil can cause product spoilage or damage production equipment. Depending on the application, one specific technology in an even more specific performance range might be much better suitable than another technology.

When you choose Gardner Denver you are guaranteed that you get the best possible solution for your specific application including the downstream equipment. Gardner Denver offers all common oil-free technologies and has brought out technologies which are completely unique in the market.

ISO CLASS: ZERO PLUS SILICONE FREE

No matter what the application – Gardner Denver has got the perfect oil-free solution

Benefits of oil-free compressed air

Risk-Free Legal Compliance

Some processes need clean, dry, oil-free air and cannot risk contamination. With an oil-free compressor you get peace of mind, both in your system and for your business.

Worry-Free Operation

Zero oil in the compressed air also means zero risk of damages in subsequent air treatment systems and process equipment due to oil carryover.

Lower Maintenance Cost

A true oil-free compressor does not have oil in the compression chamber. Consequently, minimising downstream filtration requirements and pressure drops, which directly translates into energy savings.

Increased Sustainability

With high quality, contaminant-free air, you can be sure that you are helping make your compressed air system as streamlined and efficient, as possible.

Ultima™ 75 - 160 kW

Ultimate oil-free efficiency

Pressure range
4 to 10 bar

Volume flow
6.7 to 24.0 m³/min

Motor power
75 to 160 kW

GERMAN ENGINEERING DESIGN&MANUFACTURE

Ultima™ delivers on every level

Ultima is a groundbreaking oil-free PureAir compressor. The unique design of this all new compressor range from Gardner Denver, utilises a low pressure and high pressure dry screw airend - each airend is individually driven by a variable speed, permanent magnet synchronous motor, offering exceptional levels of efficiency versus traditional oil-free technology. Considering that the highest cost in the lifecycle of a compressor is the energy to run it, the unique design of Ultima has allowed us to combine the ultimate performance with the ultimate efficiency, and still deliver a footprint 37% smaller than a conventional two-stage oil-free compressor.

BEST IN CLASS

Unrivalled power to weight ratio

Ultima contributes to bottom line cost savings in many ways. Not only does it deliver outstanding efficiency and significantly lower lifecycle costs, the Ultima requires on average, 3.4 m³ less space (or up to 37% less floor space) than a conventional two-stage oil-free compressor. This allows easy installation in the smallest possible space - not only a benefit where space is limited - it also translates into property cost saving.

Ultima™
Oil-free two-stage regulated speed screw compressor with two permanent magnet motors

Up to 13% power savings versus traditional oil-free technology

Delivering **significant increases** in efficiency and **exceeding environmental targets.**

ONLY 69dB(A)

Ultima™ – The real deal

The unique patented design delivers numerous benefits to compressed air users:

Highest efficiency levels
- Up to 13% savings compared to industry standard

Optimal performance at any load
- LP & HP airends individually driven
- No gearbox required

Best-in-class footprint
- Up to 37% smaller than industry standard

The quietest compressor in its class
- Max 69 db(A) (water cooled) and 70 db (A) (air-cooled)
- Easy installation at point of use

Full upgradability between 75kW and 160kW
- If your demand increases Ultima can be upgraded
- Immediately available, no delivery time, no downtime for installation
- Much cheaper than an investment in a new/additional compressor

Minimum power consumption in idle load
- Up to -45% compared to industry standard

Very efficient heat recovery
- Up to 98% of all heat generated by the compressor is recoverable
- The first air-cooled oil-free compressor that can be used for process heat recovery

Oil and silicone free
- Highest level of air quality
- Class 0 certified

Easy installation
- No ducting required
- Fits through almost every door

iConn industry 4.0 solution
- Pro-active maintenance
- Avoid unplanned outages
- Free of charge

iConn inside

Multiple further options to meet individual demands
- Outdoor variant, HOC connection, U-Cooler and many more…

Ultima™ 75 - 160 kW

The unique drive design

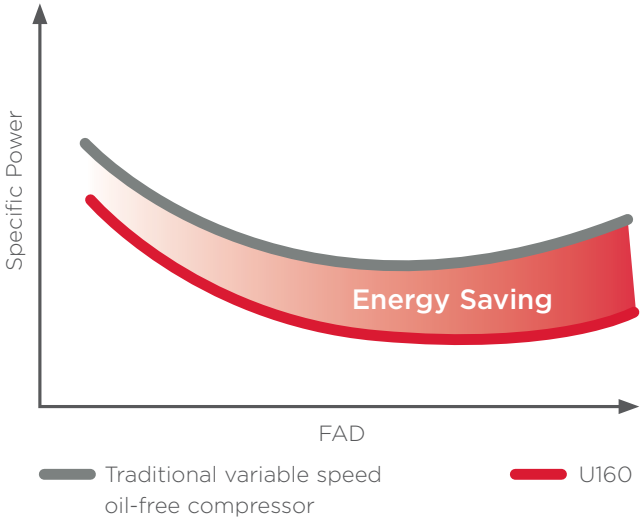
Traditional oil-free compressors are driven by a single motor using a gearbox which in turn, drives both the low and high pressure airends. Gearboxes require oil and create friction which equates to energy loss. Ultima uses ultra high efficiency motors which replace the gearbox and the single motor which optimise performance throughout the complete volume range, as the airends can be driven at different speeds dependant on the demand. With a single motor driving both airends together this is not possible. This is where Ultima is hard to beat.

The Ultima design utilises an intelligent "digital gearbox" design which continuously monitors and independently adjusts the speeds of each airend, ensuring maximum efficiency and optimal pressure ratios at all times.

Premium efficiency airends

Unlike the majority of oil-free airends that quickly succumb to performance degradation, the German engineered and manufactured airends featured in Ultima, use a special coating to ensure maximum efficiency and protection throughout the life of the compressor.

Efficiency - 160kW at 10 bar (g)



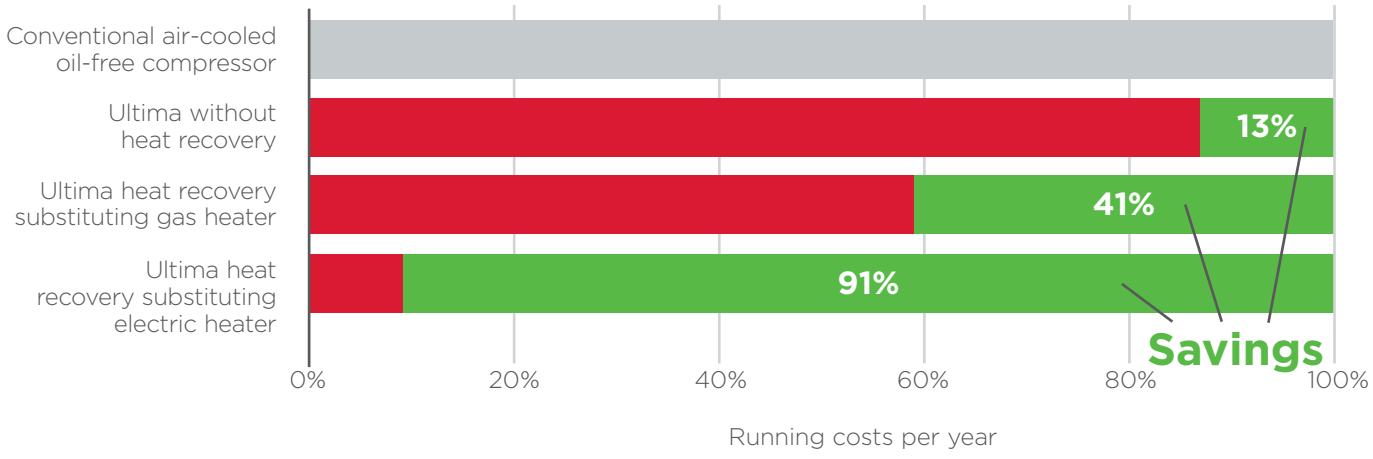
Ultima™

Oil-free two-stage regulated speed screw compressor with two permanent magnet motors

Ultima is the only air-cooled oil-free compressor on the market that is applicable for heat recovery

Ultima Air Cooled

Comparison of annual running costs



Unique cooling

Ultima's **innovative and patented closed package cooling system** allows for the collection and **recovery of up to 98% of the heat** that is generated during the compression process. This energy can be harnessed to provide process water heating, reaching usable water temperatures of up to 85°C.

Ultima has the added benefit of **"hybrid cooling mode"** operation. Depending upon the most economic cooling method at the time (eg in the case of seasonally changing availability of cooling water) Ultima can operate in either air-cooled or water-cooled mode or a combination of both concurrently.

EnviroAire (VS) 15 - 37 kW

Low lifecycle costs

Oil-free water-injected screw compressors

Pressure range
5 to 10 bar

Volume flow
0.32 to 5.86 m³/min

Motor power
15 to 37 kW

EnviroAire - your resource for cost savings

The unique design achieves lower speeds combined with lower operating temperatures - both resulting in high efficiency and reduced component wear. Using a single-stage, direct-driven motor without gears or belts, maximises efficiency. Limiting the compressed air to the application demand with regulated speed ensures that no energy is wasted.

Delivering the highest quality, oil-free compressed air for all applications

- Single-stage, direct-driven compression element maximises efficiency and minimises maintenance
- High quality water injection lubricates, cools and seals the compression process, maximising efficiency
- Variable speed technology available to reduce energy costs
- Fully packaged and silenced enclosure reduces noise and simplifies installation
- Comprehensive control ensures safe and reliable operation and includes remote communication capability
- Connected with iConn smart flow management - Setting Industry 4.0 standards

EnviroAire (VS)

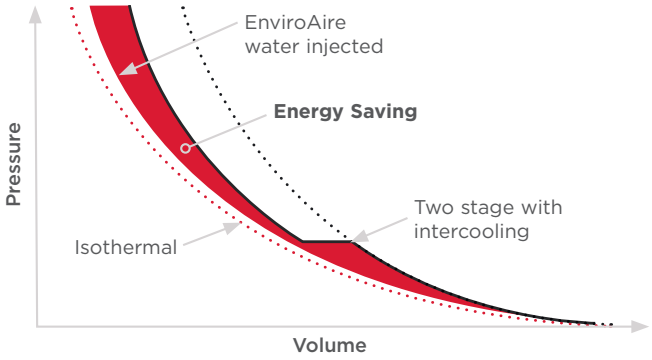
Oil-free single-stage water-injected screw compressor

Gardner Denver incorporate energy saving technologies at every stage of the design, delivering a compressor that works harder and smarter.

Energy Savings

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

Compression Diagram



Perfect response to your individual air demand

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

Reduced maintenance

Our oil-free compressors are built to last, featuring robust designs and a simple construction, making them easier to maintain. We've also made them easy to operate, featuring a variety of control options to make sure that you are always in charge of your air supply.

The EnviroAire (VS) range - for total peace of mind

- Significantly fewer moving parts means less to go wrong
- Low rotational speeds and balanced bearing loads contribute to the highest reliability
- Cooler operating temperatures reduce thermal stress and component wear
- Completely oil-less design: No oil or oil laden parts to dispose of, saving time and expense

EnviroAire T 75 - 160 kW

Innovative design concept

Pressure range
4 to 10 bar

Volume flow
10.6 to 29.1 m³/min

Motor power
75 to 160 kW

Outstanding reliability for demanding applications

The two-stage oil-free screw compressor range has been designed with a focus on operational safety in demanding applications. The innovative clear construction delivers state-of-the-art performance, in-depth control and outstanding reliability. The sophisticated GD Pilot TS controller protects your investment by continuously monitoring operational parameters. Gardner Denver's own designed and manufactured airend works at constant low temperature levels and lowers the compressor's lifecycle costs. With easy servicing and full PureCare warranty cover, operators eliminate all possible risks to their business.

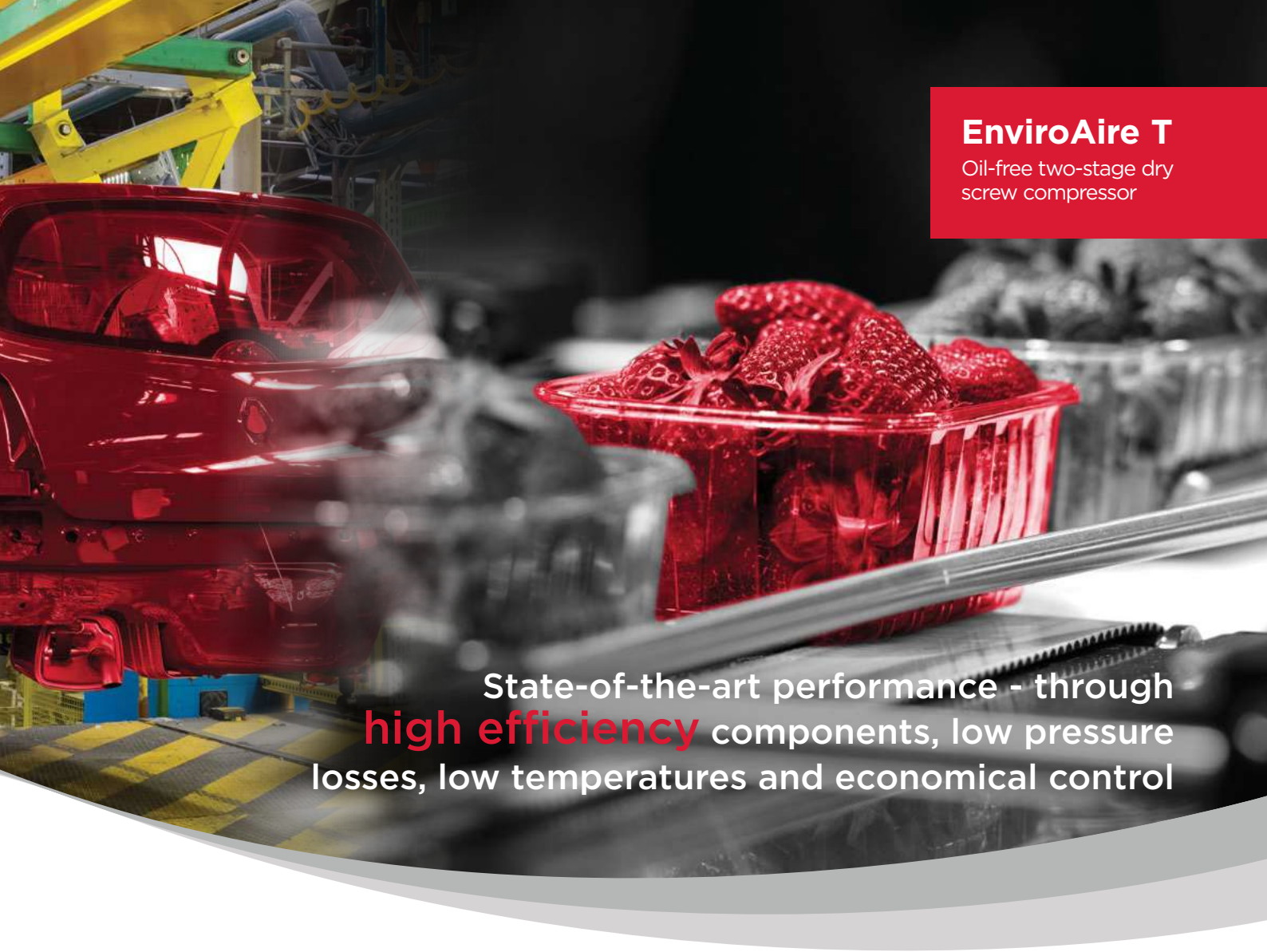
iConn inside

The EnviroAire T Series

- Premium efficiency two stage airend design
- High efficiency electric motor
- Efficient motor cooling
- High ambient temperatures of up to 45°C
- GD Pilot TS touch screen controller with enhanced monitoring
- Unique closed cooling water circuit for airend cooling
- Connected with iConn smart flow management - Supporting Industry 4.0 Initiatives

EnviroAire T

Oil-free two-stage dry screw compressor



State-of-the-art performance - through high efficiency components, low pressure losses, low temperatures and economical control

Perfect control – perfect performance

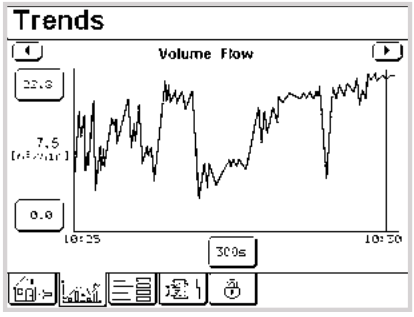
GD Pilot TS innovative touch screen compressor controller

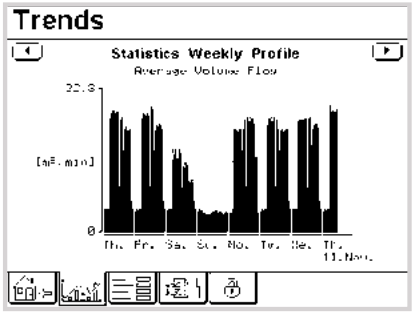
Easy servicing

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

Trend diagrams

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.





EnviroAire T/TVS 200 - 355 kW

When PureAir is High Priority

Pressure range
4 to 10 bar

Volume flow
11.5 to 53.3 m³/min

Motor power
200 to 355 kW

PureAir
ISO CLASS: ZERO

Gardner Denver - The Compressed Air system provider you can trust

There's a lot riding on the quality of your air. The presence of particles, condensate, oil and oil vapor in a compressed air system can lead to downtime, product spoilage and recall, damage to your brand reputation, or worse, harmed consumers and product liability.

What makes our oil-free screw compressor range unique?

- ✓ State-of-the-Art Airend
- ✓ Up to 8% higher flow compared to industry standard
- ✓ Up to 7% (Fixed Speed) & 5% (Variable Speed) energy reduction
- ✓ Premium variants with even greater efficiencies
- ✓ Variable speed models with turndown rates of up to 71%
- ✓ Wide variety of pre-engineered and customised options
- ✓ Further savings with optional heat recovery
- ✓ Free iConn inside
- ✓ PureCare extended warranty

iConn inside

EnviroAire T/TVS

Oil-free rotary
screw compressor

World-Class Efficiency

Our new state-of-the-art modular airend design features an optimised rotor profile that delivers significantly improved efficiency and best-in-class airflow. The premium e-variants with their water-cooled airend jackets enable even greater energy savings

The Air end – How we build reliability into every detail

Compressor rotors take a beating. Over time, their surfaces can deteriorate, leading to reduced air flow and increasing risk of corrosion.

Gardner Denver eliminates this problem with UltraCoat, an advanced rotor and housing protection that ensures the most durable coating, with unmatched adhesion properties and temperature resistance.

In conjunction with second-stage stainless steel rotors, UltraCoat delivers greater reliability in performance and air quality, rotor longevity, increased uptime, and reduced energy costs.

Advanced Compressor Control

Xe-Series controllers deliver increased control and functionality through an intuitive user interface and provide remote access with any common, current web browser. Variable speed models can sequence up to four compressors without additional hardware to increase efficiency and stabilise pressure.

Saving energy and protecting the environment

Over a period of five years, energy accounts for typically 85% of the total costs of a compressor. However, this high share also means that there is considerable potential for savings.

Why heat Recovery

Turn this waste heat to your advantage: recovering it will allow you to save huge amounts of energy, cut CO_2 emissions and improve operating costs.

It is a thermodynamic fact that around 94% of the energy needed to run a compressor gets converted to heat. Without heat recovery, this heat is directly blown into the atmosphere.

The heat generated during compression is paid for as part of the process, then it creates additional costs as this heat needs to be removed by cooling fans or by the use of water. At the same time, most companies consume a lot of energy and money to generate hot process water, space heating or preheat water for steam generation.

Given that compressed air systems account for 10% of all electricity used in industry, and energy is the largest single lifecycle cost of a compressor, it makes sense to recover this heat, save energy and reduce costs.

Benefits:

- **Significant savings in energy costs**
- **Extremely short payback time – typically less than a year**
- **Lower CO_2 emissions**
- **Turnkey solutions**
- **Easy installation and operation**
- **Small footprint**
- **No impact on the compressed air supply**
- **High reliability**

E-max turnkey heat recovery system for oil-free compressors

Scope of supply

Heat recovery heat exchanger to heat up your usable water

- Backup heat exchanger, operated in times when the heat demand is not sufficient to cool down the cooling water to the requested max. inlet temperature for the compressor
- Speed regulated pump to control the cooling water temperature before the heat recovery heat exchanger
- Intuitive coloured touch screen controller providing a quick and comprehensive performance overview, including visualisation of current and cumulated recovered heat

U-Cooler – a perfect extension for E-max

Highly efficient V-shaped cooling module for trouble-free waste heat removal from the compressor cooling cycle. A complete package of cooling module, pump station and control integrated into the compressor. Easy to install, easy to operate and virtually maintenance-free.

Predictive Maintenance

iConn Compressed Air Service 4.0

- ✓ **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**
- ✓ **No monthly fees**

...that is why you cannot ignore iConn!

iConn inside

PureCARE
PUREAIR SERVICING & MAINTENANCE PROGRAMME

PureCare

Specifically developed to support our oil-free product range, the Gardner Denver PureCARE service programmes go beyond traditional service schemes to ensure uninterrupted quality compressed air supply coupled with optimum compressor performance, giving you peace of mind for your production and budgeting processes.

PureCARE Service plans are delivered by factory-trained Gardner Denver technicians specifically to keep your oil-free compressed air system at peak performance, supported by the unrivalled quality and performance of Gardner Denver genuine parts. Each PureCare Service plan is tailored to your specific application and site circumstances, ensuring system reliability and productivity at optimum cost.

Air treatment & Condensate Management

How to add further value

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.

Compressed air treatment

A modern production system and process demands increasing levels of air quality, and compressed air operators need to ensure that the downstream equipment also delivers on it 100%.

Air treatment products manufactured by Gardner Denver, utilise the latest technology and provide an energy efficient solution at the lowest life cycle costs

Air Treatment Products

- ✓ **Water Cyclone Separators**
- ✓ **Compressed Air Filters**
- ✓ **Condensate Drain System**
- ✓ **Compressed Air Refrigerant Dryer**
- ✓ **Heatless Desiccant Dryers**
- ✓ **Heat Regenerative Desiccant Dryers**
- ✓ **Heat-of-Compression Dryers (HOC)**
- ✓ **Subfreeze Dryers**
- ✓ **Nitrogen Generator**

On-site nitrogen generation made easy

Using high quality compressed air to supply the nitrogen generators, ensures long and trouble-free service and guarantees optimum performance. Gardner Denver compressors and pre-treatment packages including dryers and filters guarantee the highest quality air supply for nitrogen generation. Nitrogen gas can even be produced from spare capacity in your existing compressed air system with a minimum of additional floor space.

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

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 Plus” management system is essential.

GD Connect 12 Plus

Gardner Denver Oil-free Product Range Technical Data

Gardner Denver Ultima™

Gardner Denver model	Cooling Method	Working Pressure	Drive Motor	FAD at 8 bar g[1] min - max	FAD at 10 bar g[1] min - max	Noise Level[2] at 100% Load	Dimensions L x W x H	Weight
		bar g	kW	m^3/min	m^3/min	dB(A)	mm	kg
U75	Air	4 - 10	75	6.7 - 11.9	7.7 - 9.9	64	3244 x 1394 x 1992	3360
	Water					63	2044 x 1394 x 1992	2750
U90	Air	4 - 10	90	6.7 - 14.9	7.7 - 12.7	65	3244 x 1394 x 1992	3360
	Water					64	2044 x 1394 x 1992	2750
U110	Air	4 - 10	110	6.7 - 18.5	7.7 - 16.3	65	3244 x 1394 x 1992	3360
	Water					64	2044 x 1394 x 1992	2750
U132	Air	4 - 10	132	6.7 - 22.2	7.7 - 19.9	67	3244 x 1394 x 1992	3360
	Water					66	2044 x 1394 x 1992	2750
U160	Air	4 - 10	160	6.7 - 23.9	7.7 - 23.6	70	3244 x 1394 x 1992	3360
	Water					69	2044 x 1394 x 1992	2750

Gardner Denver EnviroAire (VS) 15 - 37 Fixed Speed

Gardner Denver model	Cooling Method	Working Pressure		Motor Rating	Free Air Delivered (m^3/min)[1]		Noise level[2]	Dimensions L x W x H	Weight
		bar g	bar g	kW	8 bar g	8 bar g	dB(A)	mm	kg
EnviroAire 15	Air	8	10	15	2.30	1.80	68	1345 x 880 x 1612	672
	Water						65		624
EnviroAire 22	Air	8	10	22	3.50	2.89	68	1345 x 880 x 1612	691
	Water						65		643
EnviroAire 37	Air	8	10	37	5.86	5.14	71	1722 x 920 x 1659	960
	Water						61		860

Variable Speed

Gardner Denver model	Cooling Method	Working Pressure		Motor Rating	Free Air Delivered (m^3/min) at 7 bar [1]		Noise level[2]	Dimensions L x W x H	Weight
		min.	max.	kW	min.	max.	dB(A)	mm	kg
EnviroAire VS 15	Air	5	10	15	0.34	2.25	67	1345 x 880 x 1612	687
	Water						64		639
EnviroAire VS 22	Air	5	10	22	0.69	3.37	67	1345 x 880 x 1612	687
	Water						64		658

EnviroAire T 75 - 160 kW

Fixed Speed - Air and Water Cooled

Gardner Denver model	Cooling Method	Motor Rating	Nominal Pressure	Free Air Delivered (m^3/min)[1]		Dimensions L x W x H	Noise level dB(A)[2]		Weight
		kW	bar g	8 bar g	10 bar g	mm	8 bar g	10 bar g	kg
EnviroAire T75	Air	75	8 - 10	12.91	10.63	2597 x 1744 x 2001	75	74	3023
	Water						72	70	3223
EnviroAire T90	Air	90	8 - 10	15.65	13.79	2597 x 1744 x 2001	76	75	3223
	Water						73	72	3423
EnviroAire T110	Air	110	8 - 10	19.51	17.39	2597 x 1744 x 2001	77	77	3265
	Water						75	74	3465
EnviroAire T132	Air	132	8 - 10	22.39	20.5	2597 x 1744 x 2001	78	78	3432
	Water						77	76	3632
EnviroAire T160	Air	160	10	–	22.33	2597 x 1744 x 2001	–	78	3644
	Water							77	3844

EnviroAire T/TVS 200 - 355 kW

Fixed Speed - Air and Water Cooled

Gardner Denver model	Cooling Method	Motor Rating	Nominal Pressure			Free Air Delivered (m^3/min)[1]			Dimensions L x W x H	Noise level dB(A)[2]	Weight
		kW	7 bar g	8 bar g	10 bar g	7 bar g	8 bar g	10 bar g	mm	8 bar g	kg
EnviroAire T200	Air	200	●	●	●	37.6	35.0	31.8	3457 x 2152 x 2446	80	6426
	Water					37.7	35.1	31.8		76	5734
EnviroAire T200[e]	Water	200	●	●	●	38.1	35.5	32.3	3457 x 2152 x 2446	76	5734
EnviroAire T250	Air	250	●	●	●	45.2	43.6	40.6	3457 x 2152 x 2446	80	6446
	Water									76	5754
EnviroAire T250[e]	Water	250	●	●	●	45.6	44.1	41.1	3457 x 2152 x 2446	76	5754
EnviroAire T315	Air	315	●	●	●	52.9	51.3	49.1	3457 x 2152 x 2446	80	6446
	Water					52.9	51.4	49.1		76	5754
EnviroAire T315[e]	Water	315	●	●	●	53.3	51.8	49.5	3457 x 2152 x 2446	76	5754
EnviroAire T355	Water	355	–	–	●	–	–	52.8	3457 x 2152 x 2446	76	5754
EnviroAire T355[e]	Water	355	–	–	●	–	–	53.3	3457 x 2152 x 2446	76	5754

Variable Speed - Air and Water Cooled

Gardner Denver model	Cooling Method	Motor Rating	Nominal Pressure	Free Air Delivered at 7 bar g [1] (m^3/min)		Dimensions L x W x H	Noise level dB(A)[2]	Weight
		kW	bar g	min	max	mm	8 bar g	kg
EnviroAire TVS 200	Air	200	10	11.5	34.7	3457 x 2152 x 2446	80	6556
	Water		10				76	5864
EnviroAire TVS 200[e]	Water	200	10	12.1	35.5	3457 x 2152 x 2446	76	5864
EnviroAire TVS 250	Air	250	10	12.4	42.1	3457 x 2152 x 2446	80	6556
	Water		10				76	5864
EnviroAire TVS 250[e]	Water	250	10	12.9	43.2	3457 x 2152 x 2446	76	5864
EnviroAire TVS 315	Air	315	10	14.7	50.2	3457 x 2152 x 2446	80	6586
	Water		10				76	5894
EnviroAire TVS 315[e]	Water	315	10	15.2	51.2	3457 x 2152 x 2446	76	5894
EnviroAire TVS 355	Water	355	10	14.7	50.8	3457 x 2152 x 2446	76	5894
EnviroAire TVS 355[e]	Water	355	10	15.2	51.2	3457 x 2152 x 2446	76	5894

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.

Specifications subject to change without notice.

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