



## Green compressed air for a sustainable future

The importance of your compressed air  
systems for greener production

# Climate protection concerns us all!

These are the facts you should know

## 1 The Earth and our most important pact: Green Deal

Since the end of 2019, with the “Green Deal”, the European Union wants to make sustainability and climate protection central elements at all political levels in Europe. The goal is for the EU to achieve greenhouse gas neutrality by 2050. The most important milestone is to reduce greenhouse gas emissions by 55 % by 2030 compared to 1990.

## 2 Europe: We can only achieve this together

The year 2030 is not too far away. Reason enough for the EU to put more pressure on climate protection. Among other things, limits for CO<sub>2</sub> reduction have been defined. In this way, the member states are to be motivated to actively reduce their emissions instead of compensating for them through reforestation.

## 3 Paris: 196 states agree

Since the conclusion of the Paris Climate Agreement, one figure has been at the centre of all debates and efforts: 2 °C. It is not only imperative that this global temperature increase be avoided, but that it even be reduced to 1.5 °C. For all signatories, this means saving, saving, saving CO<sub>2</sub> emissions. How this can be achieved has been submitted by the participating countries to the UN in the form of an action plan for their country.



We are joining in!

## Are you with us?

**With the right compressed air solution,  
you actively protect the climate**

Around 10 % and in some cases up to 40 % <sup>1)</sup>; Compressed air generation and treatment alone can make up this considerable share of total energy costs if you run an industrial company based in Europe! In numbers: You can also consume approx. 10 TWh of electricity and emit a considerable 4.3 million tonnes of CO<sub>2</sub>.

Also did you know that energy costs account for around 80 % of the total cost of ownership for compressor technologies? Therefore: New investments in environmentally friendly technology when upgrading existing compressed air equipment can reduce your total cost of ownership and CO<sub>2</sub> emissions enormously.

<sup>1)</sup> [https://pwemag.co.uk/news/fullstory.php/aid/4276/The\\_hidden\\_value\\_of\\_compressed\\_air\\_heat\\_recovery.html](https://pwemag.co.uk/news/fullstory.php/aid/4276/The_hidden_value_of_compressed_air_heat_recovery.html)

Oil-free or oil-lubricated compressor technology?

# It depends on the application

## Don't be blinded (only) by efficiency

The most important question must not be: How efficient is your compressed air system? What is really relevant is: How much compressed air do you really need? Efficient

compressors are always environmentally friendly. But you can only protect your budget and the environment if you choose the right model for your compressed air generation.

It has to be clarified how much air is used and when it is needed and what air quality is required. Once this is clear, you are free to choose from first-class technologies – either oil-lubricated or oil-free.



For more information – click here:



ULTIMA:

# The new definition of oil-free efficiency

The oil-free **ULTIMA** compressor has two permanent magnet motors that replace the classic gearbox. These speed-controlled motors achieve speeds of up to 22,000 rpm and higher efficiencies than IE4 motors. The compressor stages can therefore be operated at different speeds depending on demand.

**ULTIMA** operates oil-free with the cooling of the components achieved via a closed water circuit.

## What's the point?

\* Comparative calculations with a compressor without speed control showed: The installation of an air-cooled ULTIMA compressor corresponds to an indirect reduction in CO<sub>2</sub> emissions of 52 tonnes.

Comparable to the amount of CO<sub>2</sub> absorbed by 5,207 trees!

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| ULTIMA U75 to U160  |  |
|---|--|
|  4 to 10 bar                     |  |
|  6.7 to 23.6 m <sup>3</sup> /min |  |
|  75 to 160 kW                    |  |

Two-stage, oil-free screw compressors; fixed or regulated speed

ULTIMA compressors:  
A CO<sub>2</sub> balance that really pays off.

**1 ULTIMA =  
5,207 trees\***



**In these industries, our comprehensive portfolio of oil-free compressed air solutions helps you to operate oil-free and be sustainable:**

Whether electronic components, food and beverage or medicine: there are numerous frameworks in place that define clear and strict guidelines depending on the production requirements, such as:

- Good Manufacturing Practice (GMP) Protocol
- European Pharmacopoeia
- Various guidelines of the U.S. Food and Drug Administration (FDA)
- International Council for Harmonisation
- Technical Requirements for Pharmaceuticals for Human Use (ICH3)
- European Food Hygiene Directive 852/2004

**These scroll, screw and piston compressors complete CompAir's portfolio of oil-free and oil less compressed air technologies.**



**S04 to S15D Scroll**

- 8 to 10 bar
- 0.35 to 1.77 m<sup>3</sup>/min
- 4 to 15 kW

100 % oil-free scroll compressors, simplex or duplex, for low air demand



**D15H (RS) to D110H (RS)**

- 5 to 10 bar
- 0.32 to 18.55 m<sup>3</sup>/min
- 15 to 110 kW

Single-stage, 100 % oil-free, water-injected screw compressors; fixed or regulated speed



**D37 (RS) to D315 (RS)**

- 4 to 10 bar
- 3.2 to 51.1 m<sup>3</sup>/min
- 37 to 315 kW

Two-stage, oil-free screw compressors; fixed or regulated speed



**R80 to R180**

- 4 to 12 bar
- 8.0 to 18.1 m<sup>3</sup>/min
- 45 to 110 kW

Two-stage double-acting, oil-free piston compressors

# Sustainability, even if it's not clean?

Sometimes industrial production environments can be dirty and dusty, especially in industries such as civil engineering, waste management, mining and open-cast mining or recycling.

Here, oil-lubricated compressors not only work reliably, but also increase profitability.



# Sustainability is also important in these industries – with the right compressed air solution

The best example: **FourCore**. With this technology, you as an environmentally conscious company can now use an oil-lubricated compressor that has been optimised in terms of sustainability over its entire life cycle.

But that's not all: **FourCore** has the same footprint requirement as a single stage unit. In addition, compared to conventional two-stage 200 kW compressors, the technology requires up to 22 % less material. Consumables are reduced by approx. 19 %.



For more information – click here:



## L160<sup>e</sup> (RS) to L290<sup>e</sup> (RS)

5 to 10 bar

9.6 to 48 m<sup>3</sup>/min

160 to 250 kW

two-stage, oil-lubricated screw compressors;  
fixed or regulated speed

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## The following ranges complete CompAir's product portfolio of oil lubricated screw compressor:



### L02 to L22 (RS)

10 to 13 bar

0.18 to 3.65 m<sup>3</sup>/min

2 to 22 kW

single-stage, oil-lubricated screw compressors;  
fixed or regulated speed;  
also as **AirStation**  
incl. container and dryer



### L23 (RS) to L29 (RS)

7.5 to 13 bar

0.92 to 5.52 m<sup>3</sup>/min

22 to 30 kW

single-stage, oil-lubricated screw compressors;  
fixed or regulated speed



### L30 (RS) to L132 (RS)

5 to 13 bar

1.33 to 24.5 m<sup>3</sup>/min

30 to 132 kW

single-stage, oil-lubricated screw compressors;  
fixed or regulated speed



### L160 (RS) to L290 (RS)

5 to 13 bar

6 to 47 m<sup>3</sup>/min

160 to 250 kW

single-stage, oil-lubricated screw compressors;  
fixed or regulated speed

A man and a young girl are crouching by a stream, examining a rock in the water. The man is on the left, wearing a light blue t-shirt and dark shorts. The girl is on the right, wearing a pink tank top and denim shorts. They are both looking down at a rock the man is holding. The stream is surrounded by lush green trees and rocks.

Compressed air treatment

# Clean Air – Clean Environment!

CompAir treatment stands for clean, high quality compressed air in accordance with ISO 8573.1:2010 – certified by a third party to ISO 12500-1 and also produced in an energy efficient manner with low emissions.

**Only lets pass what  
is allowed to pass**

Compressed air treatment  
from CompAir

# Filtration, drying and condensate management

Modern production systems and processes require compressed air of ever increasing purity. CompAir's compressed air treatment systems use the latest technologies to provide energy-efficient solutions with minimal lifecycle costs.

The integration of a heat recovery solution and higher-level controls helps to maximise efficiency. The right filtration and drying systems ensure the permanent protection of production equipment.

CompAir nitrogen generators offer numerous advantages over supply from external suppliers, such as greater flexibility, lower costs and less down time.



CompAir designs and manufactures carefully matched products and components with its in-house manufacturing of the entire treatment portfolio ensuring total product synergy. This also ensures maximum efficiency with minimum energy consumption.



High-quality consumables, such as filter elements with long service life, ensure low component wear and consistently low differential pressure.

For more information – click here:



## CompAir's comprehensive compressed air treatment range offers components for almost every application and requirement profile:



### Filtration

- Cyclone separator
- Threaded filter
- Flanged filter

Removes free water, dirt particles and aerosols



### Refrigeration dryers

- Standard series
- Premium series
- Energy-saving series

Dry compressed air to ISO quality classes 4 and 5



### Adsorption dryers

- Cold regenerating modular
- Cold regenerating
- Warm regenerating

High quality ISO Class 1, 2 and 3 for water and oil-free compressed air used in the pharmaceutical, food and beverage, electronics and power generation industries.



### Condensate management

- Level-controlled trap
- Electronic traps
- Oil-water separators

Electrical, time-controlled and mechanical float traps used in all compressed air systems to discharge liquid condensate, as well as oil-water separators for efficient disposal of compressed air condensates.

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Service agreements, proactive maintenance, genuine spare parts

# Increased safety for industry and the environment

An intelligent system maintenance strategy avoids unscheduled production interruptions as well as unnecessary wear and increased use of materials in maintenance. Furthermore, optimal system efficiency lowers energy consumption and reduces not only environmental impact but also operating costs.



## Comparison of energy costs

**C** Compressor maintained with genuine CompAir spare, 110 kW, oil lubricated

**X** Compressor maintained with spare parts from other manufacturers, 110 kW, oil lubricated



A compressed air system is more than the sum of its parts:

## Assure service agreements

A sound equipment monitoring strategy with iConn and proactive maintenance is essential to avoid unplanned, unscheduled production interruptions. Our Assure service agreements ensure a

consistently efficient compressed air supply by always keeping filters, consumables and lubricants in perfect condition and controls tuned for optimal performance.



For more information – click here:



Think ahead:

## IoT Connectivity & Proactive Maintenance

IoT connectivity and predictive maintenance are now an integral part of industry maintenance. Use your compressor's data to improve its performance and reduce the workload of your maintenance personnel.

Use the latest tools to record your energy consumption and improve the efficiency of your processes.

The **iConn** monitoring tool shows the detailed parameters of your compressed air systems – at any time and any place. Monitoring has never been easier.



For more information – click here:



Don't save at the wrong place:

## Genuine spare parts

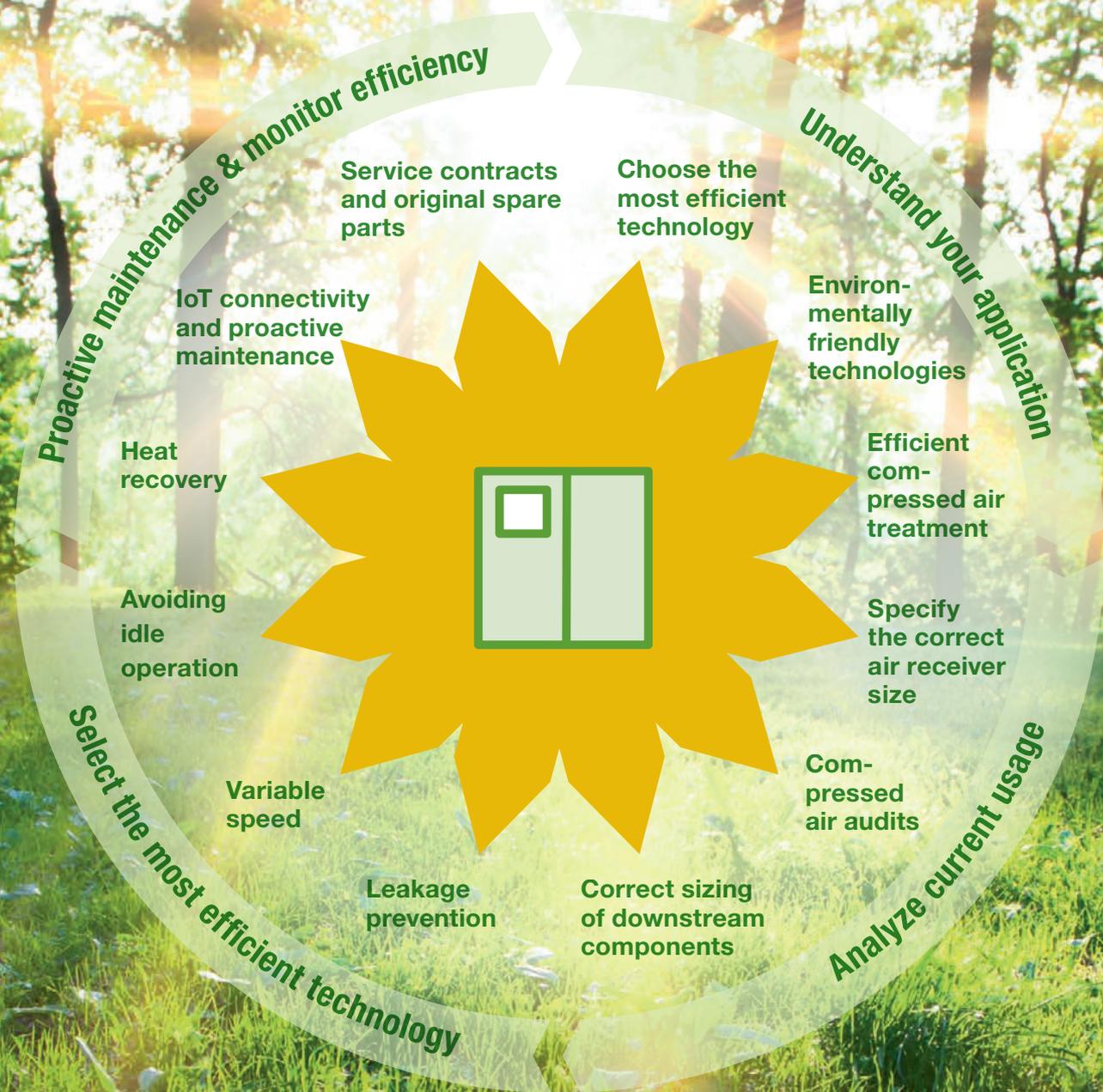
Making a saving by buying cheaper service parts is a cost reduction in the wrong place. A cheaper up front price can often become more expensive later. Buying original spare parts at a fair price always

pays off, because the cost risk for frequent repairs or production disruptions is minimised and the efficiency of the system is permanently maintained. Those who use original spare parts ensure an optimal price/performance ratio.



For more information – click here:





Knowing how saves energy

**Use your compressed air technology as a sustainable energy source**

Choose smart. And efficiently:  
**The right technology for your application**

For the right choice of compressor, you should not only know your compressed air requirements, but also parameters such as the operating pressure, the volume flow and the required compressed air quality according to ISO 8573-1:2010.



Whoever reduces, acts in an environmentally friendly way:

**Environmentally friendly technologies**

Air compressors of the 100 % oil-free DH series have a highly efficient water purification system to generate particularly high quality injection water by means of reverse osmosis filtration. This makes lubrication, sealing and cooling easier. Another plus: the use of a permeate pump reduces water consumption to a minimum.



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The complete package:  
**Efficient compressed air preparation**

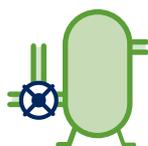
Because downstream equipment makes an important contribution to the quality and efficiency of the overall system, reducing environmental impact, there should be no compromise in the selection of these components. CompAir's new compressed air treatment solutions are designed and manufactured in-house. You can be confident that their quality is controlled to the highest standards



Economy begins with the correct choice:

**Specify the correct air receiver size**

The air receiver size has a direct impact on reliability and energy efficiency. Therefore, make sure the air reservoirs are correctly sized for the application. As a rule, the better the control system of the compressor is matched to demand (speed-controlled systems), the smaller the compressed air receiver can be. Load/idle running-controlled systems require larger container volumes to reduce the switching operations of the compressor drives. This reduces wear and improves energy efficiency



Take a closer look more often:  
**Compressed air audits**

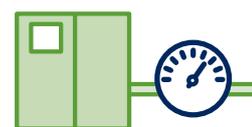
When buying a new compressor or deciding to upgrade an existing system, an energy audit should be carried out. There is no easier way to find out about inefficiency!



Put real pressure on it:

**Correct sizing of downstream components**

When selecting filters, not only the validated separation efficiency (ISO12500-1) is important. The lowest possible flow resistance should also be achieved. It directly affects the energy requirements of your compressor. Also important: the line pressure. The higher the operating pressure, the bigger the impact on your electricity bill. Tip: It makes sense to optimise all components in the network to the lowest differential pressure. In the case of filter elements, the differential pressure increases with the service life; early replacement helps.



Don't let energy leak away!

**Leakage prevention**

Leaks can be an extremely large waste of energy – for you and for the environment. It is best to regularly check the system for open shut-off valves. It is also worth looking at manual condensate valves and searching for faulty couplings, pipes or flanges helps to avoid leaks and thus indirectly reduce CO<sub>2</sub> emissions.



Stay flexible:

## Variable speed

If sustainability and environmental awareness are high on your agenda, variable speed drive compressors are the most efficient solution. Here you have a drive system that continuously adjusts the motor speed to the compressed air demand. In this way, your compressed air requirements can be individually tailored to.



So costs do not go to waste:

## Avoiding idle operation

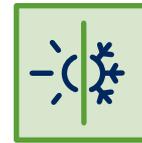
If there is one thing that can really cost money and waste energy making a compressor environmentally unfriendly, it is off load running or idling, when a compressor runs but does not produce air. Check whether idling and the associated regular starting and stopping is really necessary. Better control or variable speed technology could help you reduce costs.



Don't waste anything:

## Heat recovery

Did you know that about 70 % to 94 % of the energy consumed by air compressors can be made usable with the help of heat recovery systems? This can help to reduce your running costs with less or in some cases no additional energy needing to be purchased. Helping to further reduce your company's CO<sub>2</sub> emissions and improve your CO<sub>2</sub> footprint.



## A compressed air system is only as good as the sum of its original parts and services:

The biggest impact for you is the operating costs and power consumption. Assure service agreements ensure a long service life with optimal operation through regular checks of original parts such as filters and fluids and control parameters.



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# It's your turn now!

Make a forward thinking decision when it comes to your compressed air system. The climate, our environment, future generations and your budget will thank you.



Click here:

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