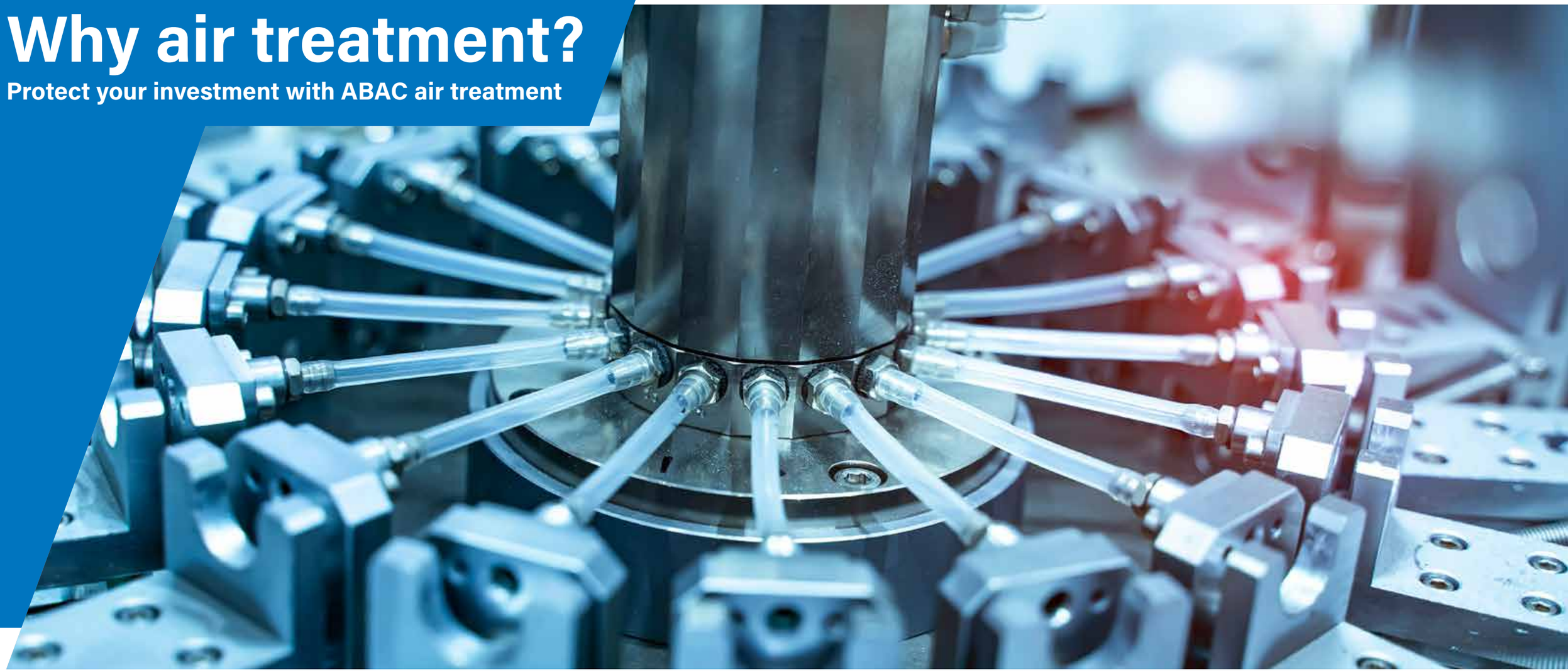
ABAC
AIR COMPRESSORS

Air treatment solutions

Why air treatment?

Protect your investment with ABAC air treatment



The importance of air quality

Air treatment solutions from ABAC will protect your compressed air investment.

Compressed air treatment is a critical process that provides the constant delivery of **CLEAN AND DRY** compressed air. This is essential for maintaining the efficiency and longevity of downstream equipment and ensures that the quality of air is always safe for the environment.

ABAC's air treatment dehumidifies and cleans compressed air with the use of filters, separators and a dryer. The temperature of the air is also regulated so that the dew point of the air is lowered to avoid condensation. All hazardous particles, including atomized oil, are removed from the system, as these can cause damage to compressed air tools and leaks in pipework if not filtered out. Finally, ABAC condensate drains and oil-water separators ensure that process waste is safely handled to protect your workplace and the environment.

Ultimately, compressed air that is clean and dry is **VALUABLE AIR**.

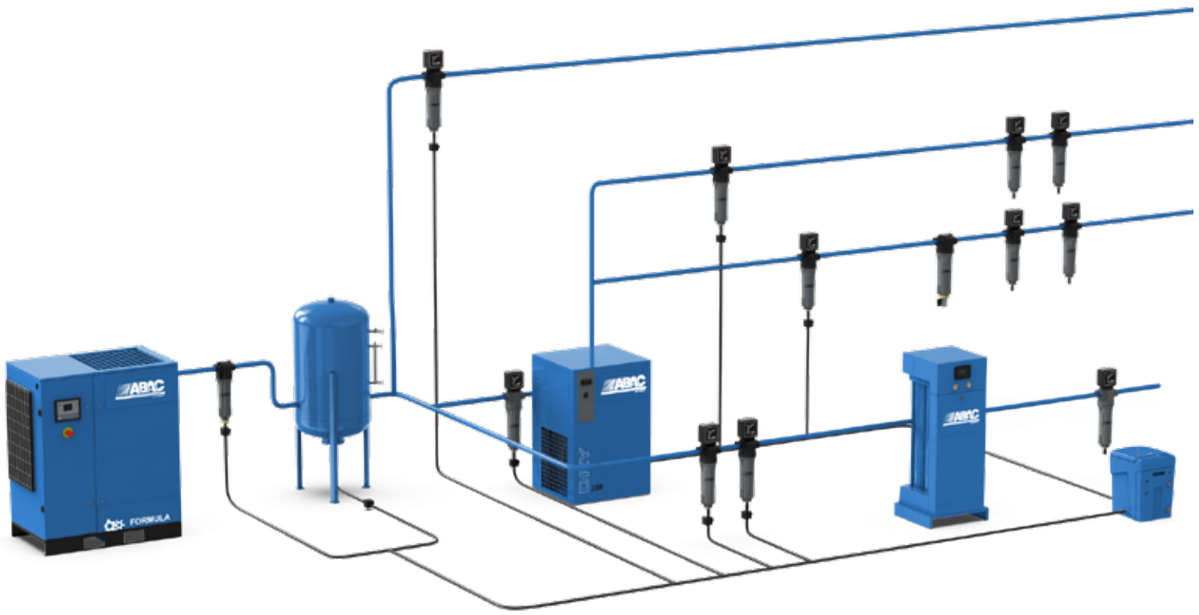
By integrating ABAC air treatment solutions into your compressed air system, not only will it run more efficiently and for longer, the total cost of ownership will be lower as a result of this preventative maintenance approach.

Contents

Filtration

Pure air means pure protection

Filters are a critical component of compressed air treatment. By removing water, oil, impurities and particulates, your system will run more efficiently and cost-effectively. Filtration also prolongs the life of the compressor, pipework and downstream air tools by minimising the risk of corrosion and leaks, whilst maintaining optimum performance. ABAC's range of high efficiency filters remove particulates down to 0.01 µm without any significant pressure drop, ensuring unmatched air quality, whatever your application.



Filtration Grades

	P	G	S	C	D	V
Particle removal (micron)	5	-	1	-	0.01	-
Outlet oil aerosol concentration (mg/m³)	1	0.3	-	0.01	-	0.003
Total mass efficiency (%)	>90	>99.25	-	>99.9	-	-
Quality class of air at outlet (particles / oil)	4 / 3	- / 3	3 / -	- / 2	1 / -	- / 1
Initial pressure drop over filter in dry applications (bar)	0.05	0.055	0.055	0.085	0.085	0.115
Initial pressure drop over filter in wet applications (bar)	0.08	0.125	-	0.125	-	-

CORRECTION FACTORS

For maximum flow rate multiply model flow rate by the correction factor corresponding to the minimum operating pressure

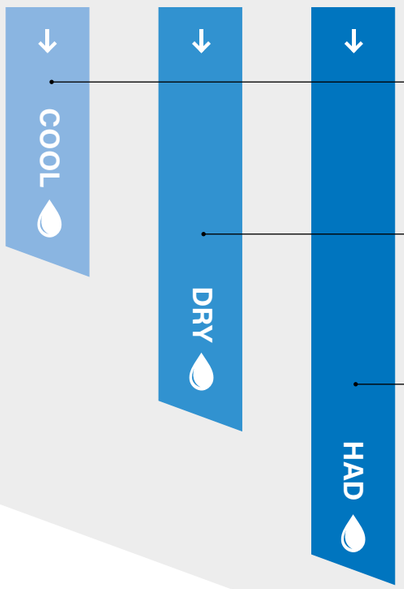
Operating pressure barg (psig)	4 (58)	5 (72)	6 (87)	7 (100)	8 (115)	10 (145)	12 (174)	14 (203)	16 (232)	20 (290)
Correction factor	0,76	0,84	0,92	1,00	1,07	1,19	1,31	1,41	1,51	1,6

Is your compressed air pure and clean? Get in touch for expert advice

Drying

Removing moisture removes risk

During the compression process, the compressor turns humidity in the intake air into condensate. ABAC's range of refrigerant and desiccant dryers are designed to remove water from any compressed air system and pipework, even at high flow rates, minimising the risks of corrosion and equipment breakdown. It is crucial that process air is consistent in all applications, all year round. By ensuring an ABAC dryer is correctly matched to your system, you can have peace of mind with low servicing costs, without compromising air quality.



Performance by Dewpoint (°C)

COOL
For most applications, the COOL range is perfectly-suited. Offering a PDP of 5°C thanks to compact internal technologies, it effortlessly balances low cost with high performance.

DRY
For some more demanding applications, a lower PDP of 3°C is required. This is suited for more complicated applications which have a high demand for treated air.

HAD
For the ultimate in air treatment, the HAD offers the highest-performance solution: from -40°C to -70°C constant PDP options for the most rugged inbound airflows, the HAD effortlessly treats air in the harshest environments, as the most reliable and efficient desiccant dryer ever produced by ABAC.

Refrigerant vs Desiccant – choosing the right dryer

Refrigerant dryers are typically the most appropriate dryer for industrial applications and are cost-effective to operate and maintain. The compressed air is cooled to a dew point of around 3'C so that any condensing water can be removed. The dry air is then heated back to room temperature to prevent condensation forming inside the pipework.

Desiccant dryers, sometimes referred to as adsorption dryers, use a hygroscopic granular material, such as silica gel, to remove moisture from the air. This chemical process produces air that is much drier than from a refrigerant dryer. Typically desiccant dryers produce air with a dew point of -20°C to -40°C, which are therefore more expensive to buy and operate. Desiccant dryers are usually required for applications such as food production, pharmaceutical, laboratory and specialist paint spraying environments.

Dependable
Superior-quality components provide long-lasting performance, even in the harshest environmental conditions. This guarantees your satisfaction with the ABAC range of refrigerant and desiccant drying technologies.

Efficient
Using zero-loss drain technology minimises energy consumption, reducing cost of ownership and environmental impact.

Innovative
Hot-gas bypass and active mesh vapour capture are among the market-leading methods employed in ABAC dryers to deliver superior performance combined with unparallelled reliability.

Pressure Dewpoint
+7 degC ← → -70 degC

Flow range
120 l/min ← → 18 000 l/min

Inlet temperature
+5 degC ← → +50 degC

Pressure range
4 ← → 16

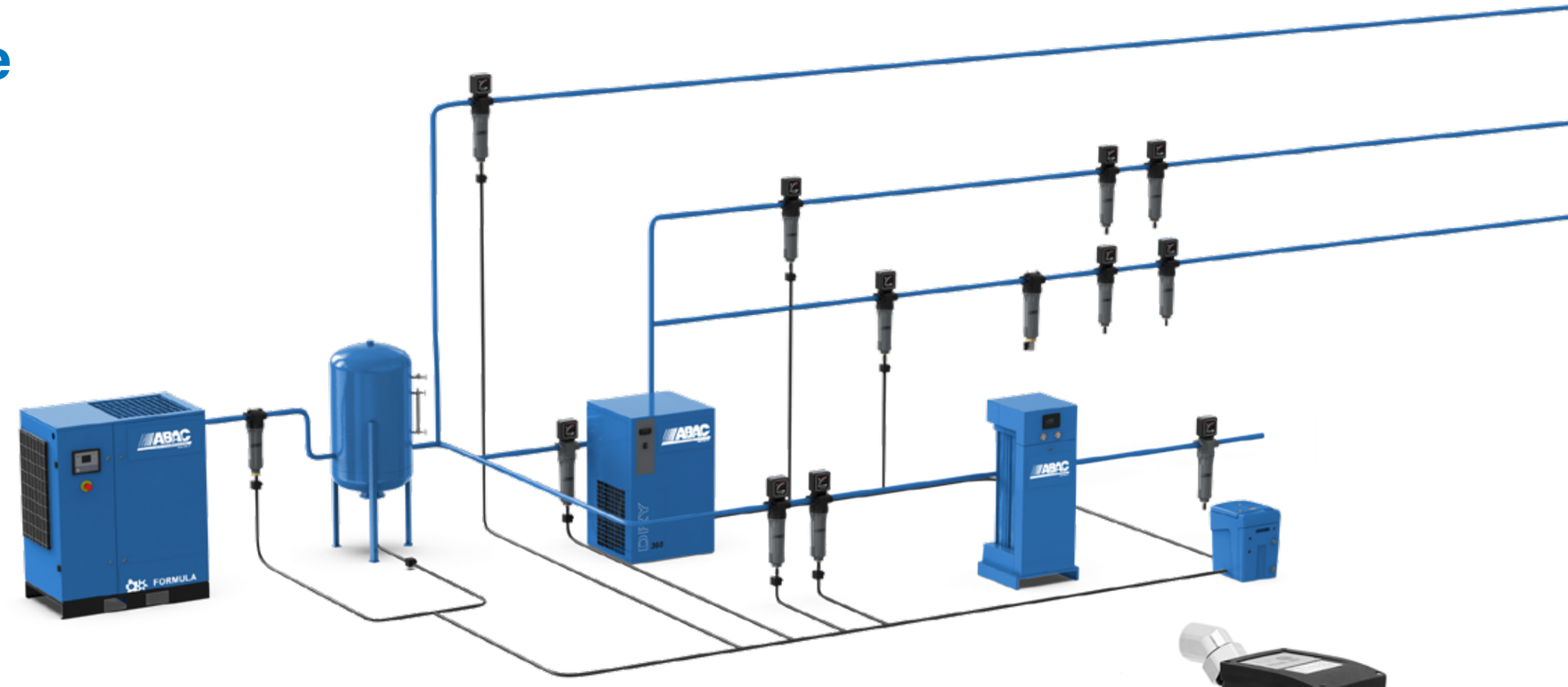
*not all units can reach the stated values. For further information on your specific requirements, please contact your local ABAC sales advisor.

Does your compressed air contain water? Get in touch for expert advice

Storage and condensate management

Be smart, be clean.

For the optimum compressed air system, that enables premium quality air to be available on demand, the installation of an ABAC air receiver and separator provides an industry leading storage and condensate management solution.



Correctly sizing the air receiver for your application will provide a number of benefits, including:

- **Less waste during off-duty periods**
- **Overall smoother operation**
- **Avoidance of mechanical stress on components**

Types of air receiver

Painted vessels

Painted vessels are used in the majority of environments where the air receiver is not submitted to extreme weather conditions and when 100% clean air is not an absolute prerequisite. The exterior paint ensures basic protection against corrosion.

Galvanized vessels

Galvanization protects steel against corrosion. In this process, the vessel is completely submerged in a zinc liquid bath, which coats the entire surface of the tank, ensuring full protection of the steel.

Vitrified vessels (Vitroflex®)

These vessels are treated with vitreous enamel, making them both water and steam resistant. Once applied, the vessel is baked at 850°C, until the enamel no longer absorbs water and fully protects the metal surface against corrosion.

For best performance, the calculation should be *compressor power in HP x 30*. For example, a 10HP compressor would require an air receiver with a capacity of 300 litres.
ABAC oil/water separators collect the separated residual oil in a suitable container, allowing the water which has been cleared of impurities to be drained. Special oleophilic and carbon filters make this an environmentally sound and economical solution to the disposal of condensate.

Key features

- Storage capacity to handle high air consumption.
- Stabilize pressure peaks and provide a stable air flow for pneumatic tools.
- Separation and removal of condensate.
- Avoidance of unstable pressure peaks.
- Prevents over-cycling of the compressor.

Is your compressed air pure and clean? **Get in touch for expert advice**

Special applications

Compressed air treatment for every environment

Paint spraying

Laboratory

Does your compressed air contain water? Get in touch for expert advice

Food production

Pharmaceutical

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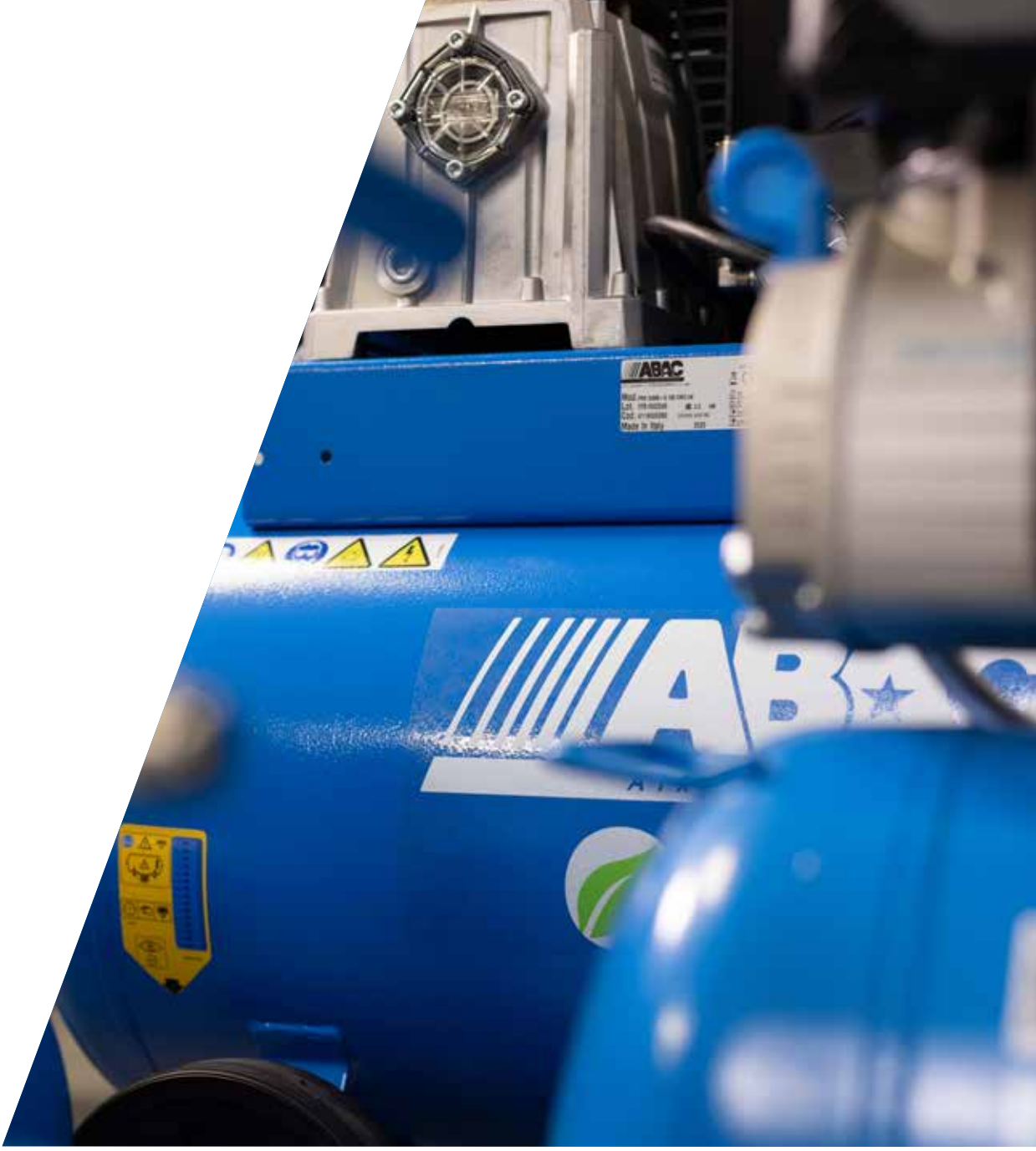

For all your air treatment needs get in touch for expert advice

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