

ACHIEVE YOUR NET ZERO
CARBON EMISSIONS WITH

expel[®]





With the UK becoming the first major economy to pass net zero greenhouse gas emissions by law by 2050, it is imperative that companies take steps forward to cut down on their reliance on fossil fuels and impact on the environment. Original AVG have developed a solution that we believe can help those industries using compressed air/gases **reduce their greenhouse gas emissions, reduce wastage and make better use of resources.**

Compressed air is an expensive but essential utility for many industries across the world. It is used to power anything from ancillary equipment - such as solenoid valves, butterfly valves, actuators, cylinders - to industry specific compressed air application, like braking and suspension systems on trains/locomotives, or robotic arms in the food and beverage industry for instance. For many years, issues with liquid condensate and emulsion fluids contaminating compressed air lines and equipment have simply been tolerated as unavoidable and inevitable. These contaminating liquids have been the cause of expensive equipment failure, production downtime, rejected warranty claims on equipment and a lot of wasted resources, equipment, labour, time and money for companies.

Original AVG have designed and manufactured a unique, patent protected compressed air filter, designed to remove all (99.9999%) liquid water, emulsion fluids (oil & water mix) and solid particulates down to 1 micron from a compressed air line and the internals never need replacing.



What other solutions are currently on the market and why is Expel a more environmentally friendly alternative?

Why Expel and not just a traditional filter?

Traditional filters are made from perishable internal elements that over time become saturated with air contaminants making them ineffective and in need of replacing. Because the performance of a traditional filter decreases over time, particulates and liquids pass through to equipment causing rusting, pitting, wear, damage and eventual equipment failure. This amounts to a huge amount of wastage:

The filters themselves are made of brittle plastic, break easily and need replacing; the internal elements that need replacing create further wastage; and the unnecessary rapid equipment turnover from the filters failing to remove all liquids amounts to a huge volume of material for landfill. This generated waste increases a company's carbon emissions because the volume of wastage transported to landfill is greater and a demand for new products will also be inevitably increased.

Expel requires no replacement filter elements, nor does Expel's performance decrease over time. This means your equipment is protected from liquid and solid contaminants making sure your equipment lasts much longer, decreasing your wastage and your carbon footprint.





HOW EXPEL COULD BE AN ALTERNATIVE TO A REFRIGERANT DRYER

Compressed air leaves an air compressor at a high temperature carrying significant volumes of moisture in the form of water vapour. The most common type of refrigerant dryer uses a refrigerant circuit and a heat exchanger to cool compressed air to condense the moisture in the compressed air stream. A separator is then supposed to remove the condensate and the compressed air continues along the lines. This solution is, however, somewhat problematic.

In the majority of circumstances, Expel can replace the need for a refrigerant dryer. If this is the case for your site, Expel is a much more environmentally friendly alternative to a dryer and achieves a far superior result. This is how...

Due to the way most compressed air lines are set up in various industries it often means they are rather long and any water vapour present in the air, by the time it has reached the equipment it is powering, has had time to cool and condense to liquid water. We always recommend that Expel is installed immediately before the point of use so that it can remove water that will have condensed at that particular point.

Additionally, a refrigerant dryer does not remove oil and particles which also cause problems for valves and equipment. It is these liquids and particulates which are **ALL** removed by Expel right before the equipment the air is powering.

Expel is also a much more environmentally friendly solution than running a dryer **because it does not require any electricity or any consumables to operate**. In comparison, refrigerant dryers are constantly using electricity to run.

Disposing of refrigerant dryers when they need to be discarded raises yet another environmental concern because of the Global Warming Potential (GWP) the refrigerant gases have.

Furthermore, many of our customers (prior to installing Expel) were still having problems caused by liquids in compressed air lines who were running dryers. Since installing Expel however, these problems have been eliminated without the use of dryer.

** Please consult our sales team before using Expel in replacement of a refrigerant dryer.*

EXPTEL IS MORE EFFECTIVE THAN THE ALTERNATIVES

The Expel is the world’s first compressed air filter capable of removing such a high level of liquids and solid particulates that can be taken apart, cleaned and reassembled. Typically, you would require at least three conventional compressed air filters to achieve the same air quality as one Expel unit.

Expel can help companies achieve their net zero greenhouse gas emissions goal:

Feature of Expel	How this feature can help a company achieve their net zero greenhouse gas emission goal
Expel requires no replacement filter elements	<p>Ordinary filters generate a lot of unnecessary wastage with replacement internal elements, these traditional filters also require maintenance to sustain them. Some companies even outsource compressed air maintenance teams for this service which creates further unnecessary GHG emissions from engineers travelling to maintain these filters at your expense.</p> <p>Eradicate these wasteful products and take a crucial step forwards in achieving your zero emission green house gas goal by installing Expel!</p>
Expel may eradicate the need for a refrigerant dryer	<p>By installing Expel alone to achieve liquid and particulate free air, you will be reducing your reliance on fossil fuels because dryers are constantly draining electricity to run. Furthermore, when the dryer needs to be disposed of, by installing Expel you will be reducing the Global Warming Potential created by a dryer and reduce the volume of wastage going to a landfill site.</p>
Expel increases the life cycle of pneumatically powered tools and equipment	<p>This prevents equipment and machinery turnover as much as possible.</p>

EXPTEL IS MORE EFFECTIVE THAN THE ALTERNATIVES



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Feature of Expel	How this feature can help a company achieve their net zero greenhouse gas emission goal
Expel requires no electricity or ongoing energy consumption	In contrast to all other alternative solutions, Expel is much more energy efficient. This will ensure your company is making the most resourceful use of compressed air.
Extremely low pressure drop across unit (max. 0.1 bar)	This makes your use of compressed air much more resourceful because as ordinary filters become saturated and get clogged, they become much more energy draining. Why not make better use of your expensive compressed air utility and install Expel?
Environmental waste treatment disposal box available as an extra.	The AVG Oil Separator 2 separates the waste that has been removed by Expel so you can dispose of any oil safely.



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