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Are you getting the worst out of your compressed air system?

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Contamination removed by a Parker domnick hunter water separator and high-efficiency coalescing filters fitted before a desiccant air dryer

Reliability and punctuality of operation are key demands with passenger and freight rolling stock today, in an industry where safety and performance are paramount.

Compressed air provides power to some of the most sophisticated applications (braking systems, pantographs, pneumatic doors, suspension) that keeps the rolling stock operational and punctual but is generally contaminated with the most natural elements known to man, dirt and water. If you add the additional contamination induced by the power source, the lubricated compressor, oil and wear particles will mix with the dirt and water to produce a cocktail of contamination in the form of a gritty paste often referred to as 'mayonnaise', which has no lubricating properties at all!



Close up of the 'mayonnaise' removed from a compressed air supply, prior to entering a desiccant air dryer. The dryer's operating life was improved as it now removes water vapour

If this contamination is not removed from the compressed air system, the result should come as no surprise - breakdowns. Unplanned and unbudgeted maintenance will be required, affecting the single most important value each operator is striving to attain, a reliable service!

The compressed air system hidden within the depths of a rolling stock vehicle, in most cases is fitted with some form of air purification after the compressor. On closer examination, the air purification system generally comprises a single desiccant air dryer with a downstream coalescing filter known as an oil filter, but still contamination penetrates into the critical components (valves and cylinders), which rely upon clean, dry air for their safe and reliable operation.

Have you ever asked yourself why? The answer is simple. A desiccant air dryer, alternatively known as an adsorption dryer is also a critical component that requires clean, filtered air for its operation. By design, its function is to remove water vapour from a compressed air system and NOT the total contamination that is witnessed in so many applications worldwide.

By protecting the desiccant air dryer upstream with a water separator to remove bulk liquid water, and a coalescing filter to remove dirt and oil, the desiccant dryer is protected to carry out its only function, that of removing water vapour from the

system. By positively removing these contaminants, the compressed air system will be clean, dry and oil-free, to ensure continuous and uninterrupted operation of the applications that are dependent upon it.

Parker domnick hunter offers such protection, with a dedicated range of railway and transportation air purification and separation systems, designed specifically to combat the problems experienced with today's rolling stock. A filter package combining high efficiency water separation with high efficiency coalescing technology ensures that the compressed air can be filtered down to meet the requirements of both the NF Fl 1 100 standards for rolling stock and the ISO8573-1:2010 standards.



Oil removed from a downstream coalescing filter fitted after a desiccant air dryer (adsorption dryer)



Oil mist from a downstream filter, which has by-passed the dryer and oil filter and would otherwise pass into the braking system or other application; these require clean, dry air for reliable operation.



Mayonnaise removed from an air receiver tank downstream of a dryer and oil filter combination package

The patented design technology enables the air treatment to be installed both internally and externally, utilising the smallest space envelope available for installation whilst having the ability to withstand the rigours of shock and vibration in the most arduous and extremes of operating conditions and climates.

Awareness of the value of compressed air purification in rolling stock and the systems dependent on it is growing. More and more users are recognising the problems associated with poor filtration and the need for better compressed air quality in terms of the elimination of contamination and improved lifetime of all applications and systems that rely upon it.

Addressing the cause rather than the symptom has enabled many operators to provide a long-term solution to contamination problems, rather than applying short-term fixes in the hope that the symptoms will disappear. This has resulted in longevity of operation, with significantly lower maintenance and operating costs with the added benefits of minimal downtime and a reliable service.



Together, we can
get the best out of
your braking system
and other pneumatic
applications

Parker domnick hunter offers maximum protection from a dedicated range of railway and transportation air purification and separation systems. Utilising the smallest space envelope available for installation, the patented design technology enables the air treatment to be installed either horizontally or vertically, both internally and externally. Other noteworthy features such as suitability for all climatic conditions, preventing systems freezing and having the lowest weight and operating noise levels, makes this range the natural choice for new builds and companies involved in rolling stock refurbishment.

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