**NEWS ARTICLE**

Proudly SA designed and manufactured solution to clean compressed air effectively

**16 April 2024:** [ISO-Reliability Partners](http://www.iso-reliability.com) has taken another step in bringing to market highly effective solutions to combat contamination in all its forms. The locally designed and patented Air Wizard inline water trap is proudly manufactured in South Africa. It has been SABS tested for the separation of water, oily fluids, rust and solid particulates from pneumatic compressed air or gas lines.

“Anyone operating a compressor understands the ongoing problems associated with water and contaminants in compressed air lines,” comments ISO-Reliability Partners CEO **Craig Fitzgerald**. Air Wizard is a solution for compressed air treatment that efficiently removes water and solid particulate matter without any need for servicing, maintenance or consumable costs.

It is fitted with a unique patented condensate drain mechanism that allows for the collection and removal of condensate, oil, rust and any other foreign particle from the flow path, without unnecessary air loss during the automated purge and discharge cycle.

“Our homegrown solution to clean compressed air is highly efficient, effective and consumable free,” points out FitzGerald. The Air Wizard extracts about 97% of free water in the system which, in turn, reduces corrosion and protects tools, air motors, instruments and other equipment being driven by compressed air.

The product has been SABS pressure tested to over 12 Bar or 1200 kpA. The pneumatic water trap passed SABS efficiency tests with an average 96.85%. “This makes Air Wizard the most effective solution available to industry – and, the best of all, it incurs zero operational or maintenance costs,” highlights FitzGerald.

Water condensation is a by-product of compressing air. The quantity of water collected by an air compressor depends mainly on the ambient air quality, humidity levels, operating pressure and inlet condition.

In simple terms, air temperature, humidity, compressor size and operating pressure determine the amount of water that will collect in the air tank. This moisture affects the entire system, including piping and connections. Considering that hot, humid air has a higher moisture content than cold air, water vapour is created within the compressor.

To counteract this, numerous high maintenance accessories exist in the market, including condensation separators, aftercoolers, refrigerant dryers and adsorption dryers. These known accessories have varying degrees of efficiencies and associated continuous maintenance and high service costs.

As water is the predominant contaminant found in compressed air systems, the focus has always been on water removal. However, many other contaminants are found in air systems that are not removed by these accessories. These include micro-organisms, oil vapour, atmospheric particulates, dust, rust and pipe scale. “Air Wizard stands apart not only due to its affordability, but through the removal of all foreign particulate matter,” adds FitzGerald.

Water moisture is known to be highly problematic to pneumatic systems, instruments, air motors, actuators and valves and air powered tools. In addition, any components or machines connected to the pneumatic system are impacted, resulting in potential contamination or quality variances of the end product.

Adverse effects of pneumatic system contamination results in excessive maintenance and shorter equipment life, corrosion and rust within the piping system and equipment, damage to pneumatic controls and quality concerns. Freezing can result in cold weather conditions, damaging control lines.

“To avoid unnecessary and excessive maintenance costs and potential downtime, it is always recommended to be proactive,” stresses FitzGerald. Implementing the necessary steps to keep compressed air dry, clean and suitable for your application is highly recommended.

“ISO-Reliability has just made that process so much easier with its innovative Air Wizard automated pneumatic water trap,” says FitzGerald. The solution is a simple addition into existing lines to immediately reduce load on existing accessories, lowering maintenance costs and mean-time-between servicing.

Moisture circulating within an air system can have various undesirable implications, such as increased risk of corrosion, machinery lubricants being washed away and accelerating the rate at which metal parts rust. “The undesirable effects of retained moisture translate into a higher total cost of maintenance as compressor parts require replacement more often than usual,” explains FitzGerald.

Industrial manufacturing processes require particulate-free and moisture-free air to function properly. The presence of water in compressed air lines, combined with corrosion, can block circulating tubing and reduce process efficiency. Precision instruments are particularly affected by system contaminants, resulting in regular unnecessary replacement.

Various industrial processes incorporate pneumatic control systems to regulate critical production equipment. The presence of water within these air regulated systems significantly reduces productivity as malfunctioning controls lead to costly maintenance and downtime.

Condensation and particulate matter in a compressed air reservoir causes debris to accumulate within the air circulation system. This water coalesces with other solid impurities like dirt and oils and damages cylinder and valve systems.

These mixtures can narrow airflow tracts and dry out lubrication on machinery parts, slowing down production speeds. Further, compressed air contamination can damage rubber components of equipment valves, causing them to stiffen or even rupture.

Quality defects of finished products becomes a key concern in the food manufacturing industry in particular. The presence of condensation in a compressed air system has dire consequences. Pneumatic systems are used to manufacture, dry and seal packaging for perishable foods, making end-product quality an essential requirement.

If impurities from the compressed air enters packaged food items, there will be a significant alteration in the quality, potential bacterial contamination and reduced shelf life of the finished products.

ISO-Reliability Partners is a Level 2 accredited B-BBEE contributor that owns the iconic Filter Focus brand and provides lubrication products and services with a foundation in tribology and hydrocarbon ISO cleanliness.

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**About ISO-Reliability Partners**

ISO-Reliability Partners has consolidated knowledge and expertise and provides industry with substantial and quantifiable improvements to plant and asset protection. We combine expertise in the fields of filtration, lubrication, and tribology, offering an advanced and comprehensive service to our customers.

The well-being of the environment is of key concern but is often overshadowed by business needs. Through the more efficient use and handling of commodities such as fuel and lubricants, we reduce pollution through lower usage and disposal of lubricants, conserve electricity usage while achieving higher production output and provide greater asset protection and an overall lowest cost of ownership.

ISO-Reliability Partners is a Level 2 accredited B-BBEE contributor that owns the iconic Filter Focus brand and provides lubrication products and services with a foundation in tribology and hydrocarbon ISO cleanliness. Unlock the hidden and lost value in your business operations with world-class technology provided by ISO-Reliability Partners, your partner in improved efficiencies.

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