the trucking and transport industries, recently opened its new distribution centre in Bellville just north of Cape Town.

The new team is headed up by Brian Fourie, supported by Raul Real and Devlin Jephthon.

Previously the company distributed equipment from premises shared with IMS Engineering (IMSE). However, following a restructuring of IMS, it was decided, in the best interests of customers, to relocate.

Hilton Cathcart, JTE GM, says that JTE Cape Town has needed a state of the art distribution centre for some time to support its agents in the region and the new premises fit the bill.

JTE has developed a reputation for its outstanding technical knowledge and after-sales support, "That's our main competitive advantage," says Cathcart.

"Our clients know that if they experience a problem, our technical experts will go the extra mile to solve it and the new premises in Bellville will facilitate an even smoother operation."

JTE's core expertise is to find working solutions for its customers using its superior technologies. In partnership with world-renowned suppliers such as its parent company Jost, OMFB, Rockinger and Hyva, it provides the on-road and off-road transport indus-

On the hydraulics side specifically, JTE offers, inter alia, a complete range of Hyva tipping cylinders, which are supplied to order.

A flexible manufacturing system minimises delivery time for the standard range of cylinders and the use of top quality materials keeps wear and maintenance to a minimum. Due to the patented design based on only a small number of components, no special tools are required.

Computer Aided Design (CAD) combined with fully automated manufacturing makes Hyva's factory one of the most efficient in the business.

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From left ,are, J
Keith Turne

Arrest moisture and save the budget

WATER means trouble when it sneaks into hydraulic circuits, but Donaldson Filtration Systems have a solution with the Thermally Reactive Advanced Protection™ (T.R.A.P.) Breather.

Water was the primary production force in manufacturing, transportation and agriculture before the industrial revolution. Industry currently relies on machinery using oil for lubrication, heat removal and power transmission. Modern essential oil-wetted systems include hydraulics, steam and gas turbines, engines, motors, gearboxes and electrical transformers.

As essential as water is for biological life, it can be devastating for machine life. Along with particles from dirt and wear, water is one of the two most harmful contaminants. Water problems range from corrosion to oil degradation and from plugging gels to flourishing microbial colonies. Minimizing water contamination maximizes performance, fuel efficiency, productivity and machine life.

Water can be responsible for

• Corrosion: It is a significant problem with free water in oil. It also produces abrasive oxides, such as iron rust that abrade surfaces, block clearances and break off to damage moving parts.

• Loss of Film Strength: When water contaminates the film it displaces the oil. Water cannot keep the surfaces apart, resulting in high friction, adhesive wear and even seizure

• Oil Oxidation: Water accelerates oil oxidation. Negative consequences include excessive viscosity, acidity and insoluble resins.

• Additive Depletion: When additives migrate into free water, the concentration of some additives falls below effective levels.

• Hydrolysis: In the presence of water, ester-based additives and synthetic fluids (such as phosphate esters and polyol esters) decompose into alcohols and acids.

• Reduced Fatigue Life: Dissolved water enters microcracks in rolling contacts, dissociates into hydrogen gas and weakens steel by hydrogen embrittlement.

• Microbial Growth: Negative consequences include rancid foul odors, human health problems, biomass slimes, foaming and acidic oil.

• Gels: Some additives interact with water to form gels. These gels foul flow passages, reduce heat rejection and plug filters.

For minimum protection, it is recommended to keep water below the saturation level, generally 200 to 500 ppm for many oils and 10 ppm for transformer oils. For optimum protection it is recommended to maintain water levels at or below 30 percent saturation, generally 75 to 150 ppm for most machines and 3 ppm for transformers. Maintaining water levels at or below 30 percent saturation alleviates the problems related to water as well as provides a safety margin against accidental spikes of contamination.

Using patented technology, Donaldson has developed a new method for preventing the ingression of humid air. It is based on thin film technology and the fact that warm air leaving a reservoir (exhalation) has lower relative humidity than cool air entering a reservoir (inhalation).

The T.R.A.P.™ (Thermally Reactive Advanced Protection) is manufactured by coating the walls of a porous network with a thin film of water-absorbing chemicals called a deliquescent salt. The resulting high surface area of absorbent provides rapid removal of water vapor from air while maintaining size and weight. Unlike desiccant breathers, the open porous structure presents minimal air flow restriction, so fluid flow into and out of the reservoir is not impeded. In addition, the proprietary absorbents are not sensitive to oil mists entrained in the air leaving the reservoir. The breather unit includes a pleated 3 µm filter to protect against the ingression of hard abrasive contaminant particles that contribute to the wear of mechanical components. It is manufactured from materials that can be safely disposed of or recycled.

During "inhalation", cold humid air entering the system is drawn over the large absorbent surface area inside the breather. The high humidity drives water into the absorbent layer and the majority of water vapor is removed.

Bill Needelman and David Webb, Donaldson, "Deliquescent Breathers:". Machinery Lubrication Magazine. November 2006

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