

Patented DX2 filter proves its worth in comprehensive field trials

Donaldson Filtration Systems' revolutionary new DX2™ filter technology, part of its premium Triboguard™ brand, has been undergoing extensive product trials at ArcelorMittal Steel SA, since December last year. *MechTech*, which covered the start of the trials at that time, recently attended the official launch of the product in Vanderbijlpark, and is able to report back exclusively on the results of these tests.

Giving a background to the product design to key customers and invited guests, Donaldson's sales director Rob Simpson confirms that the DX2 technology more than enhances the company's Triboguard™ range. "Donaldson is well known in industry for its air filters but is now fast becoming recognised for expertise in liquid technology, driven by a hydraulic focus over the last ten years at ArcelorMittal," he says. "We started looking at a manufacturing plant to upgrade our hydraulic profile specifically, and that's where you'll find our Triboguard product range coming in.

"A lot of innovation has gone into the product range and it was during these performance enhancements that the concept of DX2 came up. We realised that we had this 'dead space' on the inside of the standard hydraulic cartridge – and we investigated the possibility of inserting a second element into the core.

"The main difference with the DX2 is that it has a centre tube containing a second filter element; but instead of being a secondary flow barrier that would normally be viewed as a type of safety filter, it is in fact a dual flow path. Effectively, in most hydraulic systems, the flow occurs from the outside of the cartridge, into the inside and back out the middle through to the system," Simpson explains. "What we have changed here is that there is a secondary flow path up the middle, and the inner element has flow coming from the inside, meeting up with flow coming in from the outer element, joining up in the cavity and going through to the system."

Donaldson has focused the launch primarily on products in its core high pressure range. "This is a very prominent filter within the manufacturing industry, currently available in 8, 13 and 16" lengths. It suits a range

of Donaldson as well as competitor housings, which is cost-effective for the industry," Simpson says. "In terms of features and benefits, the environmentally friendly DX2 has no metal parts and all the benefits one would expect to see from a coreless design. Its double filtration comes with unmatched dirt holding capacity, extended filter life, longer service intervals and the increased filtration area reduces fluid velocity across the media.

"That has been the difficult part. If you can reduce the flow velocity across the media, you immediately obtain improved efficiencies and cleanliness levels. Obviously this comes with longer element life and reduced maintenance costs," he reiterates. "In DX2, the link with Triboguard is apparent within the filter media's advanced polymer pack design."

Passing out the media packs to guests, Simpson explains further: "If one looks at



Donaldson Filtration Systems' sales director Rob Simpson discusses the results of the DX2 field tests with customers and invited guests.

the cartridge itself, you will see that it has multiple layers, including an 'outer wrap'. The outer wrap protects pleats from damage caused by handling, maintains uniform pleat spacing and promotes even fluid flow into the filter. Another benefit of the polymer pack design is that the support mesh layer improves initial cleanliness levels, provides excellent pleat tip support, retains strength during pressure surges and protects against media damage during the manufacturing process.



Guests photographed at the launch: (from left) Donaldson distributor Brian Rose, Filtration Transmission Services; Frans Jacobs; Wally van Schalkwyk; Danie Steyn; and Wesley Nel – all from ArcelorMittal.

