

Application story



High Pressure Spraying in Non-Woven Materials Manufacturing

Location	Turkey	Hydra-Cell model	Q155ERDGNNESAC X 4 & T100ERDGNNESAC X 2
Type of application	High Pressure Spraying	Flow rate	T100 22 m3/hr & Q155 30 m3/hr
Liquid	Filtered Recycled Water with Micron Paper Fibres	Pressure	T100 65 Bar (943 PSI) & Q155 100 Bar (1450 PSI)
Application details	- Kansan produces machines for folding and packaging products for customers using non-woven materials. They wanted to develop a production line for the non-woven material with their patented technology which reduces costs of the line by 33%. Non-woven paper is desirable for making wipes, masks, etc. as it is biodegradable and flushable. (New UK legislation is due in 2024 to ban wet wipes containing plastic, and Europe is sure to follow.) - Kansan's design is a wet layer technology and incorporates many new patented design features compared with commercially available designs that haven't changed since the 1980's. The aim is to have a competitive advantage over Voith and Andritz. Kansan utilises drum filtration which does not need to be run continuously, rather than sand filters which do, saving energy. The implementation of the Hydra-Cell pumps enables this technology to be used. - The 4 x Hydra-Cell Q155's feed an array of very fine nozzles, 100 micron opening and 3,000 nozzles per metre which are arranged in a random pattern so the resultant water jet flow creates turbulence and the result is the paper fibres do not line up but interlock. The 2 x Hydra-Cell T100's are used for a clean in place process. - All competitor's lines need very skilled operators. Kansan uses AI to run their line control system and as part of the machine's learning program, AI monitored skilled operators' actions to develop the algorithms - resulting in an easier to run line and reducing the skill; the line is also industry 4.0 ready. The Kansan line only takes 10 min to run up and 10 mins to run down. The competitors' lines take 45 min to run up and 45 min to run down. Therefore, increased productivity can be achieved and is 2/3rds the price due to their innovations.		
Advantages of Hydra-Cell pump on this application	Uraca pumps are typically chosen by OEMs but these pumps need: 1) An oil cooler to keep the crank oil from over-heating. 2) A booster pump, 3 bar inlet pressure. 3) Very fine filtration, more than the process needs to reduce packing maintenance. 4) Slow leaking of crank oil into the process water, along with the recycling of the water, results in a build-up of oil in the water and clogging of the fine nozzles. All these are eliminated with Hydra-Cell, reducing costs.		

www.hydra-cell.co.uk

Wanner Engineering -
World Headquarters & Manufacturing
Minneapolis USA
t: (612) 332-5681
e: sales@wannereng.com

Wanner International
Hampshire UK
t: +44 (0) 1252 816847
e: sales@wannerint.com

Wanner Pumps
Shanghai CHINA
t: +86-21-6876 3700
e: sales@wannerpumps.com

Wanner Pumps
Kowloon HONG KONG
t: +852 3428 6534
e: sales@wannerpumps.com











