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Six-axis KUKA robot.



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SPECIAL PaintExpo

Hannex Increases Painting Efficiency and Quality with ProMix PD2K

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Polish paint sprayer Hannex has a mission to provide ultimate painting performance, and Graco's latest 2K proportioner helps them meet their goals.

The Hannex Painting Company is a young but fast growing company dedicated to high-quality painting services. Based in west Poland in the town of Obrzycko, about 50 km north of Poznań, the company started operations in 1996 as a specialist painter of plastic household goods. Over the years it has expanded its partnerships with the automotive industry with clients such as Man, Volvo, Ster and Kiel. The Hannex strategy is based on using the most modern technologies and innovative solutions offered by reputable companies. New automated varnishing lines were commissioned in 2013 and 2016, equipped with six-axis KUKA robots and state-of-the-art computer-controlled paint application systems. Recent investments include a double heat recuperation system, a constant humidity system, a fully automated drying plant, and the implementation of a 3D system for marking details. The company is certified to ISO 9001:2015 and ISO 14001:2015 quality management systems, confirmed by the TÜV Rheinland quality certificate. Moreover, their production processes and procedures comply with the VDA 6.3 standard. This is an extension of ISO 9001:2015 and aims to help automotive companies meet growth, innovation and compliance goals.

Responding to a more challenging market situation

Recently, market challenges have driven Hannex to increase the efficiency of their production lines and further improve their already high production quality levels. New orders brought the necessity to achieve very low paint flows for the painting of small details. Together with new combinations of paint viscosities and mix ratios, their existing painting equipment was not able to provide the flexibility and efficiency they were looking for. Faced with these various challenges, Krzysztof Iwanicki, owner and CEO of Hannex, had to make key decisions regarding the future direction of the company.

“We have been partnering with Graco and its authorized distributor Arkus for a number of years, especially for the application of two-component paints and coatings,” explains Iwanicki. “Discussions over the changing direction of Hannex came at the same time as the market release of an interesting new generation of Graco’s 2K proportioner ProMix PD2K.”

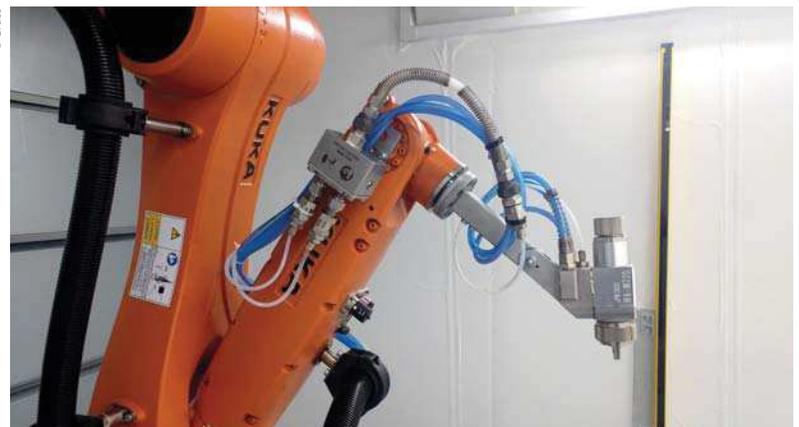
The ProMix PD2K is based on unique technology of electrically powered and controlled positive displacement dosing pumps. The use of 100% positive displacement technology allows accurate mix ratios and consistent performance. It’s particularly ideal for short pot life materials,

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ProMix PD2K: Graco’s latest 2K proportioner.

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KUKA robot for application and control of the process.



Air operated double diaphragm pumps.



Triton 1:1 150 Series Pump.

as the ProMix PD2K mixes the material close to the gun so the flush zone is significantly smaller. This allows for faster colour changes, less material usage, and reduced disposal costs. In fact, up to 80% reduction in flushing waste is possible compared to the most efficient traditional proportioning systems. It also stalls under pressure for consistent, on-ratio results (within 1% accuracy), and is field serviceable in less than 20 minutes, which means there's no need for costly factory rebuilds like gear pumps.

Upgrading with new Graco proportioners

As Hannex was looking for a flexible solution that would allow the application of both water- and solvent-based coatings, instead of separate systems based on gear pumps, the ProMix PD2K Dual Panel was the perfect choice. This single unit allows the creation of two independent systems to supply two distinct robots equipped with automatic low-pressure guns. "This would enable us to dedicate one system to water-borne paints and the second system to solvent-borne paints, each for three colours and two hardeners," adds Iwanicki.

Hannex therefore requested Arkus to install the Graco ProMix PD2K Dual Panel. In addition, the paint kitchen was equipped with Graco's proven low-pressure membrane Triton 308 pumps, which were installed in a separate room. The complete system was connected to the PLCs of the KUKA robots for application and control of the entire process.

Achieving higher efficiency and quality

Hannex was completely satisfied with the new installation. ProMix PD2K has enabled them to paint simultaneously with two independently operating robots, each with different colours for different details. At the same time, control of the overall process was consolidated in only one unit for easy operation. ProMix PD2K also allows the painting of small components with a high degree of flexibility, using between <3 and 50> cc/min.

"The implementation of the Graco ProMix PD2K has helped us to improve the finish quality of our paint jobs and reduce the amount of improperly painted parts to less than 3%," remarks Krzysztof Iwanicki. "This increase in efficiency played a key part in us achieving a very fast return on investment. In addition, the new installation proved to be almost failure-free." ◉