

Case story | DMS

DMS uses **Danfoss PAHT pumps** to clean flat panel displays with **low maintenance** and **zero contamination** risk



ZERO
contamination risk
No oil leaks, and
reduced downtime
due to simpler
maintenance.

hpp.danfoss.com

Flat panel displays production capacity has grown exponentially to keep pace with skyrocketing demand. Manufacturers face increased competition, falling prices and thinner margins – and their focus on productivity is intense.

Korea's DMS Co., Ltd. has been at the forefront of the industry's rapid growth. It is the world's largest producer of equipment for cleaning panels during production. Thorough cleaning is essential to boost its customers' manufacturing efficiencies by reducing failure rates. Danfoss PAHT pumps provide the necessary, reliably clean high pressure water to get the job done.

The challenge: Remove contaminants with zero contamination risk – and minimal equipment maintenance

The fabrication of LCD and OLED panels requires complete removal of the microscopic organic impurities that are generated in various production processes. Factories must be impeccably clean and all equipment contaminant-free. Ultrapure demineralized water (DI) under high pressure is the ideal cleaning agent.

DI presents several challenges for high-pressure pumps, however. Oil-lubricated pumps pose severe risks in microfabricating, such as leaks which cause detrimental surface contamination. But without oil lubrication, highly corrosive DI can put extreme demands on pump parts. Finally, pump maintenance is costly: when a single pump fails or is down for service, production processes must be reshuffled and productivity suffers.

The solution: Danfoss PAHT pumps

DMS specifies Danfoss PAHT pumps for its DI water cleaning equipment. Their high pressure spray ensures uniform and complete cleaning of surfaces, thus increasing their customer's production efficiency and yield.

Reliability is ensured, by design. Lubrication of all moving pump parts is provided exclusively with the DI water itself, resulting in zero risk of surface contamination. The axial piston pump has fewer moving parts, lower pulsation levels, and simpler maintenance schedules than traditional plunger pumps. As usual, Danfoss PAHT pumps provide reliable, continuous operation for extended periods—which lets DMS deliver quality cleaning equipment that panel producers can count on.

The results: Reliable ultraclean performance, low maintenance and increased profits

As DMS's Mr. Gyoo Won Seo, General Manager of DMS Co., Ltd. explains, "Only Danfoss PAHT pumps provide the reliability we require. Panel manufacturers can depend on long service intervals to keep productivity high, and they do not need to interrupt production flows because of a single pump. Importantly, there is no way that the pumps themselves can contaminate the production process"



Danfoss PAHT pumps provide dependable and clean operation to various processes within microfabrication industries, including flat panel displays and semiconductor wafer manufacturing.

"Danfoss PAHT pumps have proven to be much more dependable than plunger pumps. Maintenance routines are simpler. Pump failure is less likely. Such reliable operation gives our customers a competitive edge – and keeps them coming back to DMS as their capacity needs grow."



One of the Danfoss motor pump units with PAHT pump, installed at DMS.

About DMS Co, Ltd.: Founded in 1999, DMS Co. Ltd. provides advanced equipment for high-precision cleaning of flat panel displays. DMS is one of the largest providers of premium cleaning equipment to the world's largest flat panel producers.

For more information, see <http://www.dms21.co.kr/>

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