

Park Printing

MINNEAPOLIS, MN

Park Printing started as a small family business in 1979 and took a leap in the 90s with large commercial customers, many of whom have kept Park Printing on their preferred vendors list through multiple technology movements. Two such movements, zero-VOC and large-format digital printing, require pure water in both steam and liquid form.

Park Printing first reached out to DriSteem about how to increase their volume of RO water. They needed more, and the reason was two-fold and growing: The number of press runs with aqueous coatings was increasing, and the digital press needed precise relative humidity (RH) any time jobs were running.

City water too cold for existing reverse osmosis system

Another reason RO demand outpaced permeate flow was the temperature of the tap water, which was sometimes 20 or 30 degrees cooler than the 77 °F industry standard for measuring permeate flow in RO systems. Upstream from their RO system, Park Printing had even installed a dedicated 50-gallon electric water heater, which became the new bottleneck.

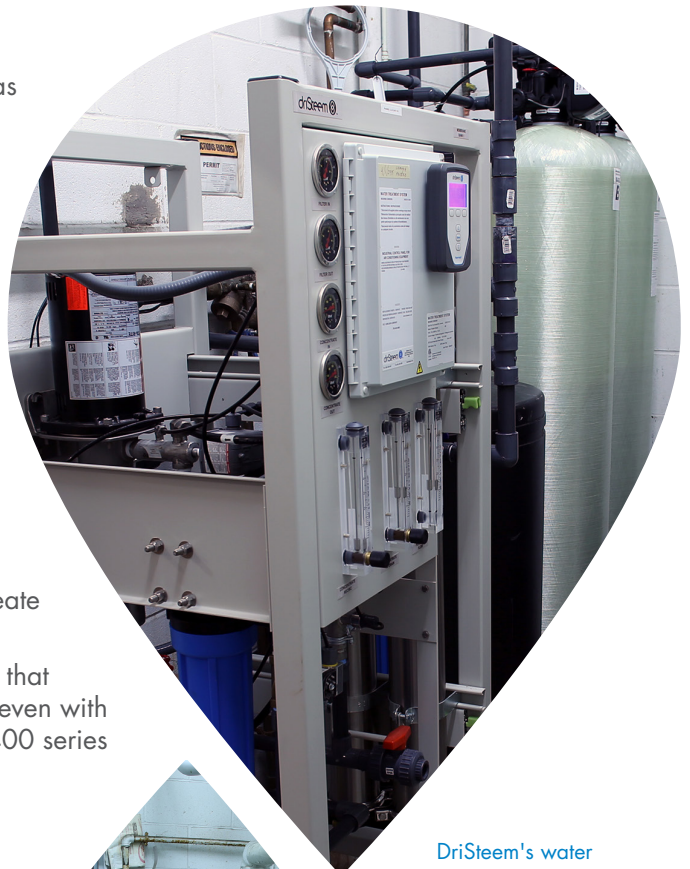
"We see this all the time," said DriSteem senior applications engineer Dave Schwaller. "Most manufacturers, including the makers of the old RO system at Park Printing, test their RO permeate flow at 77 °F, while DriSteem rates RO permeate flow at 50 °F."

DriSteem RO systems use high-efficiency, low-energy membranes that remove 98% of dissolved solids and deliver high permeate flow even with cold water. Schwaller recommended water pretreatment and a 400 series RO system for Park Printing.

Handling water from the meter to the air

"They leave it all up to us now," said Schwaller. "From the city meter, their water goes through our carbon filter and duplex water softener, then straight to the RO system. The water heater is no longer needed."

The RO water is stored in a 300-gallon tank and ready ahead of time for high-demand situations, whether for coatings or for humidification.



DriSteem's water pretreatment and RO systems keep up with demand, even with cold city water.

The water heater is no longer needed.



Vapormist electric steam humidifier boils RO water into steam whenever the digital press is running



300-gallon RO storage tank supplies humidifier with fill water and press rooms with water for aqueous coatings

RESOURCES:

Find your local DriSteem representative:

<https://www.dristeem.com/find-a-rep>

Learn about the following equipment installed at Park Printing:

Water treatment and pretreatment systems

<https://www.dristeem.com/products/water-treatment>

Steam generation:

<https://www.dristeem.com/products/steam-generation>

Steam dispersion:

<https://www.dristeem.com/products/steam-dispersion>

Digital press technology and the need for humidification

In the early days of digital presses, customers willingly sacrificed image quality for quick turn-around times and lower costs. However, by 2013, ink and nozzle breakthroughs and improved media had advanced digital printing to a level where the image quality contended with screen printing.

Park Printing recently acquired an Agfa Jeti 3020 digital press with image resolution as high as 1200 x 1200 dots per inch and capable of high-speed printing without stopping for changes in substrate thicknesses. The key to such ultra-high resolution and speed is ink droplet size and the number of nozzles. The nozzles dispense ink in such tiny amounts that static electricity on the surface of the substrate will pull ink droplets off course and cause them to smear the image instead of making tiny dots.

The digital press room at Park Printing is humidified with a DriSteem Vapormist® electric steam humidifier. To reduce maintenance to almost zero, the humidifier uses RO supply water.

When technologies disrupt processes

As of the date of this publication, the DriSteem water treatment and humidification systems have been running at Park Printing for two and a half years.

"We design our systems around specific applications and known space conditions," said Schwaller, "and we are available to make recommendations when loads and processes change over time."

DRI-STEEM Corporation

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DriSteem is an ISO 9001:2008 certified company.

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