



MAID OF THE MIST CATAMARAN FERRIES

MARINE PRODUCTS

Twin Disc drives the first zero-emission, all-electric passenger vessels built in the U.S.

Two Maid of the Mist ferries carry tourists around Niagara Falls using Veth Propulsion by Twin Disc, making a powerful sustainability statement.



Fleet:	Maid of the Mist (two passenger catamarans)
Shipyard:	Burger Boat Company, Manitowoc, Wisconsin
Designer:	Propulsion Data Services
Integrator:	ABB
Propulsion:	Two Veth VL-200 L-Drives per vessel
Location:	Niagara Falls, New York



Situation

Since 1846, Maid of the Mist vessels have navigated the waters of the Lower Niagara River to offer tourists up-close views of Niagara Falls. When it came time to replace the most recent diesel vessels, the company decided to explore all-electric propulsion.

Implication/Problem

While the decision to go electric was based on protecting the Niagara River rather than saving fuel, efficiency is important—and even more so, robust reliability with minimal maintenance. Each Maid of the Mist ferry is rated for 600 passengers, and together the two boats carry about 1.6 million people a year.

Solution

Two new Maid of the Mist catamarans each feature two VL-200 L-Drives from Veth Propulsion by Twin Disc. These high-efficiency thrusters are powered by hydroelectric energy stored in lithium-ion batteries and sourced from Niagara Falls itself.

“Veth was super helpful as we went through the approval process for the electrical package. They didn’t just say, ‘Here’s what we have. Good luck.’ They were very interested in making this work.”

Christopher M. Glynn
President
Maid of the Mist Corp.

Results

The Veth L-Drives enable the ferries to move upriver at a good pace without diesel fumes, view-obstructing exhaust stacks, or any noise to compete with the falls. “And everyone has been impressed by the lack of vibration—even the Coast Guard,” says Christopher M. Glynn, president, Maid of the Mist Corp.

Maneuverability is outstanding, using the L-Drives’ 360-degree thrust to give tourists panoramic views. “We can turn in our own length, which is very helpful coming out of Horseshoe Falls,” Glynn says. He adds that crew can “walk” the vessels laterally into the dock. “It’s more delicate than with a traditional mono-hull—and it saves the paint!”

The vessels take about seven minutes to charge between trips, as passengers disembark and board. The compact design of the L-Drives helps maximize available space on the ferries.

Glynn says Twin Disc’s responsiveness was important in taking the Maid of the Mist into a new era. “The technology has been around for a period of time, but not bundled together like we’re doing,” he said. “You want to do your research up front and use good, established companies.”

Veth Integrated L-Drives deliver essential benefits:

- Compact design, keeping mounting space to a minimum
- High efficiency
- 300 kW to 1,325 kW power range
- Quiet operation and minimal vibration
- Low weight
- 360-degree thrust for outstanding maneuverability
- Electric motor inside the ship; few vulnerable components underwater
- Easy to install
- No slip ring cabinet required
- Optimal water flow thanks to patented “shark tail” on counter-rotating propeller