OCTOBER 2021 / BUSRIDE.COM

BUSRide Maintenance™

THE EXCLUSIVE MAINTENANCE RESOURCE FOR THE TRANSIT AND MOTORCOACH INDUSTRY

OFFICIAL
BUSRide Maintenance Field Test:

The Rapid Specializes Bus Washing with InterClean

*p*4

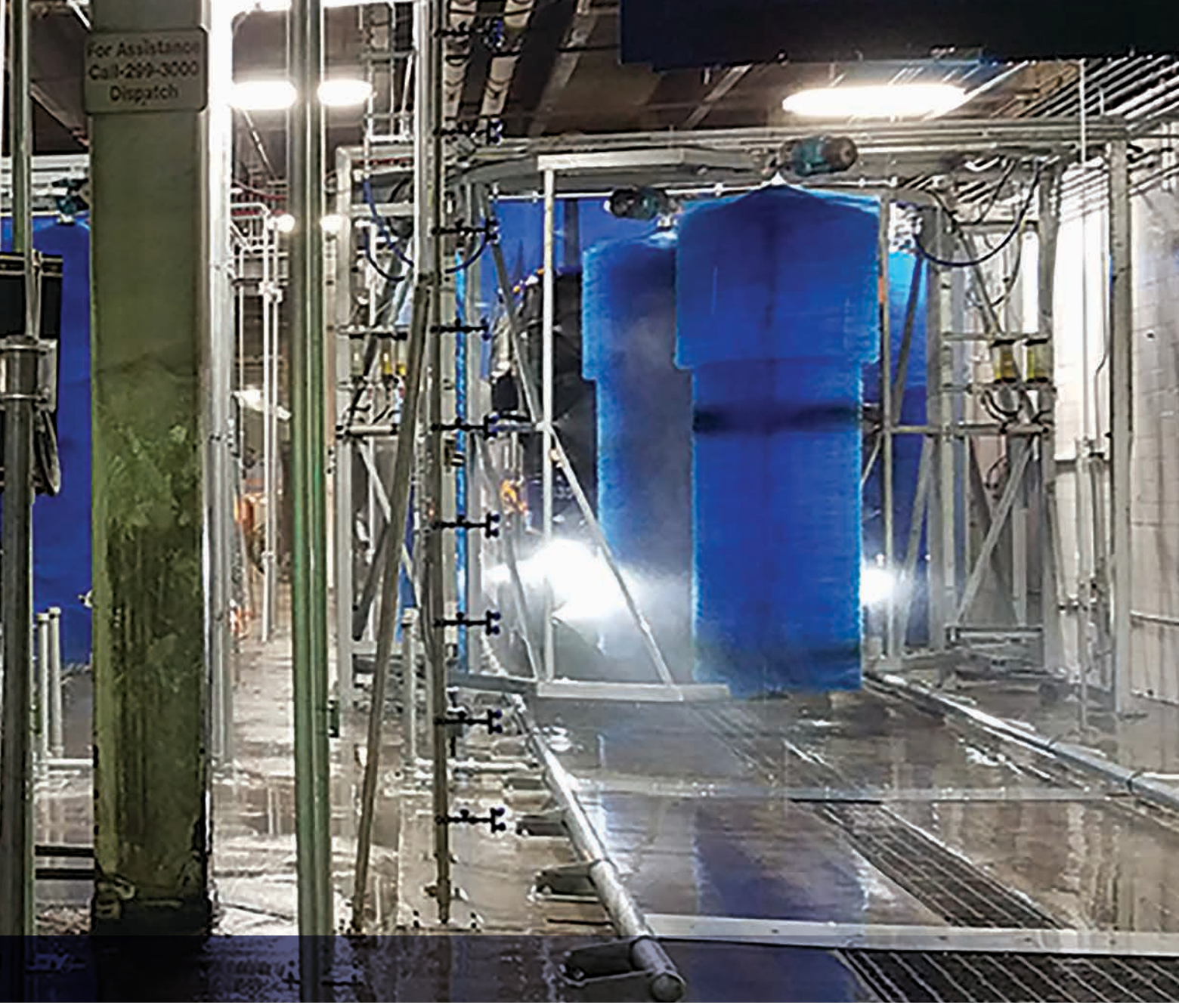
New Products & Services *p*7

OFFICIAL
***BUSRide Maintenance* Field Test:**

The Rapid Specializes Bus Washing with InterClean

By Richard G. Tackett

For the Rapid – the transit agency serving the Grand Rapids, Michigan, area – bus washing is critical. With the freezing and windy Michigan winters bringing plenty of rain and snow, the Rapid's buses are subject to all manners of weather-related corrosion if not washed properly on a regular cycle.



In 2008, the Rapid began utilizing the then-new Hybrid Bus Wash system by InterClean Equipment. The agency was having trouble with wash brushes wearing down vehicles' paint and causing numerous maintenance issues, and the Rapid brought these concerns to InterClean.

InterClean Equipment, LLC, established its manufacturing in 1984. Based in Ypsilanti, Michigan, InterClean has more than 30 years of history designing, manufacturing, and commissioning heavy duty bus, truck and train washing systems for transit, municipal, and commercial fleet markets, as well as other specialized products for markets such as mining, and military/defense.

"This represented a sort of pioneering moment for InterClean and the Rapid," said Philip Luurtsema, area manager for InterClean. "We designed the Hybrid Bus Wash with an eye toward addressing the sort of concerns that the Rapid had in mind."

Luurtsema said the Hybrid Bus Wash brought together the best of brush and touchless technologies. The system uses high pressure front, rear, top and wheel sprays, and combines with side brushes – minimizing excessive wear and damage to vehicles during the wash process.

Fast forward to 2019, and InterClean has added a new design with features that fit the Rapid's current needs.

"In this newest deployment at the Rapid, we do not brush the front of buses," Luurtsema said. "However, we now wrap the brushes around the back of the vehicle using a differentiated technology. By supporting the brushes in the way we do in InterClean's design, and applying measured washing pressure to the bus, we have further reduced potential vehicle damage from the bus wash system."

This model, the InterClean XJ404-FF has been well received by clients where it's been deployed. The consistent brush engagement by the four counter rotating brushes and smooth movements across all those surfaces engaged results in a superior clean. This is true in areas like the bottom area of bus side panels where the brushes have local support to the brush shafts. Cantilevered designs that rely on one top point of support can spring the brush and result in too much pressure at the top of the bus and too little at the bottom. In those areas where brushing is not done, touchless cleaning is effectively deployed. This allows drivers to move through the wash without having to start and stop and cuts down on damage to the bus or wash equipment from unintended contact.

Working with the Rapid

Luurtsema said that working with the Rapid – and any agency – means involving all the relative stakeholders in the planning and purchasing process. For the Rapid, this included the facility design team, operations, purchasing as well as the maintenance crew.

InterClean and the Rapid mapped out the agency's goals for washing, including mitigating vehicle damage, and defining wash frequency, fleet size, and any environmental concerns.

Luurtsema said that the Rapid had recently added a special commuter line between Grand Rapids and Allendale, Michigan, for Grand Valley University students. The line is serviced by a CNG-powered articulated bus with a lot of rooftop componentry, a fact that was communicated to InterClean early in the design process. As such, the Rapid's new bus wash accommodates the vehicle's additional length and rooftop systems.

"For both projects – the initial deployment and the new upgrade – we worked with a local design firm to coordinate all of the agency's concepts and ideas," Luurtsema said. "We needed to make sure their infrastructure could support this wash system. There was a lot of coordination and communication to ensure the engineering of the system's different components."

Upon InterClean being awarded the system contract after a bid process, that coordination effort shifted from working with the architect to a general contractor for installation. Upon design and testing, InterClean interfaced directly with the Rapid for use and maintenance.

"It's critical we maintain constant communication, from project beginning to end," Luurtsema said.

InterClean designed the system's user interface for simplicity. At the most basic level, an client most often need only press a few buttons – and the machine does the rest. The system's software is written in a hierarchical way, with different passwords and multiple access levels which open up access to different layers of the program. This allows for complete customization and configuration by appropriately trained technicians, Luurtsema said.

The wash system features audible and visual indicators to keep drivers informed about the washing process. These indicators let the driver know when the system is ready to wash, whether they are driving too fast, and other relevant alerts.

One critical alert for the Rapid is an indicator light which tells the driver when the back brush is wrapping around the vehicle's rear, Luurtsema said.

"That alert is very important for the agency, because it ensures that the dirtiest part of the bus is being washed by that back brush," he said. "The Rapid uses the rear of the bus for marketing, and it gets very dirty with day-to-day operation. That was a concern which we felt was important to address."

Chassis washing is another focus for InterClean in transit applications, aiming to reduce undercarriage corrosion and to provide a clean working environment for maintenance techs.

Innovations in System Design

"From a design perspective, a key differentiator for our system is that drivers don't need to stop when going through the wash," Luurtsema said. "There are some systems which require a driver to start and stop throughout the process to touch every brush. Our design requires no stops."

This no-stop design, he said, allows the Rapid and other agencies to increase vehicle throughput and reduce potential damage to the system's brushes. If the driver moves to fast, or is not moving properly throughout the wash bay, the brushes simply retract and get out of the way.

Luurtsema said that InterClean's water recycling method – with constant circulation and no chemicals – is another industry advantage.

"The continuous supply of recycled water that our systems can provide is very unique, and they require the absolute minimum in maintenance," he said. "We only recommend that a client keeps the pit clean. Everything else is automated, from circulation and aeration, to cleaning the storage tanks and filter."

InterClean's high-pressure, maintenance-free recycling module is called the EQ100. The chemical-free module is capable of recycling up to 100 percent of wash water and is used for almost all InterClean applications which rely on water recycling.

"We want to make washing as easy as possible for end users," he said. "We keep that thought in mind when designing our bus wash, including many different features throughout the system for ease-of-use and easy maintenance." BRM