

SpyderCrane, Phoenix, Ariz., used the 5,920-pound capacity Unic model URW295 to replace pumps at a high-end hotel in Phoenix earlier this year. With a 1.97-foot travel width, the mini-crane could be navigated effortlessly across the resort's outdoor pool area without damaging decorative walkways or lush gardens.



Industrial & Environmental

Carrydecks gradually going green like their mini-crane counterparts

Growing environmental awareness is raising concern about engine emissions for cranes, both indoors and out. “We haven’t run across any environmental requirements as far as emissions are concerned, yet, but I know it’s coming,” says Rick Stevenson of Stevenson Sales & Service, Bolingbrook, Ill.

While all industrial cranes can be powered by dual fuel gas/LPG or diesel, the use of DC battery power is slowly emerging as an alternative. Last year the Italian manufacturer Valla sold 71 battery-powered industrial cranes to U.S. customers. And in many applications, mini-cranes are shining

because of their electric power features.

“While diesel engines have made great strides in reducing odor and emissions, they still have some negative perceptions to overcome domestically, yet they hold a much greater acceptance internationally,” says Dave Roberts, Broderson vice president of marketing.

Meanwhile LPG is considered more hazardous in high-risk environments. Refineries prefer diesel because they don’t like running gas, says Marty Jager, profit center manager of Sunbelt Rental’s operations in Chicago, Ill. Paul Lonergan, president of Syracuse, N.Y.-based YardBoss

dealer Empire Crane, concurs: “We get a lot of requests for diesel machines in refinery applications because they are more explosion-proof than LPG.”

On a long-term refinery job in southern Illinois, two of Stevenson’s 22-ton Shuttlelift 7755 industrial cranes are being used to hoist materials and piping. The customer requires diesel-powered machines because of their close proximity to refinery components.

A mini-crane model from Jekko, brought to the U.S. market through a partnership between C4 Cranes, Minneapolis, Minn., and IMAI Manufacturing, comes with an optional LPG engine; two others are diesel with an optional 220-volt power-pack single-phase battery. Considered more of a European configuration, it offers advantages that could entice U.S. users, says Keith Shank, president of C4 Cranes. “You can

take these 'outdoor' machines and drive into a building and still use them inside. It doesn't limit you to keeping diesel machines outside."

Though there's not much interest in it, Shank says some machines even run on a vegetable-based hydraulic oil. "You can special-order that instead of normal hydraulic oil," he says. "No one's needed it yet, but for clean rooms or a food-service situation, users would appreciate that option."

The case for battery power

While battery-powered mini-cranes have found acceptance in the United States, there appears to be less demand for electric industrial cranes. "Most of the European carry-deck manufacturers offer electrically powered lifting solutions. However, this technology makes the product more expensive than other industrial cranes in the North American market," says Ruben Olivas, global product manager truck cranes, boom trucks, and industrial cranes at Manitowoc. "We have evaluated having the option of electrically powered industrial cranes. However, the demand for these products hasn't been strong enough to justify the development of such a crane."

Broderson's Dave Roberts says that the concept is of interest to the company but demand "just hasn't risen to a high enough level because of the extra cost." Occasional inquiries come from clean-room applications such as the food processing or electronics industries, he says, but there has been insufficient demand to justify the ex-

A Big Portfolio for Mini-Cranes

Mini-crane dealers are doing their best to get the message out about this relatively new product category, which offers environmental benefits as well as a happy marriage of accessibility and reach. Ken Hovanian, president of Island Mini Cranes in Hawaii bought a Jekko 360 at ConExpo in 2008. "It's been working really well for us," he says of the crane. "We're the only company in Hawaii now with this technology. When people started seeing what the cranes can do, they started asking for our lifting services."

In addition, Hovanian, who also runs Island Steel Erectors, a structural steel fabrication and erection company, uses a rotating telehandler equipped with a jib and winch for similar applications. "The Manitou MRT 2150 has a 13-foot jib with 2,200-pound capacity winch, and the work envelope is very good. You can put that machine in places you could never put a boom truck," he says.

Also making inroads is Paul Richardson, a contract operator for Dave's Truck and Crane Service, Calgary, Alberta, Canada, which owns a Maeda mini-crane. Richardson says the industry "has always had the attitude that if you can't get it with a little crane, use a bigger one. But they're starting to realize these little ones are coming in handy," says Richardson.

The list of projects in which mini-cranes star is growing throughout North America. As end users get to know the machines and understand the technology, these compact cranes are being called on for both the tricky and the traditional.

Jamison Place, Calgary, Alberta, Canada Working on an office tower under construction in Calgary, Dave's Truck and Crane Service employed contract operator Paul Richardson to run a Maeda MC305C-2. The 3.25-ton crane aided glaziers as they placed 6'x8' sheets of glass, at 1,500 pounds each, on the outside of the building.

Dave's Truck and Crane Service purchased the crane after seeing another mini-crane at ConExpo in 2008 and used it late last year on a critical expansion project at Rockyview General Hospital

Continued on page 24 >

pense of development. He also questions whether battery power can produce the same performance.

However, one company has successfully converted a 15-ton Shuttlelift C5540 to battery power. Cudahy, Wis.-based Man & Material Lift Engineering (MLE) converted the carrydeck crane for customer Spirit

Aerospace, which wanted to use it in a carbon fiber fuselage assembly hangar. The lifting performance of the crane was unaffected by conversion to battery power, says Sarah Fronczak, sales engineer, although driving speed was reduced to about 5 mph.

Likewise, battery-powered Valla industrial cranes, which range in capacity from 4,400 pounds to 99 tons, have made their way into North American facilities. According to Peter Hird, CEO of Valla Cranes USA, the manufacturer's U.S. distributor based in Fort Worth, Texas, "We get a lot of clean room laboratories such as the Livermore Laboratory in California, which has a 35 [metric] tonner. They can't have any emissions, not even LPG." Other customers include three leading tire manufacturers that use 13-ton capacity Vallas to change the molds that they put into the presses.

Whether environmental evangelism will boost demand for battery-powered cranes is yet to be seen, but there are signs that it may. "We are talking to a marble yard in California," says Peter Hird. "There is no need for battery power in this application, but the customer wants to demonstrate his green credentials."



At this year's ICUEE trade show, Manitowoc introduced the Grove YB7725, a 25-ton capacity industrial crane featuring a 70-foot, four-section boom with a 17-foot offsettable swingaway extension. The crane, which was featured in *Crane Hot Line's* September ICUEE Preview, will also be available in the Shuttlelift product line.



The 4-ton Maeda MC305 provided by Dave's Truck and Crane Service, Calgary, Alberta, came in handy on a Calgary office tower construction project, where it was used to place sheets of glass on the exterior of the building.

< Continued from page 23

in Calgary. The hospital project required the crew to install doors through two walls to allow the mini-crane access to a central garden, which the building is constructed around, Richardson says.

The job involved moving wall sections, concrete slabs, steel, and other materials. The first lift was a 5,600-pound slab of concrete that he lifted from the side of the hospital approximately 20 feet up and 12 feet off center of boom, right on the side of a surgery room.

"We had to wait for the OK from the head O.R. nurse before we could do a pick," Richardson explains. "At one point in erecting steel, we only had a couple pieces left to put in, but we couldn't because they were doing surgeries on the other side of the wall. We had to go dead slow, take it easy. We couldn't bump the walls because that vibrates the ceiling and the ceiling dust falls down."

Shopping Mall, Phoenix, Ariz. In indoor applications, customers prefer not only the quiet features of SpyderCrane's electric-powered Unic mini-cranes, but also the fact that the crane's tracks don't mark up the floors. That's one of the reasons two of the Phoenix, Ariz., company's mini-cranes were used recently to install a polished-brass staircase in a shopping mall under construction in Phoenix.

"Indoor office buildings, schools, hotels, shopping malls and museums prefer the electric-powered models with limited noise emissions," explains David Smith, director of sales and marketing for SpyderCrane. "MILAR non-marking tracks are also required in these types of applications." The non-marking tracks are an option offered by the factory.

For the shopping-mall project, the two model URW295 cranes were moved from the ground level to the structure's second floor via the elevator. "The ability to move the machines easily on freight elevators, across flat roofs, or over difficult terrain make the machines welcome on any jobsite," adds Smith. "Their ability to access [tight] areas makes the mini crawlers one the most versatile machines available."

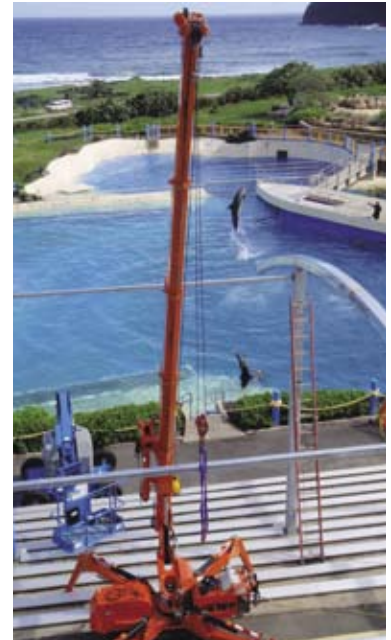
To prove that, SpyderCrane used the Unic model to replace pumps at a resort hotel in Phoenix because it could be navigated across the pool area without damaging walkways or gardens. On a recent parking-lot project, the crane was able to navigate the structure and access the roof in order to install roof covers. "The SpyderCrane is also capable of raising the boom between floors for moving parking barriers in underground parking facilities," adds Smith.



Non-marking tracks made SpyderCrane's Unic URW295 the crane of choice in installing a shopping mall staircase in Phoenix, Ariz.

Sea Life Park, Island of Oahu, Hawaii

Island Mini Cranes used its Jekko 360 to install a shade canopy over bleachers at Sea Life Park's Dolphin Lagoon late last year. The steel-erection project called for the installation of 10-inch curved HSS box tubing. The four 1,200-pound rolled frame sections were lifted at a radius of about 16 feet.



With dolphins looking on, Island Mini Cranes' Jekko 360 installs a shade canopy at Sea Life Park on Oahu, Hawaii.

"The best feature of the Jekko is its 10-foot extendable and offsettable jib," says Ken Hovanian, president of Island Mini Cranes. "We use it on 80 percent of the jobs we do because of the reach it offers. We're trying to get in between stuff with limited headroom. We don't have the luxury of doing work outdoors often."

For example, at Hickam Air Force base, bracing had to be pulled from inside a hangar. "We were moving existing bracing with live sprinkler pipes all around it. To get in there and pull that stuff out was difficult any other way without using the Jekko with the jib," explains Hovanian.

Assisting operation on these limited access jobs is wireless control, which enables the operator to "walk right up to where the work is and not have to rely on a signal person," he adds.



Jessie Bryant Roofing found that limited-space issues required the use of Cherokee Companies' Maeda mini-crane on a courthouse roofing project in Memphis, Tenn.

Courthouse Building, Memphis, Tenn.

Jessie Bryant Roofing, Memphis, Tenn., positioned a Maeda mini-crane on the roof of the courthouse in downtown Memphis because there was limited space at ground level. At press time, the MC305 was hoisting all materials to the roof and removing construction debris, reports Wayne Bylsma, president of Cherokee Companies, Hampton, Ga., which owns the crane.

"The project, like most downtown projects in most cities, offered very little staging area on the ground," reports Charles White, president of the roofing company. "There is also a penthouse roof level that houses the mechanical that is another 26 feet taller than the main roof level, that required accessing," he says. The only other option—a 175-ton hydraulic crane—was more expensive, would have closed three lanes of traffic, and limited work to weekends only.

The mini-crane's 39-foot boom length allowed roofers to reach the penthouse level and work far enough away from the building and ground level to eliminate the need to move large concrete planters and landscaping. "The unit itself is small enough that it was placed on the roof by the hydraulic crane within two to three hours on a Saturday, which caused very little disruption to traffic," explains White.

"The mobility of the unit allowed us to drive it across the roof to our designated staging area and the foot print is small enough it doesn't cause any disruption to the flow of work on the roof." And, the dual power source capabilities of the mini-crawler have allowed the crane to be operated via electrical sources from the mechanical room's electrical supply, he reports.

"By running on electricity we can operate the crane during normal business hours without disrupting the courtrooms on the 11th floor directly below our work area," White adds. ■

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