

Here to Stay

Whether hanging art in galleries, working in malls, airports, office buildings and homes, or lifting in industrial applications, the U.S. is using mini-cranes more frequently.

By Myra Pinkham

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IT HAS OFTEN been said that necessity is the mother of invention. The growing niche market for mini-cranes is evidence of this being true.

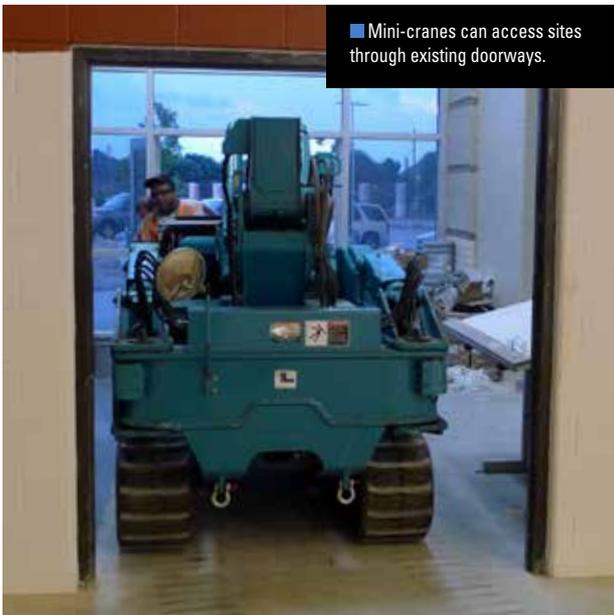
While there is no question that there has long been a need for small cranes to do lighter lifting jobs in areas where conventional mobiles have trouble accessing. Nevertheless, it isn't until the past five years or so that mini-cranes began to be sold in the United States.

It is quite a different story elsewhere in the world, particularly in Japan and Europe. That is where all of the world's mini-crane producers are based. The major names in this growing, but still very small, niche market are Japan's Furukawa Unic (which makes mini-cranes under the Spydercrane name) and Maeda Seisakusho Co. Ltd. as well as Italy's Ormet S.p.A. (which makes Jekko cranes) and Cormidi. Some other producers are Japan's Mighty Crane and Germany's Boecker and Paus.

Once operators learn the advantages of mini-cranes it just becomes a matter of selecting the best solution for the application.



Mini-cranes can access sites through existing doorways.





To date there are not any U.S. producers of mini-cranes, although most global producers market and sell their cranes through domestic distributors. In fact, Ebbe Christensen, president and chief executive officer of ReachMaster Inc., the Kingwood, Texas-based distributor for Mighty Crane's mini-cranes, says that he doubts that there would be for some time, explaining: "For a U.S. company to invest enough to catch up to the established players, there would need to be a big increase in the volume of the domestic market."

While volumes have definitely been increasing—just about doubling every year since mini-cranes were first introduced into the United States sometime between 2006 and 2008—they remain quite small. Domestic crane distributors estimate that the total units sold nationwide range somewhere between the high hundreds or low thousands, although no one knows for sure as, unlike for some other types of cranes and other lifting equipment, there are no official industry statistics.

That isn't surprising, given that there is no official definition of what a mini-crane is other than being smaller and less expensive than conventional mobile cranes—even compact cranes, enabling them to be used both inside and outside in confined areas that mobile cranes have trouble accessing, says George Schalk, sales manager at Smiley Lifting Solutions, the Phoenix, Ariz., distributor of Unic/Spydercrane cranes.

Tony Inman, president of Houston-based Maeda USA, the U.S. distributor for Maeda cranes, says that these self-propelled cranes are able to, if necessary, get into a building. He says that the smallest such cranes (at approximately 30 in. wide) are small enough when they are folded up to go through a single door, and even through a living room if need be. Meanwhile, even the larger of the mini-cranes have the ability to enter through a double door.

"So wherever there is limited access, stringent floor-loading limitations, very limited space and a need for significant lifting capacity, that's the application the mini-cranes are designed for," Christensen says.

He says that most units are built on a track-based chassis with four deployable outriggers and a hydraulic telescoping arm system, much like other conventional cranes. Also, Schalk observes, they have the ability to run on a number of power sources, including gasoline, diesel, propane, batteries and 220-volt electricity.

They do, however, have some limitations. "They aren't able to lift loads any heavier than about 15,000 pounds. If you need heavier loads lifted, you need to use a bigger crane," says Rich Caudill, project manager for Jekko USA, Baltimore, which distributes Jekko cranes in the United States.

"But that is not necessarily a disadvantage," Christensen maintains. In fact, he sees it as a win-win, with the mini-cranes lifting the lighter, harder to get at loads, therefore, freeing up the larger, conventional mobile cranes for lifting jobs that are more appropriate for them.

"The mini-cranes' presence in the market doesn't change the mantra 'the right equipment for the right job'," Christensen says, seeing the relationship between the mini-cranes and large mobile cranes as more complementary than being direct competitors. "With their compact format, the mini-cranes can simply go places a large mobile crane cannot, so for those situations having a mini-crane in our fleet certainly becomes a supplementary tool to increase the user's business, not a reason to 'cannibalize' their existing fleet of mobile cranes," he maintains.

"Likewise for an all-around crane company, mini-cranes will never

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■ Mini-cranes originated in Japan about 30 years ago and are now attracting a worldwide audience.



be able to replace the mobile cranes for bigger jobs,” he adds, although they might be able to in some cases improve the productivity of the larger mobile cranes. “I cannot tell you how many times I’ve witnessed an overkill, where a much bigger than needed crane is deployed to a job simply because that’s what the provider had on hand that particular day,” he says, maintaining that the company could have maximized its return on investment by having both mobile cranes and mini-cranes in its fleet.

Inman sees it a little differently. “Savvy users realize that mini-cranes can be huge cost and labor saving devices for various reasons including using a large crane to work at a long radius only because it can’t get close to the actual lift,” he says. “Why use an 80-ton crane to lift 1,000 pounds at a long radius when a mini-crane can gain access to the load and lift it close up? In the crane and lifting business closer is always better. It is safer and more efficient.”

Tools, not toys

Globally, mini-cranes have been around for a while. In fact, Christensen says that the story of mini-cranes originate in Japan where just under 30 years ago they were developed to help workers to move heavy stones in Japanese cemeteries. He says it took many years for the product to move outside of Japan, largely because in many countries crane professionals considered mini-cranes to almost be a toy. “But as their much wider and more flexible use became evident, the global market started to embrace mini-cranes,” he says.

Building upon this change of sentiment, Inman says some Japanese crane manufacturers, primarily Maeda and Unic, began exporting mini-cranes to Europe and Southeast Asia starting in 2001. Europe especially benefited greatly from these cranes given its very narrow streets, an executive of Lifting Equipment Solutions, the Garner, N.C.-based

distributor of Paus cranes, says.

It took some time, however, for the Japanese crane builders, and European producers as well, to try to sell mini-cranes to the North American market.

Caudill says that one reason that it took a while is the mentality of the potential U.S. users. “We had to show them that mini-cranes could be a faster, safer way to do the jobs that they were previously doing differently. We had to prove to them not only that they could use these cranes for their lifting jobs but that they are a good return on investment.”

Also the mini-crane builders were reluctant at first to take certain risks in the U.S. market, Inman says. “They heard nightmare stories about the U.S. legal system, especially related to product liability,” he declared. Also, they were more comfortable to expand their market reach one step at a time, finding success in one geographical region before reaching out to another.

Unfortunately the timing of when they finally set up a distribution network in the United States could have been better. The U.S. economy, particularly the construction sector, at the time was going in the wrong direction.

But Inman says that the mini-cranes’ popularity in the United States now is growing. “Our business has expanded significantly since we began importing these machines from Japan in 2008,” he says. “As the economy improved and people discovered these machines and figured out how to use them, they realized that they were not a fad, but a legitimate lifting tool.”

Christensen agrees, saying that the greatest challenge has been just to make users aware of the mere existence of this lifting equipment product category. “Once operators and users learn the advantages of the mini-cranes, it just becomes a matter of selecting the best solutions for the applications,” he says.

He does, however, admit that the industry has a very complex demand matrix that includes cost/benefit ratios, maturity of applications and the market culture. Christensen says the crane industry in notoriously famous—and infamous—for doing business in a very traditional manner with known technologies and methods that are proven often taking over the driver seat. He says there tends to be a general reluctance to try anything new.

“However, the very obvious advantage of using mini-cranes in a lot of applications that would otherwise be impossible with a traditional crane has paved the way for more interest,” Christensen says. “We are also seeing the rental industry starting to pick up so people can rent mini-cranes instead of buying them.

■ Attachments like glass handlers expand the crane’s capabilities.





■ Mini-cranes meet stringent floor-loading limitations, limited space and a need for significant lifting capacity.

Varied supply chain

Just how many mini-cranes are sold to be part of specialized rental company fleets vs. directly to the user varies company by company. Caudill says that because of Jekko USA's relationship with one rental company in particular—United Rentals Inc.—represents approximately 60% of its mini-crane sales are currently to rental companies. "Mini-cranes, however, are not currently available at all equipment rental companies, but only specialized rental companies and distributors who know how to incorporate cranes and other lifting equipment into their fleets," Inman observes.

While the availability of mini-cranes through the rental market could be a vital catalyst for the development of new applications for the equipment, Christensen says it is very common for the rental industry to take a little time to react to demand. But when it is there, he says it becomes a central part of the overall distribution chain.

The applications for mini-cranes are only limited by a person's imagination, Inman says. "Mini-cranes are all about bringing a proper lifting tool to areas where lifting is required but the proper tool was not previously available," Inman maintains.

One problem with the timing of the selling of the mini-crane concept in the United States is that while its largest use is in the construction industry and by 2008 the construction market was hit hard by the financial crisis and the global economic downturn.

In fact, Schalk notes that it was just over the last few years that the construction market started to pick up again. In fact, most of the strength

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at this point has been in single family and multi-family housing starts with commercial and industrial construction just recently bottoming out and seeing an approximate 5% year on year improvement last year.

Nevertheless, Kermit Baker, chief economist for the American Institute of Architects (AIA), says that the surging housing market, growing commercial property values, and declining office and retail vacancies are all contributing to what is expected to amount to a much greater spending on nonresidential building projects in both 2014 and 2015

AIA's semi-annual consensus construction forecast indicates that overall the U.S. nonresidential construction will increase 5.8% in 2014 and 8% in 2015 with a 10.3% increase in commercial and industrial construction this year followed by another 10.8% increase next year and a more tepid 3.4% increase in 2014 and 6.3% increase in 2015 in institutional construction. Schalk says demand for mini-cranes will likely pickup significantly as commercial construction starts to pick up again.

Nevertheless, with mini-cranes being used also for various industrial, maintenance and steel erection applications, Schalk says just about every industry has a use for them. "As the economy picks up so will demand for mini-cranes," he says.

And all indications are that the U.S. economy is picking up with the advance estimate by the Bureau of Economic Analysis



■ Why use a larger crane when a mini-crane can access and lift close up?

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showing U.S. fourth quarter 2013 GDP growth of an annualized 3.2% while full year 2013 real GDP grew by 1.9%.

In light of the improved economic growth, Inman says that mini-cranes have already been used domestically not just in constructions but for maintenance in all types of power plants and manufacturing facilities. He says some examples of the kinds of lifting jobs they have been used for where conventional cranes were either useless or oversized include hanging and assembling art in galleries and museums, working in such buildings as malls, airports, office buildings and homes, performing maintenance on helicopters in obscure locations, erecting buildings of all types and hanging glass and curtain wall panels from inside buildings and rooftops as well as doing other kinds of work in both below ground and roof top locations. They have also been on movie and television production sets and sound stages, for the installation of solar panels and maintenance work in power plants and wastewater treatment plants. They have also been used as a rigging, as opposed to a lifting, tool.

“The sky is the limit,” Caudill says. “We are still identifying additional potential uses for this equipment.”

While operating mini-cranes is much like operating larger mobile cranes, at least at the current time official crane operator certification is not required nationwide (although in some cases it is in certain states, cities or other municipalities). That, however, could change in November 2017 when the Occupational Safety and Health Administration (OSHA)'s compliance date for crane



operator certification is expected to take effect. Sellers of mini-cranes do currently offer training to buyers of their equipment, including familiarization with certain safety features such as those that shut down the crane if the load they are lifting are too heavy.

“We are very positive about the way the U.S. market is warming up to mini-cranes, Christensen says. U.S. distributors were reluctant to say just how much the market will grow in coming years. Nevertheless Caudill did say that ever since the second year that it sold mini-cranes its sales doubled every year. “Mini-cranes are definitely here to stay,” he added. //



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