



Ideas @ work

Modine Manufacturing Company

Modine Manufacturing Company located in Racine, WI is a worldwide leader in thermal management component design and manufacturing. Modine had an aging Big Joe IBH manually pushed stacker with a 2,500lb capacity @ 24" load center which was OE to an industrial furnace purchased in 1984 for their Sample Shop. While the brazing furnace had been replaced in 2014, the IBH remained in service until early 2020. "The old truck was on rails, you had to put a lot of effort into pushing it into the furnace, and also to physically stop several thousand pounds. Over time, it was getting more difficult to push, requiring more maintenance on the wheels and tracks to keep it moving," said Dan Raduenz, Sample Shop Supervisor. "We wanted to take advantage of the improved safety, ergonomics and efficiency offered by power driven equipment."

Having had an excellent experience with their existing IBH, Modine turned to Big Joe for a custom built, power driven PDX30. Big Joe's custom truck expert and resident furnace loader guru Kevin Pletch took the reins on the project, working with the Engineering Department and the Manufacturing team to ensure delivery of the one-off truck in

"Our main reason was to take advantage of better safety features and improved efficiencies."



just over 4 months. "These special trucks call on all 35 years of my experience, its forklifts 505 versus forklifts101," said Pletch. "They're more interesting in terms of specifying and building." Because the furnace is an extremely expensive and delicate piece of equipment, Pletch recommended several limiting safeties and other adaptations, including a guide roller system to align the truck for entry that had been implemented on previous builds.



The resulting made in the USA PDX30 has custom fork tines with an extended 30" load center and ID/OD set to the width of Modine's brazing racks, custom length straddles set to the furnace leg ID, rollers for a guide system under the furnace, a Lexan heat shield for operator protection, custom limit switches for lift / lower, flow control valves for precise movement and custom travel speed reduction. "Having the options like limit switches to stop the load at the right height are vital to protect the furnace," said Raduenz, "and being able to position the load gently so as not to rattle or loosen the parts before brazing is essential."

The power driven PDX30 has improved overall efficiency and cycle times for the Sample Shop. Previously, when a load was removed from the furnace, it had to cool in place until an employee could transfer the brazing rack onto a cart. Now, the operator can move the hot rack to a designated cooling area, drop it off and take the next load to the furnace. "We had loads just sitting in cue, getting off the rails has really helped improve our cycle times. It's given us much more efficient brazing operations," Raduenz said.



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PDX30 Custom Straddle Stacker

PDX Custom Stackers are designed and built in the USA



BIG JOE MISSION:

We believe that we can help North American businesses improve their results and the quality of their workers lives by providing simple innovative material handling products and genuine responsive support. Big Joe equipment focuses on supporting customers changing needs related to how they Move, Stack & Access materials in their operations with the goal of helping companies and their workers Move More & Hurt Less.

ABOUT THE PDX30:

The PDX30 is a fully customizable, Made in the USA, high performance walkie stacker. Big Joe engineers and manufactures individual units, or multiple truck builds to meet exact customer requirements in our Wisconsin Dells, WI factory. "What makes the trucks special is we have a sort of standard unit for base capacity, but we have the ability to go through and customize almost every aspect of the truck. We can change the straddle length, straddle width, carriage size, carriage type, carriage width, mast height, hydraulic settings and performance, even the battery box and really, component by component, could build an almost a new truck from the ground up," said Matt Wavrek, Director of Engineering.

#PDXcandoit

The PDX30 is often configured to perform highly specialized operations such as furnace loading (top photo) and die handling (bottom photo).



While the PDX Series is a built to order system, the trucks will feature a commonality of premium parts sourced from local vendors, "I would say regarding the vendors of all our custom parts, we're very close to 100% based US for sourcing and probably another 60 - 80% of that local to the Wisconsin area or the Midwest," Wavrek stated. This will greatly reduce lead times and control costs, allowing Big Joe to deliver a custom designed forklift in the time it takes other companies to deliver a standard unit.

"We're employing more highly skilled tradesmen than we have in nearly a decade and I've seen where some of our vendors now are actually growing, adding employees to their factories or job shops because of all the business Big Joe has provided them," said Linda Dorow, Vice President of Manufacturing. "The PDX Series is great because we're keeping it in a local economy and that's creating a ripple effect of prosperity, good paying jobs where they were few and far between not so long ago."