

## BALEMASTER HIGH DENSITY BALING TECHNOLOGY

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When KLT Industries purchased a Balemaster Fat Boy, they expected improved baler throughput and uptime.

**They got that – and a lot more.**

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**W**hen Kyle Trayner founded KLT Industries in 2002, he set an ambitious goal: to be the most forward moving recycling facility in New England. Now, a little more than ten years later, Trayner is president of a company that provides a wide range of recycling services to customers in Massachusetts, Connecticut, Vermont, Rhode Island, New Hampshire, and New York. With three locations in Ayer, MA, Webster, MA, and a recently opened plant in North Smithfield, RI, KLT processes over 150,000 tons of OCC, paper and plastic per year.

The company prides itself on being proactive – in the services it offers, the markets it targets, and, especially, in the equipment it uses. “We buy ahead, and we don’t stand still, Trayner says. “We’re always asking ourselves, ‘Is this the best way?’” But when it came to the baler being used in the Ayer plant, it was becoming obvious the answer to this question was “no.”

For years, the plant had relied



on a 100 HP single ram baler. But as productivity demands rose, the machine’s shortcomings became more apparent. Due to its limited charge capability and small throat size, there was a constant threat of bridge jams, which would take anywhere from 30 minutes to three hours to clear. Although the unit was fully automatic, the situation got so bad that a full-time operator was required to ‘babysit’ the machine in order to prevent jams. But even this wasn’t enough to keep jams from occurring. And when they occurred, they caused bottlenecks that could shut production down.

So it’s not surprising that baler

productivity suffered. “If everything was just right, and the stars were aligned correctly, we could maybe get 15 tons per hour,” Trayner says. More typical productivity was around seven or eight tons per hour. Lower productivity meant the baler had to run more hours, which increased the risk of jams and other downtime, which meant even more hours were needed to make up for lost time.

Another costly limitation was the bale size produced. Typically, bales weighed in at around 1,400 pounds. It took 30 to 40 bales to fill up a

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single export container, so loading and unloading became a difficult, time-consuming task. Furthermore, trucks hauling the bales would fill up long before they reached their weight limit.

The result was lower productivity, and higher costs, for everyone involved, from the waste generators KLT serviced, to the recycling mills, the shippers and the end users.

Clearly, the situation called for a new baler. And the perfect opportunity arose with the opening of KLT's new Rhode Island plant in late 2012. The new plant would need its own baler, and the current unit at Ayer could comfortably meet the lower production demands of this smaller plant.

It was finally time to spec a new baler for Ayer, one that could solve current problems and provide potential for future improvements in productivity and profitability.

**“We made the decision to buy in 5 to 10 minutes.”**

From the very first, the Balemaster Fat Boy was the prime candidate for the replacement baler. Trayner was already familiar with the machine and its capabilities. He'd seen a Fat Boy bale at Waste Expo in Dallas, and had been impressed. Furthermore, a trusted supplier – Don Hodgkin of Alexander Industrial Technology – was also a big Balemaster proponent, and encouraged KLT to consider the Fat Boy.

As it turned out, Fat Boy had the precise features Trayner and KLT wanted. “The Fat Boy's signature wide mouth design looked like it could take anything we could push into it,” Trayner recalls. “It definitely had the potential to cure our bridge jamming problems.” Another feature was the



Fat boy's ability to produce larger, heavier bales which would be easier to handle and cheaper to transport. But one of the features that appealed most to the team at KLT was the Fat Boy's 3-motor design. The Fat Boy could operate with one, two or all three of the 75 horsepower motors, giving the Fat Boy a wide range of operational flexibility – including a maximum capacity over twice as powerful as the single-motor 100 HP baler the Fat Boy was replacing.

“We made the decision to buy in 5 to 10 minutes,” Trayner says. “Mike Connell, Balemaster's Sales Manager, was surprised at how quickly we came to the decision. But it was clear the Fat Boy could address our issues. When we make up our minds, we move fast. We definitely wanted to be the first recycler in New England to operate a Fat Boy. We were certain it'd give us an edge on the competition.”

**“One of the smoothest installations I've seen in 20 years”**

Things got off to a good start with an installation and startup that Trayner calls “one of the smoothest

things I've seen in 20 years in the business.”

He was ‘pleasantly surprised’ by the speed and ease of the installation. “It really wasn't much more than a matter of wheeling out the old baler, and wheeling in the Fat Boy.” Total machine replacement time was only two hours. “The longest part of the installation was hooking up new power lines.”

Startup was also a comparatively painless process. After installing the Fat Boy on a Friday, the Balemaster engineer worked with KLT's crew during the weekend to get the machine into operation. Two and a half days later, on the following Monday, the machine was ready to accept material. It's been running and producing results ever since.

**“It lets us operate faster, sharper, and cheaper.”**

The Fat Boy's operating advantages quickly became apparent, starting with improved uptime and productivity. Frequent bridge jamming with the old baler caused bottlenecks that at times threatened to shut down production. But with the Fat Boy's wide mouth design, jams have been virtually eliminated and the difference in baling operations is like night and day, Trayner reports. “Now, all we do is push the board onto the conveyor with a front end loader, and the Fat Boy just eats it all up.” There was no longer a need for a full time operator to ‘babysit’ baling operations; instead, KLT personnel were reassigned to more productive tasks.

Another key operational advantage is the greater flexibility

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offered by the Fat Boy's variable motor design. Trayner says it's almost like having three different balers. With all three motors running, the Fat Boy can apply 225 horsepower to handle the heaviest loads. But in non-peak periods, the unit can operate on two or even one motor to precisely match baler capability to demands. The alternative to this variable motor design would either be a baler sized to meet peak demands, which would inefficiently run at below capacity all other times – or a smaller baler that would struggle to meet peak demands.

Altogether, this combination of features and factors allows the Fat Boy to run at up to 35 tons per hour, which is over twice the maximum capacity of the earlier baler.

This operational flexibility also gives KLT more options and opportunities in production planning. If they choose, they can run the Fat Boy with two or three motors for only a few hours a day, and achieve the same throughput as the previous machine could when it ran constantly. It also means planned downtime can



be scheduled when the machine is idle, instead of shutting down production, as with old machine. And if unplanned downtime does occur, the Fat Boy can simply run at higher capacity to allow production to catch up with throughput requirements. As a result, KLT is achieving greater productivity with fewer problems. "We serve many retailers, so our busiest season is



between August and New Years, when the Ayer plant runs 24/7," Trayner explains. "Our newly installed Fat Boy handled the demand easily. We just had the smoothest holiday season in years"

But the Fat Boy did more than improve productivity; it also improved the product. At 3,700 to 4,000 pounds, Fat Boy bales are nearly three times the weight of bales produced by the previous baler. And this makes KLT's product particularly attractive to everyone who has to ship and handle the bales. Before the Fat Boy, a standard export container could hold up to 40 KLT bales. Now, it only takes fourteen to sixteen of the bigger, heavier bales to fill that same container. With fewer than half as many bales to handle, loading and unloading requires far less time, effort, and hassle; containers can now be filled or emptied in as little as fifteen minutes. The cost efficiencies produced by these bigger, better bales are felt all through the plant. The Fat Boy has even reduced baling wire costs. Since fewer bales are being produced, the plant is now using 20% less wire for the same level of throughput.

"These days you have to operate faster, sharper and cheaper just to survive," Trayner says. "And that's exactly what the Fat Boy is letting us do." That's why KLT's sales team can now be more aggressive in seeking

out new clients – especially overseas customers, which is critical. Traditionally, the biggest consumers of recycled paper and board in the Northeast have been in the paper industry, which has been hard hit by mill closures. However, demand is still growing in many overseas markets. The Fat Boy's production and shipping efficiencies allow KLT to offer more competitive prices to these potential customers.

### "It's a win-win all around."

KLT has not been the only one to profit from their Fat Boy installation. As it turns out, the Fat Boy is producing bottom line benefits for everyone involved in the recycling process – the clients who supply the recycle materials to KLT, to the shippers who haul the materials, to the paper mills and other customers who are the end users.

Thanks to productivity and operational efficiencies the Fat Boy delivers, KLT's sales reps have been able to offer pricing that's more attractive to new and existing customers. So the sources that supply



recycle materials get a better deal, while KLT gets more business.

Truckers and shippers also love what the Fat Boy does for them. Several of KLT's customers, most notably paper mills in the Northeast, have spent extra for lightweight trucks to maximize their potential payloads. These rigs are capable of hauling up

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to 52,000 pounds, but before the Fat Boy, the maximum load they could fit into their rigs was 38,000 to 42,000 pounds. (There are few things truckers hate more than running a light load, especially when they're paying a premium for lightweight vehicles.) But with the heavier Fat Boy bales, they can now load their trucks up to the maximum legal weight with fewer bales – which also reduces loading and unloading times for faster turnarounds, another factor which further

maximizes fleet operating efficiency.

In addition to better pricing, the Fat Boy has enabled KLT to offer other advantages to customers and end users of their products. Customers are charged per shipping container and Fat Boy bales let them carry more product in fewer containers, significantly reducing their cost per ton shipping costs. (In fact, some KLT customers are packing so much into their containers, they're straining the cargo handling

capabilities at the ports.) And, like everyone else who handles Fat Boy-produced bale, customers spend lots less time, money, and hassle unloading containers and trucks.

**“This baler is the future of recycling; I stand 110% behind it.”**

Although the Fat Boy has been online for a short time, Trayner believes that it's already, “literally changed our whole operation. I've been in this business for 20 years, starting right out of high school. I've seen it all, and this is one of the most impressive things I've ever seen” – an opinion he says has been shared by everyone who has seen the Fat Boy in operation. “I stand 110% behind this machine,” Trayner says. “In any future expansions, we'll be putting in Fat Boys.”

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