

Low-Profile Elevator Buckets

A QUICK AND EASY WAY TO BOOST LEG CAPACITY

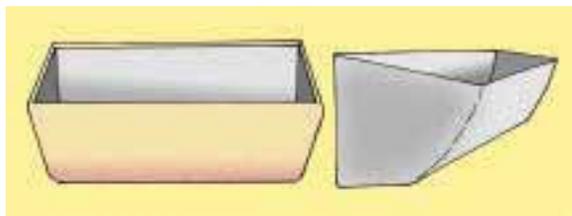
Many grain handlers undertake massive upgrades at their facilities to boost throughput capacity. But even when capital for new projects is lacking, it's possible to pick up a few thousand bushels per hour here and there.

The irony of low-profile buckets is that they don't look as though they could hold as much grain as a standard-size bucket, but they potentially can boost leg capacity. A handful of managers told Grain Journal why they believe in using low-profile buckets.

Dale Lock

**Area Operations Supervisor
Attebury Grain | Amarillo, TX**

"I was at a grain terminal in Wichita, KS the first time that we upgraded a leg with low-profile buckets. These went into a concrete leg housing that was built in 1956. The only advantage you had was to go to the low-profile buckets, in which your cups are closer together, so you can pick up a higher volume of



grain. We took a 15,000-bph leg and made it a 17,500-bph leg. When you have an existing structure that you can't change, but you've got the ability to move grain faster than what the legs could do previously, low profile buckets are the quickest and best way to upgrade them.

"We gained a little over 2,200 bph with that upgrade. So in a 10-hour period, you're talking 22,000 bushels of grain more that you can move.

"Also, when we've cleaned out boot pits, you get a little better spinning action on your boot, because there's more cups digging and more cups cleaning the bottom of it. The main thing is that you can increase your capacity for moving grain with them vs. the standard cups that are on a 9- or 9-1/2-inch center.

"Likewise, if you are loading railcars

using the same leg with low-profile buckets, you can load cars faster. So you've actually got yourself a double benefit by improving the efficiency of receiving and loadout.

"Because our company is not strictly a shuttle-facility-owned company, we own a lot of small country elevators, and the crops are getting bigger. The trucks are bigger. So the more efficient we can make facilities, the better off we are. So when they do change out big belts and everything, we are going to the low-profile buckets for that reason; even if it's a truck an hour in a 16-hour day, that's 16 farmers who are happy."

**Dave Heddings | Manager
Ray-Carroll County Grain Growers
Carrollton, MO**

"We've had our low-profile buckets on our inbound legs for about two years and actually are in the process of upgrading our third leg with low-profile buckets. The idea behind them is to fit more buckets on your belt, given the more efficient and streamlined design.

"By adding capacity, we can save electricity costs and wear and tear on our equipment by not having to run the legs as hard to achieve the same output. During our most recent upgrade, bucket manufacturers stated we would potentially gain 1,000 bushels per hour from switching to low-profile buckets.

"The big selling point for us isn't necessarily the greater capacity of the low-profile buckets but the durability and quality they bring to the table. With as many bushels as we move, durability is key, and our first low-profile upgrade has yielded excellent results, thus reinforcing our trust in low-profile buckets."

**Eric Clements
Operations Manager
TopFlight Grain Co. | Bement, IL**

"At two main locations, we've used low-profile buckets to increase the ca-

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capacity of existing grain legs. In some of the concrete houses, the boot pit area is only so large, and so as a way to increase capacity, we've been able to use the existing leg casing, boot, and head sections and put in low-profile buckets and increase the leg from about 5,000 bph to almost 9,000 bph with that same leg. That's helped us to do maybe a little cheaper upgrade to that system without busting out concrete and things like that.

"I would say that it's almost been twice of what the existing leg capacity was; we were at 5,000 bph before, so now we're maybe at 10,000 bph. I think that maybe just depends on what we were getting for capacity before and what we were wanting to achieve, but we've almost doubled from what it was before. However, I'm not saying that you can do that every time.

"The low-profile buckets have always performed as prescribed and so we've worked over the years with our supplier and millwrights to do these increases, and it's never let us down. It's been really a good option for us. We've never been disappointed or seen any additional breakage or anything like that with the grain."

Godfrey Friedt

**Director of Elevator Operations
Ardent Mills | Omaha, NE**

"In the last seven years, I have been monitoring if and when low-profile buckets are capable of improving capacity. I have been aware of them and have seen them being used in different applications for 25 years. I use them when the calculations prove that they will improve the leg's bushels per hour, and its mechanical structures are able to support the increased capacity. In other words, I use them for an increase in bushels per hour without having to make a significant investment."

**Brad Ortman | Vice President
Kokomo Grain | Kokomo, IN**

"We've probably been using low-profile buckets for 25 years, since they first came out. It's a good way to increase capacity without having to tear down the whole bucket elevator. You can get considerably more grain through the same size trunking.

"We've seen anywhere from 35% to 40% increases in capacity. In some cases, we've gotten 50% to 65% increases in ca-

capacity on the same size belt and trunking.

"But there are some drawbacks. You get so much capacity that now, all of a sudden, you've got to check everything downstream from it. Your turnheads and conveyors for feeding have to be large enough to handle it.

"Another thing we have to consider is that it isn't just the price of installing the buckets, because you've got to check your drive and motor sizes. When you check motor sizes, now you've got to look at your electrical wiring and starters. You

have look at your head shaft. We've even had to replace head shafts. But doing all of these extra checks beats tearing out all the trunking inside of a tower.

"It's a cost-effective way to increase capacity in an existing grain elevator. With low-profile buckets, you can just replace the belt and bolt different buckets on it. Replace the head shaft, motors, and drive, and we're not doing any cutting and welding. Sometimes you have to do it anyway, but its pretty minimal by comparison." ■

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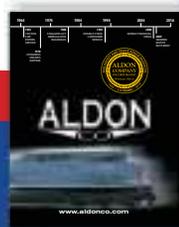


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