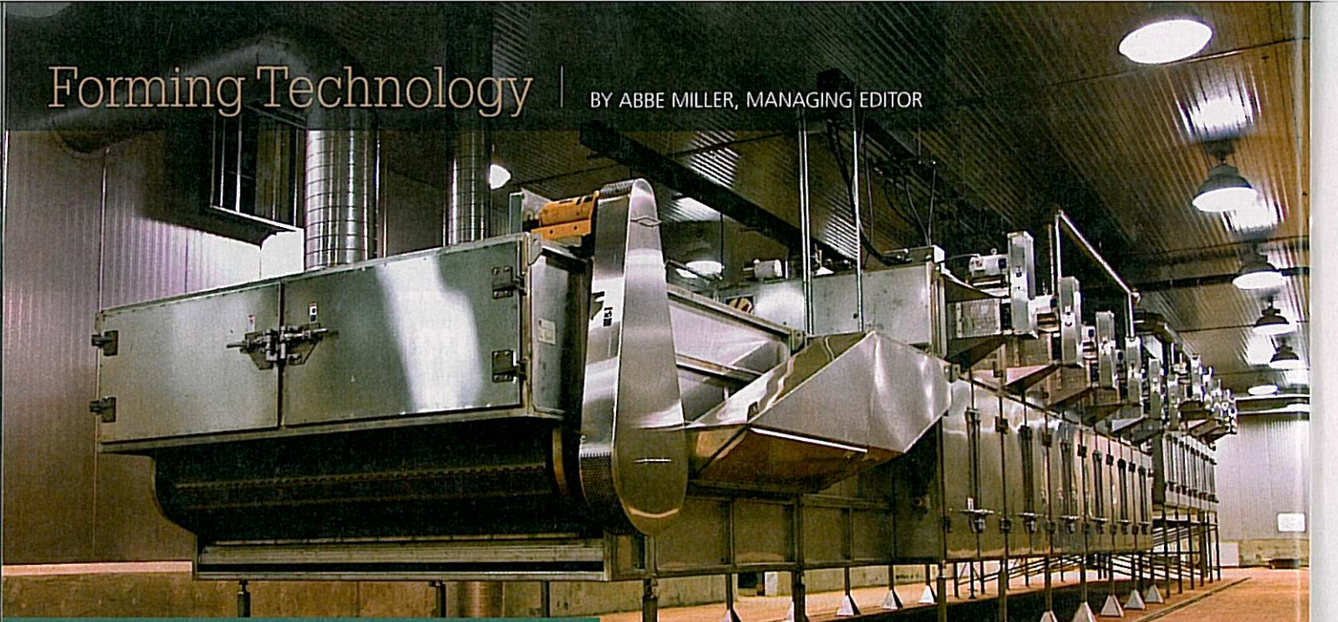
BY ABBE MILLER, MANAGING EDITOR



Wenger Mfg. makes large-scale extrusion equipment for the food industry. Folders are a necessity when forming the metal that the equipment is composed of.

PICK your process

Folding equipment expands the realm of choices for sheet metal bending

The phrase "There's more than one way to skin a cat" puts the idea of variability in an outdated and rather backwoods light. The way grandpappy did it might have gotten the job done, but the point is that it was worthwhile to seek out alternatives. Putting total reliance on his way of doing things could get a person into quite a pickle. So despite the disturbing nature of the colloquialism, there's a lot of truth to it.

On the subject of alternative methods for bending metal in modern times, there are certainly more ways than one to accomplish the task. A press brake is probably the most standard type of equipment used to take a flat piece of metal and make it three-dimensional. But that doesn't mean it's the only way—or the best way.

For short runs or manipulating large pieces of material, folding equipment might be better-suited for the job when compared with a press brake. Although the two technologies might fall under the same processing umbrella, they accomplish their assigned tasks in inherently different ways.

Put the operator at ease

Press brakes rely on the tremendous force behind the ram to make their bends, forcing the material into the die to a predetermined depth. An operator holds the metal in place while the forming action occurs. As for folding equipment, the bending force is delivered by the folding beam. And instead of requiring an operator to hold the metal during the process, the metal rests on the sheet support and backgauge system of the machine, reducing operator fatigue, increasing safety and providing a much more ergonomic method for forming.

Roger Edelman, supervisor of welding and fabrication at Wenger Mfg. Inc., Sabetha, Kan., says that because of the elimination of manual handling, larger sheets of material can be easily processed on the folder.

"Our machine can handle 13-ft. sheets," he says. "And a sheet like that is heavy to lift. It would take three guys to do that on a press brake."

Wenger Mfg. produces extrusion and drying equipment for the food industry. Therefore, it needs the large-sheet handling capabilities folding equipment offers. The company has been in business for more than half a century, and folders aren't a new concept for its operations. In 1995, Wenger Mfg. introduced its first folder into its production process, and just last year, it upgraded the equipment with a Schroeder Latitude folder from International Technologies Inc., Schaumburg, Ill.

David Prokop, president of International Technologies, says that although press brakes will always have their place in the world of bending metal, a folder offers distinct advantages that must be considered as they pertain to forming efficiencies and cost reductions. In cases such as Wenger Mfg.'s, the ergonomic disadvantages of a press brake make folders a perfect alternative. "You need to have someone who's had a substantial amount of training on a press brake to get good parts with any sort of proficiency," he explains. "And frankly, press brake operators are a dying breed."

Skip all the setup

Gaining production proficiency with a folder is especially important when dealing with short runs. And in today's economy, shorter runs are an unfortunate reality. "If you can't offset a drop in quantity with a drop in cost, you're not making money anymore," Prokop says. "It's hard to form small quantities, such as quantities of one or quantities of five or 10, even with high-tech press brakes. Depending on the part geometry, if it's a large part, where manipulating that part becomes a big portion of the process, you might be spending three minutes manipulating a part and only 45 seconds actually forming it. You can't afford to do that anymore. With a lot size of 100 or so, you could amortize costs across a much larger price. If you're only forming five of something, you can't afford even a 10-minute setup. As quantities drop, efficiencies must improve to offset the loss."

As the economy of scale changes, Prokop stresses the importance for manufacturers to take a second look at their operations. Whether orders are small in size due to a decrease in customer demand, or a company is attempting to adopt a lean philosophy, staying competitive is essential. Smaller lot sizes will require a different manufacturing approach as compared with the ability to cost average across large numbers of parts. This has always been a cognizant fact at Wenger Mfg.

"Take a look at the increasing wave of foreign competition. Other countries' labor expenses are practically nonexistent." —**David Prokop**, president of International Technologies

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Edelman says the time involved to swap out tooling on a press brake is too lengthy for what the company has to accomplish on a daily basis. The lack of tooling that's necessary for a folder is one of the main reasons Wenger has its Latitude.

"We have press brakes and tooling, but our shop requires us to be flexible," he explains. "We don't do big-batch runs; we might only do one or two items and then switch to another run. On the press brake, you have the tooling that has to be put in, and that setup takes a fair amount of time. On top of that, material variations can play havoc on accuracy. And since I'm continually jumping in and telling my guys, 'Hey, stop what you're doing; we need to make one of these,' the folder is great. They can just do it, and they don't have to switch everything around."

The flexibility is achieved because the folders don't require different tooling for different material thicknesses; it's completely universal, so no tool changes. Basically, various operations can be done with one set. And other than the time saved, Edelman also mentions the cost savings. "If you're not always able to buy new sets of tooling, you'll be limited as to what you can do," he says.

Wenger typically handles stainless steel up to 10 gauge and mild carbon steel up to 7 gauge. The Latitude is able to process lengths from 5 ft. to 13 ft., in thickness up to 0.315 in., a wide range Wenger couldn't do without.

"Take a look at the marketplace that's changing," says Prokop. "To survive in today's economy, a company needs to make profit at a much different production volume. And take a look at the increasing wave of foreign competition. Other countries' labor expenses are practically nonexistent. They're able to produce any quantity by throwing cheap labor at it. We cannot compete on those terms. So we must invest in technology, which creates a lower fixed cost per unit built, at any quantity. This can only be achieved by eliminating variable costs and reducing fixed costs." **FFJ**

International Technologies Inc., Schaumburg, Ill., 847/301-9005, fax: 847/301-9509, www.international-technologies.com.

Wenger Mfg. Inc., Sabetha, Kan., 785/284-2133, fax: 785/284-3771, www.wenger.com.

The folder's backgauge holds the part, so the operator doesn't have to. It results in less fatigue and increased part productivity.