CUSTOMER PROFILE

Shear Genius Cells Are the Recipe for Higher Productivity at Imperial Cooking Equipment

Since its inception in 1957, Imperial Commercial Cooking Equipment, Corona, CA, has remained a family-owned company whose mission is to be the preferred global supplier of high-quality, top-value cooking equipment to the foodservice industry.

Imperial utilizes highly-skilled employees combined with innovative manufacturing processes. Its customers include everything from major restaurant and grocery store chains to small family restaurants. Today, the company has evolved into a major player in the food service equipment industry with a 100,000-square-foot facility. "We either introduce a new product or update an existing product every year," explains Matt Wise, general manager.

Imperial also continually invests in state-of-the-art technology and machinery as part of the commitment to future growth. In the sheet metal fabrication area, the company has had a long and successful history with the Prima Power Shear Genius integrated punch/shear cell. "We purchased the first two Shear Genius cells in 1996," says Wise. "These hydraulic models served us well until we replaced them with the newest generation of servo-electric Shear Genius models in 2013 and 2014."

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Servo-Electric Shear Genius

With the Shear Genius concept, the objective is to provide a machine capable of transforming a full-size sheet into finished parts. These parts can be moved to the final production stages for immediate integration directly into the final product assembly.

The heart of the Shear Genius SGe is an updated servo-electric 30-metric ton punching machine with 1,000 hpm stroke speed, 250 rpm index speed and 150 m/min sheet positioning speed. The right-angle shear has a servo-electric actuation system, which makes shear movement both fast and fully CNC controlled for optimum productivity. Material thickness in shearing can be up to 5 mm (Al), 4 mm (mild steel) and 3 mm (stainless steel). Automatic loading has been integrated, and both part removal and part sorting are programmable and automatic.

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The SGe is able to perform the most demanding jobs with minimal set-up times and "lights out" unmanned operations. Shear Genius increases material productivity through efficient and versatile nesting programs. As loading, punching, forming & upforming, unloading, sorting, and stacking become automated, the result is a finished part with a dramatic reduction in scrap and manual labor while increasing productivity.

The level of automation can be customized through Prima Power's flexible modular solutions for raw material storage & management, loading, unloading, sorting, and stacking. These features can be added later as budget allows and production demands increase or change. The SGe ease of operation does not compromise the cell's per-minute part production, flexibility, or ability to fabricate complex parts. On average, compared with a stand-alone turret punch press, the SGe reduces total manufacturing time by 60%.

"Our older Shear Genius cells were the hydraulic design from the 1990s and were really good," explains Wise. "However, the new servo-electric models are faster, require less maintenance, provide longer tool and shear blade life, and are much easier to program. We used to run the old machines two shifts. Today, we are running all production on the two servo-electric Shear

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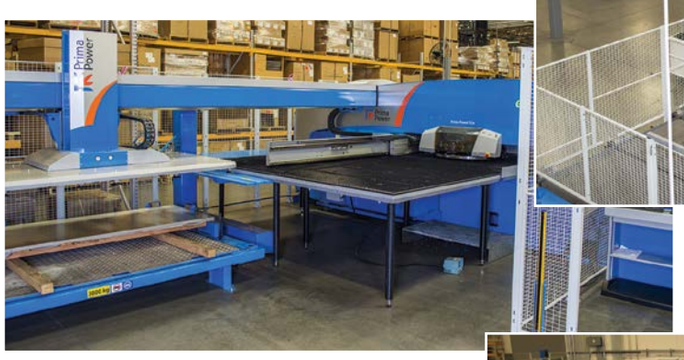
Other Shear Genius features and benefits include:

Tool Holders – Prima Power incorporates an individual tool holder concept that allows customers to design their own turret layouts. Unlike other designs, specific tool stations are not machined into the turret. Prima Power offers the only flexible selection of tool holders in the industry. Any tool from Prima Power's tooling partners can be installed in a Prima Power turret. Up to 10/15/16 or 24 auto-index, forming, or Multi-Tool® stations may be installed in a Prima Power turret.



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"The SGe cells have made a huge difference in fit and finish on our production line. They are excellent at holding placement and consistency which allows us to tighten up our tolerances so that we can make holes instead of slots. This makes assembly of our products so much faster and easier. Hole alignment is always right on the money."

Auto-Index – Prima Power's unique auto-index system precisely rotates the punch and die in their tool holders. Rotation in .001 degree programmable increments gives the machine the ability to rotate beyond 360 degrees, thus allowing the system to automatically select the shortest path to rotate to a programmed angle input into the NC part program with simplicity, speed, and reliability, and no tonnage constraint. Imperial has six auto-index stations.

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Multi-Tool® – Prima Power's Multi-Tool stations increase the number of tools available in a turret, thus reducing setup and increasing productivity. The Multi-Tool system allows multiple tools to be put in one station. Prima Power's Multi-Tool and the drop-in and indexable Multi-Tools from Prima Power's tooling partners offers 6, 8, 10, or 24 different punch/die combinations in only one station – a turret within a turret. "We have 120 tools in our turret thanks to our three Multi-Tool stations – an 8, 10, and 24," says Wise.

Upward Forming System – Prima Power's upward forming option provides more accurate forming and greater forming heights up to 16 mm (.63"). Another advantage is that all dies are at the same height and there are more high-forming dies in the turret, reducing risk of material damage and increasing machine uptime. "We use our upform station for producing louvers, lance, and forms on the new SGe cells," adds Wise.

Brush Tables – The brush tables are designed for lower noise, increased sheet support, and elimination of the risk of scratches. Imperial utilizes carbon steel on all interior parts and stainless steel on all exterior parts. The company processes about 6,000 tons of stainless steel per year, making it the largest stainless steel user in Southern California. "With the amount of stainless steel that we run, the new brush tables are great because we don't want to have marks on the material."

Faster, More Accurate Assembly

"The SGe cells have made a huge difference in fit and finish on our production line," concludes Wise. "They are excellent at holding placement and consistency which allows us to tighten up our tolerances so that we can make holes instead of slots. This makes assembly of our products so much faster and easier. Hole alignment is always right on the money."