

Changing the Way the World Cooks



ACP's microwave and combination convection/microwave ovens are found in such commercial installations as large fast-food restaurants, gas stations, convenience stores, high-end restaurants, pizzerias, etc., throughout North & South America, Asia, Europe, Africa, India, and other parts of the world.

Since the invention of the microwave oven in the 1940s, kitchens around the world have taken on a new dimension. And while it took some time to evolve, today no kitchen is complete without at least one microwave oven.

ACP, Inc., Cedar Rapids, IA, manufactures a full line of commercial high-speed cooking equipment carrying the Amana and MenuMaster brands. The first countertop commercial microwave oven was introduced over 50 years ago under the Amana brand. The MenuMaster Jetwave™, one of the first high-speed combination ovens on the market, was introduced nearly 20 years ago. Today, both Amana and MenuMaster remain the recognized leaders of commercial microwave ovens and high-speed cooking solutions.

Building upon a solid foundation of innovation, technology, and state-of-the-art facilities, ACP Inc. continues to develop new products designed to reduce cooking time, improve overall kitchen efficiency, and enhance the quality and consistency of the foods prepared in commercial ovens. ACP's microwave and combination convection/microwave ovens are found in such commercial installations as large fast-food restaurants, gas stations, convenience stores, high-end restaurants, pizzerias, etc. throughout North & South America, Asia, Europe, Africa, India, and other parts of the world.

In addition, every ACP oven is supported by an in-house culinary team of chefs and food scientists in its own fully-equipped commercial kitchen. The ACP culinary team provides customer support including the information and assistance needed for menu development and cooking times. This team continually examines and tests the latest food trends and develops new recipes for ACP's ovens.

Since 2008, ACP has been part of the Ali Group, an Italian company founded 50 years ago that has an extensive portfolio of companies that offer the most complete range of innovative brands in the foodservice equipment industry.

Manufacturing the Ovens

In 2008, ACP moved to its 92,000-square-foot facility in Cedar Rapids, IA, from nearby Amana, IA. At that time, the company manufactured a portion of its products with six stamping presses. The remaining parts were produced by job shops. According to Jason Schwenke, director of manufacturing, the company made a decision to add flexibility to its fabricating process by purchasing a used turret punch press. "A few years later, we began developing a new oven model that would require additional soft tooling," explains Schwenke. "As a result, we purchased a used Laser Brilliance (laser/punch combination), a used Night Train Material Management System, and a new robotic press brake from Prima Power."



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By 2014, ACP needed additional fabrication equipment, but this time the search was for new equipment. "We needed the extra capacity to domestically manufacture a product that we were producing offshore," explains Ty Hill, senior manufacturing engineer. "We were looking for another laser/punch combination machine. In addition to Prima Power, we also researched products from three other machine builders. In the end, we decided to stay with Prima Power. We had a history with the company and were impressed with their service commitment and the warranty extension they provided with the used equipment. We



After extensive research, Ty Hill, senior manufacturing engineer (left) and Jason Schwenke, director-manufacturing purchased a new Prima Power LPe6f laser/punch combination, which was integrated into the Night Train Material Management System.

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The high-end premium series turret punch press of the LPe6f has properties such as automatic tool length measurement, optimization of stroke length and easy adjustment of the punching stroke. These combine with others, adding up to faster set-ups and more ease of operation.

Changing the Way the World Fabricates

The LPe6f series combines high-end, servo-electric punching and state-of-the-art fiber laser technology in a manufacturing solution that provides outstanding flexibility, speed, accuracy, and productivity to fabricate the most challenging products.

The inherent benefit of integrated punching and laser cutting is high versatility. You can use the turret punch press where it is easier or faster and the laser where it is most flexible. Depending on the manufacturing task at hand, you can always choose the most productive manufacturing method. This amounts to flexibility for fulfilling varying requirements, cost-efficiency, and competitiveness.

The Prima Power LPe6f series features a modern fiber laser source with low-energy consumption and the need for laser gases eliminated.

The LPe6f is a perfect example of the Prima Power Green Means[®] philosophy.

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Very fast reaction times are expected in modern production. The machines need to be flexible and extremely fast for a quick response to production orders, often for very small quantities. The LPe6f is unbeatable when it comes to versatility and flexibility, combining multiple operations in one machine. This Lean Manufacturing style reduces cost per part; parts will be made fast, easily and accurately through one machine by one operator using only one operating and programming system.

"The LPe6f greatly increased our productivity," says Hill. "We were at full capacity with the LB, and new LPe6f relieved that pressure. Around the time the LPe6f was installed, we had some huge orders coming through our facility. Our volume doubled and tripled during that time. In addition, we are getting a better quality cut on the fiber and it is much faster. A job that used to take 1 hour and 45 minutes can be produced in 40 minutes with the LPe6f. It is the same nest, but the fiber laser runs much faster than the CO2 model."



The laser used in the system as its most flexible tool is a 2kW, 3kW, or 4 kW high brilliance fiber laser. Cutting speed increases in proportion to power. Totally closed cabin design for eye safety and noise reduction is always included with the system. With the integrated fiber laser a wide range of material can be cut such as copper or brass. A significant reduction in operating cost is achieved because the laser has no maintenance requirements, no laser gas is needed and energy consumption is far smaller compared with other solutions.

"The LPe6f allowed us to handle some very significant spikes in orders during short periods of time," adds Schwenke. "Prior to the LPe6f, we had to outsource these rush orders. Now we can do them in-house."

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High-Performance Servo-Electric Punching

The high-end premium series turret punch press of the LPef has properties such as automatic tool length measurement, optimization of stroke length and easy adjustment of the punching stroke. These combine with others, adding up to faster set-ups and more ease of operation. The punching speed, tool rotation and tool change time are improved. The punching stroke is NC-controlled, providing high-performance punching, and excellent forming capabilities.



Fiber Laser Cutting

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With the integrated fiber laser a wide range of material can be cut, such as copper or brass. A significant reduction in operating cost is achieved because the laser has no maintenance requirements, no laser gas is needed and energy consumption is far smaller compared with other solutions. Further benefits are:

- No expensive beam manipulation is needed to control beam divergence
- Cutting head collision protection - Long lens and nozzle life
- Efficient dust collection provides a cleaner working area
- Easy integration of a robust protection device around the cutting head
- Sheet vibration damping when cutting thin material
- Prevention of scattered radiation

Flexible Automation

Reliable unmanned operation with small footprint is a major factor in ensuring cost efficiency in fabrication. The Prima Power range of automation solutions adds productivity and end product value through high performance, accuracy and reliability.



The new Prima Power LPe6f laser/punch combination, which was integrated into the existing Night Train Material Management System (left). ACP chose the high-performance portal-type loading and stacking robot LSR to be integrated with its LPef. The LSR provides a reliable, fully-automatic process from loading to picking of parts and stacking them. Skeletons are unloaded with the unloading device. The operator is free for other tasks while machine productivity and utilization increases dramatically.

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Loading and Stacking Robot (LSR)

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Propelling Our Innovation & Quality Service

Another benefit of the LPef has been its ability to help ACP create prototypes. “The LPef has propelled our innovation by allowing us to prototype,” explains Hill. “We now have the ability to rapidly produce a working model of a new product.”

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Another important feature of the ACP relationship with Prima Power is quality service. “From a relationship standpoint, we couldn’t be happier,” concludes Hill. “When we need service, Prima Power has someone here within 24-36 hours.”