

Punching on Demand

Just-in-time delivery model drives need for modern fabricating technology

THE PROBLEM

Meeting just-in-time demands

THE SOLUTION

Turret punching equipment



Philips Ledalite has improved production efficiencies and customer deliveries with its turret punch presses.



Jim Moloney says Philips Ledalite relies on its turret punch presses, including a Prima Power hydraulic turret model and the E5 servo electric punch press, seen here and purchased in 2011.

When you're shipping 700 metal fabricated products daily to customers throughout North America, you better have an efficient manufacturing system in place.

That's the case for Philips Ledalite, a Langley, BC, lighting systems manufacturer. To meet customer needs for fast delivery and quality, the company relies on its fabricating equipment, including its six turret punch presses.

According to Jim Moloney, manufacturing engineering manager, Ledalite currently produces 33 product families at its Langley facility. "When you combine all the possible variations in terms of mechanical, electrical, photometric, controls, etc., those 33 families swell to two billion potential variations," explains Moloney. "One hundred per cent of our products are made to order. We don't attempt to stock any finished goods. We ship roughly 700 luminaries per day to locations all over North America. We are not a commodity product. Every one of those 700 products we produce each day is shipped to a job site or an electrical contractor."

To meet these flexible Just-in-Time production requirements, Ledalite has six turret punch presses to make the housings the company uses to manufacture its luminaries. Two of these turret punch presses are manufactured by Prima Power: The A5



The Prima Power E5 servo electric turret punch press.

hydraulic turret punch press purchased in 2010 and the E5 servo-electric turret punch press purchased in 2011. “Four weeks is our normal lead time,” says Moloney. “We are focused on quick turnaround to service our high-mix, low-volume business.

“What’s important for us in our high-mix, low-volume business with our short lead times is a high level of machine reliability and very fast tool changes. We don’t want to spend time changing tools...we want to spend time making parts for our customers.”

Established in 1982, Philips Ledalite, Langley, BC, creates innovative lighting systems and technologies for commercial and institutional buildings throughout the world. In an industry where most technology dates back 50 years or more, Philips Ledalite is a recognized leader in research and development.

The company is proud of the fact that innovation is the engine of its business and the inspiration of its designs. By maintaining a close relationship with the design community, Ledalite identifies customer needs often overlooked by existing products and develops innovative solutions to meet those needs.

Since 2008, Ledalite has been a Philips group brand. Royal Philips Electronics of the Netherlands is a diversified health and wellbeing company, focused on improving people’s lives through timely innovations. As a world leader in healthcare, lifestyle, and lighting, Philips integrates technologies and design into people-centric solutions, based on fundamental customer insights.

OPTIMIZING FOR PERFORMANCE

“When we added the E5 to our line, we actually spent a fair amount of energy configuring the machine—organizing the turret—so that we could have a very minimal tool set for that product line, says Moloney. “We dedicated many hours in figuring out the optimal turret configuration. For example, how many of the 20 stations did we want to be indexable, how many upforming, etc.”

“The reason that we specified the E5 was that it was 8 ft travel in the X direction. “Our normal product sizes are 4, 8, or 12 ft. The 8 ft is becoming the nominal, maximum product size for our linear products. We wanted to fabricate an 8 ft

We don’t want to spend time changing tools...we want to spend time making parts for our customers.



Philips Ledalite ships 700 metal fabricated products daily to customers throughout North America.



Philips Ledalite's commitment to innovative and sustainable designs has won accolades from the design community. An example of a Philips Ledalite customer installation.

part without repositioning. We were also very interested in the servo-electric technology for a number of reasons.

“The machine is simpler to operate with fewer parts. It’s faster than a hydraulic machine and energy consumption is lower. The footprint is tighter so it is easy to place in the shop...less machinery means no hydraulic power. It also offers tooling flexibility. Having the 20-tool turret with the flexibility of having a single tool or a Multi-Tool is a very good combination.”

Over the years, Philips Ledalite’s commitment to design innovation and sustainable design has consistently been recognized by multiple international design and innovation awards, including the highly coveted iF Product Design Award and the Red Dot Design Award. Philips Design is widely recognized as a leader in people-centric design. In 2012, it won over 120 key design awards in the areas of product, communication, and innovation design. SMT

www.ledalite.com | www.primapower.com

THE EQUIPMENT

The inherent benefits of servo-electric technology include energy efficiency, versatility, accuracy, and low maintenance cost.

Philips Ledalite selected the Prima Power E Series turret punch press because of the advantages it offers a fabrication shop. For example, it is easy to operate. Features such as automatic tool length measurement, optimization of stroke length and adjustment of the punching stroke means faster set-up times to better handle high mix, low volume production and the demand for just-in-time delivery.



Prima Power says its E5 series turret punch presses offer high performance punching and high accuracy for forming because of the NC-controlled servo-mechanically actuated punching stroke.

A large number of index tools facilitates set-ups and programming, shortens tool change times, and increases production speed. Maximum index rotating speed is 250 rpm. The rotation mechanism of the punch and die is mechanically engaged and disengaged vertically. It enables full tonnage and punch speeds to be used in any station, with any tool size.

Automation features are also a plus for Philips Ledalite because they aid in production efficiencies. For example, a programmable clamp setting function positions sheet clamps automatically according to a numerical program, minimizing clamp dead zones. When changing production from full size to small sheets, clamp settings can be made automatically without wasting operator time.

The turret punch press is equipped with a brush table, which protects sheet surfaces and prevents noise and vibration, hazardous for micro joints. Manual loading is easy even with automation devices added to the system. Whether processing small, pre-cut sheets or full size material, sheet loading takes place with a simple push. Sheet supports allow easy positioning of heavy sheets.

The machine has a large tooling capacity: 384 tools.

An additional forming cylinder is available. It is a servo-operated ram installed in the lower machine frame. It lifts the forming die to a programmed position. The tool is retracted after forming, preventing a collision with the moving sheet. With this cylinder, forms up to 6 mm (0.63 in.) in height can be made.