STAMP OF APPROVAL

ISMR SAYS:

"Sheet metal professionals must work with customers on ways to meet automotive design requirements for safety, comfort, power-saving and eco-friendliness"

Steven Lee, SEYI's Spokesman

Steven Lee of Taiwanese stamping specialist, SEYI, explains how servo presses are gearing up to meet the three main challenges facing the automotive industry.

Robots remove stamped parts from presses

Founded in 1962, Taiwanese press specialist, Shieh Yih Machinery Co., Ltd. (SEYI), has established a strong position in the metal-forming industry. It manufactures mechanical presses, ranging in size from 25 to 2400 tons, and servo presses from 80 to 1600 tons.

SEYI products have been sold to customers in over 40 countries and have received numerous quality awards from around the world. SEYI Europe has made strong headway in Europe, since its inception six years ago. Steven Lee, SEYI's Spokesman, discusses its achievements and future strategic direction.

ISMR: Please outline any recent successes, awards or achievements?

SL: Since the servo press is SEYI's main product focus, we have been cultivating this market for years and have received several significant orders, mainly from the USA and Japan. Recently, we have started to see fruitful results in Europe. For instance, as SEYI moves towards larger tonnage presses, its 800-ton servo press was chosen this year by a top Electric Vehicle (EV) supplier. We will also ship a 1000-ton servo press to a well-known Japanese Tier 1 automotive supplier at the end of 2017.

This year, our straightside servo press also received the Taiwan Excellence Award, which endorses our servo products in terms of quality, product features and design.

ISMR: What are your views on the current business climate for sheet metal professionals?

SL: Three challenges face the modern automotive industry: lightweight design, eco-friendly electric vehicles and the transformation of contemporary production methods. As more and more governments set up strict regulations for carbon emission reduction targets and environmental protection, how to save energy; lessen the load of vehicles for fewer carbon emissions; be environmentally-friendly and ensure vehicle safety are major issues for these automotive OEMs.

As partners of automotive OEMs, sheet metal professionals need to figure out (and work with their customers) on ways to conquer these challenges to meet the four requirements of car design: safety, comfort, power-saving and eco-friendliness. Which types of new or compound materials are perfect for lightweight design but also offer high strength for the car-body, such as ultra or advanced high-tensile

steel, carbon fibre, metal alloys and others? What equipment is the best choice to form these new or compound materials, such as servo presses and automated machines? Which new production methods can be applied, forming high-strength steel via a cold forming approach? We are delighted to work with sheet metal manufacturers and assist end-users to look for better total solutions.

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Above and below: Examples of SEYI presses

ISMR: Which issues are of prime importance for your customers and how are you addressing these issues for them?

SL: With the upward trend in environmental protection and power-saving around the world, SEYI is motivated by its mission to develop a world-class servo press. We've found that customers nowadays want to know if the product can bring them power-saving and cost-saving benefits as well as how it can improve productivity, as well as formability. We have therefore utilised the latest technology to provide our customers with sophisticated, energy-saving and intelligent products.

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SEYI designs servo presses using an energy-saving concept that features a small but highly efficient servo motor, compact mechanical design and an electrical design to lower power consumption. Our servo motor uses direct-drive transmission; it can therefore lessen total clearance and achieve better accuracy. The lubrication system circulates in the press, so that oil usage can be reduced which is good for the environment. This approach can also solve overheating issues. The press's power unit and capacitor help to stabilise power requirements at the customer's site so that there are no sudden peak power requests and power costs can be saved. In all, the power bills generated from using servo presses are two-thirds lower than using traditional presses!

As for productivity and formability improvement, since our servo presses are equipped with a servo controller, the press slide can run at any position at different speeds. Different slide motions can be selected, according to customer demand. For instance, using the pendulum motion with the progressive die, production output can increase by 100% but save nearly 50% of energy at the same time. The vibration motion can support small, medium and large presses when stamping different types of deep drawn parts.

I believe that SEYI's servo presses can satisfy customer expectations for these four aspects.

ISMR: What is your strategic and technical focus/vision over the next few years?

SL: SEYI's three pillars for development are servo technology, automation integration and smart manufacturing. We designed our servo motor in-house, using an energy-saving and eco-friendly concept. In addition, since customers have more and more complicated production requirements, integration with different peripherals is 'a must'. SEYI already has long experience in tandem line press integration with robots or a single large tonnage press using a 3-axis transfer system.

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In accordance with the Internet of Things (IoT), factories nowadays are pursuing smart manufacturing to monitor machine status, real-time production processes and preventive maintenance, resulting in high-quality and customised products. Machines need to be intelligent and communicate with other equipment to provide the latest data. We now offer die protection and tonnage monitor features on our presses, which help customers to collect important production data for further analysis.

ISMR: Which trends do you see developing in sheet metal stamping markets?

SL: In sheet metal stamping markets, new and compound materials such as high-tensile steel, carbon fibre and aluminium alloys are under discussion in different industries. The challenge is how to form these special materials with a more complex design. SEYI servo presses can replace traditional hydraulic presses for hot stamping applications to dwell at extended times to form high-strength steel.

There is also the trend of increasing electrification in vehicles. A lot of EV batteries are needed and this begs the issue of how to efficiently form battery cases for these – an issue of interest for sheet metal suppliers. With SEYI servo presses, using vibration motion to form the cases (with fewer stations compared to traditional presses) will largely save time on production as well as guarantee quality, helping customers to save capital expense on tooling and peripheral equipment.

CONTACT

For further details, see
www.seyi.com/en-global