

December 1, 2016

Aichi Steel Corporation

Start of Construction of Servo Press for R&D of Next-generation Forged Products **—Enhances Forged Product Development Capabilities and Speed with a Focus on Next-generation Vehicles—**

Aichi Steel Corporation (Headquarters: Tokai, Japan; CEO: Takahiro Fujioka) has decided to begin construction of a new servo press^(*) to drive the development of next-generation, innovative forging technologies.

Vehicles units such as engines and transmissions use many forged parts made from special steel with excellent strength and rigidity. However, vehicles manufacturers—our customers—are facing increasing requirements for reduced weight, greater fuel efficiency and lower costs in order to help preserve the global environment and to improve the competitiveness of their products.

We have been conducting development with our integrated forging and steelmaking process^(**), which combines various materials and techniques. For forging, we are working to reduce component weight, among other product improvements, for our customers by drastically reducing processing costs and making stronger products. This is achieved through net-shaping^(***), a method of hollowing out products and using smaller machining allowances. As part of this process, we have decided to install a servo press for forging, which will enable the development of more innovative techniques.

The new servo press will accelerate the development of more advanced forged products through new products and techniques. This is because the servo press is a future technology that, when used in the hot-forging process, allows the manufacture of complicated shapes that cannot be achieved with current hot forging technologies.

For example, the servo press will drive development of parts with complicated shapes by controlling the forming load as well as of low-load forging techniques for the development of more compact presses. Also, by recording and using manufacturing data from the forming process such as temperature, load and forming speed, we will be able to clarify forming mechanisms and identify optimal forming parameters by using IoT technologies. With greater press accuracy, a wider range of prototyping will be possible, using cold forging as well as hot forging.

The installation of this press will enable us to work hand-in-hand with customers from the initial development stages. We will use our strengths in manufacturing through the integrated forging and steelmaking process, from development of materials and techniques through to production. By increasing the speed of development and production of more compact, lighter and stronger forged products, Aichi Steel will contribute to manufacturing ever-better cars through the development of next-generation units for automobiles.

^(*) Servo: Method of driving motors (servo-motors), enabling automated control with feedback of die rotational position data and press rotational speed data

^(**) Integrated forging and steelmaking process: Development and production process technology for integrating all processes from material design through to steelmaking, forging and parts process technologies

^(***) Net-shaping: Method of shaping the blank raw material as close as possible to the product shape to drastically reduce processing amounts

1. Construction : Servo press for research and development
2. Location : Aichi Steel R&D plant (Arao-machi, Tokai-shi)
3. Equipment : 1,200 ton servo press, high-frequency furnace and supplementary equipment for forging
4. Products : Forged products (R&D and prototypes)
5. Construction start: November 21, 2016
6. Operation start : June 2017 (planned)
7. Investment : 600 million yen

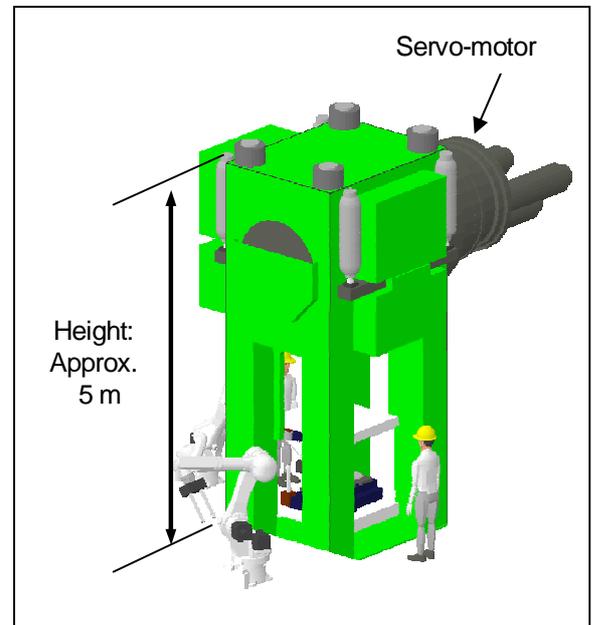
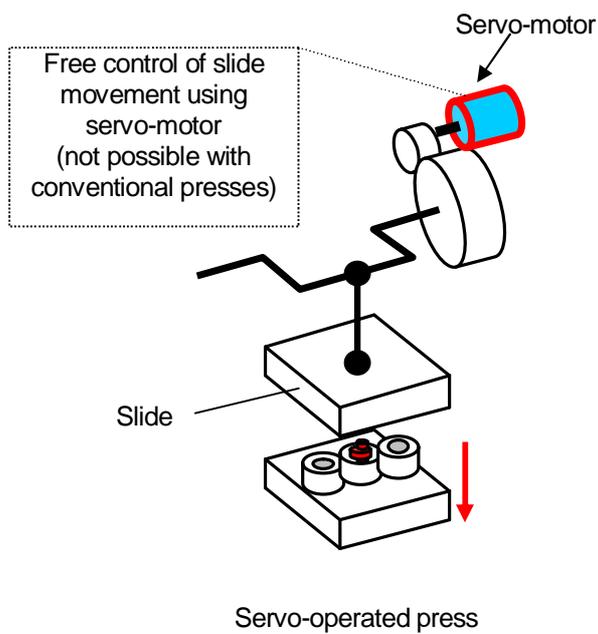


Figure: Diagram of servo press for forging