



ADVANCED ACTUATION

## SMART Hydraulic Actuator for Wire Forming Machine upgrade.

### Description:

Read how Kyntronics helped to improve the repeatability of a wire forming machine with its SMART Hydraulic Actuator (SHA) rated for up to 20,000 lbf (89kN) with 4-inch (102 mm) stroke.



A Kyntronics SMART Hydraulic Actuator (SHA) model S12C32-07 rated for up to 20,000 lbf (89kN) with 4-inch (102 mm) stroke was selected to cover the wide force and position range needed to press various product sizes and types.

The SHA supplied was an all-in-one actuator in a parallel configuration with foot mounting, drive cabinet and touch screen HMI. The pre-programmed HMI panel allowed the operator to quickly change position settings, speed and other parameters based on part and tooling requirements.

Due to the simplicity of the factory-tuned, drop-in ready actuation system, plant personnel were able to quickly and efficiently integrate the SHA into the existing machine frame and index table controls.

### Application:

Wire Forming Machine Upgrade

### Challenge:

Universal Metal Products Inc., a fabricated metal components manufacturer, was challenged to improve the repeatability and throughput of a metal-forming process that produces attachment hardware for the Automotive and Appliance Industries. In response, they launched a continuous improvement project to upgrade an existing wire forming press that would require a new press actuator, controls and modularity that could handle a variety of part types and sizes.

The servo-based position control provided in the SHA achieved repeatable process quality for the wire forming process that exceeded expectations. The programmable HMI included in the SHA allowed the customer to transform a once dedicated single-part machine into a flexible piece of production equipment that can easily adapt to many current and future product lines.

Due to the forces required to form their parts (> 5 tons), the manufacturer investigated using a traditional hydraulic system approach with an HPU, cylinder and servo valves to provide the precision control needed. They determined that the cost of these components along with the engineering, assembly and integration time was prohibitively expensive. In addition, the large footprint of the hydraulic power unit interfered with the new lean manufacturing layout and consumed valuable floor space.



**Product:**  
S-Model,  
S12C32-27

### Solution:



### Results:

The Kyntronics SHA combines the power of hydraulics with the precision of servo control resulting in an ideal solution for the Wire Press and Forming Process Upgrade.

Feedback from the customer's Project Engineer summarized how the Kyntronics SHA benefitted their project...

*"Working with Kyntronics was a great experience. This type of product is new to our company and they were very helpful and patient with any questions we had. We decided to install the optional HMI unit with the actuator making set up of our tooling painless. The parts we are forming among 6 tooling stations are very consistent hit after hit. The precision is greater than any other forming method we have used. We are overall very pleased with the actuators design and performance".*

— Universal Metal Products Inc.

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Find out more about how the [advantages of Kyntronics SMART Hydraulic Actuators](#) can improve your company's machines and processes.

Interested in how Kyntronics can help solve your actuation challenges, [contact our Engineering team](#).