PROCTOR
STANLEY M. PROCTOR COMPANY

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# Hydraulics:

## Slowing Down a Powerful Compacting Press


### Abstract

A customer faced a unique technical challenge: Control a powerful compacting press at extremely low speeds.


### Introduction

We at the Stanley M. Proctor Company frequently receive calls from people with industrial automation problems.

Whatever the challenge, it is usually something we have seen before in one way or another. Even if the challenge is entirely new to us, the basic laws of physics and mechanics still apply. Our team and our company have decades of experience in the field upon which to draw.

Often, solving a customer's problem boils down to a question of figuring out how to make a machine:

- Faster
- Slower
- More accurate
- More durable
- Run hotter
- Run colder

In this case, **much** slower.

### The Challenge

We received a call from a customer who knew of our expertise with Moog Servo Valves. The company needed to compress a specialized material in such a way that would result in a zero-void density compound.


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To achieve this, a large compacting press had to be controlled with high precision so it could apply tremendous force (230 Tons, +/- 0.25% FS) at extremely low speeds (0.002 in/min up to 0.2 in/min) so any trapped air would have time to escape.

The hydraulic actuator had a 14-inch diameter piston with a 10-inch diameter rod.

At the Stanley M. Proctor Company, we have over fifty years of experience with hydraulics. But this was a serious challenge. The speed at which this company needed to operate this compaction press was so low it would not even register on a standard hydraulic velocity measurement transducer.

## The Insight

Sometimes customers come to us looking for a replacement part or a solution for a product that is not functioning properly. But a lot of the time it is an application where they do not have existing equipment. For example, they might contact us because they need equipment to test a product, or they need a system to perform a certain function.

They may not know exactly what they need in terms of equipment. They have a problem and they know, either from word of mouth or because they are already a customer of ours, that if we say we can solve it, we can. And we will.

In this case, between our extensive catalog of quality hydraulic components and our decades of experience engineering standard and custom hydraulic power units, we were confident we had the tools and knowledge to solve the customer's problem.

## The Solution

To give the customer high-precision control over this compaction press at unimaginably slow speeds, we created a custom control system comprised of three components:

- Moog Servo-Proportional valve
- Temposonics SSI position transducer
- Delta Computer motion control system

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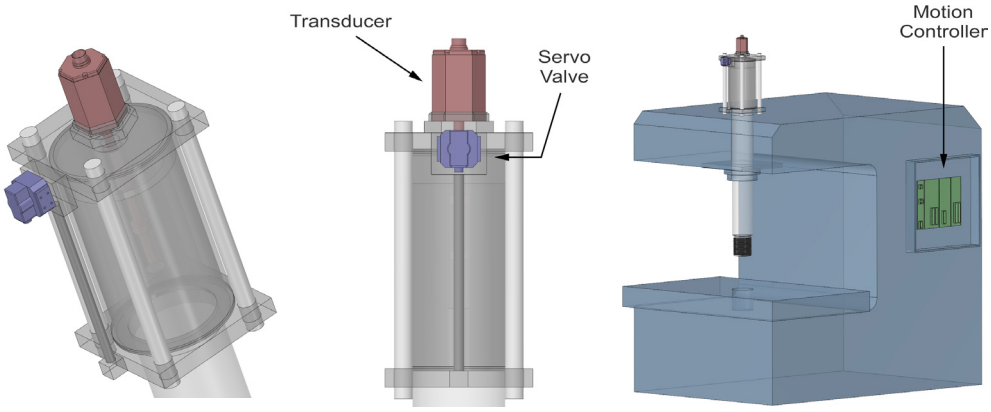


With the Moog servo valve applying the correct force, the Temposonics transducer precisely monitoring the speed, and the Delta Computer controller managing both control loops, the compacting press was able to perfectly execute its objective and outperfomed the customer's specifications. Needless to say, the customer was thrilled.

## How Can We Help You?

What problem can we help you solve? To request a quote or schedule a complimentary solutuions consultation, just drop us a note using our simple contact form. We look forward to hearing from you.

### About the Stanley M. Proctor Company

Since our founding in 1955, the Stanley M. Proctor Company has specialized in engineered manufacturing solutions and the distribution of pneumatic, hydraulic, and electric plant automation products, all backed by outstanding expert support. Our customers range from small businesses to Fortune 100 companies.

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