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Air-Hydraulics, Inc. Case Studies

Air-Hydraulics has created many customized machines for our customers needs. Our line of **Hydraulic Presses**, **Air-Hydraulics Presses**, and **Air Presses** can be easily modified to meet your form, fit, and control function requirements, or integrated into a full turnkey Press Automation System. Our design and application engineering will work with you to offer you, our customer, and an affordable solution to your assembly and/or forming needs. Below is our listing of email newsletters we have sent out.

Contact Us Today Phone: 1-800-837-4355 or Email: info@airhydraulics.com

Affordable Press Monitoring for Quality Control

Case ID: #11225: Sometimes, the issue is not technology but finances. LifeFitness in Franklin Park, Illinois, had needs that are usually handled by our [Signature Analysis Press SIG-400](#), but that technology did not fit into their budget. Further, while our client had no need for the distance monitoring that would go along with it, they did need precise press force monitoring for every assembly.

"We are assembly factory," said Robert Langenfeld, the company's Sr. Manufacturing Engineer. "We needed it to perform pressing on sub-assemblies such as the bearing/hub sub-assembly, and bearing/pulley sub-assembly." LifeFitness already has an Air-hydraulics press, so when they needed a machine with greater capabilities, that is where they went.

To meet both the technological and financial needs of LifeFitness, Air-Hydraulics provided them with a [Model C-400 Air-Hydraulics Press](#). This affordable press generates 10 tons of pneumatic press force using only 100 psi of shop air. The C-400 boasts a heavy duty C-frame and matching floor stand, adjustable press speed and force, and the full length of power stroke. Further, the C-400 offers the following features:

1. A throat depth of 6.25 inches from center of ram to back.
2. Standard daylight of 14.43 inches.
3. 2.0 inches of additional stroke, for a total press stroke of 6.0 inches.
4. Maximum standard press stroke of 4 inches, which can be adjusted down 2 inches, using a precision adjustment device.
5. Precision controls and measurement devices, including:
 - Our EDP-1 Control Package with our basic press control circuit, dual ergonomic push-button activators, and an input of 115 VAC.
 - Our E-FI; Fault Circuit with the automatic ram return option with fault indicator and reset for short stroke notification (when the press stroke did not complete its normal cycle), ram pressure initiate an adjustable press dwell timer to return ram. Includes a pre-set pressure switch, an adjustable press dwell timer, and a fault indicator\reset button and fault circuitry.

- A rod-end load cell specifically designed and manufactured for a [Model C-400 Air-Hydraulics C Series Press](#). It comes complete with 5 foot cable. Rated at 20,000 lbs. and with a typical output of 2 mV/V, the unit is easily screwed into the press's ram. The load cell's mating female ram mounting hole is, 5/8-11 x 1.00 UNC 2B, similar to the press's specifications, limiting or eliminating the need to redesign tooling.
- Our TQM-700 Digital Force Indicator to measure press force. The unit is single channel, compact, and inexpensive, with 6-digit display, manual alarm set points with contact output, a bidirectional RS-485 interface, one sensor input, a high & low set point display switch, excellent electrical noise rejection, and analog output jacks, all installed onto the press.

When activated by the selector switch, this system will monitor the press force, set by an adjustable high limit force and an adjustable low limit force, on the TQM monitor. This system will only monitor the press force. If, during a press cycle, the force is not achieve, press does not make the low limit threshold setting, the TQM 700 Press force Monitor red Rest\Alarm light and push button will illuminate, indicating that the press cycle just completed may have a suspect non-conforming part or assembly. The press will NOT cycle again until the TQM 700 red Reset/Alarm illuminated button is pressed by the operator, acknowledging that the suspect non-conforming part\assembly has been removed from the press fixture and segregated from the good parts\assemblies. The same will take place if the press force exceeds the high limit force.

- A monitor, interfaced into the control package of the C-400, alarming the operator of any non-conforming assemblies. This is to prevent the suspect assembly from moving further up the production stream.

According to Langenfeld, the new press was delivered in a timely fashion and installed on schedule and according to his expectations. "In both purchase and performance, the [Air-Hydraulics C-400](#) certainly meets my expectations," he said. "It is suitable for the application, and in one respect actually exceeded my expectations since it comes with three operating modes instead of two. I am not sure if we will use all three, but it is good to have the added flexibility if we need it."

LifeFitness: Another satisfied customer!



EMAIL US for additional information & specifications on Affordable Press Monitoring Packages to meet your application needs.

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