

ATLAS Load Cell Calibration System ATLS-0000

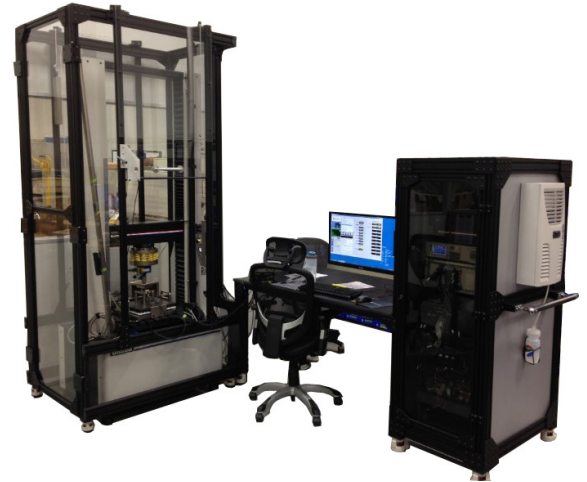
Introducing ATLAS (Advanced Testing, Laboratory Acquisition System), the all new state of the art equipment that sets the standard for Test and Calibration equipment utilizing off the shelf components that are available worldwide. With modern minds and past experience, this system is built towards minimizing human effort and maximizing product quality.

This year, Humanetics is debuting its new ATLAS load cell calibration system. Our Engineering and Design Teams are continuously looking to innovate the next generation of test equipment, products and methods, and have dedicated the past years to develop the modern successor to the existing dated calibration machines.

Henry Petroski, a famous American engineer and professor once said: “successful design is not the achievement of perfection but the minimization and accommodation of imperfection”. The ATLAS was designed with that exact mantra in mind – incorporating the most up-to-date, state-of-the-art, hardware and software to drive manufacturing and operations towards the future of automation. ATLAS is capable of carrying out three distinct test functions that were previously performed at three separate test stations by consolidating these functions into one test station. Calibration time and cost therefore are greatly reduced.

Overview

The ATLAS Load Cell (LC) tester is primarily used in calibration and testing of load cells used in Anthropomorphic Test Devices (ATD) and very selective secondary devices that are used in ATDs. The tester is integrated with pre-selected hardware and a custom developed software to run and control the entire system.



The tester uses a Load Frame that is electrically custom made to provide additional features towards the safety of the user and the Device Under Test (DUT). The tester also comes with an Automated Calibration Equipment (ACE) box that is designed around a National Instruments (NI) DAQ module with precision electronics that make it a perfect LC and a precision voltage source to troubleshoot the entire system and perform amplifier calibration through National Institute of Standards and Technology (NIST) traceable device.

Key Features

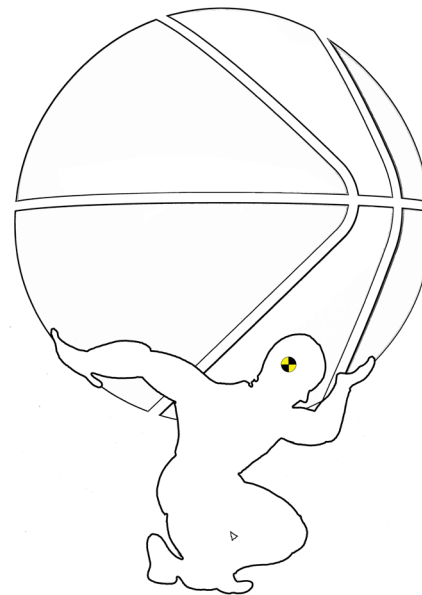
- The overall software is version controlled, this helps to capture and save all the changes into a secured repository.
- The software has different levels of user privilege which helps to define the capabilities of each user.
- Full manual diagnostic troubleshooting mode enables higher level users to access and control over all the low level components of the system. It helps to determine the root cause of any anomaly as observed by the user.

(Con't)

ATLAS Load Cell Calibration System (con't)

Key Features (Con't)

- Advanced and robust safety monitors help the user to bring the station to a safe stop such that it does not hurt the user and the DUT.
- An in-depth statistical analysis provided by the system helps to evaluate the outcome of the system and in-turn helps to streamline production process within limits.
- Ergonomically configurable for left and right handed operators
- A detailed log of all tester activity is retained for start to stop of tester software.



Standard Equipment

Base ATLAS Controller (ATLS-3000)

General Features			Data Acquisition and Control	
	Parameter	Value	Component/Parameter	Qty
1	Ambient temperature range	0 to 55 °C	1 PXIe Chassis	1
2	Relative humidity range	10 to 90%, noncondensing	2 8 Ch. Bridge Input Mod	1
3	Preventative Maintenance	Relay usage counters	3 Triple Output Programmable DC P/S	1
4	Power Requirements (Dedicated service required)	207 – 243 VAC, 50/60Hz, 20A, 1 ϕ Or 110 – 120 VAC, 60Hz, 20A, 1 ϕ	4 Shunt Resistor Multiplexer	4
			5 Controller	1
			6 A-D & DI Module	1
			7 Digital I/O Card	1
			8 DMM	1
			9 High Resistance Test	1

Load Cell Testing Features		
	Parameter	Value
1	Programmable load cell excitation voltage	2.5-20VDC @ 1A
2	Analog Bridge Channel	8Ch, 24-bit ADC simultaneous sample
3	Shunt Tolerance	0.01%
4	Selectable Shunt Values	10k, 20k, 30k, 40k, 60k, 63.4k, 80k, 100k, 120k, 127k, 150k, 160k, 200k, 255k, 300k, 320k, 500k, 640k, 1280k
5	Manual Shunt Availability	Option for “any value” located on Pin Box, connected via banana jacks