

Customized Test System for Aerospace Motors

APPLICATION

Magtrol designed this Custom Motor Test System for the testing of various aerospace motors for both commercial and military applications.



COMPONENTS

Custom Control Consoles

Since both AC and DC motors are tested with this system, two separate control consoles were built—one for AC and one for DC. Besides having its own corresponding power supply (with GPIB interface), each console is equipped with the following:

- DSP6001 High-Speed Programmable Dynamometer Controller
- Power Analyzer: Model 6510e Single-Phase for DC console, Model 6530 Three-Phase for AC console.
- M-TEST 4.0 Motor Testing Software: complete with PCI-GPIB card and cables
- PC, 15-inch flat panel monitor and slide-out keyboard
- Color laser printer with flip-up shelf (mounted directly on side of control console)

Custom Dynamometer Table

Holds 5 (short base plate) dynamometers, each with its own dedicated motor fixture and individual vibration isolation:

- 1 HD-106-6N-0100 Hysteresis Dynamometer with AMF-1 Adjustable Motor Fixture
- 1 HD-100-6N-0100 Hysteresis Dynamometer with AMF-1 Adjustable Motor Fixture

- 1 HD-400-6N-0100 Hysteresis Dynamometer with AMF-1 Adjustable Motor Fixture
- 1 HD-700-6N-0100 Hysteresis Dynamometer with AMF-2 Adjustable Motor Fixture
- 1 HD-815-6NA-0100 Hysteresis Dynamometer with AMF-3 Adjustable Motor Fixture

Overhead plug-in panel contains separate AC and DC outlets for connection to each power source.

Three Model 5500 Manually Controlled Switchboxes are rack-mounted below the table for quick and easy interfacing between the dynamometers and controllers, without having to reconnect the brake and control cables.

A PC I/O card, selector switches, relays, and related wiring are incorporated into the system to allow the operator to change the direction of rotation of the motors under test. As a result, both forward and reverse test data can be collected into one data set and reported together.

ON-SITE SERVICES

In addition to the usual CMTS services of design, assembly, wiring, testing and documentation, Magtrol provided on-site setup and training for this system.



www.magtrol.com

MAGTROL INC

70 Gardenville Parkway
Buffalo, New York 14224 USA
Phone: +1 716 668 5555
Fax: +1 716 668 8705
E-mail: magtrol@magtrol.com

MAGTROL SA

Centre technologique Montena
1728 Rossens/Fribourg, Switzerland
Phone: +41 (0)26 407 3000
Fax: +41 (0)26 407 3001
E-mail: magtrol@magtrol.ch

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