

CENTRIFUGE Model C350



Acceleration range	1 to 400 g at 24 inch radius
Speed range	0 to 765 rpm (0.1 rpm indication)
Radius	15 to 33 inches
Load capacity	30,000 g-lbs
Test Package weight capacity	200 lbs.
Test Package envelope	18 X 18 X 18 inches
Electrical power required	230VAC, 3 PH, 60HZ, 15 KVA

The Space Electronics Model C350 Centrifuge subjects payloads (mechanical and electrical components) to precise values of linear acceleration. The 66 inch arm allows loads of up to 30,000 g-lbs (product of payload weight times acceleration in "g"). Two opposed 18 inch square platforms provide versatile mounting with grids of tapped holes.

Optional slip rings allow direct contact between stationary control hardware and the rotating test assembly. Up to seventy-two (72) contacts may be provided for AC, DC, Digital, or microwave communications.

Control A manual control console houses a digital RPM indicator (0.1 rpm increments), speed control potentiometer, power ON/OFF and remote/manual switches, and warning lights. Connectors for RS232 RPM output signal and remote speed control input are also provided. An optional computer control and data acquisition system is also available.

Safety In addition to the usual heavy steel shroud surrounding the rotating arm, the C350 contains a unique safety feature which limits the forces on the anchor bolts in the unlikely event of catastrophic failure of the payload.

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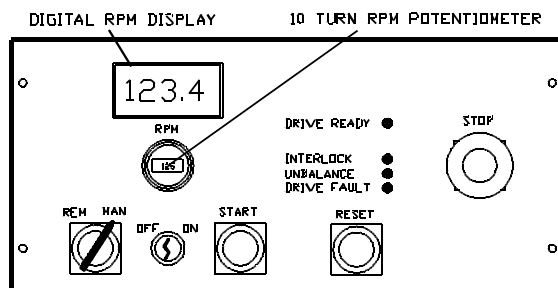
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KEY FEATURES

1. Center Alignment Hole - A pilot hole is provided at the center of each payload mounting plate. This hole is at a 24 inch radius and serves to:

- assure repeatable payload location
- provide a pivot point for balancing
- help resist the shear load.

2. Manual Operation - The centrifuge can be easily operated in manual mode by means of the panel mounted motor and speed controls. Automatic shut down and other safety features are fully operational during manual operation.



3. Automatic Operation - The remote/manual switch on the console permits operating the centrifuge from a computer (or programmable controller). The computer console and keyboard become the primary operator interface. The input connector on the back of the console accepts a 0-10 volt DC input representing an acceleration profile. The RS232 RPM output may be used for closed loop (cascade) control and/or speed indication. A wide variety of data acquisition components are available.

4. Built-in Balance Mechanism - The centrifuge can only operate safely if the payload and counterweight are balanced. A built-in mechanism allows the operator to detect static unbalance (CG offset) so that ballast can be added to compensate.

5. Unbalance Vibration Detector/Shut down - An optional unbalance sensor on the centrifuge detects excessive vibration and automatically shuts the centrifuge down. This will prevent an improperly balanced load from reaching full speed where damage might occur. It will also provide immediate shut down in response to

sudden vibration onset. This feature is particularly useful if the centrifuge and control console are not located in the same room.

6. Safety Interlocks - Safety interlocks are provided on the access door and lid. An interlock contact is provided so the user can install additional safety interlocks at strategic location(s), such as the bunker door. Main power is controlled by a keyswitch on the control console. This permits the operator to lock the switch and remove the key before entering the centrifuge bunker.

7. Failure Control Feature - In the event of a catastrophic payload failure, the enclosure is designed to break free of the base and rotate, dissipating the energy of the rotating arm assembly by friction. Guides prevent the enclosure from lifting off the base.

8. Heating/Cooling Operation - The centrifuge may be provided with an optional insulated shell and ductwork so that hot or cold air may be supplied to the centrifuge enclosure during a test. To prevent condensation in the bearing housing during a chilled test, a hot air blower is installed to circulate hot, dry air through the bearing housing.



A desktop computer can be used to perform pre-programmed acceleration profiles. DC signals are output to the control console defining speed and acceleration rates. Sensor outputs (ie. RPM, g, etc.) from the machine can be read by the computer for analysis.