

OPERATING INSTRUCTIONS

Motor-Driven Rotator with Digital Display No. 31377-01

1. Introduction

The Motor-Driven Rotator with Digital Display provides a mechanical source of rotary motion over a range of possible speeds. You can rotate objects in either a horizontal or vertical position.

2. Description

The apparatus is basically a motor-driven shaft that turns a universal chuck. The chuck has a variable inner diameter of 1/16" to 3/8" to attach objects such as circular motion or stroboscope disks or centripetal force apparatus. The chuck will support the 8mm-diameter Rotator Spindle (74425) to attach objects needing a spindle with this diameter.

The rotator uses an advanced, electronically controlled DC motor. The design of the motor features permanently lubricated ball-bearing shafts that give excellent speed control.

You can rotate the motor and chuck 90° within the casting to provide horizontal as well as vertical rotary motion. A special guide pin locks the motor mounting against the rotator base in the horizontal or vertical position selected for smooth, nearly vibrationless operation.

The rotator's controls are:

- *Power on/off switch* — Flip this switch on to supply power to the rotator. The switch lights up when the unit is turned on.
- *Speed control knob* — Rotate this knob clockwise to increase the speed of rotation and counterclockwise to reduce the speed of rotation.
- *Forward/reverse (rotation direction) button* — The switch is interlocked with the optical speed sensor to prevent switching directions at high speeds, avoiding possible accessory damage.
- *Revolution count/rpm switch* — The revolution count switch is a toggle that gives a running count of the total number of revolutions completed or the revolutions per minute rate.
- *Freeze display switch* — The display switch holds the revolution count/rpm display information for your viewing, so you have time to record data. This feature is especially good when you must count the revolutions over a designated period of time.
- *Reset button* — This button zeros the digital display.

Besides the digital display there are five indication lights. The "rpm" and "revolution" lights indicate which mode the digital display is in. The "forward" light indicates clockwise rotation and the "reverse" light indicates counterclockwise rotation. The "speed" light gets brighter and dimmer as the motor

speed increases or decreases.

3. Specifications

Speed Range	200-1800 rpm, continuously adjustable
Torque Range (at drive shaft)	0.11Nm (1.8 lb.-inch)
Motor Type	Permanent magnet DC, reversible
Overload Protection	250V 3A fuse
Weight	8.2kg
Dimensions	28 x 28 x 11.5cm high
Power Requirements	120VAC, 60Hz, at 1 ampere
Chuck Capacity	From 1/16" to 3/8" diameter

4. Operation

Turn the unit off. Mount the desired accessory to the rotator and tighten the accessory in place, using the universal chuck key. Check that the speed control knob has been turned to the left as far as it will go. Turn the unit on and select the desired direction and speed.

Use one of two methods to measure the speed of rotation:

1) Select "rpm" on the "revolution/rpm" switch and read the value displayed

or

2) Zero the counter by pushing the "reset" button, select "revolutions" and time the digital display with a stopwatch

An ordinary wristwatch or wall clock can be used as long as care is taken to assure that an accurate time interval is used.

5. Maintenance

The Motor-Driven Rotator with Digital Display needs no special maintenance. If you should experience any difficulty with the apparatus, please contact Central Scientific Company, giving details of the problem. To ensure better service, please do not return any item to Central Scientific Company until we have sent you authorization.

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