

## 1270VS SERIES SINGLE-AXIS RATE TABLE

### STANDARD FEATURES

- Variable Speed Design
- RS-232 Interface
- Monitor Actual Speed with LCD Display
- 0.1% Speed Accuracy
- Bi-Directional
- 16 Line User Slip Ring (See Options)
- Closed-Loop Servo Control
- 21,600:1 Overall Speed Range
- 1-9.999 deg/min, 10-99.99 deg/min, 100-999.9 deg/min and 1000-21600 deg/min speed ranges
- Electric Clutches
- Vacuum Line
- Variable Acceleration
- Automatic Homing
- Adjustable Rate Calibration Pulse Interval
- Rate Calibration Pulse

### DESCRIPTION

This test instrument is used for the testing and calibration of sensors and gyroscopic instruments which require a precise and accurate angular velocity. The 1270VS rate table is an automated, variable speed table with a 21,600:1 speed range.

The front panel controls and liquid crystal display give the user full digital rate entry with multiple rate presets. The front panel consists of a power switch, LCD display, and four keys: run/menu, increase, decrease, and enter.

Full computer controlled automation can be accomplished with an RS-232 (standard) or IEEE-488 (optional) interface. The closed-loop motion control system consists of a DC servo gearmotor, a controller, and an optical encoder.



The encoder is located on the high speed shaft of the gear motor to provide high resolution feedback for precise speed regulation. A gear train with electric clutches is used to select four different ranges.

The rate table can turn in both clockwise and counterclockwise directions. Clutches protect the gear train if large forces are applied to the tabletop. A four-point contact bearing is used to resist axial, radial, and moment loads while providing smooth rotation. Slip rings and a vacuum line are also standard features of the test table.

### OPTIONS

- Various slip ring packages
- Vacuum Chamber System
- Pedestal for floor mounting
- IEEE-488 (GPIB) Communication Interface, via external converter harness
- Engraved markings every 1° on table top
- Calibration Kit
- Various Mounting Brackets are available. Refer to the Mounting Bracket & Adapter Plate data sheet.
- *For special requirements, please contact Ideal Aerosmith regarding system customization.*

## Model 1270VS Specifications

<b>Table Surface Characteristics</b>	
• Diameter, in (mm)	12 (305)
• Hole Pattern	Square pattern 10-32 UNF threaded on 3 inch centers
• Face Flatness	.003 inch TIR
• Face Runout	.003 inch TIR @ 6 inch Radius
• Material	Aluminum with 32 RMS surface finish
<b>Test Load Capacity, lbs (kg)</b>	50 (23) Centered
<b>Table Configurations</b>	
• Dimensions, in (mm)	14.5 Wide x 16.6 Deep x 10.5 High (368 x 422 x 267)
• Weight, lbs (kg)	59 (27)
<b>Drive Type</b>	DC Servo Motor
<b>Power Requirements</b>	IEC 60320 Power Entry Module. 115, 50/60 Hz Standard (230 VAC optional)
<b>Leveling</b>	
• Range and Resolution	± 1 Degree, Continuous
<b>Rotational Limits</b>	Unlimited
<b>Operating Environment</b>	
• Temperature/Relative Humidity	32° to 130° F (0° to 54° C), 20% to 85% non-condensing
<b>Finish</b>	Machine blue paint on base, Black anodizing on tabletop
<b>Vacuum Line</b>	Pneumatic air line for testing vacuum instruments 1/4 NPT male on base, 1/8 NPT female on tabletop
<b>Slip Ring</b>	
• Standard Connector	37 pin D-Sub w/female connector on tabletop, male connector on base
• Standard Ring	16 lines. 2 Amp Max, 210 VDC Max. 20 mΩ @ 5 RPM, 6 VDC, 50 mA
• Optional Rings	Available with 22, 28, 34, or 64 lines
<b>Communication Interface</b>	
• Type	RS-232
• Speed	9600 BAUD
• Connector	9-Pin D-Sub Female
<b>Rate</b>	
• Speed Range	1-21600 Deg/Min, Bi-directional
• Accuracy	± 0.1%
• Units (Selectable)	Deg/Sec or Deg/Min

## Buyer's Guide

Model Number	Part Number	Description
1270VS	230005-1	115Vac, 16 Line Slip rings
1270VS-500	230005-7	115Vac, 16 Line Slip rings, 500 deg/sec max rate
1270VS-SR22	230005-13	115Vac, 22 Line Slip rings
1270VS-SR28	230005-10	115Vac, 28 Line Slip rings
1270VS-SR34	230005-24	115Vac, 34 Line Slip rings
1270VS-SR64	230005-20	115Vac, 64 Line Slip rings
1270VS-230	230005-5	230Vac, 16 Line Slip rings
1270VS-230-SR22	230005-23	230Vac, 22 Line Slip rings
1270VS-230 SR28	230005-15	230Vac, 28 Line Slip rings
1270VS-230-SR34	230005-25	230Vac, 34 Line Slip rings
1270VS-230-SR64	230005-19	230Vac, 64 Line Slip rings
GPIB Converter	230005-51	GPIB (IEEE-488) – RS-232 Converter
Vacuum Chamber	230105-1	Vacuum Chamber System for 1270VS
Pedestal	230005-907	Pedestal
1270VS Calibration Kit	230005-50	Calibration Kit for 1270VS

For special requirements or custom specifications, contact Ideal Aeromsmith. Specifications are subject to change without notice. Please call for pricing.

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