

Major Features of S-311

Universal Spin Stand fully equiped for Head Testing and Disk Testing, useing 90 degree rotated heads or 0 degree rotated heads

Uses HGA's mounted in easy change adapters instead of permanently attached to arms for top and bottom testing

Adjustable skew angles that emulate rotary actuators

Step size automatically varied as a function of skew angle

Uses a minimum of 6 balls in the clamp

Dynamic head loading at any radius

Interchangable "Z" height head adapters

Interchangable spindle chucks

Optical encoder

Programmable spindle speeds from 200 rpm to 5000 rpm with low jitter

PRELIMINARY

9/28/88

Description

The Guzik Technical Enterprise S-311 spinstand is an electro-mechanical device designed to test and evaluate media and heads used in rigid magnetic storage devices. A precision mechanism supplemented by a unique spindle speed control system and a positioning control system with a microstepper driver make the S-311 spinstand suitable for engineering and production applications including Disk Tester, Head Tester and Glide/Burnisher.

The S-311 is controlled by menu driven software from an IBM PC/compatible computer via a Guzik Technical Enterprise Read Write Analyzer or special interface control pcb. Many software packages are available for different applications.

The S-311 has the ability to microstep with a resolution of 3.906 microinches. This allows it to be used for offtrack testing and makes possible high resolution track profile analysis and track interference analysis.

The S-311 is designed to be a universal spinstand that as a head tester is capable of double sided testing of all types of hga's such as inline or sidewinder, swage mounts or screw mounts; as a disk tester, it can test media as small as 2.5" to as large as 9", with optional spindles or chucks. Through the use of the optional Dual Head Loader and Hit Detector PCB, the spinstand becomes a high through-put Burnish/Glide Tester. It is designed to allow easy and fast conversion of disk sizes and head types. Any skew angle from - 7 degrees at the I.D. to + 22 degrees at the O.D. can be easily adjusted with the step size varied as a function of track location through software, thereby accurately simulating a rotary actuator without an X/Y positioner. Using a patented arrangement of hardware and software, the S-311 is capable of positioning times, track to track, of 5 to 8 milliseconds

Features

UNIVERSAL SPIN STAND FULLY EQUIPED FOR HEAD TESTING AND DISK TESTING, USEING 90 DEGREE ROTATED HEADS OR 0 DEGREE ROTATED HEADS

USES HGA'S MOUNTED IN EASY CHANGE ADAPTERS INSTEAD OF PERMANENTLY ATTACHED TO ARMS FOR TOP AND BOTTOM TESTING

ADJUSTABLE SKEW ANGLES THAT EMULATE ROTARY ACTUATORS

STEP SIZE AUTOMATICALLY VARIED AS A FUNCTION OF SKEW ANGLE

USES A MINIMUM OF 6 BALLS IN THE CLAMP

DYNAMIC HEAD LOADING AT ANY RADIUS

INTERCHANGABLE "Z" HEIGHT HEAD ADAPTERS

INTERCHANGABLE SPINDLE CHUCKS

OPTICAL ENCODER

PROGRAMMABLE SPINDLE SPEEDS FROM 200 RPM TO 5000 RPM WITH LOW JITTER

Powerful microprocessor based controller

Microstepping with 3.9 microinch resolution

Low electrical noise

Low power requirements

Small clamp area

Small size, table top unit

Dynamically balanced spindle

Optional dual head loader for Glide/Burnish applications

Disk in Place sensor

Specification

Physical

Size:	24" x 12.0" x 18"
Weight:	150 lbs
Power:	110vac, 50/60hz, 7amps(max)

Environmental

Operating Temperature/Humidity:	20 deg C to 40 deg C, 90% relative humidity, with no condensation
Air Supply:	Class 100 clean air required

Spindle

Bearings:	Ball bearing
Interchangeable Spindle Chucks:	3.5" and 5.25"
Motor:	Programmable, brushless dc, 200 rpm - 5000 rpm

Axial Runout:

≤ 50 microinch TIR at disk mounting surface

≤ 25 microinch non-repeatable

Positioning Mechanism

Slide:

Crossed roller slide

Lead Screw:

.050" pitch

Straightness of Travel:

.000050"/inch

Linear Accuracy:

.000050"/turn

.000100"/inch of travel

Hysteresis:

+/- 50 microinch(max)

Step Size:

3.906 microinch(microstep mode)