



Makino Motorized HMC/VMC Spindle Test Stand *Technical Bulletin*

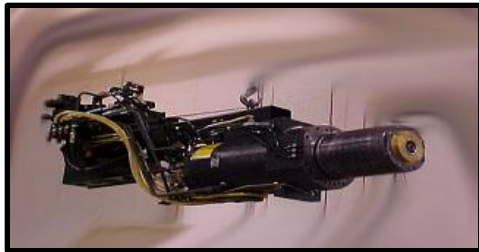
ISO 9001:2008 Registered
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K+S Services, Inc. has expanded our spindle testing capabilities with the completion of our custom designed Makino test stand. This fixture has been designed and engineered to support closed-loop running of Makino spindles to replicate our customers machine applications.

This stand has the capacity of operating high and low speed J, A, MC and MCB series Makino spindles. The hydraulic oil feed and reclaim system of the test stand simulate Makino's oil-matic bearing lubrication allowing us to control all aspects of functionality during our Quality Control Testing.

Due to the complex nature of Makino spindles and also to the significant amount of time required to remove and install the spindles, we built this test stand to insure that they will perform correctly in your machine. Everything from drawbar function and tool force retention to lubrication to sensor and encoder function is tested, confirmed and documented. Closed-Loop System testing is the only way to insure that the spindle performs correctly in conjunction with the spindle drive and other related machine components.

All spindles and precision rotating devices are dynamically balanced and ran on our state of the art Drive Systems. Our in-house capabilities to perform machining, motor rewinding and feedback repair departments ensure the highest quality while controlling costs and delivery times. K+S spindle repairs come with a full 1 Year In-Service Warranty and will help our customers to realize significant cost savings starting with our favorable repair pricing and continuing with excellent performance throughout it's extended operating life.



12 Month In-Service Warranty

All Units Are System Tested

No Charge Evaluation