

High Frequency Spindles for Test Applications

IBAG covers new applications

IBAG is a successful manufacturer of high frequency motor spindles for the high speed cutting and grinding. Did you know, IBAG is producing spindles for completely different applications, like for test benches?



High Frequency Spindles for Test Applications

IBAG covers new applications

Introduction

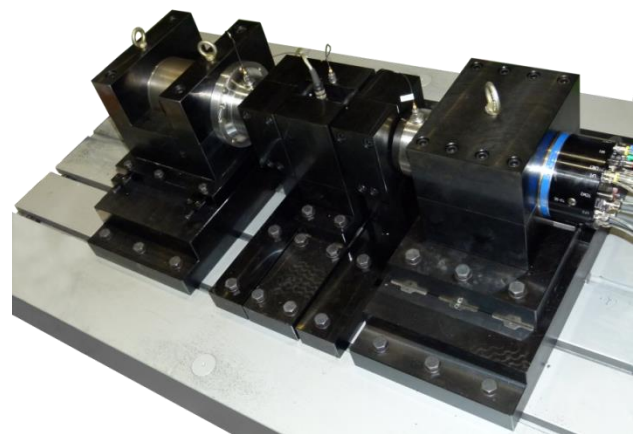
New technologies require drives and spindles with higher power and speeds. To be able to introduce them successfully, adequate test material is necessary, on the one hand to optimize the product during development, to the other hand during industrial manufacturing to insure to quality requirements. Right here IBAG can offer solutions with their long-term experience in production of high speed spindles with high power. Along with the spindles IBAG can also offer complete solutions for testing corresponding products.

Wide variety of applications

The requirements to the test vary from customer to customer. The most common test-benches are dynamometers, where the IBAG spindle can be used to drive a Device Under Test (DUT) or where it can be used as a brake. If the spindle is used to drive an external device, it is usually used in speed control. This means, the spindle will be accelerated to a given speed, where the DUT is loaded according to the desires of the customer. In the opposite case the spindle is used as a brake, this means the DUT is driving the spindle. In that case the spindle is used in torque control. The DUT can be loaded by a given torque to the spindle. The energy fed back from the mid-size and big spindle motor

can be fed back to the grid. The consumed energy from the grid will be reduced to a minimum, further an unnecessary heating of the workshop can be avoided in that way. The tests are usually performed with different speeds and loads. The test cycles can be hard coded in the control of the supply unit or be commanded by superior control. Also here, IBAG is able to realize the system according to the requirements of the customer.

On a further application the DUT will be accelerated to a given speed and tested only to mechanical strength while at speed (burst-tests). These tests require usually certain speed profiles, meaning the DUT will be accelerated over a longer period step by step to top speed and later, it will be decelerated accordingly. Also for



Korea Electrotechnology Research Institute (KERI)



these applications IBAG is providing complete solutions according the customers' requirements.



Kistler Instrumente AG

Manufactures of encoders and resolvers often produce products for very high speeds. These products need to be tested as well. IBAG offers for these application custom specific solutions too. The IBAG spindle is driving an external mounted encoder which will be tested and measured to the required properties. Also for these tests are solutions for single- and series tests possible.

There are also applications in material testing using IBAG spindles. One of those is the so-called Rotary Flexure Tester. A rod (DUT) will be clamped in two spindles laying in the same axis. One of those spindle is driving the rod, while the other is just running with. The counter spindle is mounted on a pivot, which executes a bending moment to the DUT. There will

be an alternating bending stress on the DUT while rotating. The test procedure can be accelerated by increasing the speed.

There are even test benches at IBAG in use. Those are completely designed and built at IBAG. On these test equipments the operator has the possibility to select the motor currently connected by the operator panel. All medias



Walter + Bai AG

necessary to supply the spindle can be controlled individually by the panel, and complex test cycles can be executed automatically. Important informations like current, speed, voltage etc. can be read on the operator panel or decentral on a PC in the office by Ethernet. If necessary, there are possibilities to interact to the test-process.

Competent, User Oriented Engineering

Since IBAG is not offering spindles only, but also complete systems, customized solutions for individual requirements of our customers are possible. Both, hard- and software will be designed and tested at IBAG. The systems are usually controlled by a superior control, either conventional by 24V-signals, or by bus system. The system can also be controlled by an operator panel, either by simple push buttons and potentiometer or by complex HMI with touch-



panel. If required, also mixed operation of all these possibilities are possible. There are (almost) no limits, just ask us.

rience. Do you have a test bench already, but does not fulfill today's requirements? Please ask, what solution we can offer. Even existing test benches can be modernized and brought up to the current state of the art.



HMI for Kistler Instrumente AG

Dipl. El. Ing. HTL Weindorf John,
IBAG Switzerland AG

From the idea to the final product and further more...

IBAG supports their customers from the beginning to the end. Is there a product you wish to test? Please ask us, we go along with you from the inquiry up to the final test equipment with our competent knowledge and long-term exper-

