

## EJE, EJK, EJKL Testing and Diagnostics Systems for Permanent-magnet Motors and Assemblies



- Parameter identification
- Vibro-acoustic diagnosis
- Can be combined with customers' testing equipment
- Semi- or fully automatic testing sequence
- Flexible application, easy change over for various motor types

### Design

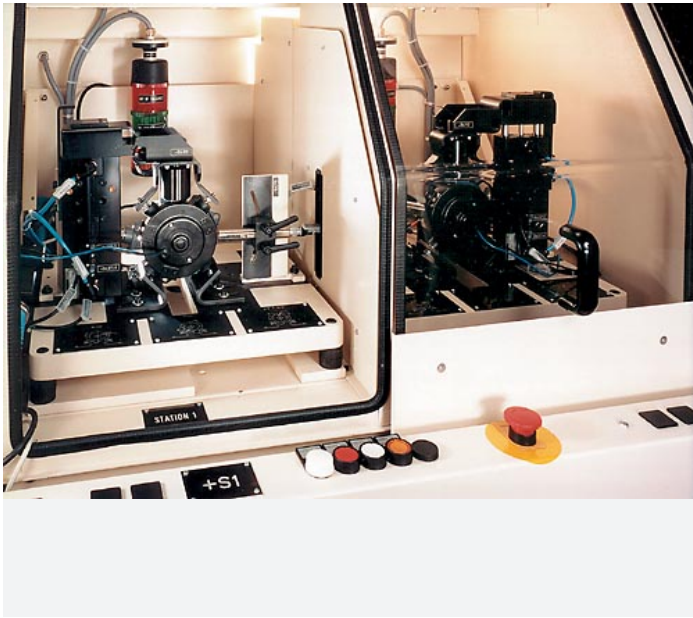
One or two-station machine with automatic test sequence in over-lapping cycles, manual or automatic part loading. Alternatively, the measuring system can be delivered as an upgrade to an existing test stand. The work-pieces can be delivered to the machine on pallets by transfer conveyor, or in boxes. Measuring systems built into the control cabinet, essentially consisting of an industrial PC with signal processor, TFT touch-screen and testing software.

### Range of application

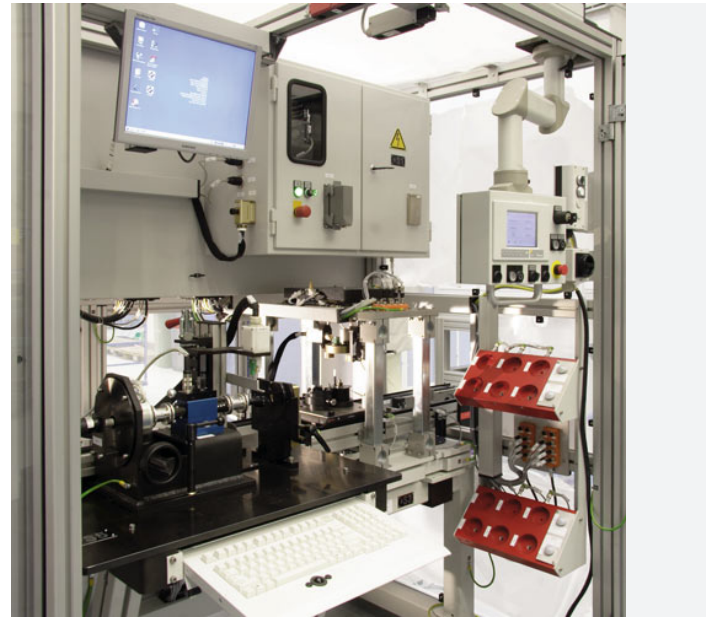
Performance and objective noise testing in series production of permanent magnet DC motors and assemblies, for example:  
ABS-motors, fan motors, regulating motors, sliding-roof motors, windshield-wiper motors, industrial motors, etc.

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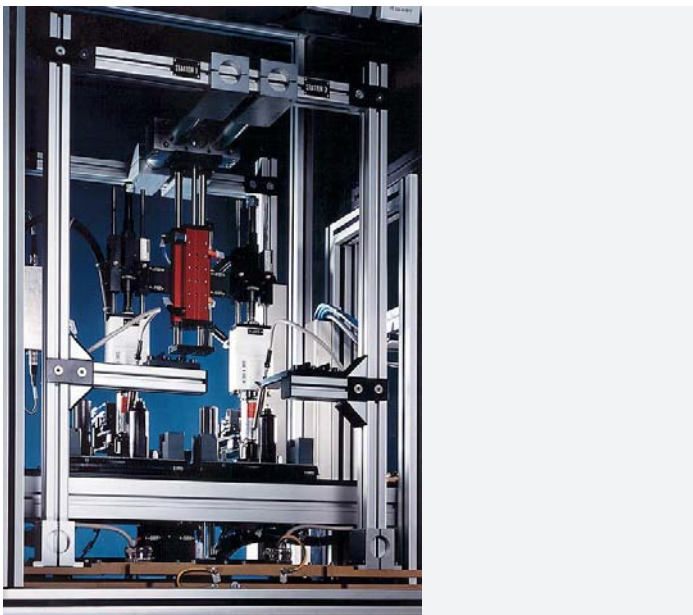
## Testing and Diagnostics Systems for Permanent-magnet Motors and Assemblies



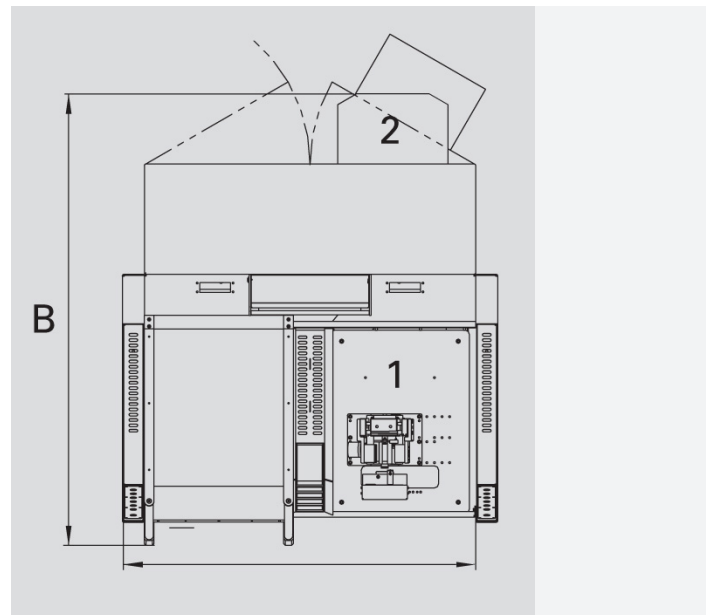
The PI system uses the parameter identification process to measure characteristic motor parameters such as resistance, magnetic flux, core loss, friction-moment, etc. This method makes it possible to determine the motor characteristic curves without load-coupling, whereby there are considerable speed advantages compared to conventional methods. Through deviations from specific parameters conclusions can be made concerning manufacturing errors like false or short-circuited windings, false magnetization, too high bearing or brush friction, etc.



Fully automatic testing permits the EJK diagnostic system to include one or more of the following: Parameter identification, single or multi-channel objective noise testing and an air-borne sound test (optional). The easy change over for various motor types guarantees flexible application. As with all PI/VAD systems, a powerful industrial PC is used for measured data processing and control of the testing sequence. Software modules tailored to the application allow a precise evaluation and help to ensure product quality.



The objective noise test provided by the diagnostic system can be used in many areas of industrial manufacturing and allows simple and cost-effective quality assurance. Within the framework of vibro-acoustic diagnosis the noise spectrum obtained from the test motor is analyzed to identify defective components through characteristic noise features. The VAD system is adaptive and can be calibrated to recognize quality-relevant noises or noise components on the basis of a reference noise pattern. No other method that can so effectively test the constructional measures – for a quieter, vibration-free, more comfortable product.



1 Testing table with sliding protective hood 2 Switch cabinet

Plan view (non-binding example: dimensions of the switch cabinet depend on the relevant application)



A background image showing a large industrial machine, likely a motor testing rig, with a large cylindrical component in the center. The machine is white and blue, and the scene is brightly lit.

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2) Data non-binding, dependent on respective equipment

3) Measuring time

4) Without hand ing