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Unbalance correction by addition of mass, using UV hardening 1-component epoxy material

Automates unbalance correction by addition of material

High balancing accuracy and process reliability for unbalance correction by addition of material

Easy integration into semi and fully automatic systems

Environmentally sound and safe to handle - meets current occupational health and safety regulations

Epoxy Unbalance Correction System

Range of application

Additive unbalance correction system for small and miniature electric armatures, fans and other rotors which cannot be corrected by removing material, or where unbalance correction by addition of material (application of a clip or 2-component balancing plasticine) can only be performed manually. The correction material used is a UV hardening 1-component epoxy resin which is applied to the rotor to be corrected with the help of a feeder system.

Principle of operation

The unbalance measuring instrument transmits the magnitude and angular position of unbalance to the correction station. After the rotor has been indexed to the correction position, the resin, which was specially developed for this process, is applied to the rotor with the help of a feeder system - with an accuracy of a few milligrams.

UV light is directed over the epoxy resin with high accuracy through an optical fibre cable, causing the resin to harden. The rotor can then be indexed to the second correction position, or removed from the machine for the next process step.

Structure

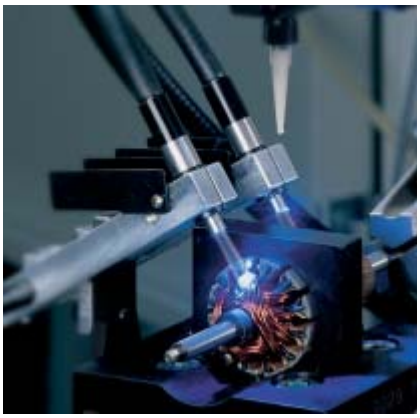
Epoxy unbalance correction system, consisting of a material specially developed for balancing, a high-accuracy pneumatic feeder system, and a UV-A light source.

- 1-component material with properties such as flow behaviour, density, weight, adhesion, etc. specially adapted to the requirements of balancing. The use of a 1-single component material eliminates the need to mix several components and therefore also renders a flushing process superfluous. There are no limitations regarding pot life.

- The correction material is supplied by a pneumatically operated feeder, which applies the resin with high accuracy to the component to be balanced. The feeding system is designed for low maintenance.

- The compact feeder head is physically separated from the material storage tank. This permits the epoxy correction unit to be used even in applications where space is at a premium.

- UV-radiation unit with wavelength adapted to the material used. To reduce scattered light, irradiation takes place through an optical fibre cable placed immediately over the material applied. This will cause the material to harden within a period of 3 seconds.



Important data at a glance

Feeder accuracy Feeding time /balancing plane	1 mg (depending on application) 2 - 4 sec
Hardening time	3 sec
Material density Temperature stability	1.8g/cm³ at T = 20 °C -40 °C to + 150 °C
Correction material is resistant to:	Oil, water, coolant, petrol, bio diesel
Storage conditions	6 months at room temperature in unopened original containers, stored in a dry and frost free location

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Balancing and Diagnostic Systems

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