

JET-Balancing with the AddMassJet®

Additive balancing method with high-tech adhesives

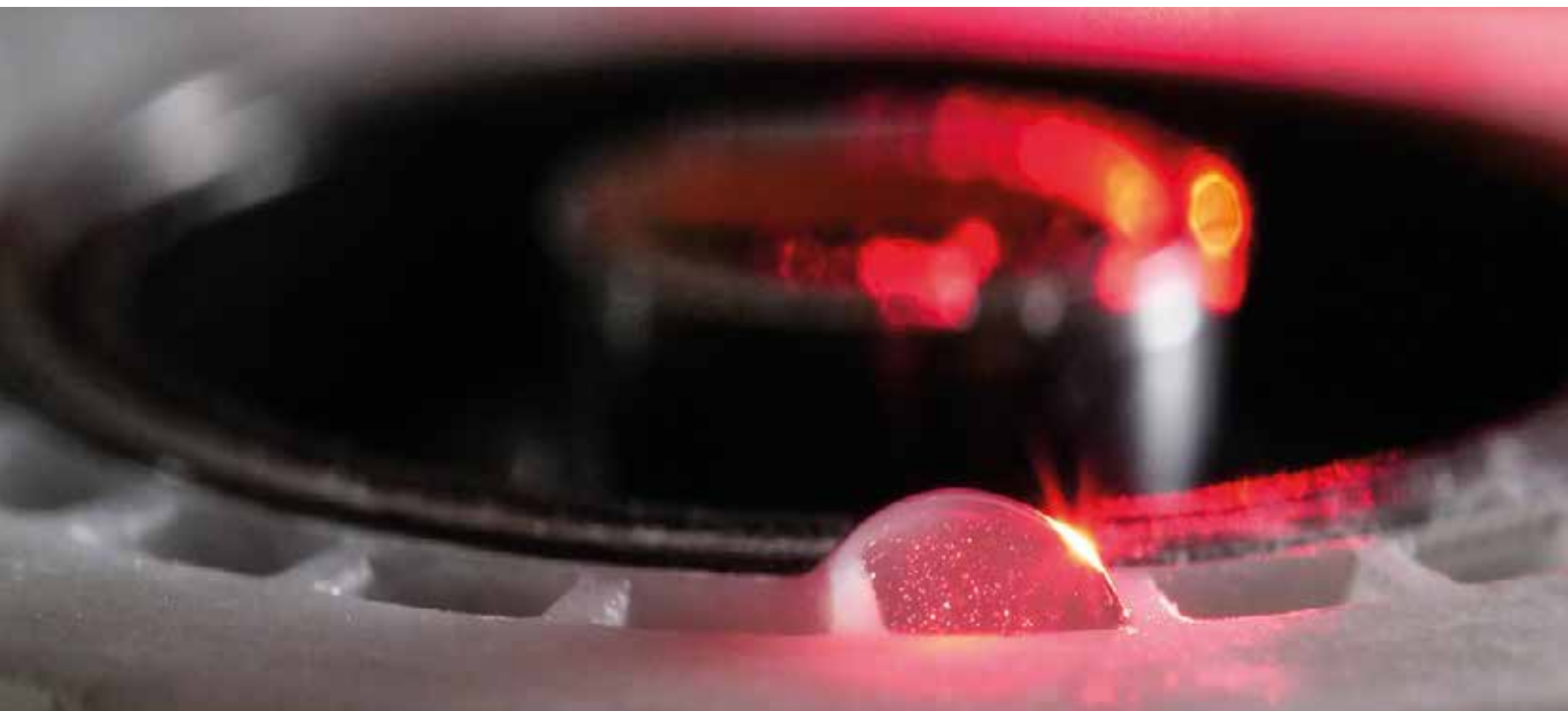
Precise, fast, chipless and process-safe

Up to now, unbalance corrections on small components have mostly been carried out subtractively - material is removed, mainly by grinding, drilling or milling. Here, undesirable forces are often exerted on the component and unwanted chips are almost always produced. Furthermore, all these subtractive processes require so-called „sacrificial mass“ that can be removed.

But what if there is not enough sacrificial mass on the component? If there are no surfaces where material can be removed without endangering the stability and trouble-free function of the component? Or a machining mass balance brings with it the risk of contamination of already mounted bearings or electronics?

For exactly these balancing tasks we have developed the additive unbalance correction AddMassJet®, the „JET balancing“.

Contact-free sprayed-on UV-curing adhesives compensate for the imbalance to within fractions of a milligram. High-precision, clean, force-free and chipless. At the same time, the process is very fast and allows very good cycle rates. The AddMassJet® process is perfectly suited for series balancing of small high-speed components, e.g. fans and fan wheels, pump impellers, electric rotors, etc. - and of course this also applies to partially assembled components.



The Jetting

Mass correction is carried out directly in the measuring station or in a cycle-time-optimized jet station. The precisely determined imbalances are compensated just as accurately by spraying on suitable high-tech adhesives. We are pleased that the AddMassJet® process now provides us with an additive correction option that matches the accuracy of our unbalance measurement. With up to 150 shots per second and a metering accuracy of 0.25 mg per shot, the correction is also very fast and clean.

The adhesive and its density are selected depending on the material of the component, the unbalance to be corrected and the subsequent operating conditions, such as ambient temperature and medium.



Light curing

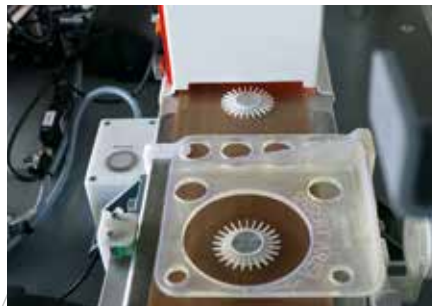
Light curing by irradiation with UV light can be performed directly on the measuring module or in a separate station to optimize the cycle time. In automated systems with several stations, the component passes under the UV lamp on a belt, for example. The process of curing can be controlled very well by UV light and is fast for a few seconds, a real advantage compared to 2K systems such as balancing putty.

For curing, we use LED lamps, which are characterized by significantly higher reliability, more constant output and less heat input than the gas discharge lamps still commonly used in some cases.

Customized to all requirements

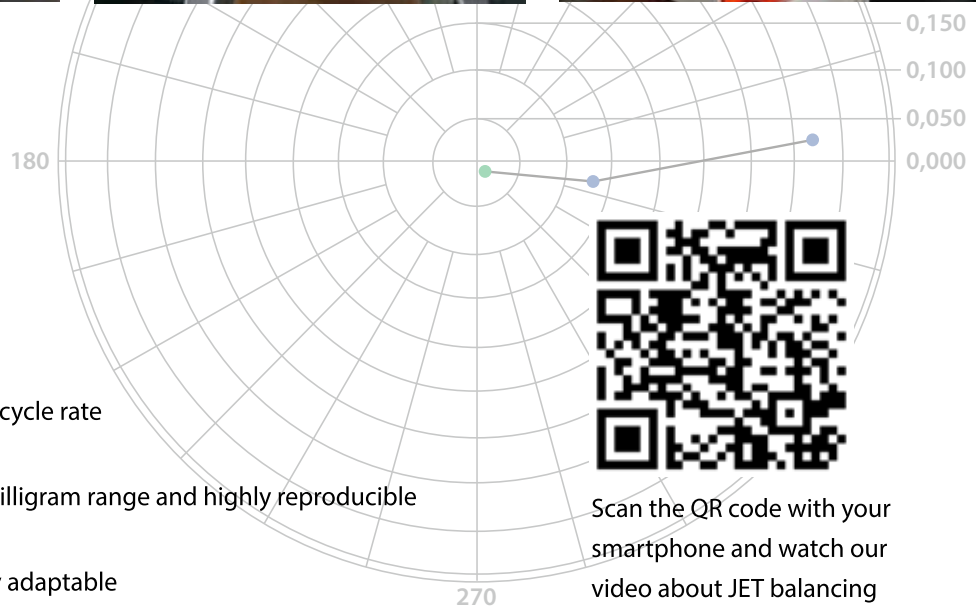
AddMassJet® stands for a modular balancing system that can be customized specifically to your components and requirements. The process always consists of the steps of unbalance measurement, correction by jet application of high-tech adhesives and light curing. The system can be used manually or fully automatically. Additional components, such as QR/DMC scanners, conveyor belts, etc., can be integrated. As usual with PMB, the process is controlled user-friendly via keyboard, touch screen and sensor button.

Also the unbalance measurement as part of the AddMassJet® system can be manufactured individually for you. Likewise, the AddMassJet® process can be integrated into our standard machine integration setups LB100, LB500 and the derived OnDesk100 and OnDesk500 table-top balancing machines.



Your advantages

- Precise and fast
- Clean, chip- and dust-free
- Contactless force-free
- Automated and manual fast cycle rate
- Accurate down to the sub-milligram range and highly reproducible
- Modular system. Individually adaptable





The Art of Balancing

The company PMB-Präzisionsmaschinenbau Bobertag GmbH was founded in 2008. Since then we have achieved a technological leadership in the field of ultra-precision balancing with our own measuring technology, software and complete balancing systems. From development and production to consulting, PMB stands for the highest quality in balancing technology. We work hand in hand with you. We are aware that we contribute an important part to the quality of your products. We support you in all aspects of your tasks and support you in planning and implementation with our know-how and our experience, which we have acquired in a wide field of applications. We are particularly proud of our balancing service - because our partners entrust us with their most important items: Their products!

We are certified according to DIN EN ISO 9001:2015

Services and solutions

- Balancing machines
- Balancing systems
- Balancing and analysing software
- Balancing service
- Operator training
- After Sales Service
- Research and development
- Consulting



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