KISTLER
measure. analyze. innovate.

Static stiffness and weak spot analysis

For manufacturing equipment

Type 9968-01-01-02-11-0-0-2

Low stiffness causes deflections in manufacturing equipment (e.g. machines, robots, etc.). This deflection negatively affects part quality parameters (such as dimensions, surface roughness and others) of machines and parts. Moreover, the deflections push the manufacturing industry to put in place additional machining and post processes which increase cycle time and thus downtime costs.

Description

The low stiffness of the manufacturing equipment can be caused by different reasons which can be subsumed in two categories: first mechanical and second electrical configuration of the equipment.
In mechanical configuration, different interfaces wear by time or loose strength due to interface pressure deviations (such as hydraulics, pneumatics, etc.). Our service can discover the interface with the highest stiffness drop, enabling maintenance and process development engineers and technicians to focus on the right area.

By using this service as a planned or unplanned maintenance activity, you can:

- Understand and optimize the stiffness and thus improve part quality and decrease cycle time.
- Increase the OEE (Overall Equipment Efficiency).
- Create a footprint of the machine and monitor the stiffness.
- Acquire reference values that can be used for technical specifications of new investments

Application

- This service can be used for CNC machines, robots, presses, test benches, forming machines and around where (high) forces act.

Location

This service is an on-site service and is carried out directly at your plant.

Prerequisites

To enable the on-site service, you as a customer need to make sure that the following conditions are met:

- Availability of machines and operators
- Possibility to operate the machines manually when doors are open
- Suitable fixtures to clamp the sensors (to be defined together with Kistler technician)

Benefits

- Increased OEE (Overall Equipment Efficiency)
- Improved part quality and lower cycle time
- Increased equipment life time
- Acquisition of stiffness data to be used as support for new investments

Documents

- Measurement data & protocol
- Kistler Service report

Service content

- Installation of measurement equipment incl. documentation for future repeats
- Measurement process
- Discussion of the results on site
- Reporting

Ordering key

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