

**Force Monitoring System
FMS Pad 300**



FMS – Force Monitoring System

The holding force of a clamping device during mechanical tooling is of special importance. It is relevant for tooling quality, but also for the safety of the operator, the workpiece and the machine tool. Especially during the tooling of bigger components with multi-day clamping and numerous shift changes, the monitoring of clamping forces via constant data transfer is safety-relevant.

All currently available monitoring systems, no matter whether dynamic or static, cannot capture the readings of the actual clamping situation. With the intelligent clamping jaw FMS from JAKOB the customer receives a reliable and easy-to-use monitoring system, that constantly transmits the current clamping forces of all jaws telemetrically. The readings can be transmitted to the included portable device, to a laptop, or directly to machine control.

If the clamping force during tooling sinks below a threshold set by the customer, a signal is immediately generated, which can be used for emergency shutdown by machine control.



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Functions of the monitoring system:

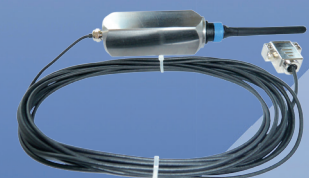
- ✓ robust strain gauge load cell measures the clamping force with high accuracy
- ✓ clamping force readings are sent to a evaluation and sending unit
- ✓ readings are sent to the portable device, laptop, or machine control wirelessly (WLAN 2,4 GHz)
- ✓ the readings are evaluated and displayed on the portable device
- ✓ portable device runs on rechargeable battery which can be recharged using the docking station
- ✓ Docking station can (optionally) be equipped with alarm output



Laptop with USB reception stick



portable device with integrated antenna and display



auxiliary antenna for connection to machine control

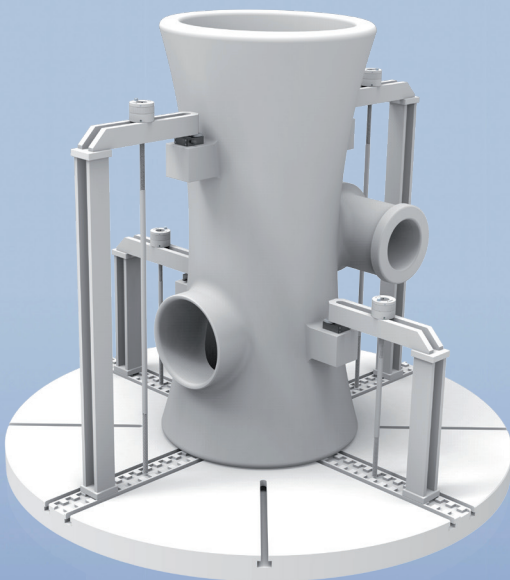
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Field of application - example application

The FMS PAD 300 is especially designed for machining large parts by positioning directly between workpiece and clamping element. It is used for process monitoring, turning/grinding, easily deformable workpieces, optimisation of critical cutting processes, detection of changes to clamping forces caused by centrifugal effects and preventive maintenance in general.

This type of force monitoring and the telemetrical data transfer is also transferable to other clamping solutions from JAKOB - group's product range.

We are looking forward to receiving your inquiry.

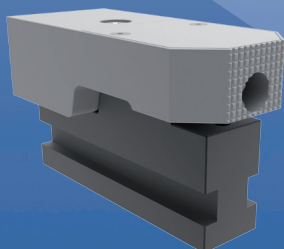


machining of large parts

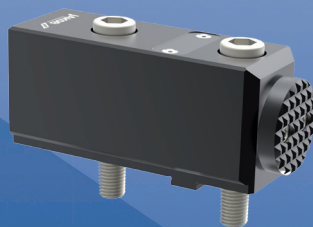
Advantages of the monitoring system:

- monitoring of clamping force during machine setup (clamping mode)
- monitoring of clamping force during operation (operational mode)
- no downtime required for clamping force measuring
- higher operational safety thanks to alarm in case of clamping force loss
- higher operational safety long-term processing
- flexible application due to wireless transmission of readouts

Versions of the FMS



FMS JAW s



FMS JAW XXL



FMS PAD