

FAM CNC SYSTEM

CNC Power Measurement and Monitoring System



SYSTEM FEATURES

Form Atılım Makine has developed CNC power monitoring system for CNC machine protection, cutting tool condition check and break prevention as well as part quality control in real time.

The system tracks the power curve of the part forming process in realtime and it can be adopted to all types of CNC machines. In case, the part signature curve leaves the quality envelope limits, the process is stopped and an alarm is displayed.

In this way, damage of machine components and/or cutting tools is prevented. Faulty parts are being separated during the metal forming process.

The faulty part is being detected during the CNC process as the power curve leaves the standard curve limits. The separation of “bad” parts eliminates the reject batch and loss of wrong manufactured parts situations.

The monitoring system tracks all operations in real time at rates much higher than milliseconds and evaluates the data to react during the process cycle times to detect any abnormal conditions. Warning, alarm or machine stop event outputs are realized based on the error level.

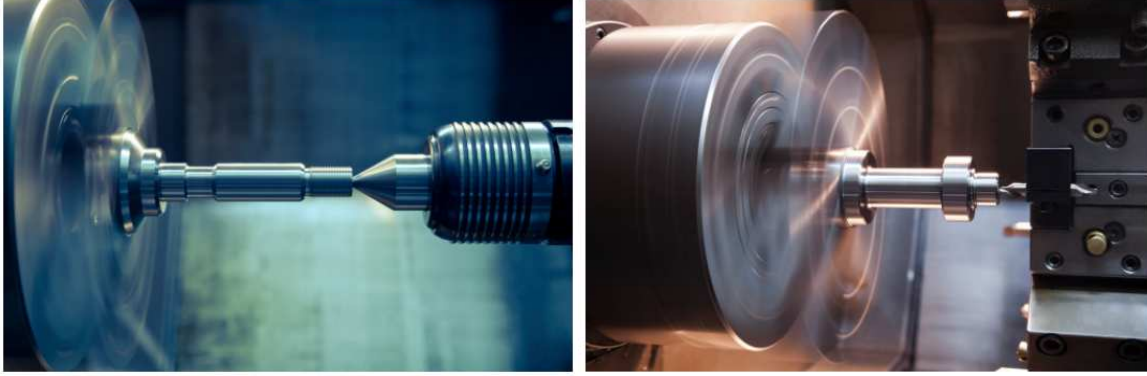
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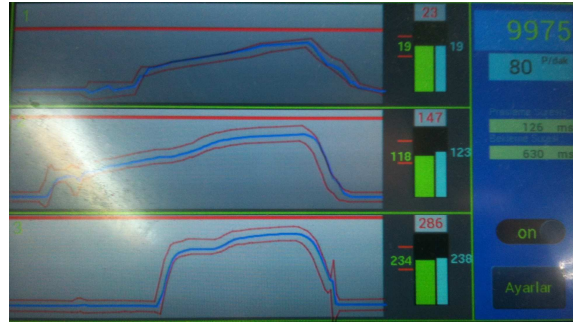
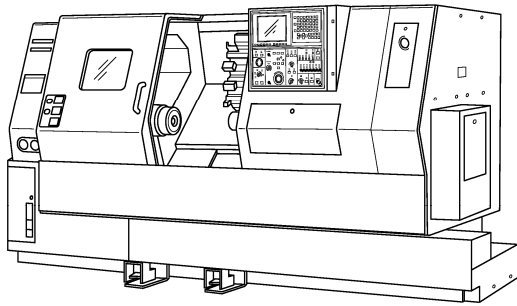


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Breaking of the cutting tool is detected instantaneously and CNC is stopped to prevent further damage to machine and components.



Each part forming curve is monitored realtime and standart deviations are recorded. In this way, worn cutting tool warning is signalled to prevent tool break and to have most efficient use of each cutting tool.

In accordance with process requirements, each part forming curve and alarms are displayed real time. The data may be stored in a stand alone computer or transferred to factory network. Availability of actual production data allows statistical analysis and fault tracking in manufacturing.

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CNC MONITORING SYSTEM ADVANTAGES

➤ *Protection of Machine and Components*

- ✓ Minimizing and prevention of cutting tool breakage
- ✓ Instant warning and process stop

➤ *Increase in Efficiency*

- ✓ Continuous production by avoiding tool and component failures
- ✓ Eliminating bad and faulty parts
- ✓ Reducing machine maintenance and downtime

➤ *Quality Traceability and Improvement*

- ✓ Stored data and tracking for power curve of each “good” part
- ✓ “Bad” part warning for process values outside the quality limits
- ✓ Instant alarm and process stop functions in any abnormal conditions

➤ *Cutting Tool Wear and Break*

- ✓ Specifying the cutting tool wear limit
- ✓ Realtime alarms for missing or worn cutting tools
- ✓ Preventing tool break and possible further damages

➤ *Realtime Detection of Machine Faults*

- ✓ Informing of machine malfunctions via power curve deviations
- ✓ Reducing the machine downtime

