

Technologies

Process Monitoring Systems

for Metal Forming Machines

Monitoring Functions

- Envelope monitoring of forming force signals (up to 2 channels)
- SKAutomaster Autoset feature
- **SK**Partmaster set-up assistance upgrade (Optional)
- **SK**Singlemaster prevents idle strokes from biasing learned values
- · Auto start feature after machine stop
- · Supervisory Control Lockout
- Q-factor with stop logic
- · RPM display
- · Peak Force Readout
- SKQmaster wave form stabilizer feature for older machines
- Absolute stroke position display

Technical Features

- Newly designed operating surface
- 7.in. TFT color touch-screen
- EMR-proof, ergonomically designed flat enclosure,
- Numerous mounting options (yoke, swivel, floor pedestal, panel mount)
- Part counters for job size and tool life.
- · Sorting and batching logic
- **SK**Tele*master* for remote diagnosis
- Ready for collection of production data via IMPAX TSS System
- · Speed Disconnect System

Technical Data

- Powerful digital signal analysis processor with up to 2 sensor inputs
- 5 digital outputs (including 3 or 4 relay outputs)
- 5 digital inputs
- Data ports: serial RS-232 Teleservice
- · High output digital signal amplifiers
- 230 W x 165 H x 60 D (mm)



SK 400 lean

Process Monitoring Terminal with 7" Color Touch Screen

The **SK** 400 lean process monitoring terminal is a very cost efficient yet high-performing system for monitoring cold forming machinery using up to (2) sensors. Fully automatic enveloping routines are applied to offer perfect monitoring results for machines including:

- Cold Headers
- Thread Rollers
- Stamping Presses
- Other Types of Machines

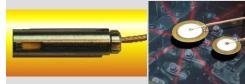
A variety of different analysis tools are available so the **SK 400** lean can be customized to suit your specific needs.

Full networking and factory data collection capabilities are also available with connection to the BDE Outputs including cycle and good part pulses.

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Our sensors are designed to fit into 8mm holes or milled pockets. They have been used in wedges, backing plates, feed stops, punch fillers, and tool holders.

Performance **SK 400 lean**

Examples of display screens and functional features:



Dynamic envelope monitoring is applied to all channels. Up to (2) channels can be monitored.

SK Mandonic captures the optimum force signal and automatically sets the timing window. The sensitivity setting controls the envelope width to match each running process.



Easy-to-set part counters are available for controlling

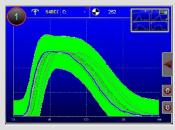
- order size
- · tool life
- · unattended production runs

All counters show preset quantity and current count.

Machine stops when reaching preset counts (if activated).



The optional **SK**Partmaster shows the operator the target force curves which can be viewed while the machine is running. A direct comparison is shown between the memorized good target curve (grey band) and the current force signal (white). Set-up problems are identified immediately and can be corrected to bring the process back into the desired operating range.



Envelope monitoring with fluctuating signals and without SKQmaster. The envelope limit range is very wide and the sensitivity is very low.



SKQmaster stabilizes the horizontal offset. It is now possible to operate the system with a much more narrow envelope limit range. The number of unnecessary machine stops is reduced.

SK 400 lean - System Layout Type: Direct connection for 2 sensors

The proximity switch plugs directly into a recepticle in the back of the unit.

Up to two sensors can be connected to a DB25 Board which is plugged into the back of the unit.

Finally, a cable from the back of the unit connects to the machine interface box.

NOTE: The SK 400 lean only supports a maximum of two (2) force sensor inputs.

