

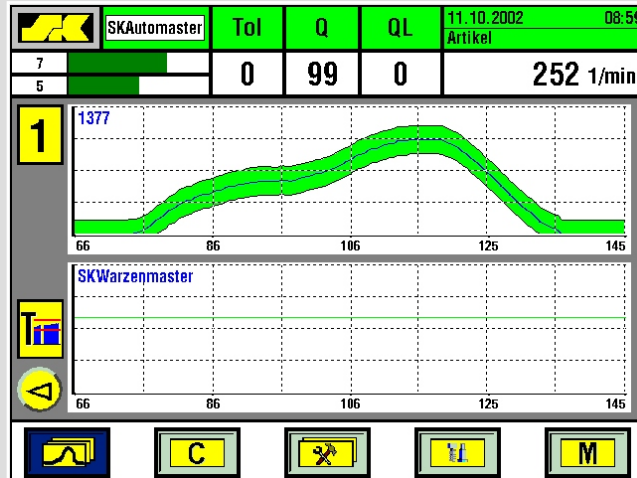
The SKWartmaster software represents an entirely new approach to monitoring metal forming machines. Up until now, process faults could only be detected when the force curve was outside the envelope limits. In many cases, smaller process problems occur within the envelope limits and are never detected.

The new SKWartmaster monitoring software is capable of detecting abnormal force curve patterns even if they are completely within the normal envelope limits.

- detects very small process faults
- visually displays process irregularities
- the “wart” appears only if the process becomes unstable
- prevents unnecessary machines stops
- available in our models IMPAX/SK 2, IMPAX/SK 4, IMPAX/SK 7, and IMPAX/SK 100
- works automatically without any operator interaction

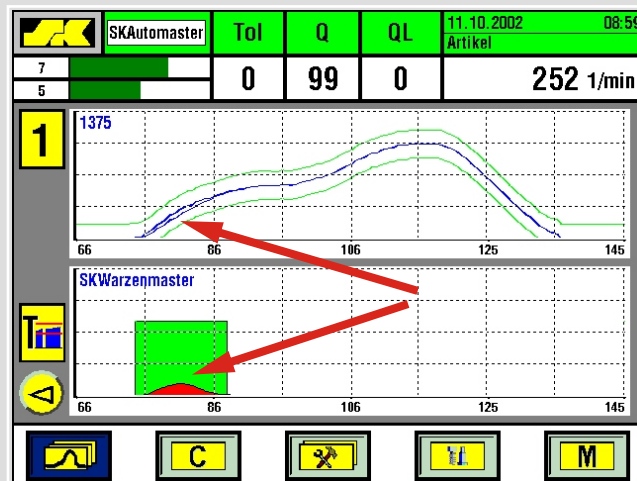
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A new dimension in process analysis:



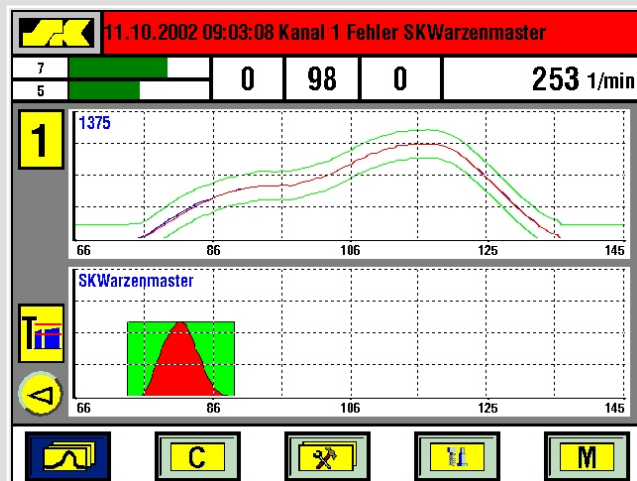
Normal process: the force curve repeats itself fairly consistently from stroke to stroke. The shape of the curve remains unchanged in its characteristics.

The envelope limits have adapted to the variation of the process.



A fault develops: a small fault, such as chipped tool, is changing the pattern of the force curve slightly without it leaving the envelope.

The SKWartmaster software notices the slight difference in the pattern forming. A window highlights the “Wart” zone where the inconsistency is detected.



Machine-Stop: as the difference in the force curve persists, the “wart” continues to grow until it reaches its own limit. The machine is stopped at this point in time.

This technology allows you to detect tiny process faults which typically occur within the normal envelope.