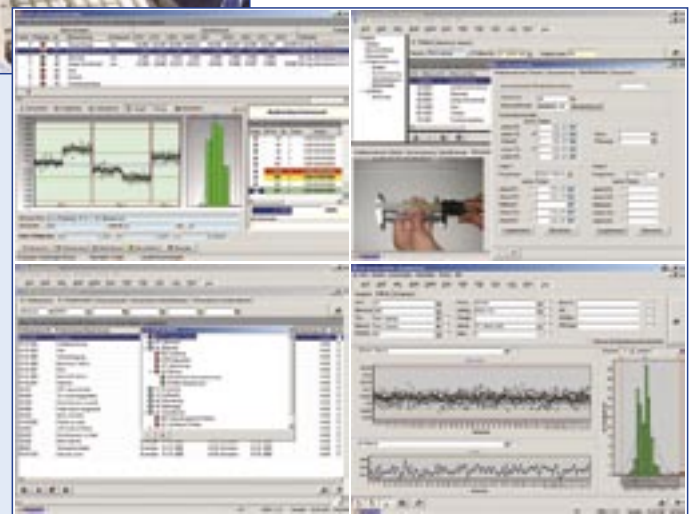


In-Production Inspection with HYDRA-FEP



Flexible inspection planning

Operator inspection at inspection stations and terminals

Statistical process control (SPC)

Calculations regarding process and machine capability

Cross analyses and determination of main failures

Automatic generation of inspection certificates

QUALITY

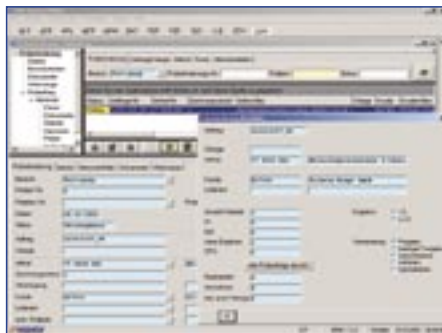
HYDRA In-Production Inspection

Focusing on: Minimizing quality costs

The aim of all manufacturing companies is to secure product quality with preferably low effort. An important prerequisite for that is to collect the inspection data as simply as possible and without additional effort. Data analyses, which are available at the push of a button, show systematic disturbing influences and help to intervene in the processes at an early stage and at the right place, before the quality comes to its limit. So, specific measures to improve and ensure the process stability can be taken and their effects can be controlled.

Inspection planning

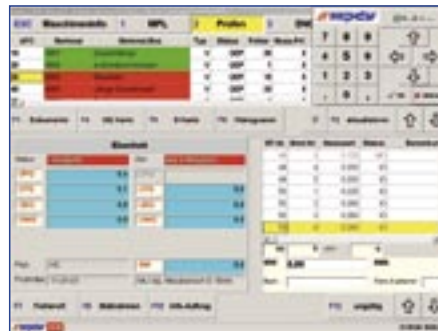
- Creating and copying inspection plans incl. characteristics, specifications and documents
- Group and family inspection plans
- Download of inspection orders from ERP / PPS systems or automatic generation of inspection orders from inspection plans
- Specification of characteristics with validity and customer assignment
- History of inspection plans and archiving function
- Calculation of formulas from measured values
- Links to inspection plans including texts, instructions, drawings, photos and videos
- Definition of certificate characteristics for customer documents



Practice-oriented functions for the production

Collecting the Q-data

- Simply structured and easily operated input masks for variable and attributive measured values
- Input via digital gages such as slide gage, measuring rod, micrometer gage, etc.
- Automatic recording of measured values via machine controls
- Inspection documents (drawings, instructions, photos, etc.) that can directly be accessed by the inspector
- Failure documentation from catalogs incl. control of measures
- Control and automatic block of preceding operations via the recorded failure ratio
- Current control chart at inspection stations/terminals directly within the production



Process control and capability

- Statistical key figures such as cp, cpk, cm, cmk
- Control charts x-quer / s, u, p, Median, single value and many others.
- Display of histograms
- Identification of systematic disturbing influences via test of normal distribution, trend, run, middle third
- Recording the violations of action, warning and tolerance limits
- Setting outliers invalid
- Nest analyses for multiple tools

Revealing quality problems

Documentation and evaluation

- Direct access to measured values of all samples
- Hit lists of failures and failure mode analyses (type, location, originator, measures)
- Freely configurable evaluations (tables and graphics)
- Data export to MS-Excel
- Export interface for qs-STAT
- Print of user-specific forms via MS-Word and MS-Excel



Integration in HYDRA

As part of an integrated MES solution the in-production inspection can be used along with all other HYDRA modules. Thereby, the HYDRA user benefits from:

- Inspection characteristics are provided on time and at the right inspection stations via production orders from the production data collection,
- Uniform user interface for all data regarding orders, quality and machines at terminals and PCs that are close to the workplace,
- Automatic monitoring of inspection intervals by means of data from HYDRA-machine data collection and display when inspections are due,
- Query if inspection plans are available during the detailed scheduling within HYDRA-shop floor scheduling (resource check),
- Cross analyses between all data regarding orders, quality, machines and tools.

MPDV Mikrolab GmbH

Römerring 1
74821 Mosbach
Germany
Fon +49 (62 61) 9 20 9-0
info@mpdv.de · www.mpdv.de

MPDV locations:

Mosbach · Hamburg · Hamm · Heidelberg ·
Munich · Stuttgart · Winterthur / CH ·
Amboise / F · Fort Mill / USA

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