

Quality Control Station



Purpose

With the quality control station a monitoring concept is realized with that the inspection efforts can be reduced although the amount of data is growing. The target of the quality control station is to focus on the causing process.

In the series production an increasing number of **automatic exercisers** with 100% inspections are installed. There are several reasons for the replacement of the previous statistical methods:

- Reducing the inspection costs
- Complete quality documentation for **product liability**
- Containment of **incorrect running processes**
- Processing and evaluation of maximum data rates of inspection automats
- Quality-related correlation of quality data of the **product with the process**
- Background observation of shifts during that no inspector is present

Several modules are connected with iQ-QLEIT:

- iQ-PLAN; specifications for characteristic observation
- iQ-PAUF, iQ-FEP; observation of **limitations** according to inspection plan during manual or automatical inspection
- iQ-INST; informing the control station about a fault
- iQ-Projekte; initiation of **measures** for correction

Inspection planning

When creating an attributive or variable characteristic it is not only possible to define specifications and SPC guidelines but also guidelines for process observation.

There can be several possible breaches monitored for each characteristic; in the mask: Reactions at breaches of:

- Specification limit (original value)
- Warning limit xcross (sample result)
- Action limit xcross (sample result)
- Freely placed limits
- Spreading (sample result)
- p-value exceedance (attributive characteristic)
- Defective goods
- cpk (by usage decision)

It is possible to enter **several reactions** depending on their importance simultaneously (see product description iQ-FEP).

These precautions are made in the inspection planning for pure processes (temperature monitoring in a soldering bath, constant quality data monitoring of pressure-die casting processes and so on) and/or also for products

(error pattern to incircuit testers, defective goods of pressure-die casting parts).

The Quality Control Station

In the Control Station all problems are handled:

- **Process deviations** (iQ-FEP)
- **Product defects** (iQ-FEP)
- **Machine problems** (iQ-INST)
- Manual entries

Every responsible person has a limited sight at the events.

He writes his limitations into the selection mask, to contain the events that should be shown in the Control Station:

- Plant, cost center; that means **all machines he has to observe**
- Period of time from/until or retrospective, e.g. the last 10 hours of the last **late shift**
- More limitations like complaint no. (see further down), a **special material** or all events of one machine
- Limitations because of the **processing status** (open/closed and so on)

The overview shows the selected events:

- The status of the events (open, in process, depending on selection)
- Kind of event as a brief description (temperature main run upper specification limit exceeded)
- Material-Id
- Date/time of the event
- Type of event (process, product, machine malfunction, manual)
- Complaint no.; many companies have a complaint system that is used further in other divisions. For similar processing of events complaints can be assigned
- **Frequency of the event**; does the same error come up permanently, this counter will be increased in the first event
- Prefaced **measure**
- Exact specification to the origin of the event inspection order, inspection process, teristic, description of the limit exceedance
- Specification **causing machine**

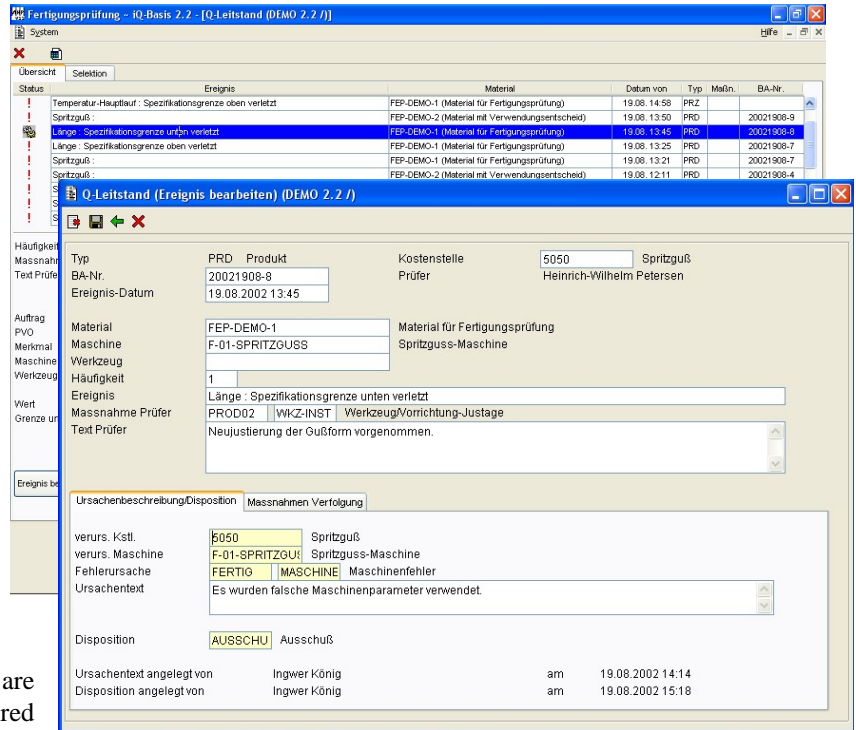
Handle an event

All information that at appearance of an event are being compiled automatically, can also be entered manually (upper part of the mask).

If the problem can be solved you can describe the cause briefly.

A **disposition** to the faulty produced components is being made (causing cost center and machine, error cause-code and brief description).

Have further actions to be made by special persons



(maintenance, tool construction, logistics etc.) the appropriate measures are now being applied (measure-tracing).

