

FreiLacke

Operator-guided manual weighing – integrated in automatic lacquer and varnish production

manual weighing
operator-guided
computer based
extremely flexible
documented

Customer

The company FreiLacke in Bräunlingen has been working successfully in the fields of lacquer and varnish production and production of fibre-glass reinforced plastics for more than 75 years. The so-called small components or special components are an important part of lacquer and varnish production. The dosing of these small components or special components is problematic as quantities and access frequency vary a lot. For this reason, fully automatic dosing of these components is uneconomical.

Task

Operator-guided manual weighing at three manual weighing stations (two normal / one special manual weighing station).

- Order assignment by container identification and manual selection possibility of the requested manual weighing station
- Solution of the problem of powder density and volume of raw materials

- Use of the manual weighing stations as an alternative in case of failure or repair of a silo
- Complete documentation

In collaboration with the company FreiLacke, a custom-tailored solution was found which offers the highest possible customer benefit.

THE SOLUTION



„Amazing monitoring possibility by the indication of the values (+/- tolerance & weight) by the weighing bar of ManDos-Frontend. Thus, the employees are forced to work or weigh in the specified range.“

„Amazing technical support also after startup of the plant“

Solution

The process control system Kastor used at the company FreiLacke can be subdivided into three production processes:

- Automatic powder weighing
- Manual powder weighing with ManDos
- Quality control after powder weighing

The general production sequence in these manufacturing processes can be described as follows:

1. A superordinate planning system (Host) transmits production specifications (order) to the process control system Kastor.
2. The transmitted order is released for production by an authorised operator.

After successful release, this order will be split into a maximum number of three partial orders:

- One partial order for automatic production
- One partial order for manual weighing
- One partial order for special manual weighing

3. The partial order for automatic production will be produced
4. The partial orders for manual weighing / special manual weighing will be produced in the manual weighing area
5. The produced orders will be mixed
6. The order will be transferred to production and production will be started
7. Quality control checks the production result:
 - In case of a bad result, the order will be transferred back to the manual weighing area for correction
 - In case of a good result, the order will be released and transmitted to the planning system (Host) for booking

For this purpose, a combination of lamp and button is available to the operator. As soon as the operator has selected the requested manual weighing station, the order will be started automatically at this station. If a special manual weighing is also necessary at this time, the operator will get a corresponding message.

Furthermore, the operator can freely choose the sequence of component weighing within the started order. After successful start of the order, the corresponding scale will be selected automatically based on the powder density and on the volume of the raw materials e.g. table scales or floor scale. Thus, the operator can carry out weighing in an optimised and cheaper way.

Manual weighing with ManDos

After the identification of the container to be produced in the manual weighing area and provided it can be assigned to an order, the operator decides which of the 2 normal manual weighing stations to choose for the production of the manual weighing portion.

Special manual weighing area

In addition to the functionalities of the manual weighing stations, the operator can select the order to be started at the special manual weighing station, as this station may have active orders for two



ManDos-station

Alternative function

containers simultaneously. This special manual weighing station is used for raw materials which are critical in production and which must not encounter the remaining production process at this production time.

Another function of the manual weighing area is the use of the manual weighing station in case of failure or repair of a silo. By the flexible design of the manual weighing area, adjusted to the production requirements of the company FreiLacke, the operator can handle manual weighing in an optimal way.

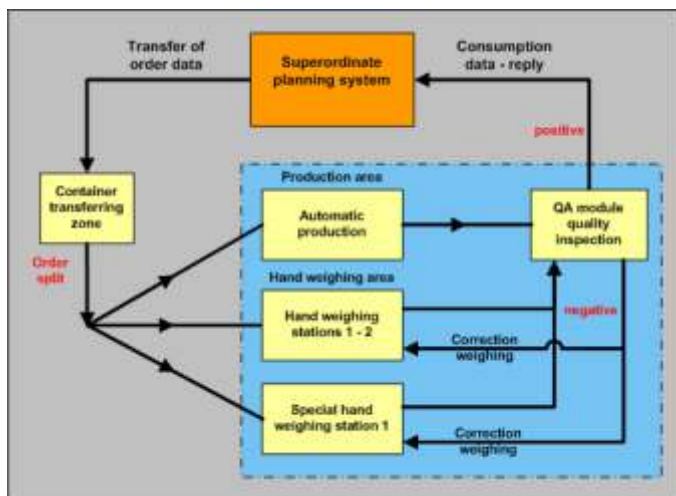


Diagram of production sequence

Corrective weighings

The normal manual weighings of an order as well as corrective weighings (calculated by Quality Inspection) are carried out in the manual weighing area.



Operation mask of ManDos



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