

ManDos - small ingredient automation

The mobile manual weighing system

for effective and mobile manual processing, monitoring and documentation

Objectives and scope of application

Customers of the automation industry are requesting more and more flexibility of the solutions to reduce the operating costs of the plants.

Weighing small ingredients has to be faster and more effective without unneeded material handling and transport. New product developments are causing higher raw material variety and a lot of new recipes.

Following especially in the small ingredient weighing areas the complexity of production profiles is increasing.

To cover these requests a mobile manual weighing system can be used.

Mobile manual weighing systems are able:

- to cover different storage areas using one system (e.g. cooled and non cooled storage rooms),
- to move through long storage rows and to weigh without costly and time consuming material transports,
- to handle a picking concept and therefore mobile systems can get the requested flexibility of the customers.

THE INNOVATION



Benefits and advantages for the customer

Using mobile weighing systems the hardware costs will be reduced as far as possible, because the count of weighing systems is minimized compared to fixed weighing places. Additionally the mobile user interface offers sending messages directly to the operator.

So he is able to cover new requests from other production areas to continue the production at the requesting working zone.

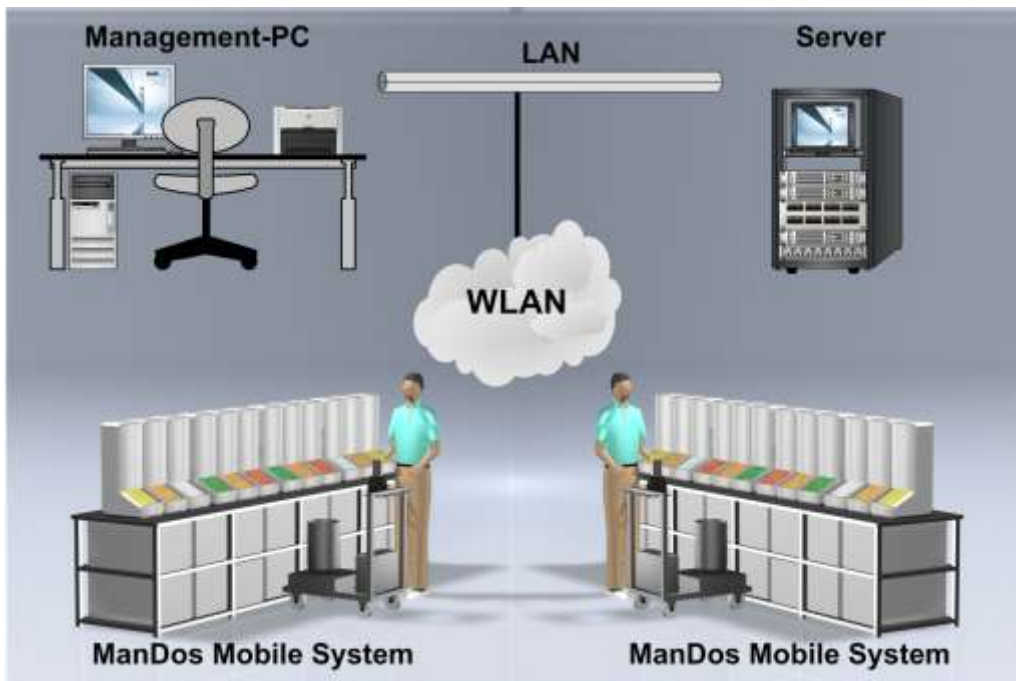
System architecture

The system is based on an Ethernet network. A central component is the ManDos server. This manages all the workstations and operating terminals. Basis is a Microsoft SQL

server for managing data and the ManDos server, allowing management of mobile and stationary clients. The mobile terminals are connected to the central ManDos server via wireless LAN. With an integrated barcode scanner or an

RFID read/write unit they are both identification and operating devices. Scales and other peripherals are connected to the Ethernet and managed with the terminal adapter. Stationary work stations can also be integrated into the

network along with the mobile terminals. Workflow processing is identical on both mobile and stationary terminals.



Integration in a company-wide control system

The mobile ManDos clients can be used in an exclusively ManDos network or integrated in the company IT system. It can be linked to a process control system or an ERP system such as SAP. The central ManDos server has interfaces for this purpose.

Identifying and testing raw materials

The system can identify raw materials with the integrated barcode or with the RFID reading units. It is possible to carry out a subsequent plausibility check on the consistency of the material, the usability of the raw material lot and its shelflife.

The weighing process

The operator is guided through the weighing process by a large weight display and a graphic weighing beam. Goods can be weighed against a nominal weight or zero.

Container identification and taring

The destination containers can also be identified. The central server can be used to check its cleaning status or its previous use. The scales are then tared and can be used.

Completing and logging the weighing process

When the tolerance range for weighing has been reached, the operator can end the weighing process, record the actual value and start the next weighing operation.

