Practicon
CONTROL SYSTEMS

Batch Blending Recipe Systems

proTrace

Benefits

- Consistant Product Quality
- Production Flexibility
- Optimum Prodcution Efficiency
- Production Records, Tracability & Managment Information
- Production Schedule Planning or Dynamic Shop Floor Scheduling.
- Distributable Office Management Application Allowing Multi-User Access.

Functionality

Practicon computer batching systems ensure product quality at high output rates by automating weighing, mixing and cooking operations in the food and allied industries. They control and monitor both fully automatic and, if required, manually assisted processes from which they generate production records for subsequent analysis and batch/ingredient traceability. They may operate stand-alone or in conjunction with management systems such as SAP or AS400.

Terminals, in the control room/offices and on the shop floors, provide easily assimilated operator information in the form of annotated plant graphics and access to schedule, recipe, record and other production data. The following examples are typical.

Sauce & Relish Lines - Automatic With Recipe-determined Manual Operations

Batches are produced by weighing, mixing and cooking ingredients in a number of identical heated weigh-mix vessels.

Operations are automatic except for product testing and vessel cleaning which are manually assisted. Production requirements are entered and data is accessed, via a shop floor terminal alongside each vessel.

Bakery Production Lines - Automatic With Hand-Weighed Dispensary Packs

A number of weigh-mixers including portable mixing bowl 'Collet' type are fitted with shop floor terminals as are a number of hand-weigh stations in the prep area.

Bulk dry ingredient and liquid weighing is automatic. Adding coded containers of small ingredients brought from the prep area prior to a 'run' is manually assisted.

Mayonnaise Plant - Fully Automatic Including CIP (Cleaning In Place)

Mixing vessels fed from common ingredient weighers produce a continuous supply of product to milling and packing lines.

Control is via a single shop floor terminal.

CIP cycles are run at the end of production periods, to sanitise the plant, which requires minimum supervision.

Recipe System

The recipe system provides production personnel with a very flexible and powerful means of controlling both product formulations and processing operations. It includes instructions (recipe lines) to control both automatic and manually assisted functions e.g. to HAND_WEIGH 10Kg Tomato, or to show a prompt message on the shop floor terminal CONNECT DISCHARGE PIPE.

Weighment details are shown sequentially together with the Net Weight readings and Bar Graph indications representing the difference between the Actual Weights and the Target Weights. The Bar Graph positions and colours indicate the actions required from the operator.

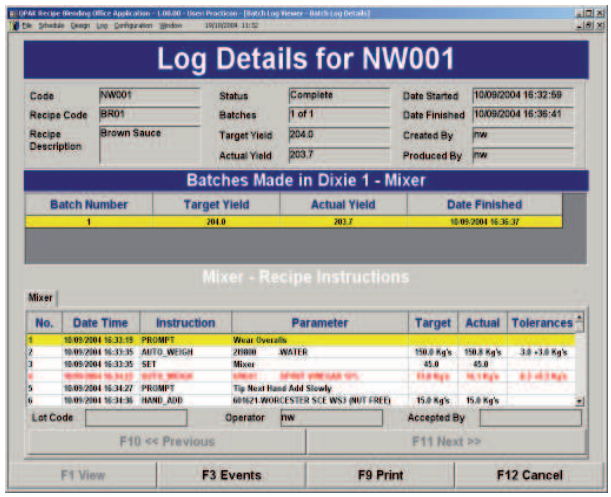
The system can prompt for ingredient lot/batch code numbers to be entered or scanned in via a barcode scanner for maximum material traceability.

Typical Instructions

- PROMPT “PREPARE VESSEL”
- AUTO_WEIGH 120Kg Base Mix
- AUTO_WEIGH 42.5Kg Veg Oil
- RUN_MIXER 30%
- HEAT_WAIT 60oC 600Secs
- HAND_ADD 20Kg Tomato
- RUN_MIXER 70% 10 Secs
- PROMPT “CONNECT DISCHARGE PIPE”
- DISCHARGE

Traceability

Total product quantities, numbers of batches produced and the ingredients consumed, together with the corresponding theoretical (target) values, can be examined for all products or selected products, over any selected period. Records are accessed at various levels e.g. product quantities produced and ingredients consumed are available between any selected dates for all products or for a particular product.



By ensuring that ingredient lot codes, batch numbers and other key data are recorded at all stages of production the ingredients used in any suspect batch can be rapidly identified. Similarly, once a suspect ingredient has been identified a system facility provides for rapidly identifying all batches in which it has been used.

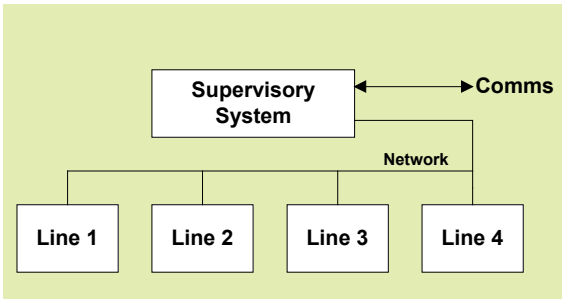
Operation

Hardware is selected for its suitability and its reliability in industrial environments. Typical system hardware comprises PCs to process data, support communications and provide operator access, plus PLCs to control the plant. Our shop floor terminals are industrial PCs with LCD screens and sealed flat sheet keyboards. The PLCs may include field bus connected intelligent instruments such as weigh and flow controllers.

Practicon also supplies motor control centre (MCC) panels, load cell weighing equipment and other measurement transducers. The panels, shop floor terminals and weighing equipment are supplied in 304 stainless steel to the IP66 splash proof standard, or better, for the hygiene regulated industries.

High Integrity

Larger systems are often distributed for higher system integrity i.e. higher resilience to system faults. Individual processes e.g. production lines, are controlled by separate sub-systems that are capable of independent operation. If then a fault occurs on any one production line other production lines are unaffected i.e. continue to produce.



Project & Field Services

Our experienced application engineers are available for consultations and we can offer competative quotations for your application with off the shelf solutions or bespoke designs.

Project specifications are prepared for your approval before design and manufacture begins.

Installation and commissioning, telephone/ modem help line, out of hours emergency contact arrangements and call-outs facilities are also available.

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