

# PR 1740

## Recipe management and reporting system



- Central process control station with recipe management for up to 16 batching instruments PR1713 / PR1730 by max.16 weighingpoints
- Simple operation due to an operating concept based on Windows NT/2000
- Works on PC with Pentium CPU
- Comprehensive real time process monitoring
- Generating of batch- and production reports
- Stock- and consumption reports
- Back-up of production data
- Usable in any network
- Datatransfer with other Windows programs by DDE-interface
- Shared access to the databases with other Windows programs
- Network support

### PROFILE

The recipe management and reporting system PR1740 represents a central user interface for batching applications with the weighing and batching controller PR1713 / PR1730. PR1740 enables the operator both to manage recipe and material data and to supervise complex batching applications.

Up to 16 production lines with up to 16 weighing points can be handled simultaneously. In conjunction with PR1713 / PR1730 and load cells, highest precision and reliability is guaranteed.

The automatic adaptation of batching parameters to changes of material quality, the automatic calculation of the optimal batch size and the optional automatic start from the daily production plan guarantees an intelligent and comfortable process control. This optimizes the use of the production resources.

Due to the clear documentation of running processes and comprehensive reporting of all production data, the system PR1740 allows comfortable control and supervision of batching processes. This is especially supported by the graphic Windows user interface with menu technique.

The option „DDE-Interface“, makes possible a data exchange with other Windows applications like e.g. Excel or the process visualization InTouch. Customized solutions with other programs can be created around PR1740.

PR1740 can be used on any PC with Pentium CPU and 64 megabytes RAM under Windows NT/2000.

PR1740 can communicate via ethernet or serial line with up to 16 batching controllers PR1713 / PR1730.

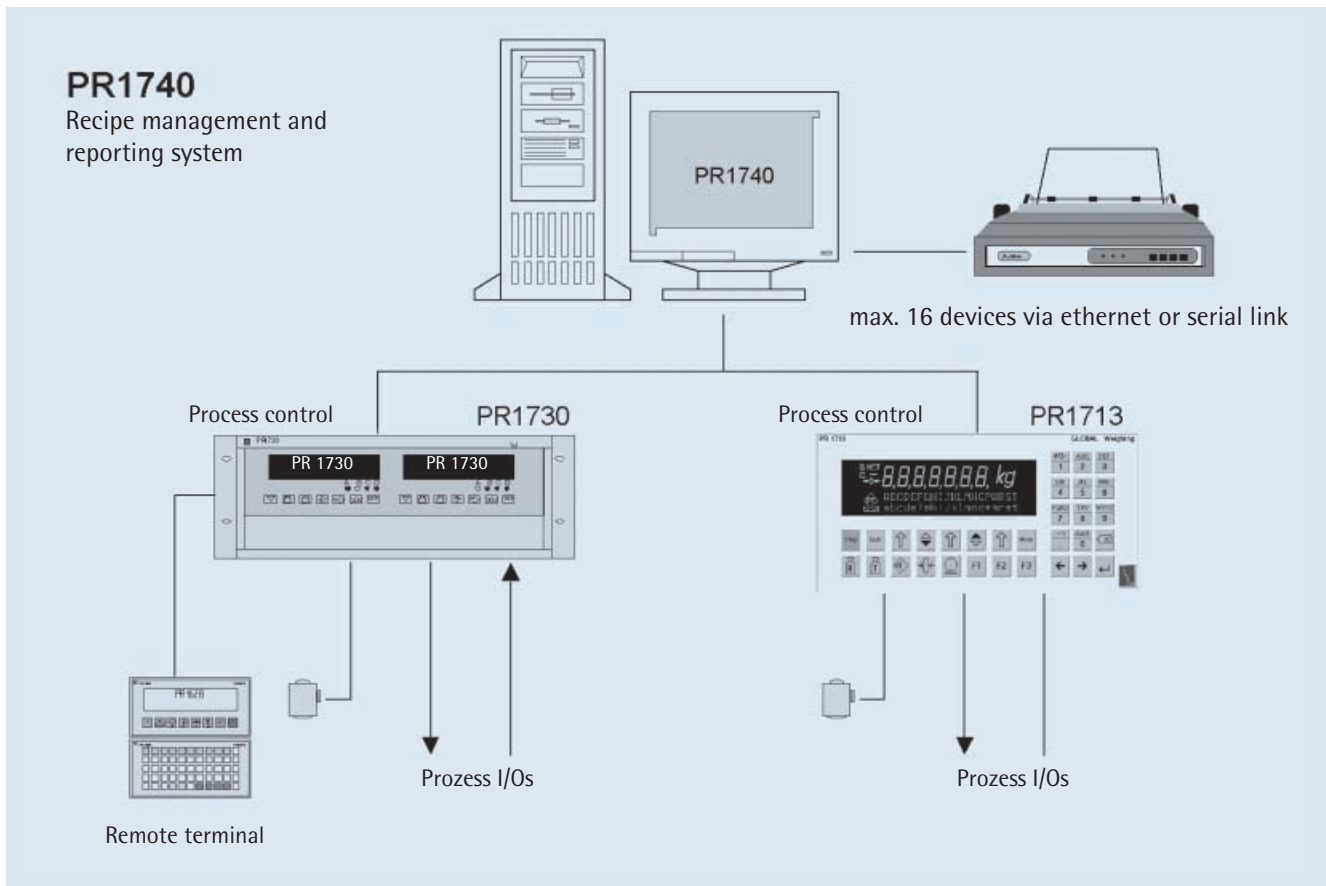


## LAYOUT OF THE SYSTEM

The diagram shows the system configuration of the recipe management and reporting system PR1740 with two batching controllers PR1713 / PR1730. The batching controllers are connected to the PC via ethernet or a serial interface, with the choice of RS232 (RS232 for one instrument only with max. cable length of 15 m), RS485 or TTY current loop.

The PR1740 system provides functions like setting up all production parameters including editing of tables, start of production, production monitoring and reporting. The recipes are executed in the batching controllers, which initiate the operation of all valves, actuators and sensors.

The diagram shows a typical configuration with PR1740, one batching controller PR1713 and one batching controller PR1730 with one remote terminal.



## FUNCTIONS

### Production control and monitoring

In the main window, the system shows the actual data of all production lines. For each production line the following data are displayed: Weighing point, order identification, recipe identification, active component with setpoint and actual value, setpoint of the batch and the status of the production line. Active alarm messages are displayed in red alarm window. So they can be detected at a distance.

Further information is displayed only, if the user is authorized to use these functions.

After selection of a specific production line further information of this line is displayed, such as status plan of batches and active recipe, to which the operator may react. This may be done by clicking appropriate buttons: start/ stop/ continue/ skip production, repeat/ skip batch or skip component. To avoid confusion, the relevant commands are accentuated and only these can be activated.

### System configuration

When first going into operation or when making extensions, the system, including the definition of the production lines, has to be configured.

Furthermore, plant specific parameters like the full scale range, the filling limit and the maximum residue can be defined and entered.

In the maximum system configuration, PR1740 controls 16 PR1713/PR1730 batching controllers with up to 16 weighing points in different combinations and relations to production lines.

## OPERATION

### Operator guidance via Windows

The PR1740 system uses the Windows package to support the interactive operator interface by well-known techniques. The operation is very easy and requires only basic knowledge. The operator uses the standard keyboard of the PC or a mouse to enter commands or data in the clearly arranged Windows masks. All entered data are checked for plausibility, so that faulty data entries are avoided.

From the main menu, all other windows for process control and monitoring, recipe management and reporting can be called-up. Refer to diagram „Menu structure of PR1740“.

Frequently used functions can be accessed directly by symbol buttons.

After clicking on the required function, the corresponding window e.g. materials, is displayed on the screen.

Typical Windows functions are pull-down menus, data masks and buttons to show the operator the available facilities for data and command entries.

### The HELP system

All functions of the PR1740 are supported by an online help system, which gives the operator helpful information for the corresponding function.

If the operator needs, for example, additional information during component editing, he can push the F1-key (the standard HELP-key in Windows programs) and all the information concerning the editing of component is automatically displayed.

The switch over between the HELP menu and the component editing menu is easy and both windows can be displayed side by side.

Productionline	Wp	Gross	Recipe	Component	Name	Setpoint	Actual Value	Status
PL 1 PR1730A	WP-E	270 kg	Multi_Component_3	Material_E_2	Sugar	44 kg	20 kg	BATCH
PL_1_PR1730A	WP-F	160 kg	Multi_Component_3	Material_F_4	Milk	80 kg	40 kg	BATCH
PL_1_PR1730A	WP-G	210 kg	Multi_Component_3	Material_G_7	Cocoa	68 kg	60 kg	STOP - 4
PL 2 PR1730A	WP-F	160 kg						IDLE
PL 3 PR1730A	WP-G	210 kg						IDLE

Production				
Kunde	Auftrag	Setpoint	Actual Value	Sequence Number
Mustermann	A4711	3000 kg	0 kg	31

Recipe					
Break	Wp	Component	Name	Setpoint	Actual Value
1	WP-E	Material_E_1	Flour	40 kg	30 kg
2	WP-E	Material_E_2	Sugar	44 kg	
3	WP-E	Material_E_3	Butter	48 kg	
4	WP-F	Material_F_4	Milk	80 kg	
5	WP-F	Material_F_5	Eggs	84 kg	
6	WP-F	Material_F_6	Cream	88 kg	
7	WP-G	Material_G_7	Cocoa	68 kg	
8	WP-G	Material_G_8	Nuts	72 kg	
9	WP-G	Material_G_9	Cocoa milk	76 kg	

Batch 1 / 5			
Break	Setpoint	Actual Value	
1	600 kg		
2	600 kg		
3	600 kg		
4	600 kg		
5	600 kg		

### Menustructure of PR 1740

- **Production**

- Single start of production
- Start Productionplan
- Production-manager
- Alarm
- Message

- **Report**

- Production/Batch
- Alarm
- Message

- **Plan**

- **Recipe**

- **Component**

- User
- Login
- Set password
- Logout

- **System**

- User
- Configuration
- Batching-Device
- Program name
- Directory

- Backup

- Compact Database
- Reset Productionline
- Window setting
- Reset
- Resize on
- Resize off
- Edit text

- **Help**

- Contents
- Info

## Production start

There are different options to start a production:

- Start of a recipe with one or more batches or a total production quantity.
- Start of one specific order from the production plan.
- Sequential processing of all orders from a started production plan.

## Recipe management

The recipes are stored in a data base on a PC. Up to 9999 recipes may be stored in one working folder.

Editing of recipes in the corresponding window is made easy by clicking on the displayed components and functions.

Next to the recipe identification, each recipe can be given a 20 digit recipe name.

During entry each recipe will be checked for plausibility. This avoids starting a recipe with, for example, non-existing components.

## TECHNICAL DATA PR1740

- Max. 16 PR1713/ PR1730 batching controllers (with serial or ethernet interface)
- Max. 9999 recipes per directory
- 9999 components
- DDE with other Windows applications supported
- Running with Windows NT 4.0/2000
- Database MS ACCESS

## Reports

After completion of a production recipe, PR1740 stores all production data and generates batch and production reports. The print-out of these reports can either be made automatically after the batch or production is finished, or on request. A batch sequence number specific to each device may also be initiated.

## Production manager

If productions are started for a busy device, the orders are stored in the production manager.

## Production plan (optional)

Production plans for specific production lines related to shifts, days or customers may be defined.

## Alarms and messages

The PR1740 system displays clearly all alarm events in a special alarm window and stores them in an alarm report table. Furthermore, all system events like user logins are stored in a user report table.

- Dynamic data exchange with other windows applications possible (DDE)
- Reports are generated by Crystal Reports from Seagate

## Personal computer

PR1740 can be used on any PC with the following technical data:

- Pentium PC from 266 MHz upwards

## Dynamic data exchange (optional)

PR1740 supports dynamic data exchange (DDE) of Microsoft Windows. With DDE process data can be sent to other Windows-applications or functions e.g. start production, can be initiated from other Window programs. The database of PR1740 is on line accessible for other Windows programs.

Therefore, PR1740 is easy to use together with other Windows applications (e.g. process graphic, database programs).

## User access

PR1740 allows the user to define a specific authorization for access to different operating levels for each operator. The following operating levels can be released or blocked:

- Production
- Change of production
- Recipe editing
- System functions
- Reports
- Production data back-up.

- Min. 64 MB RAM
- Hard disk capacity min. 1 GB
- Parallel interface for printer (LPT1) or network printer
- Serial or ethernet interfaces for communication to the batching controllers
- SVGA-Monitor (1024x768 recommended)
- Microsoft Windows NT/2000

## ORDER NUMBERS

PR1740/00	Recipe management and reporting system including: CD-ROM and manual	9405 317 40001
PR1740/10	Recipe- and Production management (needed for each device PR1730)	9405 317 40101
PR1740/20	Option for Production plan, Stock control and Consumption report (PR1730)	9405 317 40201
PR1740/30	Option for DDE (needed for each device PR1730)	9405 317 40301
PR1740/40	Option to control PR1740 by PR1730 (needed for each device PR1730)	9405 317 40401
PR1740/11	Recipe- and Production management (needed for each device PR1713)	9405 317 40111
PR1740/21	Option for Production plan, Stock control and Consumption report (PR1713)	9405 317 40211
PR1740/31	Option for DDE (needed for each device PR1713)	9405 317 40311
PR1740/41	Option to control PR1740 by PR1713 (needed for each device PR1713)	9405 317 40411

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