PMP *AC*

Administration of Characteristics and Evaluation of Experimental Series

PMP *AC*

is an important basic module of the PMP-Software which serves for
- user-defining, administrating and visualising assigned characteristics
- comparing characteristics from experimental series
- find significant relations between the variables.

ADMINISTRATION OF CHARACTERISTICS

In addition to characteristics describing the grading condition it is frequently necessary to detect other characteristics being directly related to the particle size distribution or to a process state respectively. For this purpose, the PMP-Software provides all possibilities of administrating such other characteristics. Each user can define and add his individual characteristics. The variables can be assigned to each PMP data type. They are called assigned characteristics.
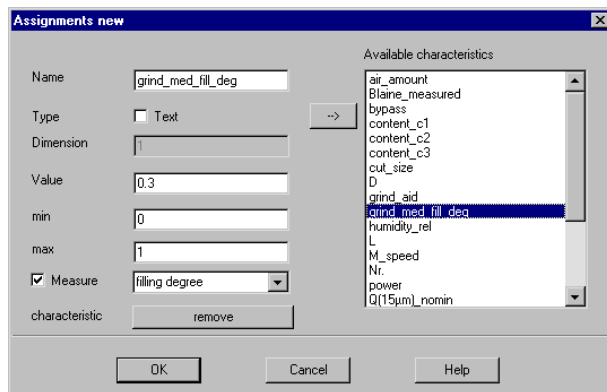

Fig 1: Information to be defined during the definition phase of an assigned characteristic in order to ensure a correct usage

If, for example, certain grinding experiments with different mass flows and grinding media filling degrees have been carried out, then it will be appropriate to define a new assigned characteristic for the grinding media filling degree (see Fig. 1). This characteristic will be administrated and displayed like every other characteristics in PMP (see Fig. 2).
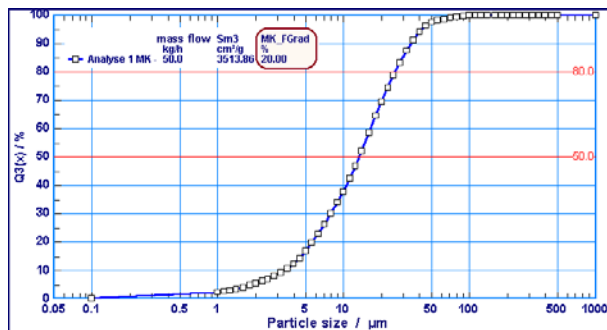

Fig. 2: The user defined characteristic can be directly assigned to the particle size distribution in the diagram legend.

This approach allows to derive empirical process models regarding the dependence on individual influencing variables, defined as assigned characteristics.

EVALUATION OF EXPERIMENTAL SERIES

The flexible data administration of PMP enables the entire acquisition of an information sequence.

By means of specific import interfaces, particle size distributions can be transferred directly from different laser analysers into PMP. Table- and diagram views allow a targeted combination of the information according to the specific problem.
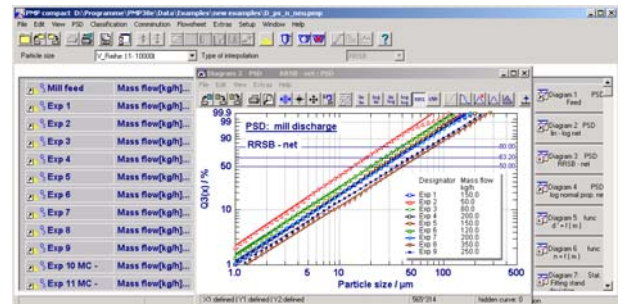

Fig. 3: All Q(x)-Distributions of an experimental series are collected in one PMP project. On selecting an object (blue) and the view menu / diagram the graphic view of the Q(x)-Distributions will be generated immediately.
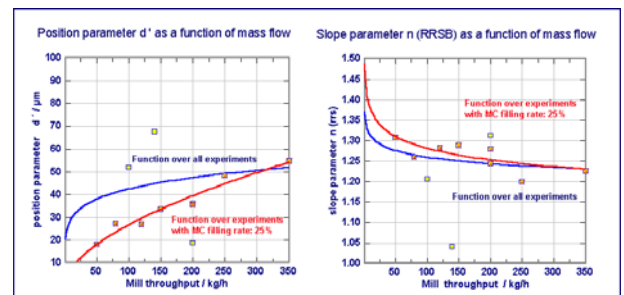

Fig. 4: Evaluation of a series of experiments. The relation between parameters of the RRSB function and the throughput is displayed. Furthermore the influence of the grinding media filling degree becomes visible.

The module PMP AC offers the required features for investigating
- the relations between different characteristics
- the trends as time responses of characteristics

Characteristics of different material objects can be correlated (Fig. 4) in doing so. Simple function approaches are available for describing the relations:
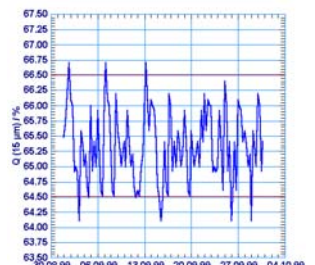- linear function
- exponential function
- power function

Fig 5: Temporal description of the quality quantity Q(15 µm) over month

All distributions carry a time stamp. So it is possible to visualise the variation of important characteristics via time.

PMP allows the online integration of process data via a specific process variable interface which has to be adapted to the user conditions.