

# CE 579

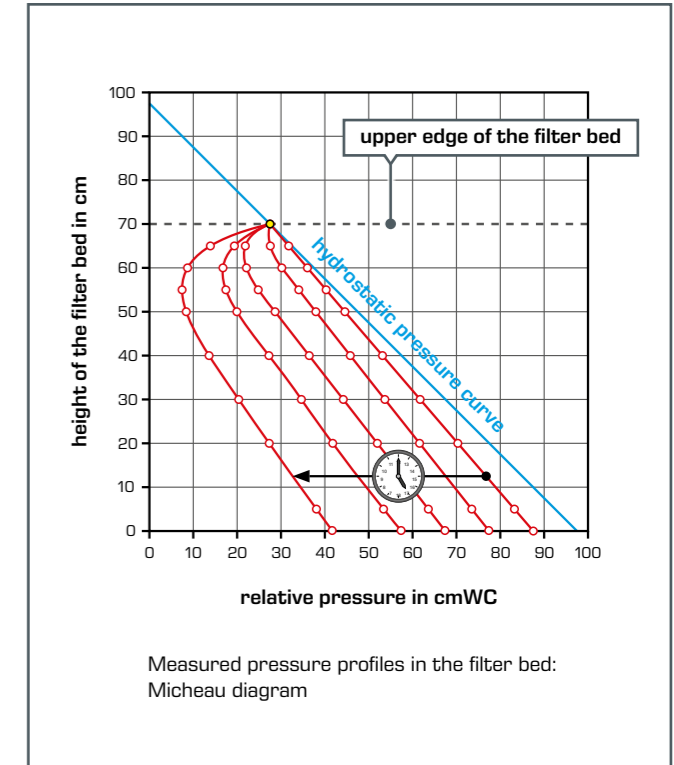
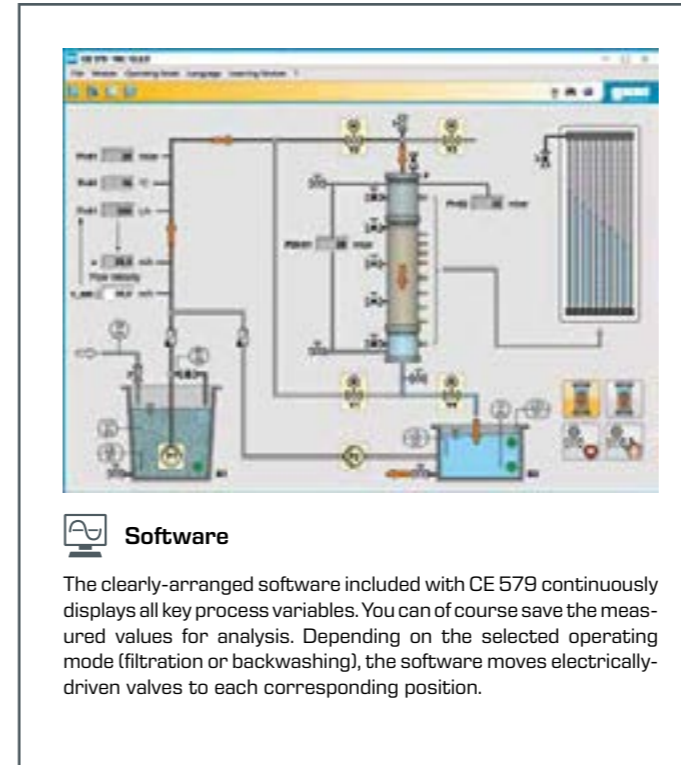
## Depth filtration

### Depth filtration: indispensable in water treatment

Depth filtration is an important and frequently used process step in water treatment. Exact knowledge of the principle of operation and the characteristics of this process are an indispensable component in the education of budding engineers and specialist technicians.

The educational focus of this trainer is the investigation of the pressure conditions. In order to measure the pressures, the filter is fitted with a differential pressure measurement and a number of individual measuring points along the filter bed.

These measurement points can be connected to a manometer panel, enabling you to very accurately measure the pressure conditions in the filter bed. By using a transparent filter tube, you can also observe the increased loading of the filter bed visually. The filter can be backflushed if necessary.



Electrically-driven ball valve



Frequency converters for controlling the pumps



Connections on the manometer panel for measuring the pressure in the filter bed

### Learning objectives

- pressure conditions in a filter
- factors influencing the pressure loss (Darcy's law)
  - ▶ flow rate
  - ▶ height of the filter bed
  - ▶ permeability of the filter bed
- determine the pressure in the filter bed (Micheau diagram)
- backwash of filters
  - ▶ observe the fluidisation process
  - ▶ determine the expansion of the filter bed
  - ▶ determine the required flow velocity (fluidisation velocity)

About the product:

