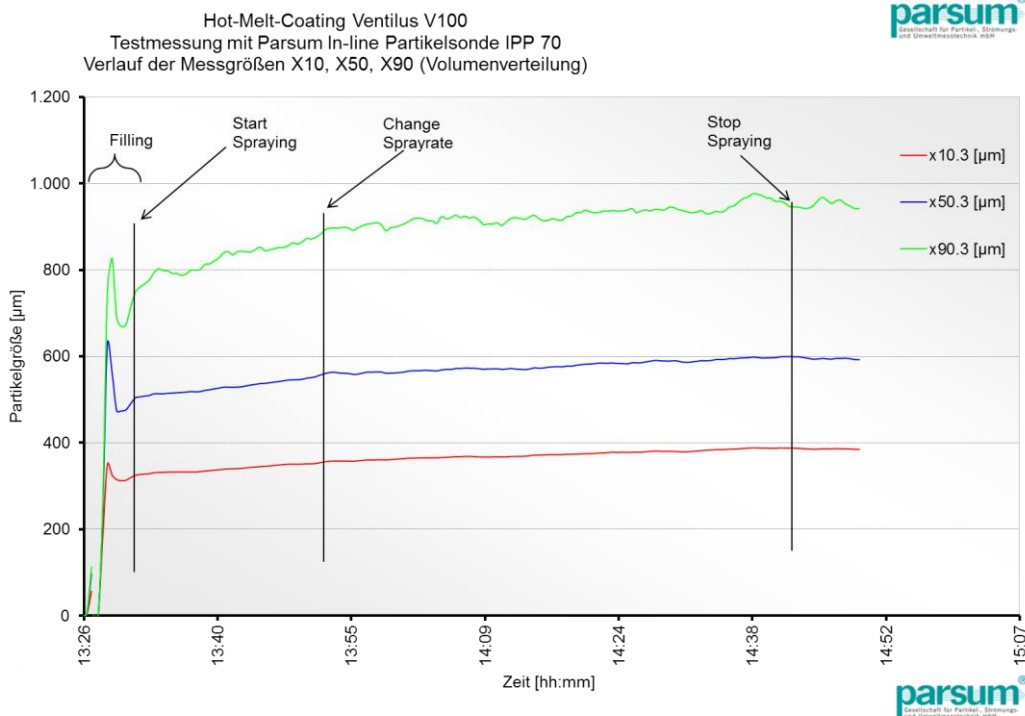


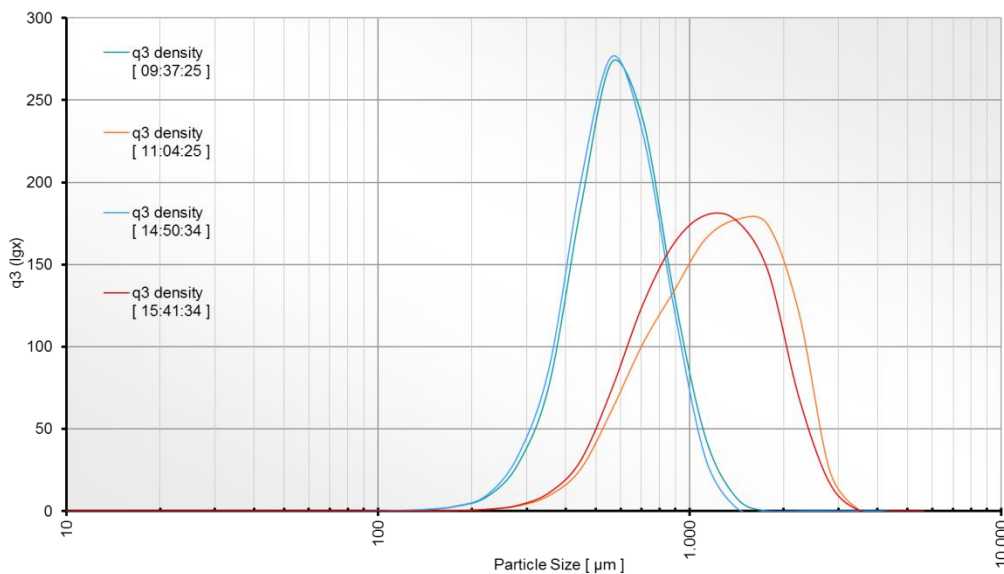
PAT for Hot-Melt Coating Process Case Study



A Parsum particle probe IPP 70-Se was used in a fluidized bed coater of the type Ventilus V100 at Hermes Arzneimittel GmbH in Wolfsberg, Austria for the inline measurement of the particle size distribution to monitor the layer growth during a hot-melt coating process. The process run is displayed completely in the existing measuring range. The growth of the sprayed layer can be monitored continuously on the basis of the displayed measured values.



HERMES PHARMA GmbH, Parsum In-line Partikelsonde IPP 70, Ventilus V100,
 Größenverteilungen von 2 Chargen zu Sprühbeginn und -ende (Volumenverteilung)



PAT for Hot-Melt Coating Process Case Study

HERMES
ARZNEIMITTEL

In addition to the current layer thickness, at the measured particle size distributions can be seen if, instead of the intended layer formation, increased agglomeration occurs. Since a large portion of the agglomerates cannot be dissolved afterwards, the early and unambiguous determination of increased agglomerate formation is helpful to define optimal process parameters (for example possible spray rate, temperature, etc.) with maximum usage of the production capacity of the fluid bed coater. Irregularities of the process (clogged nozzle, failure pump) can also be detected directly.

The probe was installed using an existing DN50 flange so that it could measure directly in the fluidized bed. The measuring volume of the probe was located at a wall distance of 6 cm, about 15 cm above the bottom.

After approx. 3 hours of operation (without interim cleaning) no blockage or deposits on the optical windows have been detected. Also the amplitudes of the raw signals (which can be used as an indicator of an initial pollution) have not decreased. Only on the surface of the probe and the disperser a film of the solidified hot-melt material has been formed which does not impair the measurement.



PAT for Hot-Melt Coating Process
Case Study

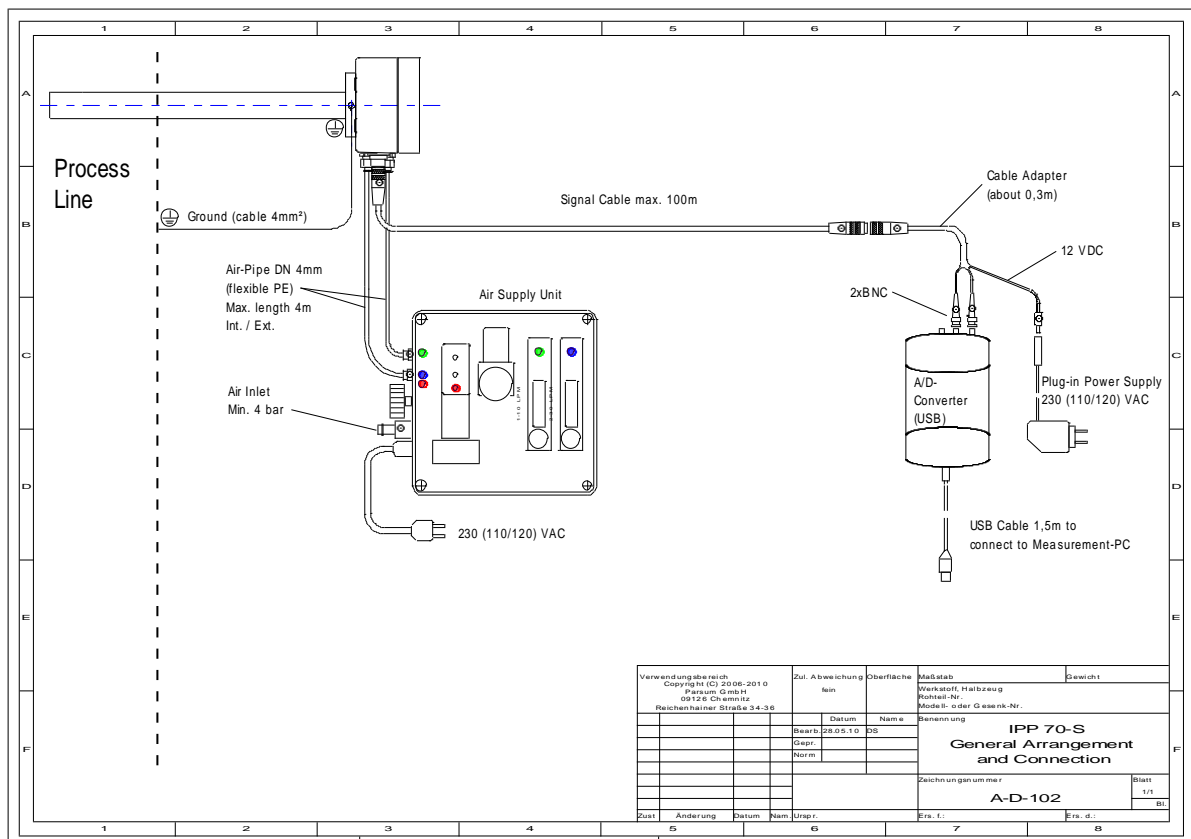


IPP 70-S

Air supply unit with pressure reducer, 2 adjustment regulators and time valve



Inline-Dispenser D24

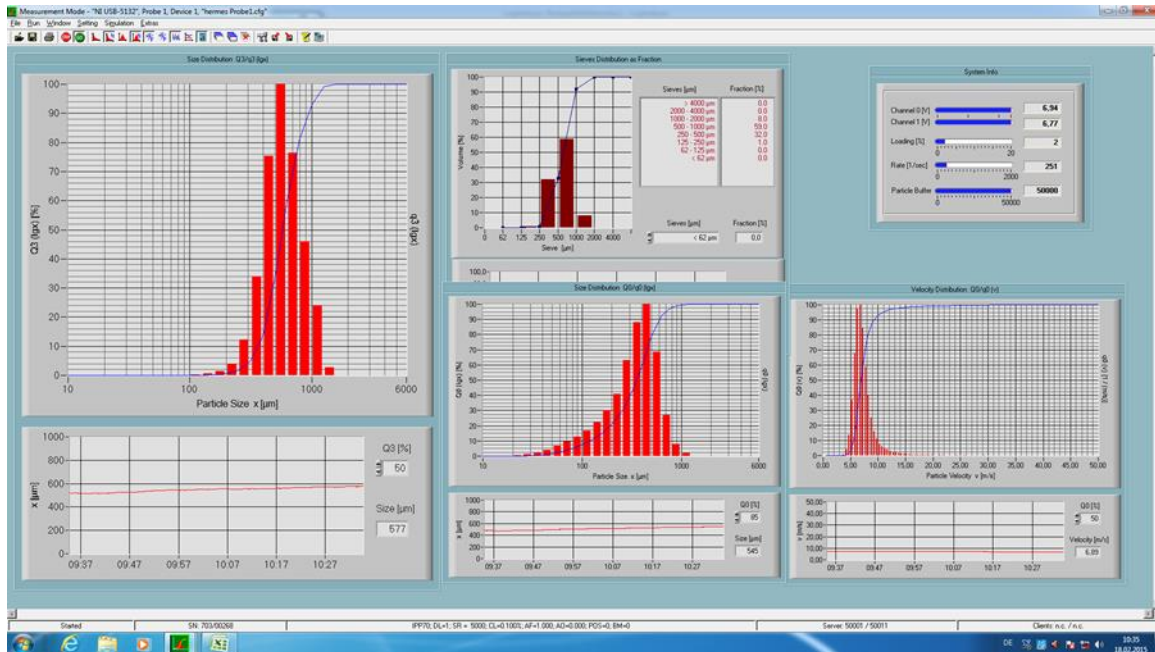


Measuring system IPP 70- Basic configuration for normal conditions
 (The intrinsically safe versions for the EX application IPP 70-Se and IPP 80-P additionally have a barrier box)

PAT for Hot-Melt Coating Process Case Study



The measurement was carried out with the Parsum measurement software IPP version 7.15. The screen surface can be individually adapted to the individual requirements for displaying the results.



Installation of the inline particle probe IPP 70-S in the Ventilus V100 at the PAT port (Tri-Clamp DN 50). Since the free passage at this stub was smaller than DN 50, the inline disperser D24 was mounted from the inside of the bowl after inserting the probe.

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