

Introduction

Process Analytical Techniques (PAT) have recently achieved great importance in pharmaceutical industries. Most important aims of PAT are to increase productivity, to improve safety as well as to learn about processes.

J&M Analytik AG provides individual PAT solutions based on optical spectroscopy in the UV-, Vis- and NIR-range (190 – 2500 nm). Take advantage today of our 20 years experience in process analytical techniques.

Application possibilities

The applications for optical spectroscopy in process analysis are manifold. Instruments from J&M are used for solids or liquids, in solid dosage processes like wet granulation, blending or fluid bed drying. Cleaning validation or reaction monitoring are other examples, where J&M spectroscopy systems can be found. Science & Expert services at J&M supports you in design of experiments, case studies, chemometrics and much more.

Design

J&M spectrometer systems are designed to fit today demands in PAT. By the use of diode array spectrometers high measurement speeds (up to 3 ms per spectrum) are easily achieved without loss in resolution or limitation of the wavelength range. J&M also provides solutions using FT-NIR or Raman instrumentation. Optical fibers ensure the flexibility of the system. The instruments can be operated by AC or DC (mains adapter, slide ring supply or battery). All systems comply with the specifications of both USP and Eur. Ph.



Fig. 1: Detachable NIR Spectrometer mounted on a mobile rack

Sample cells and probes

J&M provides different kinds of sample cells and probes like the IRIS-7 reflection measurement head, the RVP flow cell or the Lighthouse Probe™ Technology (LHP). This immersion probe prevents from window fouling as it can be automatically cleaned and recalibrated during the process without the need of stopping the process. This innovative probe was developed in a cooperation between GEA Pharma Systems and J&M.

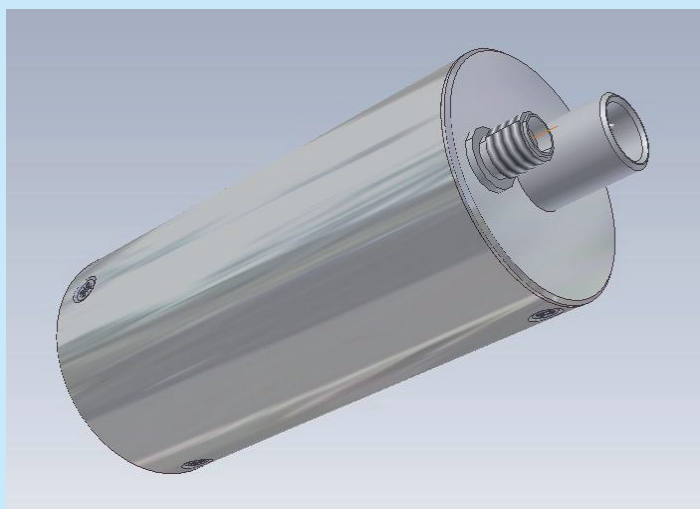


Fig. 2: Measurement head with light source for reflection spectroscopy

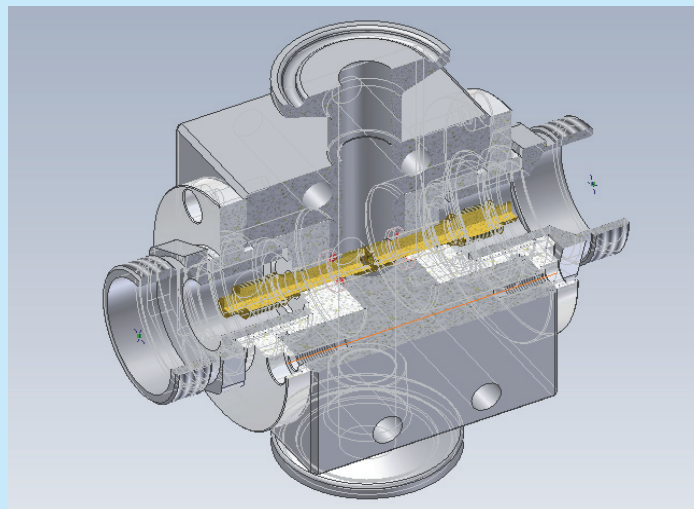


Fig. 3: Flow cells with different diameters for absorption spectroscopy

Software

For process applications different kinds of software packages are available. This includes **TidasDaq** or **SpectraView**, **NovaPAC**™, a FDA compliant easy-to-use process software together with **NovaMath**™ or **Camo Unscrambler**™ for data evaluation and modelling. Furthermore an integration of J&M instruments in software packages like **OPUS** from Bruker or **SYNTQ** from Optimal is possible as well as a custom made solution for your needs.

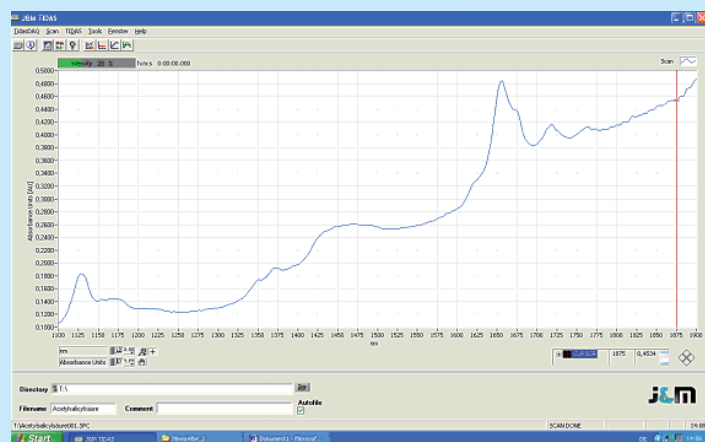


Fig. 4: J&M Software TidasDAQ

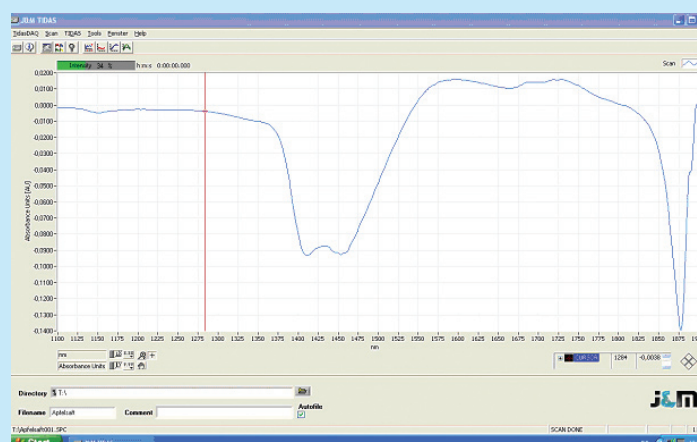


Fig. 5: J&M Software TidasDAQ

Please note:
Due to technological progress all specifications can be changed without a further note.