

Medical Device Coating



Liquid Mass Flow Pumping Systems

True Mass flow independent of liquid properties

Optimum control for Medical Device Coating applications

Digital archiving of coating cycle

Flow Rates from 0.1g/hour

Inbuilt PID Control

Calibrated to international standards

Density and Temperature monitoring

Stainless Steel & Hastelloy options

Choice of Pumps and valves

Bronkhorst Mini CORI-FLOW™ Pumping Systems

Advances in the design of medical devices such as catheters, guide wires and stents have greatly improved the quality of medical care. However, these devices are often made with materials that bring undesirable complications, such as bacterial infection, blood clots, and tissue trauma caused by device insertion. It is common to apply specialist coatings to alleviate these difficulties.

Coatings must be applied in a repeatable verifiable manner especially when the coating is an active drug product as for example in the case of a drug eluting stent

Traditional coating technology involves the spraying of liquids using various types of nozzles, in all these applications the control of flow is vital to the accuracy of the coating applied.

By using traditional flow metering and pump control techniques flow-rates can be controlled to 5-10% of the target rate. This may be acceptable in some applications, however where active drug substances are being applied a variation of 10% in drug coating leads to an unacceptable rate of failures & losses at the QC stage

Responding to the need to improve flow control technology in low flow coating applications Bronkhorst Cori-Tech have developed a unique mini CORI-FLOW™ controlled pumping system which uses the Coriolis principle to accurately measure true mass flow rate.

Flow rates as low as 0.1 grams/hour can be controlled to an accuracy of 0.5% of target

The mini CORI-FLOW™ controller uses its integral fast PID control system to adjust the speed of a closed loop coupled pump resulting in a typical dosing accuracy of 0.5-1%. This represents a 10 fold improvement in what is achievable using a traditional volume flow metering system

The Bronkhorst mini CORI-FLOW™ measures mass flow directly and there is no need for the system to be calibrated for each liquid being pumped. It is not susceptible to errors caused by variations in density or temperature and is capable of controlling the flow of volatile fluids with low boiling points.

The system is configurable to your individual needs and is available with a wide variety of pumps, communication and control options.

Typical applications include:

- Cardiac, peripheral and arterial stent coatings.
- Drug eluting balloon coatings.
- Pacemaker coatings.
- Coatings onto sutures and surgical instruments.
- Orthopaedic implant coatings.
- Bio-absorbable and biocompatible coatings.
- Hydrophilic or hydrophobic coatings onto medical devices such as catheters.
- Guide wire coatings.
- Coatings for blood collection tubes and syringes.
- Silver Silane coating onto bandages.
- Anti-microbial coatings onto medical textiles
- Tablet coating
- Supercritical CO2 applications



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