



## APPLICATION SPOTLIGHT

Chemical Manufacturing DMF (Dimethylformamide)





## Chemical Manufacturing DMF – PU coating agent



### APPLICATION DESCRIPTION:

DMF is a clear liquid organic solvent used in a number of industrial processes, particularly in the manufacture of polyurethane (PU) products, pesticides, electrical equipment, pharmaceuticals, and synthetic leathers and fibers.

#### Technical Data:

Medium	DMF (Dimethylformamide)
Temperature	100-120 °C (212-248 °F)
Pressure	6 bar (87 psi)
Flow range	12,000-25,000 kg/h

### TRICOR PRODUCT SUPPLIED:

Eight TRICOR® Coriolis Mass Flow Meters TCM 065K were installed to accurately measure the product supply for a PU coating agent into the reactor.

### CHALLENGE:

In order to provide best working conditions for the product and process, the product is heated during reactor supply to a temperature of 100 °C (212 °F) and more. The challenge is pump control under difficult conditions, which is essential for the batching process. With high viscosities varying from 2,000-4,000 cSt depending on the product, as well as with product particles, the customer encountered considerable problems when using PD (Positive Displacement) flow meters. Clogging of the PD flow

meters, due to particles, resulted in worse product quality issues, production interruption and high maintenance costs. The potentially low cost of a PD flow meter turned into an unpredictably high overall cost. For the customer, a high quality product with permanent production capability and low maintenance costs is essential to compete in this market.

### SOLUTION:

As a result, the customer started to use TRICOR® Coriolis Meters for this challenging application. The batch process was very accurate and repeatable and so the quality of the product was predictable. With the additional density and temperature information from the Coriolis meter, the customer improved his total production process and the quality of the product. With the direct measurement of mass flow the production engineers could easily do a mass balance of the product with the raw materials in order to optimize the process and to save money.

### RESULT:

The excellent accuracy of the TRICOR® Coriolis Meters enabled the customer to:

- Optimize the process with a direct mass balance
- Improve production process
- Increase product quality
- Avoid maintenance costs

## Call us now for your solution