

# Continuous Pharmaceutical Manufacturing



**Continuous manufacturing, a trend within the pharmaceutical industry replacing batch processing. In contrast to batch processing, continuous manufacturing sends raw materials through an uninterrupted, non-stop process until the final product is completed.**

## Flow solutions for continuous manufacturing

In a continuous flow dosing system, the chemical reactants need to be added, mixed and conveyed in an accurate repeatable manner through the various stages of manufacturing. Coriolis mass flow sensors are frequently adopted to give an accurate measurement of liquid flows in critical processes. When combined with a pump or proportional flow control valve, the mini CORI-FLOW mass flow controller offers an ideal solution to the demanding flow control requirements of continuous pharmaceutical manufacturing.

## Advantages continuous manufacturing compared to batch manufacturing

### Integrated processing with fewer step

- No manual handling, increased safety, less errors
- Shorter processing times
- Increased efficiency

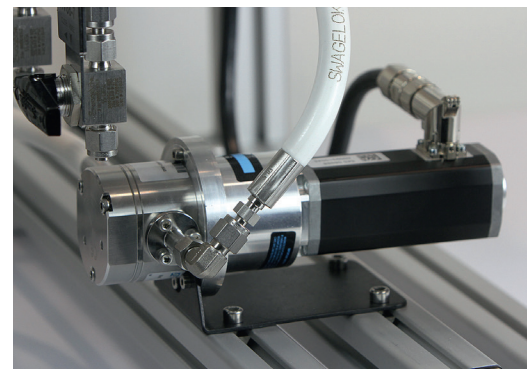
### Smaller equipment and facilities

- More flexible operation
- Reduced inventory
- Lower capital costs, less work-in-progress materials
- Smaller ecological footprint



## (Ultra) Low Flow Solutions

A complete skid solution, combining Coriolis mass flow meters and pressure controllers with a pump using digital communication is an ideal solution for continuous pharmaceutical manufacturing applications.



## Features

- Liquid mass flow pump systems
- True mass flow, independent of liquid properties
- Optimal control for continuous manufacturing applications
- Less downtime as no regular calibration is needed
- Digital archiving of production runs
- Flow rates from 0,1 g/h to 600 kg/h
- High levels of accuracy and repeatability
- Inbuilt PID control capabilities
- Calibrated to international standards
- Density and temperature monitoring
- Stainless steel & Hastelloy options
- Choice of pumps and valves



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