

Fermentation Process



A Japanese company implanted worldwide, a major player in the food industry and one of the world leaders in lysine, theanine and tryptophan production, produces these amino acids with natural fermentation processes and sells them for animal feeding.

Its plants are equipped with laboratories where fermentation processes are developed and tested on a small scale before being implemented in the plant itself.

In one of these particular laboratories, a Minipuls *evolution* has been implemented in bioreactors where it feeds bacteria with sugar for 96h. The reactions of the bacteria inside the reactor are observed every 12 hours and a measurement of the flow rate is performed after 1h, 24h, 48h and 96h to monitor the reproducibility of the bioreactor parameters.

The Minipuls *evolution* is driven by an instrument equipped with a timer (by electrical contacts) to dispense a certain volume of sugar at a flow-rate between 5 to 20mL/min.

To maintain the level of liquid at a certain height, the reactor is placed on a balance that drives another pump and starts it as soon as the bioreactor exceeds a certain weight.

PharMed® tubing are required to operate the pump continuously for 4 days, at a speed up to 30rpm.



"I have measured less than 5% of flow rate variation after 96 hours of work. Surprisingly for a peristaltic pump, there is no variation between channels."

Mr S., Laboratory technical manager

Required Minipuls evolution products

Reference

Minipuls evolution - speed control module	F110701
MF1 pump head	F110705
Pharmed tubing, 1.0mm internal diameter	F1825102

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