Micro Dosage System for Fluids

Monitoring Unit for Micro Pump

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Technology

A micro pump used for drug dosage in medical applications can be combined with the present invitation for continuous long-term monitoring of several pump functions. This micro pump monitoring unit upgrades the micro pump with smart functions like self-test, micro-pump test, catheter monitoring, and fluid flow measuring. It consists of an inlet valve, which is connectable with a micro pump, and an outlet valve which outputs the monitored fluid flow. A fluid reservoir is arranged between the inlet valve and the outlet valve and has a reservoir diaphragm area. A strain measuring strip is placed on the reservoir diaphragm for detecting the volume and/or the pressure in the fluid reservoir. The unit is suitable in combination with various micro pumps such as those used for the development of an implantable, artificial pancreas.

Innovation

- Reliable, pressure-monitoring of the dosage
- Able to run a self test
- Micro pump test function
- Detects plugged catheter
- Suitable in combination with various micro pumps
- Very low energy consumption

Application

- Drug dosage / drug delivery
- Pain therapy
- Cancer therapy
- Hormone therapy
- Artificial pancreas, insulin dosage

Market Potential

Total Market 2004-2009 (Source: NEXUS III):
- Drug delivery systems: approx. 150 $ US millions
- Micro pumps are an emerging market

Branch

Medical engineering, Implants

Patent Status

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