**Nanoflow — the intelligent Dispenser**

- Highest Precision, manual and automatic
- Perfect results for your particular demands
- Real-time pulse sequences and pressure changes
- By footswitch controlled intelligent macros

The *Nanoflow* Dispenser system from Klocke Nanotechnik combines the properties of a simple and manually easy-to-use dispenser with the full automation capability of intelligent high-precision production line dispensers - at a favorable price.

- **Highest Precision, manual and automatic**
  From low viscosity liquids to highly viscous adhesives *Nanoflow* offers high precise dispensing even in very small amounts. Smallest drops can optionally be generated directly at the output head by a rapid switching valve.
  Processes can be optimized manually and later be used in complex automation systems. Several dispensers can be synchronized with each other via data bus.

- **Perfect results for your particular demands**
  Controllable and adjustable parameters such as pressure, temperature and reservoir level provide perfect results also for special requirements.

- **Real-time pulse sequences and pressure changes**
  *Nanoflow* generates and stores sequences of pulses and pressures directly in the device, so there are no slowing bottlenecks caused by communication.

- **By footswitch controlled intelligent macros**
  Processes can be intuitively programmed at a PC and stored directly in the dispenser. The macros are then called with two assignable foot switches, each at two different switch levels.
Properties

- Macro programs are freely programmable on a PC and can be downloaded into the dispenser unit.
- Also all hardware modules and accessory can be programmed by PC.
- An expandable Software-GUI allows also to control complete (Micro-) Production systems (automation by simple teaching).
- In Remote Control and Macro mode all keys can be locked.
- Alarm modes and a beeper can be programmed.
- Freely programmable digital and analogue I/Os are available, e.g. for controlling further devices (Heater, UV-LED, reading of signals,...)
- 2 component dispensing by 2 synchronized dispensers or by a double-reservoir with mixer head.

Hardware

- The Dispenser system is fully compatible with the automation electronics and software from Klocke Nanotechnik and can be expanded e.g. with pattern recognition, Micro- and Nanorobotics systems, grippers up to complete production systems.
- These dispensers can be integrated in third party systems and offer changeless dispensing by macros of any complexity.
- Pattern recognition modules can be offered, e.g. for the automatic calibration of drop sizes or dispensed line widths.
- Options for automatic calibration of dispenser tip positions.
- Optional pattern recognition modules to identify dispensed Structures for automatic Quality control and recalibration of dispenser parameters.

Specifications

- Speed of internal dispenser valve: > 120 cycles/minute
- Speed of external dispenser valve: > 600 cycles/minute
- Time frame internal dispenser valve: 0,01 - 1024 sec
- Time frame external dispenser valve: 0,001 - 1024 sec

Accessory

- Cartridge holder with adapter for horizontal dispensing without piston
- Cartridge holder with tip backing, avoiding positioning errors by pressure changes
- Mini-dispenser head working without flexible cartridge
- Extremely fast and compact valve including back-suction.
- Heating and cooling within the mini-dispenser head including temperature control
- Ultrathin capillary tubes, produced also on demand