

7. Automatic Dispensing System : DAG-1000 (In-Line System for Dispensing, Inspecting & Drying)



1) Description

This system is the in-line type machine which is designed to process automatically and continuously dispensing reagents in line or dot. Besides dispensing module, this efficient, accurate, and robust system includes vision inspection and drying modules for producing the biosensors including glucose test.

2) Characteristics

- 2-1) Material is conveyed and fed automatically in every process.**
- 2-2) Dispensing mode can be adjusted in line or dot.**
- 2-3) Multi channel pump makes simple and easy dispensing control.**
- 2-4) High precision pump makes the very high accuracy of dispensing volume.**
- 2-5) Dispensing volume can be closely checked anytime as trial dispensing area is allocated with conical tube.**
- 2-6) Pump cleaning device is installed.**
- 2-7) The vision inspection for checking dispensing status is installed.**
- 2-8) Dry oven has precision temperature controller**

3) Specification

- 3-1) Applicable sheet size : Max. 320 x 320 mm**
- 3-2) Material conveyance : Conveyor belt type**
- 3-3) Material loading : Magazine type**
- 3-4) Dispenser : Syringe pump**
- 3-5) Pump resolution : 24,000 steps**
- 3-6) Dispensing volume : * Line : Minimum 0.5 $\mu\text{l}/\text{cm}$
* Dot : Minimum 0.5 $\mu\text{l}/\text{dot}$
(Solenoid valve type : Minimum 10 nl/dot)**

- 3-7) - Accuracy : < 1.0% deviation from expected result at full stroke
- Precision : \leq 0.05% CV at full stroke**
- 3-8) Defective marking : \varnothing 2mm inkjet printer**
- 3-9) Dry oven : Temp. 30~60 $^{\circ}\text{C}$, 3 zones(20 minutes/zone), elevator type**
- 3-9) Inspection : Camera monitoring**
- 3-10) Compressed air : 5-7 kgf/cm^2**
- 3-11) Control : Touch screen**
- 3-12) Power : 110 Volt or 230 Volt, 50 Hz or 60 Hz**