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(57) Abstract :
The present disclosure relates to an automated ECG belt system (102) for facilitating precise electrocardiogram readings by dispensing hydrogel. Embedded within the belt is a piezoresistive sensor (104) that detects the presence or absence of a patient. In response to sensor data, a control unit (110) activates a dispensing unit (108) to release hydrogel from a storage container (106) onto the patient's skin via a specially designed nozzle (112) with multiple micro-openings. This ensures a consistent and controlled hydrogel application. The system's efficiency is further enhanced by the sensor's (104) capability to identify variations in resistance due to skin proximity or contact, allowing the control unit (110) to modulate the gel's dispensation volume and frequency. Additionally, an integrated alert unit (114) provides notifications when the hydrogel container is empty, ensuring uninterrupted operation and accurate ECG readings.

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