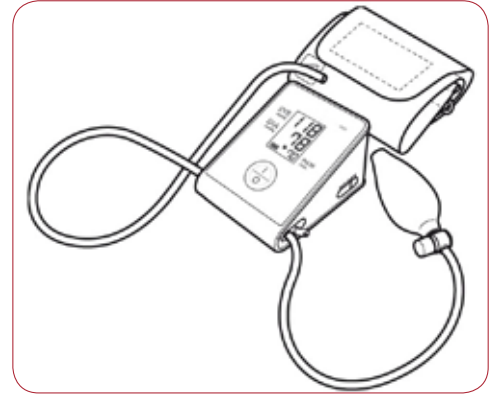


Automated solar-powered blood pressure monitor

Country of origin | Japan

Health problem addressed

There is a progressive increase in the prevalence of cardiovascular diseases resulting in approximately 8 million deaths annually worldwide which can be attributed to high blood pressure. Low- and middle-income countries shoulder 80% of the cardiovascular disease burden, more than half of which occurs in people of working age and pregnant women.



Product description

This electronic automated blood pressure monitor operates with solar power alone, as well as AC adapter and regular dry battery. It is also equipped with ultraviolet-tolerant plastic parts and dust-preventive structure to bare direct sunlight exposure for battery charge.

Product functionality

Functions as a standard blood pressure monitoring system.

Developer's claims of product benefits

With progressive integrated circuit technology, the electronic circuit of the device consists of an ultimately small number of components resulting in very low energy consumption which can be supplied with a solar panel. The chassis of the device is made of ultraviolet-tolerant plastic which bare direct sunlight. To the best of the submitters' knowledge, this is the world's first product according to WHO's specifications, including solar power and accuracy.

Operating steps

Charge battery by exposing the device to strong light, such as direct sunlight. Attach blood pressure cuff to upper arm. Inflate the cuff by pumping bulb up to estimated systolic blood pressure, then the device starts measurement. Remove the pressure entirely by pressing release button when the device displays the results.

Development stage

The product underwent field tests in Uganda and Zambia. In the evaluation, healthcare providers used the product in 700 patients and in comparison with conventional method (auscultation), 95% of the providers preferred the product with the reasons of easiness, solar power, and automated measurement. The product is approved as medical equipment in Japan, Europe and the US based on respective regulatory systems.

Future work and challenges

Currently, the price of the product is set relatively high level because of little manufacturing quantity. When the product sells more, the unit price aims to be much lower.

User and environment

User: Self-use/patient, physician, technician, nurse, midwife, family member, care person

Training: None

Maintenance: None

Environment of use

Settings: Rural settings, urban settings, ambulatory, at home, primary (health post, health center), secondary (general hospital), tertiary (specialists hospital)

Requirements: None

Product specifications

Dimensions (mm): 90 x 75 x 125

Weight (kg): 0.2

Life time: 5 years

Retail Price (USD): 100

List price (USD): 100

Other features: Portable (hand-held), reusable

Year of commercialization: 2009

Currently sold in: Japan, EU Nations