

ELECTROACTIVE POLYMER ACTUATOR AND DIAPHRAGM PUMP USING

THE SAME

ABSTRACT OF THE DISCLOSURE

An electroactive polymer actuator, which has the capability of improving response speed and operation reliability of a device utilizing an electroactive effect, comprises a laminate formed by alternately placing a plurality of ring members of an electroactive polymer material having different diameters and a plurality of ring electrodes having different diameters such that each of the ring members is positioned between inner and outer peripheral surfaces of adjacent ring electrodes, and a voltage applying unit for applying a voltage(s) between odd-numbered ring electrodes and even-numbered ring electrodes in the case of counting the ring electrodes in order from an innermost ring electrode of the laminate, to thereby cause a deformation in the laminate. This actuator is preferably used as a diaphragm drive unit of a diaphragm pump.

(Fig. 1A)



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