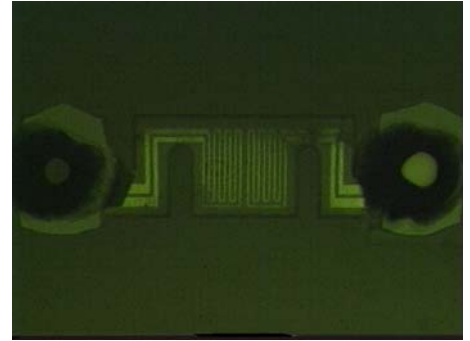
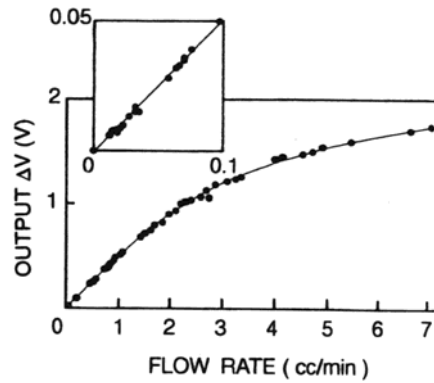
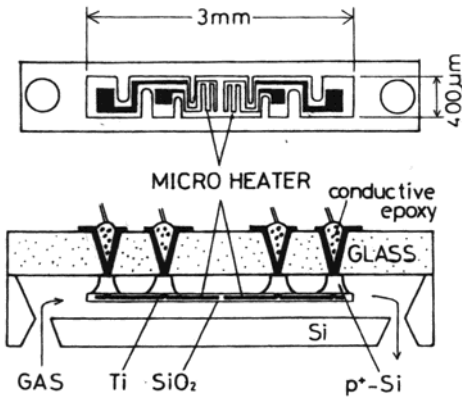
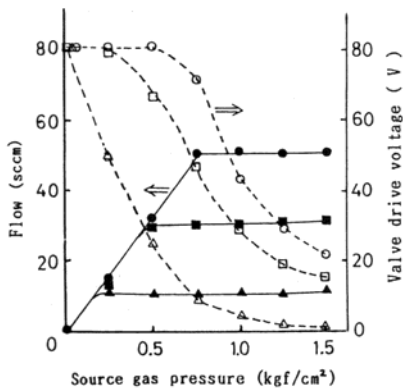
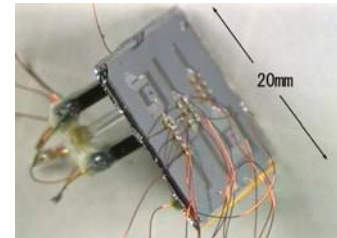
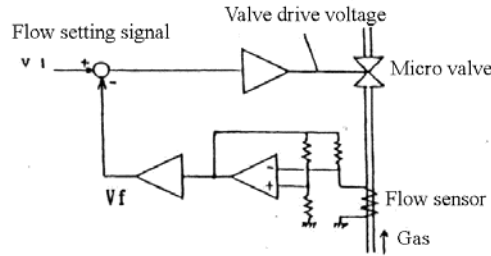
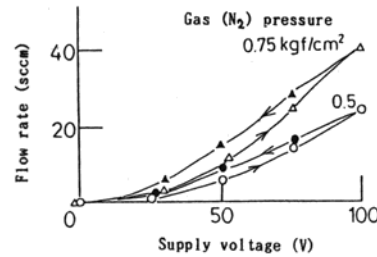
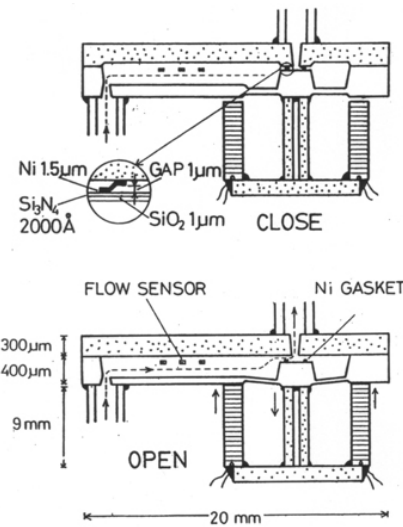
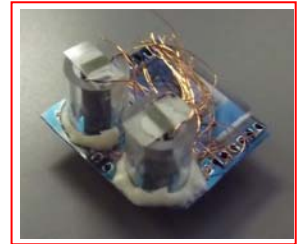
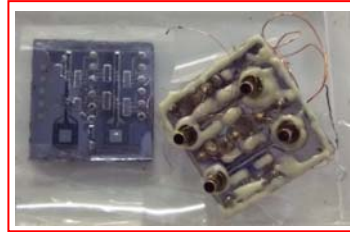


Flow Sensor and Mass-flow Controller for Gas

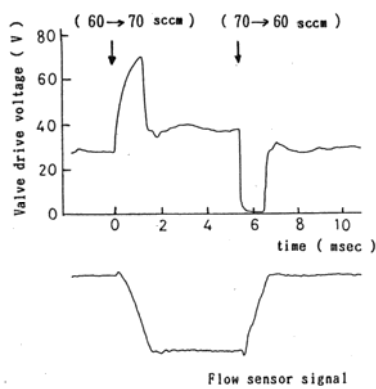


Thermal mass-flow sensor

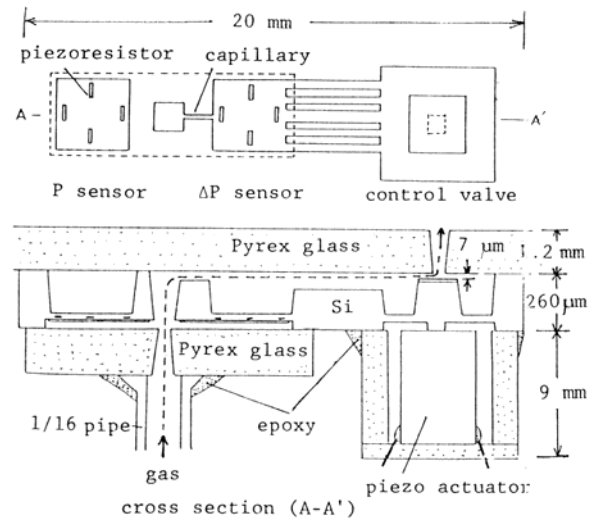
Reference : M.Esashi, H.Kawai, K.Yoshimi, Differential Output Type Micro Flow Sensor, Trans. ICIEC, J75-C-II (1992) pp.738-742



Thermal mass-flow sensor + micro valve



Integrated mass-flow controller



Differential pressure mass-flow sensor + micro valve

Reference : M.Esashi, S.Eoh, T.Matsuo and S.Choi, The Fabrication of Integrated Mass Flow Controller, Digest of Technical Papers, The 4th Int.Conf.on Solid State Sensors and Actuators (1987) pp.830-833