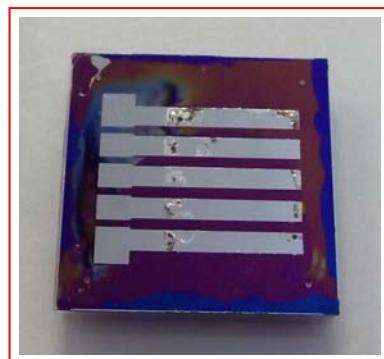
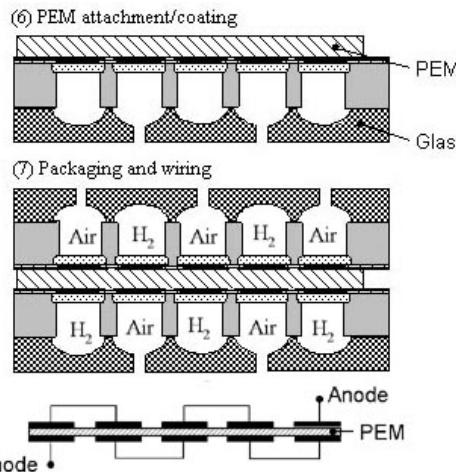
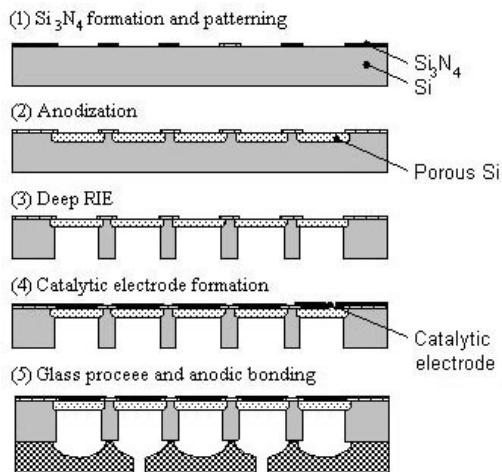
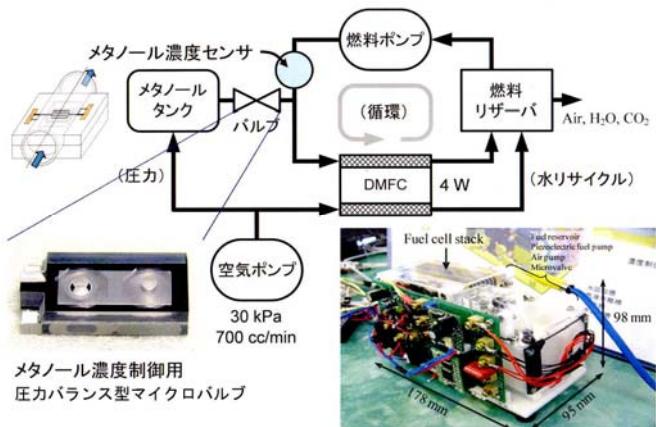


# マイクロ燃料電池

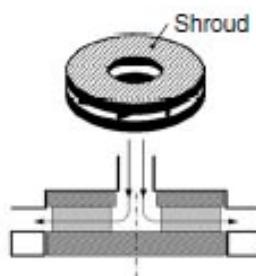


ポーラス Si をガス透過膜に用いた高分子電解質膜(PEM)型燃料電池

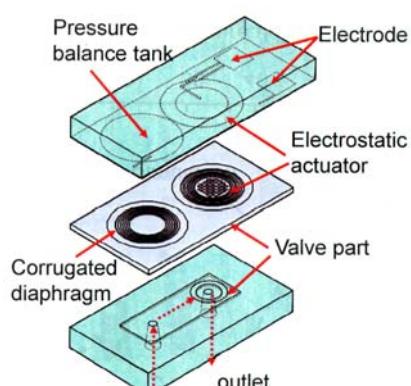
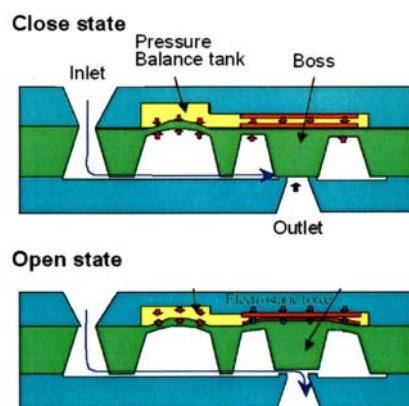
参考文献 : K.B.Min, S.Tanaka and M.Esashi, MEMS-Based Polymer Electrolyte Fuel Cell, Electrochemistry(電気化学および工業物理化学), 70 (2002) pp.924–927



直接メタノール小形燃料電池システム (東北大 - 松下電工)



SU-8 インペラーボ空気ポンプ  
Microvalve by  
pressure balance  
mechanism



圧力バランス型マイクロバルブ (東北大 - 松下電工)

参考文献 :

S.Tanaka, K.-S.Chang, K.-B.Min, D.Satoh, K.Yoshida and M.Esashi, MEMS-based Components of a Miniature Fuel Cell/fuel Reformer System, Chemical Eng. J., 101 (2004) pp.143–149

K.Yoshida, S.Tanaka, Y.Hagihara, S.Tomonari and M.Esashi, Normally Closed Electrostatic Microvalve with Pressure Balance Mechanism for Portable Fuel Cell Application, Sensors and Actuators A, 157 (2010) pp.290–298

R.Hino, M.Esashi and S.Tanaka, Antisymmetric-mode Lamb Wave Methanol Sensor with Edge Reflectors for Fuel Cell Applications, Technical Digest MEMS 2010 (2010) pp.871–874

A.Nakajima, P.Kang, N.Honda, K.Hikichi, M.Esashi and S.Tanaka, Fabrication and High-speed Characterization of SU-8 Shrouded Two-dimensional Microimpellers, J.of Micromech. Microeng., 17 (2007) pp.S230–S236

