

Abstract

Connectors for Pneumatic Devices in Microfluidic Systems

In one embodiment, a removable pneumatic connector, comprises a body having a plurality of bores passing through, each bore surrounded by a sealing member on an inner surface of the body. A plurality of gas lines may be placed within a corresponding bore. A vacuum port is disposed on the inner surface of the body, and an outer seal on the inner surface of the body surrounds the sealing members and the vacuum port. A vacuum line may be placed within the vacuum port, and configured to deliver negative pressure to the vacuum port. A vacuum holding area is created in the volume between the outer seal and each of the sealing members when the inner surface of the body is placed against a substrate. When the vacuum line is activated, a vacuum is created within the vacuum holding area, creating a positive seal between the body and the substrate.

(Fig. 1)