the manifold, e.g. by pumping the fluid into the cartridge using a pump. The manifold can include a second microfluidic channel that is in fluid communication with an output orifice of the conduit cartridge and typically is also in fluid communication with a detector. Therefore, a sample may be introduced into the conduit cartridge through the first microfluidic channel in the multi-layer manifold, separated by the conduit cartridge, and the separated species can flow out of the conduit cartridge through the second microfluidic channel in the manifold to a detector that can measure the amount and nature of the species present in the sample. Thus, as discussed above, the fluid handling substrates described here may be configured to interface with an analytical system in numerous ways, e.g. a manifold **456** or a conduit cartridge **452** or both. One skilled in the art given the benefit of this disclosure will be able to design other suitable manifolds and devices for interfacing the conduit cartridge with an analytical system.

[**0079**] The multi-layer manifold may also contain an interface **454** mounted to the manifold. The interface **454** typically is operative to create a fluid-tight seal when the cartridge is plugged into the manifold. That is, interface **454** is operative to provide a sealing force suitable to prevent fluid from leaking between the manifold and the fluid separation conduit cartridge. Optionally, one or more gaskets can be positioned between the conduit cartridge and the interface to aid in forming a fluid-tight seal. The interface itself may comprise a multi-layer laminated structure. Thus, in certain embodiments, a plurality of multi-layer laminated structures may be in fluid communication with each other, through microchannels, ports, and the like, and with one or more analytical systems. One skilled in the art, given the benefit of this disclosure, will be able to select suitable manifolds, interfaces and mechanisms for retaining the conduit cartridge against the manifold and/or interface of the manifold to create a fluid-tight seal. Exemplary mechanisms include cams, springs, pressure plates, welding, clamps, gear drives, , and combinations of any of them, adapted to be actuated by gravity or manually, by solenoid, pneumatically, hydraulically, etc. As discussed above, in alternative embodiments the conduit cartridge is plugged directly into the system without using a manifold. For example, suitable connectors may be added to the conduit cartridge such that the conduit cartridge can be in direct fluid communication with a flow line, e.g. a flow line including one or more solvents and one or more species to be separated. One skilled in the art given the benefit of this disclosure will be able to select suitable mechanisms and devices for interfacing the conduit cartridge disclosed here to an analytical system.

[**0080**] In other embodiments, the manifold itself is in communication with a second component-on-board, such as a device that is operative to generate fluid flow. For example, referring to FIG. **15**, a pump **470** can be attached to the multi-layer laminated manifold **456** and can be configured such that fluid is drawn from a fluid reservoir, e.g a solvent reservoir, and is forced into manifold **456** and subsequently into conduit cartridge **452**. Such devices may be any of the devices known to those skilled in the art and discussed above including but not limited to pumps, vacuum manifolds and the like. The device for generating fluid flow can also be in communication with one or more injectors as discussed above.

EXAMPLE 2

[**0081**] An additional example of a multi-layer laminated conduit cartridge, assembled in accordance with this disclosure, interfaced with an analytical system is shown in FIG. **16**. The analytical system **500** comprises a conduit cartridge **502**, e.g. a cartridge operative to perform capillary liquid chromatography, a graphical user interface **504**, and buffer cassettes **506**. The graphical user interface can be used to program the system and/or the conduit cartridge for a specific method, e.g. a specific solvent gradient, run time, flow rate, and the like. As discussed above, the graphical user interface can be omitted in embodiments where the conduit cartridge is operative to program the system, e.g. where the conduit cartridge comprises an analytical method in a memory unit within the conduit cartridge, for example. The buffer cassettes are equivalent to solvent reservoirs. That is, the buffer cassettes may be loaded with any suitable mobile phase needed to perform a chromatographic method, for example. Preferably, the mobile phases are different in different buffer cassettes such that solvent gradients can be implemented in the analytical method. The buffer cassettes may be in communication with one or more devices that are operative to generate a fluid flow (not shown), e.g. pumps and the like. The system **500** typically has one or more power and communication interfaces **508** and can be custom installed **512** at a user's facility such that automated analyses may take place or such that the system is positioned near the fluid to be analyzed. As discussed above, the communication interface may send and/or receive data to or from a central computer, or other device. The system can be controlled by remote operation and diagnosis using a communication device **510** by various methods, such as for example, e-mail over the Internet. The communication device typically is used to alter the method of the system without having to manually enter the new method using the graphical user interface. This feature provides for remote configuration, or reconfiguration as the case may be, of the system. In certain embodiments, the communication device is omitted and the system is controlled by information sent from the conduit cartridge, which may comprise its own communication device positioned with a chamber in the conduit cartridge, to the system. As can be seen in FIG. **16**, the size of the conduit cartridge can be tailored such that it has the appropriate dimensions, e.g. height, width and thickness, and has the appropriate connectors to interface with any analytical system. For example, in embodiments comprising a capillary column, the dimensions of the conduit cartridge may be reduced such that the footprint of the cartridge is smaller and occupies less space on the analytical system. Suitable fluid connectors including those discussed here, e.g. male/female connectors and the like, can be attached to the conduit cartridges and are typically operative to create a fluid-tight seal between the conduit cartridge and the analytical system. Suitable electrical connectors can be attached to the conduit cartridge including those discussed above, for example, PCMCIA connectors, USB connectors, serial connectors and the like. The electrical connectors typically provide for transfer of information to and from the conduit cartridge.

[**0082**] As discussed above, the fluid separation conduit cartridge can interface with the system through a manifold, such as the manifold shown in FIG. **14**, or can interface with the system directly, e.g. without any intervening physical components. Suitable connectors for interfacing with the manifold can be positioned on any surface of the housing