increase in the field strength generated by the opposing magnets using the Hall effect sensor; stopping the motion of the probe toward the sample plate; and obtaining a sample from the one or more samples in the sample plate using a probe including a fitting, an elongated portion extending from the fitting, and a restorative spring including a plurality of magnets inserted onto the elongated portion.

[00016] According to an exemplary embodiment of the present teachings, there is provided a method for obtaining a sample, including: sampling a sample plate including one or more samples in a plate sampler; moving toward the sample plate a probe including a fitting, an elongated portion extending from the fitting, a restoration restorative spring, and a magnet; sensing a field strength generated by the proximity of the magnet in the extended position using a Hall effect sensor; detecting an increase in the field strength generated by the magnet proximity using the Hall effect sensor; stopping the motion of the probe toward the sample plate; and obtaining a sample from the one or more samples in the sample plate using probe assembly.

[00017] According to an exemplary embodiment of the present teachings, there is provided a method for making a sampling probe, including: providing a fitting; assembling onto the fitting an elongated portion extending from the fitting; and inserting onto the elongated portion a restorative spring including a plurality of rare earth magnets.

[00018] According to an exemplary embodiment of the present teachings, there is provided a plate sampler apparatus, including: a loading compartment including a sample probe and a tray, the tray being configured to receive a sample plate configured to include a plurality of samples; a fluidic compartment configured to receive one or more fluid containers; a first access door configured to allow access to the loading compartment; and a second access door configured to allow access to the fluidic compartment.

[00019] According to another exemplary embodiment of the present teachings, there is provided a hi-throughput cytometry system, including: a flow cytometer configured to acoustically focus a sample in a flowing fluid; and a plate loader in fluidic communication with the flow cytometer.

[00020] According to an exemplary embodiment of the present teachings, there is provided a hi-throughput cytometry system, including: a flow cytometer; and a plate loader in fluidic communication with the flow cytometer, the plate loader including: a sample probe and a tray, the tray being configured to receive a sample plate configured to include a plurality of samples; a fluidic compartment configured to receive one or more fluid containers; a first

access door configured to allow access to the loading compartment; and a second access door configured to allow access to the fluidic compartment.

[00021] According to an exemplary embodiment of the present teachings, there is provided a hi-throughput cytometry system, including: a flow cytometer; and a plate loader in fluidic communication with the flow cytometer, the plate loader including an actuation mechanism configured to move a tray toward a top surface of the plate loader such that a sample plate may be loaded onto the tray from above the plate loader.

[00022] The foregoing general description and the following detailed description are exemplary only and are not limiting in any way of the scope of the present teachings. Other embodiments or variations upon embodiments specifically discussed herein, including various combinations of features of embodiments discussed herein, may be realized from the following detailed description or may be learned by practice of the present teachings.

BRIEF DESCRIPTION OF THE DRAWINGS

[00023] The accompanying drawings illustrate various exemplary embodiments of the invention. The drawings are exemplary only and are not in any way limiting of the scope of the invention.

[00024] FIG. 1 is a perspective view of an exemplary plate sampler.

[00025] FIG. 2 is another perspective view of the exemplary plate sampler set forth in FIG. 1.

[00026] FIG. 3 is a front view of the exemplary plate sampler set forth in FIG. 1.

[00027] FIG. 4 is a back view of the exemplary plate sampler set forth in FIG. 1.

[00028] FIG. 5 is a side view of the exemplary plate sampler set forth in FIG. 1.

[00029] FIG. 6 is another side view of the exemplary plate sampler set forth in FIG. 1.

[00030] FIG. 7 is a top view of the exemplary plate sampler set forth in FIG. 1.

[00031] FIG. 8 is a bottom view of the exemplary plate sampler set forth in FIG. 1.

[00032] FIG. 9 is a perspective view of another exemplary plate sampler.

[00033] FIG. 10 is another perspective view of the exemplary plate sampler set forth in FIG. 9.

[00034] FIG. 11 is a front view of the exemplary plate sampler set forth in FIG. 9.

[00035] FIG. 12 is a back view of the exemplary plate sampler set forth in FIG. 9.

[00036] FIG. 13 is a side view of the exemplary plate sampler set forth in FIG. 9.

[00037] FIG. 14 is another side view of the exemplary plate sampler set forth in FIG. 9.

[00038] FIG. 15 is a top view of the exemplary plate sampler set forth in FIG. 9.

[00039] FIG. 16 is a bottom view of the exemplary plate sampler set forth in FIG. 9.