

ABSTRACT

A bioprocess vessel includes a flexible bag or substantially rigid container that defines an interior volume and having a bottom surface, the bottom surface being open or containing an aperture therein for the passage of fluid. A pump is secured to the bottom surface of the flexible bag or substantially rigid container. In some embodiments is secured directly to the flexible bag or substantially rigid container. In other embodiments, the pump is secured indirectly the flexible bag or substantially rigid container using, for example, a port that extends through the aperture on the bottom surface. The port or flanged surface may also be integrated into the pump, which is secured to the vessel. An optional mixing adaptor may be provided inside the interior volume of the flexible bag or substantially rigid container and at least partially covers the inlet that leads to the pump.

FIG. 7A