Optionally, the system includes an extraction tip with one or more shaped features that is complementary to a shaped feature of the centrifugation vessel, and that is configured to fit within the centrifugation vessel. Optionally, the shaped feature of the bucket includes one or more shelves upon which a protruding portion of the container is configured to rest. Optionally, the bucket is configured to be capable of accepting a plurality of containers having different configurations, and wherein the shaped feature of the bucket includes a plurality of shelves, wherein a first container having a first configuration is configured to rest upon a first shelf, and a second container having a second configuration is configured to rest upon a second shelf.

[0006] In ~~yet another~~an embodiment described herein, a compact high speed centrifuge for use with low volume sample containers is provided. The centrifuge ~~comprising~~ comprises a centrifuge ~~body~~rotor; a motor for rotating the centrifuge ~~body~~rotor; and a detector integrated with the motor and configured to determine at least a rotational position of a rotating portion of the motor, wherein the detector uses at least two different types of encoder information to determine the rotational position.

[0007] It should be understood that embodiments herein may be adapted to have one or more of the following features. In one nonlimiting example, the detector uses at least optical encoder and Hall-effect techniques to determine rotational position. Optionally, the detector uses at least optical encoder and Hall-effect techniques to determine at least rotational position and rotational velocity. Optionally, the detector has a first surface directed towards detecting one type of encoder information and a second surface directed towards detecting another type of encoder information. Optionally, the first surface and the second surface are oriented in different directions. Optionally, the first surface and the second surface are oriented in the same direction Optionally, the motor includes a plurality of detectors for determining rotational position. Optionally, the motor includes a first encoder disc providing the first type of encoder information and a second encoder disc providing the second type of encoder information. Optionally, Optionally, the motor includes a first encoder disc providing optical encoder information and a second encoder disc providing magnetic encoder information. Optionally, the motor includes an encoder disc providing the first type of encoder information and the second type of encoder information. Optionally, the motor includes an encoder disc providing both optical encoder information and magnetic encoder information. It should be understood that although the motor with integrated encoder components is described in the context of a centrifuge, the motor may also be adapted for use in other scenarios that desires to have position and/or velocity detector features integrated into the motor.

[0008] In yet another embodiment described herein, a method is provided comprising: providing a motor; integrating a first type of encoder into the motor; integrating a second type of