CLAIMS

1. A syringe fixture for holding a syringe in a test system, the fixture comprising:

a main housing comprising a first chamber, a second chamber, and an opening extending from the first chamber to the second chamber,

wherein the first chamber comprises a first plurality of walls having a first length and a second plurality of walls having a second length, wherein the second length is less than the first length, and the first and second pluralities of walls form a housing for at least a needle of the syringe, and

wherein the second chamber is configured to hold at least a flange portion of the syringe and the second chamber comprises a cover to enclose at least the flange portion of the syringe; and

a base portion having a support, wherein the base portion is configured to receive a portion of a plunger rod of the syringe, and wherein the base portion includes at least one geometric feature configured to allow or impart a rotational motion on the portion of the plunger rod received in the base portion.

2. The syringe fixture of claim 1, wherein the base portion includes a holder for a plunger rod of the syringe and a casing, wherein the casing and the holder are configured to be secured together via a fastener to support the plunger rod.

3. The syringe fixture of claim 1, wherein the base portion includes a lug configured to receive a plunger rod of the syringe and a connector, wherein the lug and connector are secured together to support the plunger rod.

4. The syringe fixture of claim 1, wherein the second chamber is removable from the main housing.

5. The syringe fixture of claim 4, wherein the second chamber has a first configuration and is interchangeable with a different second chamber having a second configuration, wherein the second configuration is different from the first configuration.

6. The syringe fixture of claim 1, wherein the second plurality of walls includes a top wall and a bottom wall, the top wall comprising a fastener for securing the main housing to the test system.

7. The syringe fixture of claim 1, wherein the support of the base portion includes screw holes for securing the base to the test system.

8. The syringe fixture of claim 1, wherein the cover is attached to the second chamber via hinges and a closure, the closure configured to allow for opening and closing of the cover.

9. The syringe fixture of claim 1, wherein the second chamber includes a chamber extension extending from a bottom section of the second chamber and the cover includes a cover extension extending from a bottom section of the cover, wherein each portion has a height ranging from about 4.80 mm to about 5.20 mm.

10. The syringe fixture of claim 9, wherein each of the chamber extension of the second chamber and the cover extension of the cover has a length ranging from about 13.22 mm to about 13.62 mm.

11. The syringe fixture of claim 9, wherein a clearance between the chamber extension of the second chamber and the cover extension of the cover ranges from about 12.95 mm to about 13.35 mm.

12. The syringe fixture of claim 1, wherein the first chamber of the main housing is configured to be secured to a movable portion of the test system and the support of the base portion is configured to be secured to a stationary portion of the test system.

13. The syringe fixture of claim 1, wherein the first chamber of the main housing is configured to be secured to a stationary portion of the test system and the support of the base portion is configured to be secured to a movable portion of the test system.

14. A syringe fixture for holding a syringe in a test system, the fixture comprising:

a main housing comprising a first chamber, a second chamber, and an opening extending from the first chamber to the second chamber,

wherein the first chamber comprises a housing for at least a needle of the syringe, and

wherein the second chamber is configured to receive at least a flange portion of the syringe and the second chamber comprises a cover to enclose at least the flange portion of the syringe; and

a base portion having a support, wherein the base portion includes a lug configured to receive a plunger rod of the syringe, and a connector, wherein the lug and connector are secured together to support the plunger rod.

15. The syringe fixture of claim 14, wherein the base portion includes a thumb nut for securing and stabilizing the lug and connector to the test system.

16. The syringe fixture of claim 14, wherein the lug includes an opening for receiving a portion of the plunger rod, and wherein the opening includes a plurality of ridges configured to engage with a portion of the plunger rod.

17. The syringe fixture of claim 16, wherein the lug includes a first end having a first diameter and a second end having a second diameter, wherein the second diameter is larger than the first diameter, and a sidewall extending from the first end to the second end, wherein the sidewall flares outwardly from the first end to the second end.

18. A method for testing a syringe, the method comprising:

securing a syringe fixture to a test system, the fixture comprising:

a main housing comprising a first chamber, a second chamber, and an opening extending from the first chamber to the second chamber,

wherein the first chamber comprises a housing for at least a needle and a needle cap of the syringe, and

wherein the second chamber is configured to hold at least a flange portion of the syringe and the second chamber comprises a cover to enclose at least the flange portion of the syringe; and

a base portion having a support, and

inserting the syringe into the syringe fixture.

19. The method of claim 18, further comprising securing the first chamber of the main housing to a movable portion of the test system and securing the support of the base portion to a stationary portion of the test system.

20. The method of claim 18, further comprising securing the first chamber of the main housing to a stationary portion of the test system and securing the support of the base portion to a movable portion of the test system.