



## Testing the Neptune<sup>®</sup> MACH 10<sup>®</sup>

The MACH 10 can be tested in the same way that a typical mechanical meter (PD, Turbine, etc.) is tested.

- 1) Place and secure meter in test bench.
- 2) Open tank discharge valve(s).
- 3) Fully open test bench outlet valves, then slowly open the test bench inlet valve to its fully open position to purge the meters of air at full flow. Purge the meters for approximately 2 minutes.

*Note: The MACH 10 will no longer show the "dry pipe" icon when the meter has been sufficiently flushed of air.*

- 4) Use the test bench outlet valve to throttle the flow of the water. Set the flow to the desired rate. If possible, a separate valve at the test outlet should be used to start/stop flow, so the meters start and stop the test at line pressure. It is preferable to have at least 30psi at the exit of the last meter being tested, during the test.

*Note: Testing should be done starting at high flow rate and progressing to the minimum flow rate.*

- 5) When the flow is set and the meters are fully purged of air, shut off the flow using the test bench outlet valve. Verify that no leaks are present. Leaks will skew results.
- 6) Check tank to ensure valve is closed and tank is either empty or weight has been tared.
- 7) Record initial register indication.
- 8) Open start/stop test bench outlet valve to begin test.

*Note: Timing the test can help to determine the average flow rate over the test. This can help to highlight if any gross flow rate fluctuations happened during the test.*

9) When test reaches the desired volume, close the outlet start/stop valve to end test.

*Note: Close valve at a steady rate, slowly enough so there is no water hammer effect. This can have detrimental effects to the system and meter accuracy.*

*Note: Do not "bump" test to reach certain volume/weight. This may affect the test.*

10) Record final register indication.

11) Record tank volume/weight.

12) Calculate accuracy of the meter.

$$Accuracy (\%) = \frac{V_{meter}}{V_{tank}} * 100$$

13) Repeat steps 4 – 12 for additional flow rates.

14) Relieve water pressure from bench before removing meters.