

Neptune® 3 Waste Management System

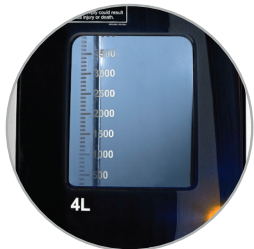
# Your trusted tool

For fluid accuracy in quantitative blood loss

TJC standards and ACOG guidelines are driving improvements in blood loss measurements in L&D. Neptune's leading fluid accuracy and ability to separate fluid makes it a valuable tool to assist in quantifying blood loss (OBL).



Neptune display settings for fluid volume enables quick decisions. The "reset volumes" button enables you to reset fluid volumes at zero at any time to separate fluids. (i.e. amniotic fluid, blood, and irrigation, etc.).



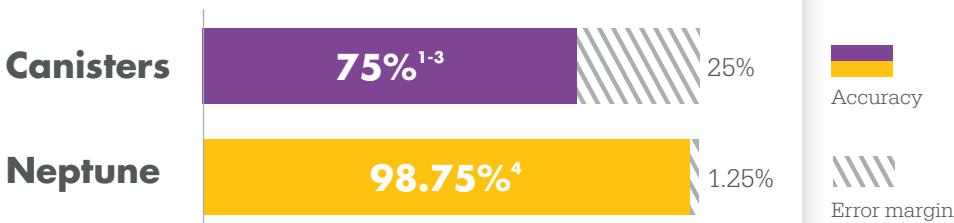
Neptune's 4L canister provides digital readouts in 10mL increments, and is validated to a meticulous fluid accuracy of  $\pm 50$  mL.<sup>4</sup>



Neptune's two independently controlled and regulated canisters offers the opportunity to establish separate lines of suction, volume measurements, and customized suction settings.



## Fluid accuracy comparison<sup>1-4</sup>



Accuracy

Error margin

# Neptune 3

For fluid accuracy when you need it most

## ACOGs

Tips for quantification of blood loss during Cesarean births<sup>5</sup>

Begin the process of quantification of blood loss when the amniotic membranes are ruptured or after the infant is born.

### Prior to Placenta delivery

Suction and measure all amniotic fluid within the suction canister of collected fluid before delivery of the placenta.

For guidance on meconium suctioning, please refer to ACOG's recommendations. Neptune is generally indicated. Therefore, it is up to the HCP to determine if the Neptune would be a viable option.

### After delivery of the placenta

Measure the amount of blood loss in the suction canister and drapes. At this point, most of the blood will be accounted for. Notify the team and document the amount of blood loss in milliliters.

### Before adding irrigation fluid

Ensure that the scrub team communicates when irrigation is beginning. Remember that some of the normal saline will be absorbed into the tissues. For this reason, not all the fluid will be suctioned out of the abdomen and accounted for. One of two methods can be used to suction the irrigation fluid: continue to suction into the same canister and measure the amount of irrigation fluid or provide another suction tube to collect the irrigation separately into another canister.

### Weigh all blood-soaked materials and clots

Calculate the weight and convert to milliliters.

### At the end of the surgery

Add the volume of quantified blood calculated by weight with the volume of quantified blood in the suction canister to determine total quantification of blood loss.

**Note:** lap pads dampened with normal saline contain minimal fluid. When they become saturated with blood, weigh them as you would a dry lap pad.

## Stryker Neptune 3

This workflow describes general fluid accuracy potential procedural steps

- ▶ Amniotic fluid can be suctioned into Neptune's lighted 4-liter canister.
- ▶ A digital read out of fluid contents can be found on both screens of the Neptune.
- ▶ Once the amniotic fluid is suctioned, press "reset volume" on the Neptune LED touch screen. After the 'reset volume' function has been activated, remaining fluid will not include pre-amniotic fluid.
- ▶ Use one of the digital readout screens on the Neptune to record fluid measurement.
- ▶ The 4-liter reads out in 10mL increments and has an accuracy of  $\pm 50\text{mL}$ .<sup>4</sup> (For perspective—canisters are marked with an accuracy of  $\pm 10\%$ , so they could be off by 300mL per 3L canister).
- ▶ Neptune's two independently controlled and regulated canisters offer the opportunity to establish separate lines of suction, volume measurements, and customized suction settings.
- ▶ Use one of the digital readout screens on the Neptune to record fluid measurement.

The Joint Commission's Maternal Hemorrhage Standards are driving improvements in blood loss measurements in L&D. Neptune can be used as a valuable tool to assist in blood loss measurement (OBL) due to its market leading fluid accuracy ( $\pm 50\text{mL}$ ) and its ability to separate fluids.



### Initial incision

Surgeon makes the initial incision and works toward the amniotic sac. Suction on the Neptune may be applied at the HCP's discretion.

### Fluid collection

The amniotic sac is ruptured, and the fluid is suctioned into the Neptune's 4L canister.

### Reset for accuracy

Once the amniotic fluid is suctioned, press "reset volume" on the Neptune LED touch screen. After the "reset volume" function has been activated, remaining fluid will not include pre-amniotic fluid.

### Visualization

Enable Neptune's 4-liter light to better visualize the viscosity of the blood within the 4-liter canister.

### Recording for QBL

Fluid volume measurements are found on both the Neptune swivel screen and LED screen for final OBL documentation. The 4-liter canister reads out in 10ml increments and has an accuracy of  $\pm 50\text{mL}$ .<sup>4</sup> In comparison, canisters are marked with an accuracy of  $\pm 10\%$ , which could result in an inaccuracy of 300mL per 3L canister.

## References

1. Sources of Error when Tracking Irrigation Fluids During Hysteroscopic Procedures. Boyd, Harry R. et al. Journal of Minimally Invasive Gynecology, Volume 7, Issue 4, 472 – 476 (Table 4)
2. Estimation of blood loss is inaccurate and unreliable. Rothermal LD, et al. Surgery, Volume 160, Issue 4, 946 – 953
3. Accuracy of Blood Loss Measurement during Cesarean Delivery. Doctorvaladan, Sahar V., et al. AJP Rep. 2017 Apr; 7(2): e93–e100
4. Stryker Instruments engineering data and Neptune Waste Management System specifications on file. Jan., 2017. Kalamazoo, MI
5. Adapted from AWHONN Practice Brief. Quantification of Blood Loss: AWHONN Practice Brief Number 1. JOGNN, 44, 158–160; 2015. DOI: 10.1111/1552-6909.1219.

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Stryker Instruments  
1941 Stryker Way  
Portage, MI 49002

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