

**A Novel, Single-Use Pump  
Featuring High Accuracy, No  
Pulsation, Full Vacuum and  
Positive Displacement for Use  
in any Application Requiring  
Integrated Sterile  
Connectivity.**

# HemiTor Pump System Installation Instructions

Technical Services



**MARIN SCIENTIFIC**  
DEVELOPMENT COMPANY



1. HemiTor Adapter, drive spud, mounting screws, hex wrench



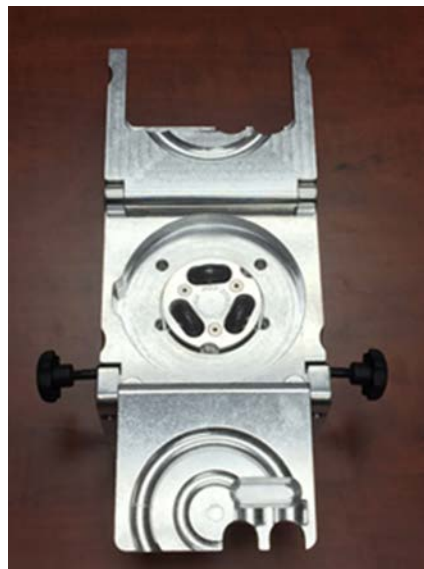
2. Front view of HemiTor drive adapter



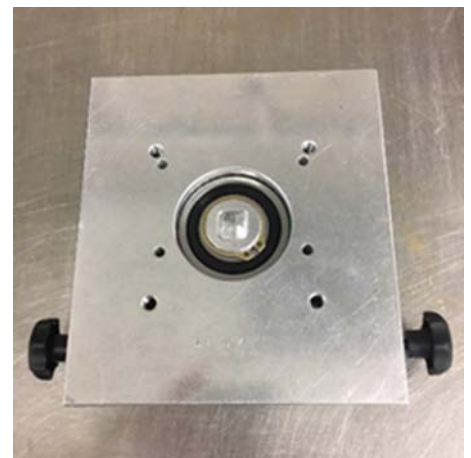
3. HemiTor drive adapter with retaining knobs loosened and opened



4. HemiTor adapter with upper door opened



5. HemiTor adapter with upper and lower door opened



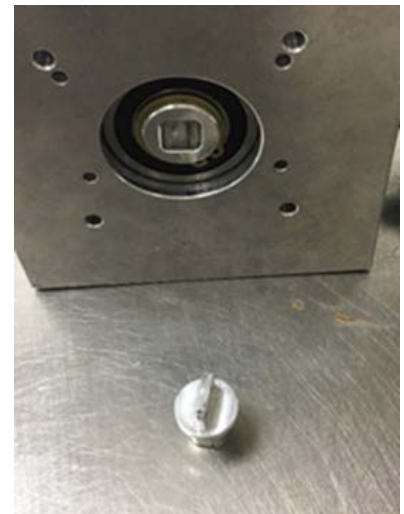
6. back side of HemiTor Adapter



7. front of pump drive unit



8. close up view of mounting plate (your pump mounting plate may look different)



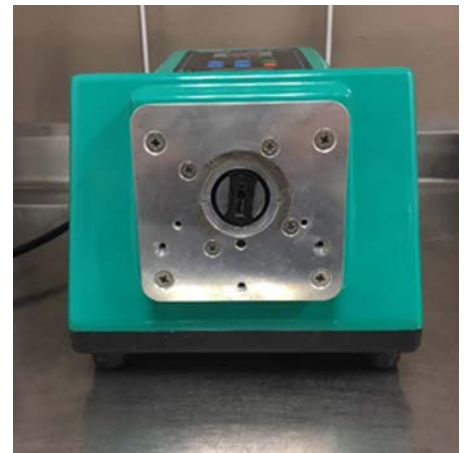
9. HemiTor drive spud and drive adapter. Note the square hole where the drive spud will go.



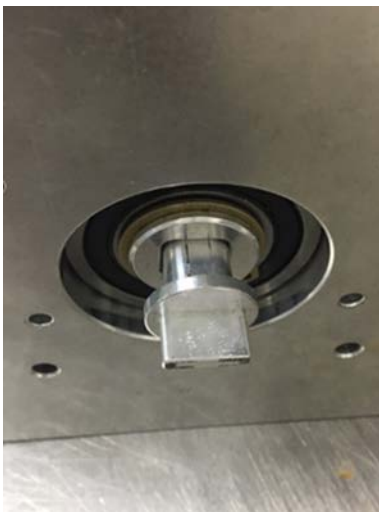
10. close up of the drive spud



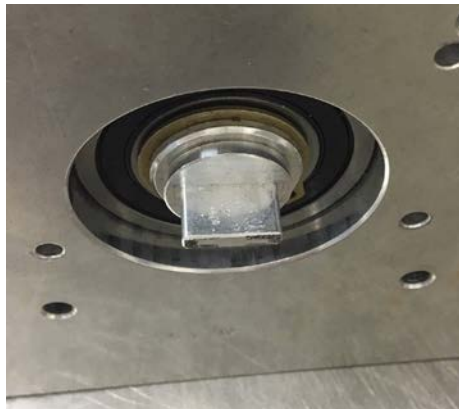
11. motor drive spud adapter (your pump may not have one)



12. Front view of pump with plastic drive adapter (your pump may not have one)



13. partially inserted drive spud



14. fully inserted drive spud



15. When attaching the HemiTor drive adapter to the pump drive, note the orientation of the blade on the spud and make sure it is lined up with the drive.



16. Align the notches on the inner hub to align with the mounting screw holes.



17. Support the HemiTor drive adapter with your hand, insert mounting screws into mounting holes and tighten with the provided hex wrench. Wiggle the screw to make sure it inserts and seats into the screw hole.



18. Repeat for the other mounting screw. Tighten the screws just tight enough, until they stop



19. properly installed HemiTor drive adapter, with doors open



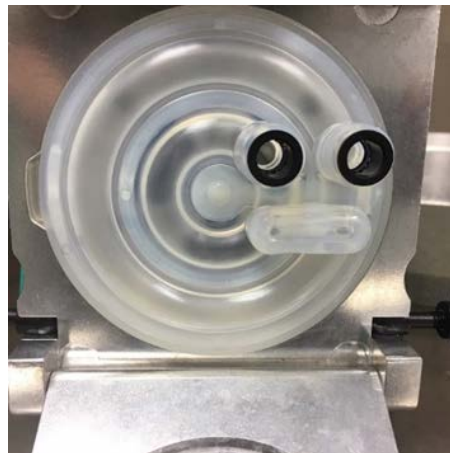
20. Clear HemiTor Pump cassette insert



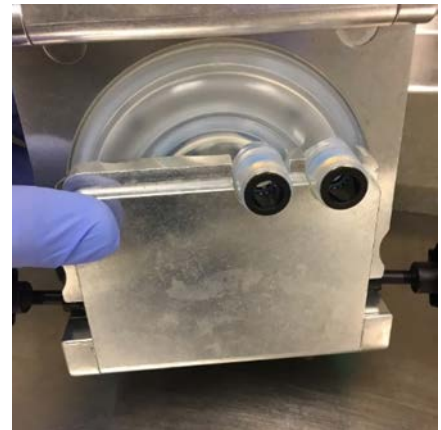
21. mounting orientation tab on the HemiTor cassette insert



22. Note the location of the notch where the mounting orientation tab fits



23. properly aligned HemiTor pump cassette



24. close the bottom door first and hold it in place



25. Close the upper door and hold it in place



26. Swing the door retaining knobs over to hold the doors closed and tighten



27. Be sure that the knobs are firmly tightened down, failure to do so will cause the pump to lose pressure



28. the front of the doors should be flush to each other when properly tightened down



29. As a final check, look at the doors from the side to be sure they are securely tightened. This is a properly tightened HemiTor door. Note there is no gap between the door and body.



30. This is an insufficiently tightened HemiTor door. Note the gap.



31. Insert the tubing into the quick Disconnect fittings on the pump insert. The inlet port is on the left, closer to the center. The outlet is on the right



32. Insert the tubing firmly and completely into the fittings. Push to make sure they are securely and completely seated



33. Repeat with the other tubing section



34. Correctly installed tubing in the HemiTor

## Important Operating Instructions.

### Please read before use

The normal direction of rotation for HemiTor pulse-free operation is counter-clockwise. **Make sure your pump is set to rotate counter-clockwise.** HemiTor will operate in reverse (clockwise) but will not flow pulse-free.

The HemiTor pump cassette insert is intended to be single-use and has a limited life. When your process is complete, **remember to remove the cassette from the adapter.** Failure to do so may result in leakage of the used HemiTor Pump cassette insert and damage to the HemiTor drive adapter.

When removing the HemiTor pump insert it is not necessary to remove the tubing, the complete assembly can be easily and cleanly removed to be disposed or recycled.

The tubing is easily removed by firmly pressing the black collar on the quick disconnect fitting and pulling the tubing out.

The HemiTor Drive head will mount to all Parker (which include Chem Tec, Ultra Tec, Filter Tec), Cole-Parmer, Watson Marlow, MasterFlex, Millipore, PreFluid and SciLog systems.

Drive spuds are custom made to suit other makes and models.



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