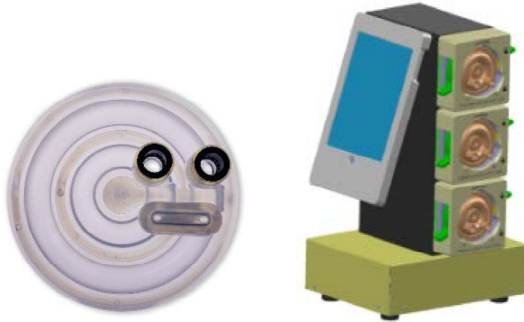


For more product information please go to: [www.marinscientific.com](http://www.marinscientific.com)

## Hemi-Tor™ Pulseless Single Use Pump

THE FIRST HEMI-TOROIDAL, DISPOSABLE, SINGLE-USE, SELF PRIMING, FULL VACUUM, POSITIVE DISPLACEMENT AND PULSEFREE PUMP FOR FILTRATION, MEDIA, BUFFER AND CHROMATOGRAPHY IN OEM, R&D, PD, & cGMP APPLICATIONS



Hemi-Tor™ Single-Use Diaphragm/Vacuum, disposable pump & Quadra™ IPAD control system.

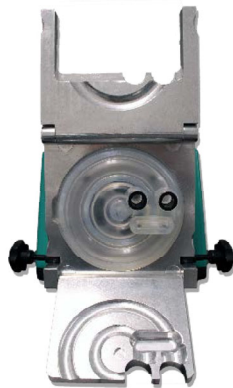
### Description:

Hemi-Tor™ Diaphragm/Vacuum Pumps are a ground-breaking new product for the Biopharm and Bioprocess industry! For the first time, the Hemi-Tor™ line of pumps enables a completely disposable integrated SIU disposable flow-path liquid handling system that is pulse-free and spallation-free. Bags, filters, and tubing assemblies can now be self-driven, pre-sterilized, and completely disposable. Single-use Filtration, Mixing or Bioreactor systems can now be fully integrated!



Universal Adaptor adapts a Hemi-Tor™ pump to most peristaltic drives. Simply use two screws and a modified drive adaptor to remove and replace the pumphead from your existing Peristaltic pump and use your existing motor-drive.

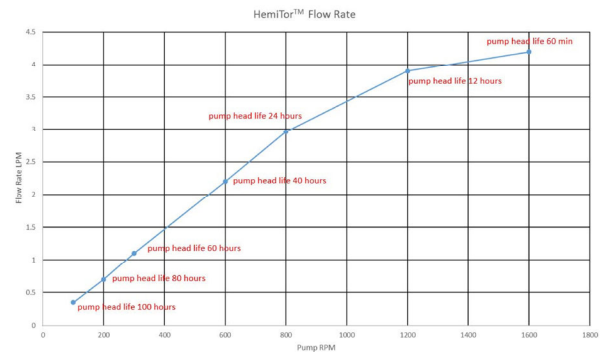
Hemi-Tor™ (Lf) and Universal Adaptor (Rt.)



Pump Type	Diaphragm – Full 22" of Vacuum/160rpm/22psi
Materials	Body: Copolymer Diaphragm: TPU
Sterilization:	Gamma 25kG or E-Beam
Flow Rate range	0.0012 LPM to 4.226 LPM @ 1600rpm*
Connections	10mm Legris Inserts*

**Applications:** Conditioned media, perfusion, buffers, feeds, biological preparations, reagents, bolus additions, antifoam, protein solutions, viral preps. UF/DF, TFF, Protein chromatography, and more. Contact Marin Scientific Dev. Co. for OEM inquiries and tech support.

### HemiTor Pulse-Free flow rate data graph



### Hemi-Tor™ Pump Product Features:

**No spallation, increased dispensing accuracy.**

- Precise and adjustable pulsation-free flowrate from 0.0012LPM to 4.226 LPM @ 1600rpm\*
- Can be driven by a number of commonly available peristaltic pump drives from popular vendors.
- Diaphragm materials Class VI & extractables tested

Pump Description	Part No.	List Price
HemiTor diaphragm/vac., self-priming, PulseFree, fully integrated pump insert.	32200	\$209.00
HemiTor™ w- custom tubing assy, sterile	32202	TBD
HemiTor™ w-LDPE XpressVent, sterile, 4L	32204	TBD
HemiTor™ w-LDPE XpressVent, sterile, 10L	32210	TBD
HemiTor™ Adaptor (A) in Anodized Aluminum	32300	\$1085.00
HemiTor™ Sanitary Single-Use Pulse Dampener	32310	\$239.00
HemiTor PreFluid Programmable Drive System	33086	\$3,895.00

Distributed by:

**Optimum Processing Inc.**

55 Mitchell Blvd., Ste. 23 San Rafael, Ca.

Phone 415-461-7033

Fax 888-579-8824

94903

For more product information go to: [www.marinscientific.com](http://www.marinscientific.com)

To place an order email: [orders@opibioprocess.com](mailto:orders@opibioprocess.com)

**Launched & Ready to Ship!**  
**Exclusively From Marin**  
**Scientific Dev. Co.!**

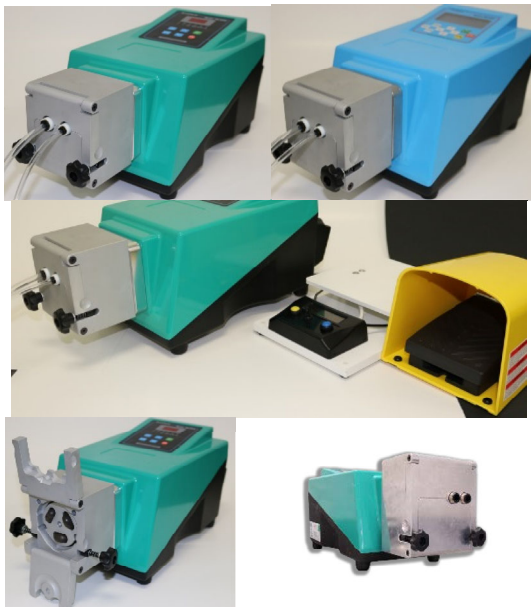
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**Features cont.**

HemiTor™ Diaphragm/Vacuum Pump System features extreme accuracy (+/- 0.01%) and has option of programmable controls for formulation, dispensing, fermentation feeds and weighing up to 5kG. Systems control up to 8 heads on one unit. Run the pump system from your lab PC, Smart Phone or tablet! The system is also fully compatible with industry standard Delta-V controller or other lab controller system. The HemiTor™ Vacuum Pumping capability greatly reduces FTE costs and processing time while greatly improving productivity in the lab or in the pilot plant environment! Hemi-Tor™ is Pulsation Free, Spallation Free, Self Priming has Ultra-Low Shear and an unusually high diaphragm service life (over 100 hours in trial testing). See demo on YouTube of side by side with peristaltic, HemiTor pumps running side by side: [www.marinscientific.com](http://www.marinscientific.com)



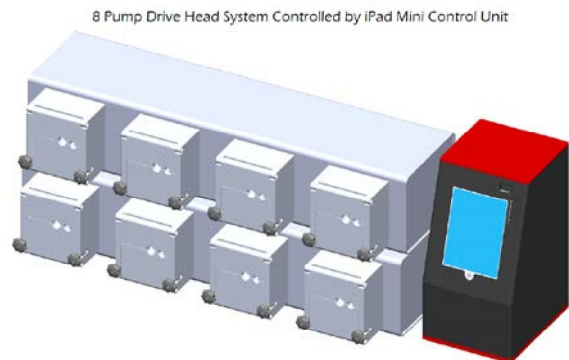
Attention **O.E.M's** HemiTor™ are available in a color of your choice or specification!



Hemi-Tor PulseFree & Pulse Pumps and Universal Adaptor on various pumps



HemiTor PulseFree Pump and Universal Adaptor on new MasterFlex pump



8 Pump Drive Head System Controlled by iPad Mini Control Unit

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To place an order email: [orders@opibioprocess.com](mailto:orders@opibioprocess.com)