

QUICK START GUIDE

Minimate™ EVO TFF System



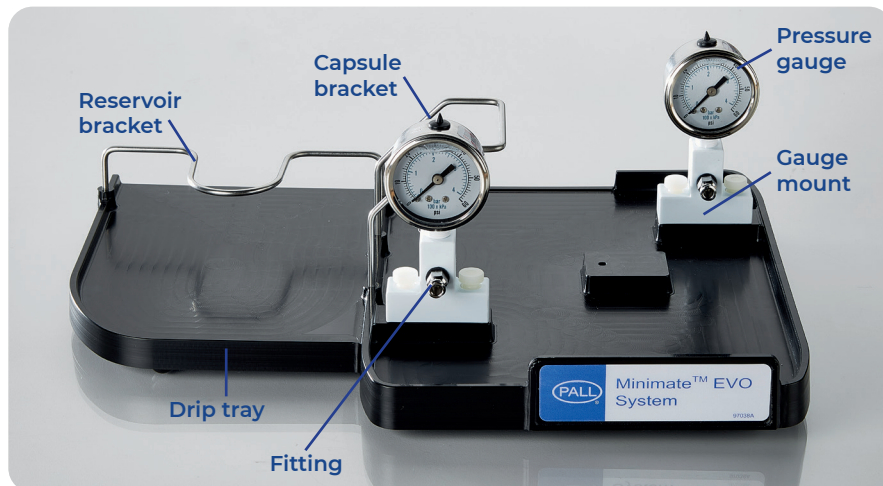
Component information

Part No: OAPMPUNV

Description: Minimate EVO TFF System,
115V AC – 230V AC 50/60 Hz

System includes:

- MasterFlex♦ L/S variable speed pump with Easy – Load pump head
- VWR♦ stir plate
- 500 mL Reservoir with Lid, includes o-ring and fittings
- Drip Tray
- Pressure Gauges
- Adjustable Drip Tray feet
- Adapter Plug international, 100V-250V AC for pump (note: the plug does not change current)
- Power Adapter Plug, 100V-240V AC power supply, 12V DC input for stir plate



Tray Assembly

Fittings/Parts Bag:

- 1) Male luer plugs (4)
- 2) 3-way valve for reservoir (2)
- 3) 1-way valve for reservoir Lid (2)
- 4) Male luer lock-1/8" hose barb elbow (4)
- 5) Male luer lock-1/8" hose barb (3)
- 6) Male luer coupler (1)
- 7) Female luer lock-1/8" hose barb (1)
- 8) PharMed♦ tubing (2 ft.)
- 9) Stir Bar (1)
- 10) Minimate Capsule Stand (1)
- 11) Screw for Minimate Capsule (1)
- 12) Screw clamp for tubing (1)
- 13) Sinkers (1)
- 14) Tubing clamps (8)



Fittings/Parts Bag

Minimate EVO TFF Kits / Components Information

Part No.	VWR US Part No.	VWR EU Part No.	Description	Part No.	VWR US Part No.	VWR EU Part No.	Description
97008	76459-094	PALL 97008	Minimate EVO TFF Reservoir Kit. System includes: • Reservoir 500 mL with fittings • Lid with fittings and o-ring	97011	76459-100	PALL 97011	MasterFlex L/S Variable Speed Pump System includes: • MasterFlex L/S variable speed pump • Adapter Plug international, 100V-250V AC for pump (note: the plug does not change current)
97009	76459-096	PALL 97009	Minimate EVO TFF Drip Tray Kit System includes: • Drip Tray with reservoir and filter capsule brackets • Pressure gages (2) with mounts and fittings • Minimate Capsule stand	97012	76459-102	PALL 97012	MasterFlex Easy Load Pump Head System includes: • MasterFlex Easy Load Pump Head
97010	76459-098	PALL 97010	Minimate EVO TFF Stir Plate Kit System includes: • VWR Stir Plate • Power adapter plug, 100V-240V AC power supply, 12V DC input for stir plate	97014	76459-104	PALL 97014	Minimate EVO TFF Fittings Kit includes: • 3-way valve for reservoir (2) • 1-way valve reservoir Lid (2) • Male luer coupler (1) • Male luer lock - 1/8" hose barb (3) • Male luer lock - 1/8" hose barb elbow (4) • Female luer lock - 1/8" hose barb (1) • Tubing clamps (8) • PharMed tubing (2 ft.) • Screw clamp for tubing (1) • Male luer plug (4)

Assemble System

Installation

1. Verify all components have been provided. (See Tray Assembly and Fittings/Part Bag figures on reverse side)
2. Cut PharMed tubing (yellow) to lengths as specified (See page 3)
3. Slide tube clamps onto tubing and insert fittings into tubing as shown on back page. Slide clamps over fitting ends and pinch together (use pliers if necessary to assist)
4. Lay drip tray on work counter. (Note: if there is any rocking of tray, the bottom feet can be adjusted by rotating as necessary as shown in figure 1)
5. Slide stir plate into left compartment of drip tray underneath reservoir bracket. Attach capsule stand on raised boss in center of drip tray with screw in threaded hole. Turn screw until snug fit, but allows the stand to move. (See figure 2)
6. Connect 3-way valves to fittings on reservoir outlet and inlet. Attach male luer plugs onto female luer connectors on 3-way valves. (See figure 3)
7. Place reservoir onto stir plate with outlet toward rear of plate. (See figure 4)
8. Connect "long tube" to 3-way valve at reservoir outlet and to fitting on rear gauge mount. (See figure 4)
9. Attach pump head onto pump with supplied screws. (See figure 5)

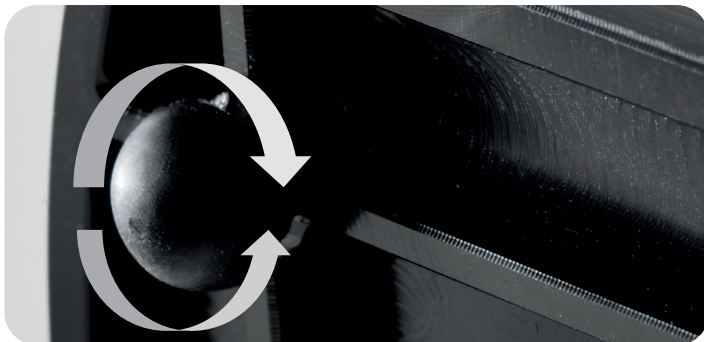


Figure 1

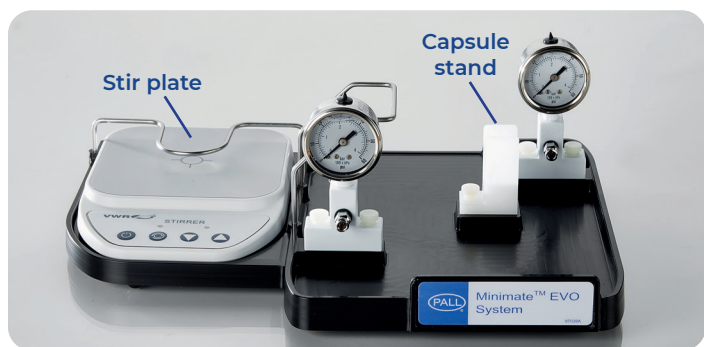


Figure 2

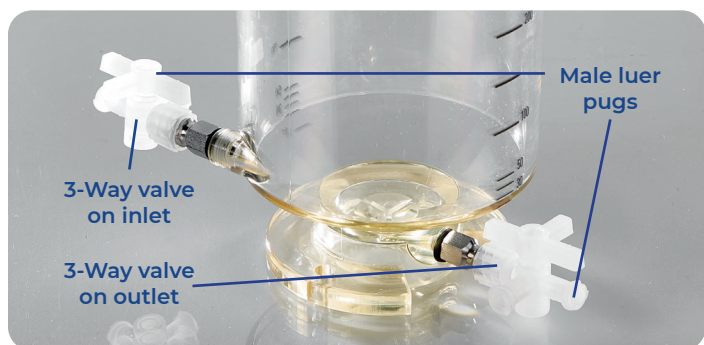


Figure 3

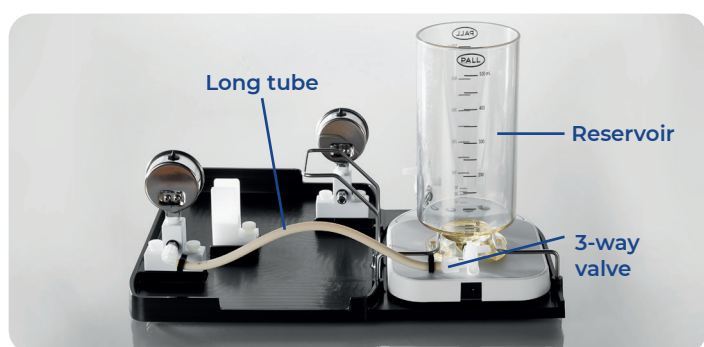


Figure 4



Figure 5

10. Place tray in front of pump and insert tubing into open pump head, close pump head onto tubing.
(See figure 6)
11. Perform the tubing break-in procedure
NOTE: The break-in procedure needs to be performed on new tubing to properly stretch and condition the tubing. If this procedure is not completed, the pump head rollers can split the tubing, resulting in product loss. It is critical to properly load tubing into the pump head to ensure proper operation and to avoid damage to the tubing

Follow the procedure below for non-silicone tubing to break-in, stretch, and reseal new PharMed L/S 16 tubing prior to running the instrument with sample:

- a. Set up the Minimate EVO TFF System as per the instructions, but do not install the capsule
- b. Install a piece of tubing from the feed pressure gauge back to reservoir (see figure 6)
- c. Run the system with 200 ml of water, using one of the RPM and break-in times listed in Table 1
- d. After the time has elapsed, drain the system by running the water to a waste container instead of the reservoir, open the pump head, examine the tubing to make sure it is not damaged, and re-insert
- e. Close the pump head and continue with the flushing procedure

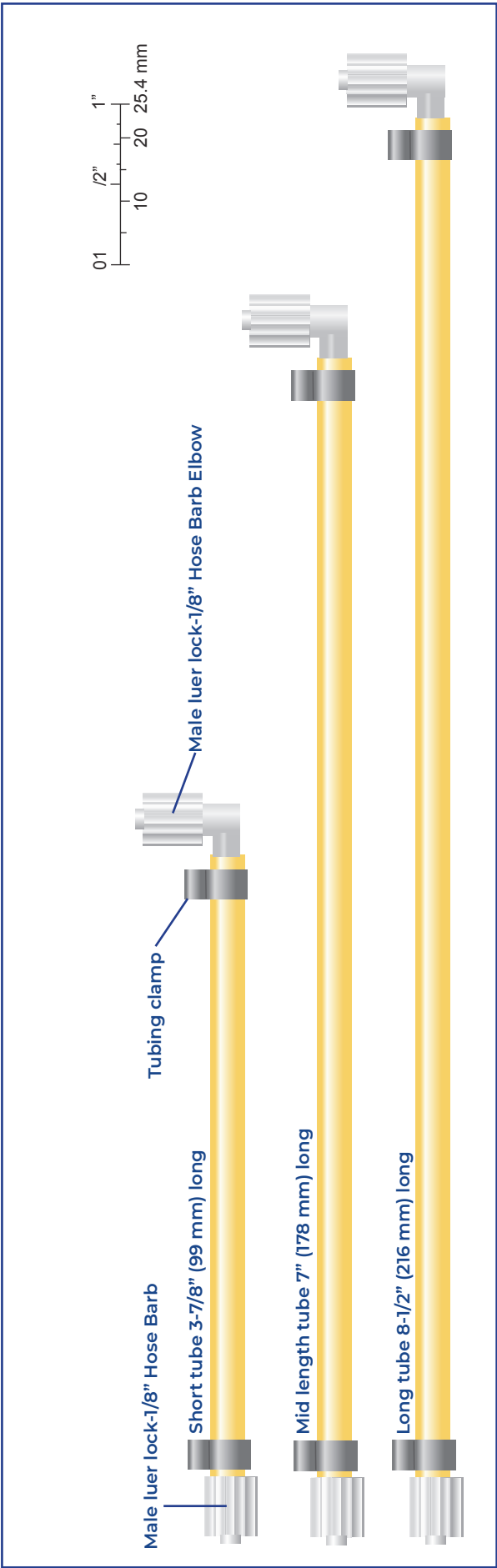


Figure 6. Minimate assembled and ready to run the tubing break-in procedure

Table 1. Tubing break-in conditions. Masterflex L/S 16 tubing is non-silicone tubing.

RPM	Silicone Break-In Time (minutes)	Non-Silicone Break-In Time (minutes)
600	10	20
300	20	40
100	60	120

12. Attach male luer coupler to fitting on front of gauge mount. Attach Minimate Capsule feed port to coupler, rotate capsule to left into capsule stand and onto capsule bracket for support. (See figure 7)
13. Connect “mid-length” tube to fitting on rear of forward gauge mount and to retentate port on capsule filter. (See figure 7)



Tubing length diagram
Cut PharMed tubing (yellow) from Minimate EVO TFF System to match lengths of tubing below (tubing in illustration are to length)

14. Connect “short tube” to fitting on front of gauge mount and to 3-way valve on reservoir inlet. Attach adjustable screw clamp to tube. Remove clamp when not in use, tubing can deform over time without fluid passing through tubing. (See figure 7)

15. Cut a length of tubing from Minimate Capsule packaging long enough to reach filtrate collection vessel from filtrate port on filter capsule. Attach tubing clamp and female luer-1/8” hose barb to tube

Connect fitting to filtrate port and place open tube end into filtrate receiver vessel. (See figure 8)

16. If performing diafiltration, place lid onto reservoir. Connect 1-way valves onto fittings on top of reservoir. From the Minimate Capsule filter packaging, cut a length of tubing to reach from 1-way valve on reservoir lid top to diafiltration vessel

Attach male luer-1/8” hose barb elbow and tubing clamp. Attach elbow to 1-way valve on lid and other tube end into diafiltration vessel, sinker at end of tube optional. (See figure 8)

Operation

- Confirm all fittings are secure prior to running liquid through system
- Refer to VWR stir plate operating manual for operation of stir plate. Use of reverse mode is not recommended on stir plate with Minimate EVO TFF System. If stir bar stops rotating when increasing stir plate speed, reduce speed until stir bar is again spinning
- Refer to MasterFlex Pump and Pump Head manuals for use
- Refer to Minimate Instructions for use for operation of the TFF capsule

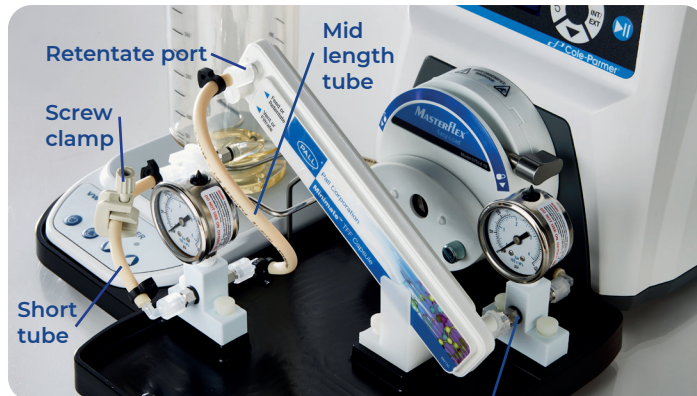


Figure 7

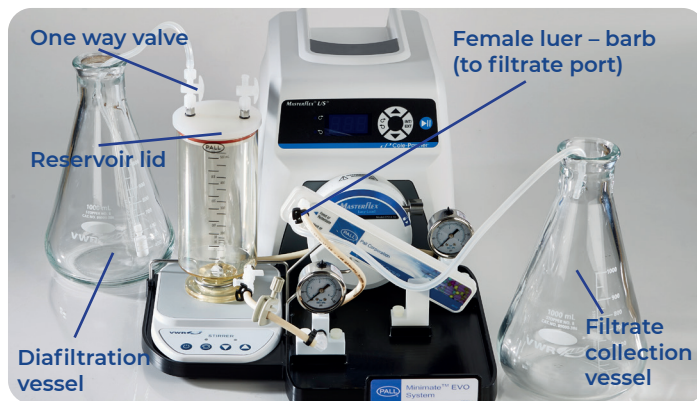
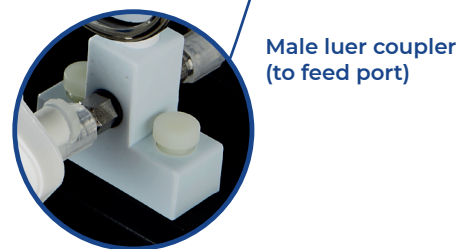


Figure 8



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