



<i>ELx405 Day Maintenance Protocols</i>	
ELx405 Maintenance Parameter	
Overview	<p>When washing with water or PBS with tween, the ELx405 is not likely to clog during the day if the manifold is left in the raised position after washing. Clogging is caused by the wash solution in the aspirate and/or dispense tubes drying out and leaving dried out particulate matter blocking the fluid flow in the next washing of plates. But since the likelihood of clogging is not zero percent, it is safer to soak the manifold after washing if the washer is going to be left unused for more than 4 hours. The more particulate matter in the wash solution such as BSA, the sooner and greater the need to soak the manifold tubes after washing. In some cases, it may be necessary to substitute a different fluid for this purpose.</p> <p>There are a variety of ways to accomplish this goal. Within Maint (Maintenance) and Util (Utilities) there are a variety of programs that can be used as is or modified.</p> <p>Rinse and soak Autoprime Fill and Park (TBD) Customized prime program (TBD)</p>
<i>Rinse and Soak</i>	
Overview	The easiest method for soaking the manifold tubes is to use Rinse and Soak with wash buffer. The program needs to be modified to use the minimum of wash buffer.
<i>Editing Rinse and Soak</i>	
Edit	At the main menu, go to Define and select Edit and then Prime.
Rinse and Soak	Select the Rinse and Soak prime program.
Rinse volume	60 ml. The default is 400 ml and this amount is usually unnecessary if you want to simply soak the manifold tubes to keep them from clogging..
Flow rate	7 is the default speed and most appropriate.
Soak the manifold	Yes
Soak Duration	The range is from one minute to 18 hours. It is best to select 18 hours so that the manifold does not unexpectedly rise from the soaking solution and leave the tubes in the air which could lead to clogging.
<i>Running Rinse and Soak</i>	
Maint	At Main Menu, select Maint.
Rinse and Soak	Press Option to find the Rinse and Soak program.
Run Rinse and Soak	
Leave powered on or turn off	If leave powered on, it is imperative to alter the program so that the soak is set to the maximum time to ensure soaking. To leave the program press Stop and then Yes to Home all Axis. If the washer is turned off, this could be the simplest solution because simply turning it back on will remove the manifold and bring the washer to the Main Menu, ready to wash.

<i>Concerns</i>	
Can Rinse and Soak be used for too long	There are two concerns with leaving the ELx405 in Rinse and Soak too long. The first is growth of bacteria or mold and the second is evaporation of the soaking fluid. Bacteria or mold growth becomes a problem after several days. Evaporation of the soaking fluid from the priming trough can become a problem after several days. This can be cured by simply repeating the Rinse and Soak program, running the Overnight Loop instead, manually adding fluid with a small beaker to the priming trough (be careful not to overflow) or using the autoprime program.
<i>Autoprime</i>	
Overview	Autoprime will prime the washer every few minutes or hours depending on what time interval is set in the autoprime section of UTIL. It is an alternative to Rinse and Soak that relies on periodic fluid flow to avoid clogging, deal with bacterial or mold growth, and evaporation of the priming trough.. If using Autoprime, we recommend autoprime every few hours. For PBS with tween, every 4 hours seems to be sufficient for the dispense and aspiration tubes to avoid clogging.
<i>Editing Autoprime</i>	
Edit	At the main menu, go to Define and select Edit and then Prime.
Autoprime	Select the Autoprime prime program.
Prime volume	60 ml. The default is 400 ml and this amount is usually unnecessary if you want to simply pass fluid through the manifold tubes to keep them from clogging..
Flow rate	7 is the default speed and most appropriate.
Soak after prime?	Yes. When enabling autoprime, soaking the tubing after the autoprime runs is usually not necessary to avoid clogging. However, it is offered as an option.
Soak Duration	<p>The range is from one minute to 18 hours. Whatever time is programmed, the following sequence adheres to two clocks. Assume that autoprime has been set for every 10 minutes and soak after prime for every 20 minutes.</p> <ol style="list-style-type: none"> 1. Autoprime. The autoprime 10 minute clock begins. 2. Soak the manifold. The soak after prime clock begins. 3. Autoprime after 10 minutes. 4. Resume soaking of the manifold. 5. Autoprime after 10 more minutes. 6. End soaking of the manifold by lifting it from the priming trough. 7. Autoprime after 10 more minutes 8. Begin the 20 minute soak again 9. At this point, the soak time may take over and the system will not autoprime until the soak period is finished. 10. Autoprime after the end of the soak period. 11. Lift the manifold from the priming trough 12. Autoprime after 10 more minutes.
<i>Enabling autoprime</i>	
UTIL	Enter Utilities by pressing the soft key under UTIL.
Autoprime	Select Autoprime
Enable Autoprime Yes/No	Yes
Autoprime Interval	10 to 600 minutes. 240 minutes is usually sufficient.