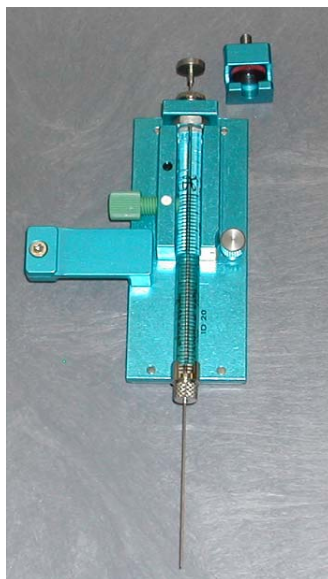


## Sample Return Option

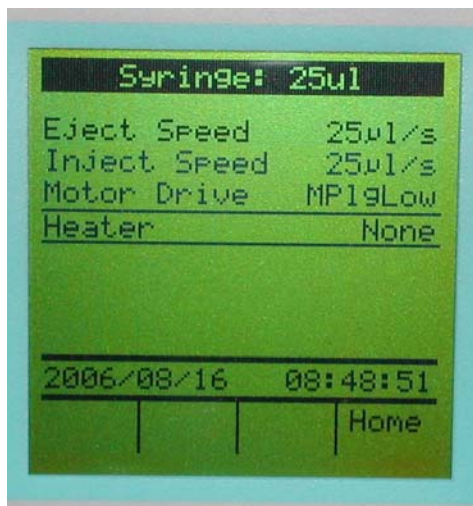
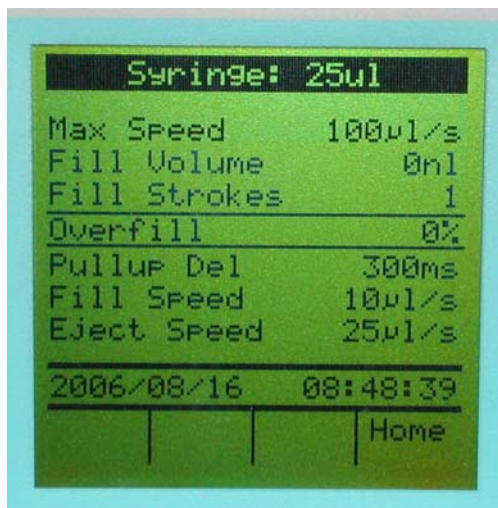
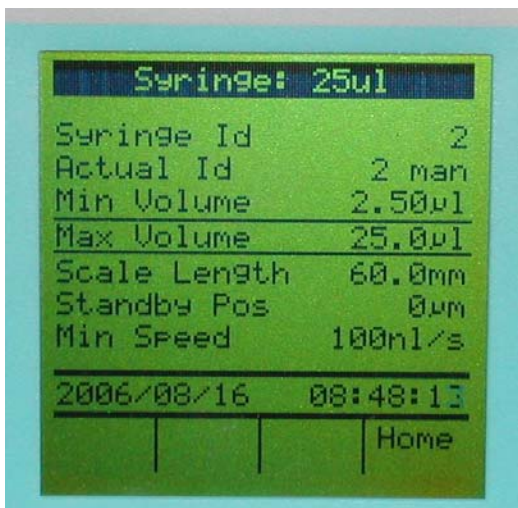
### Sample Return Equipment

- Dual side-port 25- $\mu$ L syringe
- Blue bracket labeled as for a 20- $\mu$ L syringe, but used with the 25- $\mu$ L syringe
- Blue mounting block that replaces the longer blue block used with the standard 50- $\mu$ L syringe



### Set-Up Summary

- 1) Turn off the syringe detect feature
  - a) (Setup; System)
- 2) Select a 25- $\mu$ L syringe system syringe
  - a) (designated 25ul in the syringe list)



### Parameter Settings for the 25- $\mu$ L Syringe Definition (Incomplete)

- Actual Id 2 man
- Max Volume 25uL
- Scale Length 60mm
- Pullup Del 300ms
- Fill Speed 10 $\mu$ L/s
- Eject Speed 25 $\mu$ L/s
- Inject Speed 25 $\mu$ L/s
- Plg Chnge Pos 18.00mm

- 3) Install three hardware items described above (syringe, bracket, & block)
- a) Install syringe block (images shown below do not have the blue syringe bracket installed yet).



NO SYRINGE BLOCK  
Shown without adapter

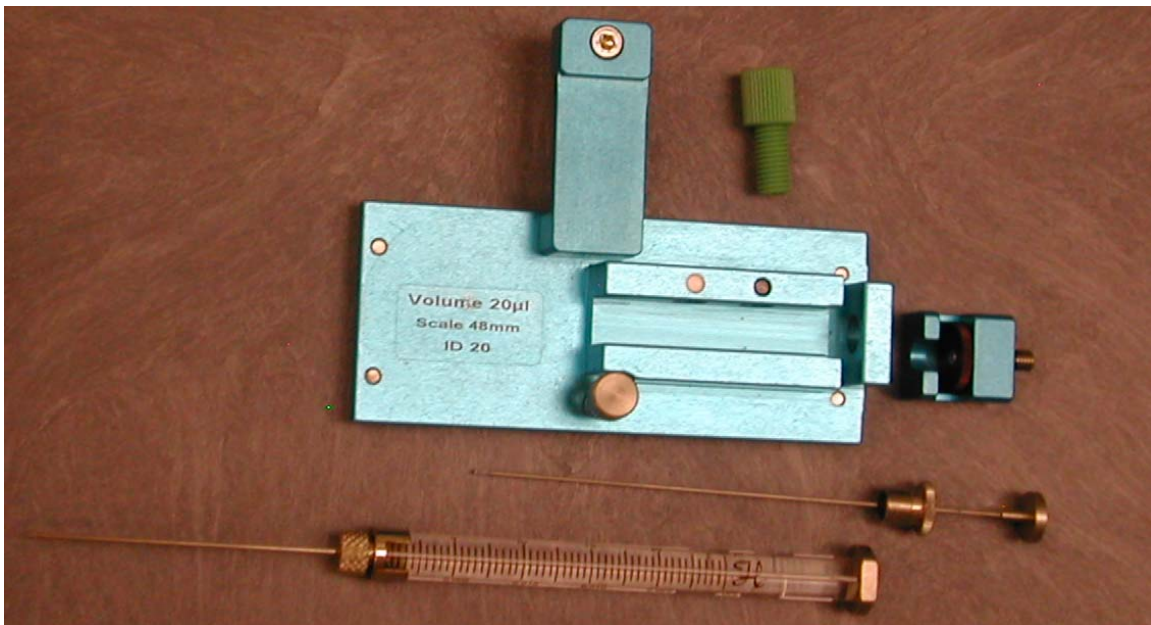


Standard SYRINGE BLOCK  
for use without sample return



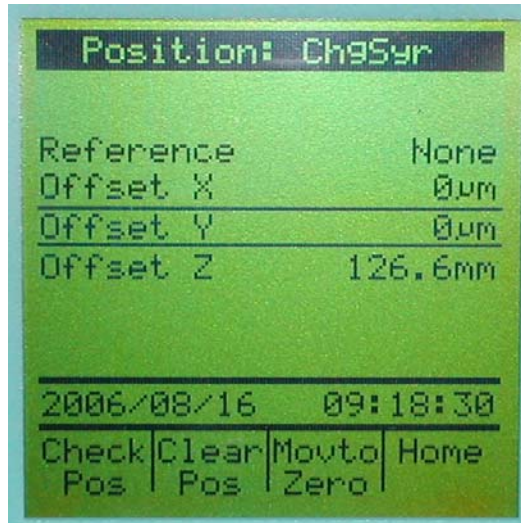
Standard SYRINGE BLOCK  
for use with sample return

- b) Install the syringe bracket



- i) Begin by placing the blue syringe adapter plate into the leap carriage (adapter is magnet and snaps into place). This may require changing the position of the leap arm. If the bracket does not fit into the carriage.

(1) The Offset position



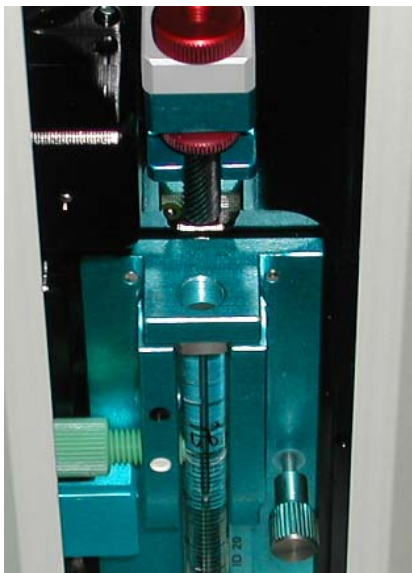
The offset Z position will move the leap arm/carriage down so the blue syringe adapter can be slide under the arm and into place instead of through the front since the side arm of the bracket (intended to support the sample return tubing) extends outside of the leap arm.

Menu;{f3} Setup; Objects; Positions; ChgSyr (Window shown)

- ii) Once the syringe adapter is in place, put the syringe into bracket.

(1) Loosen the fitting at the top of the syringe and take the syringe/fitting out of the syringe.

(2) Press up on the bottom of the carriage so the two needle guides connect and place the syringe through and slide into the top of the adapter.

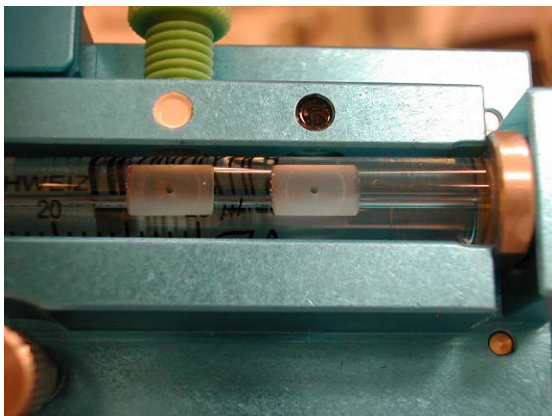


The flat top of the plunger fits into the top of the blue syringe adapter. However, it will not fit if the plunger is there. Once the syringe (without the plunger) is in the adapter (as shown on the right), slide the plunger & fitting into the syringe, through the top of the syringe adapter. Once the plunger is in the syringe, place the top of the plunger head into the small block and tighten with the red screw.

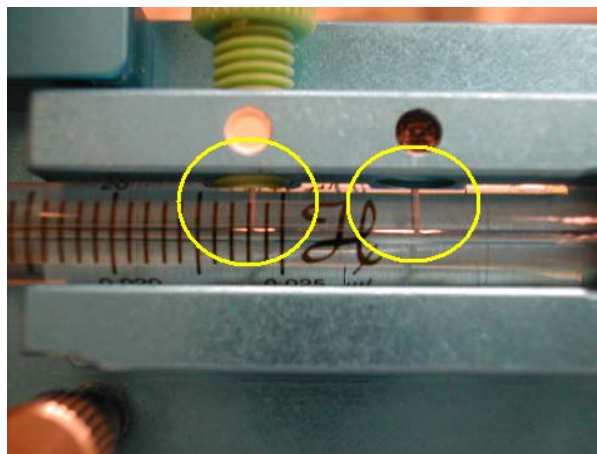


Note: Be careful not to tighten the metal fitting for the plunger too tightly or else it will cause excess 'wear and tear' on the syringe and require a new syringe in a short amount of time.

4) Plumb both syringe side ports



These images show the two side ports that the return flow goes through. These connections are made through the blue syringe adapter.



When plumbed, the flow goes through a small channel (circled in yellow) from the side port to the center of the syringe.

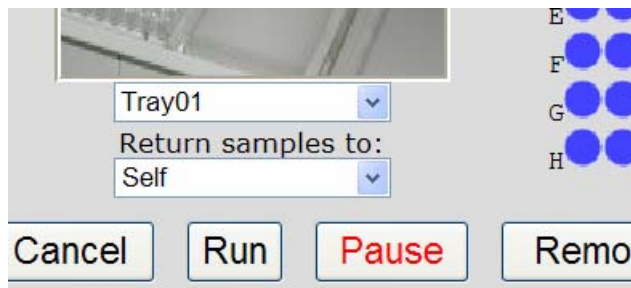
Plumb the lower port (at about the 24 uL mark) for sample return. These parts are included in the Sample Return Fluidics Kit from Protasis. The upper port (above 25 uL) should be plumbed with a large inner diameter waste tube.

5) Turn on the Sample Return feature in the OMNMR Brain.

- a) Set the brain value SampleReturn.Enabled to 'True'

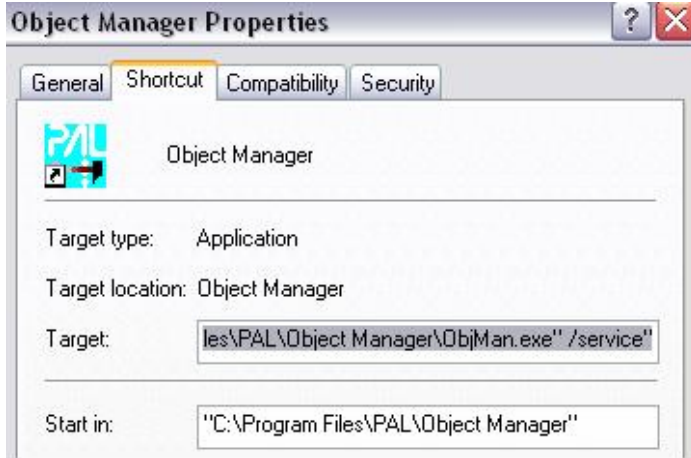
Edit	SampleReturn.EjectSpeed	5
Edit	SampleReturn.Enabled	True
Edit	SampleReturn.Penetration	25000

- b) This will enable a box in your main screen to have a Return menu for Self, Tray##, or Waste. (You will have to refresh before the menu appears)



- 6) In the Brain, adjust the SampleReturn.Penetration parameter to provide an appropriate needle penetration depth for Sample Return to both the vial and the Waste Port. This value must be 25 mm (25000  $\mu\text{m}$ ) or less.

If it becomes necessary to download some generic objects using Leap Object manager:



Create a short cut for the Object manager (Leap software) on your desktop. Right click on the shortcut, and add /service so the link opens ... ObjMan.exe" /service (as shown on the left)

This will enable an "Edit Objects List" tab in the object loader to upload objects if necessary.