

# Using Your Chip Priming Station

The Chip Priming Station, part number 5065-4401, is for use with the Agilent 2100 Bioanalyzer LabChip® Kits. Refer to Figure 1 and 2 for a picture of the Chip Priming Station.

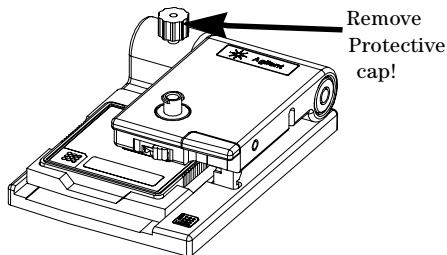
A complete Chip Priming Station shipment contains:

- priming station
- syringe adapter kit
- adjustable clip

The Chip Priming Station is shipped with a protective cap. Before use, remove the cap (see Figure 1).

Do not use pliers to turn the cap. This may damage the luer lock adapter of the Chip Priming Station.

*Figure 1*  
Chip Priming Station, Protective Cap



The LabChip® Kits includes kit specific

- reagents and supplies
- LabChip® chips
- syringe kit
- Reagent Kit Guide

Before loading samples on the chip completely fill all channels of the chip with gel or a gel/dye mixture.

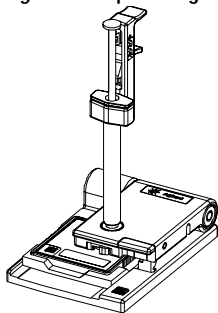
One well of the chip is filled with gel or gel/dye mixture ( see **Reagent Kit Guides** included in the LabChip<sup>®</sup> Kit) . Apply appropriate pressure by means of a syringe, in order to press the gel or gel/dye mixture into the channels of the chip.

The Chip Priming Station allows making a tight and reliable seal between the syringe and one well of the chip, supporting the user to

- apply an appropriate pressure,
- avoid bubble formation due to air leaks,
- completely fill the chip with gel or gel/dye mixture.

For a completely assembled Chip Priming Station, i.e. Chip Priming Station with syringe and chip attached, refer to Figure 2.

**Figure 2** Chip Priming Station with syringe attached



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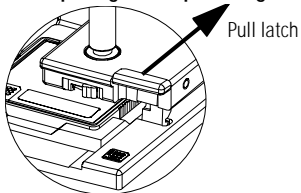
**NOTE** Refer to the document in the Syringe Kit on how to assemble the Chip Priming Station.

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## Adjusting Base Plate of Priming Station

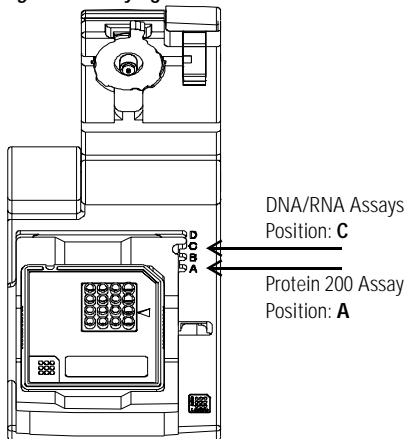
- 1 Open the Chip Priming Station by pulling the latch, as shown in Figure 3 .

**Figure 3** Opening the Chip Priming Station



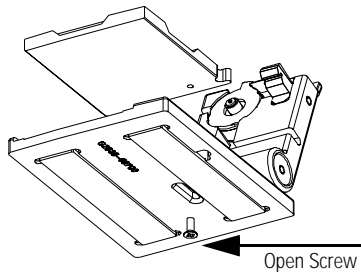
- 2 Verify the notch of the base is in the correct position as shown in Figure 4.

**Figure 4** Verifying Position of Base Plate



- 3 If the base of the Chip Priming Station is not in the correct position, open the screw of the base plate as shown in Figure 5.

**Figure 5** Adjusting the Base Plate of the Chip Priming Station

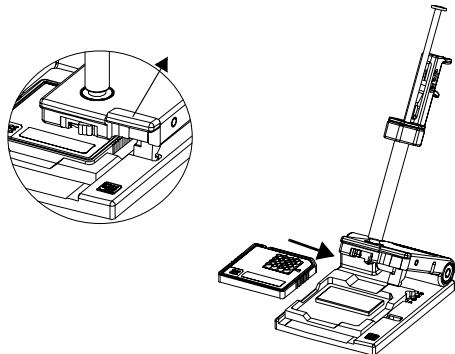


- 4 Lift the base plate as shown in Figure 5. Position it according to your assay (see Figure 4) and retighten the screw.

## Placing Chip into the Chip Priming Station

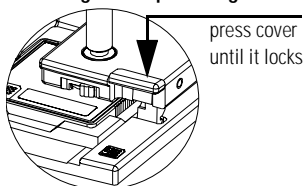
- 1 Open the Chip Priming Station by pulling the metal latch.
- 2 Put the chip in as shown in Figure 6.

**Figure 6** Placing a Chip in the Chip Priming Station



- 1 Close the Chip Priming Station and make sure to lock it by pressing the cover (see Figure 7). The lock of the latch will audibly snap when it closes!

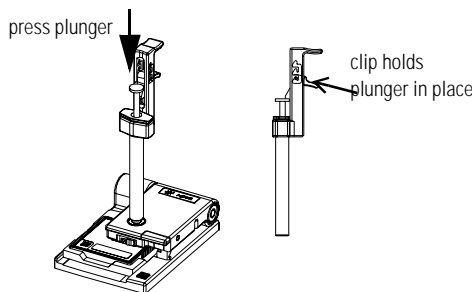
**Figure 7** Closing the Chip Priming Station



## Checking the Chip Priming Station for Good Seal — Seal Test

- 1 Make sure the syringe is tightly connected to the Chip Priming Station as described in the document of the Syringe Kit.
- 2 Pull the plunger of the syringe to the 1.0 ml position (plunger pulled back).
- 3 Place an empty chip in the Chip Priming Station.
- 4 Close the Chip Priming Station and make sure to lock it by pressing the cover as shown in Figure 7. The lock of the latch will audibly click when it closes!
- 5 Press the plunger down until it is locked by the clip. This is shown in Figure 8.

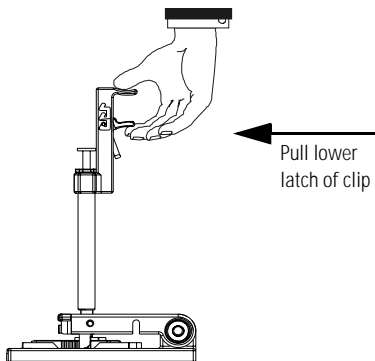
**Figure 8** Locking the Plunger of the Syringe with the Clip



- 6 Wait for 5 seconds and press the side of the clip to release the plunger as shown in

Figure 9.

**Figure 9** Releasing the Plunger of the Syringe



- 7 Appropriate sealing is verified, if the plunger moves back up to the 0.3 ml mark within less than 1 second.

**NOTE** If the plunger doesn't move up to the 0.3ml mark within a second, the syringe-chip connection is probably not tight enough. Re-tighten the syringe and/or replace the syringe adapter to fix the problem.

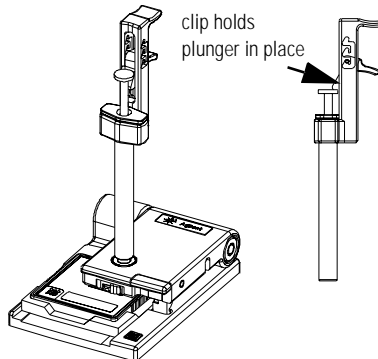
See also the maintenance chapter of this document for more details.

## Using the Chip Priming Station

- 1 Pipette the appropriate amount of gel/dye in the well as given by the Reagent Kit Guide of the LabChip® Kit.
- 2 Make sure to have the plunger of the syringe in the 1.0ml position (plunger pulled back).
- 3 Place the chip in the Chip Priming Station and close it by pressing the cover as shown in Figure 7.

**NOTE** The lock of the latch will audibly click when it closes!

**Figure 10** Loading the Chip with Gel/Dye Mixture



- 4 Press the plunger down until it is locked by the clip as shown in Figure 10. The plunger will be held at the appropriate position -

and the chip is loaded with gel/dye mixture. See the **Syringe Kit Note (G2938-90123)** ‘**Adjusting the Clip**’ for details.

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**NOTE** The time the plunger must stay in the lock position depends on your LabChip® Kit. Refer to the Reagent Kit Guide for details.

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- 5** After the appropriate amount of time (refer to the Reagent Kit Guide of the LabChip® Kit for details), release the plunger of the syringe as shown in Figure 9.
- 6** Let the plunger recover untouched without pulling or pressing it!

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**NOTE** Proper loading of the chip is verified, if the plunger moves back to the 0.3 ml mark within less than 1 second.

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- 7** Open the Chip Priming Station by pulling the latch as shown in Figure 3.
- 8** Remove the chip from the Chip Priming Station.
- 9** The chip is now ready to be loaded with reagents.

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**NOTE** Use up the chip within 30 minutes after having loaded the gel/dye mixture.

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## Maintaining the Chip Priming Station

Perform the following two steps on a regular 6 months basis, after heavy use, or after

- Scratching the tip of syringe
  - Bending the syringe or the plunger
  - Breaking the silicone gasket of the syringe.
- A** Replace syringe and syringe adapter in order to ensure for proper sealing.
  - B** Apply the **seal test** as described in this document, in order to check if a replacement-gasket and syringe is needed.

## A) Replacing the Syringe Adapter (Part No. G2938-68716)

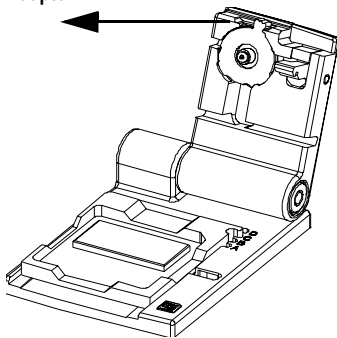
The Kit includes

- 1 plastic adapter
- 10 silicon gaskets

Replacement procedure:

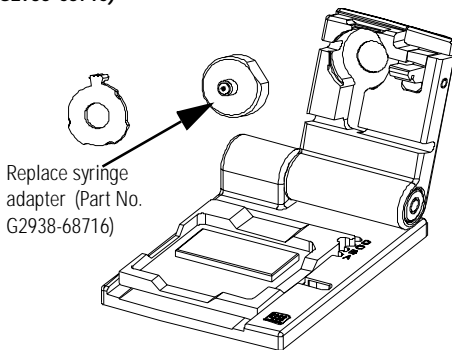
- 1 Remove the syringe by gently pulling it out of the adapter.
- 2 Open the Chip Priming Station.
- 3 Move the ring holding the adapter in place to the left as shown in Figure 11. The ring will come off.

**Figure 11** Releasing the Mounting Ring of the Syringe Adapter



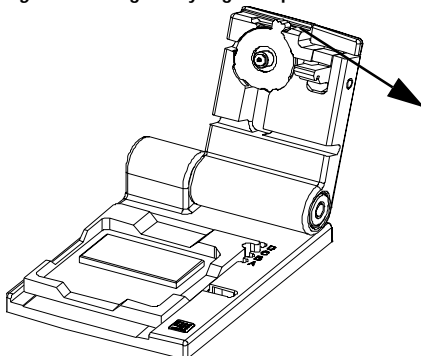
- 4 Press the syringe adapter out of its mount, and replace it, as shown in Figure 12.

**Figure 12** Replacing the Syringe Adapter (Part No. G2938-68716)



- 5 Put the mounting ring and the syringe adapter back in, as shown in Figure 12. Move the ring to the right in order to fix the syringe adapter as shown in Figure 13.

**Figure 13** Fixing the Syringe Adapter



## B) Seal Test - (see page 4)

### - If Seal Test fails:

A failed seal test indicates the gasket must be replaced.

### Replacement procedure:

- 1 Use a needle to pull out the silicon gasket.

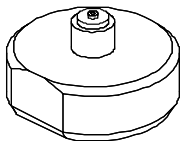
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**NOTE** Avoid scratching the plastic adapter when removing the silicon gasket.

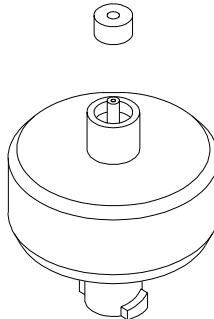
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- 2 Insert new gasket and gently push into place.
- 3 Apply the seal test as described on page 4.

*Figure 14 Syringe Adapter with Gasket*



*Figure 15 Disassembled Syringe Adapter*



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Printed in Germany Edition 02/01  
Part No. G2938-90133

