

# INSTRUCTIONS FOR REPLACEMENT OF PLUNGER, NEEDLE AND SEALS

## 500 nL - 5 $\mu$ L NanoVolume Syringes



### WARNING

Always loosen the cover nut before removing or inserting plunger. Never tighten cover nut unless plunger is fully inserted.

### NEEDLE AND PLUNGER REPLACEMENT

(Refer to figure 1, 2 and 3):

**The needle and plunger are a matched set. Ensure both the needle and plunger are changed if replacement is required.**

- Loosen cover nut (2) and withdraw the plunger assembly (12).
- Remove cover nut (2), needle (1) and spring (3).
- Replace needle (1) and cover nut (2), ensuring the spring (3) is located on needle stop (4). DO NOT TIGHTEN COVER NUT.

The steps for replacing the plunger assembly are dependent on the syringe – refer to the steps below relevant to your syringe:

### SGE NanoVolume Manual Syringes and Syringes for PerkinElmer® Autosamplers

- After removing plunger assembly from syringe barrel, remove small screw (10) from button (11) and push out plunger wire and strengthening sheath (7 and 8) from guide tube (9) through the top of button (11).

- Apply a small amount of the glue to screw thread (10) on the new plunger. A small sachet of glue is included in the kit.
- Insert the new plunger into the plunger guide (9) and screw in a few turns.
- Fit new plunger assembly into the syringe barrel, carefully threading through into the new needle.
- Tighten cover nut (2).
- With the screwdriver, adjust the position of the plunger (8-10) so that the tip is flush with the needle tip with the plunger at zero position

### SGE NanoVolume Syringes for Agilent Technologies, CTC Analytics, Shimadzu and Thermo Scientific Autosamplers

- Carefully insert new plunger wire (7) into guide tube inside the glass barrel and push the plunger assembly (12) down level with the zero mark on the scale.
- Tighten cover nut (2).

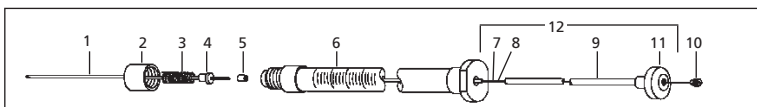


Figure 1. Exploded view of plunger-in-needle syringe

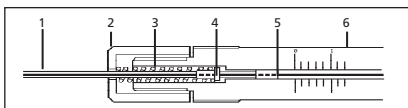


Figure 2. Partial view of assembled syringe

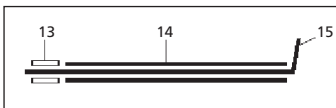


Figure 3. PTFE Seal Insertion Tool

### Legend:

1. Needle
2. Cover Nut
3. Compression Spring
4. Needle Stop
5. PTFE Seal
6. Syringe Barrel
7. Plunger Wire
8. Strengthening Sheath
9. Plunger Guide
10. Screw
11. Plunger Button
12. Plunger Assembly
13. PTFE Seal
14. Stainless Steel Tube
15. Wire

## REPLACEMENT OF SEAL

(Refer to figure 1, 2 and 3):

- Each Repair Kit is supplied with a spare PTFE Seal and Insertion Tool assembled as illustrated in figure 3, and consists of a stainless steel tube (14), wire (15) and PTFE Seal (13).
- As illustrated in figure 1, a small PTFE Seal (5) is located inside the glass barrel around the plunger and located at the back end of the needle. This seal should not require replacement in general use but if it becomes dislodged or damaged it can be replaced as follows:
  - Loosen cover nut (2) and withdraw plunger assembly.
  - Remove cover nut (2), needle (1) and spring (3).
  - Remove old seal (5) by inserting an old plunger with a blunt tip.
  - Hold insertion tool assembly in one hand and syringe barrel in the other and insert seal (13) and tube (14) into the small hole in the glass barrel where the needle normally fits. Then withdraw wire (15) about 5 mm which will leave the seal in position.
  - Remove insertion tool.
  - Replace needle (1) and cover nut (2), ensuring spring (3) is located on needle stop (4). DO NOT TIGHTEN NUT.
  - Refit plunger assembly as detailed in Plunger Replacement section.
  - Tighten cover nut (2).

To check that the seal is in position simply tighten the cover nut then measure the effective length of the needle extending beyond the face of the nut. If the seal is missing the effective length of the needle will be 1.5 mm shorter.

## REPLACEMENT SEAL PART NUMBERS:

Part No.	Description
032002	Replacement PTFE Plunger Seal for 0.5 µL syringes with 8 mm OD barrels
032004	Replacement PTFE Plunger Seal for 0.5 µL syringes with 6 mm OD barrels and 1 µL syringes
032006	Replacement PTFE Plunger Seal for 5 µL syringes

## SYRINGE STORAGE:

- To protect against breakage store the syringe in its original packaging or on a syringe rack.
- Always thoroughly clean the syringe and ensure that it is dry before storage.

## NOTE:

- DO NOT return any syringe to SGE unless requested to do so by an authorized SGE representative.
- DO NOT return any syringe that has been used with radioactive, infectious or hazardous materials.
- Any syringe being returned must be clearly marked with a Return Authorization Number, which is available from your SGE representative.

## WARRANTY

All SGE syringes are warranted to meet the stated quality and performance specifications and to be free of defects in material or workmanship. The warranty implies free replacement of a defective syringe only upon proper written proof of the defect and if requested by SGE, the return of the defective product in its original packaging. It does not apply to mishandling of product by the customer, either in storage or use.

## SYRINGE CONFORMANCE CERTIFICATE

This syringe has been manufactured using measuring equipment traceable to International Standards. SGE Analytical Science ensures that the displacement volume is within the conformance specifications. For applications requiring individual syringe calibration, SGE Analytical Science offers a factory calibration service. Contact your nearest SGE Analytical Science office or dealer for details.

### AUSTRALIA & PACIFIC REGION

SGE Analytical Science Pty Ltd  
Toll Free: 1800 800 167  
Tel: +61 (0) 3 9837 4200  
Fax: +61 (0) 3 9874 5672  
Email: support@sge.com

### CHINA

SGE Shanghai Representative Office  
Tel: +86 21 6407 9382  
Fax: +86 21 6407 9386  
Email: china@sge.com

### MIDDLE EAST

SGE Gulf  
Tel: +971 6 557 3341  
Fax: +971 6 557 3541  
Email: gulfsupport@sge.com

### EUROPE

SGE Europe Ltd  
European Head Office  
Toll Free: 00800 2790 8999  
Toll Free Fax: 00800 2626 2609  
Tel: +44 (0) 1908 568 844  
Fax: +44 (0) 1908 566 790  
Tel France: +33 (0)1 69 29 80 90  
Fax France: +33 (0)1 69 29 09 25  
Tel Germany: +49 (0) 6155 / 60746 0  
Fax Germany: +49 (0) 6155 / 60746 50  
Email: europe@sge.com

### INDIA

SGE Laboratory Accessories Pvt Ltd  
Tel: +91 22 24715896  
Fax: +91 22 24716592  
Email: sgeindia@vsnl.com

### UNITED STATES OF AMERICA

SGE Incorporated  
Toll Free: (800) 945 6154  
Tel: +1 512 837 7190  
Fax: +1 512 836 9159  
Email: usa@sge.com

### JAPAN

SGE Japan Inc  
Tel: +81 45 222 2885  
Fax: +81 45 222 2887  
Email: japan@sge.com

 **SGE Analytical Science**  
www.sge.com