

Instructions for replacing the plunger and PTFE seals on a microliter syringe

Introduction

The syringe is fitted with two PTFE seals. One is the needle seal (5) which is located inside the needle stop (4) and the other is the plunger seal (10) which is located just inside the glass barrel. The plunger wire passes through both seals and extends to the tip of the needle.

Both seals should remain leak-tight for the life of the syringe under normal use, however, both can be replaced if damaged.

Are the PTFE seals in position?

To check, simply tighten the syringe nut then measure the effective length of the needle (1) extending beyond the face of the nut nozzle which should be 51 mm.

If one or both of the 1.5 mm long seals are missing, the effective length of the needle will be less than 51 mm.

Important

Before withdrawing the plunger, e.g. cleaning, the hexagonal nut must always be loosened to avoid deforming seals and subsequently damaging the plunger.

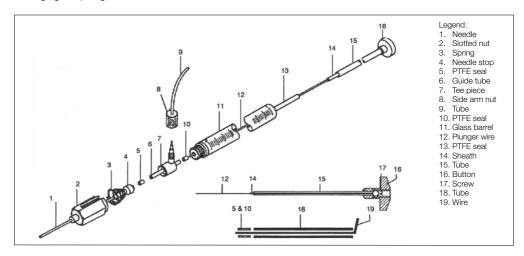
Instructions

Plunger replacement

- 1. Loosen slotted nut (2) and withdraw the plunger assembly.
- After removing the plunger assembly from the syringe barrel, remove small screw (17) from button (16) and push out plunger wire (12) and strengthening sheath (14) from guide tube (15) through the top of button (16). Fit new plunger and lock into position with small screw (17).
- Carefully insert new plunger wire (12) into guide tube (13) inside the glass barrel and push plunger assembly down so it is level with the zero mark on the scale. Tighten nut (2).
- 4. Thoroughly clean the needle before use.

PTFE seals replacement (5 and 10)

- 1. Disconnect side arm nut (8) and tube (9).
- 2. Loosen nut (2) and withdraw plunger assembly.
- 3. Remove nut (2) and disengage tee piece (7), needle (1) and spring (3).
- Two seal insertion tools are supplied with each syringe and repair kit (please see illustration for assembly). They consist of stainless steel tube (18) wire (19) and PTFE seal (5 and 10).
- 5. To fit seal (10) hold insertion tool assembly in one hand and syringe barrel in the other and



- insert seal (10) and tube (18) into the small hole in the glass barrel where the tee piece arm normally fits. Then withdraw wire (19) about 5 mm which will leave the seal (10) in position. Remove insertion tool.
- 6. To fit seal (5) hold the insertion tool in one hand and the needle assembly (1) in the other and insert seal (5) and tube (18) into the end of the needle that has the brass needle stop (4) until it will not go in any further. Withdraw the wire (19) about 5 mm which will leave the seal in the needle. Remove the insertion tool and discard.
- 7 Replace the tee piece (7), needle (1) and nut assembly ensuring spring (3) is correctly located against needle stop (4). DO NOT TIGHTEN NUT.
- 8. Re-fit plunger and then tighten the nut.

Information and support

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