PEEK Tubing and Pulled Glass Needle Connectors

Congratulations! You have purchased the finest quality precision syringe accessories available. Hamilton Company combines the highest quality materials with skilled workmanship, ensuring the best possible performance level of every precision fluid device we manufacture. With proper care and handling, these syringe accessories will provide unsurpassed performance in precision liquid handling year after year.

The syringe and needle accessories described in this document were developed for low dead volume applications that require easily primed connections for Microliter™ and Gastight® syringes. The connectors and ferrules described below are designed for use with the small Removable Needle (RN) and Knurled Hub (KH) terminations found on the 600, 700, 800, 900, 1700, 1800 and 7000 series syringes with a nominal volume of 0.5–100 µL.

The PEEK Tubing and Pulled Glass Needle Connectors, manufactured by Hamilton Company are intended for scientific research and laboratory use only and is not intended for human *in vivo* use.

Connector Operation: Connecting a Pulled Glass Needle to a Small RN Hub Syringe

1. Obtain any Hamilton Small RN Hub syringe, Priming Kit (p/n PRMKIT), 1 mm Glass Capillary Needle and the RN Compression Fitting 1 mm (p/n 55750-01).

Note: For best results, assemble all components dry and do not use oil. Syringes in the 800, 900 and 1800 series will be difficult to prime using the method described in step 6.

2. Remove RN nut from syringe and save. To operate the compression fittings, please use the RN nut in kit p/n 55750-01.

3. Assemble the pulled glass needle with the ferrules, in kit p/n 55750-01, as seen in the picture below. Insert the needle through the RN nut followed by the PEEK cup ferrule and finally the PFA ferrule. Be sure to orient the ferrules so that the cone on the PFA ferrule will slip into the mating part of the PEEK cup ferrule. The end of the glass needle will go partially into the PFA ferrule. Make sure the needle is snug in the ferrule.

4. Rinse the syringe with isopropyl alcohol.

5. Assemble the priming syringe with the metal hub needle. Pierce the center of the GC septa with the needle until the septa bottoms out against the metal hub as shown in the picture on the next page. Slowly fill the priming syringe and needle with sample or a system fluid.

Note: There is a cleaning wire in the metal hub needle that needs to be removed prior to being installed on the syringe.

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6. Fill the priming syringe with buffer solution. Then remove the plunger from the RN syringe with the glass needle and insert the Priming syringe into the barrel where the plunger was located. Press the rubber septa firmly against the flange to create a seal against the back of the RN syringe. Depress the plunger on the priming syringe slowly to fill the RN syringe barrel and the pulled glass needle with solution. Once the needle is primed, slowly remove the priming syringe. Continue to dispense the priming liquid as the needle is removed.

7. Leave a small bubble of liquid on top of the flange so that air is not trapped when the plunger is inserted into the barrel. The syringe is now completely primed and ready for use.

Connector Operation: Connecting a 7000 Series Syringe to a Small Hub Removable Needle

1. Obtain any Hamilton 7000 series syringe with a 25 gauge needle, Priming Kit (p/n PRMKIT), Dual RN Coupler (p/n 55752-01), Luer to RN Adaptor (p/n 55753-01) and a Small Hub RN needle or Pulled Glass Needle connector as described previously.

2. Assemble the 7000 series coupler according to the pictures below.

Disassembled

(p/n 55752-01) *(p/n 55753-01)*

Assembled

3. Fill the priming syringe with a system fluid and attach it to the luer connection as seen in the picture below. Prime the connector and needle by dispensing liquid from the luer lock syringe until all of the air is flushed from the connector. Continue to dispense liquid as the priming syringe is removed from the connector to ensure that the system remains primed.

(p/n PRMKIT)

4. Loosen the RN nut but do not remove as shown in the picture below.

5. Insert the 25 gauge 7000 series syringe into the luer connection. There will be some resistance as the needle passes through the RN ferrule. Retighten the RN nut that was loosened in step 4.

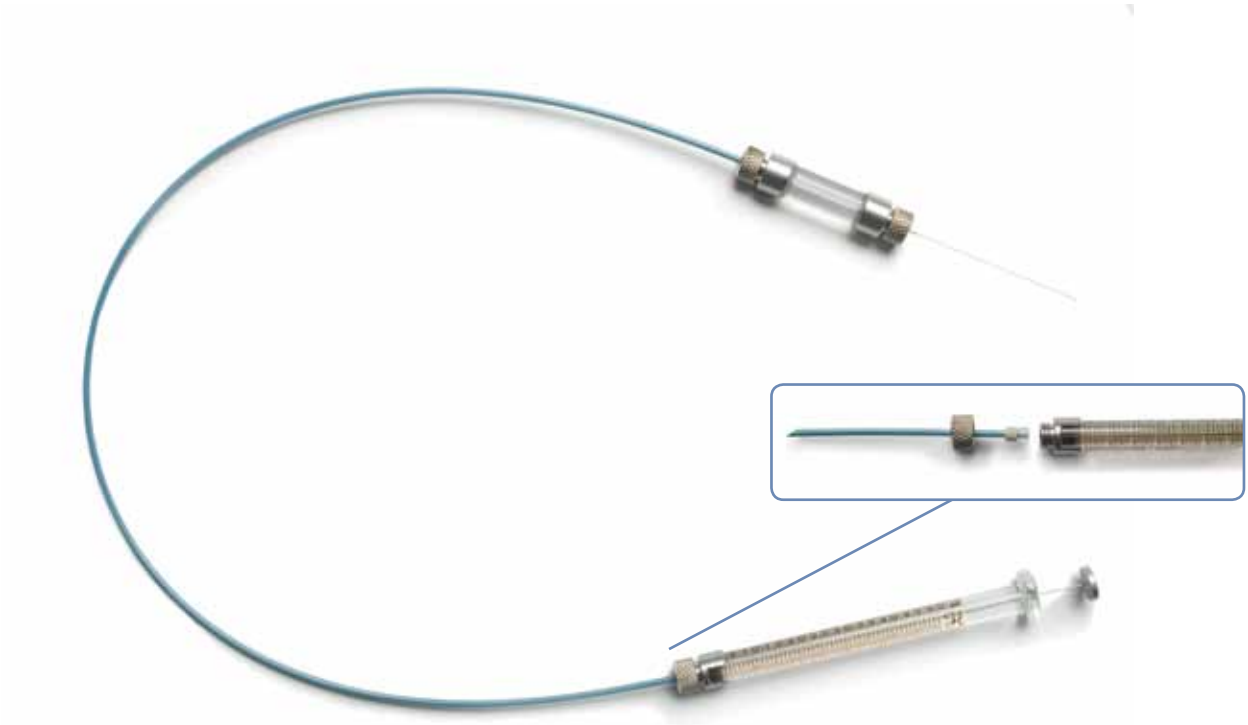
Partially Assembled

Completely Assembled

Connector Operation: Small Hub RN Connection to PEEK Tubing

1. Obtain any Hamilton syringe with a Small RN Hub termination or the Dual RN Coupler (p/n 55752-01) as well as the Priming Kit (p/n PRMKIT), RN Compression Fitting 1/16 inch (p/n 55751-01) and any PEEK tubing with a 1/16 inch outer diameter.

2. Assemble the PEEK tubing with the ferrules in kit p/n 55751-01, as seen in the picture below. Insert the tube through the RN nut from the kit, followed by the PEEK cup ferrule and finally the PFA ferrule. Be sure to orient the ferrules so that the cone on the PFA ferrule will slip into the mating part of the PEEK cup ferrule. The end of the tubing should be flush with the end of the PFA ferrule. Once assembled, insert the ferrule into the RN hub and tighten the RN nut. The PFA ferrule should tighten onto the tubing to create a leak-free seal.



Ordering Information

Priming Kit (p/n PRMKIT)

The Priming Kit provides the necessary tools to ensure that the syringe and needle connection is completely primed. Trapped air can cause inaccurate dispenses and standard priming techniques are not sufficient when using capillary tubing. The glass capillary tubing traps a large volume of air that can only be removed by using the Priming Kit.
The priming kit contains one 250 µL syringe (p/n 81120), one 6 pack of 30 gauge needles (p/n 90030) and one pack of septa (p/n 75826).

RN Compression Fitting 1 mm for Pulled Glass Needles (p/n 55750-01)

The 1 mm connector is designed to attach pulled glass needles directly to a small hub RN connection. The RN nut compresses the conical PFA ferrule into the PEEK cup ferrule creating a seal between the syringe barrel and the glass capillary tubing. The connection requires no modifications to the glass capillary tubing.
The RN Compression Fitting 1 mm consists of one large bore RN nut, 5 PFA ferrules and 5 PEEK cup ferrules.

RN Compression Fitting 1/16 inch for PEEK Tubing (p/n 55751-01)

The 1/16 inch connector is designed to attach 1/16 inch PEEK tubing directly to a small hub RN connection. Tightening the RN nut compresses the conical PFA ferrule into the PEEK cup ferrule creating a seal between the syringe barrel and the PEEK tubing. The connection requires no modifications to the PEEK tubing.
The RN Compression Fitting 1/16 inch consists of one large bore RN nut, 5 PFA ferrules and 5 PEEK cup ferrules.

Dual Small Hub RN Coupler (p/n 55752-01)

The Dual RN Coupler is constructed from model 1702 glass with a small hub RN termination on either end. It uses a standard glass size for compatibility with most stereotaxic instrumentation. The coupler is ideal for remotely connecting a syringe to a needle via PEEK tubing. It is also used with the Luer to RN adaptor for connection of custom needles to a 7000 series syringe.
The Dual RN Coupler consists of two large bore RN nuts and one dual RN barrel.

Luer to Small Hub RN Adaptor (p/n 55753-01)

The Luer to RN Adaptor consists of a Metal Luer Lock Hub and a Small Removable Needle Hub combined in a single needle. The Luer to RN Adaptor and the Dual RN Coupler can be used to connect a 7000 series syringe to any Small Hub Removable Needle or to a Pulled Glass Needle. The Adaptor creates a rigid connection between the syringe and the needle as well as a compatibility with stereotaxic instrumentation.
Note: The Luer to RN Adaptor consists of one RN to Luer Needle and a sealing ferrule for a 25 gauge 7000 series needle.

Warranty Statement

Hamilton Company unconditionally guarantees its products to be free of defects in materials and workmanship. Any product that fails due to such a defect will be repaired or replaced at our discretion without cost, provided the device is returned on a Return Materials Authorization (RMA). It is the responsibility of the purchaser to determine the suitability of application and material compatibility of the product based on the published specifications of the product.

Return of Goods

Hamilton Company's return and repair policy is written to protect its employees from potentially hazardous materials (e.g., serum, radioactive materials, carcinogenic chemicals, etc.) or any substance that may cause them partial or permanent disability during the inspection or repair process. In returning a product, the customer acknowledges that the product is free from any hazardous materials. Furthermore, the customer assumes responsibility should the returned product prove to be hazardous.

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