Glass Pipette & PEEK Tubing Connectors

Quick and reliable connection of glass capillary needles and PEEK tubing to most Removable Needle (RN) and Knurled Hub (KH) terminations.

- **Mass Spectrometer Tuning**
- **Neuroscience Injections**
- **Electrophysiology**
- **Non-metallic Needle Alternative**
- **Single-cell microinjections**

HAMILTON
THE MEASURE OF EXCELLENCE™

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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 liquid that can only be overcome 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 (p/n 55750-01)

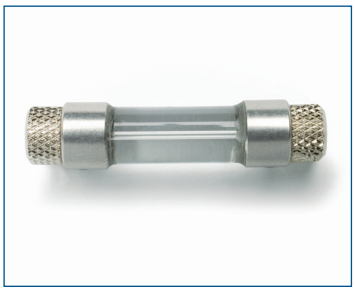
The 1 mm connector is designed to attach pulled glass pipettes directly to a small hub RN connection. The RN nut compresses the conical PFA ferrule into the PEEK cup ferrule creating a seal between the syringe barrel and the glass capillary tubing. The connection requires no modifications to the glass capillary tubing.

The RN Compression Fitting 1mm consists of one large bore RN nut, 5 PFA ferrules and 5 PEEK cup ferrules.

RN Compression Fitting 1/16 inch (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.

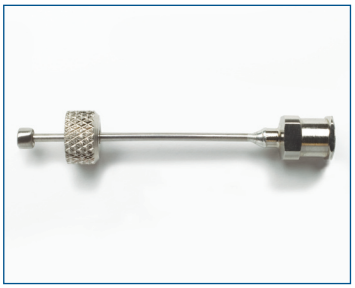
The RN Compression Fitting 1/16 inch consists of one large bore RN nut, 5 PFA ferrules and 5 PEEK cup ferrules.



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 Pipette. The Adaptor creates a rigid connection between the syringe and the needle as well as compatibility with stereotaxic instrumentation.

The Luer to RN Adaptor consists of one RN to Luer Needle and a sealing ferrule for a 25 gauge 7000 series needle.

Connector Operation

Configuration 1: Connecting a Pulled Glass Pipette 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: Syringes in the 800, 900, and 1800 series will be difficult to prime using the method described in step 4.

2. Assemble the pulled glass pipette with the ferrules as seen in the picture below. Insert the needle through the RN nut followed by the PEEK 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 ferrule. The end of the glass pipette 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 glass pipette to create a seal.

3. 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 below. Slowly fill the priming syringe and needle with sample or a system fluid.

4. Remove the plunger from the RN syringe and insert the Priming syringe. 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 pipette. Once the needle is primed slowly remove the priming syringe. Continue to dispense the priming liquid as the needle is removed.

5. Leave a small bubble of liquid on top of the flange so that when the plunger is inserted into the barrel no air is trapped. Now the syringe is completely primed.

Connector Operation

Configuration 2: 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 Pipette connector as described previously.

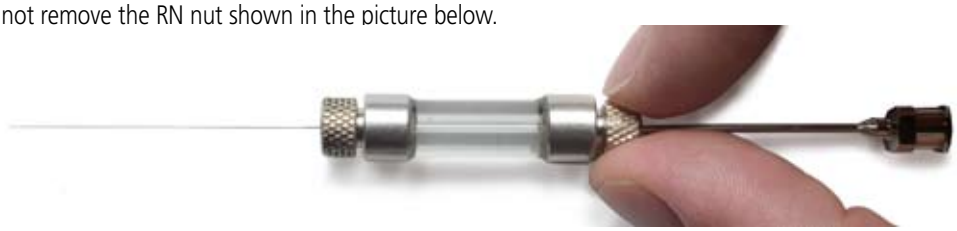
2. Assemble the 7000 series coupler according to the pictures below. The RN nuts only need to be attached finger tight.

Disassembled

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 the system remains primed.

4. Loosen but do not remove the RN nut 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. Re-tighten the RN nut that was loosened in step 3.

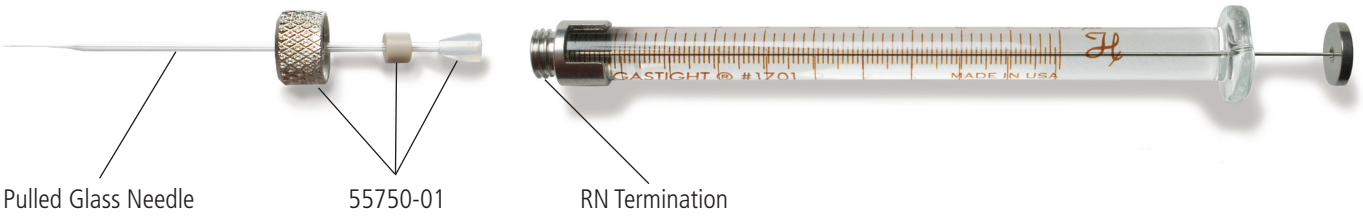
Partially Assembled

Completely Assembled

Connection Diagrams

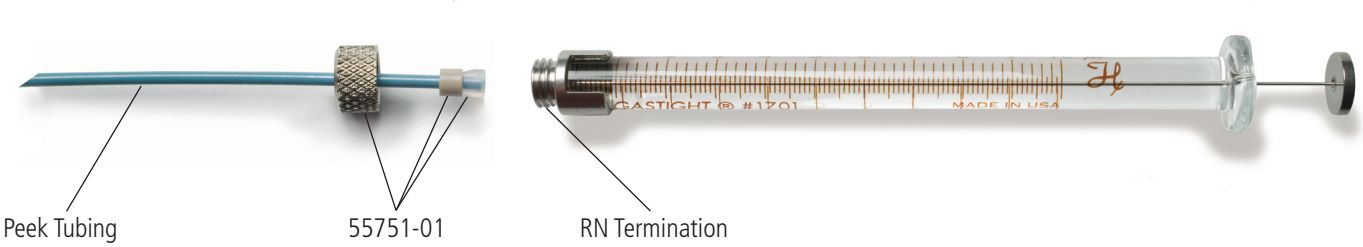
RN Compression Fitting 1 mm (55750-01)

- Adapts a Small Hub Removable Needle (RN) Termination to 1 mm Pulled Glass Pipettes



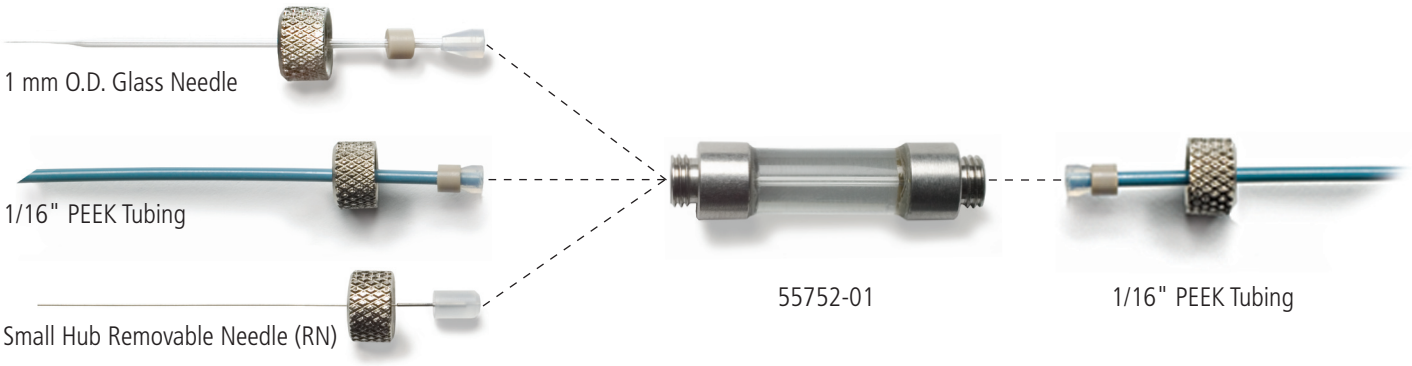
RN Compression Fitting 1/16 inch (55751-01)

- Adapts a Small Hub Removable Needle (RN) Termination to 1/16 inch PEEK tubing



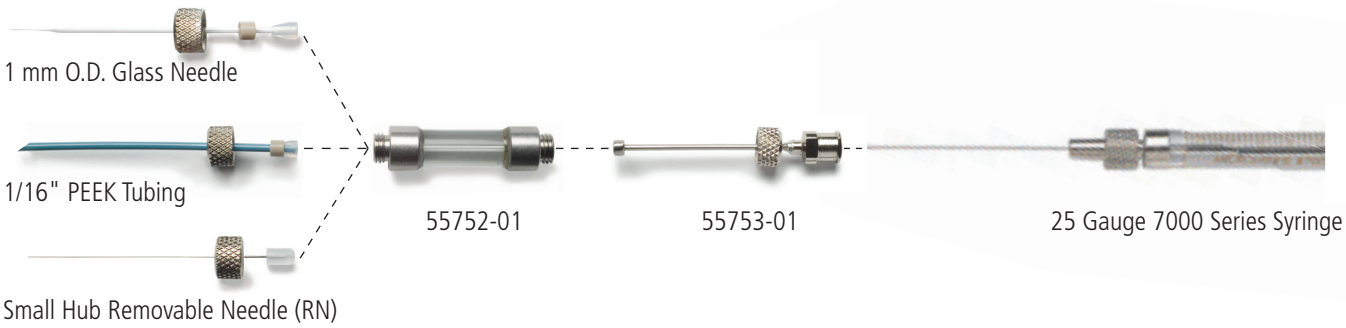
Dual Small Hub RN Coupler (55752-01)

- Connects any Small Hub RN connection to another Small Hub RN Connection



Luer to Small Hub RN Adaptor (55753-01)

- Combines with the 55752-01 to convert a 25 gauge 7000 series Knurled Hub (KH) Termination to a Small Hub RN Termination



Compatible Syringes

Removable Needle Syringe (2.5 µL to 100 µL)

- This termination can be used with the 1mm and 1/16 inch compression fittings

Small Hub Removable Needle Termination

25 gauge 7000 Series Syringe (0.5 µL to 2 µL)

- The Knurled Hub (KH) is specific to the 7000 series syringes. This termination must be converted to an RN connection before the 1 mm and 1/16 inch compression fittings can be used. This conversion requires part number 55752-01 and 55753-01

Knurled Hub Termination

	0.5 µL	1 µL	2 µL	2.5 µL	5 µL	10 µL	25 µL	50 µL	100 µL
600 RN (No needle)				7632-01	7633-01				
700 RN (No needle)					7634-01	7635-01	7636-01	7637-01	7638-01
1700 RN (No needle)						7653-01	7654-01	7655-01	7656-01
7000 KH (25 gauge needle)	86250	80100	88400						

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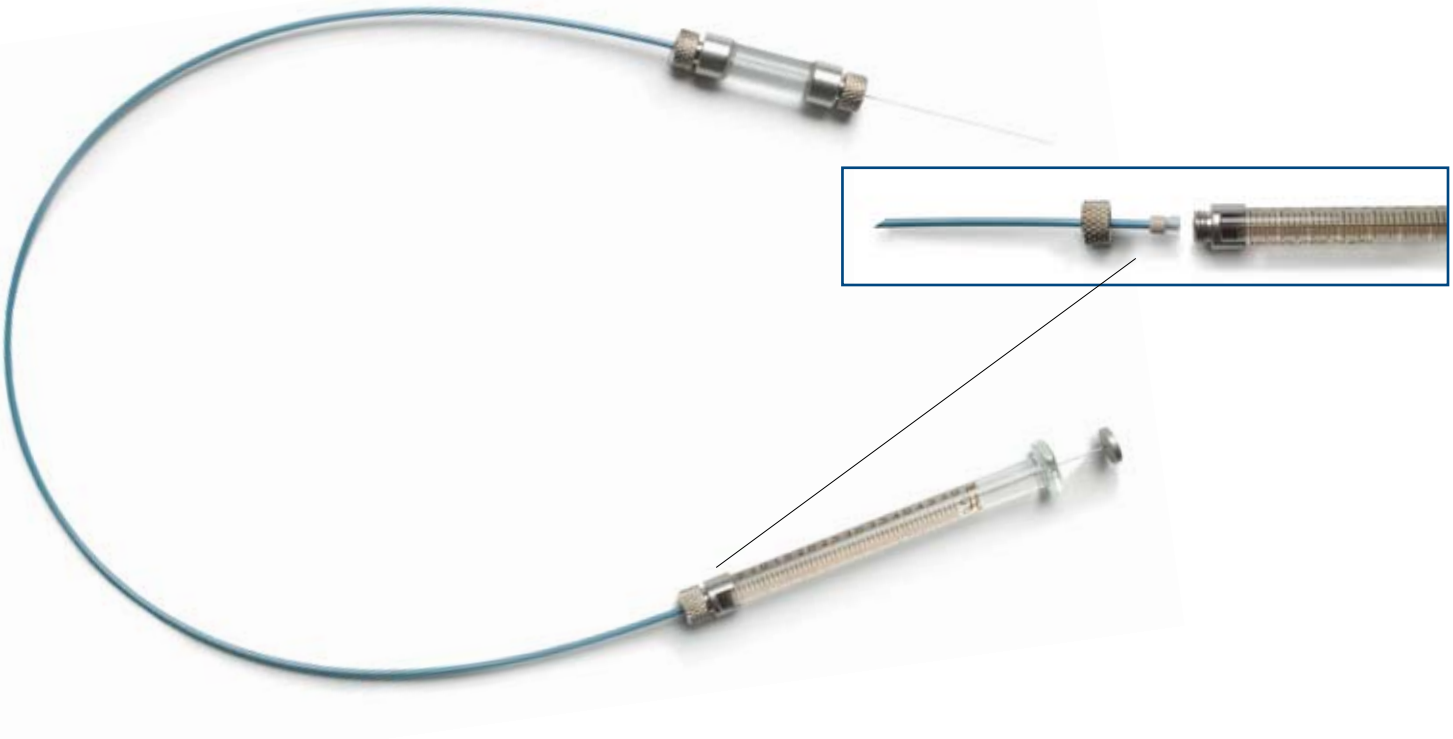
Connector Operation

Configuration 3: 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 as seen in the picture below. Insert the tube through the RN nut followed by the PEEK 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 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 seal.



WARRANTY STATEMENT

Hamilton Company unconditionally guarantees its products to be free of defects in materials and workmanship. Any product which fails due to such defects will be repaired or replaced at our discretion without cost, provided the device is returned with an explanation. It is the responsibility of the purchaser to determine the suitability of application and material compatibility of the products based on the published specifications of the products.

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 be determined to be hazardous.

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