

**Mini Manual Injection Kit, Description, and Instructions**  
**1 Feb 2008; DLO at Protasis/MRM**

This kit, shipped with most components pre-assembled, is a simplified alternative to the Manual Injection Module.

<i>Parts from Upchurch</i>	<u>Quantity</u>
F-334N nut	2
F-142N ferrule	2
1474; FEP black tubing, 100 $\mu\text{m}$ i.d., 1/16 o.d.; 5-ft section	1
F-247 sleeve	2
F-120 one-piece fitting	1
P-659 Luer adapter	1

*Parts from Valco*

CUCKF-MRM (includes 2 nuts, 2 ferrules, 1 union, 1 disk)	2
CFE-S2 filter disk, 2- $\mu\text{m}$ screen	1

**Assembly Instructions**

See the attached diagram for assembly configuration. After assembly, some parts are deliberately left over.

Locate the filter disk within the union on the downstream side of the hole in the union, so that an inserted needle does not touch the filter disk.

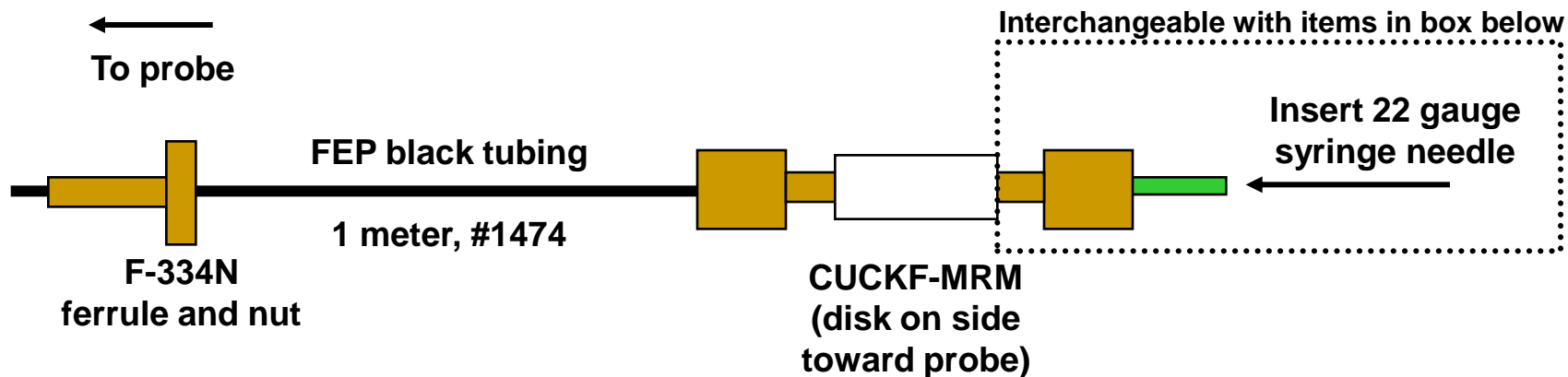
The assembled unit consists of fittings, filter, and a 1-meter segment, and a 0.5-meter segment. The short segment accommodates any Luer lock syringe. The short segment is interchangeable with a fitting to accommodate a syringe using a 22 gauge needle.

**Instructions for Use**

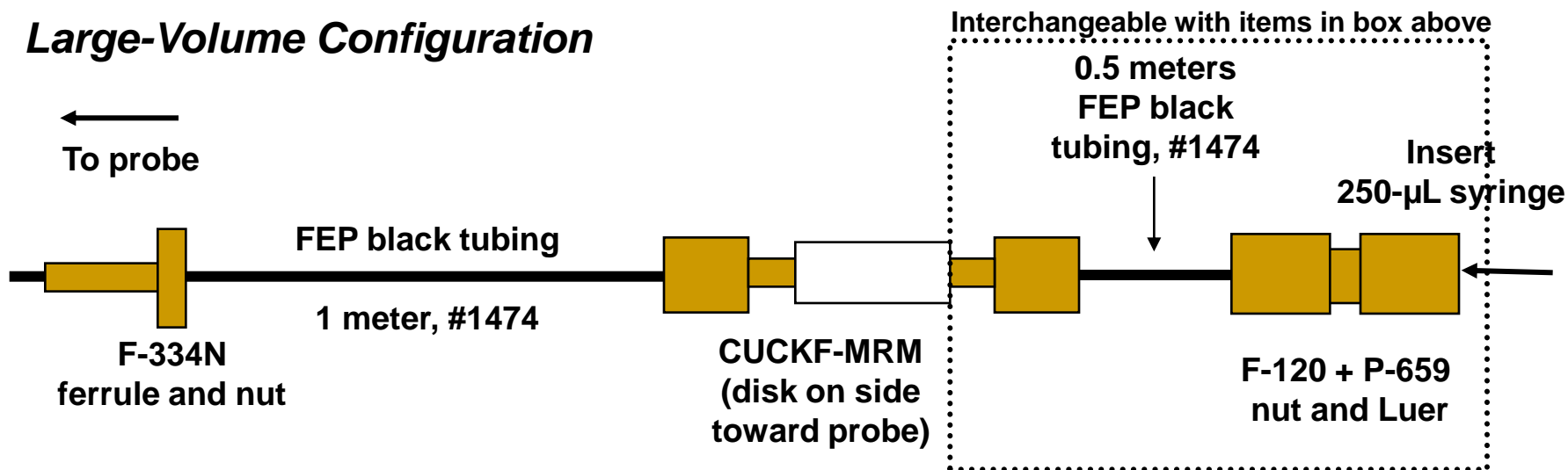
The 1-meter link from probe to filter housing is intended to remain intact. But, to the other side of the union, the user can connect a fitting to accommodate a syringe with needle, or a different fitting to accommodate a larger-volume syringe, such as the 250- $\mu\text{L}$  syringe included in the Probe Start-Up Kit. This scheme provides both small- and large-volume applications.

# Mini Manual Injection Kit (MMIK)

## *Small-Volume Configuration*



## *Large-Volume Configuration*

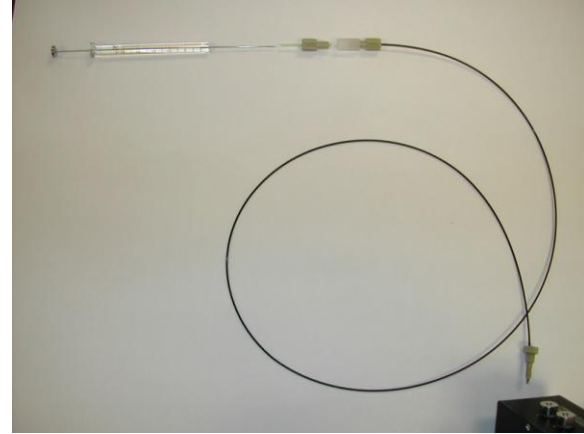


# Mini Manual Injection Kit (MMIK)

## ***Small-Volume Configuration***



Syringe with 22 gauge needle and CUCKF-MRM



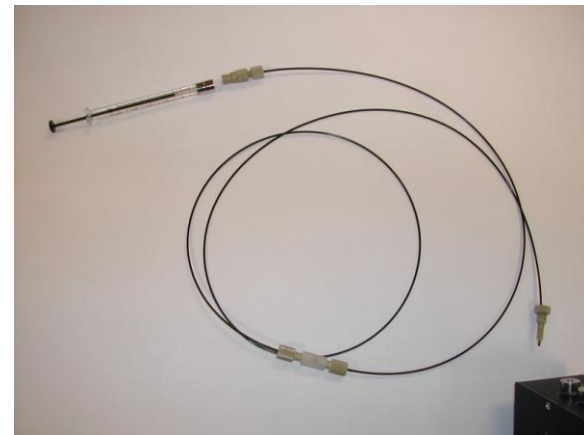
Complete MMIK for small volume applications

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## ***Large-Volume Configuration***



250- $\mu$ L syringe with Luer connection



Complete MMIK for large volume applications