

## Stainless Steel Sample Loops

These high quality stainless steel sample loops have burr-free, square-cut ends to ensure a flush connection to valve ports. The size designations of loops are nominal. The actual volumes can differ from the theoretical designations because of the 0.001" ( $\pm 0.025$  mm) tolerance of the metal tubing bore.

Accuracy of large metal loops (1.0 mm, 0.040" bore) is about  $\pm 5\%$ , intermediate loops (0.5 mm, 0.020" bore)  $\pm 10\%$ , and small loops (0.2 mm, 0.007" bore)  $\pm 30\%$ .

Since both standards and unknowns are usually analyzed using the same sample loop, knowledge of the actual, accurate volume is rarely needed. If the sample loop volume must be known, it is best to calibrate the loop in place on the valve so the flow passages in the valve are also taken into account. An alternative to calibration is to use a dual mode injector and partial-filling method of loading. See the "Sample Loop Loading" Application Note on page 129.

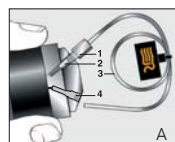
Model 7725 Injector loops are not interchangeable with loops for the model 7125. The port angle for the 7725 is 30° whereas the port angle for the 7125 is 20° requiring the loops to have a different shape.

Model 8125 Micro-Scale Sample Injector requires special loops in the 5.0  $\mu$ L to 50  $\mu$ L range. The 8125 sample loops are made with 0.5 mm (0.020") OD tubing.

### APPLICATION NOTE

#### How to Properly Install Sample Loops: Stainless Steel

Stainless steel sample loops are supplied with fittings that are not swaged onto the tube. It is important that the loop be completely bottomed in the injector port before the ferrule is swaged onto the tube. The depth of the tubing holes may vary slightly from port to port and from valve to valve. A fitting made up in one port may leave a small cavity in another port. The cavity causes high dispersion and peak distortion such as fronting, tailing, or broadening. It is good practice to label loop ends so they will be replaced in the same, respective ports that were used in swaging the ferrules. Hint: swaging ferrules separately on each side, into each respective valve port makes loop installation easier.



#### To install the sample loop:

- Take one end of the loop and place the nut (1) and ferrule (2) onto the tubing (3) with the threaded portion of the nut and tapered portion of the ferrule toward the end. See Figure A.
- Insert the tubing into port (4). Confirm that the tubing is bottomed in the valve port as shown in Figure A.
- While firmly pressing down on the tubing, hand-tighten the nut as tight as possible.
- With the IDEX Wrench (see pages 33 and 144), designed especially for fittings, tighten one quarter turn past finger tight. Remove the loop to confirm the ferrule is swaged onto the tube.
- Repeat steps a-d with the other end of the loop while the swaged end remains outside the valve port. See Figure B.
- Reinstall each end of the loop to their respective ports. See Figure C.



**Figure 1** Cut-away view of stainless steel sample loop installation



Part No.	Volume	Tubing
<b>RHEODYNE® STAINLESS STEEL LOOPS FOR MXT715-000</b>		
<b>7755-300</b>	5 $\mu$ L Sample Loop	0.18 mm (0.007") ID x 1/16" OD
<b>7755-301</b>	10 $\mu$ L Sample Loop	0.30 mm (0.012") ID x 1/16" OD
<b>7755-302</b>	20 $\mu$ L Sample Loop	0.30 mm (0.012") ID x 1/16" OD
<b>7755-303</b>	50 $\mu$ L Sample Loop	0.51 mm (0.021") ID x 1/16" OD
<b>7755-304</b>	100 $\mu$ L Sample Loop	0.51 mm (0.021") ID x 1/16" OD
<b>RHEODYNE STAINLESS STEEL LOOPS FOR 7125, 7010 INJECTION VALVES (DO NOT USE FOR 7725)</b>		
<b>7020</b>	5 $\mu$ L Sample Loop	0.18 mm (0.007") ID x 1/16" OD
<b>7021</b>	10 $\mu$ L Sample Loop	0.30 mm (0.012") ID x 1/16" OD
<b>7022</b>	20 $\mu$ L Sample Loop	0.51 mm (0.020") ID x 1/16" OD
<b>7023</b>	50 $\mu$ L Sample Loop	0.51 mm (0.020") ID x 1/16" OD
<b>7024</b>	100 $\mu$ L Sample Loop	0.51 mm (0.020") ID x 1/16" OD
<b>7025</b>	200 $\mu$ L Sample Loop	0.76 mm (0.030") ID x 1/16" OD
<b>7026</b>	500 $\mu$ L Sample Loop	0.76 mm (0.030") ID x 1/16" OD
<b>7027</b>	1.0 mL Sample Loop	0.76 mm (0.030") ID x 1/16" OD
<b>7028</b>	2.0 mL Sample Loop	1.0 mm (0.040") ID x 1/16" OD
<b>7029</b>	5.0 mL Sample Loop	1.0 mm (0.040") ID x 1/16" OD
<b>1876</b>	10 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>1877</b>	20 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>RHEODYNE STAINLESS STEEL LOOPS FOR 3725-038, 3725I-038 INJECTION VALVES</b>		
<b>3065-018</b>	2.0 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>3065-019</b>	5.0 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>3065-023</b>	10 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>3065-025</b>	20 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>RHEODYNE STAINLESS STEEL LOOPS FOR 7725, 7725I, PR/EV700-100, PR/EV703-100, MX MODULE INJECTION VALVES (DO NOT USE FOR 7125)</b>		
<b>7755-020</b>	5 $\mu$ L Sample Loop	0.18 mm (0.007") ID x 1/16" OD
<b>7755-021</b>	10 $\mu$ L Sample Loop	0.30 mm (0.012") ID x 1/16" OD
<b>7755-022</b>	20 $\mu$ L Sample Loop	0.30 mm (0.012") ID x 1/16" OD
<b>7755-023</b>	50 $\mu$ L Sample Loop	0.51 mm (0.020") ID x 1/16" OD
<b>7755-024</b>	100 $\mu$ L Sample Loop	0.51 mm (0.020") ID x 1/16" OD
<b>7755-025</b>	200 $\mu$ L Sample Loop	0.76 mm (0.030") ID x 1/16" OD
<b>7755-026</b>	500 $\mu$ L Sample Loop	0.76 mm (0.030") ID x 1/16" OD
<b>7755-027</b>	1.0 mL Sample Loop	0.76 mm (0.030") ID x 1/16" OD
<b>7755-028</b>	2.0 mL Sample Loop	1.0 mm (0.040") ID x 1/16" OD
<b>7755-029</b>	5.0 mL Sample Loop	1.0 mm (0.040") ID x 1/16" OD
<b>1876</b>	10 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>1877</b>	20 mL Sample Loop	2.0 mm (0.080") ID x 1/8" OD
<b>RHEODYNE STAINLESS STEEL LOOPS FOR 8125 INJECTOR (USE 7755-024 TO 7755-029 FOR VOLUMES &gt; 50 <math>\mu</math>L)</b>		
<b>8020</b>	5 $\mu$ L Sample Loop	0.20 mm (0.008") ID x 0.020" OD
<b>8021</b>	10 $\mu$ L Sample Loop	0.20 mm (0.008") ID x 0.020" OD
<b>8022</b>	20 $\mu$ L Sample Loop	0.25 mm (0.010") ID x 0.020" OD
<b>8023</b>	50 $\mu$ L Sample Loop	0.30 mm (0.012") ID x 0.020" OD
<b>8125-084</b>	Ferrules for 0.020" (0.5 mm) Tubing	
<b>8125-086</b>	Ferrules for 0.020" (0.5 mm) Tubing, 4-pk	

See page 140 for Valco-compatible stainless steel sample loops.

## Valco/VICI-Compatible Stainless Steel Sample Loops

Valco-Compatible Stainless Steel Loops are manufactured by IDEX Health & Science. These loops are designed for use with Valco valve models CW6 and EC6W. Each loop has burr-free, polished ends and is passivated and flushed with reagent-grade methanol to ensure cleanliness.

Loops made with 1/16" OD tubing come complete with F-287 SealTight™ Fittings, which are pressure rated to 9,000 psi (620 bar)<sup>1</sup>. The fittings and adapters that accompany the 1/8" OD sample loops are rated to 1,000 psi (69 bar)<sup>1</sup>. Volumes are stated at ±10%.

<sup>1</sup> These pressure ratings reflect the performance of the fittings, not the port or valve in which they are used. IDEX Health & Science manufactures many products designed as direct replacements for OEM components. Reference to these manufacturers does not imply their endorsement of our products.



Part No.	Volume	Tubing	Valco No.
<b>VALCO/VICI-COMPATIBLE STAINLESS STEEL LOOPS FOR C6W, EC6W INJECTION VALVES</b>			
1750	5 µL Sample Loop	0.18 mm (0.007") ID x 1/16" OD	SL5CW
1751	10 µL Sample Loop	0.25 mm (0.010") ID x 1/16" OD	SL10CW
1752	15 µL Sample Loop	0.25 mm (0.010") ID x 1/16" OD	SL15CW
1755	20 µL Sample Loop	0.51 mm (0.010") ID x 1/16" OD	SL20CW
1758	25 µL Sample Loop	0.51 mm (0.010") ID x 1/16" OD	SL25CW
1759	50 µL Sample Loop	0.51 mm (0.020") ID x 1/16" OD	SL50CW
1762	100 µL Sample Loop	0.51 mm (0.020") ID x 1/16" OD	SL100CW
1778	200 µL Sample Loop	0.76 mm (0.030") ID x 1/16" OD	N/A
1763	250 µL Sample Loop	0.76 mm (0.030") ID x 1/16" OD	SL250CW
1764	500 µL Sample Loop	0.76 mm (0.030") ID x 1/16" OD	SL500CW
1770	1 mL Sample Loop	0.76 mm (0.030") ID x 1/16" OD	SL1KCW
1772	2 mL Sample Loop	1.02 mm (0.040") ID x 1/16" OD	SL2KCW
1775	5 mL Sample Loop	2.03 mm (0.080") ID x 1/8" OD	SL5KCW
1776	10 mL Sample Loop	2.03 mm (0.080") ID x 1/8" OD	SL10KCW