Science with Passion

# VariLoop - Preparative Sample Loop

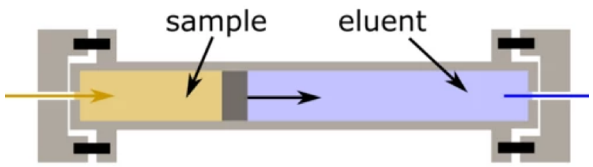


**Fig. 1:** Setup of the VariLoop

### Setup of the preparative sample loop:

The sample loop consists of a an empty stainless steel tube with an ID of 16 mm and a length of 125 mm (20 ml loop) or 250 mm (40 ml loop). A piston including a valve is located inside the tube, which moves during the filling and the emptying process. The piston is used to separate the sample from the eluent (see Fig. 1). On both sides of the preparative sample loop are frits with a pore size of 2 µm.

**Note:** To prevent clogging of the frits, always filtrate your sample before you use it.

**Note:** When the sample loop is delivered, the piston is located on the "sample side" inside the tube.

### Function of the sample loop:

During the filling process the piston will be moved from the sample side to the eluent side. During this process the injection valve is set to *LOAD* position. After switching to *INJECT* the piston will be moved through the solvent to the sample side. In this process the valve is closed. When the piston has been moved completely to the sample side the valve will be opened by the solvent pressure and the solvent flows through the piston.

### Startup of the sample loop

Connect the sample loop to the injection valve as shown in Fig. 2. In order to eliminate air from the sample loop set the valve to the *INJECT* position and the eluent pump to a flow rate of 10 ml/min if you are using a 20 ml sample loop or 20 ml/min if you are using a 40 ml sample loop. Flush the sample loop for approx. 3 min.

### Filling of the sample loop

In order to fill the sample loop you can either use a syringe with the suitable size or by using a pump. The injection valve has been set to *LOAD* position.
If you are using a syringe, insert the needle into the injection port of the injection valve. Connect the syringe which is filled with the sample to the needle. Now inject the sample into the sample loop. Repeat the procedure until you have reached the desired sample amount.
If you are using a pump, the volume is defined by the flow rate and the operating time of the pump. Ensure that the maximum loop volume will not be exceeded. Exceeding the maximum loop volume can damage the sample loop.

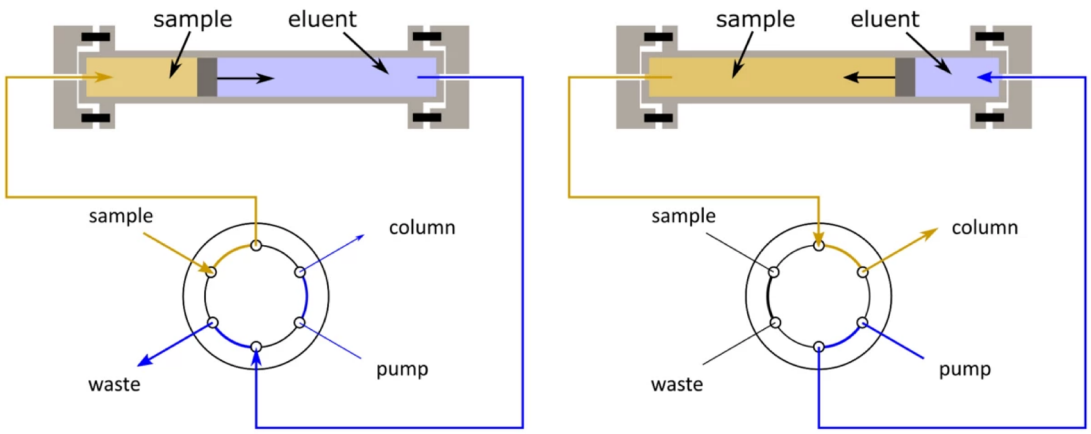


**Fig. 2:** Functionality of the VariLoop

### Maintaining the sample loop

The sample loop is basically maintenance free.

**Note:** Has the maximum loop volume been exceeded, the piston will be pushed to the stop position on the eluent side. This can cause damages to the sealing of the cover due to a high pressure increase.

If you can not move the piston back to the sample side by using the pump, proceed as follows:

1. Open the sample loop.
2. Move the piston manually to the sample side.
3. Close the sample loop.
4. Fasten the column seals with 10 Nm to ensure that the sample loop is leak-tight.

**Note:** Do not fasten the column seals with more than 10 Nm to prevent damage to the seal rings.

**Note:** Use new fittings and ferrules during the installation of the VariLoop to prevent leakages and dead volumes (see Fig. 3 and 4).

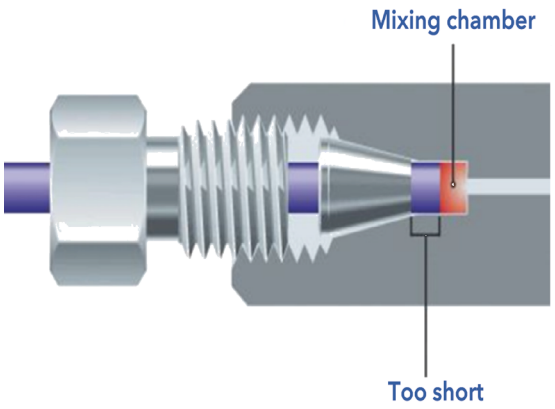


**Fig. 3:** Capillary too short

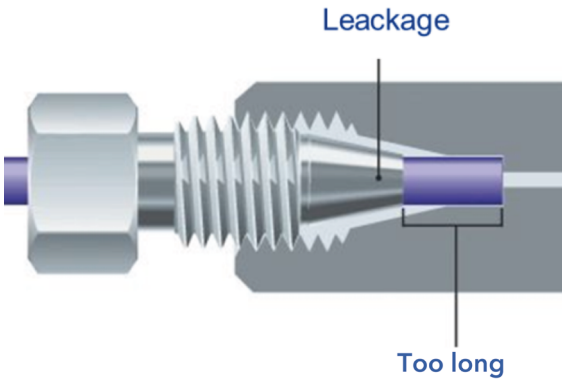


**Fig. 4:** Capillary too long

**Order information:**

| Order number | Max. volume | Connections |
|---|---|---|
| A1055XB | 20 ml | 1/8″ |
| A1055AA | 20 ml | 1/16″ |
| A1160XB | 40 ml | 1/8″ |
| A1160AA | 40 ml | 1/16″ |
| A10551 | 20 ml and 40 ml | 1/8″ and 1/16″ |

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