LVS Connected to MINICAMS

If an LVS is connected directly to the MINICAMS and is configured for the inlet port, it is assumed that the calibration amount is based on the fixed volume of the LVS. The amounts used for calibration are based on the corrected room temperature (21°C) of the sample loop installed in the LVS chassis.

The loop temperature is 100°C. We use Charles' Law to determine the volume at 21°C and calibration standard(s) concentration injected at the inlet.

- 373.15 Kelvin = 100 Celsius
- 294.15 Kelvin = 21 Celsius

$$\frac{1mL}{373.15K} = \frac{X}{294.15K}$$

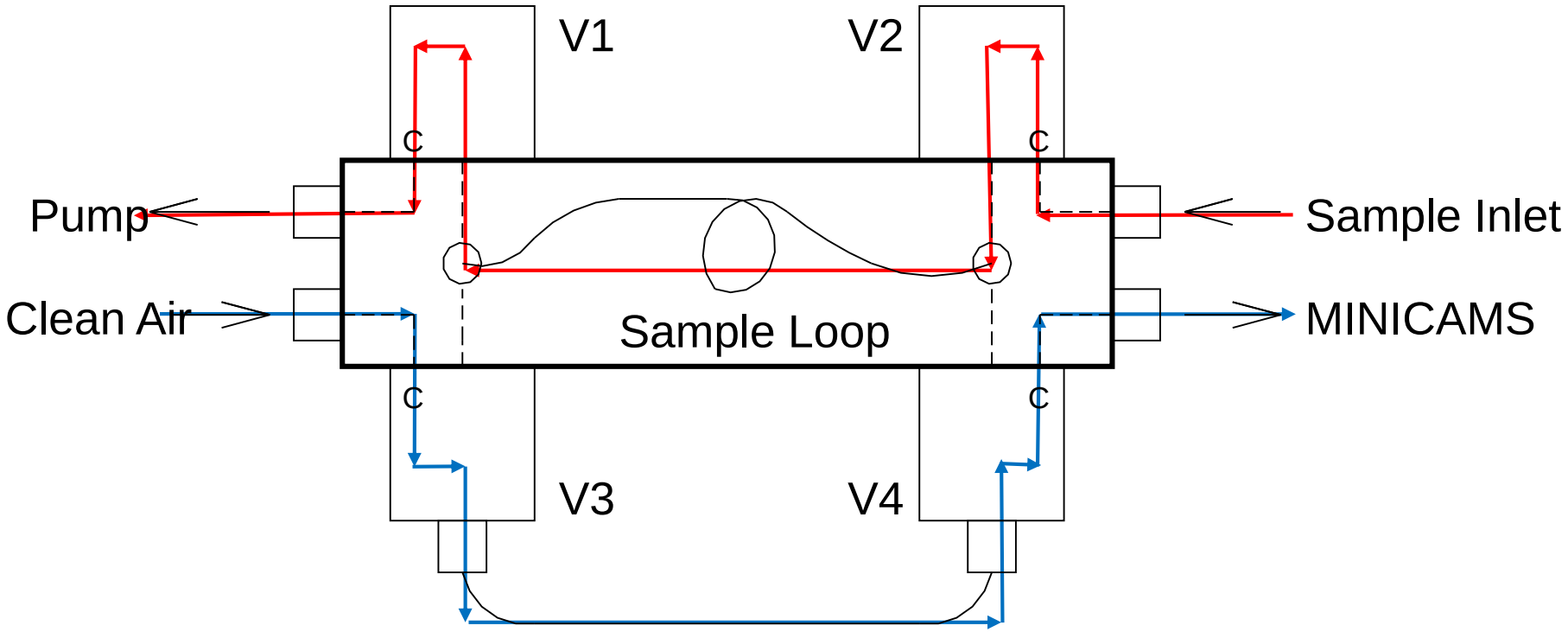
Cross Multiply

$$1 * 294.15 = 294.15$$

Divide

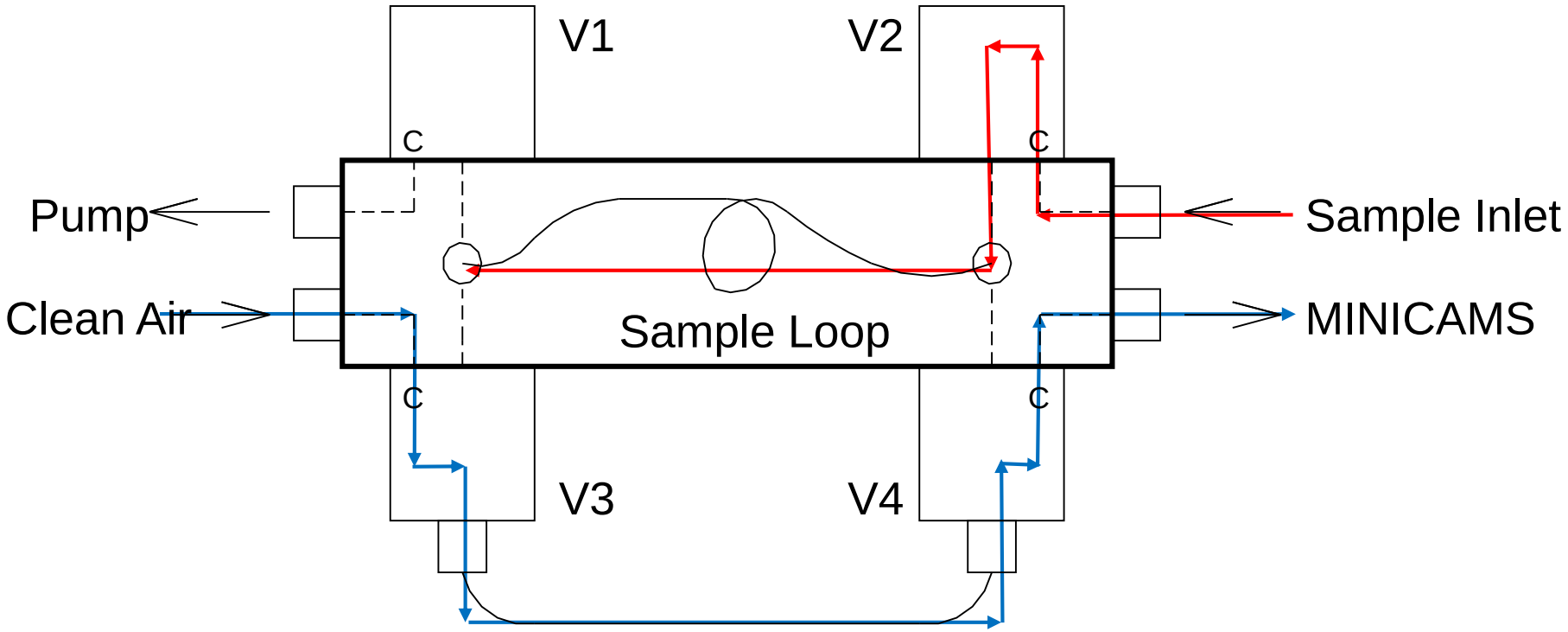
$$\frac{294.15}{373.15} = 0.788$$

0.788mL is the actual volume by which standards are prepared.



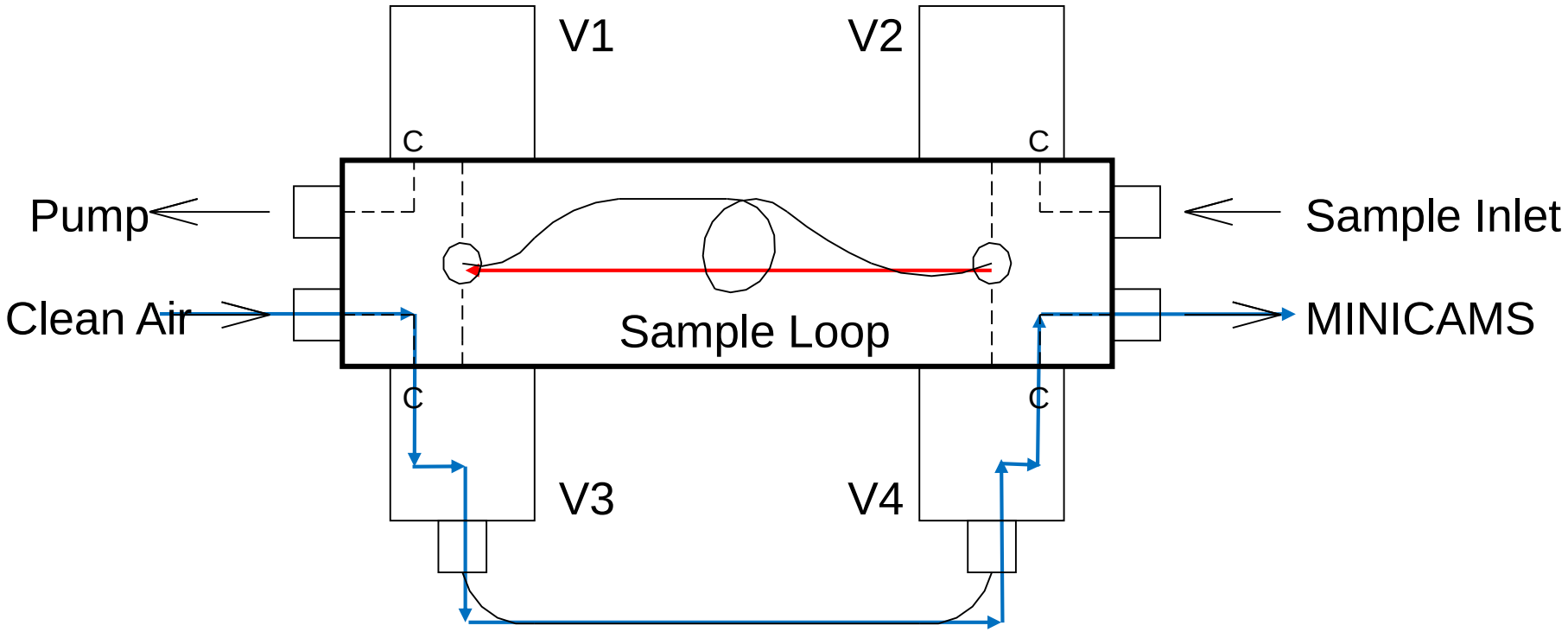
Sample Loop Loading

- T=20 seconds (20 seconds after the MINICAMS enters Purge)
- The sample loop is continuously filled with analyte while the MINICAMS is in the analytical mode



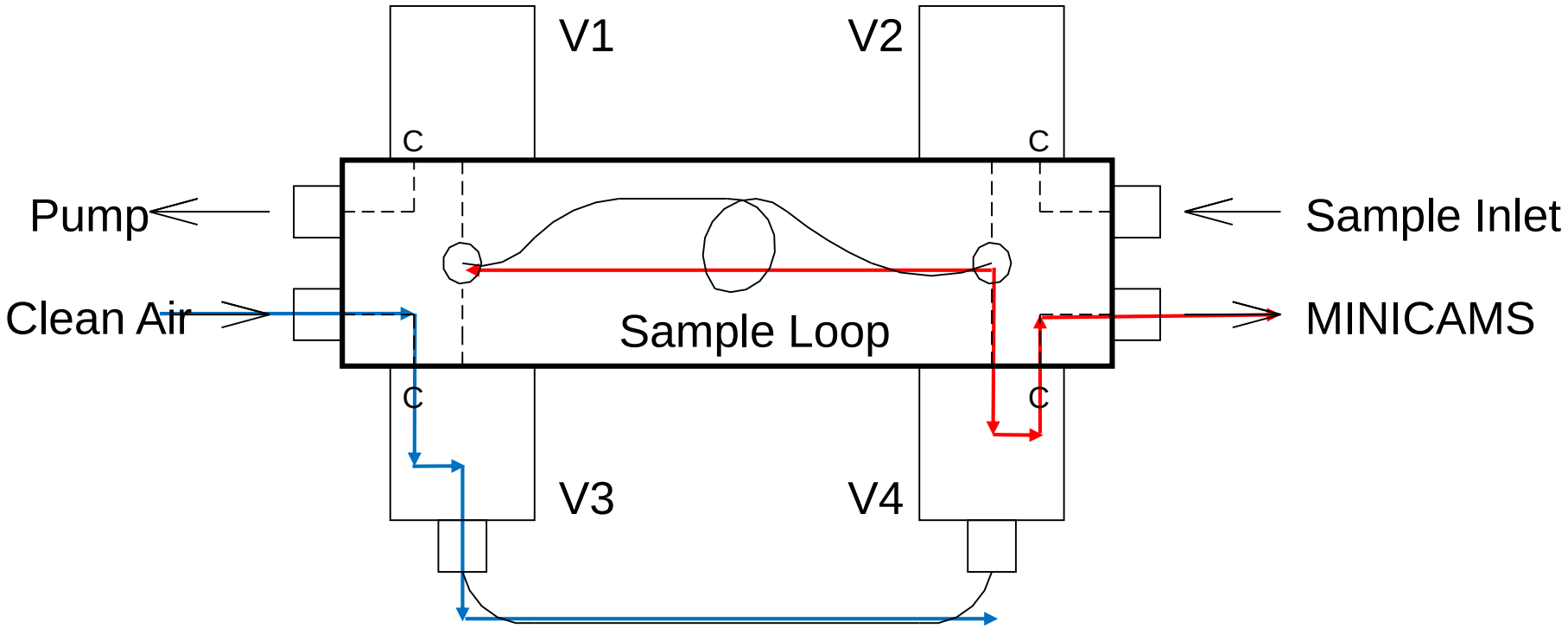
Equilibration

- At T=SAM (when the MINICAMS enters the Sample period of the cycle), the sample flow is stopped
- Sample loop and sample line are returned to atmospheric pressure from a negative pressure



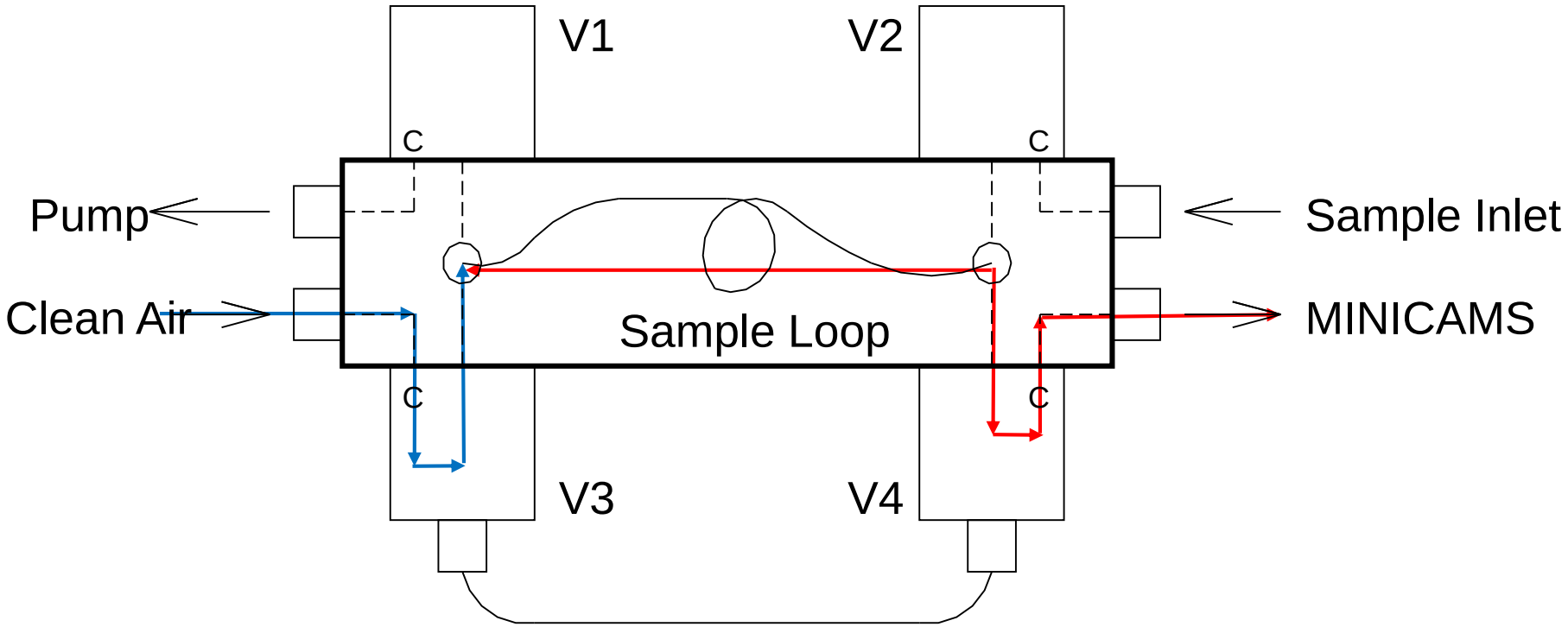
Sample Loop Separation/Isolation

- At T=SAM + 2 (2 seconds after the MINICAMS enters Sample)
- Separates the connection between the sample line and the loop long enough to avoid any potential additional loop loading during the split second changing of the V3 and V4 valve states



Sample Loop Separation/Isolation Cont.

- At T=SAM + 2 (2 seconds after the MINICAMS enters Sample)
- An additional second to bring the sample loop into the flow pathway in a manner that eliminates any problems that might be caused during the changing of the valve states



Sample Loop Contents Delivered to MINICAMS

- At T=SAM + 3 (3 seconds after the MINICAMS enters Sample)
- The MINICAMS vacuum pulls clean air and sweeps the contents of the loop for trapping on the PCT