



The system has a systematic extra volume V_{extra} , in the tubing outside of the syringe. This has been successfully quantified and negated.

The result for n seems reasonable: a quick back-of-the-envelope calculation, using the molar volume of air at STP as 22.4 l mol^{-1} [1], yields an expected $n \approx \frac{60 \times 10^{-3}}{22.4} = 2.5 \text{ mmol}$.

References

- [1] Lower, S. [2017], *General Chemistry: Properties of gases*.