CONCLUSIONS AND FUTURE STEPS

Calculated volumes fall near 0.3, 0.5, 0.7 mL. Most points fall below identity line ⇒ algorithm often underestimates bubble volumes:
- All videos contain at least one “multi-frame bubble” that is longer than one camera frame
- Why: Multi-frame bubbles are seen by the algorithm as stationary while both bubble ends are out-of-frame ⇒ algorithm often underestimates volume more than in videos without them.

Algorithm currently underestimates volume more often in videos with multi-frame bubbles than in videos without them. There are steps we can take to improve our algorithm’s performance:
- Use a high-speed camera so that bubbles can be captured at higher flow rates, and consequently at higher pressures
- Use of higher viscosity fluids to test the same flow speeds at higher pressures
- Enabling higher pressure testing will allow the user to inject greater volumes of air, as the bubbles will be compressed under the higher pressures
- The compression of bubbles at these higher pressures will also avoid multi-frame bubbles

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