

MICROBUBBLE INJECTOR: AN EXPERIMENTAL QUANTITATIVE CHARACTERIZATION

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A quantitative characterization of a microchannel bubble injector has been carried out in conditions relevant to microgravity [1]. Injection of bubbles is based on the generation of a slug flow in a capillary T-junction. Different liquid and gas flow rates have been used in order to test the performance of the injector. Bubble injection frequency and size have been measured. We have obtained two injector working regimes and the optimal performance has been identified.

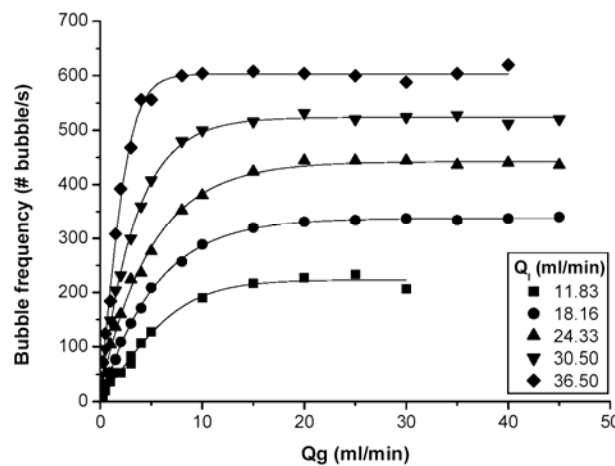


Fig. 1.- Bubble frequency vs. air flow rate for different liquid flow rates. Symbols: experimental results; lines: fit to an appropriate nonlinear function.

REFERENCES:

1. S. Arias, X. Ruiz, J. Casademunt, L. Ramírez-Piscina and R. González-Cinca, "Experimental study of a microchannel bubble injector for microgravity applications", preprint, 2007.