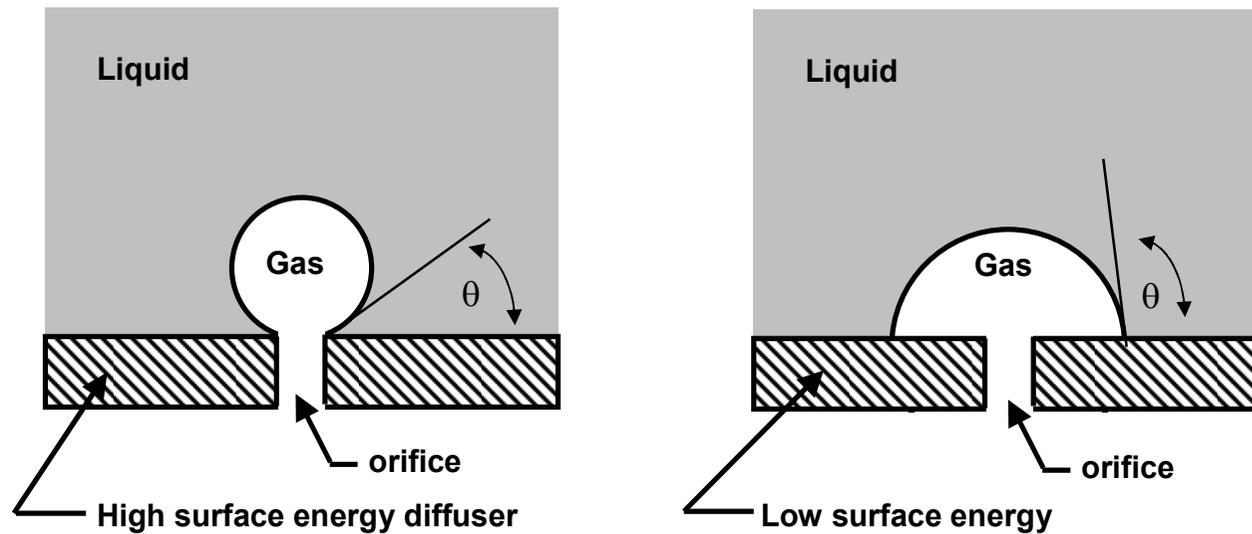


Bubble size is strongly dependent upon the ratio of the surface energy of the diffuser material at the liquid interface to the surface tension of the liquid. The higher the ratio, the smaller the bubbles.



Experimental data indicates a 10 micron sintered metal diffuser will produce 410 micron air bubbles in water. The surface tension of pure water is 0.07168 N/m while the surface tension of LAr is 0.01185 N/m. Thus with a 0.5 micron sintered metal diffuser and 6x lower surface tension, nitrogen bubbles injected into LAr may be quite small.