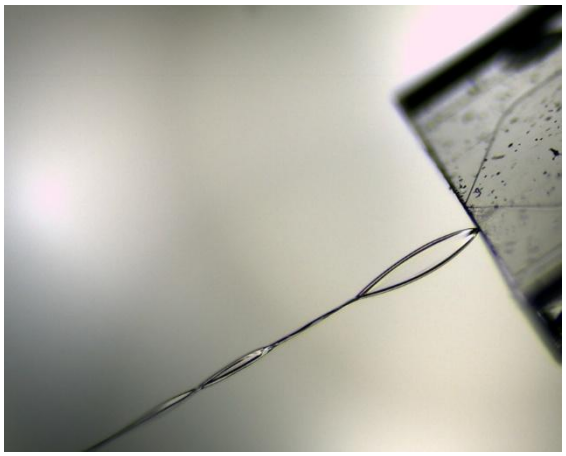
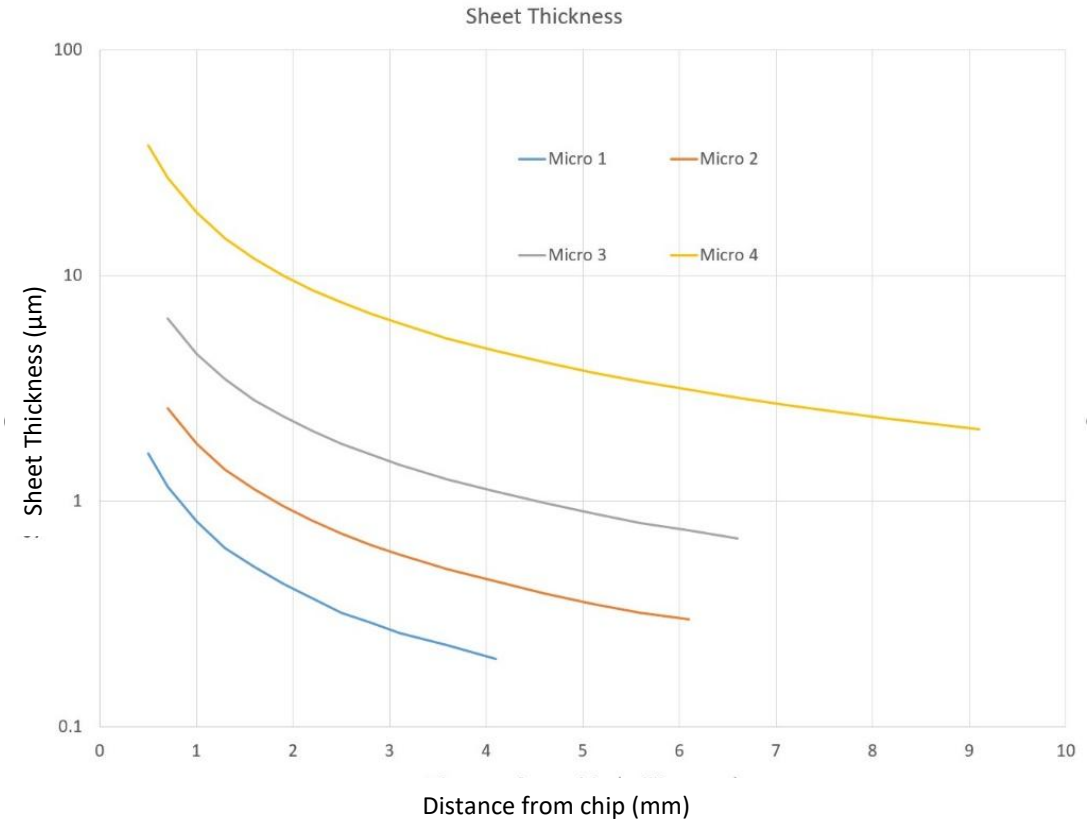
Specifications - Liquid MicroSheet Nozzles

The Liquid MicroSheet Nozzles are single fluid nozzles that produce very flat liquid sheets. Some sizes are available in additional narrow “N” versions that produce sheets with a larger length to width ratio specifically to assist in running high-concentration samples in vacuum. MicroSheet nozzles are built on a standard chip format using face-seal ports and have one corner removed to indicate correct interface orientation



Main product characteristics:

- ✓ thicknesses between 250nm to 30 micrometers
- ✓ inverse relation between thickness and distance from the nozzle
- ✓ thickness is independent of the liquid thermophysical properties
- ✓ thickness is independent of the liquid flow rate
- ✓ operate in vacuum or ambient air



	Micro 1		Micro 2		Micro 2N		Micro 3		Micro 3N	
	Min Q	Max Q	Min Q	Max Q	Min Q	Max Q	Min Q	Max Q	Max Q	Min Q
Q [ml/min]	1,2	2,7	1,5	4,7	1,8	6	3,5	7	3,5	9
P [psi]	113	450	73	330	102	510	127	278	178	540
P [bar]	7,8	31,0	5,0	22,8	7,0	35,2	8,8	19,2	12,3	37,2
W_{in} [µm]	0,1	0,55	0,1	1,0	0,09	1,03	0,345	1,5	0,715	1,175
L [mm]	0,90	4,30	0,77	6,0	4,7	8,1	1,77	6,89	1,58	9,735

Lowest flow rate at which interference fringes are visible
Max Q => Largest flow rate before the sheet shreds
W_{in} => Sheet width at center and inside the rims
L => Sheet length
All data in the table above is for H2O

For additional information see
Ha, B., et al. 2018. *Physical Review Fluids*, 3: 114202
Hoffman D. J., et al., 2022. *Front Mol Biosci*, 9: 1048932.
Crissman, C. J., et al. (2022). Lab on a Chip **22**(7): 1365-1373