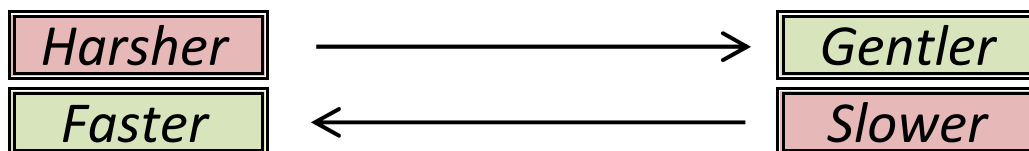


Approximate Cell Sorting Values Correlated with the Nozzle Size



NOZZLE SIZE	70 μm	85 μm	100 μm^*	130 μm^{**}	Notes and explanation of correlations between different parameters
Pressure	70 psi	45 psi	20 psi	10 psi	<i>Provide stable stream conditions for the certain nozzle size</i>
Frequency	87 kHz	42 kHz	22 kHz	14 kHz	
Maximum cell size permitted for sorting	14 μm	17 μm	20 μm	26 μm	<i>~ 1/5 of the nozzle size (to prevent clogging, control sheer forces, enhance stream stability)</i>
Number of drops generated (per second)	87,000	42,000	22,000	14,000	<i>Equals frequency</i>
Maximum cell throughput (per second)	22,000	10,500	5,500	3,500	<i>~ 1/4 of number drops (to accomplish reasonably high sorting yeild)</i>
Maximum cells throughput (per hour)	79×10^6	38×10^6	20×10^6	12×10^6	<i>Maximum cell throughput (cells/sec) x 3600 sec/hour</i>
Cell concentration of the sample needed to reach the maximum throughput	$20\text{-}30 \times 10^6/\text{ml}$	$10\text{-}15 \times 10^6/\text{ml}$	$5\text{-}7 \times 10^6/\text{ml}$	$3\text{-}5 \times 10^6/\text{ml}$	<i>Practical observation</i>
Approximate size of the drop	1 nl	2 nl	4 nl	6 nl	<i>Practical observation (depends on both - nozzle size and frequency)</i>
Cell concentration of the post-sort	$1 \times 10^6/\text{ml}$	$0.5 \times 10^6/\text{ml}$	$0.25 \times 10^6/\text{ml}$	$0.16 \times 10^6/\text{ml}$	<i>Equals number of drops to collect one milliliter of the post-sort sample</i>

* To be used for single cell sort into plates

** To be used on special recommendations by FCRC