MicroTaker/BX® for Buffer
Exchange Applications

Overview

We need a way to automate the isolating and washing of nanoparticles or biomolecules post harvesting.

Also known as 'Buffer Exchange' Applications.

Workflow Overview

Step	Action	Est. Time
	Nanoparticle Isolating and Washing Workflow	
M-1	Load 2 racks of 24 1 dram vials with fabricated nanoparticles onto the robot deck along with on filtration plate and initiate the program	N/A
A-1	The system uncaps all the vessels and places the caps on a separate rack	552 Sec.
A-2	The UpLyft rack tips angling the vials to that the most sample can be aspirated via pipette and transferred to the associated position on the filtration plate	16 Sec.
A-3	This is repeated for the first 24 nanoparticle samples	368 Sec.
A-4	DMSO system solvent is selected ant the line washed and primed	25 Sec.
A-5	X mL of DMSO is added to each well of the filter plate in the shaker	50 Sec.
A-6	Shaker shakes vials for 5 minutes and then a gradual vacuum is applied removing the DMSO int the waste line	05 Sec.
A-7	Steps A-5 - A-6 is repeated two more times	165 Sec.
A-8	Steps A-4 - A-7 is repeated with a high volatile solvent.	245 Sec.
M-2	Operator is notified that the first rack is complete and that a new filter rack and cap rack need to be added and the program resumed.	N/A
A-9	Process is completed for the next 24 nanoparticles	1426 Sec.
	Total Est. Time	2852 Sec.
	Total Est. Time	47.5 Min.

Recommended Configuration
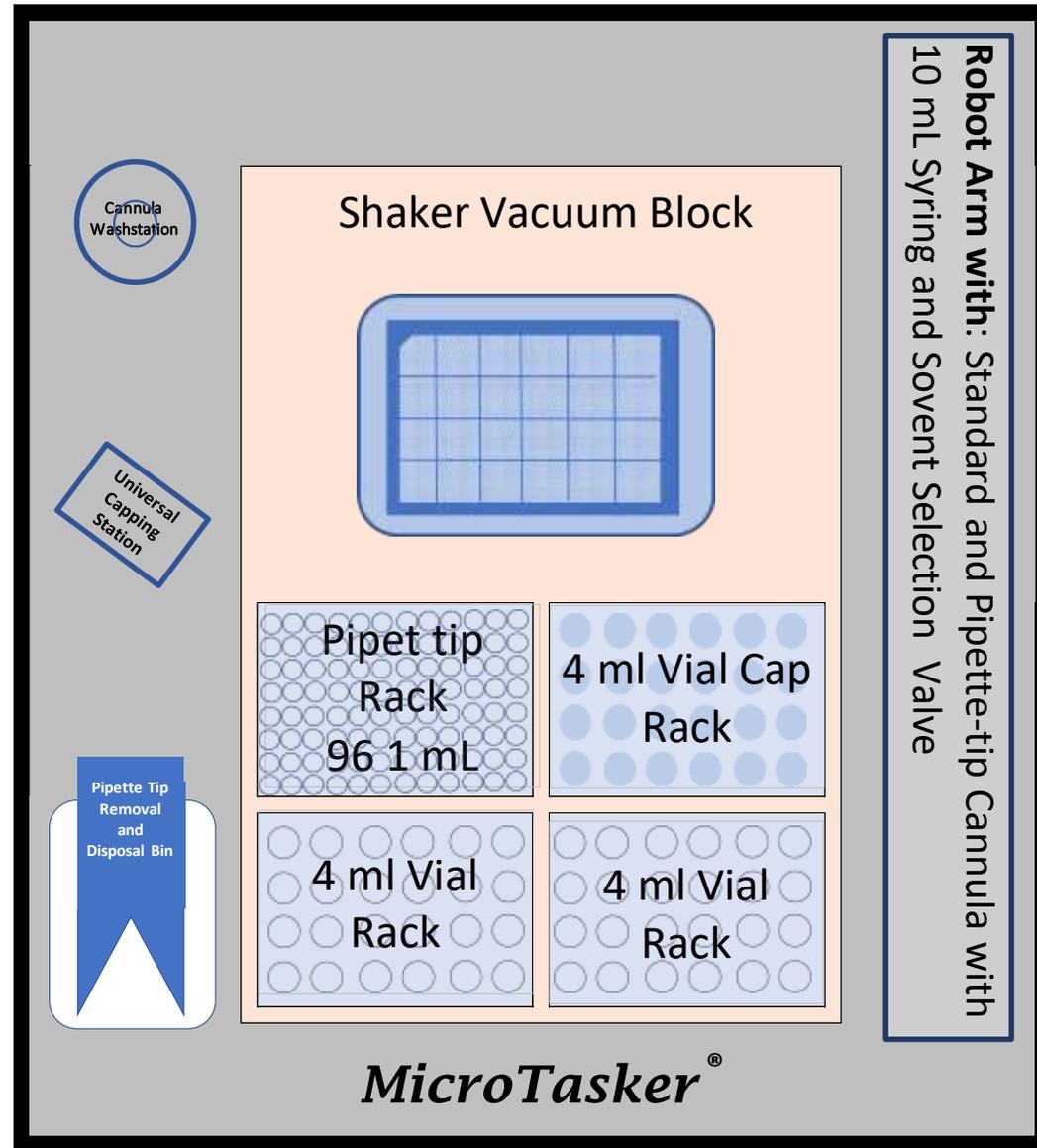
Vacuum Filtration with Shaking
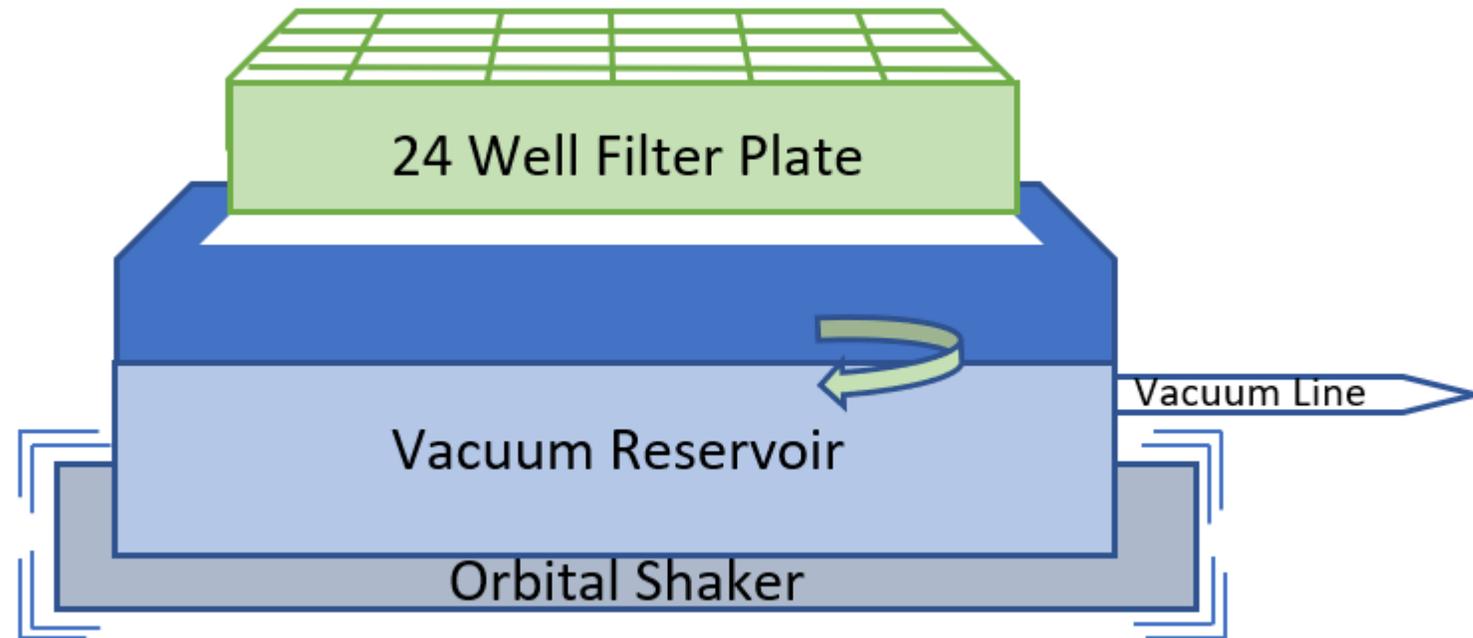
Recommended Platform

- Standard and pipette tip cannula

- Capping/uncapping station for 1-dram vials

- Pick and place for 1-dram vials

- Custom filtration-based washing/solvent exchange station