

## Rev\_E\_C1\_Drone Window Washing Payload.

### Best practices

1. Try not to clean in direct sunlight because it will cause the water and cleaning solutions to dry very quickly even if the temperature outside is low.
  1. It is best to wash windows in the shade, or when the sun is low in the sky (ie, not as strong).
2. Water → Cleaning Solution → Water
  1. It is best to apply water, then a cleaning solution, then rinse with water again. Getting the windows wet before applying a cleaning solution enhances the cleaning powers of the cleaning solution and cools down the window.
3. Use clean, deionized water!
  1. Make sure that your water is as clean as possible.
    1. Do not use a dirty tank
    2. Do not use a dirty hose
    3. Do not use a dirty nozzle
    4. Do not use a dirty pump
  2. When possible, try to use deionized water with a dedicated hose and pump for water and water only. If you previously sprayed other chemicals or dirty water through that hose and pump, it won't have as good of results.
4. Don't allow the cleaning solution to dry on the windows.
  1. For best results, let the cleaning solution sit on the windows for no more than 1 minute before rinsing.
5. Rinse from the top down!
6. Spend extra time on frames, as dirt, dust, and other debris can aggregate on these surfaces and might run down over the window after you've cleaned them.
7. It's always a good idea to ground test the equipment you plan to use with the window washing payload to make sure it works well before you're up in the air.

### Things to keep in mind while using the window cleaning payload.

1. The injector valve might bring your flow rate down slightly, and using a low flow rate pump might cause the payload to not pull solution at height depending on the pump.
2. Some nozzles might restrict flow causing the payload not to pull the solution.
3. The window washing payload has a max pressure rating of 500 PSI if you use a higher pressure than this it might cause the payload to break.
4. The tubing inside the pinch valve might get stuck pinched shut if left in the valve for extended periods of time. There are extra lengths of tubing in your controller box to replace it with if this happens. ([Here is a link to more if you need it](#))
5. Using different nozzles might change your dilution ratios slightly.
6. Empty and clean the window payload tank when storing or shipping the drone.

Flow Rate (GPM)	3.7 @ 100 PSI	5.3 @ 200 PSI	11GPM @ 300 PSI
Outlet Pressure	45 PSI	90 PSI	7.5 GPM @ 250 PSI
Nozzle Size	0.125"	0.125"	0.75"
Metering tip color	Dilution ratio	Dilution ratio	Dilution ratio
Copper	1:945	1:1141	1:3704
Pumpkin	1:787	1:878	1:2265
Burgundy	1:630	1:777	1:1999
Lime	1:473	1:601	1:1544
Tan	1:426	1:545	1:1402
Orange	1:270	1:405	1:1042
Turquoise	1:269	1:404	1:1040
Pink	1:171	1:229	1:584
Light Blue	1:148	1:182	1:464
Brown	1:125	1:172	1:441
Red	1:102	1:132	1:337
White	1:79	1:114	1:292
Green	1:65	1:103	1:263
Blue	1:51	1:75	1:191
Yellow	1:39	1:51	1:131
Black	1:27	1:40	1:101
Purple	1:19	1:19	1:50
Gray	1:11	1:15	1:29
No Tip	1:8	1:9.5	1:19.5

\*Final dilution ratio is calculated based on using a softwash pump that is rated for 11 GPM at 300 PSI attached to 250' of ½" flexzilla air hose with 140' of it in the air with our straight nozzle attached which brings our flow rate down to 7.5 GPM at the drone. We can assume that at least 50 PSI is lost due to friction and other components on the payload.