

Technical Specifications

Product	Porta-Pak Ultra Low Volume Sprayer
	Model number : 98600A
	Weight (kilogram) : 16.3
	Dimension (H cm x W cm x D centimeter) : 61.0 x 54.6 x 43.2
	Tank capacity (Liter) : 2.84
Engine	Type : Air-cooled, 1-cylinder, 2-cycle, vertical piston valve type, gasoline engine
	Ignition system : Magneto type
	Spark plug : NGK B6HS
	Starting method : Recoil starter
	Full throttle (rotation per minute) : 5000
	Engine displacement (cubic centimeter) : 60.8
	Maximum horsepower (horsepower) : 2.5
	Fuel tank capacity (Liter) : 1.92 Fuel consumption (Liter per hour) : 1.50
Fan	Type : Centrifugal vane
	Air volume (cubic meter per minute) : 13.7
	Air speed (kilometer per hour):405
Performance Data	Horizontal swath length (meter) : 23.0
	Vertical swath length (meter) : 12.2
	Flow rate (milliliter per minute) : (Oil = viscosity 55)
	33 (for 0.55mm nozzle orifice use)
	60 (for 0.71mm nozzle orifice use)
	105 (for 0.89mm nozzle orifice use)
	Droplet - Median Volume Diameter (MVD) (micron) : 18-75

Performance Comparison with Hudson Porta-Pak ULV and Mistblowers

Very commonly, the ULV sprayer is confused with mistblower in terms of their performance, usage and technology. In fact, there are lots of differences between them. For example, the average droplet size produced by the Hudson ULV sprayer is below 50 microns. More concentrated chemicals can be applied to control pests with less frequency of dilution required. On the contrary, it is ineffective, both in cost and performance, to spray concentrated chemicals by using mistblower because it consumes additional quantity of chemicals with the potential risk of over-dosage. A high volume output gives a larger spectrum of droplet size so that the air-borne time will be cut down substantially. The following comparison between the Hudson ULV sprayer and a popular mistblower will give a clear picture to you. In using the mistblower to spray 3.11 hectares, it requires filling the liquid tank 4.27 times (51.24 liters of water). In other words, larger area can be covered per full tank by the Hudson ULV sprayer.

	98600A ULV Sprayer	A Popular Mistblower*	Advantages of 98600A
Tank Capacity (Liter)	2.84	12.00	Light weight, high portability, comfortable to carry
Average Droplet Diameter (Micron)	<50 (Aerosol)	>80 (Mist)	Minute droplet, high coverage density, more concentrated chemicals use
Air-borne Time (Minute)	>1	<0.1	High settling time, long drift distance to the target
Flow Rate (Liter Per Minute)	0.06	0.50	Low flow rate, less chemicals use, more accurate discharge
Total Discharge Time Per Tank (Minute)	45.1	24.0	Long operation time, less tank refill, increasing labor efficiency
Horizontal Swath Length (Meter)	23.0	10.0	Superior swath length, good penetration
Area Covered Per Tank (Hectare)	3.11	0.73	Large spraying area, high efficiency

Test data is available upon request

Additional Information - Useful Formulae (for reference only)

As the dilution and walking speed will more or less affect the optimal performance of ULV sprayer, some formulae are provided below to illustrate how to calibrate the dilution and walking speed respectively.

Formula 1. Dilution of pesticide to specific concentration**

Weight or volume of concentrate added

= Volume of mixture (L) x % of active ingredient in the mixture / % of active ingredient in the concentrate

e.g. How much "A" pesticide (80% WP) do we need to prepare 50% spray concentration in a 2L tank?

{2 x (50/100)} x 100/80 = 1.25kg

** Please follows the instructions on pesticide label.

Formula 2. Calculation of walking speed for spraying (m/min.)

$$\frac{\text{Flow rate (L/min.)} \times 10000}{\text{Swath length (m)} \times \text{Dosage (L/ha)}}$$