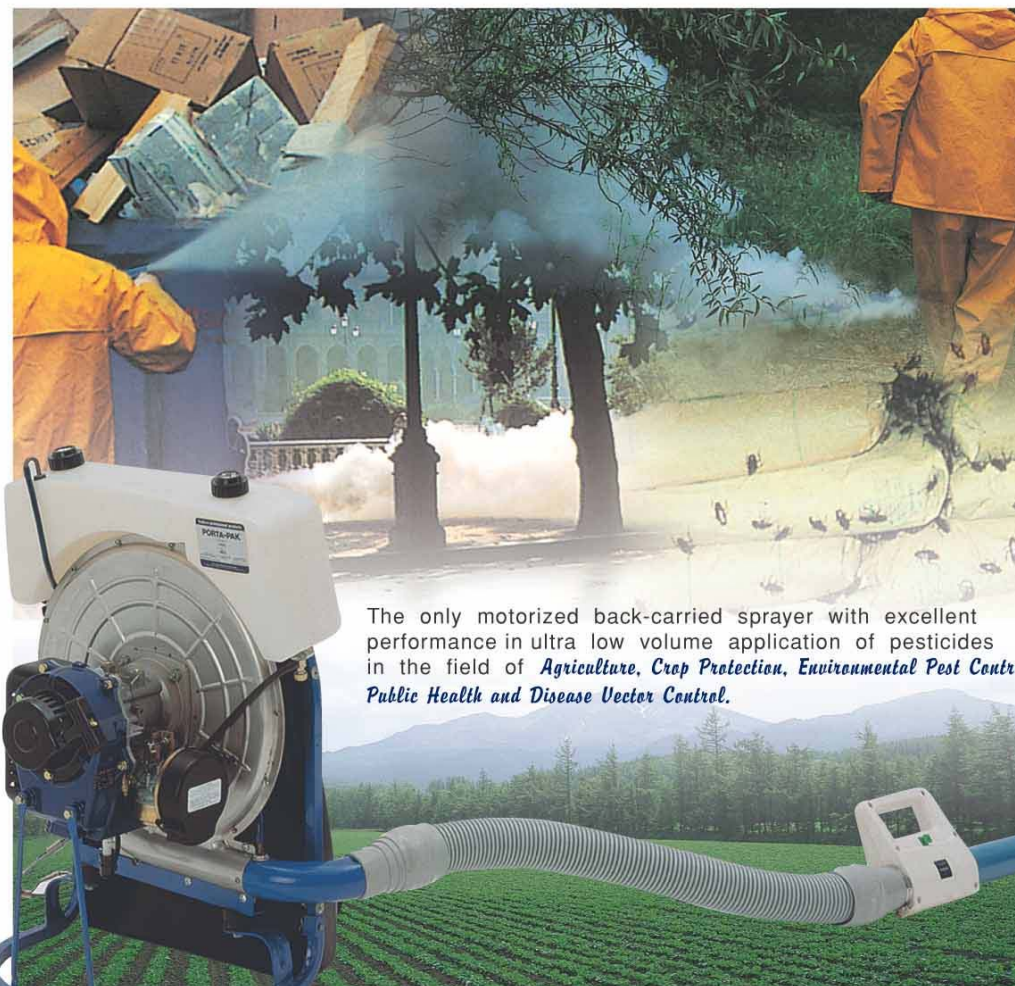


- 1 Fuel efficient, easy to start 2-cycle engine
- 2 Stainless steel centrifugal fan with powerful air stream
- 3 High density polyethylene pesticide tank with screw cap
- 4 High density polyethylene fuel tank with shut-off valve and in-line filter
- 5 Long, flexible and wire-reinforced discharge hose
- 6 Just push on-off button
- 7 Large, comfortable carrying handle for discharge set
- 8 Interchangeable nozzle tips
- 9 Adjustable shoulder straps with comfortable pad
- 10 Contoured backrest padded with thick foam
- 11 Easy to reach and operate engine throttle lever
- 12 Adjustable body straps with quick-release fitting
- 13 Strong metal frame

# hudson sprayer

Professional Product

**Porta-Pak™  
Ultra-Low-Volume  
Sprayer**



The only motorized back-carried sprayer with excellent performance in ultra low volume application of pesticides in the field of *Agriculture, Crop Protection, Environmental Pest Control, Public Health and Disease Vector Control.*

98600A

SIGN OF THE BEST BUY



**H.D. HUDSON ASIA LIMITED**

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0208

## The Outstanding Advantages Of Hudson Porta-Pak ULV Sprayer Assure Better Results!

### What is an ULV spraying?

Ultra low volume (ULV) spraying is defined as the volume of application below 5L/ha for ground crops and 20L/ha for trees respectively. To control pest effectively in such an ultra low dosage, the concentration of chemicals used should be high and the droplet size be as tiny as aerosol (<50 microns). This advanced technique not only saves time, labor, diluent and pesticides, but also provides excellent penetration, uniform coverage and maximum effectiveness, as compared to traditional spraying methods. It is especially suitable for uses in agriculture, environmental pest control and public health programs. The HUDSON's ULV sprayer is one of the best-motorized knapsack sprayers that can apply concentrated pesticides in minute droplets at ultra low dosage rates.

### Design Features

#### COMFORTABLE

The Hudson Porta-Pak ULV sprayer is an easy-to-operate, user-friendly product which can be used in various conditions. It weighs only 16.3kg and is comfortable to carry. When spraying, it generates lower noise and less vibration than conventional motorized knapsack mistblowers.

#### EFFICIENT

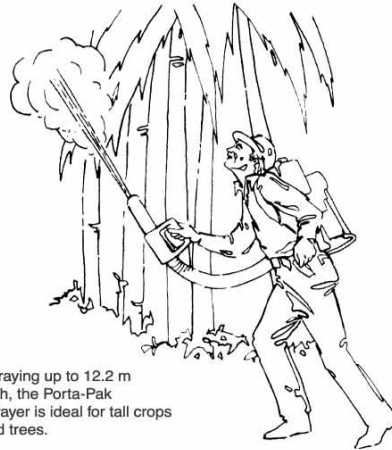
It is equipped with an easy-starting, heavy-duty engine. With three interchangeable nozzle tips, it can provide consistent and accurate application rate with a range from 0.033 to 0.152L per minute. More importantly, the liquid droplet can be atomized to 18-75 microns. With its powerful air blast, a strong turbulence is created which results in covering target surfaces uniformly and effectively. Theoretically, the maximum coverage density\* can reach 3200 droplets per square centimeter. It also produces an excellent penetration - 23m horizontally and 12.2m vertically. At a discharge rate of 60ml per minute, with horizontal swath length of 23m and walking speed of 30m per minute, it can treat up to 2.5ha per tankful of pesticide. (\*Application rate = 1L/ha)

#### CONVENIENT

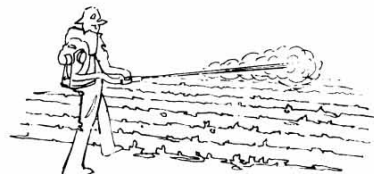
There are significant savings of chemical, diluting liquid and labor. Compared with other mistblowers, the Hudson Porta-Pak ULV sprayer requires 10% of the water for dilution. In other words, the use of concentrated pesticide, with significant lowering the frequency of pesticide tank refill, can increase labor efficiency and reduce the cost and inconvenience of spraying at the site where water is scarce. It is ideal for use with various types of chemical substances (e.g. insecticides, herbicides, biological control substances or vaccines) in any formulations such as oil-based liquid, aqueous solution, emulsifiable concentrate and wettable powder in high concentration. Thus, it is especially designed for the control of agricultural pests and disease vectors.

#### ENVIRONMENTALLY SAFE

The ultra low volume dosage, combined with high impactation and fine droplets, enhances the adhesive capability of chemicals on the surfaces sprayed and eliminates ground contamination caused by the loss of chemicals through natural run-off.



Spraying up to 12.2 m high, the Porta-Pak sprayer is ideal for tall crops and trees.



Sprays 23 m horizontal swath. Covers large areas quickly, saves time and work.



Because of unique nozzle discharge system, pesticides uniformly and effectively cover target. Also, less goes on ground, reducing pesticide cost.



No heavy waterload to carry. Operator has less fatigue, can do more work in less time. Ideal for use where water is scarce or transporting is a problem.



Highly turbulent spray action envelops and covers all plant surfaces for better control.

### Technical Specifications

<b>Product</b>	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
<b>Engine</b>	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
<b>Fan</b>	Fuel consumption (Liter per hour) : 1.50
	Type : Centrifugal vane
	Air volume ( cubic meter per minute) : 13.7
<b>Performance Data</b>	Air speed (kilometer per hour):405
	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)
<b>Performance Data</b>	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.)

Flow rate (L/min.) x 10000  
Swath length (m) x Dosage (L/ha)