



भारत सरकार / GOVERNMENT OF INDIA
उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान
Northern Region Farm Machinery Training and Testing Institute
ट्रैक्टर नगर, सिरसा रोड, हिसार (हरियाणा) — (125001 TRACTOR NAGAR, SIRSA ROAD, HISAR (HARYANA)- 125
OO1

Website: <http://nrfmtti.gov.in> E-mail: fmti-nr@nic.in GSTIN:06AAAGN0273PIZ3 Tele./FAX: 01662-276984

**TECHNICAL SPECIFICATIONS FOR BATTERY / HAND OPERATED KNAPSACK SPRAYER
AND BATTERY OPERATED PORTABLE SPRAYERS**

1	General:	:	
	Name of the machine	:	
	Type of machine	:	
	Make	:	
	Model	:	
	Serial No.	:	
	Name of Manufacturer	:	
	Name of Applicant /Importer	:	
	Year of manufacture	:	
	Output capacity, l/min	:	
Country of origin	:		
2	Hand operated sprayer specification (if applicable):	:	
	Type of pump cylinder	:	
	Location of pump (externally/ internally fitted)	:	
	Piston stroke length, mm	:	
3	Motor:	:	
	Type	:	
	Make	:	
	Model	:	
	Serial number	:	
	Motor operating voltage (V)	:	
	Max. current (A)	:	
	Rated speed (rpm)	:	
	Country of origin	:	
4	Battery:	:	
	Type	:	
	Make	:	
	Model	:	
	Serial number	:	
	Capacity (AH) & rating (V)	:	

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	Country of origin	:	
	Location	:	
5	Battery Charger:	:	
	Make	:	
	Model	:	
	Input voltage (V)	:	
	Output voltage (V)	:	
	Output current (A)	:	
	Country of origin	:	
6	Pump:	:	
	Type	:	
	Make & model	:	
	Year of manufacture	:	
	Serial No.	:	
	Recommended Pump Speed for spraying, rpm	:	
	Suction volume, l/min	:	
	Volumetric efficiency, %	:	
	Working pressure, kg/cm ²	:	
	Rated pressure, kg/cm ²	:	
	Pump discharge at rated pressure, l/min.	:	
	Rated speed, rpm	:	
	Maximum working pressure, kg/cm ²	:	
	Plunger dia./stroke, mm	:	
	Pressure regulator	:	
Method of mounting	:		
7	Chemical Tank:	:	
	Material	:	
	Capacity, l	:	
	Strainer at filling hole	:	
	Provision of drain plug in tank	:	
	Provision of hose reel	:	
8	Agitating Device:	:	
	Type	:	
	Method of working	:	
	Method of pressure regulation	:	
9	Spray Gun / spray lance:	:	
	Make	:	
	Type	:	
9.1	Discharge rate at 600 kPa pressure (l/min):	:	
	-Jet spray pattern	:	
	-Fine cone spray pattern	:	
	Spray angle of gun	:	

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	Spray gun designation and marking	:	
10	Nozzle	:	
	Type	:	
10.1	Discharge rate at 300 kPa pressure (l/min):		
	Jet spray pattern	:	
	Fine cone spray pattern	:	
	Spray angle of nozzle	:	
	Spray nozzle designation and marking	:	
	Number of nozzle	:	
	Country of origin	:	
11	Safety wear (for operator's safety during operation)	:	
12	Any other details:		
13	Overall Dimensions, mm		
	Length	:	
	Width	:	
	Height	:	
	Length of hose (m)	:	
14	Total mass, kg	:	
15	Mass with all accessories, kg	:	
16	Markings/Labeling plate:		

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MATERIAL OF CONSTRUCTION OF COMPONENTS OF SPRAYER

[As per Table No.-1 of IS: 11313-2007]

Sr. No.	Components	Materials (As per IS:11313-2007)	Material of the component
1.	2.	3.	4.
i)	Pump cylinder	Brass, stainless steel	
ii)	Pressure chamber	Brass, stainless steel	
iii)	Piston rod	Stainless steel,	
iv)	Piston or plunger	Gunmetal, stainless steel, plastics, Rubber, vegetable tanned leather, chrome tanned leather	
v)	Spreader	Brass, stainless steel, plastics	
vi)	Valve assembly	Brass, Stainless Steel, Plastics	
vii)	Roller pump shaft	Stainless steel	
viii)	Pump rollers	Nylon filled with lead	
ix)	Pressure regulators	Brass, stainless steel	
x)	Suction strainer	Brass, stainless steel, Plastics	
xi)	Strainer body	Brass, plastics	
xii)	Gasket	Rubber, PVC, fibre, Leather	
xiii)	Spray nozzles	Brass, stainless steel	
xiv)	Spray boom	Mild steel, Galvanized, iron Braided rubber	
xv)	Hose	Synthetic rubber, P.V.C	
xvi)	Tank	Galvanized iron, Brass, Fiber glass reinforced plastics, plastics	
xvii)	Pipe for agitator	Galvanized iron, Brass, PVC	
xviii)	Piston (bucket) screw	Brass, stainless steel	
xix)	Crank case	Aluminum alloy	
xx)	Roller pump body	Nickel resistant cast iron	
xxi)	Roller pump and plate	Nickel resistant cast iron	
xxii)	Roller pump rotor	Nickel resistant cast iron	
xxiii)	Piston pump crank shaft	Carbon steel	
xxiv)	Pump inlet port end fitting	Brass	
xxv)	Piston rod guide	Brass, Aluminum alloy, Gunmetal, Nylon	
xxvi)	Connecting rod	Carbon steel	
xxvii)	Gudgeon pin	Carbon steel	
xxviii)	Big end bearing	Steel coated with tin base white metal	
xxix)	Small end bush	Gunmetal	
xxx)	The material used for different components shall be declared by the manufacturer. All the components mentioned in the Table		Declared by the manufacturer

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	No.-1 of IS:11313-2007 may not be present in a particular sprayer.	
	Materials of components of spray lance, (as per IS: 3652-1995):	
xxxix	Spray lance	Brass, plastic, stainless steel
	Material of construction of nozzle component	
xxxii	-Body and cap	Brass, Engineering plastic, Stainless steel
xxxiii	- Swirl core	Brass, stainless steel, Engg. Plastics,
xxxiv	-Disc, tip,	Brass, ceramic, stainless steel,
xxxv	-Spindle, coupling nut & gland nut	Brass, Engg. Plastics, Stainless steel
	Material of construction of cut-off device:	
xxxvi	-Body, valve seat, gland nut, cap & collar, Valve stem	Brass, Engineering plastic, stainless steel

Date:

Place:

Signature:

Name of signatory:

Designation:

Name & address of firm:

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