

ICS 65.060.70
CCS B 91

LY

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

LY/T 3239-2020

**Garden machinery - Hand-held scanifier with lithium-ion battery
as power source
(English Translation)**

Issued on: December 29, 2020

Implemented on: June 1, 2021

Issued by: State Forestry and Grassland Administration

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Model preparation method
5 Basic parameters
6 Technical requirements and test methods

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents" Drafting.

1 Scope

This document specifies the terms, definitions, and models of hand-held rippers (hereinafter referred to as "Rippers") powered by lithium-ion batteries Compilation methods, basic parameters, technical requirements and test methods, signs, instructions for use, packaging, transportation and storage.

This document is applicable to rechargeable lithium-ion battery packs or battery packs powered by a nominal voltage not greater than 75 V under natural environmental conditions A ripper that is operated by a single person to loosen the soil where garden flowers and grasses and other similar plants grow.

This document does not apply to rippers whose power source is a universal battery pack (battery pack) installed by the user.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated reference documents, Only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document file.

GB/T 191 Packaging, storage and transportation pictorial signs GB/T 755 Rotating motor

rating and performance GB/T 3883.1-2014 Safety of hand-held and portable electric tools and garden tools Part 1: General requirements GB 4706.1 Safety of household and similar electrical appliances Part 1: General requirements GB/T 5395-2014 Forestry and Garden Machinery Vibration Measurement Specification for Portable Hand-held Operation Machinery Powered by Internal Combustion Engines vibration GB/T 9480 Rules for the compilation of manuals for agricultural and forestry tractors and machinery, lawn and garden power machinery GB/T 13384 General technical conditions for packaging of mechanical and electrical products GB/T 21418 General technical conditions for permanent magnet brushless motor systems GB/T 34570.1 Safety of rechargeable battery packs and chargers for electric tools Part 1: Safety of battery packs GB/T 34570.2 Safety of rechargeable battery packs and chargers for electric tools Part 2: Safety of chargers CJ/T 340 Greening planting soil LY/T 1621 Garden Machinery Product Model Compilation Method

3 Terms and definitions

The following terms and definitions apply to this document.

Scarifier scanifier

Powered by a lithium-ion battery pack (battery pack), a telescopic or pull-out lever is used as a joystick, and a tool with a loosening blade is operated by a single person.

It is a machine that works as the head to loosen the soil (as shown in Figure 1).

4 Model preparation method

The model preparation method of the ripper is carried out in accordance with the regulations of LY/T 1621.

The ripper takes the working width as the main parameter (in millimeters), and uses the nominal voltage of the battery pack as the main power parameter (in millimeters).

Is volts), and its model compilation method is shown in Figure 2.

5 Basic parameters

The basic parameters include.

- a) Adapt to the nominal voltage of the battery pack (battery pack),
- b) Adapt to the rated capacity of the battery pack (battery pack),
- c) Adapt to the nominal energy of the battery pack (battery pack),
- d) Adapt the charging time of the battery pack (battery pack),
- e) Adapt the discharge time of the battery pack (battery pack),

- f) Adapt to the rated input voltage of the charger,
- g) Adapt to the rated output voltage of the charger,
- h) Adapt to the rated output current of the charger,
- i) Blade rotation speed,
- j) noise,
- k) Working width, mm;
- l) Overall dimensions of product packing box (lengthxwidthxheight)
- m) Net weight of the whole machine (not including battery pack or battery pack)

6 Technical requirements and test methods

General requirements

6.1.1

The ripper should be able to be used normally under the following environmental conditions.

- a) The altitude does not exceed 1,000 m;
- b) The ambient temperature is within the range of 0 °C~40 °C;
- c) The relative humidity of the air does not exceed 90%;
- d) There is no flammable, explosive or corrosive gas in the work area.

6.1.2

During the inspection, the allowable deviations of the following measured values are.

- a) Time. ± 0.1 s;
- b) Blade rotation speed. $\pm 0.5\%$;
- c) Temperature. ± 2 °C;
- d) Humidity. $\pm 6\%$;
- e) The mass of the whole machine. 0.1 kg;
- f) Voltage. $\pm 1\%$;
- g) Current. $\pm 1\%$.

Matching motor performance

6.2.1 Requirements

For permanent magnet brushless motors, the performance of the motor should meet the requirements of GB/T 21418.

The performance of other motors should comply with the relevant regulations in GB/T 755.

6.2.2 Inspection

The performance of permanent magnet brushless motors is tested according to the method specified in GB/T 21418.

The performance of other motors shall be tested according to the method specified in GB/T 755.

Overall performance

6.3.1.1 Requirements

In an environment between 0 °C and 40 °C, there should be no undesirable phenomena such as jamming or non-starting when starting.

6.3.1.2 Inspection

Place the ripper in an environment of 0 °C and 40 °C for 24 hours, and then start it with no load, and start it continuously for 10 times.

The interval does not exceed 2 s, and observe whether there is any undesirable phenomena such as jamming or non-starting when starting.

6.3.2.1 Requirements

The no-load rotation speed of the blade should be within $\pm 10\%$ of the rated rotation speed.

6.3.2.2 Inspection

Take two fully charged battery packs, install one of them on the machine first, and run them idling in an environment with standard temperature, humidity and atmospheric pressure.

min pre-runs the machine. Then remove this battery pack, install another battery pack, start the machine for 2 min idling, and then test Measure the rotation speed at this time.

6.3.3.1 Requirements

The loosening depth should not be less than the length of the loosening blade teeth.

The working width should not be less than the working width marked in the manual.