

INSTRUCTION MANUAL
PORTABLE TAPPING MACHINE
FI-01



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Organization of this manual

This manual describes the features and operation of the Portable Tapping Machine FI-01.

The manual contains the following sections.

Outline

Gives basic information on the unit.

Panel Explanation

Briefly identifies and explains all parts of the unit, including controls, connectors, hammers, and adjustable feet.

Preparations

Explains how to prepare the unit for use and how to replace the hammer heads and fuse.

Operation

Describes the operation procedure and use of the manual operation knob.

Specifications

Lists the technical specifications of the unit.

FOR SAFETY

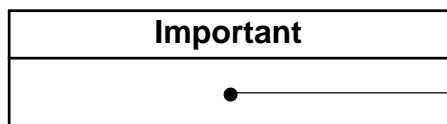
In this manual, important safety instructions are specially marked as shown below. To prevent the risk of death or injury to persons and severe damage to the unit or peripheral equipment, make sure that all instructions are fully understood and observed.



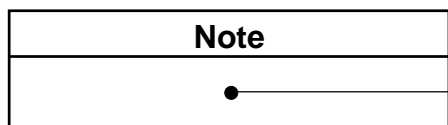
Disregarding instructions printed here incurs the risk of death or severe injury to persons.



Disregarding instructions printed here incurs the risk of injury to persons and/or damage to peripheral equipment.



Disregarding instructions printed here incurs the risk of damage to the product.



Mentioned about the tips to use this unit properly. (This messages do not have to do with safety.)

Precautions

- Operate the unit only as described in this manual.
- The weight of this unit is 17.5 kg. Take proper measures to assure safety when transporting or moving the unit. If necessary, employ several people.
- Do not drop the unit or subject it to vibrations or shock.
- Ambient conditions for operation of the unit are a temperature of -10 to +50°C and relative humidity from 10 to 90%.
Protect the unit from water or dust, extreme temperatures or humidity, and direct sunlight during storage and use. Also avoid air with high salt or sulphur content, gases, and the vicinity of stored chemicals.
- Always turn the unit off after use. When disconnecting cables, always hold the plug and do not pull the cable.
- Clean the unit only by wiping it with a soft, dry cloth or, when necessary, with a cloth lightly moistened with water. Do not use any solvents, cleaning alcohol or cleaning agents.
- Do not try to disassemble the unit. In case of an apparent malfunction, do not attempt any repairs. Note the condition of the unit clearly and contact your supplier.

⚠ CAUTION

The weight of this unit is 17.5 kg. Take proper measures to assure safety when transporting or moving the unit.

⚠ CAUTION

When power to the unit is turned on, do not place hands or feet under the hammers.

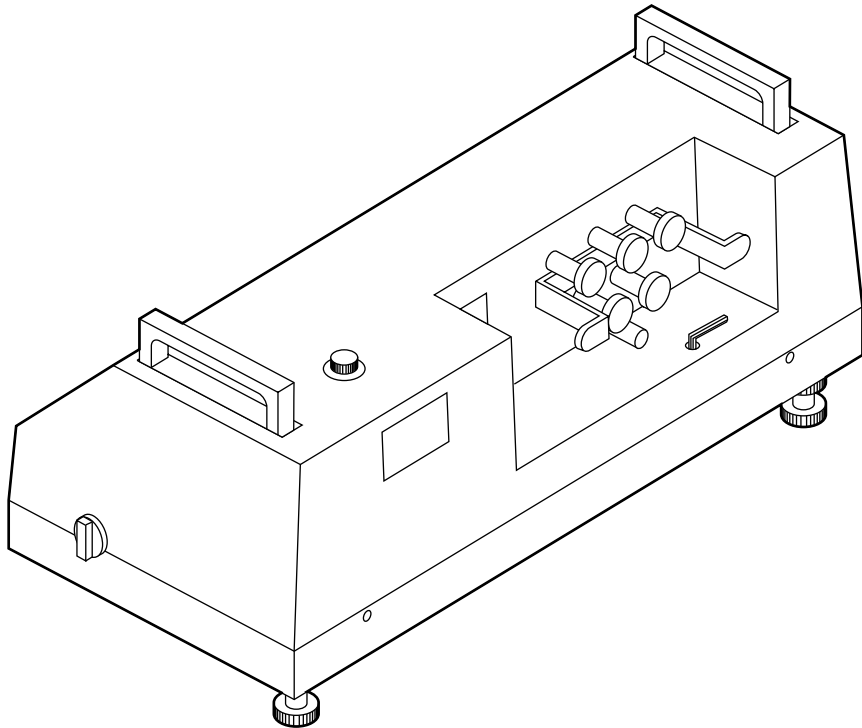
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Outline

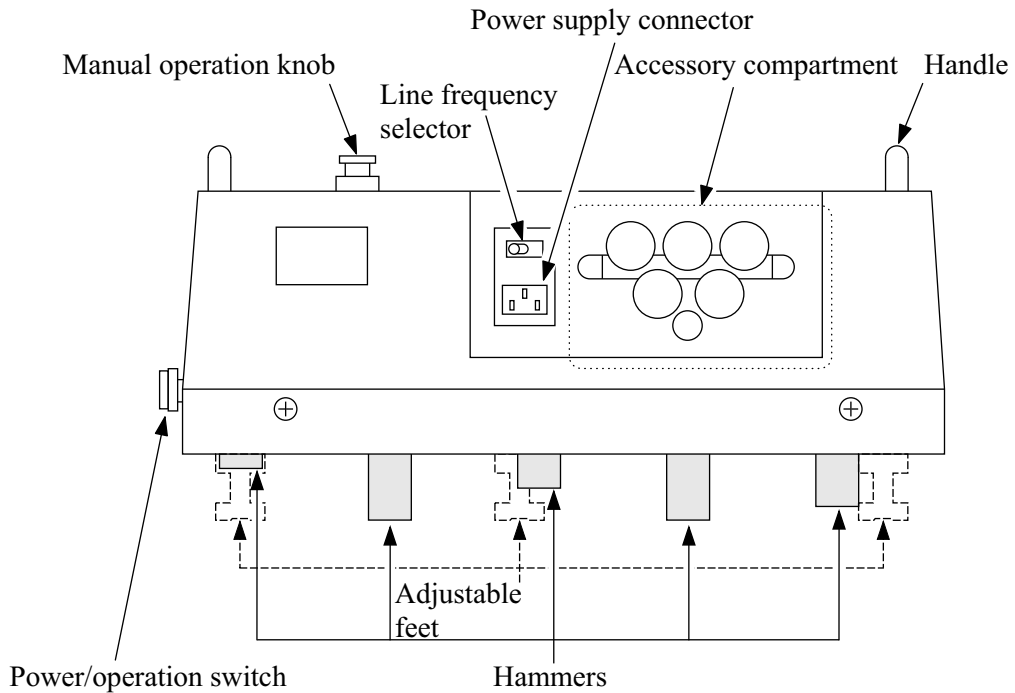
The FI-01 is a Portable Tapping Machine complying to the requirements for measurement of impact sound pressure level according to JIS A 1418-1:2000 and ISO 140-7:1998.

The unit possesses five cylindrical hammers with a diameter of 3 cm, arranged at 10 cm intervals. Two types of hammer heads can be used: stainless steel or rubber according to previous standard, ISO 140-7:1978. The unit is delivered with the stainless steel hammer heads mounted, and the rubber heads are included as accessories. The hammer mass (including hammer head) is approximately 500 grams. Impact frequency is 10 times per second, and impact speed is 88.5 cm/s.



Controls and Features

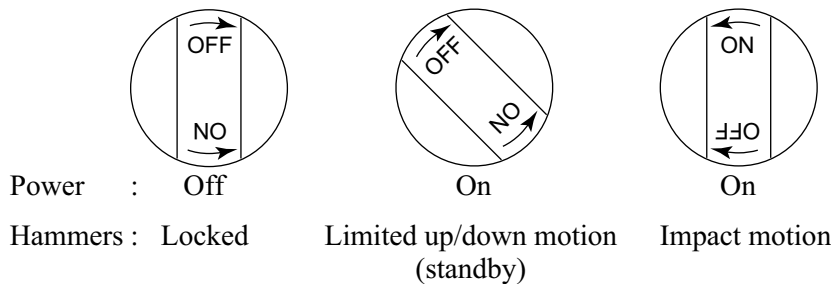
Front View



Power/operation switch

This switch controls power on/off, hammer up/down (standby), and impact on/off.

The positions of the switch are explained below.



⚠ CAUTION

When power to the unit is turned on, do not place hands or feet under the hammers.

Manual operation knob

Allows manual control of hammer operation.

Accessory compartment

Contains the rubber hammer heads according to previous standard, ISO 140-7:1978, height gauge, hex wrench, and power cord.

Line frequency selector

Set this selector to the position corresponding to the AC power line frequency used in your area (50 Hz or 60 Hz).

Power supply connector

Connect to a 100 V AC source.

Adjustable feet

Allow adjusting the unit height.

Handles

Used for moving the unit.

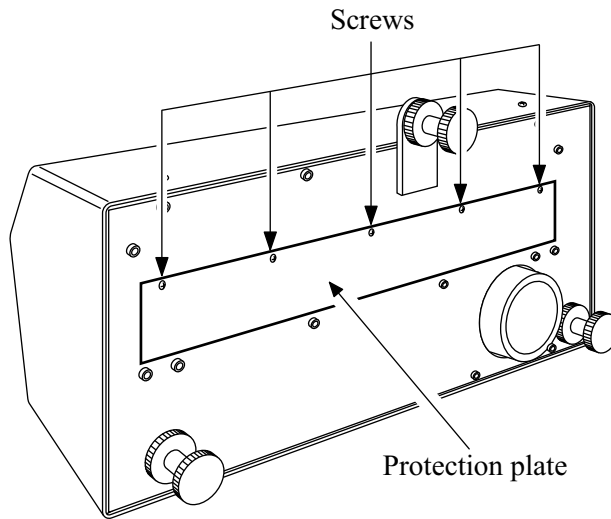
Hammers

Provide floor impact at the rated speed (88.5 cm/s).

Preparations

Removing the protection plate

Before using the unit for the first time, remove the protection plate on the bottom by removing the five screws.



Note

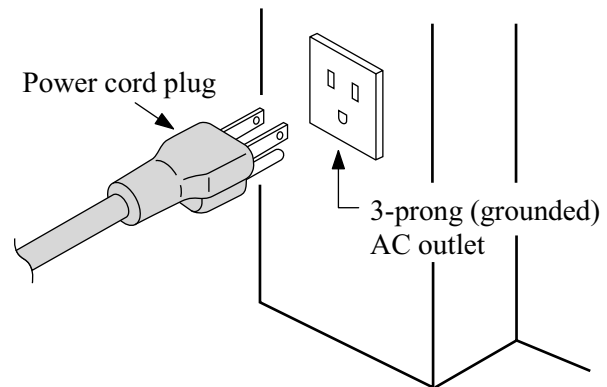
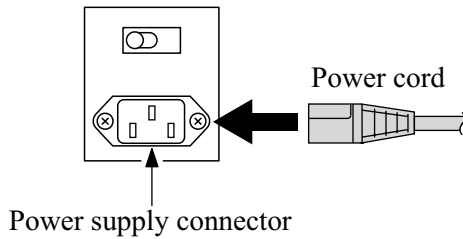
Store the screws and protective plate in a safe place.

Important

Before transporting the unit again, be sure to reattach the protective plate.

Connecting the power cord

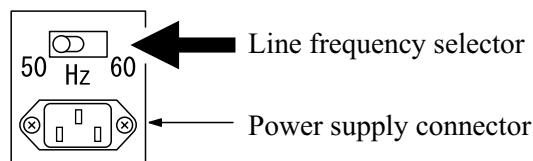
Make sure that the power/operation switch is set to OFF (OFF pointing up). Then plug the power cord into the power supply connector and plug the other end of the cord into a 3-prong (grounded) AC outlet.



Important

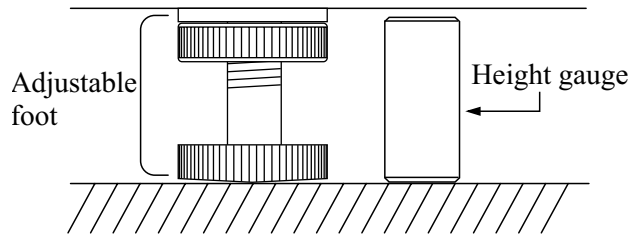
To prevent the possibility of electric shock, connect the power cord only to a 3-prong(grounded) AC outlet.

Set the line frequency selector to the position corresponding to the AC power line frequency used in your area (50 Hz or 60 Hz).

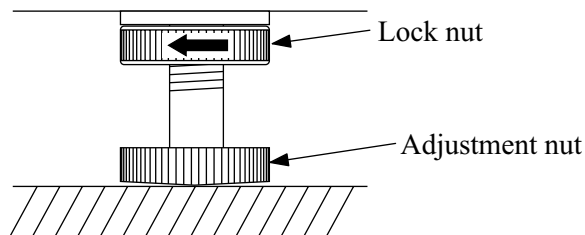


Adjusting the unit height

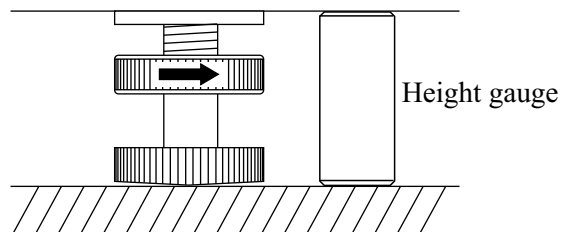
1. Place the unit on the floor where impact is to be applied.
2. Take the height gauge out of the accessory compartment by rotating the gauge counterclockwise.
3. Place the height gauge near an adjustable foot on the bottom of the unit.



4. Loosen the lock nut of the adjustable foot by turning it in the arrow direction, then adjust the height by turning the adjustment nut.



5. Fasten the lock nut of the adjustable foot by turning it in the arrow direction.

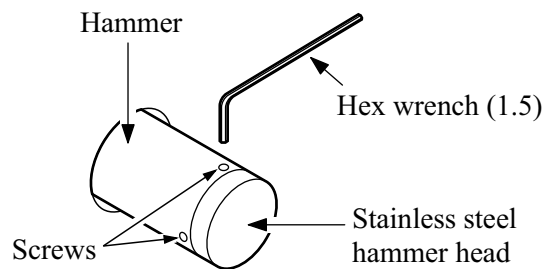


6. Adjust the other three feet in the same way.

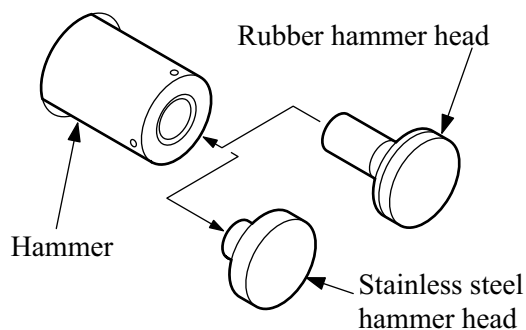
Replacing the hammer head

The unit is delivered from the factory with stainless steel hammer heads mounted. These heads comply to JIS A 1418-1:2000 and ISO 140-7:1998. If you want to use the rubber hammer heads (previous standard, ISO 140-7:1978), replace the heads as follows.

1. Carefully place the unit on its side.
2. Take the rubber hammer heads out the accessory compartment.
3. Loosen the two screws which fasten the current hammer head, using the supplied hex wrench (1.5). Then remove the hammer head.



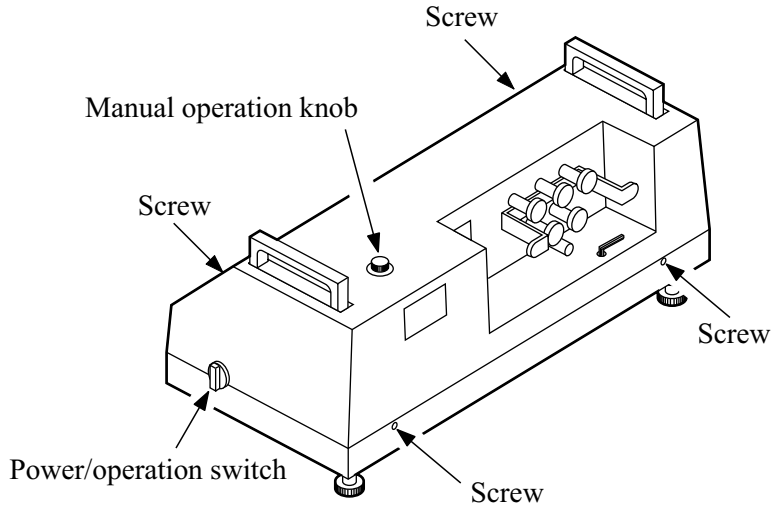
4. Place the rubber hammer head on the hammer, and fasten it with the screws.



5. Rotate the manual operation knob to bring out another hammer, and replace the hammer head as described above.

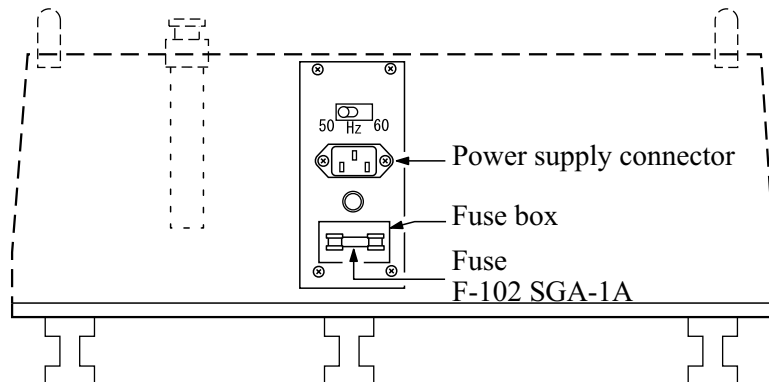
Replacing a blown fuse

1. Disconnect the plug of the power cord from the AC outlet.
2. Use a Phillips screwdriver to remove the four screws fastening the case of the unit.
3. Make sure that the power/operation switch is set to OFF (OFF pointing up). Then remove the knob of the switch with a hex wrench (2.5).



4. Remove the manual operation knob with a hex wrench (1.5).
5. Spread the case sideways at the bottom, and remove the case.

- Open the cover of the fuse box, replace the slow-blow fuse F-102 SGA-1A, and close the cover.

**Important**

Use only the specified fuse. Otherwise the unit may be damaged.

- Replace the case on the unit, and fasten the screws.
- Attach the power/operation switch knob and the manual operation knob. Fasten the knobs with the respective hex wrench.
- Turn the power/operation switch 45 degrees to the left and verify that the unit operates normally.

Important

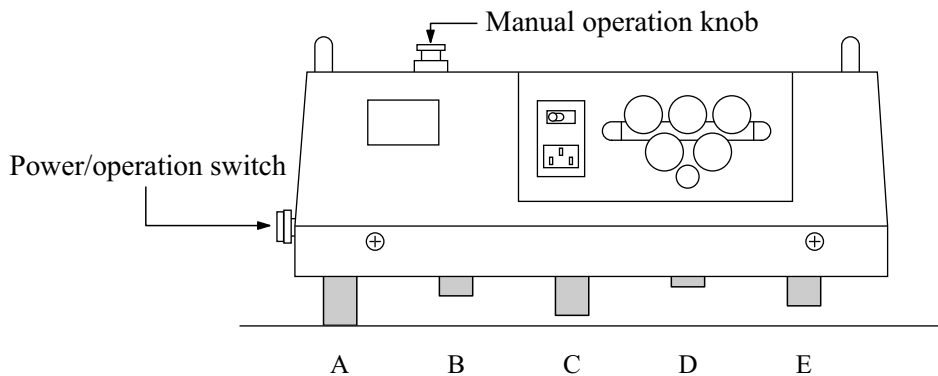
If the fuse blows repeatedly, the unit may be defective. Contact your supplier.

Operation

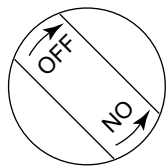
Manual operation knob

When operating the unit with the manual operation knob, do not connect the power source.

By turning the manual operation knob, you can move the hammers manually. The hammer operation sequence is A, C, E, B, D.

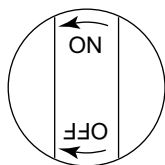


If the manual operation knob is used while the power/operation switch is set to the hammer up/down (standby) position, the hammers move up and down, but do not touch the floor.



Power/operation switch
Hammer up/down (standby) position

If the manual operation knob is used while the power/operation switch is set to the impact operation position, the hammers move up and down and touch the floor.



Power/operation switch
Impact operation position

Operation procedure

1. Make sure that all steps described in the section "Preparations" on pages 4 to 7 have been completed.
2. Turn the power/operation switch 45 degrees to the left and verify that the unit operates normally.
3. Turn the power/operation switch further to the left so that the ON indication points up.
Hammer impact operation starts.
4. Turn the power/operation switch to the right to return it to the standby position.

Important
When the power/operation switch is returned to the standby position, the hammers stop in the raised position (not contacting the floor). If the hammers stop in the lowered position, the unit may not be operating correctly. Contact your supplier.

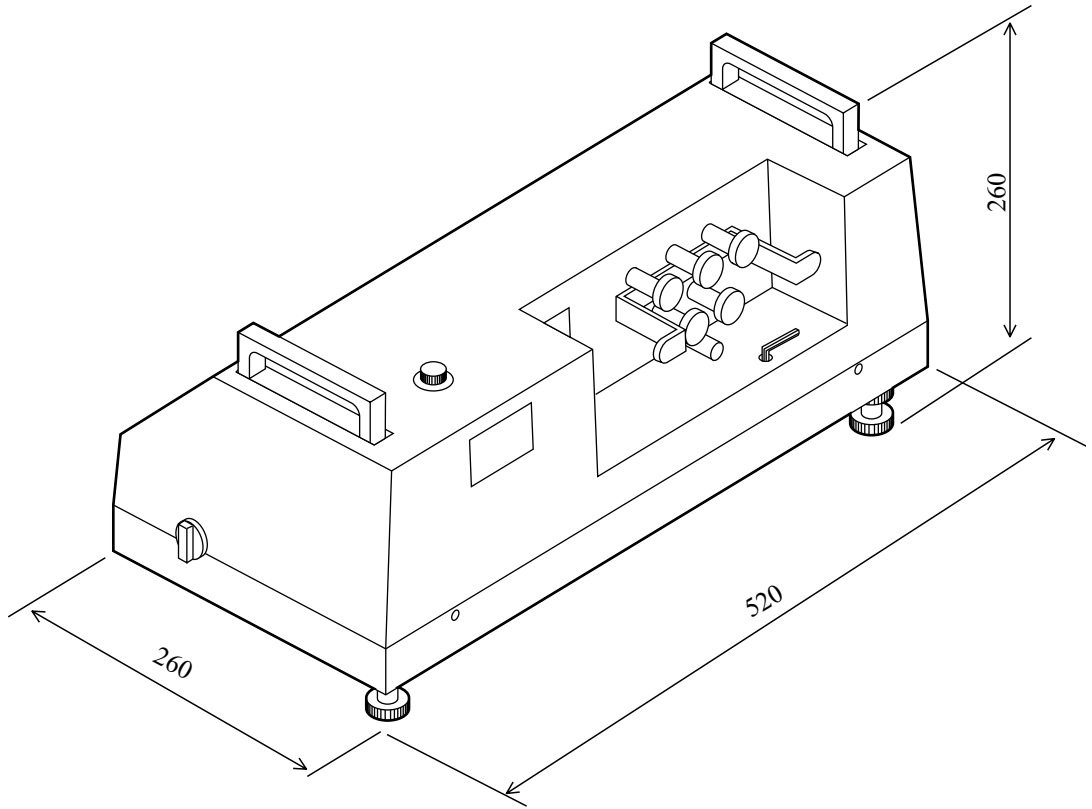
5. To terminate operation, set the power/operation switch to OFF (OFF pointing up). The hammers are locked.

Specifications

Applicable standards	JIS A 1418-1:2000, ISO 140-7:1998
Hammers	Cylindrical, linear arrangement of 5 hammers spaced 10 cm apart
Hammer heads	Stainless steel and previous standard, ISO 140-7:1978 compatible rubber
Hammer mass	500 ±5 g (including hammer head)
Impact frequency	10 per second
Floor impact speed	88.5 cm/s
Power requirements	100 V AC ±10%, 50/60 Hz, approx. 80 VA
Dimensions	Approx. 260 (H) × 520 (W) × 260 (D) mm (including protruding parts)
Mass	Approx. 17.5 kg (including accessories)

Supplied accessories

Height gauge	1
Old ISO 140-7:1978 compatible rubber hammer heads	5
Power cord	1
Slow-blow fuse (1 A)	1
Hex wrench (1.5)	1
Hex wrench (2.5)	1
Instruction manual	1



Unit: mm

Portable Tapping Machine FI-01 Dimensional Drawing

