

SANKO

NEEDLE & IRON PIECE DETECTOR

Model SK-1200Ⅲ
Instruction For Use



CAUTION

- Before use, read this INSTRUCTION MANUAL thoroughly and use the detector correctly and safely.
- Keep this MANUAL with care and refer to it usually.



SANKO ELECTRONIC LABORATORY CO., LTD.



- ★ Read this instruction thoroughly to become completely familiar with the operation to avoid possibility of mistakes in detection.
 - ★ Keep this instruction beside the detector for your reference.
 - ★ Any loss caused by missing needles through detections by this detector cannot be covered by the manufacturer and/or dealers. This detector is essentially aimed at decreasing the numbers of straying needles. Perfect detection of the needles are not warranted.
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- ★ In the event of any doubt arising, the original INSTRUCTION MANUAL in Japanese is to be final authority.

CONTENTS

	Page
1. PRINCIPLE, SPECIFICATIONS AND USE	1
2. NAME OF PARTS	2
3. INSTRUCTION FOR USE AND PRECAUTIONS	
3-1 PREPARATION	3
3-2 DETECTION (INSPECTION)	4, 5
4. SIX IMPORTANT POINTS FOR PREVENTING MISTAKES IN DETECTION	6
5. MEASURES TO BE TAKEN IN CASE OF TROUBLE	7
6. OTHER TYPES OF SANKO NEEDLE AND IRON PIECE DETECTORS	8
● DETECTION SUPPORT TYPE ACCESSORIES FOR EFFECTIVE DETECTION	6
● HOW TO ADJUST THE ALARM SOUND VOLUME	8

PRINCIPLE

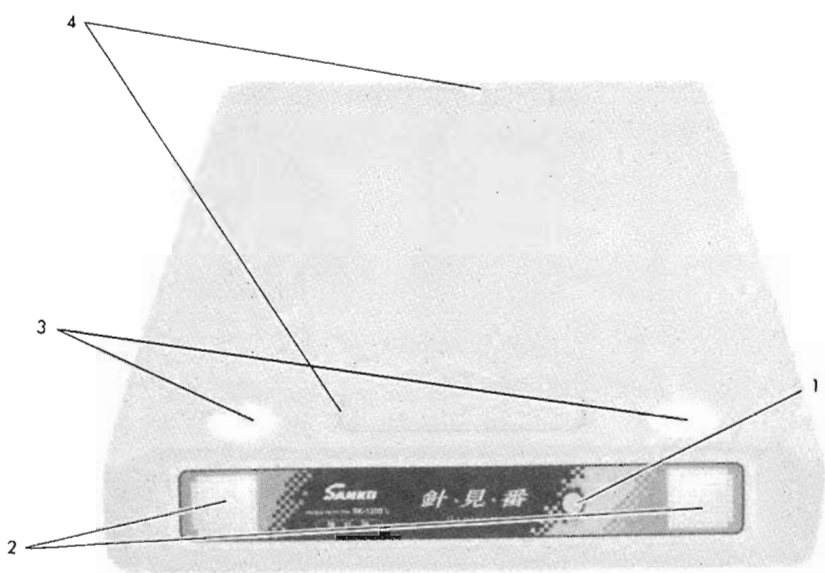
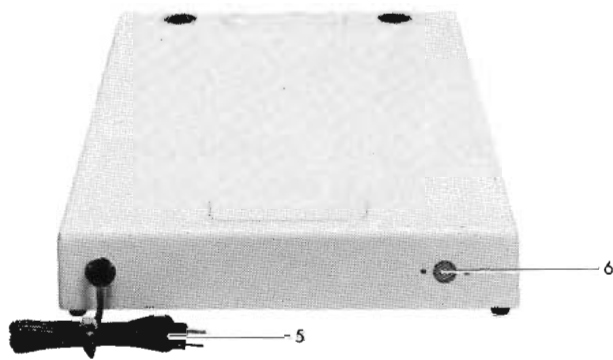
This instrument is a magnetic induction type needle and iron piece detector utilizing the characteristics of a permanent magnet becoming sensitive to iron or steel pieces. Iron products such as needles, pins, wires, etc., can be detected positively by a simple operation.

SPECIFICATIONS

- | | |
|-------------------------|--|
| 1. Type | Sk-1200 III |
| 2. Detection System | Magnetic induction method utilizing permanent magnet |
| 3. Alarm System | Flashing lights and built-in alarm of the ISM type |
| 4. Detection Capability | Maximum 7-8 cm above the surface of the detection area for the size of an iron-made setting pin ($\phi 0.7 \times L27\text{mm}$) |
| 5. Detection Area | 14cm (width) \times 55cm (length) |
| 6. Power Source | AC 220 V 50/60 Hz |
| 7. Power Consumption | 10W |
| 8. Dimensions & Weight | 40 (W) \times 7 (H) \times 60 (D) cm, 11kg |

USE

1. Detection of stray iron-made needles, broken needles and other iron pieces in textile products such as women's and children's clothings, gentlemen's suits, raincoats, beddings, etc.
2. Detection of iron-made needles, broken needles and other iron pieces in the manufacturing processes of felt, quilting, cotton, etc.
3. Detection of iron pieces which have been mixed as foreign matters or dangerous substances in raw materials and products of food, pharmaceuticals and chemicals.



NAME OF PARTS

- 1. Power source switch
- 2. Alarm flashing lights on front panel
- 3. Alarm flashing lights on upper surface
- 4. Detection area
- 5. Power cord plug
- 6. Alarm sound emission window

INSTRUCTION FOR USE	PRECAUTIONS
<p>● <u>PREPARATION</u></p> <p>1. Method of installing</p> <p>Place firmly on a flat surface where there is no vibration, or on a steady and stable wooden stand.</p>	<p>● <u>Place for Installing Detector</u></p> <p>a. Do not install at a place where there is vibration. Install the detector so that the 4 rubber legs rest evenly on the foundation.</p> <p>b. When installing on a stand, use a wooden stand which does not sway.</p> <p>c. Avoid to use on a steel or metallic stand as the detector is sensitive to iron or steel products. Also, precaution must be taken not to have clothes iron, scissors or other steel products near the detector. Remove the wrist watch or ring having on when operating.</p> <p>d. When using the detector inside ferro-concrete buildings, install the detector over 50 cm away from the wall or floor to avoid noise by steel frame or iron bar.</p> <p>e. Do not place motors or machines which produce magnetism near the detector.</p> <p>f. Keep away the magnetically memorized objects, such as magnetic floppy disks, cash dispenser card, magnetic tapes and others.</p> <p>Do not install the detector on or near a radio, stereo or television.</p> <p>There is strong magnetic field around the detector.</p>

INSTRUCTION FOR USE

2. Connect the power cord of the detector to a house light source

(AC  V).

3. Press the push button of the power source switch to ON.

* Confirm that the two alarm flashing lights each on the front panel and upper surface go on and the alarm sounds once.

* Next after 4-5 seconds, the alarm flashing lights blink and the second time alarm sounds.

* With above steps, the preparation has been completed and now proceed with the inspection.

PRECAUTIONS

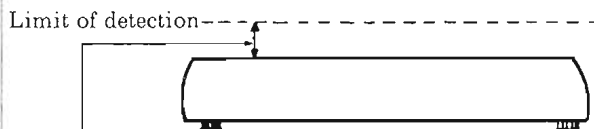
● Confirm the power source voltage.

If the different source voltage of the detector is used, the detector should be broken.

● One plug to one outlet

Multiple plugs to one outlet creates the noise of power source, etc., which causes the trouble.

● Detection Sensitivity



This height is called the detection sensitivity

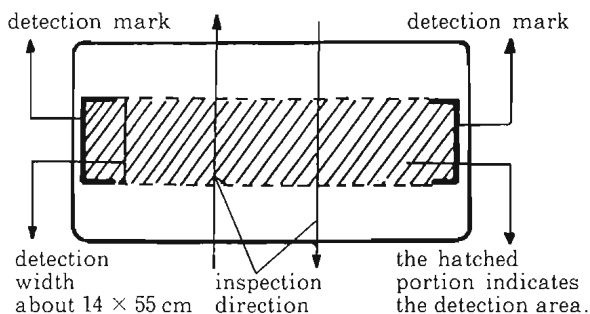
- a. Move any available needle or pin above the detection surface so that it crosses the surface (see next page drawing) and confirm that the upper surface and front panel flashing lights go on brilliantly and the alarm sounds. Also confirm at the same time the actual detection sensitivity by using a needle of the same kind, size, and shape expected to detect. (see d, e. page 6).
- b. Sometimes the buzzer will sound when the power source switch is pressed to ON but this will stop in a short time and is not trouble.

INSTRUCTION FOR USE

● INSPECTION

1. Move the object to be inspected (wearing apparels, beddings, etc.) so that it crosses the detection area sideways.
2. Needle or iron piece is present in the object being inspected if the alarm and flashing lights go on.
3. When the alarm and flashing lights go on, move the object to be inspected in small portions to find the exact location of the needle or iron piece.
4. There are cases in which more than 1 needle or iron piece is present. After 1 needle has been removed, inspect the clothing once more to confirm that the buzzer and flashing lights do not go on.

PRECAUTIONS



● What is the detection area?

This is the area in which needle and iron piece are sensed. Two brackets \square are indicated on the upper surface and the portion enclosed by the brackets is the detection area.

● How to move the object to be inspected

(women's and children's clothing, quilt, overcoat, etc.).

- a. It is necessary to move the object to be inspected. The appropriate speed to be moved is 50-80cm/sec. Generally to move speedily is better than to move slowly.
- b. Move the object so that every part of the object to be inspected crosses sideways some part of the detection area (refer to the detection area indicated in the upper drawing). A needle which does not cross the detection area cannot be detected even if it is present.

INSTRUCTION FOR USE

5. After inspection has been completed, press the power source switch to OFF.
6. Surely pull out the power cord plug from the source outlet, when not in use.

PRECAUTIONS

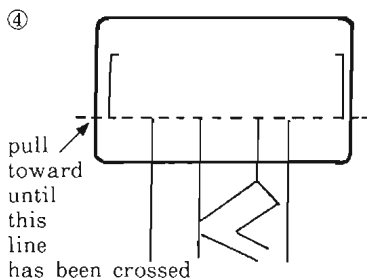
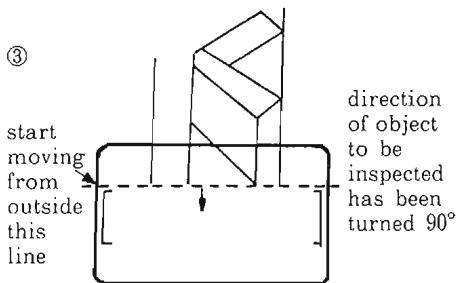
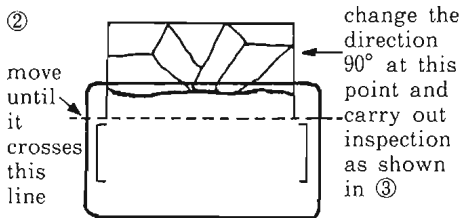
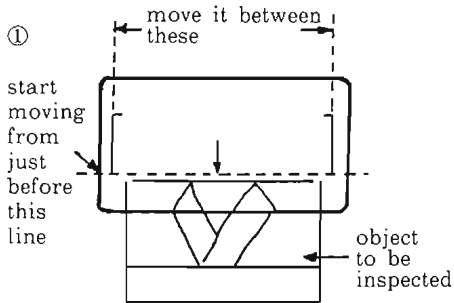
- c. In case the thickness of the object to be inspected is over 5–6 cm, turn the object over and inspect once more. Precaution must be taken as sewn object may appear to be thin but there may be some thick parts.
- d. Sometimes the detection sensitivity decreases depending on the direction of the needle in the object to be inspected, so that it is recommended to reinspect the object with the direction of inspection changed slightly. (Or inspection can be carried out by moving it in a circular direction). (See drawing on page 7).
- e. As a general rule, sensitivity will increase if the needle or iron piece is large and decreases if it is small. It will be desirable to carry out an experiment beforehand depending on the size of the object to be detected.

Detection support type accessories for effective detection (NC Products)

Buttons, fasteners etc., made of metallic materials are sometimes sensed and detected as needles. The detection support type accessories (NC Products) have been developed for decreasing reaction against needle detectors and improving detecting ability. Confirm whether accessories are detection support type or not, at the stage of planning and designing of clothes manufacture and inspection.

INSTRUCTION FOR USE

● One Example of Moving The Object To Be Inspected



6 IMPORTANT POINTS FOR PREVENTING MISTAKE IN DETECTION

1. Read the instruction and precautions carefully for correct use.

2. Always move the object to be inspected.

Move the object to be inspected to get the actual feeling.

(See precaution a. on page 5)

3. Always cross the object to be inspected on the detection area.

The object cannot be inspected, if it passes outside the detection area (See precaution b. on page 5).

4. Confirm the detection sensitivity usually using actual iron pieces.

As difference in detection sensitivity results depending on the material, shape, size, direction, speed of the iron piece and other factors, check it with the actual object.

Precaution must be taken particularly when detecting smaller objects than a pin such as broken needle or small piece of wire.

5. Shock, vibration, dust and humidity must be particularly avoided.

Select a place which is quiet, clean and dry not only when using but also for storage.

6. Remove the wrist watch or ring having on when operating.

It may cause the trouble such as noise, misalarm, etc.

● HOW TO ADJUST THE ALARM SOUND VOLUME

The alarm sound volume is set 「LARGE」 at shipment.
To change it 「SMALL」, operate as follows.

- ※ The detection sensitivity is not affected by changing the alarm sound volume.
- ① Press the power source switch to OFF.
- ② Pull off the power cord plug from the outlet.
- ③ Turn the detector over and take off **6** screws (**4** rubber legs and **2** nuts). Then open the back cover.
- ④ Turn the switch beside the buzzer opposite side.
The switch is inside the alarm sound emission window (**6. "NAME OF PART" on Page 2**)
- ⑤ When the operation is finished, restore the back cover to its former state.

● MEASURES TO BE TAKEN IN CASE OF TROUBLE

1. When flashing lights do not go on even when power source switch is pressed to ON.
 - a. Severed power cord.
 - b. Safety fuse in front of the detector is blown out.
Open the fuse holder and replace the glass tube sealed-in 1A fuse.
2. The flashing lights go on but the buzzer does not sound.
As this is trouble with the internal circuit, please contact our company.
3. The buzzer sounds but the flashing lights do not go on.
Loose **220V** date-shaped globes or severed wiring.
4. The buzzer sounds even when iron piece or needle is not present. Or, the buzzer continues to sound and does not stop.
 - a. The detector is not set firmly and is wobbly.
 - b. Clothes iron, scissors, machines, and other noise sources are present too close to the detector.
 - c. Needle or iron piece has been sucked into the detector.
Open the back cover and remove it.
 - d. The plug of the power cord is loose.
 - e. The same outlet is used for cloth iron, airconditioner etc., with the detector.
Besides these, outside noise can be considered as the cause.

If the cause of the trouble cannot be ascertained, please contact our office nearest you.

SANKO NEEDLE AND IRON PIECE DETECTORS FOR NEEDLE DETECTING SYSTEM

SANKO NEEDLE AND IRON PIECE DETECTORS have a variety of the full models capable of keeping up with various kinds of uses. These models are very helpful for improving the management of inspection and quality control.

APA-3000 (Sensitivity selectable table type)



New type for apparel reducing the noise from accessories.

SK-6 (Table type)



Small type saving space

TY-30 (New handy type)



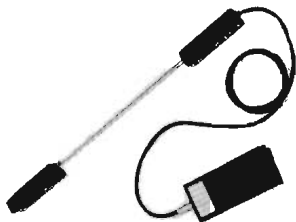
Selectable Wide or Spot Range for efficiency.

TY-20N (Handy type)



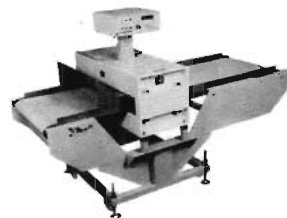
Handy in your pocket
Effective to locate needles

TY-20S (Stick type)



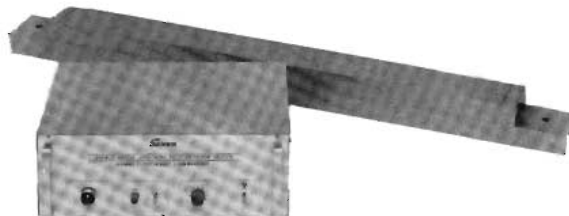
For items on hangers, etc.

Conveyer type SF series/APA-6000



Automatic and only belt-on

SK-12TR (Wide length type)



On-line system detection for cloth, textile, carpet, etc.
Up to 4 meters with the partial signal function.



Precision Measuring Instruments

Coating Thickness Meter
(Electro-magnetic and Eddy Current Types)

Pinhole and Holiday Detectors (High Voltage
Spark and Dampened Roller Types)

Needle and Iron Piece Detector

Infrared Moisture Meter (Balance Type)

Electric Moisture Meter (For Wood, Paper,
Mortar, Plaster, etc.)

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