

FEATURES :

1. Small and lightweight : Handy in your hand and pocket.
2. High sensitivity : Small needles are detectable if bringing them close. Also good for detection in a limited portion while avoiding accessories such as metal buttons etc.
3. Simple operation : Just switch ON and move on the object. The alarm sound and LED lamp warn you.
4. Dry battery source : 2 pieces of R6P which are got in electric appliances shops, supermarkets and convenience stores.
5. The best of delivery result : Handy type having the best of delivery result which can be used simply in various processes.

Uses :

1. Detection of stray needles in men's, women's, children's clothings, fur coat, kimono and other sewings.
2. Checking the location of needles, iron pieces which are detected by other type detectors such as conveyer types.
3. Detection of nails, iron pieces stuck in automobile tires. (except for steel belt tires) or wood, wall, etc.
4. Detection of needles, nails, staples, iron pieces strayed into food, medicines, packaged goods, etc.
5. Inspection of dangerous weapons (knives, pistols, etc.)
6. Detection of needles, nails stuck into human skin. Also for taking off hair pins etc., before MRI inspection.

Specifications :

Model :	Handy Type TY-20R
Detection method :	Permanent Magnetic Induction Method
Detecting ability :	Detectable distance is max. 3 to 4 cm in height above detecting surface for about iron pins.
Detecting width :	3 × 6 cm
Power source :	Dry batteries LR6, 1.5V × 2pcs.
Dimensions & weight :	60 (W) × 35 (H) × 145 (D) mm 260g.

SANKO

Precision Measuring Instruments

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SANKO

SANKO NEEDLE AND IRON PIECE DETECTOR

HANDY TYPE TY-20R
INSTRUCTION FOR USE



 CAUTION

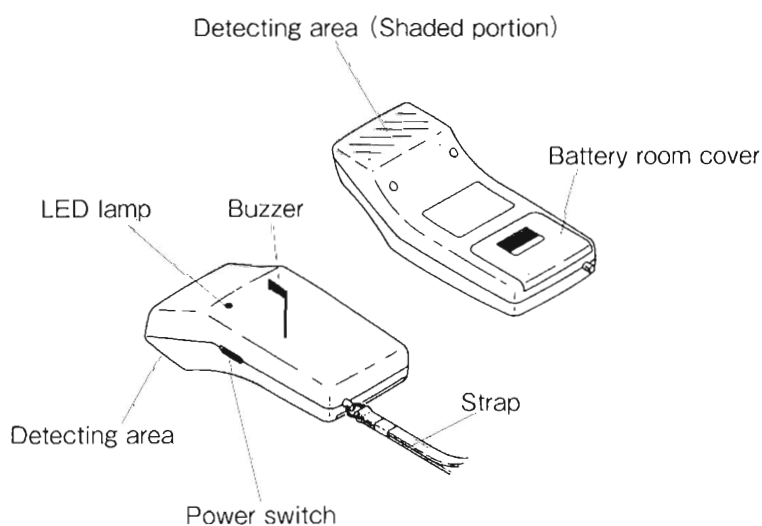
★ Read this instruction thoroughly to avoid mistake in detection.

INSTRUCTION FOR USE : (See Drawing)

1. **《Power ON》** Turn Power Switch ON and confirm [Beep Sound] . No sound or continuous sounding shows battery shortage. Surely change the batteries with new ones. (See Item 4) .
2. **《Confirm Detecting Ability》** Detecting ability depends on the distance from the needle and its size or materials. So test first and confirm the actual ability by moving the same kind and size needle you want to detect, at the applicable distance from the detection surface.
<Materials> Detectable materials are limited to iron. Be careful that needles and pins made of nonferrous materials such as stainless steel, brass, etc., cannot be detected.
<Size and Distance> The detectable distance is within max. 3 to 4 cm away from the detection surface in case of iron needles and pins of $0.7 \phi \times 27\text{mm}$ in length (See Specifications). The smaller the needles are, the shorter the detectable distance becomes.
3. **《Detection》** Hold the detector as the buzzer and LED lamp are in sight. Then move it right and left, also back and forth while touching the detection surface softly to the object for inspection. When needles or iron pieces are detected, the beep sound is emitted and also LED lamp goes on. Generally the more quickly it is moved, the higher the sensitivity becomes. After use, be sure to switch OFF.
4. **《Battery Change》** When Power switch is ON, if there is no sound or beeping sound continues, it's necessary to change the batteries. Open the battery cover at the back of the detector by sliding it according to **Open Mark "▼"** and change both batteries with new ones. Pay attention to the expiration of the time limit of batteries.

PRECAUTION :

- This detector aims to support the efficiency and simplification of detecting or inspecting works against iron needles or pieces.
- Before starting inspection, surely check the **battery and the detecting ability** according to "Item 1 and 2 of the instruction for use" above mentioned.
- Don't use near iron or metal products such as steel desks, scissors, hangers. Also keep away a wrist watch, magnetic card, etc.
- Accessories made of non-magnetic metal such as brass, aluminum, etc., may be sensed in some cases as iron needles depending on the size or plating method of the accessories. Recommend to use "the detection support type accessories".
- Move the detector smoothly. Strong shake will cause errors.



PRINCIPLE :

The permanent magnet with coil induces electromotive force in its coil when iron pieces are moved near it. This force is amplified and converted to the alarm sound for the notice of stray needles or iron pieces. This type is so small and light as to move itself instead of moving iron pieces or the objects. Our original device of coil, magnet, and circuit have been adopted to exhibit the high detecting ability.