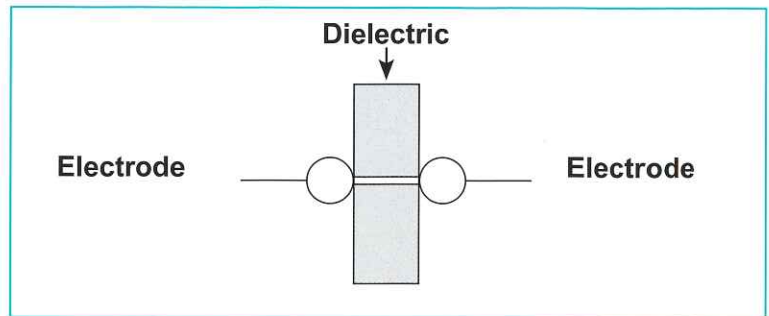


## Principle

When the insulating film(Dielectric) having a small penetrating hole is placed between the electrodes and the high voltage is loaded in the electrodes, the insulation of the air is broken and the electric current will flow with discharge.

Pinholes and holidays are detected with the detector which reacts to the change of the electric current affected on the discharge phenomenon.

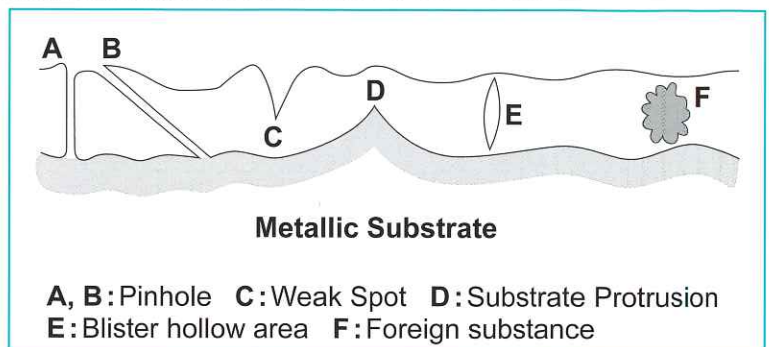


A

## Applications

Sanko Pinhole and Holiday Detectors detect pinholes, holidays, similar defects, etc. in insulated films applied to a metallic substrate. Pinholes and holidays remarkably decrease anti-rust and anti-corrosive effects of various insulating films, coatings and linings.

These Detectors microscopically catch various defects, so that pollution, contamination, a loss of resource and energy caused by corrosion, etc. can be previously prevented.



### Inspection/test is applied to the following items;

- 1) Paint coatings of buried pipes used by water, gas and electric public utilities.
- 2) Linings requiring the chemical resistance of machinery, tanks, pipes and valves of chemical plants.
- 3) Anti-corrosive paint coatings and linings of ships, ship equipment, coastal and marine installations.
- 4) Anti-corrosive paint coatings and linings of antipollution equipment etc. dealing with contaminated gases and liquids.
- 5) Anti-rust and anti-corrosive paint coatings and linings of buildings, structures and machinery installations which are apt to be exposed to various pollution elements.
- 6) Anti-corrosive paint coatings and linings of porcelain enamel bathtubs, resin coating bathtubs and equipment and machinery in hot spring resorts.
- 7) Paint coatings and linings of large structures, equipment, etc. needed expensive costs for repairing.
- 8) Anti-corrosive paint coatings and linings of the important parts constructing precision instruments, electric equipment, etc.

Note: Please contact us for the inspection of rubber linings.

## Special features

- 1) These Detectors are high detectable efficient with no harm to coatings and linings because of the low frequency pulse discharge and the low current output.
- 2) Wholly coated area can be also inspected with the indirect grounding.
- 3) Coated films can be inspected with the suitable voltage for each characteristic, thickness and purpose of detection.
- 4) As the detecting voltage is displayed on the meter, misinspection caused by the excessive or the insufficient voltage can be avoided.
- 5) Pinholes and defects are advised with the buzzer and/ or the lamp by the simple operation only pressing the probe electrode against an object to be examined.
- 6) These Detectors provide with low current flow, high voltage output circuit and safety remote switch considering the safety of the operation.



## TR Series

*High Voltage, Pulse Discharge type*

**TRC-250A/250B (5-25kV)**

**TRC-70A/70B (1-7kV)**

SANKO TR Series Pinhole and Holiday Detectors all employ solid state, completely transistorized, low frequency electrical pulse generators. The use of such pulse generators is the most suitable method for detecting holiday and pinhole defects in all kinds of non-conductive coatings that are applied to electrically conductive surfaces.

Output voltages are variable on all SANKO TR Series Detectors which are provided each with a peak voltage reading meter for the selection of appropriate voltages for required tests.

SANKO TR Series Pinhole and Holiday Detectors are widely used abroad as well as in Japan.



## SPECIFICATIONS

Model	TRC-250A	TRC-250B	TRC-70A	TRC-70B
Type	Low frequency, High voltage, Pulse discharge type			
Output voltage	5-25kV (Peak value)		1-7kV (Peak value)	
Applicable thickness	1mm and over		1mm or less	
Power source	Built-in Ni-MH battery with battery check function			
Recharging Power source	AC 100-240V, 50/60Hz, 30-20VA			
Operating hours	Approx. 6 hours (Max. output voltage)		Approx. 10.5 hours (Max. output voltage)	
Alarm method	Lamps	Lamps & Buzzer	Lamps	Lamps & Buzzer
Operating temperature	0 ~ 40°C(Non-condensing)			
Probe(Standard attachment)	ABS-made flexible probe (handle $\phi 32$ , head $\phi 25$ , length: Min.540mm - Max.870mm) with brush holder, cord (5m for high voltage)			
Standard accessories	Probe case, Grounding cord 5m, Safety switch cord 5m, Recharging cord 2m, Flat type brush electrode (30x300mm brass) 2pcs, approx. 2.2kg			
Dimensions	370(W)×190(H)×150(D)mm			
Weight	4.9kg		3.9kg	

Model name TRS-250 / 70 are available with AC power source.

## HOLYSTAR Series

*Low Frequency, Compact type*

**HOLYSTAR-15N (5-15kV)**

**HOL YSTAR-5N (1-5kV)**

SANKO HOLYSTAR Series are smaller, more simplified devices for easy operation, lightweight portability and low cost.

They are suitable for testing coatings of smaller objects such as small tanks, machinery, parts. etc., repaired areas and on the spot at poor staged high places, narrow spaces, etc.





## SPECIFICATIONS

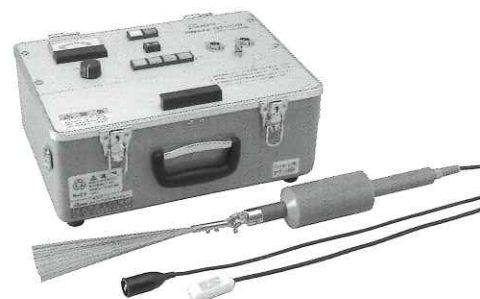
Model	HOLYSTAR-15N	HOLYSTAR-5N
Type	Low frequency, High voltage, Pulse discharge type	
Output voltage	5-15kV (Peak value)	1-5kV (Peak value)
Applicable thickness	0.8-5mm	less than 1mm
Power source	Built-in Ni-MH battery with battery check function	
Recharging Power source	AC 100V, 50/60Hz, 80VA	
Operating hours	Approx. 2.5 hours (Max. output voltage)	Approx. 5 hours (Max. output voltage)
Alarm method	Lamps & Buzzer	
Operating temperature	0 ~ 40°C (Non-condensing)	
Probe(Standard attachment)	PVC, with brush holder, Length : $\phi 60$ (Grip $\phi 26$ ) x330mm Grounding cord (5m) 1pc, Probe cord (1.5m) 1pc	
Standard accessories	Flat type brush electrode(30x150mm brass) Recharging cord (1m) 1pc, Soft case 1pc, Attache case 1pc. approx. 2.6kg	
Dimensions	70(W)×120(H)×220(D)mm	
Weight	1.1kg(Without probe & accessories)	

## TRK-330N

### High Power, Pulse type

SANKO TRK-330N is particularly useful where high power voltage is required, or when excessive voltage drop is incurred with ordinary detectors as a result of special conditions of testing location, weather, testing object, coating thickness, etc.

Unlike high voltage DC types, there is no residual voltage discharge.



## TO-250D

### High Power, DC type

SANKO TO-250D can be used with the long connecting lead and provides with stable output voltages.

It is suitable for locating pinholes in thick rubber linings and porcelain enamel, etc.

The residual electrical potential charge which should be discharged may be present on tested objects after testing.



TO-5DP

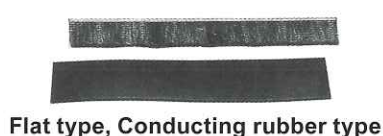
## SPECIFICATIONS

Model	TRK-330N	TO-250D
Type	Low frequency, High voltage, Pulse discharge type	DC High voltage, Discharge type
Output voltage	5-30kV (Peak value)	1-25kV
Alarm method	Lamps & Buzzer	
Probe(Standard attachment)	PVC $\phi 60$ (Grip $\phi 26$ )×375mm Cord : 5m, approx. 1kg	ABS-made flexible probe (handle $\phi 32$ , head $\phi 25$ , length: Min.540mm - Max.870mm) with brush holder, cord (5m for high voltage)
Power source	Built-in Ni-Cd battery	AC 100 - 240V, 50/60Hz, 100VA
Recharging Power source	AC 100V, 50/60Hz, 30VA	—
Accessories	Grounding cord 2pcs (5m with clip) Safety switch cord (5m) 1pc Recharging cord (1.5m) 1pc Radial brush electrode 1pc	Probe case 1pc, Grounding cord (5m, 10m with clips) 2pcs, Power source cord (5m) 1pc, Flat type brush electrode (30×300mm, brass) 2 pcs, Safety switch cord (5m) 1pc
Dimensions	400(W)×200(H)×290(D)mm	250(W)×150(H)×350(D)mm
Weight	Approx. 6.5kg	7.5kg

DC High voltage type TO-5DP that is low voltage and used for Pinhole detection of relatively thinner films is also available.  
(Custom-made upon request)



## Optional Electrodes for TR Series



Flat type, Conducting rubber type



Cylindrical type



Cylindrical brush holder  
Wheel brush holder  
Circle brush holder



Circle type electrode



Wheel type brush with optional cable



Aluminium case

## PH Series

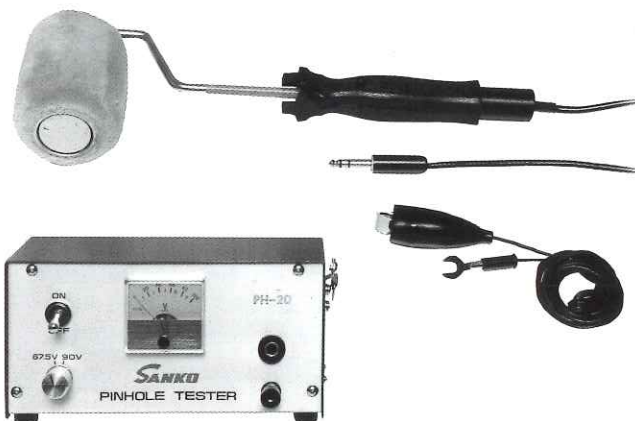
*Dampened Electric Resistance type*

**PH-1S(150-400V), PH-20(67.5 / 90V)**

SANKO PH Series are small-sized and lightweight pinhole and holiday detectors for thin conductive coatings.

Since applied voltages are low, they are also applicable for the pinhole detection of coatings which have weaker insulation characteristics.

They are so-called "Dampened electric resistance types" since the woolly roller electrode is dampened with tap water, salt water, alcohol or soapy water before use.



## SPECIFICATIONS

Model	PH-1S	PH-20
Detecing voltage(DC)	150 - 400V	67.5 / 90V
Alarm method	Lamp(LED), Buzzer	
Alarm point	500kΩ or less at 240V	80kΩ or less
Short-circuit current	3mA or less	2mA or less
Power source	AC 100V, 50/60Hz	Dry battery R20P(1.5V) 2pcs
Probe	Electrode : Woolly roller type φ65×110mm Handle part : PVC, Built-in alarm lamp, φ28×180mm, cord (3m)	
Accessories	Grounding cord 1pc, Carrying case 1pc, Probe case 1pc	
Dimensions	230(W)×130(H)×110(D)mm	180(W)×80(H)×90(D)mm
Weight (Main body)	1.1kg	1kg

## SANKO LINE OF BUSINESS

- Needle and Iron piece detectors
- Infrared moisture meters
- Electric moisture meters (for Wood, Paper, Mortar, Plaster)
- Coating thickness meters (Dual type & Electro-magnetic & Eddy current type)
- Pinhole detectors (High voltage spark type and dampened type)