



## Wire & Cable Industry Products



### ● High Frequency Inline Induction Preheaters

KatCon make High Frequency Inline Induction Preheaters are designed to meet the needs of continuous production systems. They are used in extrusion lines for insulating wire conductors to improve the adhesion of insulation material on the conductor. It ensures an even flow of insulating as the temperature of the conductor remains constant throughout the run.

The Preheater operates as a completely independent standalone unit. It works on a principle of Induction Heating.

Preheaters are featuring dynamic and free running pulleys of shorting (conductive) and insulating (with Ceramic Rings) type. An alternating electromagnetic field is applied from a solid state electronic power controller with accurate and continuous line speed feedback. It provides correct secondary voltage as per desired settings and in turn, a correct preheating temperature. The wire or conductor to be heated, passes through the induction coils between shorting and insulating pulleys.

#### Features :

- Solid State Closed Loop Control
- Reliable, In Process heating
- Dynamic and free running pulleys
- Insulating pulleys with ceramic rings for low inertia, low heat loss, avoids wearing because of use
- Sturdy, rugged mechanical construction suitable for higher line speeds

- High Frequency Inline Induction Preheaters
- Spark Testers
- Spark Tester Calibrator
- Breakdown Tester



#### Advantages :

- Even heating of conductor ensures that no cold patches occur at any line speed
- Ensures correct Plastic Flow on the conductor
- Eliminates Cold Wire Shrinkage
- Eliminates Plastic Cracking due to the cold wire bending
- Avoids wastage of costly raw materials
- High Quality end products





**Models Available:**  
High Frequency Inline  
Induction Preheater Models

IPH-HF-30 and IPH-HF-40



## Technical Specifications :

### High Frequency Inline Induction Preheaters

Model	IPH-HF-30	IPH-HF-40
Wire Material	Copper/Aluminium	
Wire Size (Solid Single or Stranded)	0.5 mm <sup>2</sup> to 4 mm <sup>2</sup>	0.5 mm <sup>2</sup> to 16 mm <sup>2</sup>
Maximum & Minimum Line Speed	800 MPM - 300 MPM	800 MPM - 150 MPM
Maximum Wire Temperature	120°C	120°C
Power Output	18.5 KW	37 KW
Maximum Loop Voltage	30 Volts	30 Volts
Induction Frequency	500 / 400 Hz	500 / 400 Hz
Indications	Power ON, Heat ON, Heat OFF, Secondary Voltmeter	
Controls	'Power ON/OFF' Switch, 'Set Heat' Potentiometer, 'Power ON' 'Heat ON/OFF' Pushbutton, 'Auto/Manual' Mode Selector Switch	
Pulley Size & Type	1 No. Conductive Double U Groove Pulley 260 mm dia 4 Nos. Ceramic Ring Type Insulating U Groove Pulleys 120 mm dia	
Input Power Supply	3 Ph., 415V AC ± 10%, 50/60Hz ± 2Hz	
Controller Type:	Electronic Power Controller to monitor & control the primary voltage of Induction Coil/Transformer	
Construction:	Free standing & Floor mounting type, Powder coated unit with an acrylic window	
Size: (H X W X D)	1755mm X 650mm X 700mm	

## ● Spark Testers

KatCon make Spark Testers are designed for testing the insulation or sheathing of the cable during extrusion, winding processes. The unit is capable of performing non destructive integrity testing on all types of insulated cables detecting pinholes, cuts, slits, bare patches, etc. in cable insulation.

The Spark Tester consists of a High Voltage Electrode Unit with High Voltage Transformer and an Electronic Control Unit which has a highly reliable solid state structure and requires minimal maintenance.

Ball Chain assembly used in H.V. Electrode Unit which is in contact with the surface of the cable under test and combines with the resulting corona in H.F. Spark Testers to form an extremely effective contact zone around the cable insulation.

This unique feature ensures that the actual voltage displayed on kV meter is applied accurately and consistently to the cable surface even if the bead chains do not touch the cable from all sides. A pre-adjusted and extremely sensitive fault detection circuit detects all the faults in the cable insulation at proper voltage settings. These spark testers are able to detect all the faults which are detected in water immersion testing of cables.

The interlock with the electrode unit cover protects the operator from accidental contact with the electrode.

### Types of Spark Testers :

- AC High Frequency Spark Testers
- AC Mains Frequency Spark Testers
- DC Spark Testers

### Types of Electrodes :

- Ball Chain Electrode
- Twinner Electrode



## High Frequency Spark Testers DC Spark Testers & Mains Frequency Spark Tester

### ■ High Frequency Spark Testers with Analog Indications :

- **Model ST-10 :**  
0.5 kV to 10 kV AC RMS at 3 kHz +/- 0.5 kHz Sine Wave with Ball Chain Electrode
- **Model ST-15 :**  
0.5 kV to 15 kV AC RMS at 3 kHz +/- 0.5 kHz Sine Wave with Ball Chain Electrode
- **Model ST-TW-10 :**  
0.5 kV to 10 kV AC RMS at 3 kHz +/- 0.5 kHz Sine Wave with 10/11 pair Group Twinner Electrode

### ■ DC Spark Testers with Analog Indications

- **Model STD-10 :**  
0.5 kV to 10 kV DC, with Ball Chain Electrode
- **Model STD-TW-10 :**  
0.5 kV to 10 kV DC, with 10/11 pair Group Twinner Electrode

#### Features :

- Non destructive testing
- Highly reliable Solid State Electronics
- Compact construction requires very small floor space
- Testing confirming to latest National and International Standards No. IS:10810 (Part 44) - 1984
- Reveals all holes and weak spots in the insulation
- Provides Fault Detection Signal for the control of external lights, alarms or machines through the use of isolated relay output
- Optional Mounting Stand

### ■ Mains Frequency Spark Testers With Digital Indications

- **Model STA-15 :**  
0.5 kV to 15 kV AC RMS at 50 Hz
- **Model STA-25 :**  
0.5 kV to 25 kV AC RMS at 50 Hz
- **Model STA-30 :**  
0.5 kV to 30 kV AC RMS at 50 Hz

#### Features :

- All Models with mounting stands
- Electrode centre height is adjustable between 750 mm to 1100 mm from ground level to suit cable line height
- Sturdy and rugged mechanical structure
- Trolley type arrangement useful to move/shift Spark Tester easily from one line to another
- Testing confirming to IS : 10810 (part 44)



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## Spark Testers Specifications:

Type of Spark Tester	High Frequency Spark Testers	DC Spark Testers	Mains Frequency Spark Testers
Input Supply	1 Ph., 230 V AC $\pm 10\%$ , 50 Hz		
Output Voltage	0.5 to 10 kV AC RMS for Models ST-10, ST-TW-10  0.5 to 15 kV AC RMS for Model ST-15	0.5 to 10 kV DC for Models STD-10, STD-TW-10	0.5 to 15 kV AC RMS for Model STA-15  0.5 to 25 kV AC RMS for Model STA-25  0.5 to 30 kV AC RMS for Model STA-30
Output Frequency	3 kHz $\pm$ 0.5 kHz Sine Wave	0 Hz	50 Hz $\pm$ 2 Hz Sine Wave
Front Controls	Power ON/OFF, Set kV Potentiometer, Test/Reset Push Buttons, HV ON/OFF Push Buttons and Auto/Manual Mode Selector Switch		
Indications	Output kV Meter (Analog/3 $\frac{1}{2}$ Digit), % Load Meter (Analog), Power ON, Fault Trip LED Indication, Flasher cum Buzzer		Output kV meter digital display
Electrode Types	Ball Chain Type of 40 mm length / 10 Pair Group Twinner	Ball Chain Type of 40 mm length / 10 Pair Group Twinner	Ball Chain Type of 330 mm Length
Max. Line Speed	2500 m/min	2500 m/min	500 m/min
Max. Cable Diameter	18 mm	18 mm	120 mm
Fault Counter	6 Digit Electro-mechanical, Incremental and Resettable		
Output Contact	1 Changeover rated @ 2 Amp., 250 V AC Resistive		
Mode of Operation (Site Selectable)	Continuous High Voltage (Extrusion Mode) or Test Voltage Interrupted on Fault (Rewinding Mode)		
Mounting Stand	Optional	Optional	All Models with Stand
Applications	High speed tandem lines, House/control cable lines	Group Twinning lines	Sheathing & Rewinding lines

## ● Spark Tester Calibrator

KatCon make Spark Tester Calibrator is useful for periodic calibration of AC High Frequency, AC Mains Frequency and DC Spark Testers of any type and from any manufacturer.

This versatile instrument is a must for Quality Assurance and Conformity which is required for ISO 9001-2000 Standards.

For Spark Testing with constant and comparable sensitivity on Insulating, Winding and Sheathing Lines, it is very essential to calibrate the spark tester with a Spark Tester Calibrator.

KatCon make Spark Tester Calibrator Model STCAL-2K is designed to meet the requirements of relevant Indian and International Standards for Spark Testers. IS:10810 (Part 44) - 1984

We can measure the test voltage & test voltage frequency with the help of Spark Tester Calibrator.

Incorporating Digital Voltmeter, this versatile Calibrator is used for both Voltage Calibration and measurement of Fault Detection Sensitivity of any make and type of Spark Testers.

**The Spark Tester Calibrator includes,**  
Measurement and Display Circuits for,

- Test Voltages upto
  - 15 kV RMS for AC High Frequency Spark Testers
  - 30 kV RMS / DC for AC Mains Frequency / DC Spark Testers
- Test Voltage Frequency upto 4000 Hz

Artificial Fault Device

- Checks the sensitivity to faults according to the relevant standards
- Selection of Air Gap and Impedance
- Digital Counter to indicate number of revolutions for artificial faults

Types of Measurements for the test voltage and short circuit current

- Average
- RMS
- Positive and Negative Peak value



## Technical Specifications :

### General

Parameter	Specifications
Mechanical Dimensions	490 x 270 x 280 mm
Total weight of Calibrator	15 kg
Input	1 Phase, 230 V AC $\pm$ 10%, 50 Hz $\pm$ 2 Hz
Power Rating	300 VA

### For Measurements of Test Voltage

Parameter	Specifications
Input Impedance	100 M $\Omega$ for AC Mains Frequency & DC Spark Testers 40 M $\Omega$ for AC High Frequency Spark Testers
Max. Test Voltage	15 kV at max.4000 Hz for AC High Frequency Spark Testers 30 kV RMS / DC for AC Mains Frequency / DC Spark Testers

### For Artificial Fault Device

Parameter	Specifications
Max. Operating Voltage	3 kV AC RMS for AC High Frequency & Mains Frequency Spark Testers 5 kV DC for DC Spark Testers
Fault Rate	1 per second with a 50 Hz Mains Frequency
Spark Gap	0.25 mm $\pm$ 0.05 mm for a period of 0.0025 second once per second
Max. Fault Current	600 $\mu$ A at 3 kV when spark gap is temporarily shorted
Input	1 Phase, 230 V AC $\pm$ 10%, 50 / 60 Hz $\pm$ 2 Hz



## ● A.C / D.C. Breakdown Testers

This instrument is used to conduct the high voltage test on electric cables. It is necessary that a evaluation of the condition of the insulation, be made by imposing a higher voltage stress for a specified duration.

This test can be performed in water bath & at ambient temperature, depending on the application of cable.

This is a table top instrument with all settings, indications & controls on the front.

### Technical Specifications :

Input	230V / 415V.A.C, $\pm 10\%$ . 50Hz
Output Voltage	0-30kV A.C /D.C max.
Output Current	2.5A max.
High Voltage source	Double wound high voltage transformer
Output Control	Knob or motorised
Interlocking	Zero start interlocking for HV output
Capacitive current setting	5 different settings as per requirement
Metering	Digital kV meter 3 digit, 7 segment red LED display
Cycle Timer	Microprocessor based 4 digit UP/DOWN presettable timer
Controls & Indications	Input ON/OFF MCB, H.V. ON/ OFF Push Buttons, Mains ON, HV ON, and Test Over indications
Terminations	H.V Insulator & earthing terminal
Other Accessories	Discharge rod, 3 core mains supply cord, testing leads with big size crocodile clips at one end, instruction manual

In keeping with our constant endeavour to meet market needs, we reserve the right to alter or change the specifications mentioned without prior notice.



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