

TEST AND MEASUREMENT EQUIPMENT for the power industry

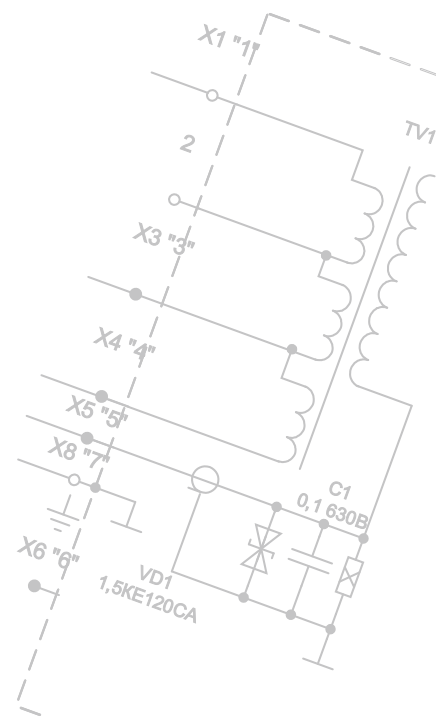
Electrical Protective Equipment Testing Units

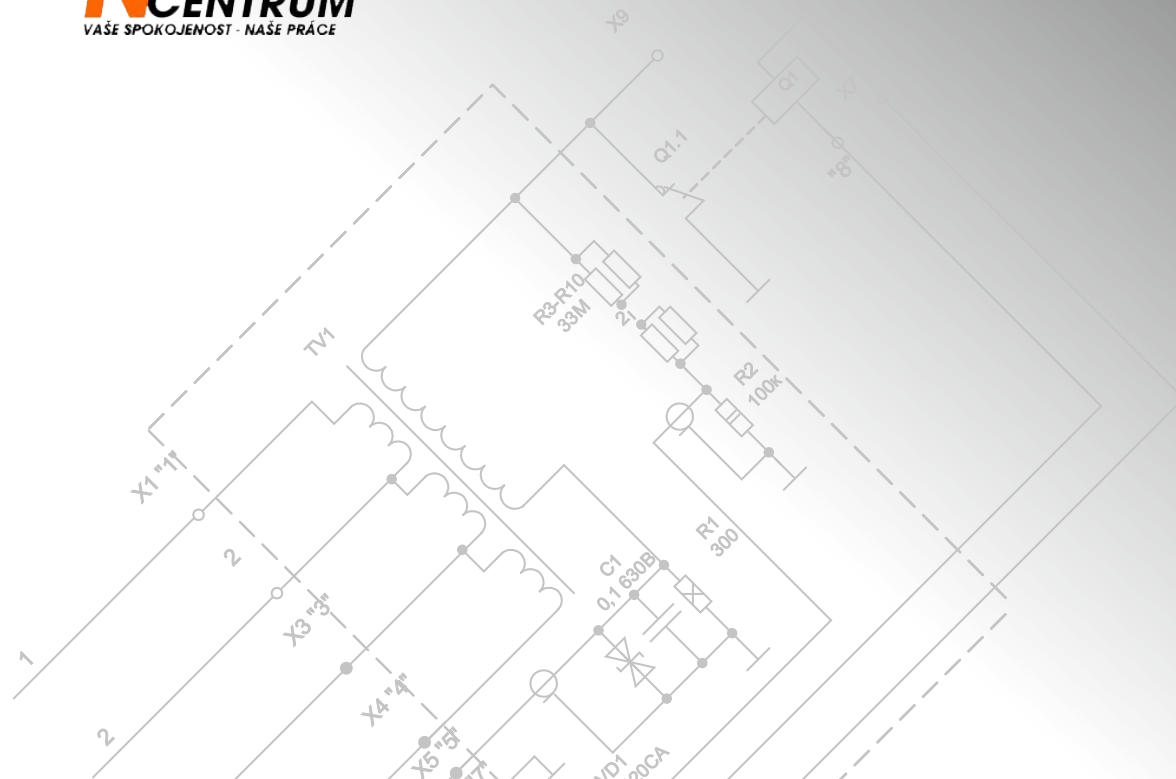
*Gloves
Sleeves
Mats
Hot sticks
Blankets*

AN CENTRUM
VAŠE SPOKOJENOST - NAŠE PRÁCE

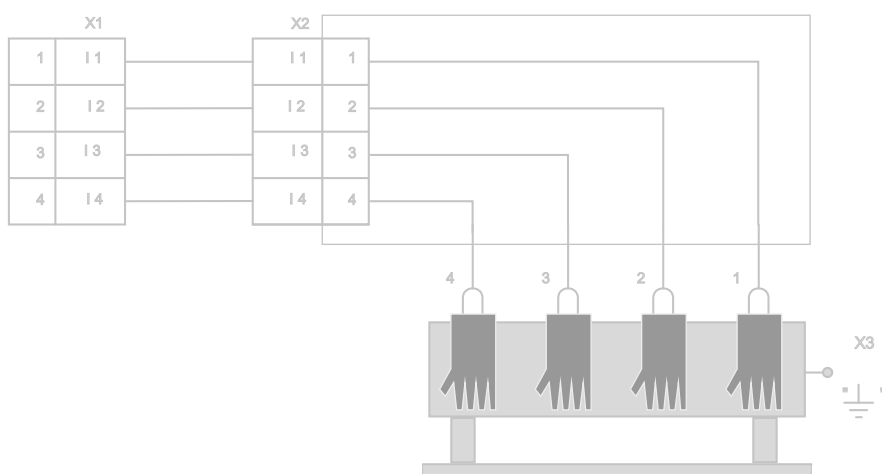
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- Drying machine or gloves, boots and sleeves





ELECTRICAL PROTECTIVE EQUIPMENT TESTING UNITS



UPG-40-4 Dielectric Glove, Sleeve and Boots Automatically Testing System

PURPOSE OF THE PRODUCT



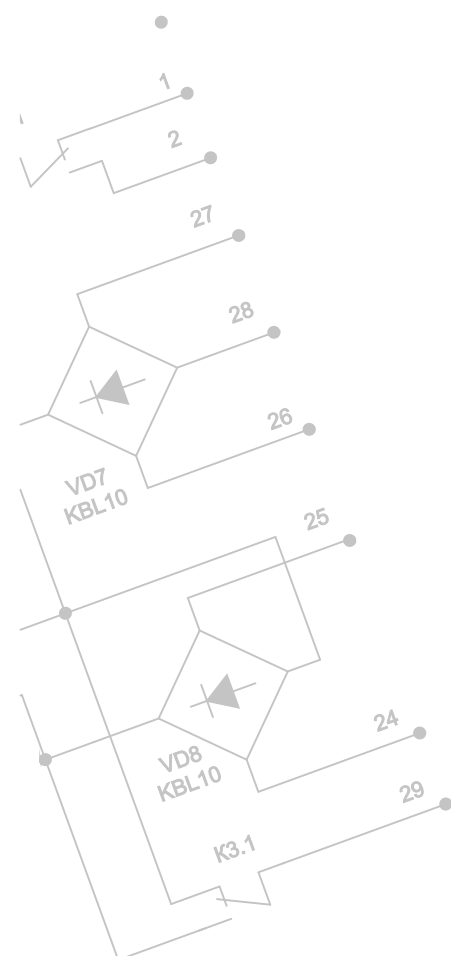
UPG-40-4

An automatic testing system for performing dielectric tests on personal protective equipment UPG-40-4 is a modern device for testing electrical insulating protective gloves, shoes and boots.

- Simultaneous testing 4 gloves
- Safe design
- Measurement, adjustment, control and protection systems
- Automatic measurement process
- Automatic hydraulic system
- Clear presentation of parameters
- Intuitive and ergonomic operation
- **Compliance with the harmonized standards EN 60903 and EN 50321**
- Color touch panel
- User-friendly interface
- Data archiving
- Ready-made programmes for different classes of equipment, in compliance with the standards or own parameters
- Innovative solutions of test circuits – elimination of voltage fluctuations and stoppage of testing after breakdown on one of the circuits.
- Possibility of controlling of an outside transformer
- Manufacturing process parameters comply with the Quality Management System acc. to PN-EN ISO 9001:2009.

Testing of personal protective equipment:

- Gloves - 00, 0, 1, 2, 3, 4 class
- Boots - 0, 1, 2, 3, 4 class
- Sleeves - 0, 1, 2, 3, 4 class



A stand for simultaneous testing – according to the type of measuring tank – 4 gloves, electrical insulating protective gloves, shoes and boots.



It consists of a cabinet provided with a measuring tank and a control cabinet with high voltage transformers, a control autotransformer with a drive, control systems and protections. Due to a system of interlocks, protections and an automatic earthing switch, the system is safe to the operators and requires no demarcated test field.

Each measuring circuit is supplied from its own 40 kV 25mA high voltage test transformer. A test takes place simultaneously on all the circuits. The system automatics allow filling the items under testing with water up to the required level and its immersion in the measuring tank.

The operation of the device is controlled by a microprocessor controller with a LCD touch screen. The parameters for the item under testing is achieved by selecting the item from a scroll menu (by selecting the class and length of a glove or by programming one's own parameters).

TECHNICAL DATA

Power - single-phase AC supply voltage, – 230V (120V 60Hz to order).

Device parameters at AC high voltage sources:

- maximum operating voltage (RMS), – 40kV;
- maximum operating current (RMS), – 25mA.

Power consumption, – max. 6,5 kVA.

Reduced output voltage and current measurement error, %, – max. 3.

Built-in timer.

Weight: 440kg

The volume of water: 215L

Overall dimensions: 1880x1200x1940(H) mm



VD7
KBL10

VD8
KBL10

K3.1

24

29

UPG-40-4/2L Dielectric Glove, Sleeve and Boots Testing System

PURPOSE OF THE PRODUCT



UPG-40-4/2Light

Testing of personal protective equipment:

- Gloves - 00, 0, 1, 2, 3, 4 class
- Boots - 0, 1, 2, 3, 4 class
- Sleeves - 0, 1, 2, 3, 4 class

TECHNICAL DATA

Power - single-phase AC supply voltage, – 230V (120V 60Hz to order).

Device parameters at AC high voltage sources:

- maximum operating voltage (RMS), – 40kV;
- maximum operating current (RMS), – 25mA.

Power consumption, – max. 4 kVA.

Reduced output voltage and current measurement error, %, – max. 3.

Built-in timer.

Weight: 240kg

The volume of water: 170L

Overall dimensions: 1500x950x1800(H) mm

An semiautomatic testing system for performing dielectric tests on personal protective equipment UPG-40-4/2L is a modern device for testing electrical insulating protective gloves, shoes and boots.

- Simultaneous testing 4 gloves
- Safe design
- Measurement, adjustment, control and protection systems
- Automatic measurement process
- Clear presentation of parameters
- Intuitive and ergonomic operation
- Compliance with the harmonized standards EN 60903 and EN 50321, ASTM D120
- Color touch panel
- User-friendly interface
- Data archiving
- Innovative solutions of test circuits – elimination of voltage fluctuations and stoppage of testing after breakdown on one of the circuits.
- Manufacturing process parameters comply with the Quality Management System acc. to PN-EN ISO 9001:2009.

A stand for simultaneous testing – according to the type of measuring tank – 4 gloves, electrical insulating protective gloves, shoes and boots.

It consists of a measuring tank and a control unite with high voltage transformers, a control autotransformer with a drive, control systems and protections. Each measuring circuit is supplied from its own 40 kV 25mA high voltage test transformer. A test takes place simultaneously on all the circuits. Such a supply solution allows avoiding voltage fluctuations in case of a breakdown in one of the items under testing.

The manual filling the items under testing with water up to the required level and its immersion in the measuring tank.

UPG-40-6S Dielectric Glove, Sleeve and Boots Automatically Testing System

PURPOSE OF THE PRODUCT

An automatic testing system for performing dielectric tests on personal protective equipment UPG-40-6S is a modern device for testing electrical insulating protective gloves, shoes and boots.

- Simultaneous testing 6 gloves
- Safe design
- Measurement, adjustment, control and protection systems
- Automatic measurement process
- Automatic hydraulic system
- Clear presentation of parameters
- Intuitive and ergonomic operation
- Compliance with the harmonized standards EN 60903 and EN 50321
- Color touch panel
- User-friendly interface
- Data archiving
- Ready-made programmes for different classes of equipment, in compliance with the standards or own parameters
- Innovative solutions of test circuits – elimination of voltage fluctuations and stoppage of testing after breakdown on one of the circuits.
- Manufacturing process parameters comply with the Quality Management System acc. to PN-EN ISO 9001:2009.



UPG-40-6S

Testing of personal protective equipment:

- Gloves - 00, 0, 1, 2, 3, 4 class
- Boots - 0, 1, 2, 3, 4 class
- Sleeves - 0, 1, 2, 3, 4 class

TECHNICAL DATA

Power - three-phase AC supply voltage, – 400V (208V 60Hz to order).

Device parameters at AC high voltage sources:

- maximum operating voltage (RMS), – 40kV;
- maximum operating current (RMS), – 25mA.

Power consumption, – max. 6,0 kVA.

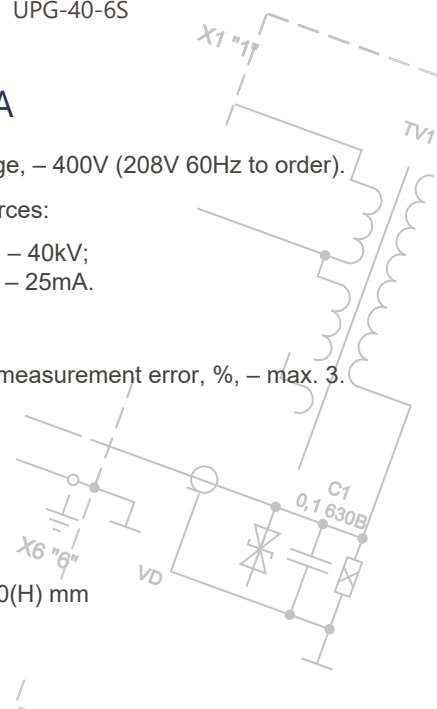
Reduced output voltage and current measurement error, %, – max. 3.

Built-in timer.

Weight: 300kg

The volume of water: 600L

Overall dimensions: 1700x1600x2000(H) mm

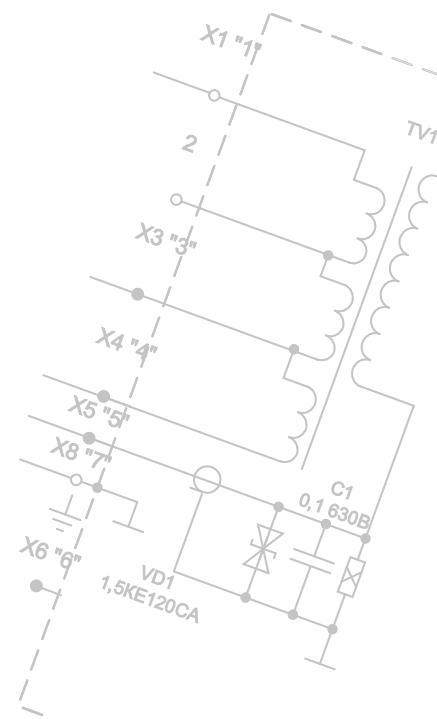


A stand for simultaneous testing – according to the type of measuring tank – 6 gloves, electrical insulating protective gloves, shoes and boots.

It consists of a measuring tank, high voltage transformer and a control cabinet, a control autotransformer with a drive, control systems and protections. Due to a system of interlocks, protections and an automatic earthing switch, the system is safe to the operators and requires no demarcated test field.

The system automatics allow filling the items under testing with water up to the required level and its immersion in the measuring tank.

The operation of the device is controlled by a microprocessor controller with a LCD touch screen. The parameters for the item under testing is achieved by selecting the item from a scroll menu (by selecting the class and length of a glove or by programming one's own parameters). The controller can either store the measurement results in an internal nonvolatile memory or send them to a computer for statistical processing or for making a protocol.



UPG-40-4/2L-RMV Dielectric Glove, Sleeve, Boots, Rods, Mats and Voltage Indicator Testing System

PURPOSE OF THE PRODUCT

The laboratory UPG-40-4/2L-RM is designed for testing of electrical safety PPE (Dielectric Gloves; Boots; Blankets; Mats; Hot Sticks; Dielectric Tools; Voltage and Phase indicator). All standard rubber goods can be tested, even class 4.

All equipment can be mounted on a trailer, which allows tests in field conditions at remote sites.

The laboratory can be equipped according to customer specifications.

Allows Testing to ASTM and IEC Standards.

Testing of personal protective equipment:

- Gloves 00, 0, 1, 2, 3, 4 class;
- Boots 0, 1, 2, 3, 4 class.
- Sleeves 0, 1, 2, 3, 4 class.

Testing of insulating equipment:

- Blankets, mats, covers 0, 1, 2, 3, 4 class;
- Insulated tools and other electrically equipment.
- Hot sticks 100kV every 300mm. Up to 2,5m length.
- Phase and voltage indicator up to 52kV.

TECHNICAL DATA

Power - single-phase AC supply voltage, – 230V (120V 60Hz to order).

Device parameters at AC high voltage sources:

- number of sources - 4
- maximum operating voltage (RMS) – 550kV;
- maximum operating current (RMS) – 40mA.

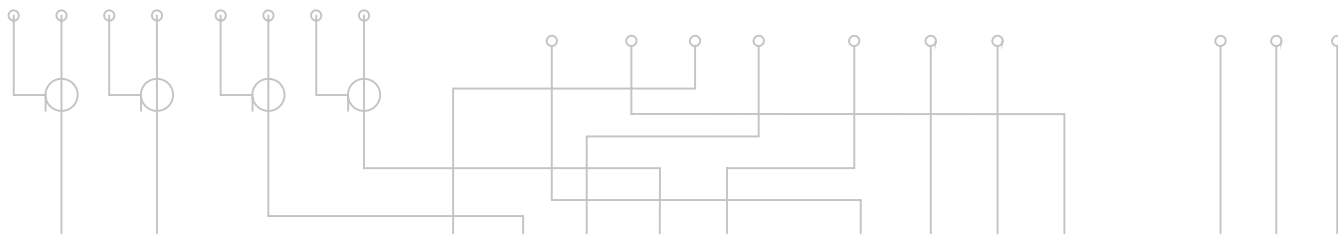
Power consumption, – max. 5 kVA.

Reduced output voltage and current measurement error, %, – max. 3.

Built-in timer.

Weight: 440kg

The volume of water: 170L



DIELECTRIC GLOVES TESTING MODE



An semiautomatic testing system for performing dielectric tests on personal protective equipment UPG-40-4/2L-is a modern device for testing electrical insulating protective gloves, shoes and boots.

- Simultaneous testing 4 gloves
- Safe design
- Measurement, adjustment, control and protection systems
- Automatic measurement process
- Clear presentation of parameters
- Intuitive and ergonomic operation
- **Compliance with the harmonized standards EN 60903 and EN 50321**
- Color touch panel
- User-friendly interface
- Data archiving
- Innovative solutions of test circuits – elimination of voltage fluctuations and stoppage of testing after breakdown on one of the circuits.
- Manufacturing process parameters comply with the Quality Management System acc. to PN-EN ISO 9001:2009.

A stand for simultaneous testing – according to the type of measuring tank – 4 gloves, electrical insulating protective gloves, shoes and boots.

It consists of a measuring tank and a control unite with high voltage transformers, a control autotransformer with a drive, control systems and protections. Each measuring circuit is supplied from its own high voltage test transformer. A test takes place simultaneously on all the circuits. Such a supply solution allows avoiding voltage fluctuations in case of a breakdown in one of the items under testing.

The manual filling the items under testing with water up to the required level and its immersion in the measuring tank.

UPG-40-4/2L

Testing of personal protective equipment:

- Gloves - 00, 0, 1, 2, 3, 4 class
- Boots - 0, 1, 2, 3, 4 class
- Sleeves - 0, 1, 2, 3, 4 class

VD7
KBL10

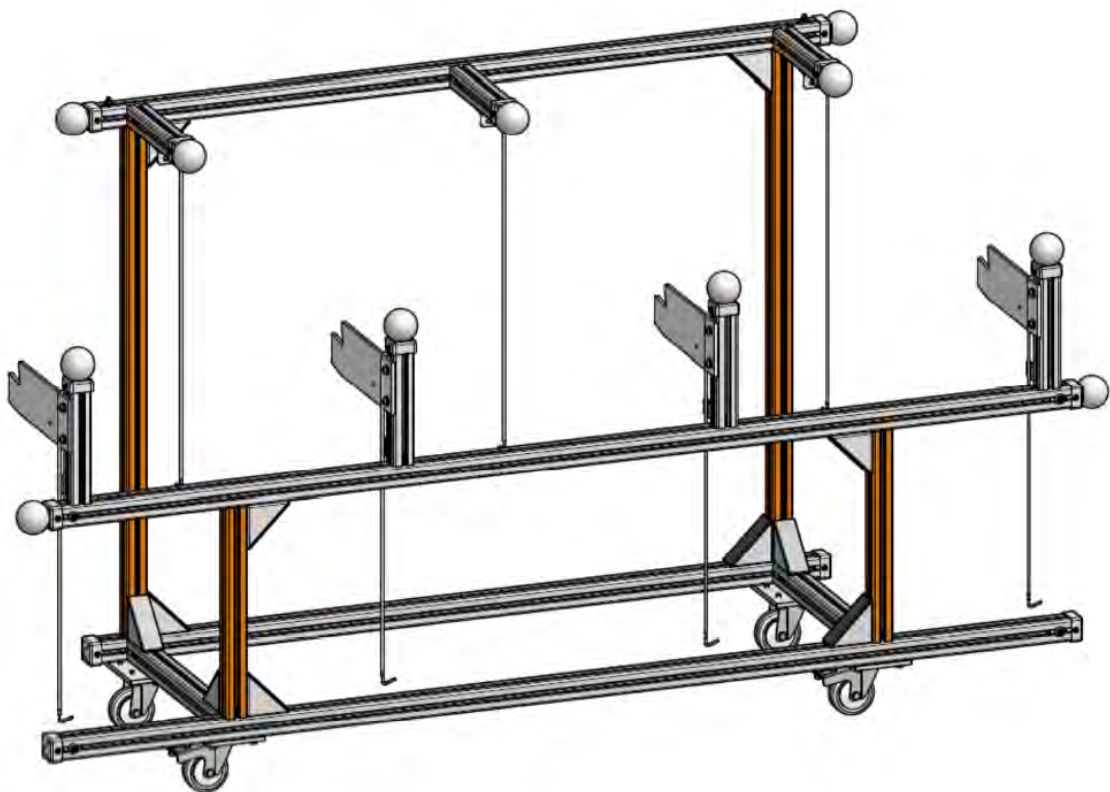
K3.1

HOT STICKS TESTING MODE

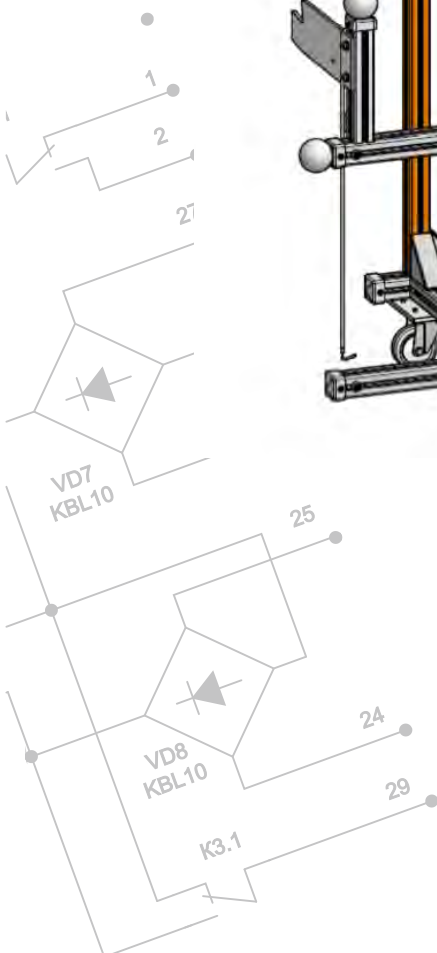
To test dielectric rods, two 50kV transformers (included) are switched in opposite phases to provide a voltage of 100kV on the electrodes of the SD-1 dielectric rods test stand.

Stand SD-1 are designed for testing dielectric rods all type: Universal insulating rods, Universal insulating rods with EURO head, Traction grounding and disconnecting rods, Telescopic insulating rods, Evacuation hooks, Insulating crampon, Branch cutter, Insulating tongs

- Simultaneous testing 1 hot stick (SD-1)
- 100kV every 300mm.
- **Compliance with the harmonized standards EN60832:2010, ASTM F711, IEEE 978**



Hot stick testing stand SD-1



INSULATING MATS TESTING MODE

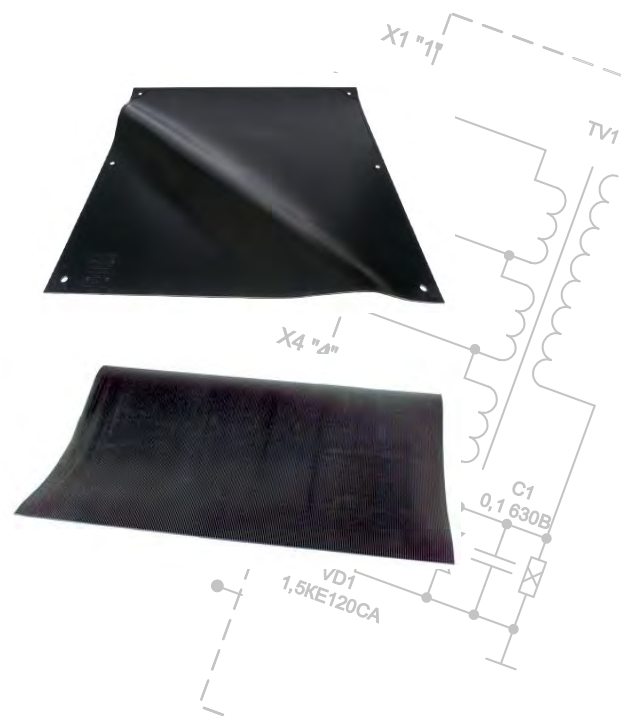
In dielectric mat testing mode, two 40kV transformers (included) are switched in parallel to provide high current.

The dielectric mat test mode is selected and the transformers are switched on automatically at the control unit.

Insulating mats and blankets testing stand SC-40:

- test according standards **IEC 61111** and **ASTM D1048**
- maximum dimension of mats – 1200×1200 mm;
- maximum tested voltage AC (50 Hz) – 40 kV;
- replacement electrodes of various sizes for testing various types of blankets, mats, covers.

Electrodes can be made for insulation cover of other sizes and shapes.



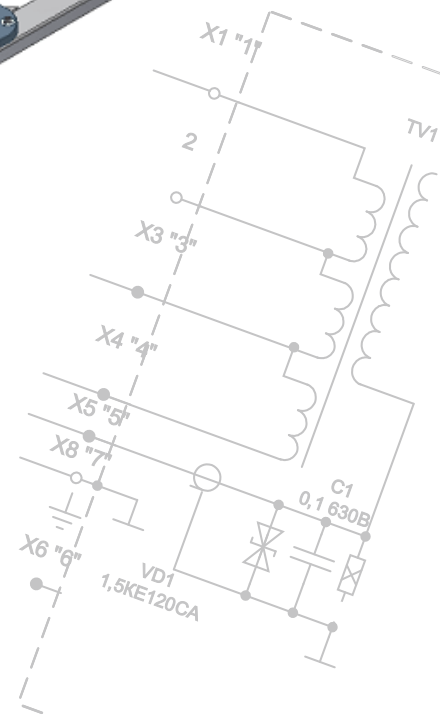
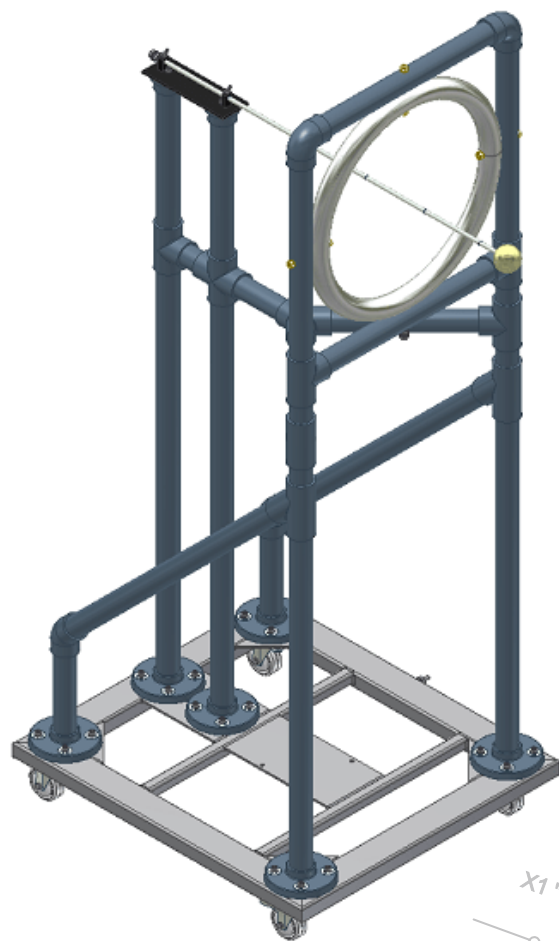
An example of a covers that is tested using a stand SC-40

VOLTAGE AND PHASE INDICATOR TEST MODE

PURPOSE OF THE PRODUCT

Stand SW-1 used for testing voltage indicators and phasers with voltage from 1kV up to 52 kV in compliance with **EN 61481**, **EN 61243** and **ASTM** standards.

Stand SW-1 consists of a frame on which elements in the form of rings of various diameters are installed depending on the test voltage. This design takes up little space and ensures that tests are carried out in accordance with international standards.



TPS-50-2SD/SW DIELECTRIC RODS AND VOLTAGE INDICATOR TESTING DEVICE

PURPOSE OF THE PRODUCT

The Testing Device TPS-50-2SD/SW is designed to test dielectric rods by sinusoidal voltage (AC) up to 100 kV and testing voltage indicator up to 50kV with frequency of 50 Hz.

The Testing Device TPS-50-2SD/SW consists of four blocks: the control unit, two 50kV high voltage transformers, dielectric rods testing stand SD and voltage indicator testing stand SW.

A voltage of 100 kV is generated by connecting two 50 kV transformers in opposite phases, so that a voltage of 100 kV is generated between the high-voltage leads of the transformers for testing the dielectric rods.

TECHNICAL DATA

Power - single-phase AC supply voltage, – 230V.

Parameters at high voltage transformers:

- maximum operating voltage (RMS), – 50kV;
- maximum operating current (RMS), – 30mA.

Parameters at high voltage transformers connected in in opposite phases:

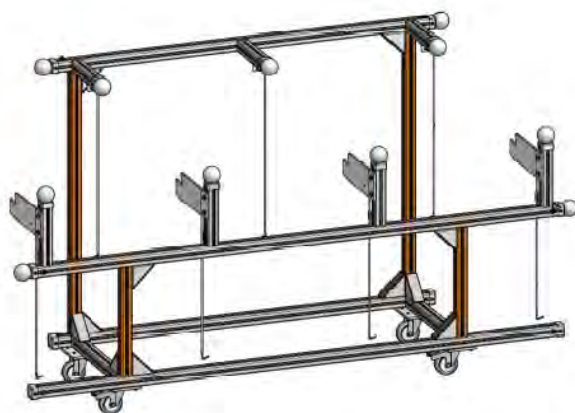
- maximum operating voltage (RMS), – 100kV;
- maximum operating current (RMS), – 15mA.

Power consumption, – max. 2 kVA.

Reduced output voltage and current measurement error, %, – max. 3.



High vottage transformer and control unite



SD-1 Dielectric rods Testing stand

Hot Sticks testing stand SD-1

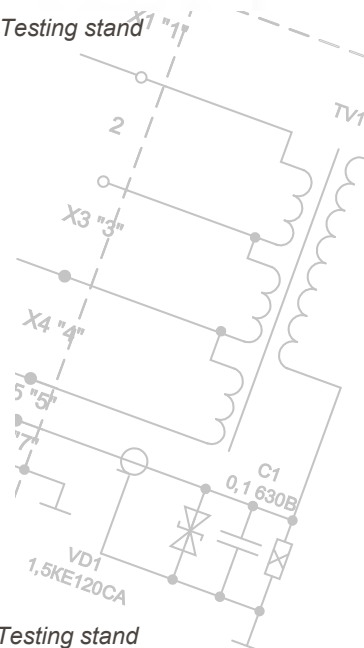
- maximum length of testing rods – 2m.
- maximum testing voltage – 100 kV on 300mm;
- possibility of simultaneous testing of one rod.
- quick installation in the operating position

SW-1 Voltage and Phase Indicator Testing stand

- the stand is used for testing phasers with voltage up to 52 kV in compliance with EN 61481 standard or voltage indicators up to 52 kV in compliance with EN 61243;
- test voltage up to 52 kV.



SW-1 Voltage and Phase Indicator Testing stand



TPS-110/40 HIGH VOLTAGE TESTING DEVICE

PURPOSE OF THE PRODUCT

The Testing Device TPS-110/40 is designed to test solid dielectrics by sinusoidal voltage (AC) up to 110 kV (with an additional 40 kV tap) with frequency of 50 Hz.

The Testing Device TPS-110/10 consists of two blocks: the control unit and the high voltage unit.

The control unit of testing device TPS-110/40 allows to measurement all the test parameters: test time, output voltage and load current.

Motorized voltage regulator system, automatic adjustment of the output voltage according to the program set by the user.

Digital display of output current and voltage.

Emergency stop button.

Programmable overvoltage and overcurrent protection.



TECHNICAL DATA

Power - single-phase AC supply voltage, – 240V/50Hz

Device parameters at AC voltage in the continuous mode with

- rated line voltage value:
 - maximum operating voltage (RMS), – 110kV;
 - maximum operating current (RMS), – 30mA.

2 Device parameters at AC voltage 40kV tap in the continuous mode with

- 21 maximum operating voltage (RMS), – 40kV;
- maximum operating current (RMS), – 100mA.

28 Power consumption, – max. 4 kVA.

Reduced output voltage and current measurement error, %, – max. 3.

26 Weight, max.:

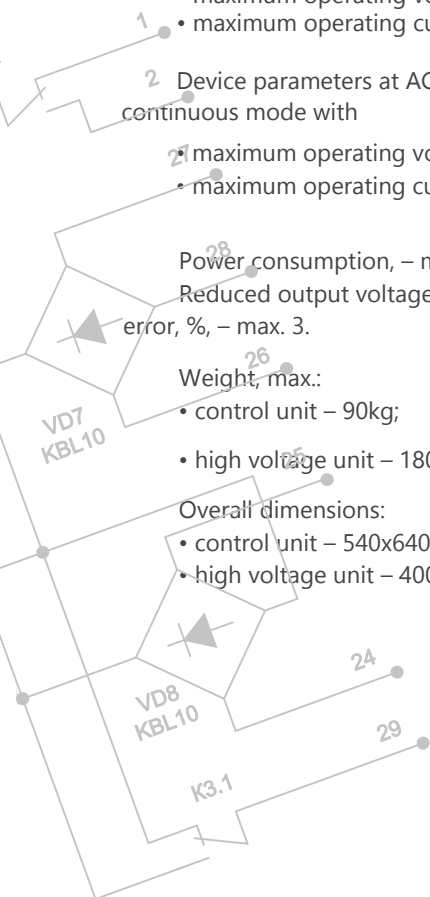
- control unit – 90kg;
- high voltage unit – 180kg.

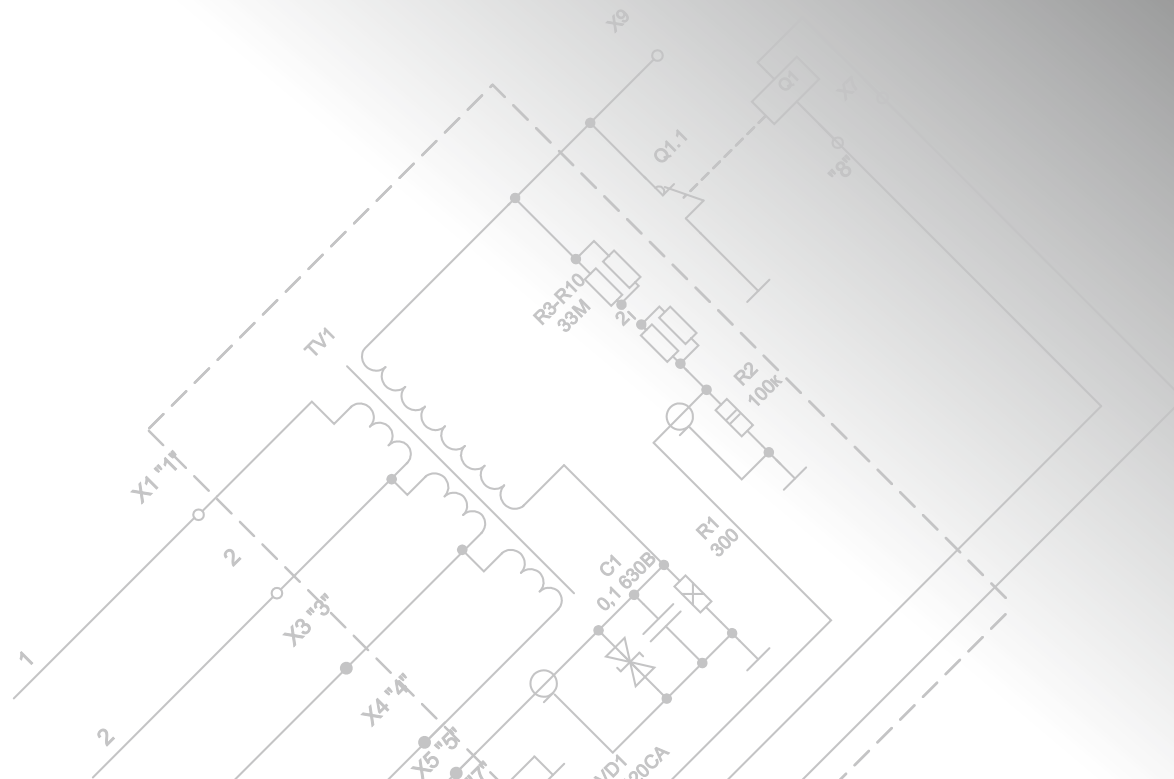
Overall dimensions:

- control unit – 540x640x1100mm;
- high voltage unit – 400 x 560 x 1400mm.

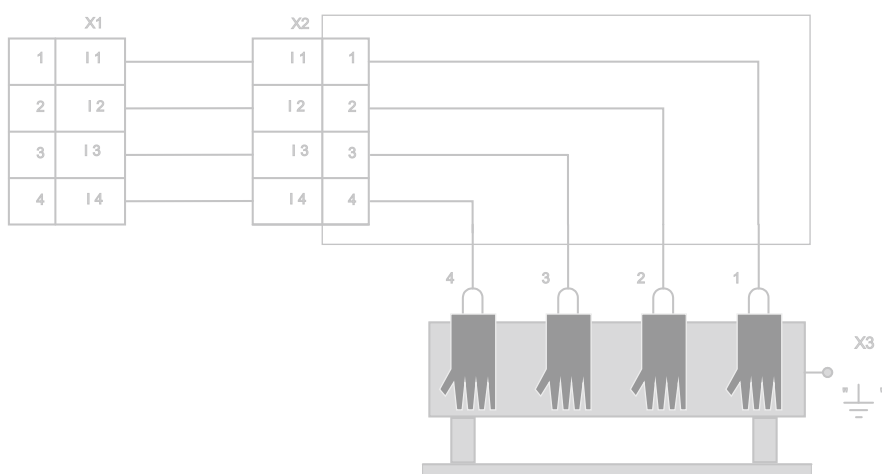


Control unit and High voltage unit TPS-110/40





ACCESSORIES



SC-40 INSULATING MATS TESTING STAND

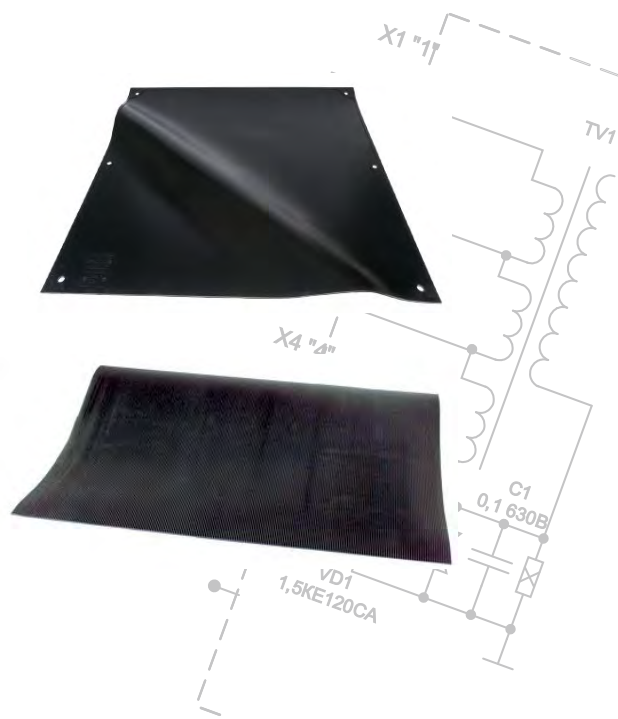
PURPOSE OF THE PRODUCT

Insulating mats and blankets testing stand IMT-40:

- test according standards **IEC 61111** and **ASTM D1048**
- maximum dimension of mats – 1200×1200 mm;
- maximum tested voltage AC (50 Hz) – 40 kV;
- replacement electrodes of various sizes for testing various types of blankets, mats, covers.

Electrodes can be made for insulation cover of other sizes and shapes.

The stand is compatible with the devices: TPS-110/40 or other high voltage sources up to 40kV with output current of at least 50 - 100mA.



An example of a covers that is tested using a stand IMT-40

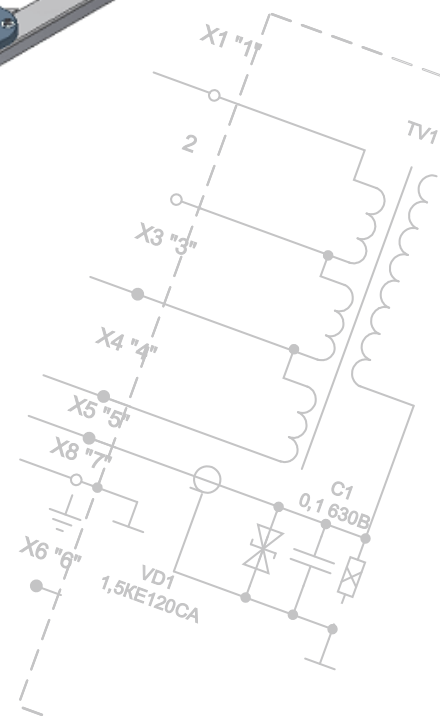
SW-1/SW-3 VOLTAGE AND PHASE INDICATOR TESTING STAND

PURPOSE OF THE PRODUCT

Stand SW-1/SW-3 used for testing voltage indicators and phasers with voltage from 1kV up to 52 kV and from 52 up to 110kV in compliance with **EN 61481**, **EN 61243** and **ASTM** standards.

Stand SW-1/SW-3 consists of a frame on which elements in the form of rings of various diameters are installed depending on the test voltage. This design takes up little space and ensures that tests are carried out in accordance with international standards.

The stand is compatible with the devices: TPS-110/40 or other high voltage sources up to 100kV with output current of at least 10mA.



SD-1 and SD-3 HOT STICKS TESTING STAND

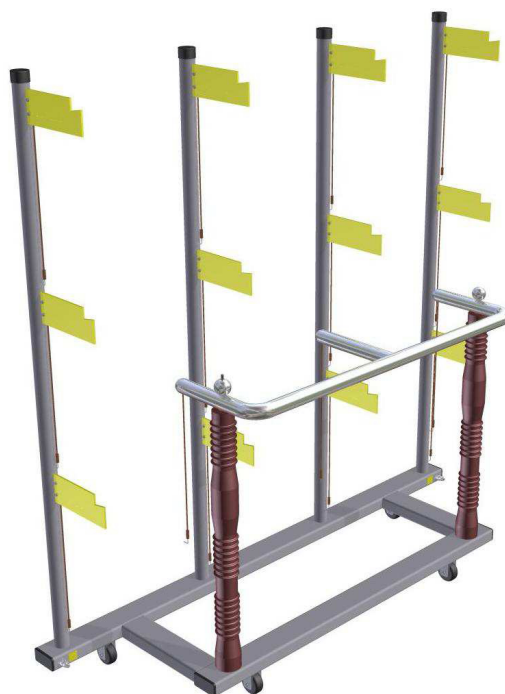
PURPOSE OF THE PRODUCT

Stands SD-1 and SD-3 are designed for testing dielectric rods all type: Universal insulating rods, Universal insulating rods with EURO head, Traction grounding and disconnecting rods, Telescopic insulating rods, Evacuation hooks, Insulating crampon, Branch cutter, Insulating tongs

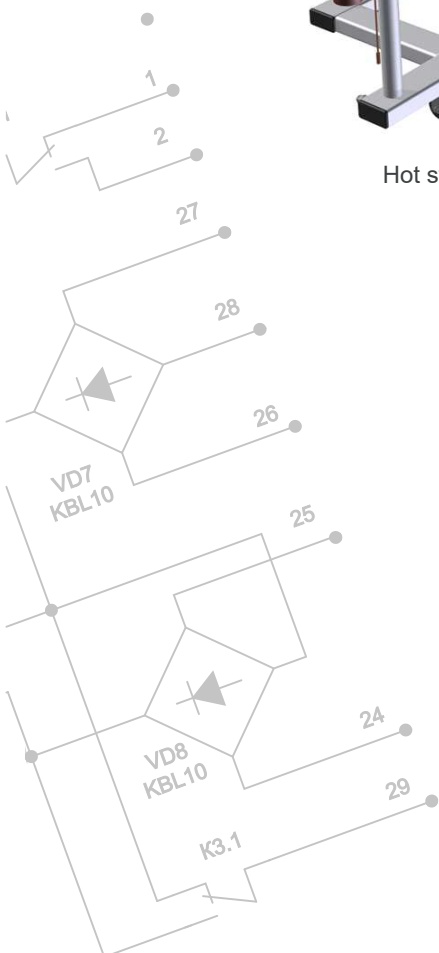
- Simultaneous testing 1 hot stick (SD-1) or 3 hot sticks (SD-3)
- 100kV every 300mm.
- **Compliance with the harmonized standards EN60832:2010, ASTM F711, IEEE 978**



Hot stick testing stand SD-1



Hot stick testing stand SD-3



STAND FOR TESTING CONDUCTOR COVER CTS-1

PURPOSE OF THE PRODUCT

The test stand CTS-1 for testing conductor covers is designed for testing covers in accordance with the requirements of IEC 61479, ASTM F712 and ASTM D1050 up to 40kV.

Three pipe sizes included - 32, 45 and 57mm.
Maximum length of guards - 1800mm.

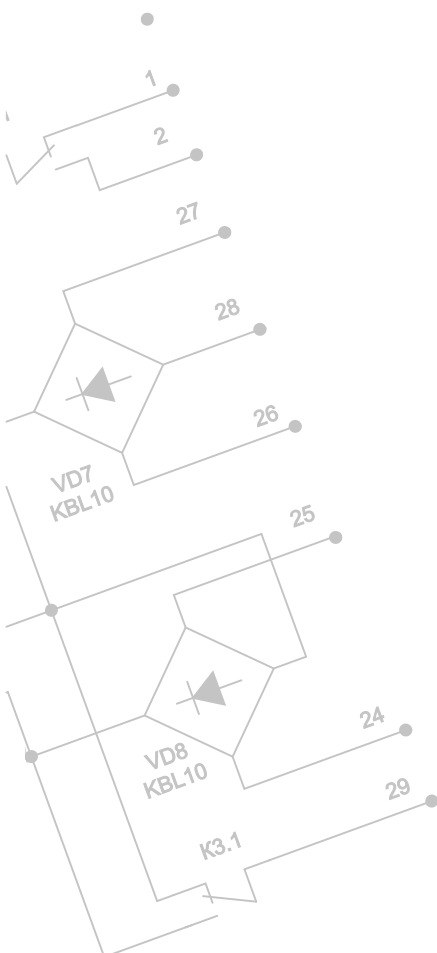
Stands can be made for insulation cover of other sizes and shapes.



An example of a conductor cover that is tested using a stand CTS-1



An example of a conductor cover that is tested using a stand CTS-1



STAND FOR TESTING INSULATOR COVERS CTS-2 i CTS-3

PURPOSE OF THE PRODUCT

The stand CTS-2 and CTS-3 for testing insulators covers is intended for testing covers for voltage up to 40kV. According ASTM D1049.

Stands can be made for insulation cover of other sizes and shapes.



An example of a insulator cover that is tested using a stand CTS-2



An example of a insulator cover that is tested using a stand

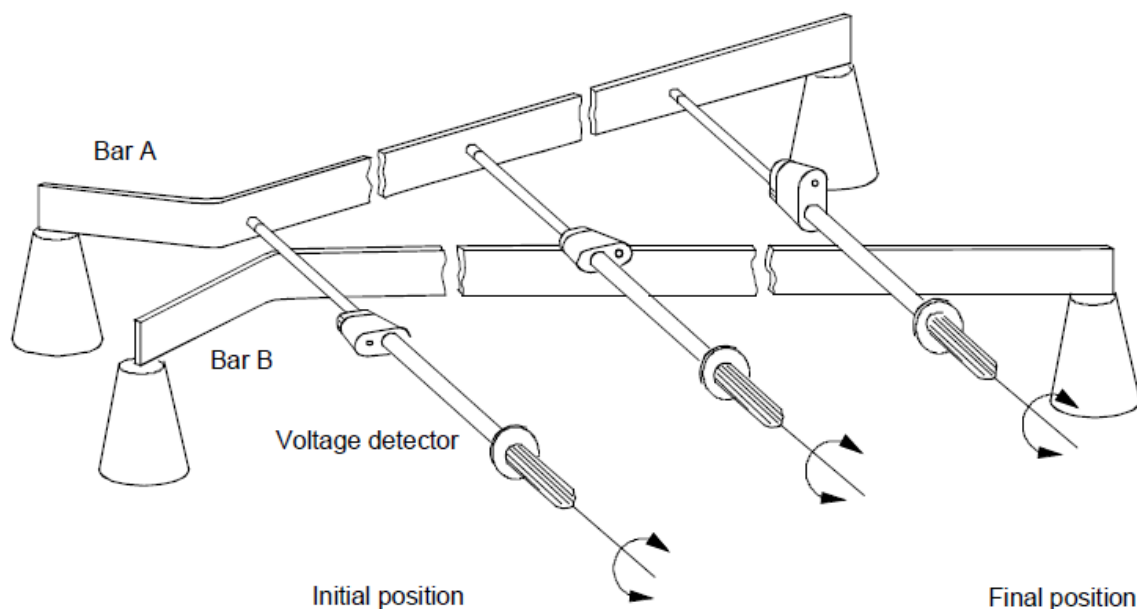


BRIDGING TESTING STAND SH-1 (V-shape bars)

PURPOSE OF THE PRODUCT

According to IEC 50508, IEC 61243 and a number of others, voltage indicators and all equipment mounted on dielectric rods must pass the bridging test. The BTS-36 allows such a test for voltages from 0 to 52 kV.

- Test according standards IEC 50508 and IEC 61243
- Maximum tested voltage AC (50 Hz) – 52kV;
- Distance between electrodes at the bend - 50 - 325mm;
- The distance between the electrodes in the wide part - 350 - 800 mm;
- Electrode length - 1700mm



IEC 2279/03

An example of a test method for a voltage indicator on the BTS-36 stand (V-shape bars).

DRYING MACHINE FOR GLOVES, BOOTS AND SLEEVES AC SERIES

PURPOSE OF THE PRODUCT

Drying machine for gloves, boots and sleeves AC series is designed to dry rubber goods after electric testing as well as drying gloves and shoes of different materials.

- Glove/sleeve dryers contain built-in heating elements with thermostatic control and air blowers, which force the heated air into gloves (to assure the fingertip drying).
- Simultaneous drying up to 120 gloves or 120 shoes.
- Compact and space saving design
- Blows ambient (room temperature) air OR warm air (your choice)
- Power consumption up to 4kW



AC-120D

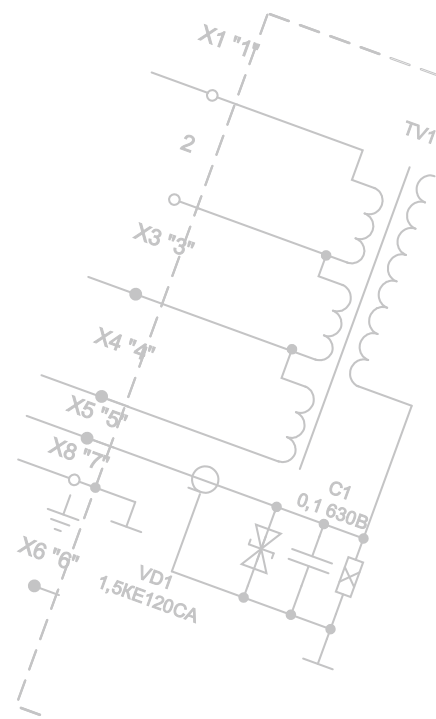
	AC-30	AC-40	AC-40D	AC-60	AC-60D	AC-80D	AC-120D
Terminal layout	one-sided	one-sided	two-sided	one-sided	two-sided	two-sided	two-sided
Air temperature	32 — 40 °C						
Heater power	2kW	2kW	2kW	4kW	4kW	4kW	4kW
Dimmension	1020x550 x1900	1350x550 x1900	700x800 x1900	1550x800 x1900	1020x800 x1900	1350x800 x1900	2050x800 x1900



AC-30



AC-60



CABINET FOR DRYING GLOVES, BOOTS AND SLEEVES SzS SRIES

PURPOSE O. THE PRODUCT

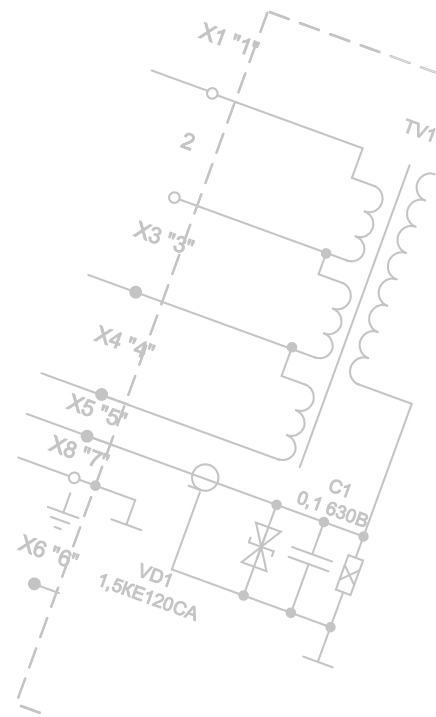
Drying cabinet for gloves, boots and sleeves SzS series is designed to dry rubber goods after electric testing, as well as drying gloves and shoes of different materials.

- Glove/sleeve dryers contain built-in heating elements with thermostatic control and air blowers, which force the heated air into gloves (to assure the fingertip drying).
- Digital temperature control system for easy operation
- Totally self-contained with exhaust fan – to remove humidity and heat
- Simultaneous drying 42 or 60 gloves/shoes.
- Power consumption up to 3kW
- For drying non-rubber items, it is possible to install an air ozonator to disinfect and remove the smell of gloves/shoes.



SzS-42

	SzS-42	SzS-60
Air temperature	32 — 40 °C	
Heater power	3kW	4kW
Timer	1 – 12 h	
Dimmension	1200x650x2200	1506x650x2200



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