

BECKMAN®

Direct all correspondence and orders to address at left, unless indicated below:

BECKMAN INSTRUMENTS, INC.
 CEDAR GROVE OPERATIONS
 89 COMMERCE ROAD, CEDAR GROVE, N. J. 07009
 (201) 239-6200 • TWX 710-994-5781
 CABLE: SOLUBRIDGE CEDARGROVENJ

QUOTATION
 No. 72177-DD
 Please refer to this Quote No. in Future Correspondence.

American Electric Power Service Corporation
 Huntington General Laboratory
 Box 565
 Huntington, W.VA. 25710

DATE 7/21/77
 Customer Inquiry

Attention: Mr. J.W. DeGarmo

ITEM	QTY	DESCRIPTION	UNIT PRICE	NET PRICE
1	1	Model PA50-1005 AC Dielectric Breakdown Tester Supply Transformer Range: 100 kVAC Meter Ranges: 0-25, 0-50, 0-100 kVAC Display: Includes memory retention Max. rating at breakdown: 5 kVA Construction: Single rack cabinet which includes transformer, controls, test chamber and display meters, complete with safety interlocks Application(s): Refer to typical procedures of ASTM D-149 or Fed Spec LP-406, Method 4031 Circuit Breaker: Standard Mechanical Voltage Control: Automatic-rate-of-rise from 0 to full voltage with voltage versus time adjustable from 10 to 200 sec. Pwr. Reqts.: 115 VAC ± 10%, 50 amp	7015.00	ea.
2	2	Model JF Electrode Assembly Type: For liquid insulating materials Electrode Configuration: 1" dia. polished brass electrodes with square edges and parallel faces, nominally set at 0.100" gap Cell Body: Cast epoxy cup Ref. Specification: ASTM-D 877 Service Rating: 60 kV	447.00	ea.

This proposal is made contingent upon the acceptance by buyer without change or modification of the provisions of this proposal including all insertions on the face hereof and of the terms and conditions of sale on the reverse side hereof. Unless specifically accepted by Beckman in writing, contrary or additional terms or conditions or changes in specifications imposed by buyer's purchase order (if any) or otherwise shall not bind Beckman. Issuance of buyer's purchase order against this quotation (or the acceptance of the products or any part thereof offered hereby) shall be deemed an unqualified acceptance of the provisions of this quotation including the terms and conditions of sale on the reverse side hereof. Upon any acceptance of this quotation it shall contain the entire agreement between buyer and Beckman, and shall supersede all prior representations, promises or conditions, written or oral, in connection herewith not expressly included herein.

PROPOSAL FOR ACCEPTANCE WITHIN 60 DAYS OF ABOVE DATE
 SHIPMENT FROM RECEIPT OF ORDER
 TERMS: F. O. B.
 SHIPPING POINT:
 THE TERMS AND CONDITIONS OF SALE APPEARING ON THE
 REVERSE SIDE ARE A PART OF THIS PROPOSAL

BECKMAN®

Signed _____

Title _____

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American Electric Power Ser. Corp.

DATE 7/21/77

Customer Inquiry

Attention:

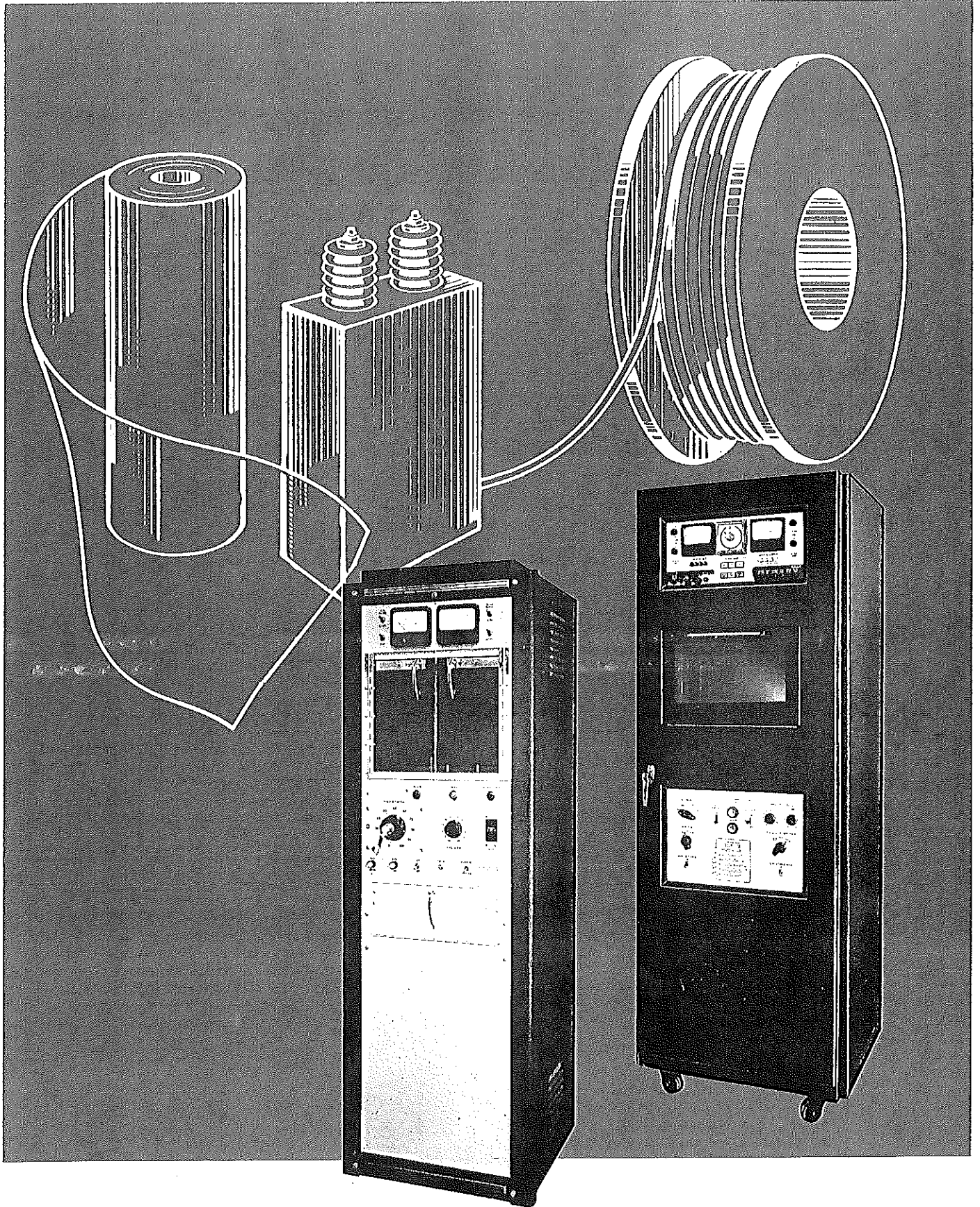
ITEM	QTY	DESCRIPTION	UNIT PRICE	NET PRICE
3	1	Model JEH Electrode Assembly Type: For liquid insulating materials Electrode Configuration: Polished, spherically capped brass electrodes per VDE Spec 0370 Cell Body: Machined clear acrylic body with stirring apparatus and shroud integrally mounted Ref. Specification: ASTM-D 1816 Service Rating: 100 kV \$	751.00	ea.
		DD:mk		
		Enc: JEH, 504,P/L, 505R, Humi-Chek		

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PROPOSAL FOR ACCEPTANCE WITHIN 60 DAYS OF ABOVE DATE
 SHIPMENT 14-15 wks ARO FROM RECEIPT OF ORDER
 TERMS: F. O. B. Cedar Grove, N.J., Net 30 days
 SHIPPING POINT: Cedar Grove, N.J.
 THE TERMS AND CONDITIONS OF SALE APPEARING ON THE
 REVERSE SIDE ARE A PART OF THIS PROPOSAL

BECKMAN®

Signed Dennis Dokken
 Dennis Dokken
 Title Product Line Manager



DIELECTRIC TESTERS

AC DIELECTRIC BREAKDOWN TESTER

PA5 SERIES

FEATURES

- Provides both automatic and manual voltage control
- Retains voltage reading after breakdown
- Utilizes plug-in jigs for maximum flexibility
- Completely interlocked for operator safety
- Meets ASTM D-149 and Federal Specification LP-406, Method 4031

FUNCTION

This series of equipment furnishes high voltage at line frequency to measure the breakdown voltage of a test sample. Such a measurement may be used to determine the dielectric strength of a material or to compare the relative strengths of different materials. Requirements of ASTM D-149 and Federal Specification LP-406, Method 4031 are met completely for both short time and step-by-step testing.

DESCRIPTION

Standard models are available with voltage ratings from 15 kV to 100 kV and in a choice of 2 kVA or 5 kVA capacities. A single rack-cabinet contains the entire tester, including high-voltage transformer, control panel, meter panel, and interlocked test compartment.

All controls are conveniently located on the front panel where they are easily accessible to the operator while he is observing the sample under test through the transparent doors of the test chamber. All doors, including test chamber, are completely interlocked for operator safety.

Specially designed oil-filled high-voltage transformers are used in all PA Series equipment to assure long life and corona-free operation.

VOLTAGE CONTROL

A variable-speed or motor drive provides constant-controlled rates of voltage increase, continuously adjustable from zero to full voltage in from 10 to 200 seconds.

The motor drive stops automatically when breakdown of the test sample occurs, and the meter continues to indicate breakdown voltage even though the high voltage transformer is de-energized. Voltage level may also be manually controlled at the front panel.

A voltage control on the front panel selects the maximum voltage which will be applied to the sample under test. This is particularly useful when performing acceptance tests rather than making actual breakdown measurements.

MULTIPLE RANGE UNITS

We recommend the standard PA Series of equipment for use where breakdown voltages from approximately 10% of maximum to full output voltage will be encountered. Meter readings are less accurate at the lower ends of the meter scales and since the metering system supplied is generally on the primary side of the high-voltage transformer, non-transformation voltage becomes an increasing percentage of the total reading as the primary voltage is lowered. Both of these factors contribute to decreasing accuracy at voltages less than 10% of maximum. In addition, circuit breakers properly rated to protect the equipment at higher outputs may not trip when a fault occurs at extremely low output voltages. (We can provide, on special order, additional lower rated circuit breakers to partially overcome this difficulty.)

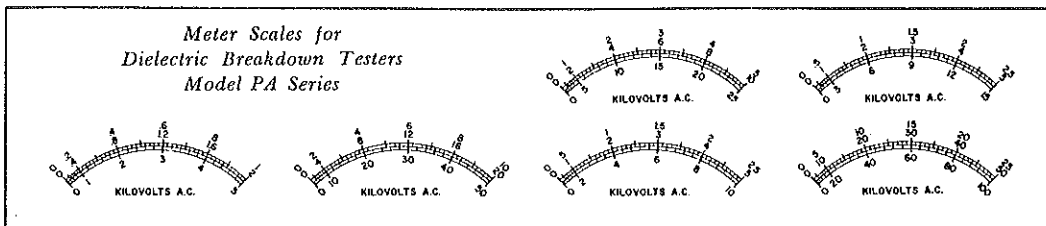
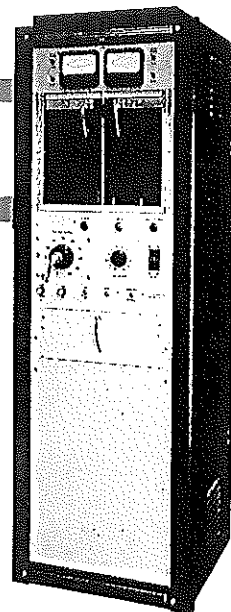
A very satisfactory solution to the problem of testing at both low and high voltages is possible with the use of one of our multi-range instruments. The tabular listing shows three such models. Other voltage outputs are available on special order. Different transformation ratios are selected by means of a switch, and multi-range meters are provided. In the case of the three dual range units listed, two meters are provided, one for each output voltage range, with each meter having three scales.

OPTIONAL METERING SYSTEM

When accuracy greater than that provided by the standard primary metering system is required, a secondary metering system using a resistive voltage divider (in the H.V. Transformer tank) may be selected as an option. It is used with a converter that retains the final voltage reading until reset.

OPTIONAL TEST COMPARTMENTS

1. For larger than normal test specimens.
2. Bell-jar vacuum pump units for high altitude testing.



OPTIONAL CONTROL PANELS

1. Control panels operating at rates of automatic voltage increase above and below those listed as standard are available on special order.
2. Control panels are available which raise the voltage at a present rate-of-rise to a pre-determined voltage, hold at this voltage for a pre-determined length of time, and then return to zero.

OPTIONAL ELECTRONIC CIRCUIT BREAKER

The Electronic Circuit Breaker is suggested for

use whenever the PA Series of instruments is used on a continuous basis with breakdown occurring repeatedly. This breaker has an adjustable current trip point which may be set between 4 and 20 amperes. The Electronic Circuit Breaker has been life tested for over 250,000 operations without failure.

OPTIONAL VOLTAGE AND KVA RATINGS

Full kVA rating available at maximum output voltage at instant of sample breakdown. Units can be supplied for continuous duty, in any kVA rating. Units with other full scale voltages and kVA ratings can be supplied on request.

SPECIFICATIONS OF STANDARD MODELS

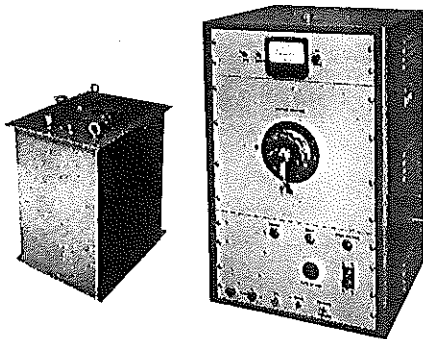
Model No.	Input Current @ 115 ±10%	Maximum Output, Kilovolts	Maximum KVA Rating (At Breakdown)	Meter Ranges, Accuracy ±5% of Full Scale (±1% Calibration Chart is furnished up to 50kV)	Dimensions			Net Weight (pounds)	Shipping Weight (pounds)
					H	W	D		
PA6-152	30 amps	15	2	0 - 25 0 - 5	67 1/2"	23"	22"	600	635
PA6-155	50 amps	15	5	0 - 15kV					
PA6-252	30 amps	25	2	0 - 5 0 - 10	67 1/2"	23"	22"	600	635
PA6-255	50 amps	25	5	0 - 25kV					
PA6-502	30 amps	50	2	0 - 10 0 - 20	67 1/2"	23"	22"	600	635
PA6-505	50 amps	50	5	0 - 50kV					
PA50-1005	50 amps	100	5	0 - 25 0 - 50 0 - 100kV	76"	34 1/2"	40"	1425	1720
PA6-252/052	30 amps	25 5	2 2	0-5, 10, 25kV 0-1, 2, 5kV	67 1/2"	23"	22"	650	685
PA6-502/102	30 amps	50 10	2 2	0-10, 20, 50kV 0-2.5, 5, 10kV					
PA50-1005/202	50 amps	100 20	5 2	0-25, 50, 100kV 0-5, 10, 20kV	76"	34 1/2"	40"	1800	1795

For 230 ± 10% V, 50/60 Hz Input add suffix 256 to model numbers (PA5-152-256)

PA5 test compartment is 17" wide x 14" high x 16" deep.
PA50 test compartment is 28" wide x 14" high x 21 1/2" deep.

AC DIELECTRIC BREAKDOWN TESTER

PA 6 SERIES



FEATURES

- Provides both automatic and manual voltage control
- Retains voltage reading after breakdown
- Wide range of voltage and kVA ratings
- Meets ASTM D-149 and Federal Specification LP-406, Method 4031

FUNCTION

The PA6 Series furnishes high voltage at line frequency to measure the breakdown voltage of a test sample. Such a measurement may be used in determining the dielectric strength of different materials. Requirements of ASTM D-149 and Federal Specification LP-406, Method 4031 are met completely for both short time and step-by-step testing.

DESCRIPTION

Standard models are available in voltage ratings from 15 to 100 kV and in a choice of kVA ratings from 2.0 to 20 kVA. Other ranges are available on special order. All operating controls are located on the control cabinet. The external HV transformer is provided with a cable for interconnection to the control cabinet.

The control cabinet contains the automatic rate of rise control panel, metering panel and breakdown indicator. Specially designed oil-filled HV transformers are used in all PA Series equipment to provide corona-free operation.

OPERATION

In normal operation the HV transformer is placed in a cage together with the material to be

tested; the control cabinet is located outside the cage. The control cabinet contains provisions allowing it to be interlocked to the HV cage door for operator protection. The instrument increases the test voltage at a preset rate until breakdown occurs. At breakdown the power is removed from the sample, the control cabinet indicates breakdown, and the voltmeter retains the voltage reading at breakdown.

AUTOMATIC VOLTAGE CONTROL

Variable speed motor drive is provided to achieve constant voltage increase rates. Provision is also included for manual test voltage control. The motor drive automatically stops when breakdown of the test sample occurs, and the meter system continues to indicate breakdown voltage even though the HV transformer is de-energized. A preset voltage cutout on the control panel enables preselection of the maximum voltage which will be applied to the sample under test.

The control panel supplied as a standard item with this series employs a variable speed motor drive that allows continuous speed adjustment from zero to full voltage over a range of 10 to 200 seconds.

ELECTRONIC CIRCUIT BREAKER

The Electronic Circuit Breaker is supplied as standard on the PA6 Series of instruments. This breaker has an adjustable current trip point which may be set between 4 and 20 amperes, depending on kVA rating of the instrument. The Electronic Circuit Breaker has been tested for over 250,000 operations without failure.

OPTIONAL MANUAL ONLY

If automatic rate-of-rise is not required, manual rate-of-rise only may be provided at somewhat lower cost than automatic rate-of-rise.

OPTIONAL VOLTAGE & kVA RATINGS

Full kVA rating available at maximum output voltage at instant of sample breakdown. Units can be supplied for continuous duty, in any kVA rating. Units with other full scale voltages and kVA ratings can be supplied on request.

SPECIFICATIONS OF STANDARD MODELS

Model No.	Maximum Output in Kilovolts	Maximum kVA Rating (at breakdown)	Metering Ranges (in Kilovolts)
PA6-15-2	15	2	0 to 2.5/5/15
PA6-25-2	25	2	0 to 5/10/25
PA6-50-2	50	2	0 to 10/20/50
PA6-100-2	100	2	0 to 25/50/100
PA6-15-5	15	5	0 to 2.5/5/15
PA6-25-5	25	5	0 to 5/10/25
PA6-50-5	50	5	0 to 10/20/50
PA6-100-5	100	5	0 to 25/50/100

Model No.	Maximum Output in Kilovolts	Maximum kVA Rating (at breakdown)	Metering Ranges (in Kilovolts)
PA6-15-10	15	10	0 to 2.5/5/15
PA6-25-10	25	10	0 to 5/10/25
PA6-50-10	50	10	0 to 10/20/50
PA6-100-10	100	10	0 to 25/50/100
PA6-15-20	15	20	0 to 2.5/5/15
PA6-25-20	25	20	0 to 5/10/25
PA6-50-20	50	20	0 to 10/20/50
PA6-100-20	100	20	0 to 25/50/100

Input voltage $115 \pm 10\% \text{ V } 50/60 \text{ Hz}$ standard. For $230 \pm 10\% \text{ V } 50/60 \text{ Hz}$ add 256 to Model No. (PA6-15-2-256)

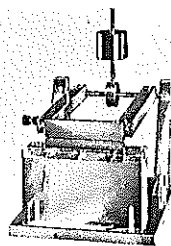
ELECTRODE ASSEMBLIES

TEST FIXTURES

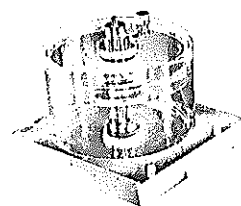
A variety of interchangeable test electrode assemblies are available which will plug into the test chamber in any of the PA5 Series or PDA-1 instruments.

The JX and JXH electrode assemblies are not test jigs, but are high voltage feed-throughs which are used to bring the high voltage out of the instrument for use with specimens that are too large to fit in the test chamber.

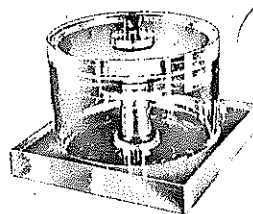
Electrode type	Electrode Configuration	Material to be Tested	Max. KV	ASTM SPEC
JA	Rectangular 1/4" x 4" with 1 lb. pressure	Tape, rubber, friction, etc.	60 kV	D69, 119, 149
JB	1" Dia. surface with 1/8" radius on end, 1" long.	Molded insulation in oil.	60 kV	D48, 149
JBH	1" Dia. surface with 1/8" radius on end, 1" long.	Molded insulation in oil.	100 kV	D48, 149
JB-025	1/4" Dia. surface with 1/32" radius on end, similar to JB.	Molded insulation in oil.	60 kV	D48, 149
JB-2	2" Dia. surface with 1/4" radius on end, similar to JB.	Molded insulation in oil.	60 kV	D48, 149
JBH-2	2" Dia. surface with 1/4" radius on end.	Molded insulation in oil.	60 kV	D49, 149
JC	1/4" Dia. with 1/32" radius. Weight 50 ± 2 grams.	Varnish or varnished materials such as glass, cloth, tape.	60 kV	D115, 149, 295, 902
JEH	Spherically-capped for use with up to 0.080 inch gap. Motor driven stirrer	Oil	100 kV	D-1816
JF	1" Dia. mounted in cup.	Liquid dielectrics, oil, etc.	60 kV	D117, 149, 877
JG	1/2" Dia. Hemispheres in open rectangular box.	Solid fillings.		D149, 176
JH	2" Dia. with 1/4" radius on end, 1" long.	Sheet, plate, film.	60 kV	D149, 299
JHH	2" Dia. with 1/4" radius on end, 1" long.	Sheet, plate, film.	100 kV	D149, 299
JK	Water beaker.	Wire insulation.	60 kV	
JL-1	Spring contact.	Enameled wire.	30 kV	
JO	Point plane gap and taper pins.	Laminated materials. Testing parallel to laminations.	50 kV	D149
JOH	Point plane gap and taper pins.	Laminated materials. Testing parallel to laminations.	100 kV	D149
JX	High voltage feed through.	For bringing test voltage thru cabinet for external testing.	50 kV	
JXH	High voltage feed through.	For bringing test voltage thru cabinet for external testing.	100 kV	



Type JA



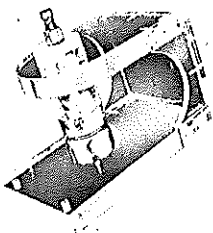
Type JB-025



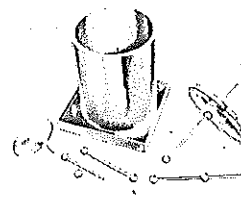
Type JB



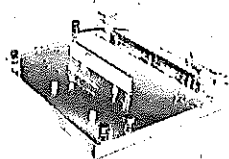
Type JF



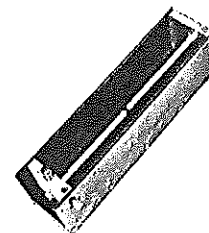
Type JH



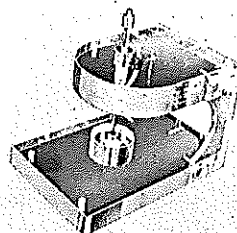
Type JO



Type JL-1



Type JG

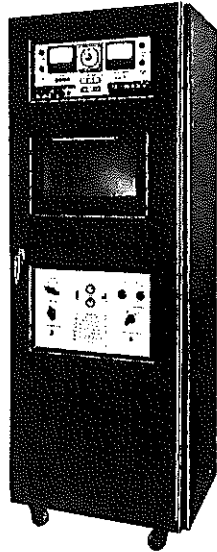


Type JC

Fixtures can be designed for applications on request.

AC/DC DIELECTRIC BREAKDOWN TESTER

MODEL PDA-1



FEATURES

- Tests to 50 kV ac or dc.
- Fully interlocked test chamber and cabinet for maximum operator safety.
- Plug-in test jigs for maximum flexibility.
- Meets ASTM D-149, Federal Specification LP-406 Method 4031 and Mil-Std-202.
- Both automatic and manual control of test voltage.

FUNCTION

This instrument supplies up to 50,000 volts either ac or dc to measure the breakdown voltage of a test sample. This measurement is used to determine the dielectric strength of the material. The Model PDA-1 may be used for either step-by-step testing or for slow rate of rise. The instrument conforms to the requirements of ASTM Specification D-149 and Federal Specification LP-406 Method 4031.

DESCRIPTION

The Model PDA-1 is a completely self contained dielectric breakdown tester consisting of a fully interlocked test chamber to hold the test sample; a tapped high-voltage transformer to provide maximum voltage regulation and control of the output voltage; a control system to automatically control the rate-of-rise of the output voltage; a complete memory type metering system to read both the ac and dc output voltages; a rectifying and current regulating

system to provide the required dc voltage output; and all of the equipment necessary to indicate mode selection, breakdown, end of test, and when manual operation is required.

In operation, the test sample is placed in the interlocked test compartment. The proper mode of operation is selected to perform the tests required: maximum voltage, rate-of-rise, etc. The start button is then pressed and the test proceeds as shown under modes of operation.

MODES OF OPERATION

Mode I. Manual Operation—the test voltage is adjusted by holding the "Raise-Lower" switch in the proper position until the desired voltage is reached or breakdown occurs.

At breakdown the high voltage is removed from the specimen, the breakdown indicator lights and the test voltage meter retains the voltage reading at which breakdown occurred. Pressing the "Stop-Reset" button returns the instrument to zero. A "Ready" lamp indicates that the instrument is ready for the next test.

The above breakdown sequences apply for all modes to follow.

Mode II. Pre-set—the test voltage rises to a preset value and then remains on until the shut-off manually.

Mode III. Pre-set with shut off. A chime will sound to indicate the completion of the test.

Mode IV. Pre-set with time hold and return to zero—the test voltage rises to a pre-set value; an audible signal indicates the start of a timed cycle. At the end of this cycle the voltage will return to zero and an audio signal again indicates the completion of the test.

Mode V. Step-by-Step—Voltage limit control is preset to approximately 50% of expected breakdown voltage, and the timer set for the required hold time. When started, the unit rises to the selected voltage and holds at that level for the preset time. At the end of this time an audio signal indicates when the operator should reset the timer and raise the voltage to the next step. Each time the signal sounds, the operator must reset the timer and raise the voltage until breakdown or the end of the test occurs.

Mode VI. Instantaneous application of test voltage—The "Start" button is held closed and the voltage is manually raised to the desired voltage. Pulsing the "Start" button causes this selected voltage to be impressed at its full value across the specimen.

GUIDES FOR ORDERING

ELECTRICAL SPECIFICATIONS

Output

Voltage: 4 ranges of 0 to 5, 0 to 10, 0 to 25, and 0 to 50 kilovolts, ac or dc.

Current: (leakage or load) 40 mA, ac max; 5 mA, dc nominal.

Internal dc Resistance: adjustable zero to 1 megohm in 1/4 steps.

Internal ac Impedance: 2 kVA Transformer with less than 5% waveform distortion per ASTM Spec. D 149.

Meters

Kilovoltmeter: 0.5, 10, 25, and 50 kV \pm 2% ac or dc ranges automatically switched to agree with output voltage range selected.

Current: 0.0, 0.25, 0.1, 0.5, 1, 5, and 10 milliamperes dc only.

Time Interval

Adjustable up to 100 minute interval.

Rate of Rise

Automatic rate of rise allows continuous speed adjustment from 0 to full range voltage over a range of 5 to 100 seconds.

5 kV range	50V min to 1.0 kV, max/sec.
10 kV range	100V min to 2.0 kV, max/sec.
25 kV range	250V min to 5.0 kV, max/sec.
50 kV range	500V min to 10.0 kV, max/sec.

Duty

All ratings are for continuous service.

Regulation

Considerable control of the limits of regulation are possible thru the use of tapped output current limiting resistance (dc) and the primary input resistance changing network. The HV transformer has a low reactance to provide the control necessary in universal test equipment.

MECHANICAL SPECIFICATIONS

Cabinet

All steel construction, 29" W x 80" H x 26" D, mounted on 4 casters for mobility, front and rear service doors fully interlocked, complete with lowered ventilation panel and exhaust fan. Net weight approx. 1300 pounds, shipping weight approx. 1500 pounds.

Test Chamber

Totally enclosed, interlocked hatch type door 12" x 18", covering a 11 1/2" x 17" access opening. Door has 7 1/2" x 14 1/2" viewing window, covered with 3/8" thick Lucite (Optional . . . X-Ray proof lead glass can be supplied at extra cost.) Door has generous bar handle, twin catches and continuous full width hinge along bottom edge.

Input Voltage

For 115 \pm 10%V 60 Hz 30 Amps specify Model PDA-1

For 115 \pm 10%V 50 Hz 30 Amps specify Model PDA-1-15

For 230 \pm 10%V 50 Hz 20 Amps specify Model PDA-1-25

For 230 \pm 10%V 60 Hz 20 Amps specify Model PDA-1-26

When ordering, please specify the catalog model number and instrument name. Ranges and other significant specifications should be included to insure accuracy in completing your requirements. Operating voltage and frequency other than 115 volts, 60 Hz should be specified.

PRICES

All prices quoted in this catalog are subject to change without notice and include standard domestic packing only. Formal price quotations remain firm for a period of 60 days. Minimum billing per order is \$15.00.

Prices listed do not include sales, use, excise, or similar taxes that are now in effect or that may hereafter be imposed by Federal, State or local governments.

TERMS

Our standard domestic terms of sale are 30 days net to established accounts, F.O.B. Cedar Grove, New Jersey. We reserve the right to effect shipment on a C.O.D. basis unless receipt of cash in advance. Determination of terms, prices, conditions of sale, and final acceptance of orders are made only at the company, Cedar Grove, New Jersey.

EXPORT TERMS

Full payment in advance of shipment against pro forma invoices; or by sight-draft; or irrevocable letter of credit.

COMMUNICATION

We maintain direct telegraph facilities with Western Union for prompt disposition of wires.

TELEPHONE — Area Code 201, 239-6200

TWX — 710-994-5781

CABLE — SOLUBRIDGE CEDARGROVENJ

SHIPPING INSTRUCTIONS

Please specify your shipping preference when ordering. Unless instructed to the contrary, we shall use our judgment for the most appropriate method of shipment. Emergency repair parts or other rush shipments can be made by air if requested.

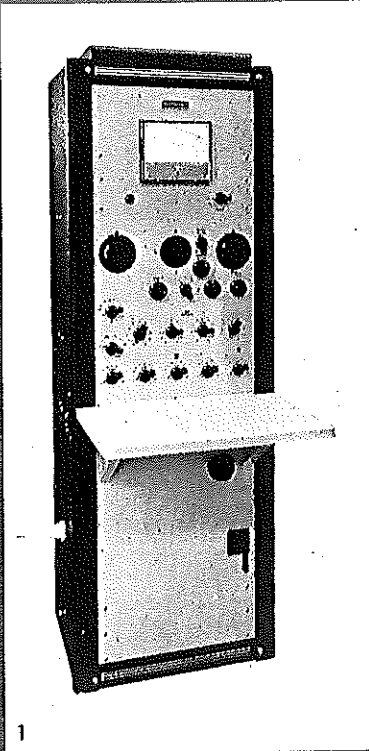
SPECIFICATION CHANGES

We reserve the right to discontinue any item without notice and to change specifications at any time without incurring any obligation to incorporate new features or modifications in equipment previously sold.

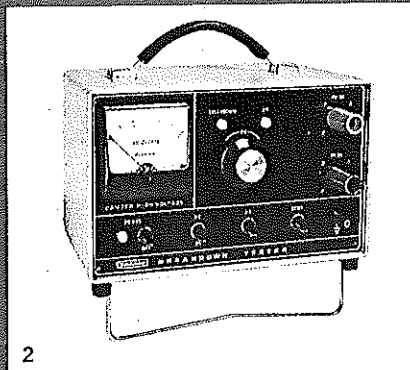
INSTRUMENT WARRANTY

BECKMAN INSTRUMENTS warrants each new instrument manufactured by us to be free from defects in material or workmanship for a period of one year after shipment to the original purchase. Our obligation under this warranty is limited to repairing or replacing products (excepting tubes, transistors, diodes or batteries) which prove to be defective during the warranty period. In no case is BECKMAN INSTRUMENTS liable for consequential or special damage arising from the use or misuse of our products. This warranty is in lieu of all other warranties expressed or implied.

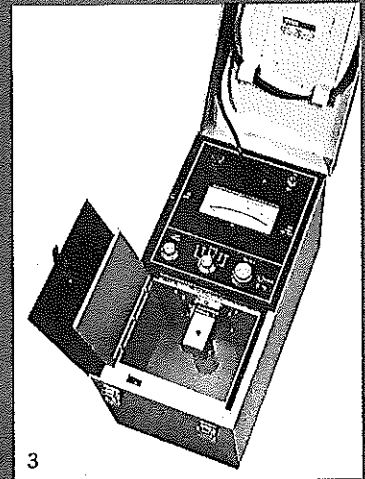
Other Electrical Test Equipment From Beckman Instruments



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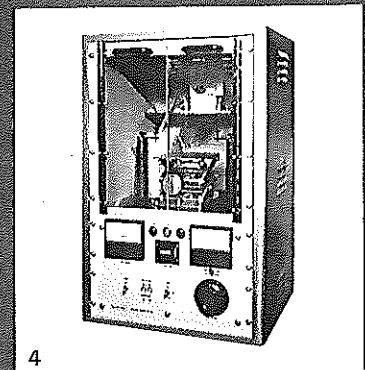
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1. Schering Bridges—Model PS Series — Used to measure dissipation factor and capacitance of electric insulating material while subjected to high-voltage stress. From these two measured values and the dimensions of the sample and test electrodes, dielectric constant, loss factor, and other values may be calculated.

2. Voltage Breakdown Tester—Model P-2B — Designed to test components and instruments to U.L. Test Spec. No. 499. Red panel lamp lights when breakdown occurs. Completely solid state—no relays. Ideal for production and lab use.

3. Insulation Testers — A variety of instruments to measure tracking and erosion resistance to ASTM D-2303; arc-resistance to ASTM D-495; or to determine the comparative tracking index of insulating materials to IEC Publication No. 112.

4. Comparative Tracking Index Test Set — Completely self-contained unit designed to determine the comparative tracking index of solid insulating materials under moist conditions as specified in IEC Publication No. 112 (Second Edition).



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The Beckman line of instrumentation for the evaluation of insulating properties is the most comprehensive in the industry. For more information, please write to Beckman Instruments at the address below.

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