

JDEVS

High Voltage Engineering Center



WWW.JDEVS.ir

Designing, Engineering & Manufacturing of:
High Voltage Test Equipment



01-HVCA01-04

QUALITY & SAFETY

INTRODUCTION

JDEVS is an Iranian public non-governmental self-finance scientific, engineering, and manufacturing organization established in 1980. It is mainly involved in technical and industrial activities in environmental, electrical, mechanical, civil, and architectural engineering through its different subsections, working as different centers with more than 500 well-trained employees.

High-Voltage Engineering Center started its research in designing and manufacturing electrical high-voltage test equipment in 1990. Now it is known as a major designer and manufacturer of high-voltage test equipment and high-voltage test laboratory in accordance with international standards. Besides, this center is capable of testing the generation, transmission, and distribution of power system equipment in Iran.

This center has been able to carry out valuable expertise and professional test services for industries and manufacturers which use high voltage equipment, as well as the production of high voltage test systems for higher education institutions and universities' laboratories according to international standards. Moreover, the center has a high-voltage test laboratory and portable high voltage equipment for both type and routine test services at the laboratory and on-site.

PRODUCTS

POWER FREQUENCY VOLTAGE TEST SYSTEMS

- Capability of cascaded connection of three modular transformers for voltage ratings up to 1200 kV
- Variety in power ratings to perform dielectric tests, high voltage withstand tests, etc.



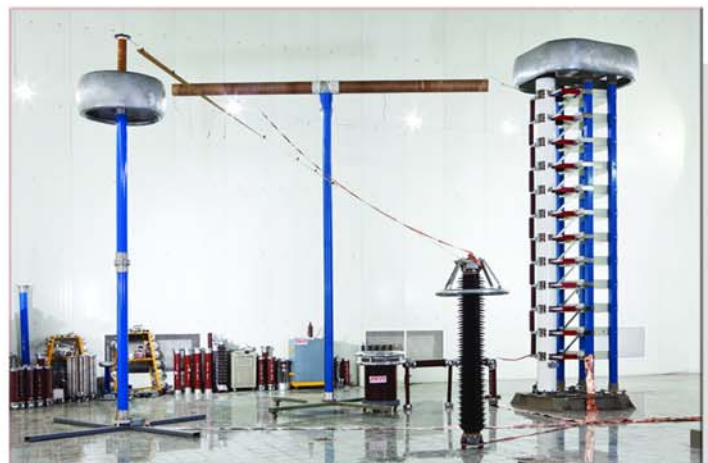
IMPULSE CURRENT GENERATOR TEST SYSTEM

- Applicable for testing MV and HV apparatus in transmission & distribution systems against impacts of lightning strikes or electromagnetic interference effects



HIGH-ENERGY IMPULSE TEST SYSTEM

- Designed based on Marx-Generator
- Generating a wide range of standard voltage impulses, such as lightning, switching, etc., to test high-voltage apparatus from 10 kV to 2.4 M





MODULAR TEST SYSTEM (AC, DC, AND IMPULSE)

- Providing AC, DC, and impulse voltages
- Portable, light, and easy to install
- Including transformers, diodes, resistances, capacitors, spark gaps, insulators, dividers, etc.

PORTABLE HIGH-VOLTAGE TEST EQUIPMENT

- Providing high AC and DC voltages
- Performing LV and MV insulation tests on-site
- Lightweight and user friendly



HIGH VOLTAGE RESONANT TEST SYSTEM

- Mainly for capacitive loads with low resistive loss, such as HV cables, GIS, and generator windings
- Variable reactance and frequency (20-300 Hz)
- Indoor and outdoor
- Variety in output voltage and power

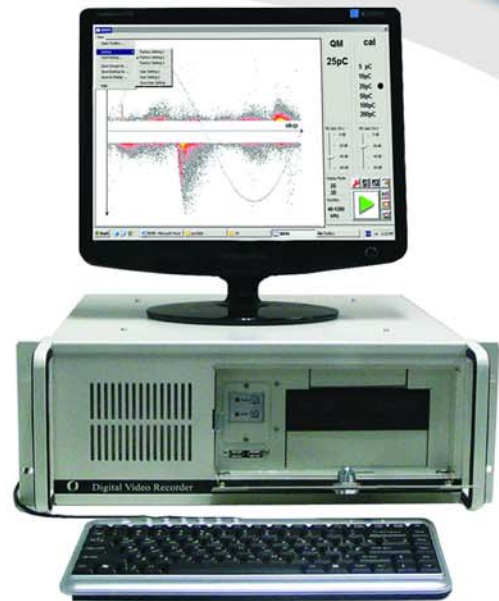
HIGH VOLTAGE LABORATORY TRAINING KIT

- Providing AC, DC, and impulse voltage circuits
- Suitable for training and research centers
- Capability of utilizing in various high-voltage engineering research fields



**PC-BASED SYSTEM FOR PARTIAL DISCHARGE
DETECTION AND ANALYSIS**

- Applicable to HV capacitors, transformers, insulators, cables, and electrical machines
- Including A/D card, computer software for PD signal processing, external calibrator, and external synchronizing system



**DISSIPATION FACTOR AND CAPACITANCE
MEASURING SYSTEM (TCM-400)**

- Applicable to electrical machines, power transformers, CT, PT, reactors, high-voltage capacitors, insulation materials, power cables
- Applicable in laboratory and on-site

IMPULSE ANALYZER

- Providing control for the charging and triggering of an impulse generator
- Automatic evaluation of all common impulse shapes and their parameters
- Supporting IEC 60060-1, and 61083 standards
- Intelligible documentation and reporting



**AC VOLTAGE INSULATION WITHSTAND
TEST SYSTEM (HPT-100)**

- Input voltage: 220 V, 50 Hz
- Output voltage: 0-5kV, 0-100 mA

HIGH-VOLTAGE LABORATORY

Providing standard tests and quality control services according to ISO/ IEC 17025 and other international standards. Accredited BY the National Accreditation Center of Iran, affiliated with the National Standards Organization of Iran. High-voltage measurement systems are alternatively calibrated by HIGHVOLT GmbH, Dresden, Germany.

- Providing power-frequency voltage up to 800 kV, voltage and current impulses up to 1800 kV and 20 kA, respectively, and three-phase current up to 4 kA
- Quality control and on-site tests, such as GIS and power plants
- Including power-frequency voltage withstand tests, lightning and switching impulse voltage tests, partial discharge tests, temperature rise tests, etc.



HIGH-POWER LABORATORY AND SHORT-CIRCUIT TEST EQUIPMENT

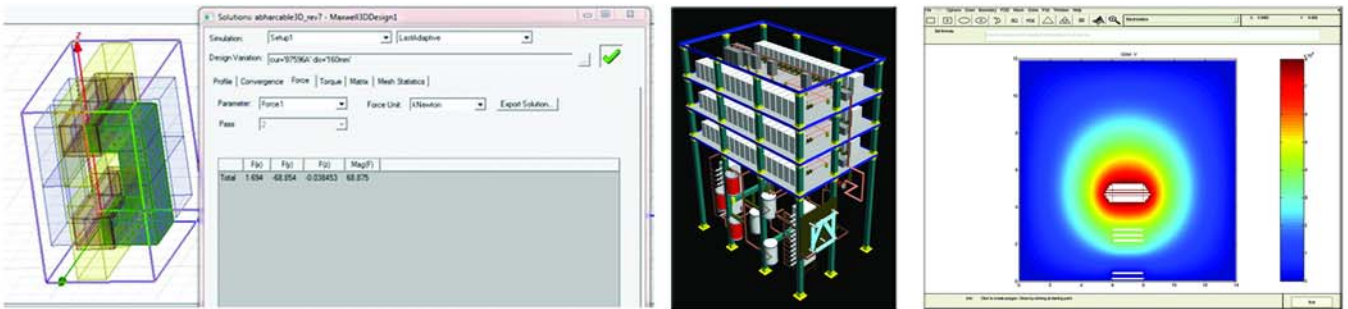
This laboratory can be adapted for short-circuit tests of various apparatus.

- Circuit breakers, earth switches, load-break switches, MV switchgear, polarization cells, current transformers, cables
- Short-circuit withstand test up to 50 kA
- Making and breaking (synthetic method) tests according to IEC 62271-100
- Capability of performing T10, T30, T60, and T100 tests according to IEC 62271-100
- Providing design and construction of high-power laboratory



RESEARCH AND DEVELOPMENT

The High Voltage Engineering Center is able to design and manufacture high voltage equipment with different voltage and power levels and to design high voltage laboratories.



TRAINING

JDEVS provides training courses on maintenance operations at two categories: for industrial fields and for universities. The courses are presented at JDEVS headquarters, and complementary courses are offered at JDEVS workshops.

GUARANTEE AND WARRANTY

Our products are guaranteed 12 months after commissioning or 18 months after delivery and have 15 years of spare parts supply. Extensive components and spare parts stocks are maintained to support clients with fast delivery and replacement services.

SPARES

Extensive stocks of components and spare parts are maintained to support clients with fast delivery and replacement services.

AFTER-SALES SERVICES

JDEVS is pleased to announce its fast after-sales services in the regional market. We respond to any requests from clients for supervision of installation, pre-commissioning or maintenance of JDEVS products by dispatching our specialists to customer sites in a very short time.

CERTIFICATES AND AWARDS

With its strong design, engineering, QC/QA and production based on IEC standards, JDEVS has been able to achieve many prestigious awards, patents and certifications such as ISO 9001:2008 and ISO/IEC 17025



REFERENCE LIST

Equipment class	Technical specifications	Quantity
Modular test systems	Up to 300 kV AC/ 400 kV DC/ 350 kV impulse	164
Portable high voltage test systems	75 kV AC/100 kV DC/ 350 kVA	36
Laboratory training kits	Up to 300 kV AC/ 400 kV DC/ 350 kV impulse	35
Power frequency test systems	Up to 1200 kV/800 kVA	19
High voltage resonant test systems	Up to 1200 kV/1000 kVA	4
High energy impulse test systems	Up to 2400 kV/240kJ	9
Partial discharge measuring systems	IEC 60270- 2000	21
High pot tester	5 kV AC/ 5mA	18
Dissipation factor & capacitance measuring system TCM- 400	Adjustable voltage/ up to 3A	3

Laboratory	Test object	Quantity
HV Laboratory test	Bushing, housing and insulator (wet and dry test)	561
	Type of electric motors, generators and stator bars	
	Transformer, current transformer and voltage transformer (CT, PT and CVT) and reactors	
	Capacitor	
	Cable and cable system	
	Switchgear	
	Surge arrester	
	Lightning conductor	
	Others	
HP Laboratory test	Vacuum Circuit Breaker (VCB)	64
	Load Break Switch (LBS)	
	Disconnecter switch	
	NGR	
	Current Transformer (CT)	
	Polarization Cell (PCR)	
	Junction Box	
	Switchgear	
	Others	
On-site	GIS station 20 kV~ 400 kV	53
	Power plant	



CONTACT US

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188-190 Malekloo St., Haidarkhani St., Farjam Ave., Narmak, Tehran, IRAN, (Postal box: 16765-1899, postal code: 1684933511)

- Workshop address: ACECR R&D complex, At the end of the Behesht Sakineh Cementry road, At the begining of the Karaj-Qazvin Highway, I.R.IRAN

JDEVS founded in 1980 as an industrial complex in Iran and operates in six core business areas. JDEVS is a leading designer and manufacturer of industrial power supplies, power protection system, high voltage test equipment, air pollution control, with a reputation for high quality and reliability products gained during its four decades of experience in the demanding market of Iran & ECO countries.



▼ Air Pollution Control Equipment

- Electrostatic filters, bag filters and scrubbers for non-metallic mineral and metal industries, refineries and petrochemicals
- Internal parts: collecting plates, electrodes, rapping systems, ...
- Upgrading of existing dedusting systems
- Supplying spare parts for ESPs and bag houses



▼ Oil Industry Equipment

- Designing & manufacturing of oil & gas land drilling rigs
- Designing & manufacturing of drilling rigs electrical and control system (SCR & MCC)
- Supplying spare parts, upgrading and repairing of land drilling rigs
- Technical & consultant services in the field of oil & gas land drilling rigs
- Automation in oil, gas and petrochemical industries
- Turn-Key projects in electrical and control packages
- Oil loading arms
- Submerged rotary jet (SRJ)
- Electrostatic oil desalter



▼ Mechanical Manufacturing Workshop

Manufacturer:

- Mechanical and steel equipments
- Steel structures
- Steel ducts with different sections & dimensions
- Cyclones, shots, hoppers & vessels
- Material handling systems (elevator, screw conveyor, drag china)
- Machining parts with light and semi-heavy weight
- Cage for bag filter



▼ Converters & Power Supplies

- Industrial UPS single/three phase(s)
- Standard UPS
- Industrial charger
- Variable frequency drive (VFD)
- Special converter & inverter
- Battery monitoring test system
- AC/DC no break system



▼ Industrial Transformers & Rectifiers

- High current transformer rectifiers for zinc, copper and aluminum industries
- High voltage transformer rectifiers for ESPs & vacuum coating
- Rectifier for metro traction transformer
- Continuously adjustable autotransformer
- Primary current injection power supply
- Dry type transformer
- Multiply voltage power supply



▼ High Voltage Test Equipment & Services

- AC, DC, impulse, resonant and hipot test equipment
- AC, DC and impulse measurement equipment
- Quality control testing services
- On-site test services (GIS stations and ...)

▼ R&D Groups and Dependent Companies

- Measurement, processing and control
- Industrial power supplies
- Electrical converters and power systems
- Electro-Mechanics
- JDEVS power engineers Co
- Fajr-e-Tosea consulting engineers Co