



JDEVS

Special Transformers Center



WWW.JDEVS.ir

Designing, Engineering & Manufacturing of:
Special Transformers & Rectifiers



TRCA 03-00

POWER QUALITY

INTRODUCTION

JDEVS is an Iranian, public nongovernmental self-finance scientific, engineering and production organization, which has been established in 1980. It is mainly involved in technical and industrial activities in the fields of electrical, mechanical, civil and architecture engineering through its different subsections working as different centers by more than 500 well trained employee. This center of JDEVS in close cooperation with its partners, design and manufacture standardized and tailors made DC, AC, and Periodic Pulsed Reverse rectifiers and related equipment for industrial applications and test laboratory. Manufacturing your solution from the first sketch and not just assembling a product is our mission. Our products convert electrical energy supplied by public utilities into the required current type for any application. The Transformer-Rectifiers are designed and manufactured to meet the client's individual specifications. Our product family gives almost infinite current and voltage possibilities and meets almost all plant specific requirements. The product portfolio ranges from low-current desk top laboratory units to 200,000 A rectifiers for electrolytic processes employing **switch-mode**, **SCR** and **variable transformer technologies**. Our rectifiers are utilized in a variety of industries, such as **aluminum anodizing**, **coloring of aluminum**, **chrome**, **hard-chrome**, **ECM** (electro chemical machining), **plasma technology** and **water treatment**. These products are characterized by high reliability, optimum design, minimum maintenance, easy accessibility and low losses.

PRODUCTS

HIGH CURRENT TRANSFORMER RECTIFIER

Application:

- Production of non-ferrous metals by electrolysis and electrowinning
- Aluminum anodizing
- Electroplating



Technical Specifications

- Input voltage: up to 20 kV/ 50 Hz/ 1 or 3 Ph.
- Output current: up to 200 kA DC
- Output voltage: up to 500 V DC
- Cooling: AN, ANAN, ONAF, ONAN, DWF
- Auto/manual control of output voltage & current
- Electronic control by microprocessors
- Standard port for connection to computer
- Suitable for industrial and laboratorial environments

HIGH VOLTAGE TRANSFORMER RECTIFIER

- Application

- Electrostatic Precipitators
- Vacuum Coating

- Technical Specifications:

- Input voltage: 380 V, 50 Hz/60 Hz
- Phase: single phase
- Apparent power: 10 kVA-350 kVA
- No load peak voltage: 30 kV up to 140 kV DC
- Impedance voltage: (30 + 5)%
- Output current: 200-2500 mA
- Protected by DMCR relay
- Hermetic case
- Oil immersed type
- Microprocessor based controller
- HV/LV control cabinets



VARIABLE FREQUENCY DRIVE (MV VFD)

- Technical Specifications:

- Input Supply: 4.16 to 20 kV - 50/60 Hz
- Output Voltage: 3.3, 4.16, 6, 6.6, 6.9 kV - Up to 120 Hz
- Output Power: 400 to 2500 kW
- Efficiency: 96%
- Power Factor: 0.97
- Duty Cycle: Continuous
- Cooling Method: Forced Air Cooled/ Water Cooled
- Operating Temperature: 1 to 40 °C
- Protection Class: IP21 to IP32
- Motor Speed Control Method: Scalar (V/f), Vector (FOC) with/without Sensor, DTC

Fields of Application:

- Oil, Gas and Chemical Industries: Pumps, Compressors, Extruders, Mixers and Blowers
- Cement, Mining and Minerals Industries: Conveyors, Crushers, Mills, Mine Hoists, Fans and Pumps
- Power Generation Industry: Fans, Pumps, Conveyors and Coal Mills
- Water and Wastewater Industry: Pumps
- Transportation Industry: Traction Electromotors of Metro, Trains and Ships
- Metals Industries: Fans and Pumps
- Pulp and Paper Industries: Fans, Pumps, Refiners, Vacuum Pumps and Chippers
- Other Applications: Test Stands and Wind Tunnels

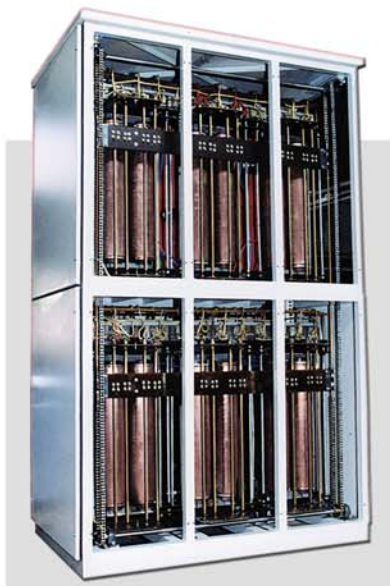


RECTIFIER FOR METRO TRACTION SUBSTATION**Technical Specifications**

- Type of rectifier: silicon diode
- Configuration: $2 \times$ parallel three phase bridge (12 pulses)
- Type of installation: indoor
- Enclosure degree: IP 31
- Method of cooling: AN
- output voltage: up to 3000 V DC
- Rate power: up to 4500 KW
- Rate current: up to 5000 A DC
- Standard: IEC 146 class VI
- Max. ambient temperature: 40

Main Parts:

- 1- Diode bridge
- 2- Terminal box of auxiliary connections
- 3- Complete diode module (Diode heatsink & RC circuit)
- 4- Control box of the rectifier

**SPECIAL POWER SUPPLIES AND TRANSFORMERS****1. CONTINUOUSLY ADJUSTABLE AUTOTRANSFORMER****- Application**

- Quality control tests
- Speed control of fans
- Variable AC and DC power supplies
- Temperature control
- Lighting control

- Technical Specifications

- Input Voltage: 220/380 V, 50 Hz
- Output Voltage: 0~250/430 V, 50 Hz
- Max output current: 50~500 A

2. PRIMARY CURRENT INJECTION POWER SUPPLY**- Application**

- Primary tests: Current transformers, protective relays circuit breakers, Over load relay tests
- Temperature rise tests
- Lose connection tests

- Technical Specifications:

- Input voltage: 220, 380 V/50 Hz/ 1 or 3 Ph
- Output current: 0-10 kA/ 50 Hz
- Output voltage: 0-3 V/50 Hz
- Type of control: Manual/ motorized adjustable with or Without stabilizing
- Display: Digital voltmeter & ammeter
- Protection: Thermal and magnetic relay
- Duty cycle: Continues
- Equipped with a digital timer for measuring duration of test



3. DRY TYPE TRANSFORMERS

- Application

- Drilling rigs
- Transformers
- Motor-drives
- Lightings
- Rectifiers
- Furnaces, welding, & high current applications, ...

- Technical Specifications

- Input voltage: up to 1000 V/ 50 Hz/ 1 or 3 Ph
- Output voltage: up to 1000 V/ 50 Hz/ 1 or 3 Ph
- Rating power: 2.5 kVA-3.5 MVA
- Conductor Type: copper & Aluminum
- Single/three phases
- Buck & Boost (one/three phases)
- Auto Transformers
- Opti-miser dry type transformers for high efficiency & cost effectiveness



4. MULTIPLY VOLTAGE POWER SUPPLY (HVDC)

- Technical Specifications:

- Input: 220 V/ 50 or 60 Hz/ 1 Ph
- Output: 0-200 kV DC/ 0-10 mA
- Type of control: adjustable & stabilizer voltage
- Cooling: dry type
- Duty cycle: continues
- %Ripple: less than 1%



RESEARCH AND DEVELOPMENT

15% of the workforce is dedicated to R&D to ensure that you always get the best available technology. Our technical sales team supports you through the order process and defines your needs to identify the optimal power supply or controller for your process.

TRAINING

Training the engineer and staff of employer is one of our missions. We provide a complete training according to customer needs and request.



QUALITY CONTROL

All our products are 100% tested under full load conditions and inspected for quality before delivery.



GUARANTEE AND WARRANTY

All JDEVS products have 12 months after commissioning or 18 months after delivery, guarantee and 10 years warranty as minimum. Also, these services may be provided on client's request.

SPARES

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

AFTER-SALES SERVICES

You are in good hands with us Because of a certified and experienced team available any time to answer your request. We offer different on-site services: Maintenance, Commissioning and Repair. We render all services not only for our own products, but also for products of other manufacturers.

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



JDEVS SPECIAL TRANSFORMERS & RECTIFIERS WORKSHOP

Special transformer center workshop located in ACECR (the Holding organization of JDEVS) Science and Technology Park, at km 55 Tehran-Qazvin High way, Supa Blvd., Iran, With the area of 90 hectare. The center has a workshop area of 200 square meters and equipped with adequate facilities for the manufacture of transformers and rectifiers in a variety of industries are suffering. It also has a research and development center at the University of Science and Technology.



REFERENCE LIST

Products	Technical specifications	Number of customers	Date
Special Power Supplies	0-300kV / 0-30A	More than 100	1995 - Now
High Current Transformer Rectifiers	0-3000V / 0-30kA	More than 50	2000 - Now
High Voltage Transformer Rectifiers	0-180kV / 0-3000mA	More than 100	1995 - Now

CONTACT US



- Website: www.jdevs.ir
- Company central E-mail: info@jdevs.ir
- Main office tel: +98 21 77455001 – 2
- Main office fax: +98 21 77455003
- Sales & marketing group tel.: +98 21 77276569
- Head of special transformers center tel.: +98 21 77457228
- After sales services tel.: +98 21 77457581
- Main office address: 188-190 Malekloo St., Haidarkhani St., Farjam Ave., Narmak, Tehran, IRAN,
(Postal box: 16765-1899, postal code: 1684933511)

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