



# **JDEVs**

## **Electromechanic R&D Groups**



**WWW.JDEVs.COM**

Designing, Engineering & Manufacturing of:  
Mechanical & Electrical Equipment for Oil, Gas, Petrochemical And Other Industries



**INNOVATIVE 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 environmental, electrical, mechanical, civil and architecture engineering through its different subsections working as different centers by more than 500 well trained employee.

Electromechanic R&D Groups, is one of these subsections which has developed innovative designs in the Iranian oil & gas industry. With dedicated and experienced professionals, Electromechanic R&D group focuses on three main areas: (1) design of industrial processes in a variety of packages for oil and gas industry, (2) design, manufacturing and optimization of equipments and accessories for oil and gas industry, and (3) design and optimization of oil and gas industry.

## PRODUCTS AND SERVICES

### SUBMERGED ROTARY JET (SRJ)

Designed to prevent sludge accumulations, submerged rotary jet mixer (SRJ) directs powerful jets of oil that dissolves and re-suspends the accumulated sludge throughout the oil. SRJ breaks the sludge of the bottom of the storage tanks into small pieces after which the sludge is decomposed and dissolved in the crude oil while the sludge floats up. Since tank sludge can accelerate corrosion, reduce storage capacity and disrupt operation selecting a proper tank cleaning method is essential. Among different methods of tank cleaning, SRJ is a reliable and cost-effective method that greatly reduces the personnel exposure risks and hazards without the need to vent the tank or remove it from service. In this technology, liquid is pumped from the bottom of the tank then directs with higher pressure within the tank through a rotary nozzle. In many applications, the submerged rotary jet mixer provides the fastest and most efficient mixing results. JDEVS as a pioneer designer and manufacturer of SRJ in Iran fabricates different type of srj to meet the tank cleaning requirements.



### **ELECTROSTATIC OIL DESALTER**



Since crude oil naturally contains brine, salt and water should be removed to prevent serious problems as corrosion of equipments in processing units so efficient desalting in both field and refinery applications is an essential process. Electrostatic oil desalter is an effective technology to remove residual salt to meet the standard sales specification for crude oil. For this purpose, electrical field (AC or AC/DC) is used to excite brine droplets within the oil phase so that they collide with other droplets and

coalesce into larger ones that can separate under gravity. Some main components of electrostatic oil desalters are high voltage transformer, rectifiers, powerful electrodes, pumps and valves, etc.

JDEVS with experts in different fields offers various types of electrostatic oil desalting units, each with their own benefits and applications, including AC or AC/DC desalters, single or two stage process, on-site or skid mounted units, in addition to some innovations to cover some typical requirements in this field like utilizing composite materials for vessels and electrodes.

### **RESEARCH AND DEVELOPMENT**

JDEVS R&D group focuses on developing new products, investigating the relevant issues and improving the existing technologies.

- Design of industrial separation processes in a variety of packages for oil and gas industry
- Design, manufacturing and optimization of equipments and accessories for oil and gas industry
- Design and optimization of oil and gas industry

### **AFTER SALES SERVICES**

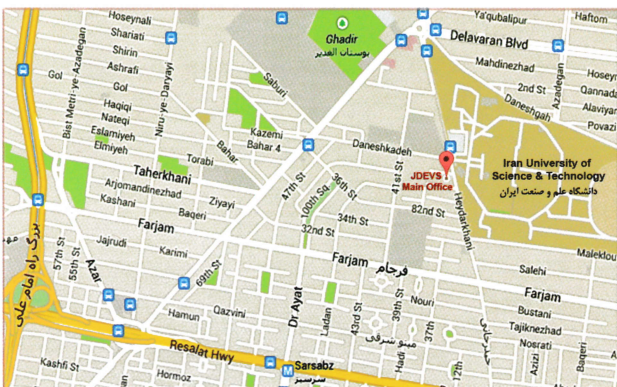
JDEVS offers a broad range of services for the clients including technical services, onsite services for convenience, consulting services, quality spare time delivery, repair, etc. to guarantee more uptime and continuous production. We try to develop our business by offering outstanding after sales services to fulfill our client requirements.

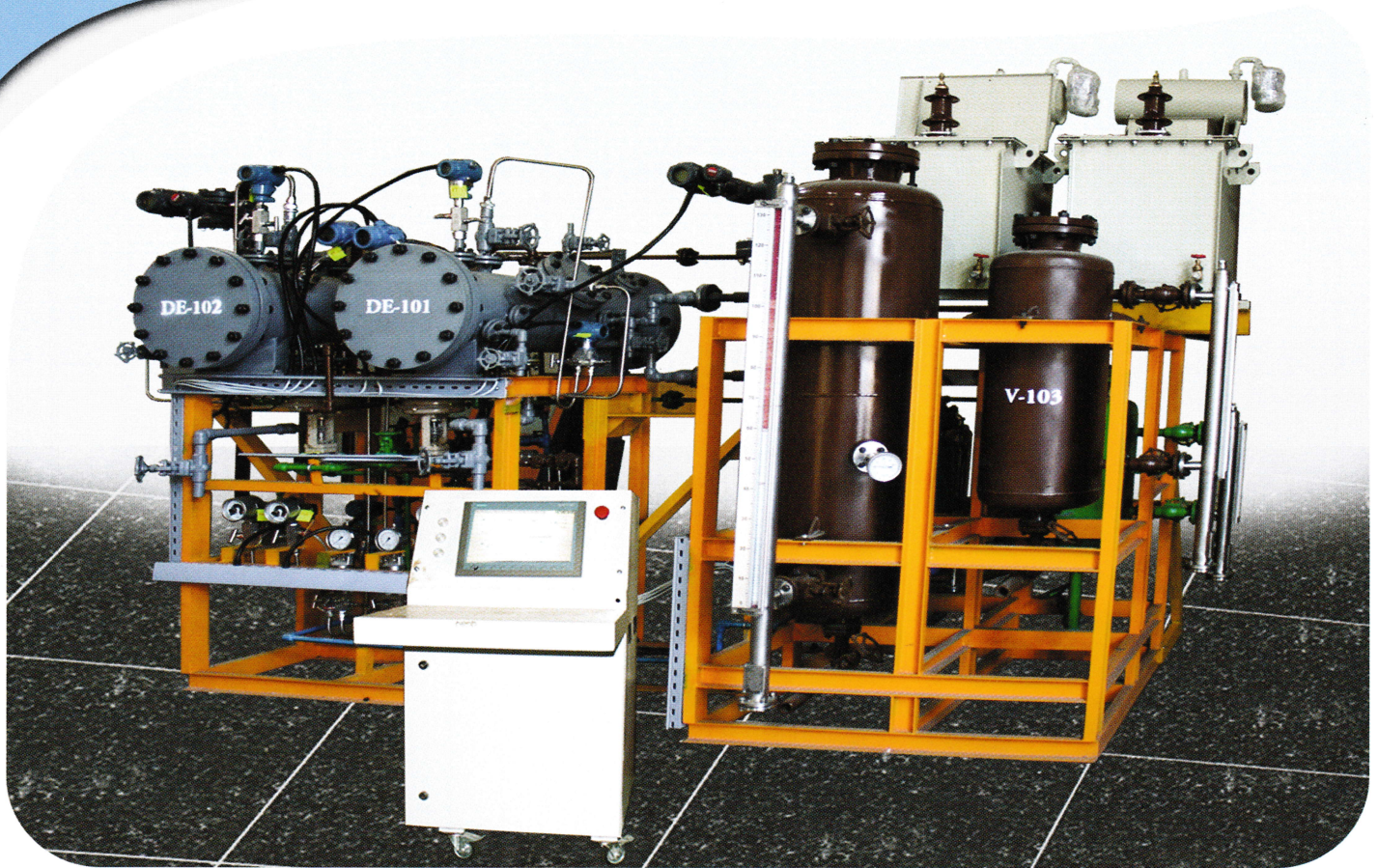
### **TRAINING**

JDEVS with a wide variety of technical experience can provide advanced level courses and workshops to meet the training objectives of the costumers and other applicants.

### **CONTACT US**

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### ● *Crude Oil Desalting Simulator*

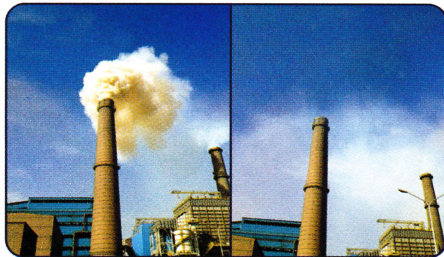
Crude oil electrostatic desalter, found in oil refinery, is a common part of oilfield production systems to remove dissolved or suspended inorganic salts, sand and other impurities from the crude stream in order to reduce downstream system corrosion, abrasion, coking, fouling and plugging. In addition, oil desalters play an important role to fulfill the crude oil specifications (BS&W: <0.5%, salt content: <10 PTB) for sale or refinery feed.

There are some main parameters affected on desalting efficiency including temperature, demulsifier quality and quantity, dilution water flow rate, applied voltage, etc. JDEVS Desalting Simulator package has the ability to find the best operating values of the parameters besides monitoring and control of operating conditions. Therefore, low capacity portable desalting simulators can reveal a cost and time effective way to optimize the performance of industrial scale oil desalting units. The JDEVS electrostatic oil desalting package has the following specifications but it can be customized according to customer's

#### **Requirements:**

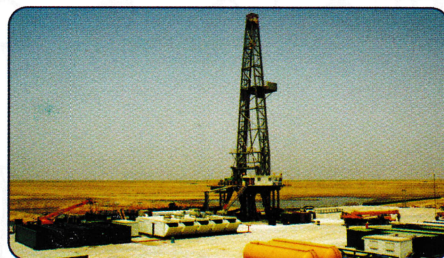
- Feed capacity of 25 BBLD
- Operating temperature of 60°C
- Operating pressure of 10 bar
- Continuous voltage variation up to 21 KV
- Shipping dimensions (LXWXH) of 5600x2600x3700 mm

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

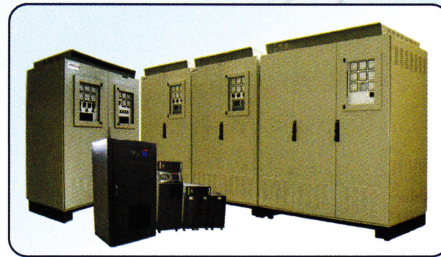
- Designing & manufacturing of oil & gas land drilling rigs
- Designing & manufacturing of drilling rigs electrical and control system (SCR & MCC)
- Supplying spare parts, upgrading and repairing of land drilling rigs
- Technical & consultant services in the field of oil & gas land drilling rigs
- Automation 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

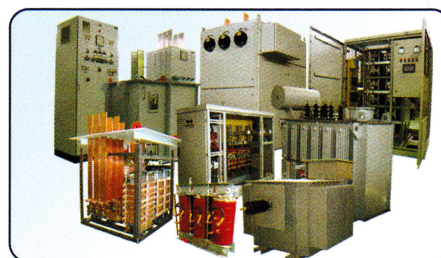
Manufacturer:

- 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



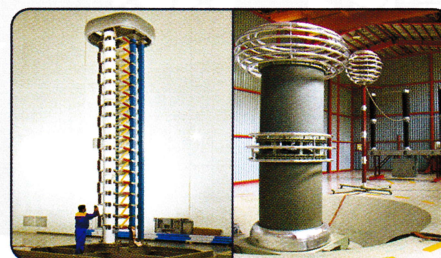
## ▼ Converters & Power Supplies

- 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

**JDEVS**



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