Custom Products
for
Electrical
Submersible Pump Industry
Welcome to Service & Manufacturing Corporation

“If you need it, we will make it!”

Route 5 Box 280
Bartlesville, Oklahoma 74003, USA
Phone: (918) 336-8433 • Fax: (918) 336-3987
Email: SMCSHOP@aol.com
In the following pages we are pleased to present a variety of equipment specifically designed for the oil field and related industries. All of these items are designed, built and tested to meet operating conditions around the globe, including deserts, arctic, and rain forests. These products have been successfully used and accepted in the field. Most of these products were previously produced by Pioneer Industrial Services, LLC from Bartlesville, Oklahoma, U.S.A.

In October 2001, Pioneer Industrial Services integrated their major product lines with Service and Manufacturing Corporation - SMC, also of Bartlesville, Oklahoma, USA. This business decision was formulated to ensure the availability of Pioneer's products, parts, and services to the electrical submersible pump industry with the same or better quality and cost. Several of Pioneer's employees also now work for SMC bringing their Pioneer experience and institutional memory to SMC.

SMC was founded in Bartlesville, has been in operation for ten years, and is recognized as a highly reliable organization providing excellent value to customers. During the ten years of operation, SMC has served oil, gas, oil refining, pipeline, cement, agricultural chemical, industrial chemical, grain, research and development facilities, etc. with its motto:

"If you need it we will make it."

SMC is a wholly-owned subsidiary of Service and Technology Corporation - STC, located less than a mile away, a consulting engineering firm with well-experienced engineers, designers and other staff in all basic fields of engineering. These include civil, structural, mechanical, electrical, controls and chemical. STC's staff has substantial experience in skid-mounted equipment, package plants, pilot plants, etc. in oil, gas, coal, HVAC and many related industries worldwide. This allows SMC to avail needed services in various engineering disciplines strictly on an "as needed" basis without the full-time overhead cost or reliance on such help at random.

The Pioneer-SMC team has the experience of manufacturing quality custom products for the electrical submersible pump industry for a decade. We have custom designed and manufactured each project from basic specifications provided by the customer. Pioneer-SMC has worked with industry personnel worldwide to provide many innovations in regard to design, function, safety and reliability.

The Pioneer-SMC team pledges our total commitment to serve you. We look forward to continue serving the industry for many years to come. Please contact us by calling Tim Smith at (918) 336-8433, by fax at (918) 336-3987 or by email at smctim@aol.com.

Sincerely,

The Pioneer-SMC Team
MAJOR PRODUCTS
(Please click on the items below to view additional descriptions)

- **VSD / Transformer Skids**
  - Major Features
  - VSD Features
  - Typical VSD / Transformer Skid Projects
    - Off Shore
    - Desert
    - Arctic
    - Equatorial

- **Transformer / Switchboard Skids**
  - Typical Transformer / Switchboard Skid Projects
    - Syria
    - Syria HPS Power Skid

- **Containerized HPS Systems**

- **Junction Boxes**

- **Cable Handling Equipment**
  - Hydraulic Cable Spoolers
    - Off Shore, Zone II
    - On Shore, Zone II and non-classified areas
    - High Torque Spooler
    - Control Tubing Spooler
    - Trailer Mounted
    - Truck Mounted
    - Winch Truck

- **Installation Equipment**
  - Cable Sheaves
  - Installation Stove Pipe
  - Consumable / Tool Boxes

- **Shop Repair / Test Equipment**
  - Pump / Motor Dismantle Bench
  - Hydraulic Protector Vise
  - Shaft Straighteners
  - Cable Splicing Bench
  - DMST Test Bench
  - Vacuum / Pressure Test Bench
  - Equipment Clamps
  - Coiled Tubing Pump

- **Custom Display Models**
Pioneer-SMC has manufactured over 100 VSD/Transformer skids of various custom configurations for Off' Shore, Desert, Arctic and Equatorial environments. Sizes range from 100 to 1200 KVA, and input voltages up to 33 KV.

**Major Features**

- Step Down and Step Up Transformers
- Main Disconnect Circuit Breakers
- Input and Output Junction Boxes
- Bus Tie Arrangements
- Harmonic or Low Pass Filters
- Downhole Monitoring Equipment
- Data Acquisition Equipment

**VSD Features**

- Enclosures for the VSD range from open with sunshade and security cages to totally enclosed, air conditioned and pressurized for Zone II applications
- Safety equipment include emergency shut down systems, gas and fire detection, operation shutdowns
- Secondary containment for transformers where required
- Stainless steel hardware and three coat marine paint systems where required.
Typical VSD / Transformer Skid Projects

Off Shore

i. Persian Gulf off the coast of Qatar, three phase project consisting of rig survey and subsequent design of modular skids for installation below decks of step down transformers, VSD, switchboards, step up transformers and related switchgear.

ii. Persian Gulf off the coast of Qatar, 1200 KVA VSD/Step up Transformer skid, pressurized for Zone II with gas and fire detection and harmonic filter. Separate Step Down transformer skid. Photograph shows with side panels removed.
iii. Off coast of Indonesia, 390 KVA three modular skids for stacking on platform complete with pre-connected cabling to simplify installation
Syria, Two phase project consisting of 20 Step Down / VSD / Step up transformer skids ranging from 200 to 600 KVA, Open and Air Conditioned enclosures, low pass filters.

i. Kuwait 815 KVA Step-down Transformer/VSD/Step-up Transformer Skid with Air Conditioned enclosures

ii. Abu Dhabi 454 KVA VSD/Step-up Transformer Skid with Air Conditioned enclosures
iii. Abu Dhabi 541 KVA VSD/Step-up Transformer Skid with Air Conditioned enclosure

Arctic

VSD / Transformer skids designed for Arctic environment with structural and insulation considerations for extreme cold temperatures. Sizes have ranged from 100 – 1200 KVA.

i. 100 KVA Arctic VSD enclosure with Step-up Transformer
ii. 1200 KVA Arctic VSD/Step-up Transformer with Harmonic Filter Skid for Russia with Air Conditioned enclosures

![Image of 1200 KVA Arctic VSD/Step-up Transformer]

**Equatorial**

i. West Africa 309 and 410 KVA VSD/Transformer skids

![Image of West Africa 309 and 410 KVA VSD/Transformer skids]

ii. Cameroon, Multi VSD enclosure and individual step up transformer skids, with gas and fire detection.

![Image of Cameroon, Multi VSD enclosure and individual step up transformer skids]
iii. Sumatra 518 KVA

iv. Indonesia VSD/Low Pass Filter/Step-up Transformer Skid
Pioneer-SMC can manufacture Transformer / Switchboard skids of various custom configurations for Off’Shore, Desert, Arctic and Equatorial environments. Sizes range from 100 to 1200 KVA and input voltages up to 33 KV.

Features include

- Step Down Transformer
- Medium Voltage Disconnect Switches
- Input and Output Junction Boxes

Enclosures for the skid include

- Sunshade and Security Cages.
- Secondary containment for transformers (where required)
- Stainless Steel Hardware (where required)
- Three coat marine paint systems (where required)
i. Syria
   600 KVA bypass skid for temporary power in the Al-Furat field

ii. Syria HPS Power Skid
    HPS Power Skid for power of HPS system
• Two HPS systems containerized for Kazakhstan, with secondary containment, suction and discharge manifold piping and maintenance hoist system.
Junction Boxes

- NEMA 4X Well Head Junction Boxes with mounting pole for service between step up transformer and well head penetrator.

- Explosion Proof Junction Boxes, cast copper free aluminum or cast steel boxes for Zone I applications.

- CEX Splitter Boxes, Off Shore Brunei, 316 stainless steel boxes with internals and cable glands for Zone II applications.
Cable Handling Equipment

Hydraulic Cable Spoolers

Capacity up to 24000 pounds, variable speed for installation and retrieval of down hole cable.

i. Off Shore, Zone II

- Four piece breakdown type for transportation to platform.

- Self Loading type
ii. On Shore, Zone II and non-classified areas

- Self Loading type

- Stationary type
iii. High Torque Spooler

- Modular High Torque Spooler

iv. Control Tubing Spooler

- Triple Control Tubing Spooler - three individual spool feeds with constant pressure for running downhole.
• Double Control Tubing Spooler

v. Trailer Mounted

• Columbia

vi. Truck Mounted

• Mexico –24,000 pound capacity and provision for empty reel.
- Kuwait – 16,000 pound capacity

- Venezuela – 20,000 pound capacity, built to fit truck on location

vii. Winch Truck

- Ecuador - 30,000 pound capacity winch truck
Installation Equipment

i. Cable Sheaves

- Traditional Wheel Type Sheave

- Gooseneck Cable guide
ii. Installation Stove Pipe

- For installation of down hole equipment

iii. Consumable / Tool Boxes

- Aluminum or steel construction
i. Pump / Motor Dismantle Bench

- For disassembly or assembly of downhole pumps and motors, various options of winches, rams, equipment clamps and power supplies.

ii. Hydraulic Protector Vise

- For handling down hole protectors, manual and hydraulic models.

iii. Shaft Straighteners

- For straightening pump shafts, hydraulic powered

iv. Cable Splicing Bench

- For repair and splicing of down hole cable
v. DMST Test Bench

- For testing and calibration of down hole monitoring tool

vi. Vacuum / Pressure Test Bench

- For pressure and vacuum testing down hole cable and other devices
vii. Equipment Clamps

- For installation of down hole equipment

viii. Coiled Tubing Pump

- Pneumatic powered, two-stage pump assembly for filling coiled tubing with insulating oil.
SMC has designed and built custom display models including cut-away sections of pumps, motors, and separators. SMC also designed and built the custom crates to ship these models safely to various sites worldwide.

Thank you!