

GROUP OF COMPANIES



SKID PACKAGES | HVAC | STEELWORK | HOT OIL FLUSHING | CHEMICAL CLEANING | HYDRO JETTING |
RETROJETTING | PIPING / TUBING | BOROSCOPE | ELECTRICAL | MECHANICAL | HYDRAULIC

www.spcosg.com

- **S** YNERGY
- P ROFESSIONALISM
- **C** OMPETENCY
- O RGANIZATIONAL EXCELLENCE

SINGAPORE - MALAYSIA - INDONESIA - INDIA - CYPRUS - VIETNAM



CORPORATE PROFILE

Founded in 26th of September 2003, SPCO Holdings began its journey in providing professional Chemical Cleaning services for Marine, Oil & Gas, and Petrochemical industries across Singapore. Chief Executive Officer of SPCO, P.Gopal has more than 20 years of experience in this field. The continuous support from our clients, gained experience, and dedicated operations teams have led us to expand our business elsewhere, starting with Batam, East & West Malaysia, India, Cyprus including Labuan FT and other regions. At the same time SPCO developed its business into piping, mechanical, and electrical. And always maintaining highest quality standards in every step of process.

The individual business units at SPCO provide full-function R&D, QA, engineering and customer service to meet customer requirements 24/7. Our Workshop operates with full equipped facilities with well maintained Administration, HSE and environmental quality.

Our Vision



Enrich the community by providing leadership and services reflecting the pride and values

our MISSION

Corporate Neighborhood recognized as being customer focused, safety conscious, service orientated, well managed proactive and above all, a company that cares for its customers, employee and community.



OUR AWARDS – OUR COMMITMENT

The QA/QC fully functions as an autonomous departments ensuring and enforcing all quality standards are strictly adhered.

We are an ISO 14001, ISO 9001, OHSAS 18001 certified company.

Few of our Satisfied Clients Certificates, Member of ASPRI and Registered with BCA





OUR MAJOR CLIENTS

































































































































HEALTH, SAFETY & ENVIRONMENT (HSE) POLICY

QUALITY, ENVIRONMENTAL, HEALTH & SAFETY, SECURITY POLICY

The SPCO GROUP OF COMPANIES is committed in providing quality services to our customers and operate its business in ways that ensure environmental protection, occupational health & safety and security from any terror threat.

These policies will be achieved by:

- Minimize environmental impact by controlling waste, recycling goods, use of environment friendly materials and conserving natural resources by proper usage.
- Provide a safe and healthy working environment free from known ill-health, safety hazards and critical risk.
- ✓ Protect against any known threat by equipping our workplace with necessary control measures and by keeping abreast of current events.

The SPCO Group will make efforts to continually improve at all times by:

- Ensuring compliance with all legal and legislative obligations.
- ✓ Providing information, instruction, training and supervision as required; and ensuring that all employees as well as contractors are aware of their roles, responsibilities and the need to practice control measures.
- ✓ Establishing and implementing objectives and targets to measure the overall success of the company's management system performance.



WORKSHOP FACILITY @ TUAS

50,000sqf of land area



HYDRAULIC SERVICES WORKSHOP



HVAC FABRICATION WORKSHOP



STEEL, PIPING FABRICATION WORKSHOP & CHEMICAL CLEANING BAY PLATFORM



ELECTRICAL WORKSHOP



MACHINERY WORKSHOP



STORAGE PLACE

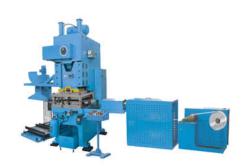




OUR WORKSHOP AVAILABLE MACHINERY EQUIPMENT'S



DUCT AUTOFOLD MACHINE



HEAT EXCHANGER COOLER FIN PRESS MACHINE



RADIAL DRILLING MACHINE



HYDRAULIC PRESSES VERTICAL MILLING MOTOR



MACHINE



LATHE MACHINE



SYMMETRICAL ROLLING MACHINE



HYDRAULIC PRESS BRAKE MACHINE IS USED TO BEND ALL KIND OF PLATES



SHEET CUTTING MACHINE MANUAL SHEET SHEARING



CNC PLASMA CUTTING MACHINE



OUR CAPABILITIES

HVAC-R

- Engineering, Procurement Construction & Commissioning
- FPSO, E-House, Jack-up Rig, Semi-sub Rig, Offshore Platform Etc
- Onshore Hazardous Areas HVAC for LNG Plants and Process Facility for Oil and Gas Industry
- Trunkey Power and Control System Design and Supply
- Sale of HVAC Equipment and Material
- Specialist in Custom Built Ex. Proof A/C Units, Packaged A/C Unit, Fans etc.
- Sale of Spare Parts

MECHANICAL

- Repair, Service, Supply
- Service and Troubleshooting Crane /Hydraulic System
- Heat Exchangers, Coolers /Condensers
 (Oil, Water & Chemical)
- Pumps (Centrifugal, Water, Oil & Etc)
- Winches, Davit and Grab System
- Boiler/Economizer
- Deck Machinery and Services of Accumulator Bottle
- Repair & Overhaul Hydraulic Cylinder and piston Rod

PIPING SYSTEM

- -Chemical Cleaning (Pipes, Boilers, Tank & Etc)
- -Hot Oil Flushing
- -Pressure Testing / Nitrogen & Helium Leak Test
- -Leak Test
- -Foam Pigging
- -Design
- -Fabrication/Repair/Modification
- -Tubing

CARPENTRY

- -Living Quarters, Galley & GYM
- -Flooring

PROFESSIONAL SERVICES

- -Hydro jetting/Retro jetting (<40,000 psi)
- -Boroscoping (Pipes, Ducts & ETC)
- -Flange Management, Bolt Tensioning & Torque
- -Laser alignment
- -All Type of insulation
- -Tank Gauging
- -X-Ray
- -MPI
- -Riding Crew (all trade)
- -Fire Alarm/CCTV
- -Modification/Troubleshooting

ELECTRICAL

- -Designing
- -Instrumentation
- -Navi System
- -MV/LV Cable Pulling & Termination
- -Control Panel-Termination/Testing
- -Electrical Motors (Repair, Service)
- -Automation
- -Fire Alarm/CCTV
- -Modification/Troubleshooting



OUR SERVICES

MARINE HVAC SPECIALIZATION

- Marine / Offshore HVAC Complete Turnkey Engineering and Design
- Overhauling of Air Conditioner and Reefer's Compressor
- Ducting Fabrication and Ducting Insulation Works
- Cabin Box / Diffuser
- Light Steel Works and Outfitting
- Fabrication and Re-tubing of Shell & Tubes Heat Exchanger
- Mechanical Ventilation Fan Design and Installation
- Dehumidifier System
- Robotic Air Duct Cleaning
- Marine Carpentry & Renovation Works
- Rental of reconditioned Marine Air Conditioner

MECHANICAL SERVICE

- -Chemical Cleaning
- -Hot Oil Flushing
- -Pressure Testing
- -Pigging
- -Bolt Tensioning /Torque
- -Hydrojetting/Retrojetting
- -Service of Crane System
- -All type of Load Test c/w Certificate
- -Boiler Servicing
- -Tank Cleaning

PROFESSIONAL SERVICES

- -Boroscoping & Video Robotics Inspection
- -Supply of Marine spare parts/tools
- -Blasting & Painting
- -De-sloping

CARPENTRY

-Design , Supply , Install & Modification

ENGINEERING SERVICES

Engineering Drawing

- -HVAC/R Equipment Dimensional General Arrangement (GA)
- -Ducting & Instrument Diagram (D&ID)
- -Piping & Instrument Diagram (P&ID)
- -Ducting Layout & Duct Supports
- -Duct Spool & Penetration Detail Drawings
- -Air Stack & Air Plenum Box, Mushroom Ventilators & Exhaust Goosenecks Details
- -Ductwork Fabrication & Shop Drawing & Details
- -HVAC/R Calculation, Analysis & Equipment Sizing, Duct Sizing
- -HVAC/R Equipment Technical Reports, Data Sheet & Specification
 - √ a. TRP Technical Requisition Package
- ✓ b. TBE Technical Bidders Evaluation
- -Technical & Engineering Drawings
- -PDMS 3D Modeling for HVAC/R Piping

Engineering Documents Preparation

- -MTO Preparation
- -Weight Control Report
- -Testing & Commissioning Procedure (complete HVAC System)
- -Air Flow Balancing Procedure (Ductwork Line)
- -Duct Leak Test Procedure (Ductwork Line)
- -HVAC Duct & Equipment's Preservation Procedure
- -Ductwork Erection Procedure
- -HVAC Equipment's Mechanical Handling Procedure
- -Technical Requisition Package (TRP)

Other Trades Engineering Services

- -Piping System (Fabrication, Installation)
- -Condenser/Cooler System(Fab& Services-Insite)
- -Electrical
- -Hydraulic
- -Underwater Works



OUR SERVICES

HVAC&R ENGINEERING PROCUREMENT CONSTRUCTION CONTRACTOR (EPCC)

Our company specialize in Turnkey HVAC&R design, fabrication and installation for the marine / offshore, Oil and Gas industries for a variety of application like FPSO/FSO conversions, Drill barges, Drill ships, Inland barges, Jackup rig, Offshore platforms, Semi sub and submersible rigs, Electrical house, Topside module and all kinds of oceangoing vessels.

We can design and build to meet project specific requirements or alternatively supply proprietary equipment from all of the major HVAC&R equipment manufactures.

HVAC&R REPAIR / OVERHAUL / UPGRADING SERVICES

Our services typically include some or all of the following:

Complete System Installation

Performance review of existing system and recommend/implement corrective measures

Overhaul of air conditioning and reefer compressors

Fabrication and installation of ducting

Duct and Air conditioning of ducting

Duct and Air conditioning Insulation works

Repair renewal and refit of cabin boxes/deffuser

Indoor air quality measurement

Air balancing

Robotic Duct cleaning

Mechanical Ventilation fan installation

Fire dampers repair/renewal and maintenance

Repair/renewal and maintenance of Air Handling Units, Chillers, Condensing units

Repair/renewal and maintenance of Provision refrigeration system

We take care of your entire HVAC&R system maintenance, repair and conversion requirements regardless of the size from the small repairs to large projects

STAY COOL WITH SPCO GROUP





WE ARE AUTHORIZED DISTRIBUTER / SERVICE PROVIDER

- . Marine/Offshore Air Conditioning equipment
- . Custom made Air Conditioning equipment, Air handling units, and condenser
- . Sea water cooled package units and self contained units
- . Evaporator cooling and heating coils
- . Vessel cold rooms
- . Chillers (With Sea Water Condenser)
- . All Major Brands of air conditioning spare parts
- . Spiral Duct and Ducting fitting (single and double skin)
- . Diffuser, Grilles, Cabinunits, Sound Attenuators and Air boxes
- . Fire dampers (classification approved type) electrical and pneumatic
- . Mechanical ventilation fans
- . Fire retardant, flexible ducting and accecories (BATAFIAFLEX)
- . Pre-insulated duct panel (Piralu & Hao Hai)
- . Electrical Control panels
- . Dehumidifier system



























AIR DUCT CLEANING

Entire duct cleaning and vent cleaning process:

- Step 1 Our technicians begin with pre-cleaning inspection and
- Step 2 Next, we use a Super collector-filtered vacuum to systematically clean:

Furnace Evaporator coil

Blower

Vent covers

- Step 3 The vacuum is connected to the main trunk line to collect dirt, dust and other contaminants lodged deep within the system.
- Step 4 A variety of agitation tools dislodge the dirt and debris
- Step 5 Then, we blow compressed air through each air duct to ensure that the vacuum removes any dirt loosened during agitation.
- Step 6 On completion of duct cleaning works, the owner officer in-charge shall be invited for a joint inspection. Thereafter, an official report shall be submitted including photo's before and after. Any damages or deficiencies found in the duct system shall be stated in the report for client / owner's follow-up action plan and record.



Robotic Inspection & Cleaning Systems



Powerful Air Brush & Air System
Duct Cleaning Tools



Portable Vacuum Collector System



Air Ducting Clean Before & After



INSULATION SERVICES

SPCO formed a group of specialist to cater to the market in need of solutions for piping insulation. Our team possesses excellent knowledge of metal fabrication and installationk works in hot, cold thermal insulation as well as metal fabrication works for pipes, pipe fitting, equipment tank, exchanger, vessel, tower etc.

The SPCO experience results in incomparable expertise in the commissioning of insulation solutions.

THERMAL INSULATION:

- Field of Insulation Services
 - Maintenance- Shut down, Annual
 - Expansion/ Extension of existing plants
 - · New built plants/ vessels/ Oil rigs/ plat form / FPSO conversion
- Scope of work
 - Piping and Ducting systems
 - Spherical and Storage tanks
 - · Vessel and equipment
 - · SBM buoys
 - Incinerators, furnaces and boilers
 - · Stacks and chimneys
- Type of insulation
 - · Hot and cold insulation
 - Cryogenic insulation
 - Sound barrier insulation
 - In-situ Polyurethane foam filling
 - · Pre-fabricated insulation

- Insulation Materials Options

- Elastomeric Insulation
- Calcium Silicate
- Ceramic Fiber
- Fiberglass
- Foam glass
- Mineral wool
- Phenolic Foam
- Polyisocyanurate (PIR)
- Polyurethane

- Cladding Options (Jacketing)

- Aluminium
- · Stainless Steel
- · Galvanized Steel
- · Silicone Cloth
- · Glass Cloth
- ULVA Shield



OUR INSULATION WAREHOUSE & EQUIPMENT















WE ARE AUTHORIZED DISTRIBUTER / SERVICE PROVIDER FOR AMERIDEX PLATE EXCHANGERS:

TYPE OF PLATE EXCHANGERS

- 1. Conventional Gasketed Plate exchangers
- 2. Dual Section Plate exchangers.
- 3. Ameri Safe Double wall Plate Exchangers
- 4.Semi welded / Brazed Plate Exchangers

MATERIAL

Exchanger

- 1.Stainless Steel
- 2.Titanium
- 3. Hastelloys
- 4.Incoloys
- 5.Other Pressable steel

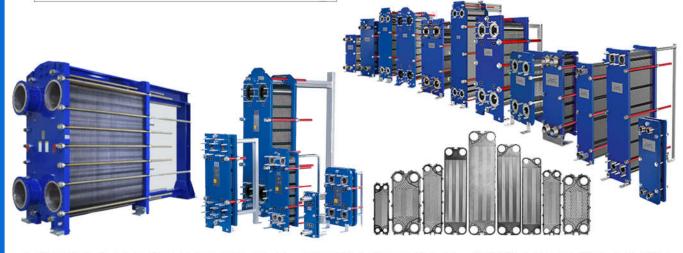
Gasket

- 1. Nitrile Rubber
- 2.EPDM
- 3. Viton

APPLICATIONS

- 1.Domestic Water Heating
- 2. Engine Cooling / Portable Fluid
- 3.Heating
- 4.Reverse Osmosis
- 5.Pasteurization
- 6. Nuclear/Safety
- 7.Pharmaceutical
- 8. Heat pumps & Heat Recovery
- 9. Hydraulic And Fuel Oil Units
- 10. Solar Heating & Air Conditioning Unit
- 11.District Heating
- 12.Steam Heating

AMERIDEX





FUEL GAS SKID FABRICATION





SPCO - Design, engineering and fabricate Fuel Gas Skid package as Client requirements from initial design through Factory Acceptance Testing (FAT), We have the internal capabilities to provide a skid package complete with engineering, fabrication, controls and instrumentation, electrical wiring, pressure testing, performance testing and installation for marine and oil & gas industries.

Fuel Gas skid package operates a complete range of fuel gas conditioning packages suitable for all applications of gas turbine and gas engine, both onshore and offshore. These units are fully assembled, tested and certified skid mounted modules.

Frame : Mild Steel Frame Structure With 4 Lifting Lugs

Skid : Length 2580mm x Width 2040mm x Height 400mm

Weight : 4.0 Ton

Medium : Fuel Gas

Vessel : Carbon Steel Material – SA 516 Gr 70N – ID 400

Vessel Design Pressure : 20 Bar

Vessel Design Temperature : 70 Deg C



CHEMICAL STORAGE TANK FABRICATION

SPCO - Design, engineering and fabricate Chemical Storage tanks as per Client requirements. Chemical Tanks not only made from material resistant to that chemical stored, it will also be designed to operate within the mechanical parameter (pressure and temperature, erosive & corrosive) of it application parameters.





1,000 Litres Tank

Capacity: 1,000 Litre

Material: Stainless Steel

Heater: 3 Phase, 415V, 20kW

Size : 1.2m x 1.2m x 1.2m

Weight: 850kg

8,000 Litres Tank

Capacity: 8,000 Litre

Material: Stainless Steel

Size : 3.0m x 2.0m x 2.0m

Weight: 4060kg



PRESSURE VESSEL FABRICATION





Air Receiver Tanks provide compressed air when short-term demand exceeds the compressor output. They reduce pulsation and repetitive cycling of the compressor operation.

They also remove moisture and entrained oil from the air allowing them to settle to the bottom of the receiver where it can be periodically blown off. Air Receivers Tanks are used in compressed air systems to store the compressed air and to permit pressure to be equalized in the system. They are sized to best supplement the air compressor operation, typically one gallon of storage for each actual cubic foot per minute

END USER	TRANSOCEAN ASIASERVICES SDN BHD
ENG"G COMPANY	SPCO ENGINEERING PTE LTD
PROJECT NAME	TRANSOCEAN KEY
SITE	BRAZIL
DELIVERY DATE	2012
DESCRIPTION	MUD GAS SEPARATOR
MATERIAL	SA561-70N
SIZE	2,800 ID X 5,400 L
WEIGHT	15 TON
THICKNESS	12.7MM



PIG LAUNCHERS FABRICATION



SPCO, Engineering Design and Fabricate PIG Launchers as per client requirements. Pipe launchers are installed in pipelines to launch and receive Pipeline Pigs for the cleaning of pipelines internal wall surfaces.

The Pig Launcher and Receiver (PLR) was designed to meet customer requirements for field commissioning operations. The PLR is easily modified to function as a pig launcher if required. The PLR may be configured through any range of operating pressures.

Launchers and receivers for sub-sea, off-shore and onshore are available. All units are designed and manufactured to pipeline and vessel design codes including:

NACE ASME VII BS5500

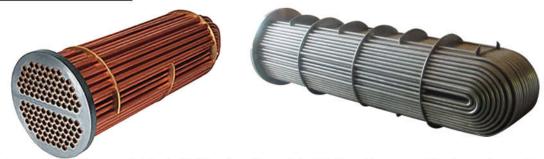
ASME B31.3, B31.4, B31.8

Our capacity ranges from 2" NS to 54" NS, ANSI Ratings 150# to 2500# and API, using carbon, stainless and alloy steel materials



U - TUBE BUNDLE & CHARGE AIR COOLER FABRICATION

U - TUBE BUNDLE



SPCO - Design, engineering and fabricate U Tube Bundle and straight bundle as per Client requirements. We also provide a professional services such as servicing and repair of bundles. We offering you a one-stop solution in the shortest possible time.

We manufacture Tube Bundle, which is used in various industrial segments for specific applications. We offer tube Bundle in various specifications.

Attributes : Heavy duty

Endurable Corrosion resistance

Heat resistance Long performing life Can bear high temperature

CHARGE AIR COOLER





We specialize in Charge Air Coolers Servicing, Repair & New Fabrication. Our ability to deliver the quality products will significantly reduce the risk of experiencing downtime operations, giving our valued global clients peace of mind knowing that their charge air coolers are properly serviced and supplied by us. Our high technology facilities along with our experienced specialists and effective QC Department attest to above claims.



MECHANICAL SERVICE FOR MARINE & OIL AND GAS SECTOR







SPCO Group provide mechanical services for marine and oil & gas service industries. Our services and repair facility is staffed by skilled specialists and is fully equipped to provide you with unparalleled levels of service.

A carefully planned and thoroughly enforced system is put in place to achieve quality work and deliver customer satisfaction, consistently.

Our Mechanical Service as follow as:

- Removal & Refitting of coolers, Heat Exchangers from Onboard at all Shipyards and Anchorages locally and overseas.
- Overhaul, repairs and recondition of Rotating Machineries, Compressors, Winches, Gears Pumps and Valves
- Maintenance, recondition, overhaul and replacement of all Mechanical, Hydraulic and Pneumatic Equipment and System.
- Shaft alignment of Rotating Machineries.
- Clearing of Choked Tubes from Coolers and heat exchangers.
- > Hydrostatic Testing with In-House Test Certificate in accordance with ISO procedures provided.
- Mechanical Repair and Power Plant Maintenance Works.
- Removal, Service, Repair and Re-Installation of Cooler And Heat Exchangers
- Crane Servicing (Overhauling) Related Works and servicing all types of cylinders.



SUPPLY FABRICATION & INSTALL INCLUDE COMMISSIONING (PIPING, SINGLE CORE TUBE AND MULTICORE TUBE)

Fabrication & Erection of Process Piping / Single Core Tube / Multicore Tube : Pipe / Tubing fabrication processes involve the shaping, cutting, bending or size alteration of pipes formed from various materials for wide-ranging applications. Pipe fabrication services include many diverse processes that take place after or during pipe formation in order to customize the pipe for its intended application.

PIPING EQUIPMENTS AND FABRICATION



PIPE CUTTING MACHINE



FABRICATION EQUIPMENT



WELDINGMACHINE



PIPE BENDING MACHINE



PIPE WELDING



FABRICATED PIE SHOE & CLAMPS



PIPE SPOOLS



PIPE MACHINE WELDING



FABRICATED PIPE SPOOLS

SINGLE CORE TUBE AND MULTICORE TUBE



AUTO CLAVE HYDRAULIC TIGHTEN



FITTING TORQUEING



AUTO CLAVE TUBING



JACKET TUBING



SOLENOID BOX JACKET TUBING



STEELWORK FABRICATION & ERECTION

SPCO Group's provide offshore steel structures, Shipbuilding's, Ship repair work in yard, anchorage and voyage as per customer requirements.

Our group of company is staffed with effectiveness, highly skilled (Supervisors, Marker, Structural Fitter and Welder) and experienced in several fields of expertise to handle your assignments promptly and on schedule.

All the previous year until now, we mainly serves Keppel Fels Ltd, Keppel Shipyard Ltd (Tuas/Gul Yard) & Drydocks World (Singapore), Mencast Holdings, Anchorage and Voyage repair.

We pledge and honor our aim to maintain the highest standard of service to our Customers and continuous strive for higher standard in Safety so as to achieve zero incident records.

Our Nature of Works:

Offshore Steel Structures

Jack up rig hull blocks, Submersible rig columns and Living Accommodation Quarters, Shale shaker House and Mud processing systems. Crane pedestal and deck out fittings. FPSO modules & Drillship (Sub-structure, moon pool and sponson tank), E-Gen House,



Ship Repairs Conversion, Ship lengthening and major steel plate's renewals.







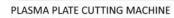














PLASMA PLATE CUTTING MACHINE FAB & ERECTION OF ANCHARAGE JOB



HANDLING NEW FPSO MODULES & SUPPLY VESSEL



AFLOAT REPAIRS



Hydraulic:- Hydraulic cylinder, power packs, Repair and testing of hydraulic pumps, motors and brakes

Electrical:- Alternator Generator servicing, Transformer Rewinding, Motor and pump overhauling, Cable laying and termination works

Pipeline Services:- Engine room pipeline repair works and cargo line pipes modifications

Steel Fabrication: - We offer Steel fabrication and repair services - Example side shell plate renewal

Mechanical:- PBCF Installation, Valve servicing, Main engine Air cooler and Dump Condenser fabrication and chemical cleaning)

Our other services: - Tank cleaning, Vessel Name change, Ship side fender change, Carpentry works, chemical cleaning, hot oil flushing & Pressure Testing Etc.



VIDEO INSPECTION (BOROSCOPING)

A video camera pipe inspection allows for a real-time visual inspection of underground sewer lines and other piping to determine the condition inside the pipe. A flexible fiber optic cable with a specially designed high-resolution video camera on its tip is inserted into the pipe for inspection. As the cable is pushed through the pipe, the hardened waterproof camera, equipped with powerful lights, records its journey and findings. Video images are transmitted to the camera operator who can make an informed diagnosis of any problem found. The video inspection can be saved for a permanent record. Video cameras may be used to identify pipe damage and obstructions that inhibit proper flow or create occasional or repeated backups. The cameras also verify that obstructions have been eliminated and that the lines are clean following service. The condition of a pipe typically cannot be determined without a visual inspection using an in-line camera







Video camera inspections pinpoint problems like these:

- Broken, cracked or collapsed pipe damaged pipes requiring repair or replacement.
- Offset pipe sewer pipes have become misaligned due to shifting soil, frozen ground, settling, etc.
- Blockage grease buildup or a foreign object is restricting or prohibiting proper flow and/or cleaning the of Line.
- Corrosion the pipe has deteriorated and/or broken, causing sections to collapse and restrict water flow.
- ➤ Bellied pipe a section of the pipe has sunk due to ground or soil conditions, creating a valley that collects paper and waste.
- ➤ Leaking joints the seals between pipes have broken, allowing water to escape into the area surrounding the pipe.
- Root infiltration tree or shrub roots have invaded the sewer line, preventing normal leaning and/or roots have damaged the pipe.
- Off-grade pipe existing pipes are constructed of substandard or outdated material that may have deteriorated or corroded.







CHEMICAL CLEANING PROCESS

When compared to mechanical cleaning methods, SPCO Chemical Cleaning processes can reduce downtime, exposure to toxic materials and environmental hazards, while helping the plant run more efficiently. SPCO offers a pro- active approach to Chemical Cleaning. We will benchmark the facility to identify all key process equipment that would benefit from a chemical cleaning program over the next run cycle.

We then collaboratively develop an annual work scope, complete with a cost benefit analysis and implementation plan.

SPCO offers the most up to date chemical cleaning technologies to remove residual oils, corrosion products, water hardness deposits, and other foulants from industrial process equipment. The combination of our world class laboratory facilities and experienced chemist – with our "flawless execution standards", provides our clients with guaranteed results.



HIGH PRESSURE WASH



CHEMICAL CLEANING WASH





HEAT EXCHANGER HIGH PRESSURE WASH



HEAT EXCHANGER
CHEMICAL CLEANING WASH



HEAT EXCHANGER PLATE
BEFORE & AFTER CHEMICAL CLEANING



PIPELINE CHEMICAL CLEANING PROCESS



HOT OIL FLUSHING PROCESS



SPCO HOF-500 UNIT



SPCO HOF-1200 UNIT



SPCO HOF-3000 UNIT



EXTERNAL OIL FILTER STAND



FILTER OIL SAMPLE

SPCO Hot Oil Flushing service provides you with hot oil, high velocity, high pressure flushing which removes moisture and residual contamination found in piping systems.

SPCO specialized equipment not only flushes your system, it also dehydrates and purifies your oil. This service is ideal for your new and in-service turbine, hydraulic, lube and thermoil systems.

This service is not limited to naturally occurring contamination, it can also be used following a chemical flush to remove harmful chemical residue in your equipment. Our Industrial Hot Oil Flushing Service operates on the principle of turbulent flow, which requires the understanding and skill of a trained technician to ensure that significant damage does not occur to your system during the process.

SPCO provide a unique oil flushing service, using conventional or our patented equipment, developed to increase operating efficiency and reduce timescales. This equipment, and our team of experienced technicians, provides an effective and highly economical service onshore, offshore and overseas, for the rapid and effective cleanup of lube, seal and hydraulic oil systems. Our equipment is compact, transportable, may be diesel or electrically driven and configured to work in hazardous areas.

Conventional Flushing Units

SPCO conventional flushing Model: HOF 500/1000/1200/3000-Equipment has been developed over many years to ensure the correct parameters are achieved during flushing operations. Flow rates up to 100Ltr to 3000Ltr/min can be achieved using our equipment.



HYDRO / RETRO **JETTING PROCESS**









HYDRO JETTING ILLUSTRATION FLOW





RETRO JETTING DEBRIS PIPE CLEANING PROCESS









WATER JETTING PROCESS AND PIPELINE JETTING PROCESS

BEFORE AND AFTER HYDROJETTING PIPELINE PROCESS

Hydro Jetting, also known as water jetting, is the process of using high and ultra-high pressure water to clean open and enclosed areas (even areas that are difficult to access), surface prepare materials for coatings, remove clogs and cold-cut materials. Using water pressure from 3,000 psi to 35,000 psi, these techniques have been used in practically every industry where cleaning and decaling is required.

Hydro-Jetting also known uses high velocity water pressure to blast away years of accumulated scale, silt, sand, and grease build-up on the inside walls of your pipes. At 4000 psi hydro-jetting has the power to burst open the toughest blockages and at the same time scours the full diameter of the pipe, flushing debris and leaving lines clear. There is no better way to get your pipes draining as well as the day they were installed, short of replacing them completely. Maintain your drains with a regularly scheduled maintenance program to keep your system in top operating condition.

Major equipment to be cleaned

- Internal and external surfaces of heat exchanger, boiler tubes.
- Tower, air fin coolers and pipe lines.
- Cleaning of sewage and drainage facilities.
- Internal and external Surfaces of tanks.
- Water conveyance pipes for hydraulic power plants.



RETRO JETTING DEBRIS CLEANING PROCESS



HYDRAULIC BOLT TORQUING & TENSIONING

SPCO provides a faster and safer means of accurate bolt loading. We are equipped with a full range of all sizes and pressure tensioning/ torqueing equipment tools. With in-house stock of bolt tensioning equipment up to and including 6" stud sizes and bolt torqueing equipment up to and including 38500 nm pressure, we are able to tackle most day to day requirements of assembly projects. When required, larger sizes are easily accessible from our UK/US principals for the exceptional, one off projects. Special items such as sea serpent tension equipment, ultra sonic bolt scope/scan equipment, hydraulic nuts, nut spreaders and flange spreaders are also available For Cost efficiency, we can now offer the complete' One stop' Solution to Pressurized joint integrity.......



- De-tensioning / torqueing
- Full joint survey (joint diagnostics device to identify any problems)
- In-situ machining of joint if survey outlines problems.
- Accurately calculated and controlled Hydraulic Bolt tensioning & Torqueing
- · Printed Certificates of bolt loading and joint integrity









SAMPLING & TESTING EQUIPMENT

Proper oil sampling is critical to an effective oil analysis program. Without a representative sample, further oil analysis endeavors are futile. There are two primary goals in obtaining a representative oil sample. The first goal is to maximize data density. The sample should be taken in a way that ensures there is as much information per milliliter of oil as possible. This information relates to such criteria as cleanliness and dryness of the oil, depletion of additives, and the presence of wear particles being generated by the machine. The second goal is to minimize data disturbance. The sample should be extracted so that the concentration of information is uniform, consistent and representative. It is important to make sure that the sample does not become contaminated during the sampling process.

This can distort and disturb the data, making it difficult to distinguish what was originally in the oil from what came into the oil during the sampling process. To ensure good data density and minimum data disturbance in oil sampling, the sampling procedure, sampling device and sampling location should be considered. The procedure by which a sample is drawn is critical to the success of oil analysis. Sampling procedures should be documented and followed uniformly by all members of the oil analysis team. The hardware used to extract the sample should not disturb sample quality. It should be easy to use, clean, rugged and cost-effective. In addition, it is important to use the correct bottle type and bottle cleanliness to assure that a representative sample is achieved.



USING TWO TYPE OF OIL ANALYSIS PARTICAL COUNTER













PRESSURE TESTING PROCESS

We specialize on carry out hydro test, air test, oil test at high pressure using our latest and high end Equipment Technology on:

- Hydrostatic testing of piping, hoses, valves, vessels and fittings to 1000 Bar (15000 psi).
- Pneumatic testing of piping, hoses, valves, vessels and fittings.
- Pressure Safety Relief Valves
- Bolt torqueing
- Desiccant and Vacuum Drying.
- Nitrogen Purging.
- Data based test pack development and project tracking

We have various types of Hydraulic piping lines including of systems.

- Capstan Hydraulic piping system.
- Anchor Windless Hydraulic piping system.
- All type of Hydraulic Cylinders.
- Towing Winch Hydraulic piping system.
- Cargo /Hatch cover Hydraulic Piping sys
- Tugged Winch Hydraulic piping system.
- Top Drive Hydraulic piping system.
- Stern Tube Hydraulic piping system.
- CMC Hydraulic piping system.
- Fuel Oil piping system.
- Roughneck.
- Lube Oil piping system.
- Crane Hydraulic piping system.
- BOP Hydraulic piping system.
- Cement Mud Line.



HIGH PRESSURE TESTING PUMP UNIT (OIL / WATER)



CHART RECORDER



PRESSURE TESTING PROCESS



PRESSURE GAUGE



PRESSURE TESTING PUMP



HEAT EXCHANGER TUBE CLEANING PROCESS



Tube Cleaning Systems are designed for cleaning straight tubes in fire tube boilers, air heaters and other pressure vessels with a 1-1/2 to 4-1/2-inch Outer Diameter. They are ideal for removing soot and scale. Each kit includes an electric drive unit and all accessories and tools required for thorough tube cleaning. The high speed rotation (1725 rpm) of the expanding heavy-duty brush shaft and casing.

- Cleaning Straight Tubes in Fire Tube Boilers, Air Heaters, and other Pressure Vessels
- Air driven tube cleaners that remove light to heavy scale deposits
- > Electric tube cleaning equipment to remove soot and scale
- Tube cleaning brushes ideal for cleanup after cutter bit use
- > Tube expanders that are self-feeding and available in various lengths
- > Tube pullers that are easy to use and available for manual and hydraulic applications
- Boiler tube plugs for sealing off leaking tubes with a minimum amount of driving



DESIGN, BUILD & SERVICE INCLUDE COMMISSIONING (HYDRAULIC, MECHANICAL, ELECTRICAL SYSTEMS)

HYDRAULICS

SPCO Hydraulics offers a vast range of hydraulic products, Engineering and MRO Services cater for heave compensation tensioner system for riser or pipe laying system, deck machinery, offshore crane, hydraulic grab, oil cooler, hydraulic power pack or fitting.

Our field engineers and technicians are able to provide unrivaled technical skill backed by years of offshore and onsite experience. We can be mobilized globally to provide the following services:

- Project Management
- Commissioning
- Site Inspection
- Design, Manufacture and installation of hydraulic circuitry
- Maintenance, Repair and overhaul
- Upgrades or Modification

HYDRAULIC PIPELINE SERVICES

We have experience in a complete range of hydraulic pipeline services:

- Fabrication and fittings
- Maintenance, Repair and overhaul
- Flushing with hydraulic fluid analysis
- Microscope / sampling kit
- Pressure Test
- Hose Cutting / Skiving / Crimping Services
- Supply of Hydraulic Hoses





HYDRAULIC HOSE & FITTINGS WAREHOUSE SALES ALL TYPE HOSES, FITTINGS, VALVES AND FLANGES





HYDRAULIC HOSES





HYDRAULIC HIGH PRESSURE VALVES



HYDRAULIC FLANGES



HOSES CRIMPING MACHINE





HOSE ACCESSORIES WAREHOUSE

HOSE SKIVING MACHINE



CARBON STEEL & STAINLESS STEEL ADAPTER

- NPT x JIC ELBOW
- NPT x JIC
- JIC UNION ELBOW
- JIC UNION BULKHEAD
- JIC UNION TEE
- JIC UNION CROSS
- JIC SW ELBOW
- JIC SW BR TEE
- JIC SW RUN TEE
- JIC SW x NPT
- JIC x NPT BR TEE
- JIC REDUCER
- BSP x JIC ELBOW - SAE x JIC





CARBON STEEL SINGLE FERRULE TUBE FITTING

- STRAIGHT UNION
- ELBOW UNION
- TEE UNION
- SWIVEL ELBOW
- SWIVEL RUN TEE
- MALE STUD
- FEMALE CONNECTION
- WELDING BULKHEAD
- BSPP REDUCER
- S KOR REDUCER



SALES ALL TYPE HOSES, FITTINGS, VALVES AND FLANGES

STAINLESS STEEL TUBE FITTING

- **3** 6 6 60 00 00 00
-

- Ferrule Set
- Nut
- Female Connection
- JIC Male Connection
- Reducer
- Male Elbow Connection
- Male Connection
- Union Straight
- Union Bulkhead
- Union Reducing
- Union Elbow
- Union Tee
- Male Connector
- Male Elbow
- Swivel Elbow
- Swivel Branch Tee



BRASS COMPRESSION FITTING

- Easy to assemble.
- Excellent sealing qualities.
- Suitable with various types of tubing.
- Pressure (up to 14 bar, 36 bar max).
- Temperature (-75°C to +120°C).



OIL & SHAFT SEALS

Steel Protective Coil Spring



Steel Protective Coil Spring



PROTECTIVE COILS AND SLEEVES





HIGH PRESSUE VALVE



PVC TUBE & PIPE CLAMP



HIGH PRESSURE QUICK COUPLINGS







3000 psi and 6000 psi

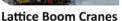
QUICK RELEASE COUPLING

HYDRAULIC FLANGES



OFFSHORE PEDESTAL CRANES







Hybrid Cranes



Knuckle Boom Cranes



Jib Crane



Fixed Boom Cranes



CRANE HIGHLIGHTS

- Electric or Diesel Driven.
- Designed for Various Hazardous Areas (Safe to Zone1)
- ➤ Up To 100 mT SWL Capacity.
- Lifting speeds up to 114 m/min.
- Constant Tension.





BENEFITS

- Lesser overall crane weight and power consumption.
- Versatile maneuverability of boom tips to reach difficult accessible areas.
- Low CoG crane design.
- Able to operate at small radii.
- Widened weather window for operations during bad weather conditions.
- Modular design for easier transportation of crane components.
- Customized to Field requirements.
- Easily upgradable for future requirements and maintenance.
- Faster Delivery at Competitive price to market.



RIG SOLUTIONS



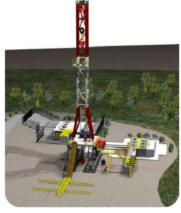




HWO



Subsea Intervention Lubricator Deployment



SELF ELEVATING DRILLING LAND RIG

- Fully flexible, cost and time efficient in mobilizing or rigging up
- Super easy moving
- > Fast erecting
- Whole process of rigging up or rigging down can be easily performed
- Modular packages are light weight and compact
- Minimum size of drilling site



MMWU

- Pin-joint connections between each module ease assembling and dismantling of rig.
- Electrical wiring and piping system are quick installation and disconnection types to cater mobilization of MMWU.
- Integrated with complete monitoring and control systems to ensure safe and productive operation.
- The hydraulic skidding system occupies small deck space and produces tremendous force making it easy to use to reach out the well location.



DECK MACHINERIES



Hydraulic Mooring Winch



Swivel Fairleader



Electrical Anchor Winch



Vertical Capstan



Hose Reel System



A-Frame





HIGHLIGHTS

- Anchor / Mooring Systems
 - Anchor Winch System
 - Mooring Winch System
- Anchor Handling / Towing Winch Systems
 - Anchor Handling / Towing Winch
 - · Shark Jaw / Tow Pin
 - Stern Roller
- Riser Pull in In Winch
- Deck Machinery
 - Anchor Windlass / Mooring Winch
 - Tugger Winch
 - Capstan
- Hose Reel System / Cable Reel System
- Reel Drive System (Spooler)
- Chain Tensioner
- Sheaves & Fairleaders
- Hydraulic Power Pack (HPU)
- Launch and Recovery System
- A-Frame







OUR HYDRAULIC CRANE SERVICES





OVERVIEW

- > Repair, Service & Maintenance
- > Upgrading & refurbishment
- > Spares parts & components
- > Hose Integrity Management
- > Retrofit, Commissioning & Testing

SERVICE & REPAIR







We are able to provide in-house and on-site complete servicing and reconditioning solutions of all type of equipment.

Our service include:

- On-site dismantling and installation of equipment.
- Equipment inspection, include NDT such as MPI and UT.
- Overhaul, repair and Supply of hydraulic and electric equipment.
- Structure repair.
- · Oil Flushing.
- · Blasting and surface coating.



OEM FABRICATION FOR HYDRAULIC AND CREANE SERVICES







Jib Crane

A-Frame

Lars







Fabrication of 3rd party design structures

- Experience Project Management Team
- Qualified QAQC Team
- Proven Production Team
- Engineering design Team to support and Review 3rd Party designs



VALVE HYDROSTATS TESTING PROCESS



We specialize on carry out hydro test, air test, oil test at high pressure using our latest and high end Equipment Technology on Standard testing comprises Hydrostat Testing of The Pressure envelope(body), backseat and Seat tightness testing(hydrostatic /pneumatic):

Valve Type: - Steel gates, globes and checks, Cast Iron gates, Bronze gates, globes and checks, Pressure seal valves, Steel valves larger than NPS 24", Pipeline valves, Cast iron globes, Cast iron checks, Cast iron plugs, Steel ball valves, Steel butterfly valves, Cryogenic valves, Pressure relief valves, Control valves Doing Testing as per Test requirements within design standard



ELECTRICAL AND AUTOMATION SERVICES

We specialize on carry out All kind of electrical Scope (Marine System , Petrochemical Industry) in marine Class stranded

- > Overhaul, rewinding and modification of AC/DC Motors, Generators and Transformers.
- Navigation and communication packages, specialist computing applications, electrical supply and distribution, autopilot and steering systems, suit any marine vessel.
- Design and Fabrication of Motor Control Centres, Motor Starter Panels and Power Distribution Boards.
- Electrical Project Management, Site Commissioning, Software Integration, E&I Integration
- Retrofitting of Main Switch Boards, Motor Control Centres, Bus bars and Breakers.
- ➤ Maintenance, recondition, overhaul and replacement of all Electrical Equipment's, Power Generating Systems and Load Test of Power Generating System.
- ➤ Calibration of Breakers, Meters and Relays, Primary and Secondary Current Injection Tests.
- Modification Works on AVR, Auto Synchronization and Load Sharing of Generators
- Installation of P&I Cables, loop check and commissioning of Equipment and Systems.
- Fiber Optics termination, troubleshooting and commissioning.
- Automation of hydraulic winch packages, forward rudder steering, engine and propulsion controls.
- All type of cranes / winches electrical and mechanical work.





ELECTRICAL AND INSTALL & REPAIR SERVICES

Electrical Repair Services

- Repairs , rewinding, modification and servicing of all brands of AC/DC motors and generator and rotors Electrical maintenance and reconditioning and overhauling works of all electric equipment and power generation system
- Electrical cable, trays, tubing, supports and raceway installation
- Instrument cable laying and calibration
- Tray and junction boxes installation
- Auxiliary equipment installation
- Slip ring rotors and commutate
- Electrical and electronic control system
- Fabrication of main switchboard and starter panel
- > Transformer
- ➤ Winch control panel
- Modification of AVR
- Calibration of breakers/meters













OUR PHOTO GALLERY





LIST OF MAJOR CONTRACTS AWARDED

Picture	Year	Vessel Name	Yard/Owner	Description of Works
To second to the	Jan 2018 to Current	AGEAN PARADISE	Excel Procurement & Trading	A. Aircon Unit / Chilled Water Eveporator Coil B. Aircon Unit / VRV System
	Jan 2018 to Current	HULL 1174 HULL 1175	ASL Shipyard	A. Air Conditioning System for Accommodation Areas B. Mechanical Ventilation Fan for Engine Room / Machinery Space. C. Mechanical Ventilation / Mechancial Space Ducting.
	Jan 2018 to Current	FPSO LA NOUMBI	Keppel Shipyard	Duct Cleaning of Accommodation Ducting System.
	Jan 2018 to Current	AMUSEMENT WORLD	Excel Procurement & Trading	A. Chiller Room Rubber Gasket Packing B. Emergency Generator Cooling Water Radiator
	Oct 2017 to Current	FPSO YOMBO	Keppel Shipyard	A. Engineering, Procurement, Construction & Commissioning (EPCC) of HVAC System. B. Duct Cleaning of Galley Exhaust Ducting System. C. Installation of Galley Hood.
MAERSK	Dec 2016 to Current	MAERSK OIL CULZEAN PROJECT	SMOP	(Fabrication, Installation, Commisioning) Supply, Fabrication and Installation of HVAC Package Ducting for Top Side (CPF & WHP & ULQ)









LIST OF MAJOR CONTRACTS AWARDED

Picture	Year	Vessel Name	Yard/Owner	Description of Works
	July 2016 to Feb 2017	BW CATCHER FPSO	Keppel Shipyard	Ducting Installation Work for Upper Deck & Poop Deck
	Nov 2014 to Feb 2017	FPSO GOLAR HILLI	Keppel Shipyard	EPCC (Engineering, Procurement, Construction & Commisioning) Renewal of Air Conditioning Suystem in Accommodation including Demolition, Design, Supply, Installation and Commissioning Work
	July-2016 to Dec-2016	TECHNIP YAMAL LNG PROJECT	PT SMOE Indonesia	Supply and Fabrication of HVAC Ducting Stainless Steel External Duct Supply and Fabrication and of HVAC Air Stack for Stainless Steel External Duct
	Oct-2015 to Dec-2016	HUSKY MADURA	Keppel Shipyard	EPCC (Engineering, Procurement, Construction & Commisioning) Renewal of Air Conditioning System in Accommodation Design, Supply, Installation and Commissioning Work
	Dec-2015 to Aug-2016	YAMGAZ YAMAL LNG PROJECT	Siemens	Supply, Fabrication and Installation of HVAC Package Ducting for Substation











LIST OF MAJOR CONTRACTS AWARDED

Picture	Year	Vessel Name	Yard/Owner	Description of Works
	2015 to 2017	GINA KROG	Semcrop	Fab & Install Stair case shaft elevator shaft Fab & Install & Modification work in A deck toE deck
	2016 to Current	FPSO KAOMBO NORTH	Semcrop	Install tat tht guardrails foundation. Install under deck reinforcements below foundations. Crop and Install new under deck reinforcement. Fab & Install temporary lifeboat foundation complete with underdeck stiffeners and brackets.
	2016	HUGIN EXPLORER	Fugro	Rov, Foundation Modification Foundation of accommodation container
	2015 to 2017	GINA KROG	Semcrop	Piping Works & Electrical Works
-	2015 to 2017	GOLOR HILLI	Keppel Shipyard	Piping Works & Electrical Works
	2016 to 2016	DELTA PRINCE	DDW-Paxocean	Electrical Works
	2017	SOEHANAH	Apexindo	Service and certification of 2pcs, 60T BOP hoist.
	2016	HUGIN EXPLORER	Fugro	Service of 4 deck cranes 2pcs 2T and 2pcs 10T After service, over load test
	2016	APOLLO	Petroleum GEO-SERVICES	Modification of cooling system for 2 pcs HPU. Change of hydraulic motors for 8 Streamer winches
	2016	ATHOS	V-Ship Management	Crane Services
part to the same of the same o	2016	MAERSK CHENNAI	Mersk Line	Ballast Pump Repair
	2016	MSC HINA	MSC Ship Management	Provision Crane Service
	2014	ENSCO 5006	Ensco PLC	Boroscope And Chemical Leaning Of CMC Air Line
	2013	HELIX 532	Rolls Royce	Service of 12 pcs tensioning cylinders



SPCO GROUP OF COMPANIES

SINGAPORE (HQ)

SPCO HOLDINGS PTE.LTD SPCO ENGINEERING PTE.LTD SPCO ENERGY PTE.LTD SPCO TECHNOLOGIES PTE LTD **GS OFFSHORE PTE.LTD GS HYDRAULIC PTE.LTD HI-TECH MARINE PTE.LTD HI-TECH MARINE & OFFSHORE PTE.LTD**

No.10, Tuas Avenue 11, Singapore 639076 Tel: +65 6558 7807 Fax: +65 6558 7670 Email: info@spcosg.com

CYPRUS

SPCO MARINE & OFFSHORE (CYPRUS) LIMITED

23Kennedy Avenue, Globe House, 4Th Floor, Nicosia 1075, Cyprus Email: info@spcosg.com

MALAYSIA

SPCO MARINE & OFFSHORE SDN. BHD

No. 26, Jalan Mega 1/7 Taman Perindustrian Nusa Cemerlang 79200, Iskandar Puteri, Johor, Malaysia T: +60 7 596 4960 | F: +60 7 596 4960

Email: info@spcosg.com

VIETNAM

SPCO ENGINEERING LTD (VN)

12K1 Commercial Center, Ward 7 VungTau City, Vietnam

Tel: +84 254 3541 821 | Fax: +84 254 3541 822

Email: info@spcosg.com

INDONESIA (BATAM)

PT.SPCO PIPE LINE SERVICES

Kawasan Bintang Industri II Lot D No.611 Tanjung Uncang, Batu Aji Batam 29400

Tel: +62 778 7367324 | Fax: +62 778 7367321

Email: info@spcosg.com

DUBAI

PRIME SPCO SHIPS REPAIRING L.L.C

No.353, Dubai Maritime City,

P.O.Box No.27325, Karama, Dubai, UAE,

Tel: +971 4 589 7871, Email: uae@spcosg.com













+65 6558 7807

