

## “COMPANY PROFILE”



### Subject / supply of equipment (phosphate fertilizers industry, sulfuric phosphoric acids, nitrogenous and organic fertilizers)

#### Good Greeting

Hi-Tech General Trading Company LLC, headquartered in the United Arab Emirates with a branch in Iraq, is one of the leading companies in supplying the equipment referred to below.

#### Introduction .

1- Our company supplies the equipment and materials required to complete the entire production of **phosphate fertilizers**, starting from mining, concentrating **P2O5** in **phosphate rocks** and treating it to produce chemicals used in fertilizer production until final production, the most important of which are:

- Mining equipment
- Equipment for milling and screening in mines.
- Means of transportation for phosphate rocks inside the mine and then from the mines to the factories.
- Rock homogenization and scraping units.
- Milling and screening equipment with sizes commensurate with the requirement per kiln.
- Kiln feeding equipment, including dust removal systems, conveyors and others.
- Kiln equipment and accessories, including (fuel system and its accessories, aluminum fire bricks and various kinds of aluminum cement, mills, and conveyors).
- Supplying the reactors and their auxiliaries for converting **CaO to calcium carbonate** for the purpose of disposal by washing.
- Supply of equipment for rock washing, grinding and drying lines.
- Supply of chemical industry equipment that needs phosphate rocks, which are used in the manufacture of fertilizers and from them.
- Phosphoric acid industry equipment.
- Equipment for purifying uranium from phosphating rocks to produce (yellow cake).
- Sulfuric acid industry equipment.
- Ammonia production equipment.
- Triple superphosphate (TSP) production equipment.
- Monoammonium phosphate (MAP) production equipment.

- Di-ammonium phosphate production equipment. (DAP).
- N. P. Production Equipment
- N.P.K. Production Equipment

2- Nitrate fertilizer production requires a different production process that uses gas or minerals, including supplying factory equipment to produce the following.

- Urea nitrogen fertilizer production equipment
- Fertilizer production equipment

3- The main sources of organic fertilizers are sewage, animal waste and food waste. Fertilizers can be produced from these sources in solid or liquid form, and we provide the equipment for production

Equipment for producing compos from food waste for the production of solid and liquid organic fertilizers.

- Organic fertilizer production lines from heavy water.
- Production lines of organic fertilizers from animal wastes and others.

**4- In addition to the specialized requirements of these industries, we also supply a very wide range of General equipment:**

such as conveyors, liner materials, tools, steel fabrication, motors, power generators, workshop equipment, heavy equipment, personal protective equipment, laboratory and testing equipment, chemicals, dust removal and filtration, inspection and measuring equipment, Filling lines, petroleum products, and we also supply a wide range of all types of pumps, tubes and clamps, Hoses, nozzles, valves, fittings, joints, cables and accessories.

5- It is important to note that we also trade in raw materials and finished products, which allows us to supply and benefit our customers with materials.

### **HI- tech General Trading Company management.**

1- The geologist (Raki Yasin Wahib) spent many years as a production officer in the project of producing phosphate fertilizers from rocks, and was able to manage the concentration section with the concentration of P<sub>2</sub>O<sub>5</sub> in rocks to produce phosphoric acid, after mixing it with sulfuric acid and ammonia to produce chemical fertilizers (TSP, MAP, DAP, NP , NPK) with the purification of some of the important minerals in the rocks.

2- Through this experience, he also penetrated the manufacture of chemical fertilizers to produce nitrates and potash. His experience expanded in the manufacture of solid and liquid organic fertilizers.

3- He moved to the United Arab Emirates in 2002. He worked as a consultant for this type of industries and his companies are working on supplying equipment for such projects from mines to packing materials.

This company is managed by 100% under the supervision of the expert (Raqi Yassin Wahib).

## What we supply:

Our companies and the expert have extensive experience in this field, as we supply the necessary equipment for all stages of the industry from exploration, mining, transportation, homogenization, crushing, screening, concentration and washing to increase the percentage of P2O5 in phosphate rock to become ready to produce phosphoric acid. From phosphoric acid you can purify uranium and produce a wide range of fertilizers (MAP, DAP, TSP, NP, NPK). We also have experience in supplying potash and nitrate fertilizer equipment.

### A. Rock phosphate

The range of equipment that we supply includes the following:

#### A.1 Mining equipment

Our knowledge and experience in this field means that we can help customers choose the best and most effective equipment needed for rock exploration, either underground or on the surface, including surveying equipment and laboratories for the industry. We are able to provide advice on whether the best use of rocks is in the manufacture of fertilizers with the purification of important minerals, including uranium associated with rocks.

Our range of equipment for mining companies starts from:



- Mining equipment's.

- Explosion material
- Crusher systems – jaw crusher, hammer mill, etc
- Screening units from 0mm to 250mm
- De-dusting - wet and dry process



- Loading equipment for either train or truck including specialized bulldozer and wheel loader, etc.



- Transportation equipment from the mine to the loading station - including mining truck, conveyor belt, loading station equipment to load the rock onto the train or truck to move it to for homogenization and concentration.
- Labor camp and office camp – either mobile or fixed for any number of staff
- Water – pumping stations, pipelines, for both industrial and drinking water
- Heavy equipment - Excavator, wheel loader, fork lifts
- Light equipment – Cars, buses, pickups,

### **A.2 Transportation of raw material**

We supply the equipment and spares to move the rock from the mine to an unloading station.

- Trains specialized for the industry
- Heavy trucks
- Conveyor belt



### **A.3 Unloading and homogenization equipment**

Unloading and homogenization units are closely linked by the sequence of work:

- Unloading station equipment including hopper and vibrator
- Stacker – to distribute the product in the storage



- Re-claimer – to remove the rock phosphate after homogenization before it moves to crushing and screening



- Electrical equipment and instruments

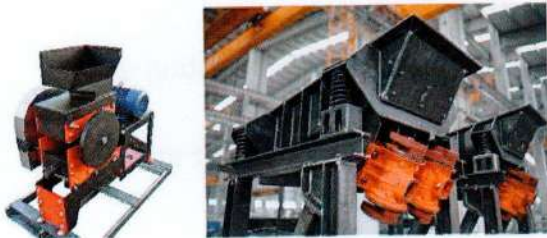


#### **A.4 Crushing and screening equipment**

To prepare the product for concentration, we supply the following:

- Loading unit - vibrator and conveyor belt

Crushing and screening units according to customer requirements





### A.5 Rotary Kiln Equipment



After the product has been prepared, we supply the equipment to unload and move it to the kilns to remove the organic material, and change  $\text{CaCO}_3$  by heat to  $\text{CaO}$ . The range of supply includes:

- Loading unit - hopper, vibrator and conveyor belt
- Kiln feeders
- De-dusting – dry process
- Pre-heating area equipment – including riser ducts, air fan, and steel structure
- De-dusting – wet process
- Bricks and mortar to insulate the kiln and protect the kiln shell from the high temperatures - low, medium, and high alumina bricks and mortar
- Heating systems equipment – including
  - oil tanks with insulation, fuel oil pump, steam generator, burner and nozzles
  - gas supply system with gas tank, pipe, fittings, control valve, burner and nozzles
  - primary air blower to the heating systems
- Main and auxiliary drive high and low voltage motors including de-dusting and cooling system
- Crushing units, de-dusting system for hot material, and bucket elevator to move the finished product to the slaking unit

### A.6 Slaking equipment

To concentrate  $P_2O_5$  rock phosphate we need to change the lime ( $CaO$ ) after it leaves the kiln, by adding water in the slaking unit to change it to  $Ca(OH)_2$  and get it ready for washing, we supply the following equipment:

- Reactor/slacker including water supply
- Dry process – including screw conveyor and de-dusting system to move the product to the storage tank
- Wet process equipment – including tank, agitator and pump to move the product to the washing units.

#### A.7 Washing equipment

We supply the equipment to make the product more fine and easier to remove the  $Ca(OH)_2$  from rock phosphate and increase the  $P_2O_5$  percentage:

- Screw conveyor



- Belt conveyor



- Screening
- Ball mill



- Pump



- Centrifugal water separator



- Pipe and fittings for raw and industrial water



### A.8 Stackers

After the  $P_2O_5$  is more concentrated, we supply the equipment to distribute the product in the warehouse, including:

- Hopper
- Conveyor belt
- Re-loading equipment
  - to take the product for reaction with sulphuric acid to produce phosphoric acid

### A.9 Industrial water collection

There is high water use throughout the process in the kiln de-dusting systems and rock phosphate washing, so we supply the following equipment:



- Water tank



- Sludge remover
- Pumping station
- Pipeline
- Pig system



## B. Chemical industry

Three chemicals are required for the process of uranium purification to produce yellow cake, and to make fertilizers from phosphate.

### B.1 Sulphuric acid ( $H_2SO_4$ ) plant equipment

To produce Sulphuric Acid, the raw Sulphur comes from either the oil and gas industry native Sulphur or barite. Most of the equipment needs to be stainless steel or rubber coated to resist corrosion. The equipment includes:

- Transportation equipment for raw Sulphur
- Turbo compressors to provide combustion air for sulfur burning
- Preheat systems fans are used for acid regeneration
- Fans to supply gas made of corrosion resistant material



- Reactor for production of sulphuric acid, and all accessories



- Cooling tower with all accessories



- Compressors to collect and transfer waste gases to flaring or treatment units
- Fan to extract residual gas
- Sulphur dioxide (SO<sub>2</sub>) extraction unit
- Special pumps, valves, and fittings to handle sulphuric acid



## B.2 Phosphoric acid (H<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>) plant equipment

To produce phosphoric acid, we need equipment to transport and supply the solid rock phosphate to the reactor, and special equipment to supply sulphuric acid to the reactor. Much of the equipment needs to be stainless steel or coated with rubber to resist corrosion. Our scope of supply is the following:

- Reactor for production of phosphoric acid

- Filter



- Cooling tower



- Fan and compressors
- Pumps, valves, fittings special for phosphoric acid
- Water collection unit for transport water and gypsum for treatment
- Tank for phosphoric acid and pumping station to send phosphoric acid to uranium purification units or fertilizer factories

### **B.3 Uranium purification units**

To extract uranium from rock phosphate sulphuric acid is required. To handle this process and produce yellow cake, we can supply the following equipment:

- Storage tank



- Pumping station



- Oxidization unit



- Purification unit
- Pumps, valves, fittings special.



#### B.4 Ammonia factory equipment.

To produce all kinds of chemical, phosphate and nitrate fertilizers, we need ammonia, and the equipment for the production of ammonia include:

- Special gas storage tanks



- Centrifugal compressors



- Air separation unit
- Fans – to provide air to the process

- Filter



- Cooling tower



- Fan and compressors
- Pumps, valves, fittings special for phosphoric acid
- Water collection unit for transport water and gypsum for treatment
- Tank for phosphoric acid and pumping station to send phosphoric acid to uranium purification units or fertilizer factories

### **B.3 Uranium purification units**

To extract uranium from rock phosphate sulphuric acid is required. To handle this process and produce yellow cake, we can supply the following equipment:

- Storage tank



- Pumping station



- Oxidization unit



- Fans – to evacuate residue gases from reactors
- Storage tank for ammonia, with all accessories
- Pumps, valves, fittings designed to handle ammonia .
- 

## C.Fertilizer industry



The previous phosphate and chemical industries, produce the chemicals and elements vital for the fertilizer industry. Across the region, farmers need to get the best out of their land and fertilizers are an integral part of that process. According to the soil and the crops, phosphate, nitrate and potash fertilizers are required, with a strong new demand for organic fertilizers as the world demands more organic food.

### C.1 Phosphate fertilizer



We supply the equipment to produce the several kinds of phosphate fertilizer, which include MAP, DAP, TSP, NP, and NPK. Our range of supply includes:

- Storage facilities for both liquid or solid raw materials
- Reactor with spare parts and accessories

- De-dusting system
- Conveyor belt
- Screw conveyor
- Pump
- Storage facility for finished product
- Transport to packing system

## **C.2 Nitrate fertilizer**

Fruit and vegetables are a major sector of any agriculture, and they consume a large amount of the soil's natural nitrogen which has to be replaced. This is the basis of the demand for urea fertilizer, particularly with nitrogen at 46%, which is one of the best ways to get nitrogen back into the soil.

We can supply the equipment to handle all sort of production of urea, from its many sources, such as petroleum gas, ammonia, soda nitrate and other sources of nitrogen. This equipment includes:

- Storage tank for gas or liquid, with all accessories
- Turbo compressors with spare parts and accessories
- CO<sub>2</sub> centrifugal compressors
- Blower
- Granulator with spare parts and accessories
- De-dusting system
- Conveyor belt
- Screw conveyor

Pump for urea use

- Storage facility for finished product
- Transport to packing system

## **C.3 Potash fertilizer**

The second most important requirement for plants is potassium, which is delivered through potash fertilizer. The main sources of raw potash are rock or soil rich in potassium as well as water from the Dead Sea in Jordan. Both sources require very different equipment to either collect rocks or soil, or to evaporate the water, then transfer the raw potash to be treated into compost, the most important of which is NPK production.

- Equipment for transporting and transporting soil and rocks.
- Equipment for evaporation and collection of water.
- Storage facility with all accessories.
- Reactor and granulator with spare parts and accessories
- De-dusting system
- Conveyor belt
- Screw conveyor
- Storage facility for finished product
- Transport to packing system

#### **C.4 Organic fertilizer.**

- The large (and growing) demand for organic food has created important requirements for organic fertilizers, whether liquid or solid. The three main sources of organic fertilizers are sewage, animal waste, and food waste.
- We can provide all required equipment for three sectors,
- We supply the necessary equipment to collect and process animal excreta and convert it into organic fertilizer.
- Our experience and contacts help us provide the special units for converting food waste into compost, then converting it into liquid or solid fertilizer.

## **D. Filling and packaging for fertilizers and chemicals .**

Our customers benefit from the business with our ability to provide a full range of packaging equipment and services for both solids and liquids ranging from loading terminals, filling machines, packaging materials, any custom brands, and delivery to distributors and industrial consumers.





We provide equipment that can handle a range of materials, and take into account customer requirements which can include packaging size, branding issues, and transportation needs.

### **Includes equipment**

- Loading equipment, including heavy equipment such as a Bobcat or bulldozer

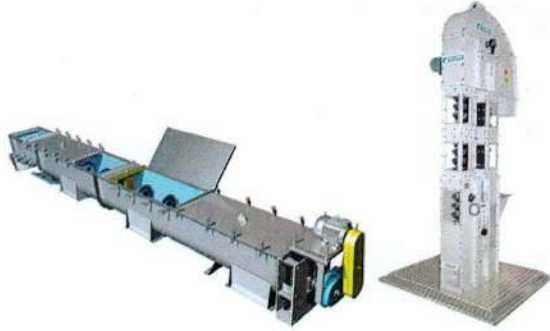


### **Transport equipment:**

- Trucks: heavy or light



- Conveyors: belt, bucket or screw



- 
- Multi and single stage weighing machine Sealing machine
- Stamping production and expiry dates
- Palletize and shrink wrap systems.

## D.2 Filling system for liquids



- Filling systems for chemical materials and liquid fertilizers need a wide range of specialist equipment, including terminals, loading stations like platforms and gantries, as well as the loading arms and flow meters for chemical materials and liquid fertilizers.

The list of equipment we supply includes:

- Tanks (skid mounted or mobile) with all accessories



- Rubber coated  
Stainless steel



Special alloy for chemicals, fertilizers, and uranium

- Pumping station



- Pipe and fittings

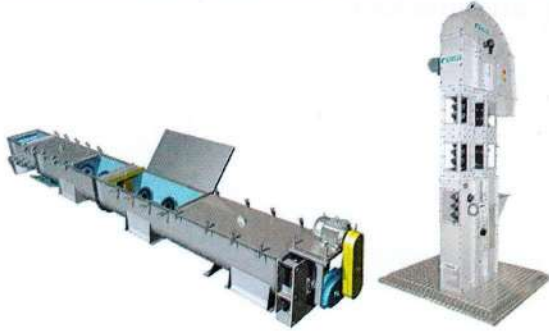


- Liquid filling machine
- Stamping production and expiry date
- Palletize and shrink wrap system



We provide the equipment to package containers in groups with polyethylene shrink or carton.

- Shrink wrapping machine



- 
- Multi and single stage weighing machine Sealing machine
- Stamping production and expiry dates
- Palletize and shrink wrap systems.

## D.2 Filling system for liquids



- Filling systems for chemical materials and liquid fertilizers need a wide range of specialist equipment, including terminals, loading stations like platforms and gantries, as well as the loading arms and flow meters for chemical materials and liquid fertilizers.

The list of equipment we supply includes:

- Tanks (skid mounted or mobile) with all accessories



- Rubber coated  
Stainless steel



- Carton packing machine



- Pallets and stacking equipment

### D.3 Packaging material

- We supply **jumbo bags** (up to 1 ton) and **woven bags** (from 25kg to 50kg) for granular fertilizer and chemicals, as well as.
- **Paper bag** for organic fertilizer from 1kg to 25kg.
- At the bulk level, we supply **flexi bags** of up to 20 tons.
- We can design **cans, bottles** and **plastic drums** (either round or square) according to the customers' requirements, produce the dies to make the bottles, supply the bottle production lines including the raw material tank and filling lines including filling, capping, labelling, and stamping of production and expiry date.

### D.4 Delivery and transport



The final product, whether liquid or solid, needs to be delivered to the distributors and industrial consumers. The equipment we supply includes:

- Mobile tank with vibrator for solid and granular product, along with the unloading system, and truck
- Special drum for uranium yellow cake



- Plastic drum with steel rim



- Delivery trucks with racks
- Loading and unloading equipment

#### **D. Waste treatment – solid and liquid**

The concentration process in the chemical, fertilizer and phosphate industries creates a lot of alkaline water with solids in it. The chemical industries create acidic water with solids in it, including gypsum. Fertilizer factories create liquid and solid waste.

We supply equipment to collect and treat the waste water from the sites which include de-dusting systems, cooling towers, and reactors. This water then gets primary treatment and is sent to the main waste treatment site.

These systems include:

- Special tanks with agitator and scavenger



- Pumping stations



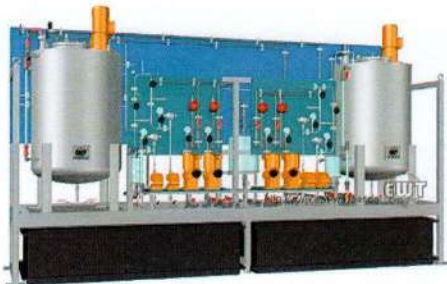
- Pipeline and fittings



- Pig and monitoring system to clean and maintain pipeline



- Chemical treatment systems





- Physical treatment systems
- Chemical materials for the treatment
- All light and heavy equipment



- Excavator



- Wheel loader



- Heavy and light tipper truck





- Tankers for water and chemicals



- Fresh (or treated) water

## **F. General supplies**

### **F.1 Conveyers**

The dry material from the phosphate, chemical and fertilizer industries requires movement equipment. Conveyers are necessary because the industrial processes have precise synchronizing to enable mass production to operate at its best, which means that the product has to be moved from unit to unit in bulk quantities with continual movement, for both coarse or fine product. All the conveyers below come supplied with instruments to start and stop the conveyers automatically as required.

The scope of supply to manage this process includes:

#### **F.1.1 Belt conveyer**



- Belt

According to the different industries' requirements, the belts that we supply which can be either smooth or with lifters; multi-layered; and different widths.

They can also be:

- Anti-corrosion
- Anti-acid
- Heat resistant
- High abrasion resistant
- Food grade

We can also supply welding and jointing material and equipment for the belts.

- Belt conveyer structure



We supply different kinds of conveyer frame, according to the industries' requirements. The structures to hold the belts can be stainless steel, carbon steel, or coated with specialized paint to protect the structure from any chemical reaction or corrosion.

- Drum and idlers



Most customers' biggest requirement for moving equipment in the conveyor belts are drums and idlers both (return and side). These can be made from steel, stainless steel, rubber or be rubber coated. Given the large requirement for these items, we have workshops that can manufacture them according to the customers' requirements if a specialized design is needed, or supply standard equipment. Our workshops also maintain the drums and idlers, that need frequent attention.

Our scope of supply includes:

- Main drum (motorized or normal)



- Main drum (steel or rubber)



- Side idlers



- Return idlers



- Carbon steel idlers (side or return)



- Side seal and back seal for food grade or other industrial use.

### F.1.2 Bucket elevator



Bucket elevators can be either vertical or horizontal. Their frames can be made from carbon steel or stainless steel, along with the motor, hydraulic couplings, and gear box, as well as the chain and drum. The buckets themselves can be made from iron, stainless steel, plastic or PVC, depending on their use which includes food, chemicals and petrochemicals, as well as all the metallic and non-metallic minerals, and cement.

### F.1.3 Screw conveyer



The conveyer is made from stainless steel for food, chemicals and petrochemicals, and carbon steel for other industries. We supply all the motors, couplings (mechanical or hydraulic), and gear boxes.

Screw conveyers are used for powder, foodstuffs like grain, minerals, rock, chemicals and petrochemicals, as well as all the metallic and non-metallic minerals, and cement.

## **F.2 Lining material and equipment**

In the chemical and petrochemical, fertilizer, metallic and non-metallic industries, lining is required in many places, such as the reactors, cooling towers, rotary kilns, furnaces, granulator, de-dusting systems. They need insulation to protect the shell from heat, corrosion, or chemical reaction. Some linings prevent the product from touching the structure, and others are thermal, anti-acid or anti-corrosion.

The linings we can supply include:

- Bricks



- Low alumina Bricks



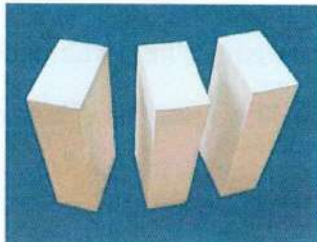
- Medium alumina Bricks



- High alumina Bricks



- Anti-acid brick



- Anti-corrosion brick



- Lining  
Rubber Lining



PVC Lining



Teflon Lining



### **F.3 Instruments**



The instruments that we supply cover the entire range of the processes in the phosphate, chemical and fertilizer industries. The instruments cover both the operating and maintenance of the plants.

- Gauges (level, pressure, vacuum and temperature),
- Transmitters (level, pressure and temperature)
- Limit switches (level, flow and load)
- Metering (Turbine, positive displacements, rotameter, ultrasonic, vortex and electromagnetic)
- RTU/SCADA systems
- Natural Gas Automation
- Gas Flow Measurement
- Thermocouple
- Totalizer
- Electrical heater
- Vibration meter
- Tachometer

- Leakage detector
- Flow monitoring
- Drilling meters
- Data recording
- Process control equipment
- Cathodic protection with all accessories

We also supply the necessary software for analysis and interpretation of the results.

#### **F.4 Steel fabrication**

We manufacturer and fabricate tanks, equipment, steel structures, and all equipment for phosphates, chemical and fertilizers being loaded and terminals both onshore and offshore.

##### **Storage tanks:**



We supply and manufacture

- Steel tank for chemicals, phosphates, fertilizers, and for fuel and gas with various capacities made to suit the needs of projects requirement with or without steam jackets and insulation. All our tanks have the required inspection facilities for their proper maintenance and cleaning.
- Pumping station

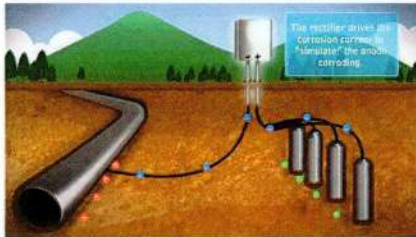




- Pipeline



- Cathodic protection



- Fire-fighting system



- Phosphate, chemical, and fertilizer storage tanks made from stainless steel, carbon steel, and coated with rubber or other material according to the customer



- requirement include the lining material such as rubber, Teflon, bricks or mortar.
- Truck mounted tank for chemical, fertilizer and phosphate. All with pump and flow meter for liquids, and weighing scales for dry products.
- Fire-fighting water tank with all accessories
- Truck mounted drinking water tank with pump and flowmeter

### Phosphate, chemical and fertilizer loading



We manufacturer and supply the equipment for loading and unloading stations for dry phosphate, chemicals and fertilizer, as well as terminals for liquids with flow meter, which include:

- Heavy loading equipment (mining truck, wheel loader, bulldozer, etc.)



- Hopper with vibrators for loading and unloading trucks



- Loading and unloading platforms for jumbo and flexi bags



- Top and bottom loading arms for chemical materials and liquid fertilizer, with flow meter and flow control



- Tanker loading system for chemical materials and liquid fertilizer



- Tanker loading gantries and folding stairs for chemical materials and liquid fertilizer



## **F.5 Motors, engine, and electrical materials**

We supply a wide range of motors to the phosphate, chemical and fertilizer industries.

- Motors include high and low voltage, single and 3-phase, vertical and horizontal, as well as cooling and heating systems.
- Engines are operated by either diesel or fuel, and can be either air or water cooled.

Our motors include:

### **F.5.1 AC motors:**



- High voltage, low voltage motor, single phase, 3-phase
- AC servo motor Vertical and Horizontal.

#### F.5.2 DC motors:



- Brushless DC motors
- Linear DC motors
- DC servo motors

#### F.5.3 Engines



- Powered by diesel or fuel
- Skid or trailer mounted
- With sound proof shelters
- Water or air cooled

#### F.5.4 Electrical materials



These materials have to meet varying requirement of operating outdoors and indoors

- Water proofing
- Heat resistance

- High voltage and low voltage

They include

- Electrical panel
- Switch gear
- Circuit breaker
- Relay

### F.5.5 Cables



- High, Medium and Low voltage and fiber optic with all accessories.
- Aluminum, copper,
- Coated with PVC or plastic
- Reinforced with

### F.5.6 Poles



Lighting poles with different lengths and thicknesses, with accessories

- Lighting tower for low and high voltage with accessories

### F.5.7 Transformer:



We can supply the transformers and oil required, and we can maintain for all kinds of transformers.

- Power, auto transformer
- Distribution transformer
- Current transformer
- Voltage transformer
- Special transformer
- Solar transformer
- Automatic Voltage Regulators (AVR)

### **F.6. Power generation plants:**



- Water, thermal, fuel and gas generation unit
- Solar energy system
- Wind energy system

### **Generator:**



- Diesel engine water cooled mobile and skid mounted
- Diesel engine air cooled mobile and skid mounted
- Solar generator

## F.7 Compressors (electrical and diesel engine)



The compressors we supply to phosphate, chemical and fertilizer industries need to be able to operate both outdoor and indoor, and be able to work in both high and low temperatures. These include compressors which can meet all the requirements of the phosphate and chemical industry such as operating the de-dusting and pneumatic systems, and special compressors for the ammonia industry. The compressors need to be able to work in the most extreme environments like the desert and chemical plants. We also supply the necessary heaters and driers along with the compressors.

Our range includes:

- Mobile air compressor with diesel engine
- Skid mounted air compressor with electrical motor high and low voltage for industrial and medical use
- Air dryer

## F.8 Workshop equipment:

We specialize in workshop supply, both mobile and permanent.

**Mobile** workshops include those that operate on site on the rigs and refineries, often used for maintenance. One example is the high pressure hose fixing workshop that conducts mobile valve tests with all accessories including a hydrostatic test bench.

**Permanent** workshops vary from site to site, some very large with very sophisticated equipment, and others are much smaller devoted to routine maintenance.

The equipment we supply for these workshops include:

### F.8.1 Welding equipment





#### F.8.1.1 Welding machine



Electrical welding machine with different capacities, both single and multi-machine:

- 3-phase
- single phase
- tractor type
- circular

#### F.8.1.2 Argon welding machine



#### F.8.1.3 Diesel welding machine (air cooled and water cooled engine)



#### F.8.1.4 Welding material



- Electrode
  - Carbon steel welding (E6013 ,7018 ,6010,7010.... etc.).
  - Stainless steel (304,308,316L.... etc.).
  - Copper
  - Alloy
  - Under water welding
  - Under water cutting Electrode
- Wire
  - Argon wire
- Welding electrode oven
- Welding electrode dryer
- Welding consumables
  - Cable
  - Torch
  - Nozzle
  - Holder
  - Glass
  - Gloves
  - Helmet
- Welding inspection material
  - X- ray inspection
  - Die penetration inspection material.

### F.8.2 CNC machine



### F.8.3 Lathe machine



### F.8.4 Bending and beveling machine



- Pipe bending machine



We supply pipe bending machines of all sizes and radius, that can handle different materials.

- Pipe beveling machine
- Pipe threading machine
- Pipe coating equipment



- Heat exchanger maintenance equipment



These include

- Tube cutter
- Tube puller
- Tube expander
- Torque controller
  
- Steel barbending and threading machine



The machines we supply can automatically feed, straighten, bend and cut all ranges of rebar.

#### **F.8.5 Plate cutting and bending machine**



We supply cutting and bending machines which handle all thickness and dimensions and materials such as carbon steel, alloy, stainless steel, copper, galvanized steel, etc. The work is for high pressure tanks and pipes required by the oil and gas industry, including the spherical tanks for gas, and LPG gas cylinders for domestic use.

#### **F.9 Heavy equipment, truck and tanker**

Our range of supply includes the whole range of heavy equipment that can deliver and install all kinds of phosphate, chemical and fertilizer projects, including mining and mobile equipment such as low-bed, cranes, mining truck, water tankers, fuel tankers, fire fighting tankers, and light cars and trucks.

Excavator 	• Wheel loader  	• Back hoe loader 	• Bulldozer 
• Fork lift 	• Tower and mobile crane  	• Heavy and light truck  	• Cement tanker 
• Fuel tanker 	• Chemical tanker 	• Foam tanker  	• Bus 
• Bitumen tanker 	• Fire-fighting Water tanker 		

- Excavator
- Wheel loader
- Back hoe loader
- Bulldozer
- Side boom
- Fork lift

- 
- Tower and mobile crane
  - Heavy and light truck
  - Tipper truck
  - Cement tanker
  - Fuel tanker
  - Chemical tanker
  - Fire-fighting water tanker
  - Foam tanker
  - Bus
  - Pick-up

## F.10 Personal Protection Equipment (PPE) and fire systems

We can supply the entire range fire protection systems for the phosphate, chemical and fertilizer industries, and we are used to operating to the very high standards that these industries require. We also supply specialized personal safety clothing for all aspects of work.

### F.10.1 Personal clothing and equipment



- Complete head and body protection
- Survive
- I suits
- Overalls, variously adapted for oil, gas, and other sites
- Gloves
- High-viz vests

- Safety boots and shoes
- Gas masks
- Helmets
- Protection glasses
- Ear protectors
- Breathing masks to protect against dust, etc.

### F.10.2 Firefighting systems and equipment



- Fire-fighting water pumps with electrical and diesel motor
- Foam systems
- Fire extinguishers
- Fire-fighting vehicles and equipment
- Fire alarm systems
- Explosion proof alarm
- Signal, control and communications equipment
- Re-breathing systems
- Safety equipment for hazardous areas
- Gas and safety monitoring and control
- Portable multi-gas detector
- Smoke detector
- Nitrogen gas detector
- Leakage detector

- Hoses
- Nozzles
- Warning cones and situation tape

## F.11 Testing and Laboratory Equipment



Our range of products includes instruments and equipment for phosphate, chemical and fertilizer companies, to cover all the chemical, physical, micro-biological tests including for soil and rock.

Our portfolio includes:

- PH meter
- Thermometer
- Spectrometer
- Soil and rocks testing devices
- Cement and concrete testing devices
- Stirring, shaking, mixing and separating systems
- Chemical test instruments
- Mineral test instruments
- Radiation test instruments
- Biological test instruments

## F.12 Chemical materials





Our range of chemical materials supports the phosphate, chemical and fertilizer industries. We supply the chemicals needed to produce the sulphuric, phosphoric, nitric and hydrochloric acids, and many other processes.

The oil business has extensive use of water, so we also supply the chemicals to treat industrial waste water

Chemical materials we supply include:

- Caustic soda
- Soda ash
- Oxygen scavenger
- H<sub>2</sub>S scavenger
- Corrosion inhibitor

For water and cleaning agents:

- Ethylene diamine tetra acetic acid (EDDA)
- Tetra sodium Pyrophosphate (Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>)
- Sodium Tri polyphosphate (Na<sub>5</sub>P<sub>3</sub>O<sub>10</sub>)
- Sodium tetra polyphosphate (Na<sub>6</sub>P<sub>4</sub>O<sub>13</sub>)
- Proteolytic Enzymes
- Lipolytic Enzymes
- Sodium Ortho silicate (2Na<sub>2</sub>SiO<sub>2</sub>.5H<sub>2</sub>O)
- Met sodium meta silicate (Na<sub>2</sub>SiO<sub>3</sub>.5H<sub>2</sub>O)
- Borax
- Methyl
- Ethyl
- Lactic acid

- Alkyl aryl sulphonate (Dodecyl benzene sulphonate )
- Cat-ionic surfactants
- Non-ionic surfactants

### F.13 De-dusting and filtration



We supply

- All equipment for all kinds of filter that clean the phosphate, chemicals, and fertilizers to make them ready for processing.
- De-dusting systems that are vital to keep all equipment running and avoid corrosion and blockage.

We supply equipment and parts for all kinds of **separators** which separate water from sludge and chemical material, and different kinds and sizes of steam and sand traps.

We also supply different kinds of **sludge skimmer**, depending on the customers' requirements.

We supply many sizes and kinds of **filters** used in the phosphate, chemical and fertilizer industries.

We supply equipment for both wet and dry de-dusting systems:

- Wet process needs complete systems including fans, water tanks, water pumps, nozzles and cyclone, etc.
- Dry process needs complete systems including filter bag, wire mesh along with a shaking system, with specifications varying on specific purpose

- **Treatment of Oily Water:**



We supply complete systems to recover oil and oil products which have mixed with water. These include systems relying on heating, evaporation, and condensation to separate the liquids, along with the required pipes, pumps, insulation, water tank, and product tank, etc.

We also supply equipment for the treatment of drinking water to the projects for either catering needs or industrial purposes.

## **F.14 Inspection and measuring equipment**



We supply for inspection, measuring and calibrating all kinds of equipment, including weighing scales, vibrators, tanks, coolers, heat exchangers, boilers, kilns, pipes, turbines, engines and machinery.

For example, for **pipelines** for chemicals and fertilizers we inspect and supply the equipment to test the thickness, find cracks, measure inner sludge, flow, integrity of welding joints, and hydrostatic inspection for all kinds of valves whether in the pipeline or pumping stations. We supply equipment to inspect the insulation, plate thickness, cracks, and sludge inside **tanks**, as well as the outer and inner insulation or coating. For **heat-exchangers** we supply the equipment and inspect for the maintenance and repair to either damage in the shell or blockage in the tube.

### F.15 Filling lines with packaging materials



We supply the equipment to build and operate filling lines in terminals for liquid and powder chemical materials, and for granular fertilizer

**Terminal** structures need to be highly protected from acids and other chemicals. They

have loading stations including platforms and gantries, as well as special anti-acid loading arms and flow meters.

We also supply the filling systems such as:

- Granular fertilizer to be packed in jumbo or woven bags
- Chemicals to be packed in bottles or drums
- To fill the mobile tankers with chemical materials
- To fill train tankers with chemical materials



**Filling and packaging stations** need a wide range of specialist equipment for fertilizer and chemical materials.

- At the bulk level, we supply **flexi bags** for chemical materials of up to 20 tons.
- We can design the **bottles** and **plastic drums** for various products including chemical material and liquid fertilizer, produce the dies to make the bottles, supply the bottle production lines including the raw material tank and filling lines including filling, capping, labelling, and stamping of production and expiry date.
- Packaging materials that we supply include jumbo bag, woven bag, paper bag, flexi bag, drum, bottle and can.

We also provide the equipment to package bags and drums in groups with polyethylene shrink or carton.

- Shrink wrapping machine
- Carton packing machine
- Pallets and stacking equipment

The delivery equipment for chemical and both liquid and solid fertilizer includes

- Delivery trucks
- Delivery tanker – anti-acid or normal
- Loading and unloading equipment for liquid and solid

## **F.16 Petroleum products**

We can provide petroleum products for furnaces, base power plant generators, and steam generators for heating and other purposes. Gold Vision can also supply all types of lubricants for industrial and transportation purposes, along with hydraulic oil for coupling and hydraulic adapters.

Our product range includes:

- Fuel oi
- Diesel
- Gas
- Lubricant
- Engine oil for gasoline and diesel
- Hydraulic oil coupling and hydraulic converter

## G. Common supplies of equipment

### G.1 Pumps



We have a very wide range of vertical, horizontal, or deep well pumps, which can be multistage and single stage, which we supply along with diesel engine or electrical motor high and low voltage operated by air or solar. The pumps come mobile or skid-mounted with sound proof shelter:

- centrifugal
- reciprocating
- self-priming
- submersible for sewage and clear water and deep well
- booster
- dosing
- metering
- radial, axial, and mixed flow
- adductor-jet
- gravity
- valve-less
- vacuum
- gear
- piston

Our range of activities covers the following industries: rock phosphate, chemicals and fertilizer (with a special pump for urea and phosphoric acid), metallic and non-metallic minerals, water (drilling and treatment), oil and gas, cement, chemical and petrochemical, power production and distribution, food processing and packaging.

The material of the pumps that we supply cover all the customers' activities, so we can supply pumps of stainless steel, carbon steel, PVC, rubber lined; and coated with rubber, Teflon or PVC.

Sizes start from half an inch up to one meter, and larger on occasion if the customer requires different capacities.

Our pumps operate in all conditions. For cold areas we offer steam jackets with different insulation, and other pumps that work in very hot temperatures.

Every industry and each specific purpose requires variations in the pumps, with different materials for the pumps' impeller, casing and shaft.

### G.1.1 Engine and motor



Pumps are driven by diesel or petrol engine, electrical AC or DC motor, or air. Increasingly electrical pumps are powered by solar power.

- **Diesel and petrol engine:** Air or and water cooled. Mobile and skid mounted.



- **Electrical motor:** High and low voltage motor. Vertical or horizontal.
- **Solar panel:** Pump driven by solar power with different capacities
- **Air pump:** Compressors and all accessories



### **G.1.2 Spare parts for pump**

All our pumps are supplied with full spare parts and maintenance

#### **Mechanical seal**



- Rubber mechanical seal
- Teflon mechanical seal
- Anti-acid mechanical seal
- Thermal mechanical seal
- Double side mechanical seal

#### **Gland packing**

- Teflon
- Graphite

#### **Impeller**



Open and closed type

#### **Shaft**

- Carbon steel
- Stainless steel
- Alloy steel
- Copper

#### **Coupling and belt**







- Mechanical
- Hydraulic
- V-Belt
- Driven belt between motor, engine and pump

## **G.2 Pipes, clamps, pigs, hoses and nozzle**



Our dedicated years' experience of supplying pipes to a wide range of industries have given us the knowledge to understand our customers' needs. We have worked in the following industries: rock phosphate, chemicals and fertilizer (with a special pump for urea and phosphoric acid), metallic and non-metallic minerals (mining and processing), water (drilling and treatment), oil and gas, cement, chemical and petrochemical, power production and distribution, food processing and packaging.

We supply a wide range of pipes including

- seamless
- ERW
- SSW
- alloy steel
- casing pipe for water and oil wells
- screens for water well
- cold drawn
- cold work
- galvanized pipe
- ductile pipe
- cement pipe
- precast concrete
- reinforced concrete
- GRP
- PVC lined corrosion-resistant reinforced
- pipes for pile support in bridge construction and underwater

We also handle all kinds of

- tubes – all kinds for boiler and heat exchangers
- pipes - for water networks
- pipes - for all kinds of domestic and commercial use.

According to the industry requirements, the pipes are manufactured in different materials including carbon steel, stainless steel, galvanized steel, brass, aluminum, alloy, copper, ductile iron, as well as pipes coated with rubber, Teflon, and PVC.

The pipes are either threaded or beveled with coupling.

The sizes range from 1 inch all the way up to 56 inches.

### **G.2.1 Clamps**

We have many years' experience in supplying pipes to government entities and private sector companies, which has given us ample opportunity to supply both internal and external clamps to pipeline contractors.

- Hydraulic Internal clamp



- External clamp



### **G.2.2 Pigs**



We supply all kinds pigs including steel and foam, which are used for drying, cleaning, batching, and product removal operations, in industries including rock phosphate, chemicals and fertilizer (with a special pump for urea and phosphoric acid), metallic and non-metallic minerals, oil and gas, municipality, food and beverage, mining, chemical and petrochemical, cosmetic and pharmaceutical industries.

The sizes of the steel and foam pigs range from one inch to 60 inches.

Foam pigs are able to negotiate uncommon piping, fittings and valves, with industry standard densities of foam ranging from 2, 5, 8-pound per cubic foot. Configurations include bare, crisscross, wire brush, plastic bristle, and silicon carbide with various design option such as double dish, double nose, special coating patterns (single-spiral, turning pattern, totally coated, etc.). These all come in various lengths and diameters, with pulling /handling ropes or cables, bypass jets, and transmitter cavities. Special configurations can be designed for unique pigging applications.

We supply the following types of pig:

- Bare foam
- Coated foam
- Plastic bristle foam
- Silicon carbide foam
- Special design foam
- Foam wiping
- Brush foam
- Foam spheres

### **G.2.3 Hoses and Nozzles**



We supply a wide range of hoses and nozzles as required by the industries listed above, and their many different functions and pressures, with different materials such as Low-density polyethylene (LDPE), Polytetrafluoroethylene (PTFE), Rubber reinforced by stainless steel, and hoses coated with corrosion and acid resistant material according to the customer's needs.

In addition, our staff can visit sites and prepare industry-specific hoses to fit and connect according to the sites' requirements.

### G.3 Valves



Valves are used throughout many industries, and we have excellent experience in matching customers' requirements with supply. We have worked for over 20 years, supplying valves to the following industries: rock phosphate, chemicals and fertilizer (with a special pump for urea and phosphoric acid), metallic and non-metallic mineral mining and processing, water (drilling and treatment), oil and gas, cement, chemical and petrochemical, power production and distribution, food processing and packaging.

We have both mobile and on-site workshop for maintenance and hydrostatic testing of all kinds of valves including new and used, of different sizes and pressures. These allow us to:

- maintain and hydrostatically test the valves
- engineer between valve and actuator (pneumatic, hydraulic, and electrical)
- calibrate the settings for safety and control valves.

We supply many kind of valve ranging from flange-type, threaded, or welded. They include valves that are manually operated or actuated by motor, hydraulics, or pneumatics, and include:

- **Ball** (floating, trunnion ball, full weld body, top entry, side entry)
- **Check valve** (wafer type, dual plate, swing, tilting, renewable seat)
- **Butterfly valve** (flexible wedge and solid wedge)
- **Gate valve** (lubricate, non-lubricated and taper)
- **Choke valve**
- **Solenoid valve**
- **Globe valve**
- **Plug valve**
- **Safety valve**
- **Control valve**
- **Needle**
- **Non-return valve**
- **Moisture drain valve**
- **Rubber coated valve**
- **Teflon coated valve**
- **Rubber lined valve**
- **PVC valve**

These many valve types require materials which include stainless steel, carbon steel, galvanized steel, brass, aluminum, copper and alloy, and some valves that are rubber lined or coated with rubber, Teflon, or PVC.

Sizes vary from one inch up to 56 inches, and the pressure from 150 psi up to 6,000 psi.

## **G.4 Fitting, Joints, Fastening and Sealing:**



We supply flanges, tee, elbow, cross, cap, plug, nipple, unions, spacer, reducer, socket, gaskets, bolts and nuts, O-ring, rod as well as adhesive and different sealing tags including electronic tags.



We cover the following industries: rock phosphate, chemicals and fertilizer (with a special pump for urea and phosphoric acid), metallic and non-metallic minerals (mining and processing), water (drilling and treatment), oil and gas, cement, chemical and petrochemical, power production and distribution, food processing and packaging.

The materials for the fittings that we supply to all the above sectors include stainless steel, carbon steel, galvanized steel, brass, aluminum, rubber and alloy for special use.

The size varies from 1 inch to 56 inch according to requirements.

The rate flow varies from 150 psi up to 6000 psi.

- **Flange:**
  - Ring joint type
  - Blind
  - Threaded
  - Weld neck
  - Flat face
  - Girth
  - Slip on
  - Lap join
  - Raised face
  - Orifice
- **Tee**
- **Elbow**
- **Cross**
- **Cap**
- **Plug**
- **Nipple**
- **Unions**
- **Spacer**
- **Reducer**
- **Socket**
- **Gaskets**
  - Spiral wound
  - Double metal jacket
  - RTJ
  - Sheet



- **Bolts and nuts**
  - Bolts
  - Stud bolts
  - Nuts
- **O-ring**
  - Rubber
  - Steel
  - Graphite
  - Teflon
- **Rod – threaded and non-threaded**
  - Teflon
  - Plastic
  - Metal
- **Adhesive**
  - Metal (carbon steel, stainless steel, alloy and copper)
  - Wood
  - Rubber
- **Sealing tag**
  - Electronic Sealing
  - E- lock standard
  - Alert lock
  - GPS Detector
  - Rubber
  - Steel

Regards,

## HITECH GENERAL TRADING LLC

Business Bay Dubai, United Arab Emirates

Mobile: - +971-505598330 / +971-547700750 / +971-549973191 / +971-549973192

Tel: 00971- 45710057 / 00971-4-2580497

Email : sales@hitechgt.ae / [hitechgt2012@yahoo.com](mailto:hitechgt2012@yahoo.com)

[md@alrakygroup.com](mailto:md@alrakygroup.com)

Web: [www.hitechgtr.com](http://www.hitechgtr.com)