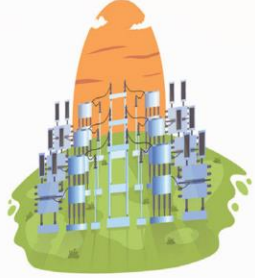


PTS

PTS (Process Technology Solutions) is a leading international developer and provider of industrial power electronic solutions. The company specializes in the design and manufacturing of power electronic converters for industrial applications, including motor drives, power supplies, and renewable energy systems. PTS offers a wide range of products and services, tailored to meet the specific needs of its clients. The company's expertise spans across various industries, including steel, cement, and chemical processing. PTS is committed to providing high-quality, reliable, and efficient solutions that optimize industrial processes and reduce energy consumption.



SVC

SHANGHAI POWER ELECTRONIC SOLUTIONS IS A LEADING INTERNATIONAL DEVELOPER AND PROVIDER OF INDUSTRIAL POWER ELECTRONIC SOLUTIONS.


Global demand for steel continues to grow and if you intend to be part of this boom, you'll want to boost the throughput and production volume of your plant. What you need now is an efficient, low-loss, low-voltage, and high-capacity steel mill. That's why you need SVC. SVC is a leading international developer and provider of industrial power electronic solutions. The company specializes in the design and manufacturing of power electronic converters for industrial applications, including motor drives, power supplies, and renewable energy systems. SVC offers a wide range of products and services, tailored to meet the specific needs of its clients. The company's expertise spans across various industries, including steel, cement, and chemical processing. SVC is committed to providing high-quality, reliable, and efficient solutions that optimize industrial processes and reduce energy consumption.



FTP

Since 1989, TAKFAMA is manufacturing customized solutions for controlling environmental pollution in any type of industry.

- Bag Filters
- High temperature ceramic filters
- Cyclones, Multi cyclones
- Electrostatic precipitators
- Scrubbers
- Dry and semi-dry gas absorption
- Noise control
- Air handling units
- Ventilation
- Vacuum cleaning systems
- Pneumatic conveying
- Regenerative Thermal Oxidation
- Incinerators
- Cementary furnaces
- Centrifugal fans
- Milling, Classifiers, Dryers



For the incineration and treatment of Municipal Solid Waste (MSW), RCK sewage sludge, hazardous wastes, TAKFAMA offers tailor-made plants, with a wide range of capacities. Depending on the application, the technology is based on moving grate or rotary kilns. High energy recovery by steam boiler is available. The generated electricity can be distributed on-site or may be exploited by district heating, greenhouses and other local usage.

TAKFA

at a glance

TAKFA Co., founded by young graduates of top universities of IRAN, has been active in supplying equipment for mining industries, steel factories, direct reduction plants and their associated units.

1 Focused on meeting the industry demands of auxiliary units, TAKFA is a reliable provider of state-of-the-art technology from renowned manufacturers in 3 main fields:

Fume treatment technologies and dedusting, representative of Fivemasa, Spain
Static Var Compensators (SVC), representative of RXPE, China
Pneumatic Transport System (PTS), representative of Aerocom, Germany

Aside from the above, TAKFA co has been proudly supplying many factories with spare parts and equipment.



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The Art of Auxiliaries

2 Our mission is to be responsive to the needs of our clients, sensitive to the needs of our employees and to achieve profitable growth as an experienced leader in supplying quality products, services and technologies to Iron and Steel production facilities.

3 Our vision is to be the most customer-focused, value-driven company bringing world-class products and services to the door step of our clients.

TAKFA CEO



TAKFA has successfully created partnerships with renowned and reputed manufacturers and suppliers around the world assuring our customers of our capability to supply them with high quality equipment at competitive prices backed with required metallurgical and technical support.



At the same time, we are committed to our suppliers in providing them with consistent market support. With the help of our highly developed infrastructure, TAKFA is now able to supply various equipment and spare parts for the steel industry. Electrical items, instrumentation and mechanical equipment are a few of the items that have been supplied for our clients.

SVC | STATIC
VAR
COMPENSATOR

& STATCOM

LIAONING RONGXIN XINGYE POWER TECHNOLOGY (RXPE) IS A LEADING INTERNATIONAL DEVELOPER AND PROVIDER OF HIGH-VOLTAGE POWER ELECTRONIC SOLUTIONS. SUCCESSFUL COMPLETION OF OVER 1800 PROJECTS ALL OVER THE WORLD HAS MADE RXPE THE LARGEST MANUFACTURER OF SVC UNITS.

Equipped with a fully integrated manufacturing facility, RXPE designs and manufactures SVC and STATCOM systems at its plant in Anshan. Using a modern testing facility, all different sub-systems are carefully put under simulated working conditions to ensure the highest standards are achieved.

Through its bold market presence in Iran and other countries, RXPE is able to quickly dispatch technicians to client sites and provide on-site consultation and maintenance services.

TAKFA



SVC

RONGXIN POWER ENGINEERING (RXPE) IS A LEADING INTERNATIONAL DEVELOPER AND PROVIDER OF HIGH VOLTAGE POWER ELECTRONIC SOLUTIONS.

Global demand for steel continues to grow and if you intend to be part of this boom, you'll want to boost the throughput and production volume of your plant. What you need now is an electric arc furnace that is simply top of the line. That combines high capacity with maximum availability. That flexibly processes different charging materials. That can produce a range of steel types – without long tooling times that slow down production.

At the same time, it is crucial to reduce costs – both when investing and during ongoing operations. To do this, you need simple, consistent operation, components with a long service life, ease of maintenance and reduced manpower requirements. And naturally, you also need to limit the impact your plant has on the environment. To ensure that you can comply with all regulations into the future – and to fulfill your responsibility for ensuring a clean environment. Is there one solution that meets all these needs? TAKFA with regards to its partners can supply ultimate solution for EAF.



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Static VAR Compensator (SVC) is an electrical device for providing fast-acting reactive power compensation on high-voltage electricity transmission networks to control dynamic voltage swings under various system conditions and thereby improve the power system transmission and distribution performance. SVCs are part of the Flexible AC transmission system device family, regulating voltage and stabilizing the system.

Electrical loads both generate and absorb reactive power. Since the transmitted load varies considerably from one hour to another, the reactive power balance in a grid varies as well. The result can be unacceptable voltage amplitude variations, a voltage depression, or even a voltage collapse.

One of the main applications of SVC is in the steel making industries where the EAF and LF are working. Due to the reactive and active impulse caused by the operation of EAF, the system voltage is fluctuating and flicking. The harmonic current caused by EAF makes the voltage distortion. The 3-phase unbalanced load of EAF causes negative sequence components and reduces the power factor etc.

Major SVC Advantages in Steel Making Plants

SVC in Steel Making industries can,

- Increase power factor, which decreases losses of electric network and cost of production and increases productivity.
- Reduce the reactive impulse to the network which avoids the pressure drop, voltage fluctuation, and flicker of the network, even reducing malfunction or shutdown of the driving and protection device.
- Reduce high Order Harmonics Current which decreases network voltage distortion.
- Reduce Three-phase unbalance of network and negative sequence current, which avoids the oscillation of the electric engine rotor.

RXPE REFERENCE LIST IN IRAN:

CLIENT	PROJECT SCOPE
Mobarakeh Steel Company	A complete SVC system 180Mvar / 33 KV
Mobarakeh Steel Company	1/3 phase Thyristor Valve 180 Mvar / 33 KV
Mobarakeh Steel Company	SVC System Spare Parts - PCB
Mobarakeh Steel Company	180Mvar / 33KV SVC revamp of the control system of existing Ansaldo SVC
Khorasan Steel Company	180Mvar / 33KV Replacing of the existing Alstom SVC control system
Khorasan Steel Company	SVC System Spare Parts - PCB
Foolad Sanat Bonab Company	A complete SVC system 75 Mvar
Foolad Sanat Bonab Company	SVC System Spare Parts - PCB / Thyristor / Capacitors
Sefid Dasht Steel Complex	A complete SVC system 180Mvar / 33 KV
Khazar Steel Company	A complete SVC system 135Mvar / 33 KV
Khazar Steel Company	SVC System Spare Parts - PCB
Yazd Rolling Mill	A complete SVC system 80Mvar / 11 KV
Yazd Rolling Mill	A complete SVC system 90Mvar / 21 KV
Yazd Rolling Mill	SVC System Spare Parts - PCB / Thyristor / Capacitors
Yazd Rolling Mill	SVC Auxilliary Equipments - CB / DS / ES / Protection Relays
Kerman Steel Company	A complete SVC system 55Mvar / 33 KV
Kerman Steel Company	SVC System Spare Parts - PCB / Thyristor / Capacitors
Mianeh Steel Complex	A complete SVC system 190Mvar / 33 KV
Arfa Iron & Steel Co.	A complete SVC system 160Mvar / 33 KV
Pasargad Steel complex	A complete SVC system 190Mvar / 33 KV
Ghaenat Steel Co.	A complete STATCOM system 205Mvar / 33 KV
Kaveh Steel Aria Co.	A complete STATCOM system
B-MISCo (Bafgh Steel Co.)	A complete SVC system
Ghadir Neyriz Steel Co.	A complete SVC system 190Mvar / 33 KV

CASE HISTORIES

Mobarake Steel Complex

Saba Steel Plant has two 180Mvar/33KV SVC Systems. The first supplied by RXPE in 2013 is working without any failure. Due to good history, TAKFA-RXPE was awarded the contract to revamp and fit new parts to guarantee performance at peak levels.

During this project, a thyristor valve and several control system boards were successfully designed, manufactured, and installed in existing 180Mvar SVC unit. Following successful cooperation, the client was convinced to define a new project for the existing damaged ANSALDO SVC unit to be replaced with new designed RXPE brand. It is now one of our main ongoing projects in TAKFA.



Ghaenat Steel Making Company

As one of the recent steel projects in Iran, the Ghaenat Steel making plant will be equipped with the latest technology by hiring the latest technologies & capable vendors. After accomplishing several successful projects in Iran, the TAKFA-RXPE partnership was selected to dedicate the STATCOM system to this plant. With a capacity of 205Mvar statcom, the system is designed to compensate reactive power and flicker of 140MT EAF & LF.



Khorasan Steel Complex

Employing RXPE's technology and knowledge of SVC systems, TAKFA replaced and upgraded the outdated control system of the ALSTOM SVC (1999) unit of Khorasan Steel Complex. A challenging task was performed successfully and the upgraded SVC system has been running smoothly and delivering a steady power factor of 0.99 ever since.



Bonab Steel Industry Complex

The main system was purchased from RXPE and was installed by a Turkish contractor in 2011. While the Turkish contractor refused to do his responsibility, TAKFA supplied all the requested spare parts for the client. In addition, in order to increase the service and maintenance knowledge of the client personnel, TAKFA - RXPE held the training courses by RXPE experts and technicians at client factory.



Mashiz Bardsir Steel Company

A diagnostic procedure was run on the SVC unit of Mashiz Bardsir Steel Co. Dated components were quickly replaced with newer versions and a comprehensive training course was organized to enhance the knowledge of the plant's technicians. The whole process of diagnosis, supplying spares, installation, and commissioning was performed in 3 weeks.



Yazd Rolling Mill

After the successful operation and swift after-sales services of their first installed RXPE SVC unit (80Mvar/11KV) in 2011, the client awarded the contract for their second SVC plant to RXPE (90Mvar/21KV). A complete SVC plant with all the necessary spare parts were designed and manufactured by RXPE and is under installation while TAKFA – RXPE is supervising the operations.

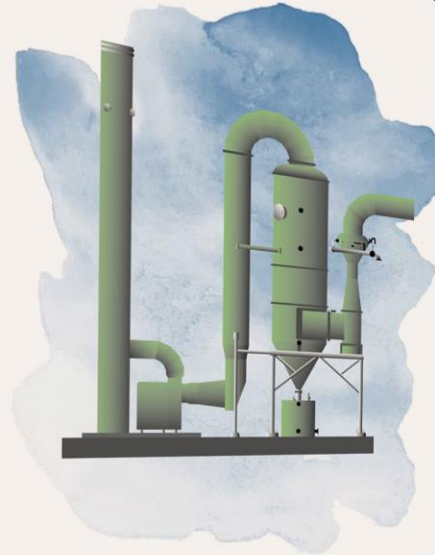


FTP

FIVEMASA, since 1980, in SPAIN is manufacturing customized solutions for controlling environmental pollution in any type of industry. The range of products are as follows:

- High Temperature Ceramic Filters
- Wet Scrubbers
- Bag Filters
- Cyclones, Multicyclones
- Electric Precipitators
- Selective Catalytic Reduction (SCR)
- Selective Non-Catalytic Reduction (SNCR)
- Regenerative Thermal Oxidation (RTO)
- Volatile Organic Compounds (VOC) Removal
- Scrubbers
- De-sulfurization plants
- Vacuum Cleaning Systems
- Dry and Semi-dry Gas Absorption
- Centrifugal Fans
- Crematory Furnaces
- Incinerators
- Pneumatic Conveying
- Air handling Systems
- Vacuum Cleaning Systems
- Ventilation

 TAKFA




تکفا
مهندسی و مشاوره
محیط زیست

www.takfa.co



FTP

FUME TREATMENT PLANT

FIVEMASA, SINCE 1980, IN SPAIN IS MANUFACTURING CUSTOMIZED SOLUTIONS FOR CONTROLLING ENVIRONMENTAL POLLUTION IN ANY TYPE OF INDUSTRY. WITH OVER 300 PROJECTS IN OVER 30 COUNTRIES, FIVEMASA HAS A TEAM OF EXPERIENCED DESIGNERS AND BENEFITS FROM SEVERAL WELL-EQUIPPED WORKSHOPS TO DELIVER STATE-OF-THE-ART POLLUTION CONTROL SOLUTIONS FOR ANY INDUSTRY.

THE EQUIPMENT IS MANUFACTURED WITH HIGH-QUALITY WESTERN EUROPE WORKMANSHIP AND OUTLET EMISSION GUARANTEES ARE FULLY IN LINE WITH THE LATEST EU LEGISLATION. THE RANGE OF PRODUCTS ARE AS FOLLOWS:

High Temperature Ceramic Filters

Wet Scrubbers

Bag Filters

Selective Catalytic Reduction (SCR)

Selective Non-Catalytic Reduction (SNCR)

Volatile Organic Compounds (VOC) Removal

De-sulfurization Plants

Vacuum Cleaning Systems

Dry and Semi-dry Gas Absorption

Regenerative Thermal Oxidation (RTO)

AIR POLLUTION CONTROL SYSTEMS

BAG FILTERS

Part of the dust which arrives with the gas is separated in the entrance of the filter. The rest of the dust is taken on the surface of the bag, where an indispensable dust precoating is created to obtain high standards of separation. The filter bags are cleaned by periodic pulses of compressed air, which goes to the jet pipes through the opening of the membrane valves. Each row of bags is blown creating a strong pressure increase in the interior of the bags. As a result, the dust settled on the outside of the bags falls.

The membrane valves are electronically controlled allowing the adjustment of pulse time and cycle to the conditions of the desired operations. The electronic controller can be operated manually or automatically commanded by the pressure loss. The automatic controller maintains constant pressure loss of the filter.

The FIVEPULSE filters can be made of vertical bags or horizontal bags. These last ones are used when there is height limitation for the extraction of bags. In the vertical filters, the gas entrance can take place by the hopper or by a side of the filter casing. In the horizontal filters, however, it takes place by the top part.

We also have round filters, specially for those applications when people must work under high-pressure values: 5000 to 8000 mm.w.g. of vacuum pressure.

There are four series of FIVEPULSE filters:

- SQUARE SERIES
- RECTANGULAR SERIES
- DOUBLE SERIES
- INDEPENDENT CHAMBERS SERIES

COMPACT FILTER

The compact filters designed by FIVEMASA are cleaned by periodic pulses of compressed air and they are designed to work continuously and minimize residual emissions. Because compact filter provides maximum filter area in a minimum space, the volume of the filter housing can be reduced considerably and so the occupied area. The air charged with dust enters to the filter top or laterally, the filters allow to pass the clean air to the front side of the filter. The dust falls down into the hopper after the cleaning through periodic pulses of compressed air and discharge via a rotary valve or screw conveyor plus rotary valve.

The air with dust enters to the head of the filter housing and clean air goes out through the frontal side of the filter, soot down flow facilities the dust to fall down into the hopper.

ELECTROSTATIC PRECIPITATORS

As contaminated air enters the electrostatic precipitators, it must pass by speak electrodes. The AC voltage creates a high intensity field wherein the particulate matter in the air becomes electrically charged. The charged particles then pass into a collector plate section which attracts and collects. Liquid contaminants coalesce into droplets and run off the collector plates in a self-cleaning action.

SCR (SELECTIVE CATALYTIC REDUCTION)

The primary difference between SNCR and SCR is that SCR employs a metal-based catalyst with activated elements to increase the rate of the reduction reaction. A nitrogen-based reducing agent (reagent), such as ammonia or urea, is injected into the filter system or downstream the filter system. The reagent reacts selectively with the flue gas NO_x within a specific temperature range and in the presence of the catalyst and oxygen. For the majority of commercial catalysts (metal oxides), the optimum temperatures for the SCR process range from 250 °C to 427 °C.

SNCR (SELECTIVE NONCATALYTIC REDUCTION)

SNCR is based on the chemical reduction of the NO_x molecule into molecular nitrogen (N₂) and water vapor (H₂O). A nitrogen based reducing agent (reagent), such as ammonia or urea, is injected into the post combustion flue gas. The SNCR process occurs within the combustion unit which acts as the reaction chamber. Reagent is injected into the flue gas through nozzles mounted on the Wall of the combustion unit. The injection nozzles are generally located in the post-combustion area, the upper area of the furnace and convective passes. The injection causes mixing of the reagent and the flue gas. The heat of the boiler provides the energy for the reduction reaction.

WET PROCESS

SCRUBBERS TYPE VENTURI

The venturi filters are designed with wet entrances for high-temperature gases, or dry for saturated or cold gases. They can have a fixed section for a constant air flow and adjustable for a variable air flow. They can be built in reinforced polyester with fiber glass, stainless, normal, and covered by rubber on the inside. They are used to capture very small particles and their filtration efficiency is comparable to those of electro statistic precipitators and filter bags. However, the installation cost is lower.

DROPLET SEPARATORS

By means of bended profiles, we get the elimination of droplets on vanes by inertial forces. The eliminated liquid film is drain aged to the lower part of the unit, getting out from the assembly device. Depending on the nature of the gas we can supply single-stage or multi-stage droplet separators with or without flushing systems.

AIR POLLUTION CONTROL SYSTEMS

Design and manufacture of below projects, in any type of industry.

- Industrial cleaning plants
- Centrifugal and axial fan silencers
- Anti-noise cabins
- Micronizing and drying plant
- Climatization and ventilation
- Milling and classifying

TYPICAL APLICATIONS:

- Behind gas scrubbers
- Spray towers
- Air conditioning
- Air and gas cooler

FIVEMASA REFERENCE LIST IN IRAN:

Saba Steel Persian Gulf

5 stand-alone wet scrubber dedusting plants were designed and supplied for Saba Steel Persian Gulf with a total airflow of 324,000 m³/h. Heavily polluted areas with an inlet dust up to 70 g/m³ were analyzed and after careful design and high-quality manufacturing of dedusting equipment, an outlet emission of 10 g/m³ was achieved which is well below the limits set by the department of environment.

The whole project was concluded in under 6 months which exhibits tremendous flexibility from Fivemasa in adapting to the client's needs. All electrical components and instruments were supplied from world-renowned European brands such as Siemens.



Golgohar Mining and Industrial

The Iranian mining giant had decided to revamp their existing facilities in their palletizing plant and one of the equipment that needed upgrading was the wet scrubber for the bentonite + iron ore concentrate mixer. After a rigorous and diligent technical evaluation by the client, which included visiting previous projects in Iran and the manufacturing facilities of Fivemasa in Spain, TAKFA-Fivemasa was selected as the supplier of the wet-scrubber dedusting system. During the course of the project, some technical features were modified in the site location but Fivemasa quickly accommodated the changes and delivered the final equipment according to the latest client requirements.





TAKFA

PTS

Pneumatic tube systems manufacturer represented in 80 countries around the globe.

Made in Germany, Aerocom is a world leader in the manufacture of modern pneumatic tube systems and internal logistics. We have the experience and expertise to custom design solutions for virtually any application in pneumatic materials logistics. We can provide special technical solutions to meet individual customer specifications.

Items weighing anywhere from 1 gram to 28 kilograms, up to 30 cm in diameter and up to 50 cm in length can be transported in a pneumatic tube system. In this category you can find a whole lot of things: hot steel samples, spare parts, documents, X-ray films, coins, bank notes, blood samples, medicine, oil, etc.



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PTS

PNEUMATIC
TUBE
SYSTEM

AEROCOM, A WORLD-RENOWNED PNEUMATIC TUBE SYSTEMS MANUFACTURER, IS REPRESENTED IN 80 COUNTRIES AROUND THE GLOBE.

MADE IN GERMANY, AEROCOM IS A WORLD LEADER IN MANUFACTURING MODERN PNEUMATIC TUBE SYSTEMS AND INTERNAL LOGISTICS. WE HAVE THE EXPERIENCE AND EXPERTISE TO CUSTOM DESIGN SOLUTIONS FOR VIRTUALLY ANY APPLICATION IN PNEUMATIC MATERIALS LOGISTICS. WE CAN PROVIDE SPECIAL TECHNICAL SOLUTIONS TO MEET INDIVIDUAL CUSTOMER SPECIFICATIONS.

Items weighing anywhere from 1 gram to 28 kilograms, up to 30 cm in diameter and up to 50 cm in length can be transported in a pneumatic tube system. In this category you can find a whole lot of things: hot steel samples, spare parts, documents, X-ray films, coins, bank notes, oil, etc.

Aerocom systems can transport virtually anything: liquid, toxic, valuable, hot or cold, 1 gr or 28 kg, provided that it is no more than 30 cm in diameter. This includes a whole range of items: blood or tissue samples, medicines, documents, instruments, X-rays, laboratory specimens, oil, spare parts, hot steel samples, etc.

A pneumatic tube system consists of several main components:

A blower to create the pressure and suction required for transportation, containers, known as carriers, that fit closely in the tubes to convey the articles, and stations where the destination is selected and the filled containers are inserted.

Powerful controllers are used to regulate these transportation logistics. These stations receive incoming carriers and gently deposit them out of the system. Diverters are used with tube system to direct the carriers to their selected destination or else to communicate with various zones.

All kinds of material can be simply, rapidly, and economically dispatched in this way using air as driving force.

AEROCOM REFERENCE LIST IN IRAN: (TURN-KEY PROJECTS)

Khorasan Steel Company

It was an industrial project in one of the major steel plants in Iran. In this project was used a 1-4 diverter and a blower capable of creating both negative and positive pressure. Total tubing length was +300 meters and the longest distance from the laboratory was 155 meters (60 meters was vertical).



Arvand Jahan Ara Steel Co.

Equipped with EAF, LF, CCM and VD, Jahan Ara Steel was set to produce high quality steel and to help them achieve that in an efficient manner, 500 meters of stainless tubing was used to transport the samples between 5 send/receive stations. The complete project was launched in mid of 2022.



Iran Alloy Steel Co.

As an upgrading project named “Yazd 1” IASCO took action to equip new steel melting plant with PTS system through one zone consisting of 4 stations from Lab to CCM, LF & EAF furnaces by application of 700 m stainless steel tubing.



Other Projects

CLIENT	PROJECT SCOPE
Farhikhtegan Hospital	2 zone 24 station
Qaem Hospital	1 zone 12 station
Shomal-e-Amol Hospital	2 zone 26 station
Takht-e-Jamshid Hospital	2 zone 24 station
Amiralmomenin Hospital	2 zone 20 station
Milad Hospital	2 zone 24 station
Noor Hospital	1 zone 12 station
Heshmatye Hospital	2 zone 19 station
Omid Hospital	2 zone 19 station
Emam Hossein Hospital	2 zone 26 station
Women Hospital	3 zone 28 station
Aftab Hospital	2 zone 15 station

CLIENT	PROJECT SCOPE
Sina Hospital	2 zone 11 station
INII	4 zone 36 station
Mam Infertility Treatment Clinic	1 zone 16 station
East Hospital	2 zone 16 station
Milad Hospital	2 zone 34 station
Pars Hospital	2 zone 20 station
Emam Reza Hospital	3 zone 52 station
Shariati-2 Hospital	6 zone 68 station
Mahdi Clinic Hospital	7 zone 61 station
National Cancer Center Hospital	2 zone 28 station
Al-Badoor Hospital (Bagdad-Iraq)	1 zone 12 station
Basrah Hospital (Iraq)	2 zone 22 station

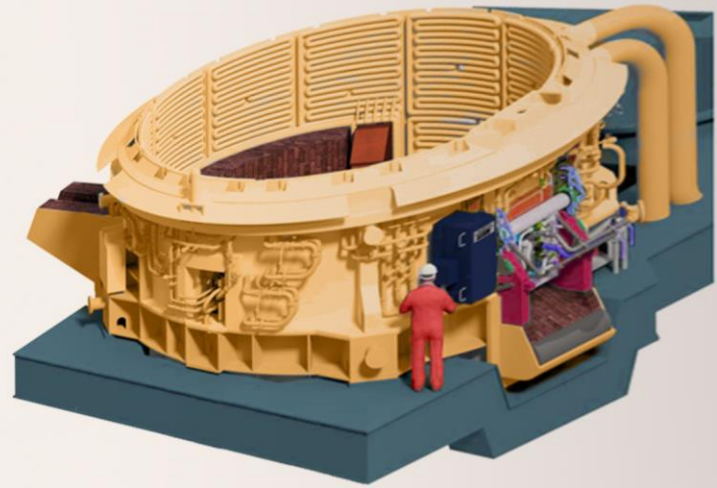
SUPPLY CHAIN

Auxiliary Equipment

Besides our core activities, we oblige ourselves to equip the clients with all main mechanical, electrical, instrumental equipment & and parts as well as bulk items as raw material in steel-making plants.

That's why we have planted all fundamental principles in the company for customized procurement of piping & fittings, MV & HV electrical motors, switchgears & panels, gearboxes & drive units, different types of pumps, instruments, and etc., From far east & western European countries.

Takfa complies with your demands!





SUPPLY CHAIN

Auxiliary
Equipment

BESIDE OUR CORE ACTIVITIES, WE OBLIGE OURSELVES TO EQUIP THE CLIENTS WITH ALL MAIN MECHANICAL, ELECTRICAL, INSTRUMENTAL EQUIPMENT & PARTS AS WELL AS BULK ITEMS AS RAW MATERIAL IN STEEL MAKING PLANTS.

THAT'S WHY WE HAVE PLANTED ALL FUNDAMENTAL PRINCIPLES IN THE COMPANY FOR CUSTOMIZED PROCUREMENT OF PIPING & FITTINGS, MV & HV ELECTRICAL MOTORS, SWITCHGEARS & PANELS, GEARBOXES & DRIVE UNITS, DIFFERENT TYPE OF PUMPS, INSTRUMENTS, AND ETC., FROM FAR EAST & WESTERN EUROPEAN COUNTRIES.

MOREOVER, FOR THOSE EQUIPMENT & PACKAGES WHO HAVE MANUFACTURING WORKS BY NATURE, THEN TAKFA WILL ALSO BE ABLE TO MANAGE FOREIGN ENGINEERING / PROCUREMENT & LOCAL MANUFACTURING AT THE SAME TIME BY USING EXISTED POTENTIALS.

TAKFA COMPLIES WITH YOUR DEMANDS!

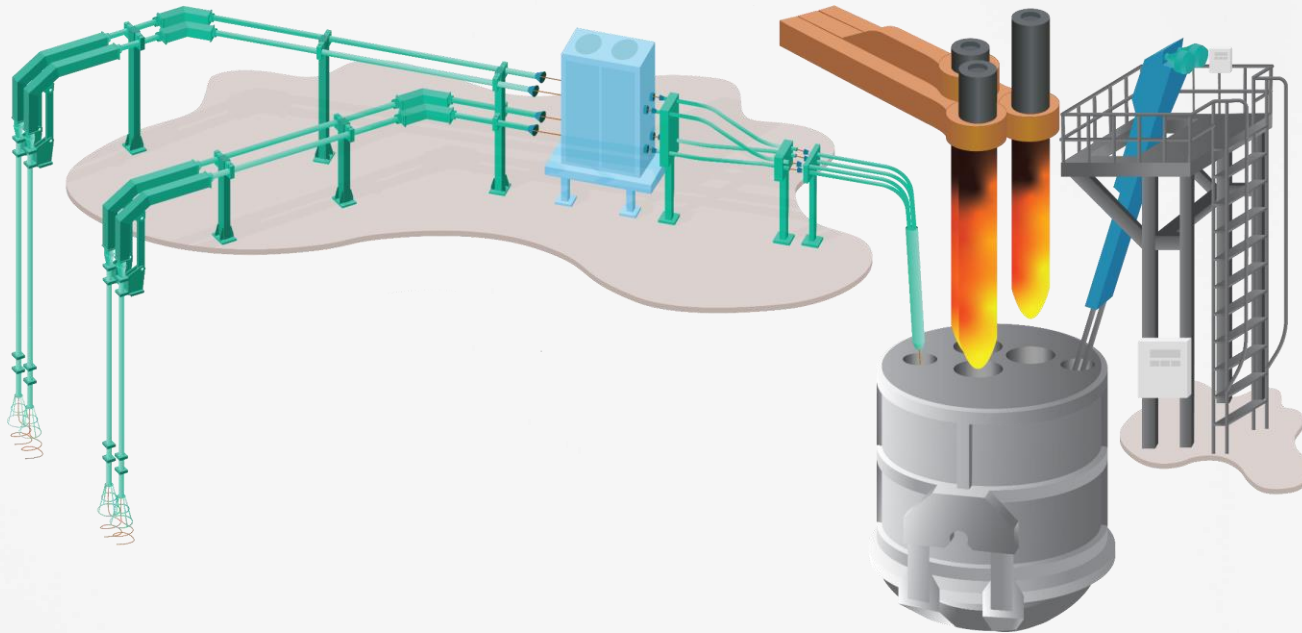
AUXILIARY EQUIPMENT

The ladle and electric arc furnaces are conventional equipment for the steel-making process. TAKFA is expertise in providing the required auxiliary equipment of furnaces as another "art of auxiliary".

Technology highlights & equipment which we supply:

- Emergency Stirring Lance
- Wire Injection (Two or Four Strand feeding Machine)
- Automatic / Manual Samplers
- Lime and Carbon Injection System

Full compliance with safety standards and environmental requirements.



LF PROCESS EQUIPMENT

WIRE INJECTION (FEEDING MACHINE)

The basic wire feeder consisting two pairs of straight flat-notched rolls through which the wire is pinched and propelled. In order to add the alloying element into the ladle furnace, the wire injection system plays a key role. Depending on the additive element, the design, and features of injected wires are critical. By TAKFA state-of-art solutions, the steel-making plants are very close to reach the most efficient production schedule. The wire feeding machine can be provided with a complete guiding system bringing the wire up to the liquid steel, and the design of the guiding system is tailor-made according to the space available and the Customer's request.

AUTOMATIC / MANUAL SAMPLERS

The sampling system also called measuring lance manipulator (MLM) used to grab and measure the sample or steel chemical analysis without having to power off the ladle furnace and monitor its features (temperature, oxygen, carbon content, and so on) from the internal molten material of the ladle furnaces. The automatic sampler applies specifically to LF, VD, or VOD, whereas the manual sampler applies also to EAF. In the automatic sampler, the lances-carrying device holds one or two independent carriages, moved by a gear motor with chain drive; the position of the lances is automatically monitored.

An automatic slag-breaking lance can be also provided to break the slag on the top of the liquid steel and give access inside the ladle.

TAKFA proudly can be your supplier of control modules (PLCs), sensors, and consuming material of MLM accordingly.

EMERGENCY STIRRING LANCE (ESL)

In metallurgical processing, the effective and reliable stirring of the melt is one of the prerequisites for higher productivity. The ESL is to blow the inert gas (argon) through a refractory lance into the melted steel bath, in order to provide the homogeneity melt and avoids production line stoppage and financial loss.

LIME & CARBON INJECTION SYSTEM

The lime and carbon system injects powders into the Electric Arc Furnace (EAF) by means of a pneumatic transport system. With a capacity up to 60 Kg/min, the system is designed to provide the feed for the KT-Lance which in turn would inject the additives into the molten metal. The driving force for injection comes from the pressurized air/nitrogen. Bagfilter dedusting units have also been considered in the design to collect the dust caused by filling the tanks.

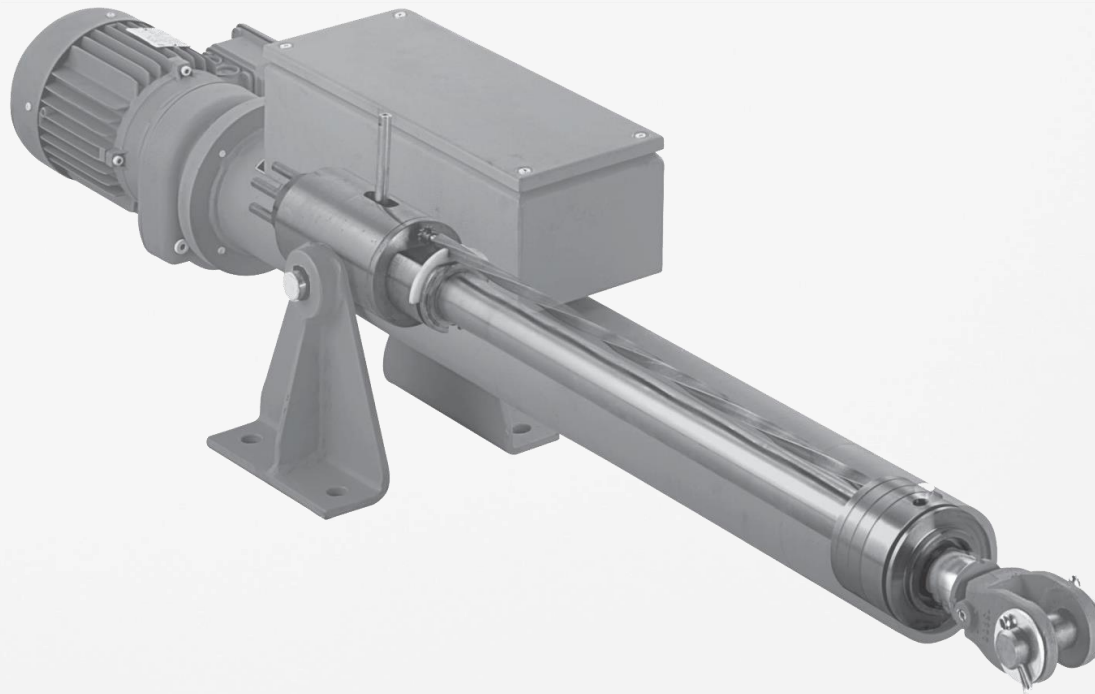
As a turn-key project, described package for Ghaenat steel-making plant project is handed over by TAKFA.



ELECTRICAL ACTUATOR

Supplying for numerous industries depend on robust lifting cylinders for their processes, ranging from mechanical engineering to steel manufacturing is in our profession. We provide customized mechanical, electrical, or double-acting lifting cylinders compatible precisely to your needs.

In order to allocate the most suitable product to your individual requirements, TAKFA tries a practical pre-selection process. And thereafter adjusting your drive comply with technical profile. Euba lifting cylinders are built to withstand high loads, making them ideal for long-term use in operational steel-making systems. The products meet all applicable standards and regulations, ensuring the best possible results for your systems. We emphasize on precise and consistent standards to achieve optimal performance guaranteed in supplied products.



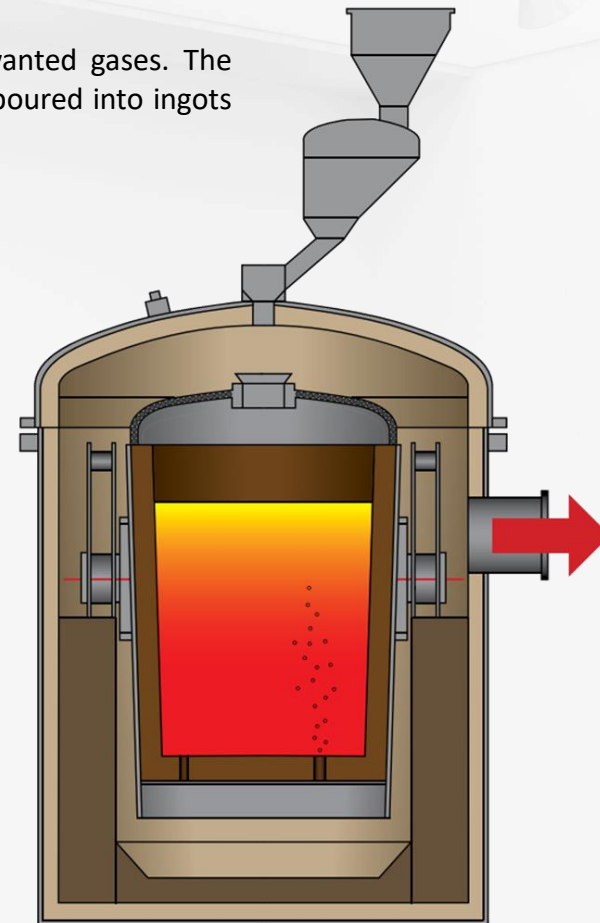
VACUUM DEGASSING FURNACE (VD)

Throughout the early part of the 1900s, the steelmaking industry was plagued by poor quality steel. This problem arose from the presence of hydrogen and nitrogen gases in the molten steel during production. As the steel cooled and solidified, the dissolved hydrogen led to the formation of pinholes and porosity in the final product, as hydrogen has limited solubility in steel at normal temperatures. Similarly, the nitrogen is rejected again and leading to defects like embrittlement and decreased ductility in the final steel product.

Vacuum degassing is a widely employed technique to eliminate these unwanted gases. The process is done after the molten steel has left the furnace and before being poured into ingots or introduced into a continuous caster.

The efficacy of vacuum degassing in eliminating hydrogen and nitrogen from the steel is attributed to the decreased pressure between the molten steel and the vacuum, which reduces the solubility of the gases and causes them to separate from the liquid steel.

This leads to a final product that exhibits excellent ductility and uniformity. Apart from its metallurgical advantages, the vacuum degassing process also enhances the economic aspects of producing high-quality steel. It enables a more cost-effective smelting process by shortening the smelting cycle and reducing the consumption of alloying and deoxidant additives.



HEAVY INDUSTRY CRANES

Overhead cranes and gantry cranes are extensively utilized in steel plants worldwide for various stages of the steel-making process, from raw materials to finished products. These cranes play a vital role in the industry. Different types of cranes are employed in the steel industry, including scrap yard gantry cranes, scrap handling magnet cranes, ladle handling cranes, teeming cranes, hot metal handling cranes, rotation magnet cranes, maintenance overhead bridge cranes, and cold/hot rolling mill overhead cranes. All these cranes are designed to handle heavy or extra heavy-duty tasks.

TAKFA has the expertise to assist steel-making plants perform the tough, dangerous lifting work in the steel and metallurgy industry. Our partner has successfully supplied over 100,000 cranes to steel and metallurgical industries worldwide.

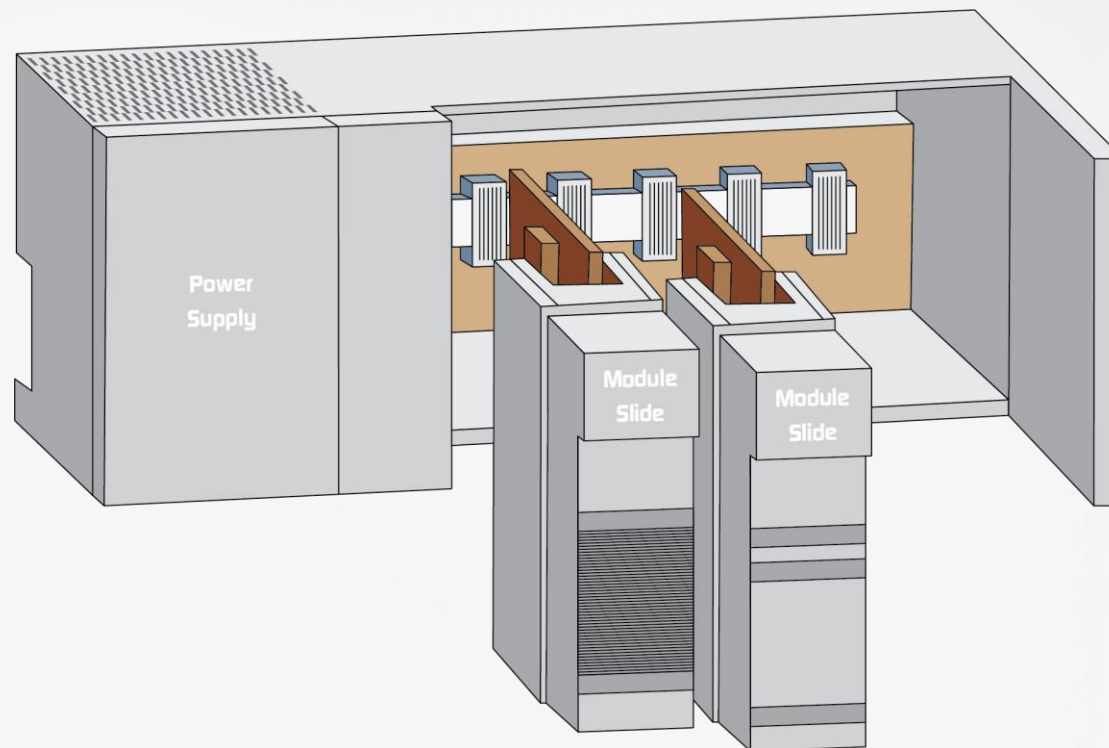
We collaborate closely with you to provide equipment capable of safely lifting heavy and perilous objects throughout your operation. Whether it involves the transportation of iron ore and recycled steel, the pouring of hot metal, the shaping of products in the rolling mill, or the intelligent handling of finished steel products, we are ready to support you.



AUTOMATION

PLC is a very common and vital equipment in modern industries which has a key role in automation field. The TAKFA's automation specialists present the best specific solutions for any application in steel industries. The well-experienced experts in TAKFA are so eager to access, design, select, supply, and finally to set-up the various types of PLC systems.

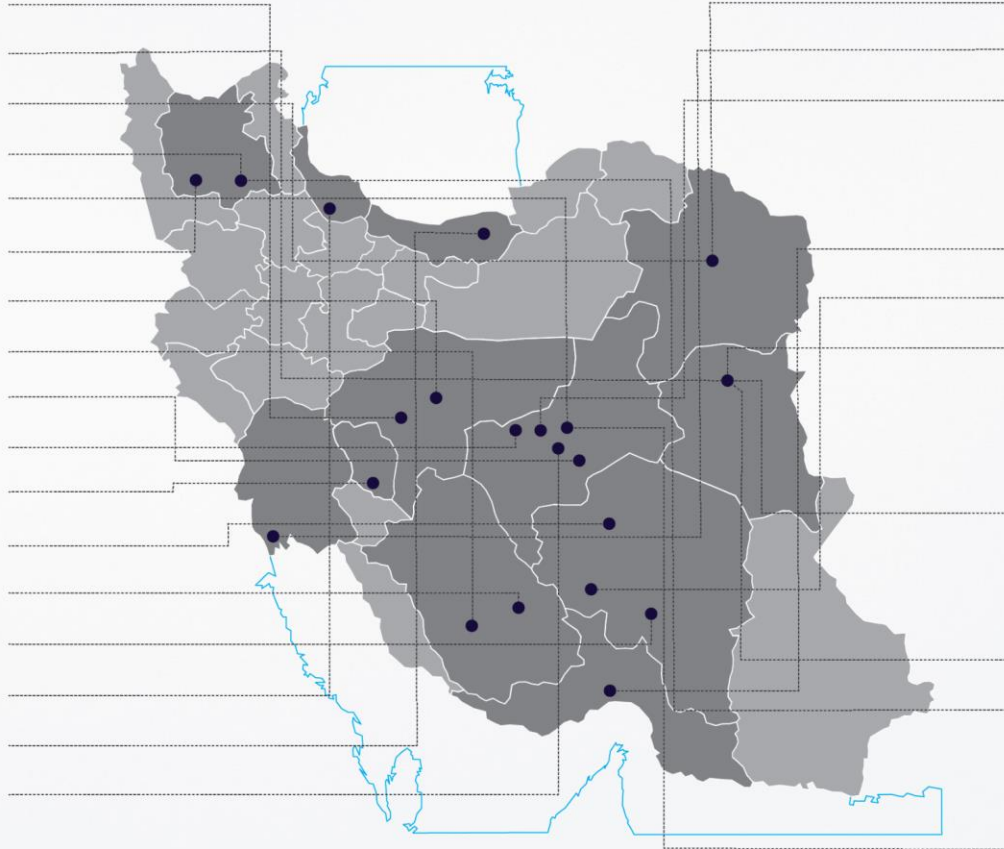
It is when the team members are presenting after sale services unconditionally as per conventional standards to the clients as well.



“Where you need where we are”.



-  Mobarakeh Steel Complex (Saba Steel Complex)
190Mvar/33kV SVC & 180Mvar/33kV Revamp SVC
-  Ghaenat Steel Co.
205Mvar /33kV STATCOM
-  Khorasan Steel Co.
180Mvar/33kV SVC
-  National Iranian Steel Co.
190Mvar/33kV SVC
-  Yazd Rolling Mill Co.
90 & 80Mvar SVC
-  Bonab Steel Industrial Complex
75Mvar/33kV SVC
-  Kaveh Steel Aria Co.
25Mvar/20kV STATCOM
-  Pasargad Steel Complex
190Mvar/33kV SVC
-  Bafq Iron and Steel Complex
160 Mvar/33kV SVC
-  ARFA Steel Co.
160 Mvar/33kV SVC
-  Sefid Dasht Steel Complex
180Mvar/33kV SVC
-  Zarand Iranian Steel Co.
32 Mvar/33kV SVC
-  Ghadir Neyriz Steel Complex
190Mvar/33kV SVC
-  Kerman Steel Co.
55Mvar/33kV SVC
-  Khazar Steel Co.
135Mvar/33kV SVC
-  Steel Industries Amirabad Co.
8Mvar STATCOM
-  Mohsen Steel Complex
90Mvar SVC



-  Khorasan Steel Co.
3 station +300m PTS
-  Arvand Jahan Ara Steel Co.
5 station, +500m PTS
-  Iran Alloy Steel Co.
4 station, +700m PTS



-  Saba Steel Persian Golf Complex
Five stand-alone wet scrubber dedusting systems
-  Golgohar Mining & Industry Co.
Wet scrubber dedusting system



-  Ghaenat Steel Co.
One set LF process equipment



-  Ghaenat Steel Co.
Level II Automation System
-  National Iranian Steel Co.
190Mvar/33kV SVC



-  Yazd Rolling Mill Co.
One set 24kV switchgears



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