



**CMAX<sup>®</sup>**

***ELECTRIC FURNACE***

**CNBM International Corporation**



## Company Profile



CNBM (China National Building Material) Group is the largest comprehensive building materials group in China that integrates scientific research, manufacturing and logistics into one entity. CNBM is also the largest building materials and equipment specialists in China. Upon the State Council's approval, CNBM owns more than 300 subordinate manufacturing factories and servicing companies till now. There are 6 fully owned public listed companies and 11 partially owned with substantial shares public listed companies. In many such of these fields, CNBM is playing a leading role in the building industry in the country.



CNBM International Corporation is the most important import and export platform of CNBM group. With its advantages, CNBM International are mainly concentrate on Iron and Steel, Nonferrous, Cement, Glass, Ceramics industries and devotes herself for supplying high quality series of refractories as well as technical consultancies and logistics solution.



**EMMA Score: 1**

**D&B Rating: 4A1**

CNBM International is highly recognized by its business partners and clients all over the world and has obtained rapid development under the spirit of win-win. Depending on the support of production divisions and its active staff, CNBM international reached a turnover of USD one billion in 2012. We will carry on the mutual beneficial, create value for our employees, share holders and clients and benefit the whole society in our future development.

Thanks you for your interest in our company products and services. Your valuable comments are most welcome.

## **Product List**

**Electric Arc Furnace (EAF)**

**Ladle Refining Furnace (LRF)**

**Submerged Arc Furnace (SAF)**

Ferrosilicon Furnace

Industrial Silicon Furnace

Silicon-manganese Furnace

High Carbon Ferrochrome Furnace

Calcium carbide Furnace

Ferronickel Furnace

Silicochromium Furnace

Calcium Silicon Furnace

**Argon Oxygen Decarburizing Furnace (AOD)**

**Basic Oxygen Furnace (BOF)**

**Vacuum Oxygen Decarburizing Furnace (VOD/VD)**

**Off Gas Preheating Continuous Feeding system**

**Dedusting Equipment of Electric Furnace**

**Static Var Compensator (SVC)**

**Blast Furnace Pulverized Coal Injection**

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## Electric Arc Furnace (EAF)



Electric arc furnace is using electricity as fuel source, and utilizes the arc high temperature produced by electrode and furnace charge to heat and melts the furnace charge. It is widely using in production of normal steel, high quality carbon steel, various alloy steel, stainless, various ferroalloys. It is the key equipment in steel making factories, foundry factories, ferrous alloys making factories and etc.

Using recycled materials, the EAF process route is suitable for the production of both low-alloy and high-alloy steels, resulting in a wide range of final products, from motor engines and large steel tools to stainless steel cutlery and medical equipment. The production capacity of an EAF varies at different plants depending mainly on the batch size (normally between 50 and 150 tonnes) and power input. Tap-to-tap time, i.e. the time from one tapping to the next, is between 45 minutes to 2 hours, and is usually designed to match the steel mill casting rate.

### Electric Arc furnace Characteristic:

Smelting temperature is flexible to be controlled, meet different steel grade production needs.

High heat efficiency, atmosphere inside furnace can be controlled.

Can remove the phosphorus, sulfur, oxygen and other impurities and improve steel quality. Easy to control the chemical composition of steel, fix high recovery

rate. Equipment is simple and shorter technological process.



Qualified Final Product

Type	Rated capacity (T)	Max capacity ( T)	Furnace Shell inner diameter ( MM)	Electrode diameter (MM)	Transformer capacity(KVA)
EAF-5T	5	10	3200	300	2500-4300
EAF-10T	10	18	3600	350	5500-8000
EAF-15T	15	24	3800	350	8000-12500
EAF-20T	20	30	4000	400	9000-12500
EAF-25T	25	35	4200	400	12500
EAF-30T	30	45	4400	400	12500-25000
EAF-35T	35	55	4600	450	16000-30000
EAF-40T	40	65	4800	450	16000-40000
EAF-45T	45	85	5400	500	25000-60000
EAF-60T	60	100	6100	500	30000-80000
EAF-80T	80	120	6400	550	40000-80000
EAF-100T	100	10	3200	300	2500-4300

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EAF-60T	60	100	6100	500	30000-80000
EAF-80T	80	120	6400	550	40000-80000
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## Ladle Refining Furnace (LRF)



Ladle Refining Furnace is used to refine the molten steel from primary melting furnace (electric arc furnace, induction furnace, converter and etc.), meanwhile have the function of adjusting molten steel temperature, and be a buffer of the whole process. It is described to be soul of the best production line (primary melting furnace + LF+ CCM). It is widely used in refining of kinds of steel grade, such as Ball bearing steel, alloy structural steel, tool steel, spring steel, carbon steel and etc.

Whenever LRF is installed online, liquid metal is transferred from the main melting source to the LRF at a nominal tapping temperature and either Argon/Nitrogen is purged from the bottom apart from arcing (using electrodes) on the top to bring about homogeneity of liquid metal composition and temperature. Fused lime/CaSi is added to the liquid metal to reduce sulphur and bring it within acceptable limits. And temperature is raised for the next casting operation.

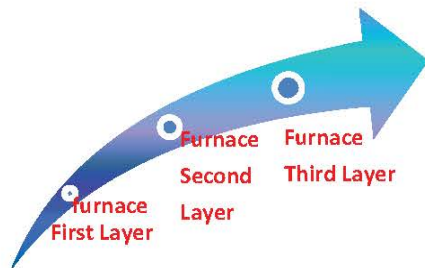
### Characteristic:

1. Even the molten steel composition and temperature
2. Desulfidation, degassing, deoxidation and removing non-metallic impurities.
3. Increase production capacity.

Ladle Rated Capacity (ton)	Ladle Diameter (mm)	Transformer Rated Capacity (KVA)	Electrode Diameter (mm)	Electrode distribution circle Diameter (m)	Molten steel Temperature raising speed (Co/min)
20	2200	3150	200	500	2-3
40	2900	6300	350	650	2-3
60	3100	10000	350	650	2-3.5
70	3200	12500	400	700	2-3.5
100	3400	18000	400	700	2-3.5
150	3900	20000	450	800	2-3.5



## Submerged arc furnace



Submerged arc furnace is a kind of industrial furnace which consumes much power. Full set equipment mainly consists of furnace shell, fume hoods, lining, short net, cooling system, exhaust system, de-dusting system, electrode shell, electrode lifting system, loading and unloading system, electrode holder, arc burner, hydraulic systems, submerged arc furnace transformer and various of electrical equipments.

### Submerged arc furnace equipment is divided to three layer arrangement

The 1st layer is furnace body (including furnace bottom support, furnace shell, furnace lining), tapping system (including the ladle or pot and ladle car.), arc burner etc.

The 2nd layer

1. Fume hood: At present, mostly of submerged arc furnace adopts closed or semi-closed low hood structure, with the characteristics of environmental protection, facilitate maintenance and improve the operation environment. The closed structure can also collect the exhaust gas (main ingredient is carbon monoxide) which is generated in the production and use in synthetically. Also can reduce the heat loss of the circuit, decrease the temperature of the electrode, and improve the operating environment.

2. Electrode holder: Most of submerged arc furnace with three-phase power supply. Electrode in triangle or inverted triangle, symmetrical position placed in the middle of furnace chamber. Large submerged arc furnace generally adopts anthracite, coke and coal tar pitch mixed as electrode material, in the process of smelting, it roasting by itself as electrode.

3. Short net

4. Copper tile

5. Electrode shell

6. Unloading system

7. Turning down machine

8. Fume exhaust system

9. Water-cooling system

10. Submerged arc furnace transformer

11. Operating system

The 3rd layer

1. Hydraulic system

2. Electrode press and release device

3. Electrode lifting system

4. Steel platform

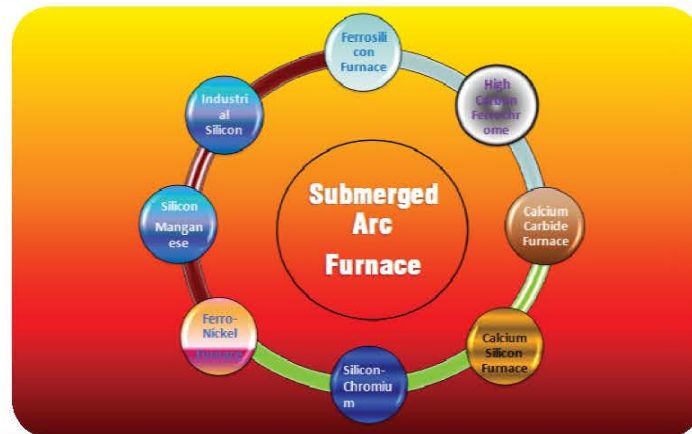
5. Hopper and cycle material distribution car

Other additional: Skew Bridge feeding system, electronic batching system, etc.



**Submerged Arc Furnace---Major categories and application**

Category		Main raw-material	Final products	Reaction temperature (Celsius Degree)	Power consumption KWh/t
Ferro alloy furnace	Ferrosilicon furnace	(45%) ferrosilicon	Ferrosilicon, scrap iron, coke	1550-1770	2100-5500
		(75%) ferrosilicon			8000-11000
	Ferromanganese furnace	Manganese ore, scrap iron, coke, lime	Ferromanganese	1500-1400	2400-4000
	Ferrochrome furnace	Chrome ore, silica, coke	Ferrochrome	1600-1750	3200-6000
	Ferrotungsten furnace	Tungsten crystal ore, coke	Ferrotungsten	2400-2900	3000-5000
	Silicon chromium furnace	Ferrochrome, silica, coke	Silicon chrome	1600-1750	3500-6500
	Silicon manganese furnace	Manganese ore, silica, iron scrap, coke	Silicon manganese	1350-1400	3500-4000
Steelmaking electric furnace		Iron ore, coke	Pig iron	1500-1600	1800-2500
calcium carbide furnace		Limestone, coke	Calcium carbide	1900-2000	2900-3200
Boron carbide furnace		Boron oxide, coke	Boron carbide	1800-2500	





## Argon Oxygen Decarburizing Furnace (AOD)



Argon oxygen furnace is a kind of Ladle Refining Furnace, which is characterized by side-blowing oxygen through the bottom tuyere with an immersion way. When the tuyere center is blown in with oxygen, argon and mixed gas of nitrogen, the proportion of argon and oxygen should be adjusted, then, it can achieve the purpose of decarburizing and retaining of chrome. Argon and nitrogen are used as cooling gas for tuyere ring to extend the life of tuyere. It can get the best operation by controlling the flow of the tuyere ring. And the flow of the tuyere center and tuyere ring can be controlled in master-control room.



The burning loss of tuyere, refractories and chrome is influenced greatly by the temperature of molten steel. So we can offer a special online temperature measuring system to buyers.



We adopt secondary combustion of top lance technology. It can increase the volume of cold material putting into the VOD and shorten the duration of smelting, and guarantee the continuous casting for multiple furnaces at last.

We also use the charging system with a weigh on its multiple bunkers, which can be directly connected with control system of computer. Then the smelting cycle will be shortened and labor

intensity will be reduced.

This equipment has a control system of intellectualized smelting process, which can decrease the consumption of all kinds of raw materials and gas during the smelting, and guarantee a stable quality of products.

New security design for smelting

It is aiming at the plugging of lance and the back-flow of molten steel which caused by electricity interruption during smelting process.

AOD series Ladle Refining Furnaces have a function to keep pressure of tuyere and contain uninterruptable power output to stop the above accidents, consequently improve the safety of smelting process.

The decarburization step is controlled by ratios of oxygen to argon or nitrogen to remove the carbon from the metal bath. The ratios can be done in any number of phases to facilitate the reaction. The gases are usually blown through a top lance (oxygen only) and tuyeres in the sides/bottom (oxygen with an inert gas shroud). After a desired carbon and temperature level have been reached the process moves to reduction. Reduction recovers the oxidized elements such as chromium from the slag. Desulphurization is achieved by having a high lime concentration in the slag and a low oxygen activity in the metal bath.

## Basic Oxygen Furnace (BOF)

The basic oxygen furnace (BOF), is a tiltable vessel lined with refractories such as magnesia carbon brick. Auxiliary equipment includes a chute for scrap charging, hoppers for alloys and fluxes, a lance for injecting pure oxygen gas, a sub-lance for measuring the temperature and carbon concentration of the molten steel, lifting devices for the lance and sub-lance, equipment for tilting the vessel, and equipment for recovering and cleaning the exhaust gas. The BOF capacity is expressed as the weight of crude steel that can be decarburized per heat. Most BOFs in China have a capacity of 150-300 tons.

### Top Blown Process (BOP)

In the top blown process a water cooled oxygen lance is lowered from the top of the furnace and blows oxygen at supersonic speed into the melt. The majority steelmakers utilize top-blown oxygen steelmaking.

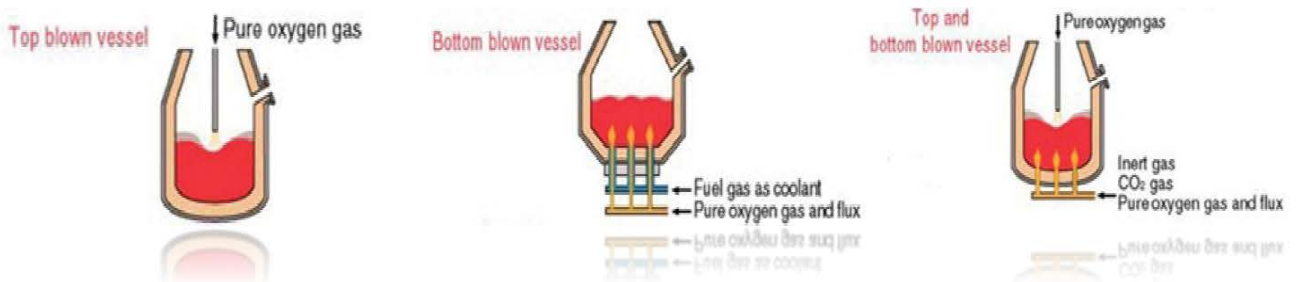
### Bottom Blown Furnace (Q-BOP)

In the bottom-blown processes, oxygen is introduced through a number of tuyeres in the bottom of the furnace. In the Q-BOP process, the oxygen tuyeres are cooled by injecting hydrocarbon gas through an outer pipe surrounding the oxygen pipe. Most bottom-blown processes use methane or propane as the hydrocarbon coolant, but fuel oil is also used. A principle advantage of the Q-BOP process is that it reduces the height requirements of the process allowing a lower profile building to be constructed.



### Combination Processes

One class of combination blown process uses top-blown oxygen with inert gas (argon and Nitrogen) injection through the bottom by means of tuyeres or permeable elements. In the second class of combination furnaces, there are both top and bottom oxygen lances; the bottom lances can also be used for inert gas injection during stirring.



The injected pure oxygen gas first oxidizes silicon and then carbon in hot metal. When the carbon concentration of the hot metal is decreased to about 1%, the oxidation of iron begins in parallel with that of carbon. The oxidation of iron becomes marked at carbon concentrations of less than 0.1%, decreasing both the oxygen efficiency for decarburization and the decarburization rate, while increasing iron loss into the slag.



## Vacuum Oxygen Decarburizing Furnace (VOD/VD)

In recent years, secondary vacuum refining technique gets popular and further developed. The heart of global metallurgical industry has transferred from quantitative to be variety diversification and high quality. The super purity index ( total [H]、 [N]、 [O]、 [S]、 [P] get 50ppm,or even lower) reflects the quality of product, The effective way to achieve super purity index is secondary vacuum

refining technique. There are many ways of secondary vacuum refining, the most popular ways are:

- 1, VD- ladle vacuum refining process.
- 2, VOD- vacuum oxygen decarburization ladle vacuum refining process

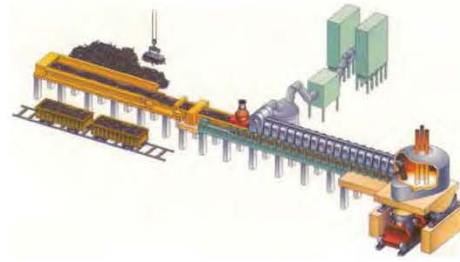
VD/VOD ladle vacuum refining process strengthens blowing argon reasonably on the bottom of furnace; it can stir molten steel adequately and get ideal dynamics effect. If combining VD and LF, the furnace can get ideal molten steel refining temperature with easy structure and low cost. Both of the above process can dehydrogenize, denitrify, desulfurize, deoxidize under vacuum conditions and get the function of Vacuum Oxygen Decarburization (VOD) to achieve the purpose of refining super pure steel.

Vacuum pump system is the main equipment of vacuum refining device. Base on our ten years' experience of test research and generalized application, two series products – “Full steam jet vacuum pump system” and “Steam jet + water ring vacuum pump system” had formed. “Full steam jet vacuum pump series” uses a certain pressure water steam and cooling water as working medium of the pump, “Steam jet +water ring vacuum pump system” uses a certain steam pressure, less water steam and cooling water as working medium, and consume few electricity. The steam consumption of “Full steam jet vacuum pump” is relative high, and need to equip with bigger boiler, but the cost of vacuum pump itself is lower. The steam consumption of “Steam jet +water ring vacuum pump system” is relative low, and can equip with a smaller boiler, but the vacuum equipment itself cost higher. So the total invest cost of above system is basically consistent, both is satisfied the requirement of producing molten steel by secondary vacuum refining.

Our company is a Key enterprise and professional manufacturer of steam jet vacuum pump and whole vacuum equipments in China, and we are also the first corporation of design and produce VOD/VD Vacuum refining equipment and VC Vacuum Cast Equipment in China. Up to now, we had designed and produced more than 180 sets VOD/VD, RH vacuum refining equipment, VC vacuum casting equipment for more than 100 companies. All these equipment meet the requirements of design and well received by the end user.



## AE Series Off Gas Preheating Continuous Feeding System



CNBM series preheating continuous feeding equipment is the most advanced, clean, energy saving and environmental protection metallurgy off gas using equipment in nowadays. This is using the off gas from the electric furnace to preheat the raw materials, and avoided the high failure rate, complicated operation, can not charging materials continuously and etc weakness from Shaft furnace preheating and preheating bucket and etc traditional ways. This system has been put into production in more than 20 factories in China and several other countries. And had gain marked affects in electricity saving, energy saving, production increasing, pollution reduction, and brought great economic benefits for customers.

CNBM series preheating continuous feeding equipment has characteristics of continuous feeding, continuous melting, continuous smelting and others, which advantages are: smelting period is short, low power consumption, low noises, low investment cost and etc...

Comparing with the traditional EAF, the technical index of continuously preheating and feeding EAF process are:

1. Production capacity increases more than 10%. Smelting cycle is shortened by 10-15 Min.
2. Save energy of 100-120kw.h/t for per ton Steel. Electrode consumption decreases by 0.5-0.8%, Refractory material consumption reduces by 5%.
3. 20-30% reduction of CO<sub>2</sub> volume which is released from per ton of Steel; Production site dustiness is less than 10mg/M<sup>3</sup>.
4. Dioxin and CO emissions meets relative emission standards, smoke and dust are decreased from 17kg/t to 11kg/t.
5. Fully utilization of waste heat: On the Conveyor section can preheat the materials up to 300 degree Celsius and higher, and add burner in conveyor section that can raise the materials up to 600 degree Celsius. The rear part of the waste heat can be used to generate electricity or heating by steam which is produced by waste heat boiler, the gas from the boiler basically can go into the bag type dust collector directly. But the traditional electric furnace system off gas must go through the water cooled pipes, air forced cooler and other equipments, it will consume much energy to cool the temperature down and then put the gas into dust collector, so waste the energy from the off gas.
7. De-duster Fan power reduces 30%.
8. Noise is fewer than 90 decibels during the electric furnace smelting cycle.
9. With fully considering of customers kinds of actual using status, AE series preheating continuous feeding equipment brings direct economic benefits to customers by lowest failure rate, highest energy saving index, biggest investment return.



## Dedusting Equipment of Electric Furnace

At present, the mature methods of furnace flue gas capturing are semi-closed cover type and furnace cover type. The structure of semi-closed cover is same with that of electric furnace. The furnace cover is that the top of water cooling furnace cover of LF furnace is equipped with one round gas exhausting cover, which spares electrode incoming and outgoing holes in the middle position, the furnace cover and electrode moves simultaneously. Another kind of furnace cover is that gas exhausting pipes are connected to the sides of water cooling furnace cover. There is 100 mm space between furnace cover and gas exhausting pipe.

Flue gas flow produced during LF furnace smelting is not large, which can be eliminated by the furnace cover, besides, the dedusting system is of low investment and operation cost.

Flue gas collection technology of AOD furnace

Compared with the common converter, AOD converter has the following characteristics: long smelting time, low oxygen blowing intensity, low decarburization speed and low CO content; therefore the flue gas recovery of AOD converter is of little value.

Flue gas of AOD converter is collected by the movable cover. The cover top is made of stainless steel plate and the cover inner wall is painted with refractory material. The CO-containing flue gas produced during smelting, fully combusts with induced air at the furnace hole, resulting high temperature flue gas up to 900 ~ 1600 °C. AOD converter will produce certain dust during feeding and steel solution unloading. At the mean time, the high temperature flue gas should be cooled down by mixed air, so that AOD converter is specially equipped with the secondary dust collection device, which uses diversion roof cover, and mix the secondary flue gas with roof exhaust gas.

Performance comparison of various dust collector

	Furnace cover	Rotary cover	Large closed cover	Roof cover	Traveler passing cover
Gas discharging outside of the furnace	Processed	Processed	Furnace cover	Rotary cover	Large closed cover
Gas discharging inside of the furnace	Not processed	Processed	Processed	Not processed	Not processed
Dust collection rate	50%	70%	95%	40%	85%
good	Poor	Poorer	better		Good
good	Poor	Poor	better		Good
Occupied space	Small	Smaller	bigger	Big	Big
Endurable capacity	Poor	Poorer	better	Good	Good
Noise and heat radiation proof	Poor	Better	good	Poor	Poor
Air flow dealing	Small	Medium	Large	Higher	Large
Installation cost	Low cost	Medium	High	Highest	Higher
Operation cost	Low cost	Medium	High	Higher	Higher

### Specifications of AE Series Baghouse

Model	Air dealing volume (m <sup>3</sup> /h)	Filtering area (m <sup>2</sup> )	Filtration velocity (m/min)	Operation resistance (Pa)	Emission concentration (mg/m <sup>3</sup> )	Inlet temp (°C)	Volume (m <sup>3</sup> )	Total weight (kg)	Ash cleaning gas pressure (MPa)	Air consumption (m <sup>3</sup> /min)
AE1	10000	210-140	0.8-1.2	1000-1500	15-50	100-250	8000×3000 ×7000	4200-6250	0.4-0.6	2.5-3
AE5	50000	700-1050	0.8-1.2	1000-1500	15-50	100-250	9000×5000 ×15000	21000-31250	0.4-0.6	2.5-3
AE10	100000	1400-2100	0.8-1.2	1000-1500	15-50	100-250	9000×11000 ×20000	42000-62500	0.4-0.6	2.5-3
AE20	200000	2800-4200	0.8-1.2	1000-1500	15-50	100-250	14000×11000 ×20000	83000-125000	0.4-0.6	2.5-3
AE-40	400000	5600-8300	0.8-1.2	1000-1500	15-50	100-250	23000×11000 ×20000	167000-250000	0.4-0.6	2.5-3
AE60	600000	8300-12500	0.8-1.2	1000-1500	15-50	100-250	37000×11000 ×20000	250000-375000	0.4-0.6	2.5-3
AE-80	800000	11100-16700	0.8-1.2	1000-1500	15-50	100-250	50000×11000 ×20000	333000-500000	0.4-0.6	2.5-3
AE-100	1000000	13900-21000	0.8-1.2	1000-1500	15-50	100-250	58000×11000 ×20000	416700-625000	0.4-0.6	2.5-3
AE-120	1200000	16700-25000	0.8-1.2	1000-1500	15-50	100-250	71000×11000 ×20000	500000-750000	0.4-0.6	2.5-3
AE-140	1400000	20000-30000	0.8-1.2	1000-1500	15-50	100-250	80000×11000 ×20000	583000-875000	0.4-0.6	2.5-3
AE-160	1600000	22200-33300	0.8-1.2	1000-1500	15-50	100-250	93000×11000 ×20000	667000-1000000	0.4-0.6	2.5-3
AE-180	1800000	25000-37500	0.8-1.2	1000-1500	15-50	100-250	102000×11000 ×20000	750000-1125000	0.4-0.6	2.5-3
AE-200	2000000	28000-42000	0.8-1.2	1000-1500	15-50	100-250	111000×11000 ×20000	833000-1250000	0.4-0.6	2.5-3





## Static Var Compensator (SVC)



### SVC-solved problems -Electric arc furnace

When the electric arc furnace connects to grid as one nonlinear and ruleless load, it will trigger a series of harmful effects, which mainly includes:

1. severe 3-phase unbalance of grid, and negative sequence current.
2. higher harmonics, the coexistence of 2f, 4f, the even harmonics and 3f, 5f, 7f, the odd harmonics, which will be perplexed the voltage distortion.
3. severe voltage flicker. 4. Low PF.

The only way to completely solve above mentioned problems is that user must provide the SVC with rapid response speed for electric arc furnace. Since the response time of SVC is less than 10ms, it can completely meet the strict technical requirements, swiftly provide reactive current for EAF, stabilize system voltage, increase output of metallurgical active power and enhance production efficiency, as well as minimize the flicker effect. The phase splitting compensation capability of SVC can eliminate 3-phase unbalance caused by EAF. Harmonics filtering device can remove harmful higher harmonics, improve power quality and increase PF by transferring capacitive reactive power to system.

Item	Specification				
Grid voltage (kV)	6	10	27.5	35	66
TCR rated power					
Thyristor valve structure	opened combined frame type				
Thyristor cooling mode	Heat pipe self-cooling, water cooling				
Thyristor type	Electric triggering thyristor (ETT) or light controlled thyristor (LTT)				
Triggering mode	Optical or light				
Control system	DSP digital control system				
Control mode	Reactive power				
Adjusting range of reactive power	-100%—+100%				
Adjusting mode	Phase-splitting adjustment				
Response time of adjusting system	<10ms				
Noise level	Self cooling, no noise				
Power supply voltage of auxiliary grid	380V±15%				
Lifespan	>20 years				

## Global Sales Network





## Blast Furnace Pulverized Coal Injection



Blast furnace pulverized coal injection technology has become a main measure for coke saving, iron increasing and improving smelting effect and facilitating blast furnace operation smoothly, also has become blast furnace smelting technological progress and main method in today's world

### Technical Significance

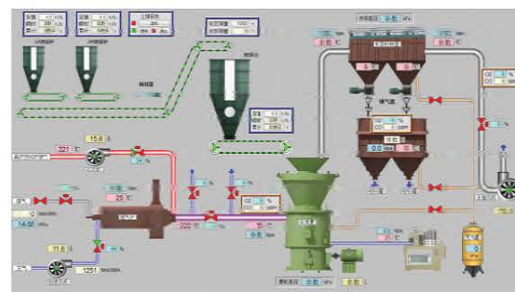
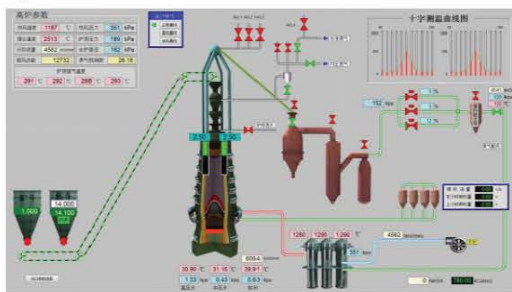


Blast furnace pulverized coal injection has an revolutionary significance to blast furnace iron-making technology, which is a key technology to decide whether blast furnace could compete with other iron making methods and to continuous survival and development, thereby the significance is specified as below:

- (1) By using low cost pulverized coal to replace expensive and gradually scarce metallurgical coke that will reduce blast furnace iron-making coke ratio and pig iron cost.
- (2) Coal injection is effective means to adjust furnace condition heat system.
- (3) Pulverized Coal injection can improve working condition of blast furnace hearth and make blast furnace operate smoothly.
- (4) The injected pulverized coal is gasified and burnt before tuyere that will reduce the theoretical combustion temperature.
- (5) More hydrogen emitted than coke during the process of coal injection gasification.
- (6) Partial metallurgical coke is replaced by coal injection that will mitigate the requirement of coking coal, reduce coking facilities and save construction investment.
- (7) Coke replaced by injected pulverized coal will reduce coking furnace quantity and coke yield, thus, it will also lower the environment pollutions caused by coking.

### Advanced Automatic Control

The reliable operating high pressure and low pressure drive system, advanced and open computer control system, excellent and smooth man-machine interaction interface. As per the requirements of user, it can use software that user acquainted to control program and design technical process display.



We provide EPC contract to customer: including design, civil construction, equipment manufacture and whole sets of equipment installation, commissioning, trial run and production operation service.



## **Steady & Durable With High Cost Performance**

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