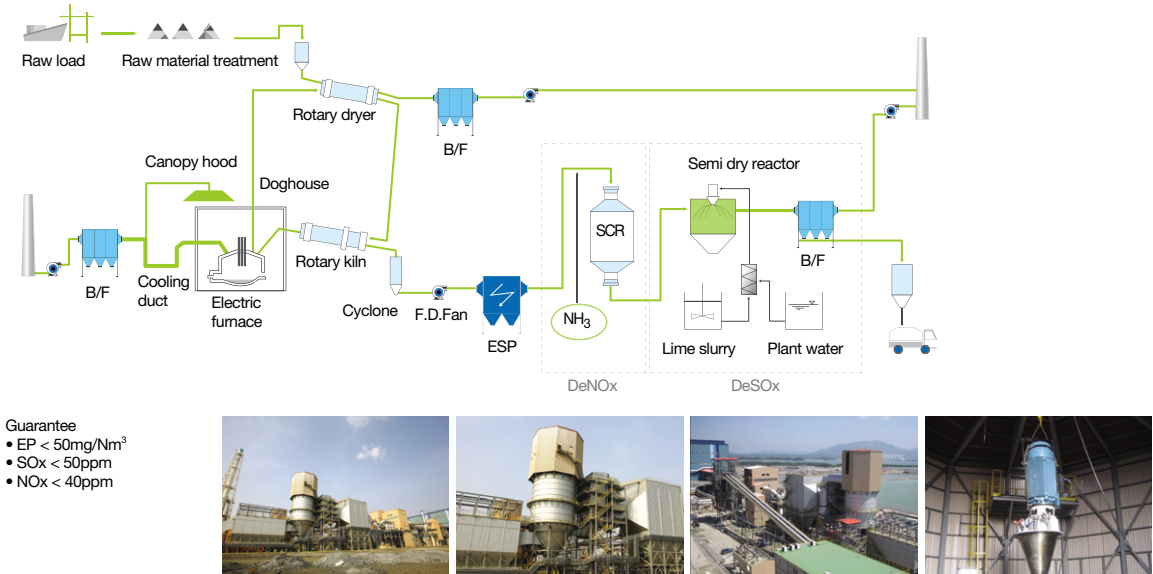


## Nonferrous Material Plant

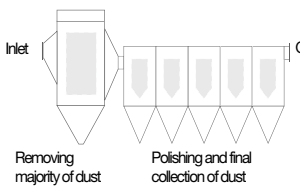
A well-known EPC company, KC Cottrell, has attained high reputation from Domestic and International steel companies by successful installation and guarantee of De-SOx, De-NOx systems, ESP, Bag filters and all other Environmental Equipment.



## Advanced technology eBF™

System with electric charge equipments located before bag filters that charges inflow particles with electricity. Reducing installation and operation cost compared to sole bag filter system with benefits from both ESP and bag filters.

### Concept



Fabric is installed in series with existing ESP

### Reference



Fabric filter is installed behind the 1-2 fields of ESP

### Advantages

#### High collection

- High efficiency
- Low capital cost as much lower than competing systems to achieve comparable particulate control levels
- Compact foot print due to higher filtration rates than traditional fabric filter systems
- Works with a wide range of fuels for flexibility in choosing the most available and economical coals

\* Korea Patent No. : 0227127 (Registration Date 30th July 1999)

\* Capacity Certificate No. : 15-386, Small and Medium Business Administration in Korea (Date of issue 7th May 2008)

### Technical Features of Pre-charged BF

- ESP serves as a pre-charger
- Makes the dust particles larger and porous structure
- Dendrite shaped dust by static electricity.
- Prevents dust penetration into the eye of filters
- Increases effective filtering area.
- Reduction pressure loss
- Increases filtration velocity and treated gas volume.
- Increases the life time of fabric filters
- High efficiency to remove fine particles
- Reduces power consumption and maintenance cost

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## Iron & Steel Plants

## A Global Leader in Air Pollution Control

- People & Technology keeping our planet sustainable...





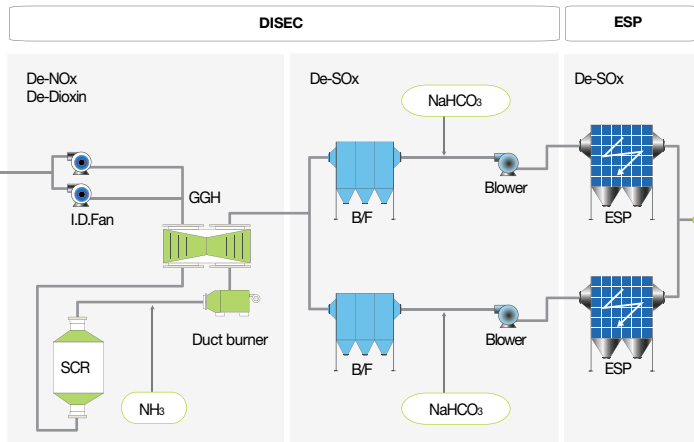
Iron & Steel Plants

DISEC  
(Dry based  
Integrated Sintering  
Emission Control)

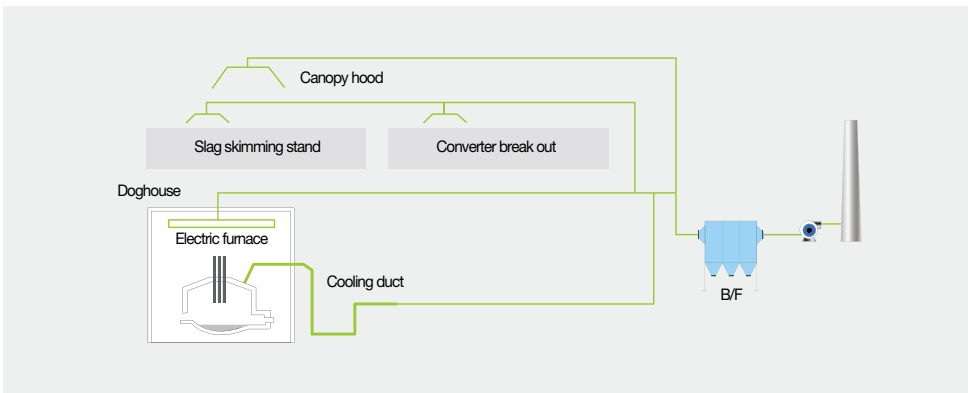
DISEC is a state of the art flue gas cleaning system to remove SOx, NOx and Dioxins.

- It can operate across a wide temperature range without decrease efficiency.
- Simple control of chemical agent injection
- Safe from corrosion occurred from high acid dew point

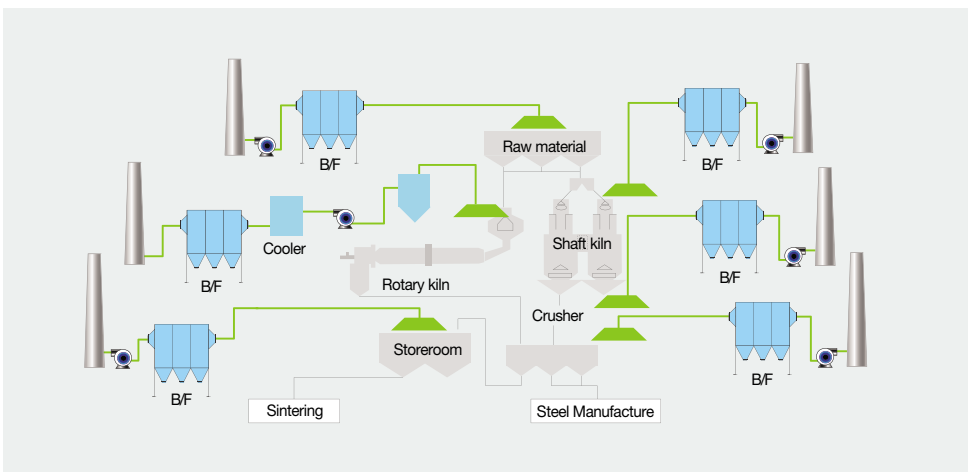
\* Korea Patent No. : 10-0660234 (Registration Date 14th Dec. 2006)



Electric Arc  
Furnace  
process



Limestone  
Calcinations  
plant



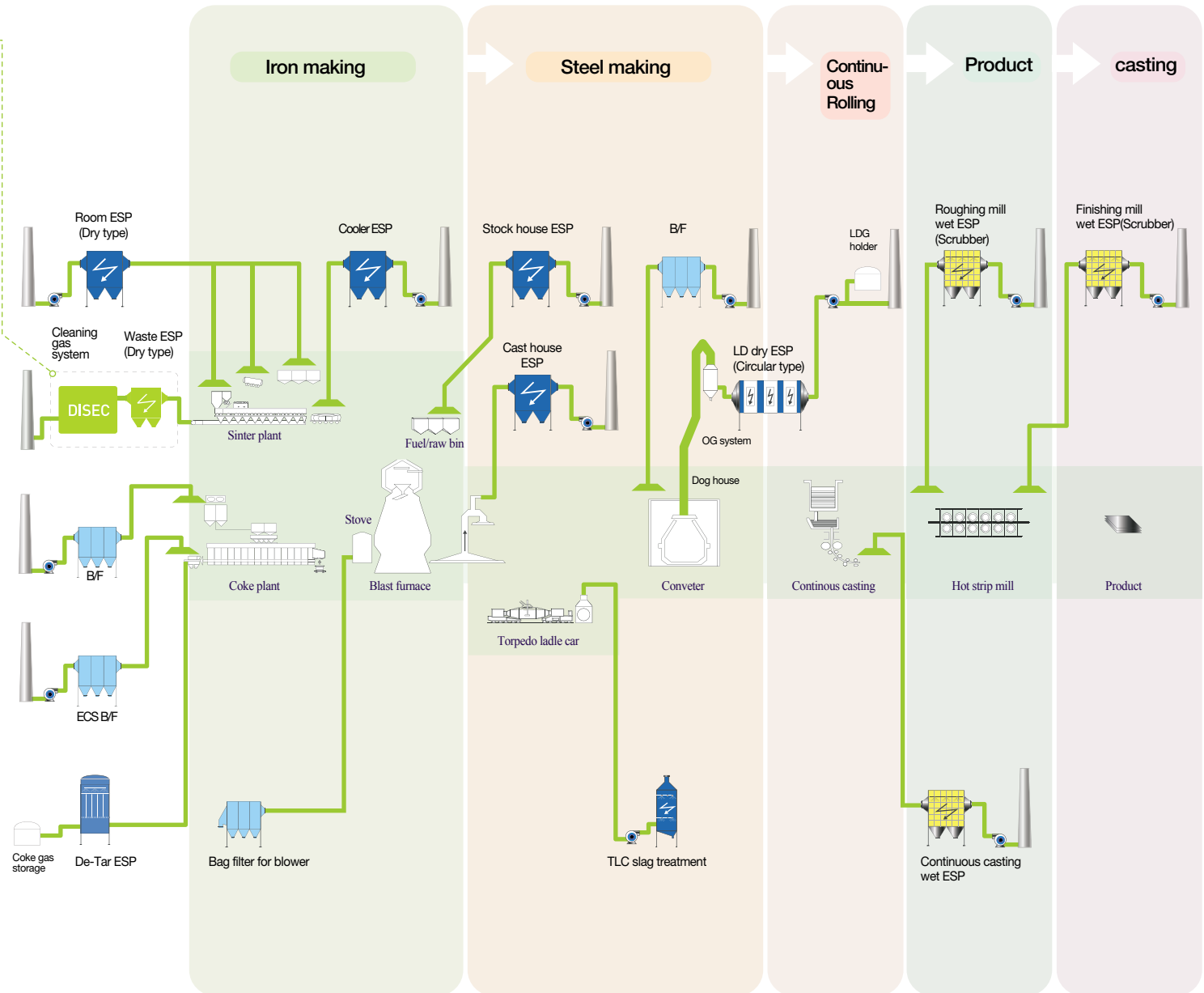
Reference  
of Iron and  
Steel Plants

Flue gas treatment system

- SDR (Semi Dry Reactor) system
- De-NOx (De-Noxification) system

Dust collection system

- Electrostatic Precipitator (Dry type)
- Electrostatic Precipitator (Wet type)
- Fabric Filter system
- Wet Scrubber
- Mechanical cyclone collection



Dry ESPs : Sinter plants / Blast furnaces

Direct high voltage is applied to create corona discharge through electrostatic attraction.



- Customized system design
- DURATRODE™ (Discharge electrode)
- Compact design
- Top rapping (MIGI™ : Magnetic Impulse Gravity Impact)

LD dry ESPs (Primary waste gas treatment) : Converters

In the oxygen-steelmaking process, large quantities of hot gas are released from the LD converters which contain high concentrations of dust and carbon monoxide. In a dedusting facility, both coarse and fine dust particles are efficiently removed. In a second step, the CO-rich gas is recovered and stored in a gasholder for subsequent energy applications.

Wet ESPs : Continous casting / Mills



Wet ESPs have many similarities with the dry type units in terms of principle and design. However a basic difference is that the wet type is used in environments where the gas temperature is at or below dew point. And it is used as a wash down system using water or other liquids to remove deposits from the collecting plate instead of rapping system.

Bag filters : Coke plants

Many Bag filters are installed to capture a dust occurred during transferring a coke(Bunker, mixer, crusher etc.). Steam tracing is installed on the casing of bag filter and duct to prevent adhesion.

De-Tar ESPs : Coke plants



- To remove the Tar from pre-cleaned coke oven gas
- Vertical-round filters
- Collecting electrodes : Honeycomb type or Concentric circles
- Discharge electrodes : Stainless steel wire

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- People & Technology Keeping Our Planet Sustainable...

ECS Bag Filters : Coke plants

- Compact design
- Predust with explosion door
- Dilution damper
- Precoating

PCI (Pulverized coal injection)  
Bag Filters : Blast furnaces



- Explosion door
- Compact design
- Horizontal

Multi Cyclones



- Inlet tube
- Outlet tube

TLC slag treatment



- Wet ESP (Vertical)
- TCA (Turbulent contact absorber)
- Honeycomb type (C.E.)
- Waste-water treatment

Fume exhaust systems



- Mist eliminator
- Baffle (Zigzag type)
- Pocket filter

DeNOx for APL



- Safe reliable and compact design
- Flexible layout
- High efficiency