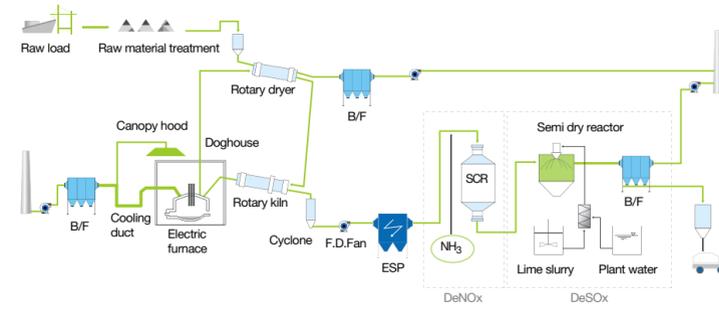


Nonferrous Material Plant

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.



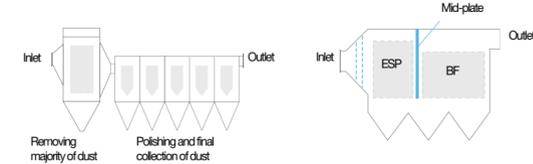
Guarantee
 • EP < 50mg/Nm³
 • SOx < 50ppm
 • NOx < 40ppm



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

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

Reference



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

KC Cottrell

KC Cottrell Co., Ltd.

Head Office
 160-1 Donggyo-dong, Mapo-gu, Seoul, 121-817, Korea
 TEL +82.2.320.6114
 FAX +82.2.320.6100
 www.kc-cottrell.com

Factory

253 Singi-ri, Seoun-myeon, Anseong-si, Gyeonggi-do, 456-853, Korea
 TEL +82.31.674.9660
 FAX +82.31.674.9670

Pohang Office

171-18 Haedo2-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-863, Korea
 TEL +054.281.8794
 FAX +054.283.8794

Gangyang Office

1306-5 Jung-dong, Gangyang-si, Jeollanamdo-do, 545-879, Korea
 TEL +061.795.9490
 FAX +061.795.9493

KC Cottrell China Co., Ltd.

No.9576 Donghuancheng Rd., Changchun Economy & Development Zone, Changchun City, Jilin Province, 130033, P.R. China
 TEL +86.431.8587.7500
 FAX +86.431.8587.7522
 www.cckc.com.cn

KC Cottrell Vietnam Co., Ltd.

Floor 6, VINAFCO building, No. 36 Pham Hung street, Tu Liem District, Ha Noi, Viet Nam
 TEL +84.4.768.9904/5
 FAX +84.4.768.9902

KC Cottrell Co., Ltd. Taiwan Branch

15F-7, No.77, Sec.1, Shintai 5th Rd., Shijr City, (Far East World Center) Taipei, 221 Taiwan
 TEL +886.2.2698.8139
 FAX +886.2.2698.8179

KC Cottrell Co., Ltd. Beijing Branch

Room1002 Tianheng Bldg, No. 46 Dongzhimenwai Rd., DongchengQu, Beijing, 100027, P.R.China
 TEL +86.10.8460.8738/9
 FAX +86.10.8460.8732

Lodge Cottrell

Lodge Cottrell Ltd.

21 George St, Birmingham, B3 1QQ, England
 TEL +44.121.214.1300
 FAX +44.121.200.2555
 www.lodgecottrell.com

Lodge Cottrell Inc.

2319 Timberloch Place, Suite E, The Woodlands, TX, 77380, USA
 TEL +1.281.465.9498
 FAX +1.281.465.9366
 www.lodgecottrell.com

Lodge Cottrell India Pvt. Ltd.

7F Park Centra Tower-B, 32nd Milestone, NH8, Sec.30, Gurgaon Haryana 122001, India
 TEL +91.124.331.5278
 FAX +91.124.331.5277

Iron & Steel Plants

A Global Leader in Air Pollution Control

- People & Technology keeping our planet sustainable...



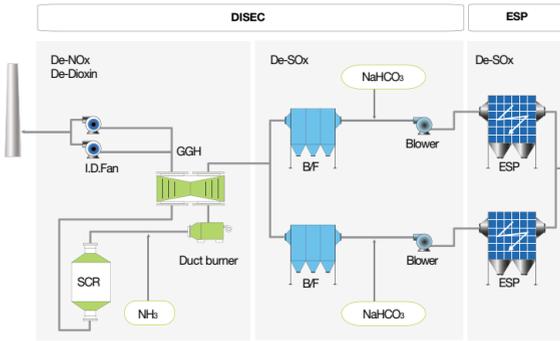
Iron & Steel Plants

DISEC (Dry based Integrated Sintering Emission Control)

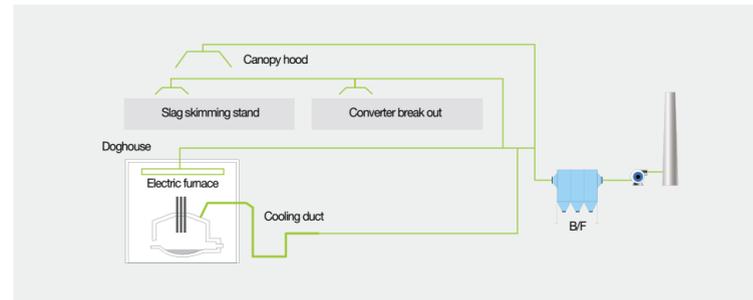
DISEC is a state of the art flue gas cleaning system to remove SO_x, NO_x and Dioxins.

- 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

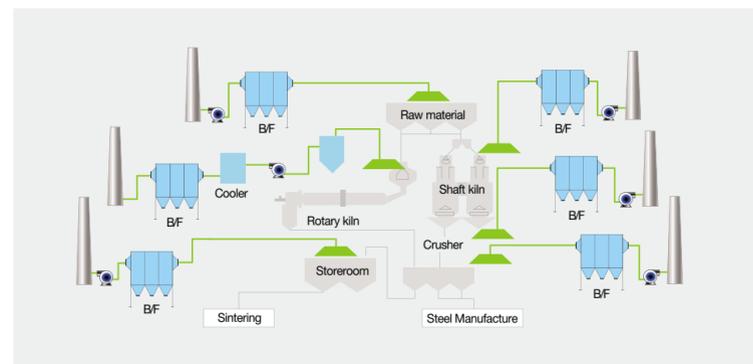
* Korea Patent No. : 10-0660234 (Registration Date 14th Dec. 2006)



Electric Arc Furnace process



Limestone Calcinations plant



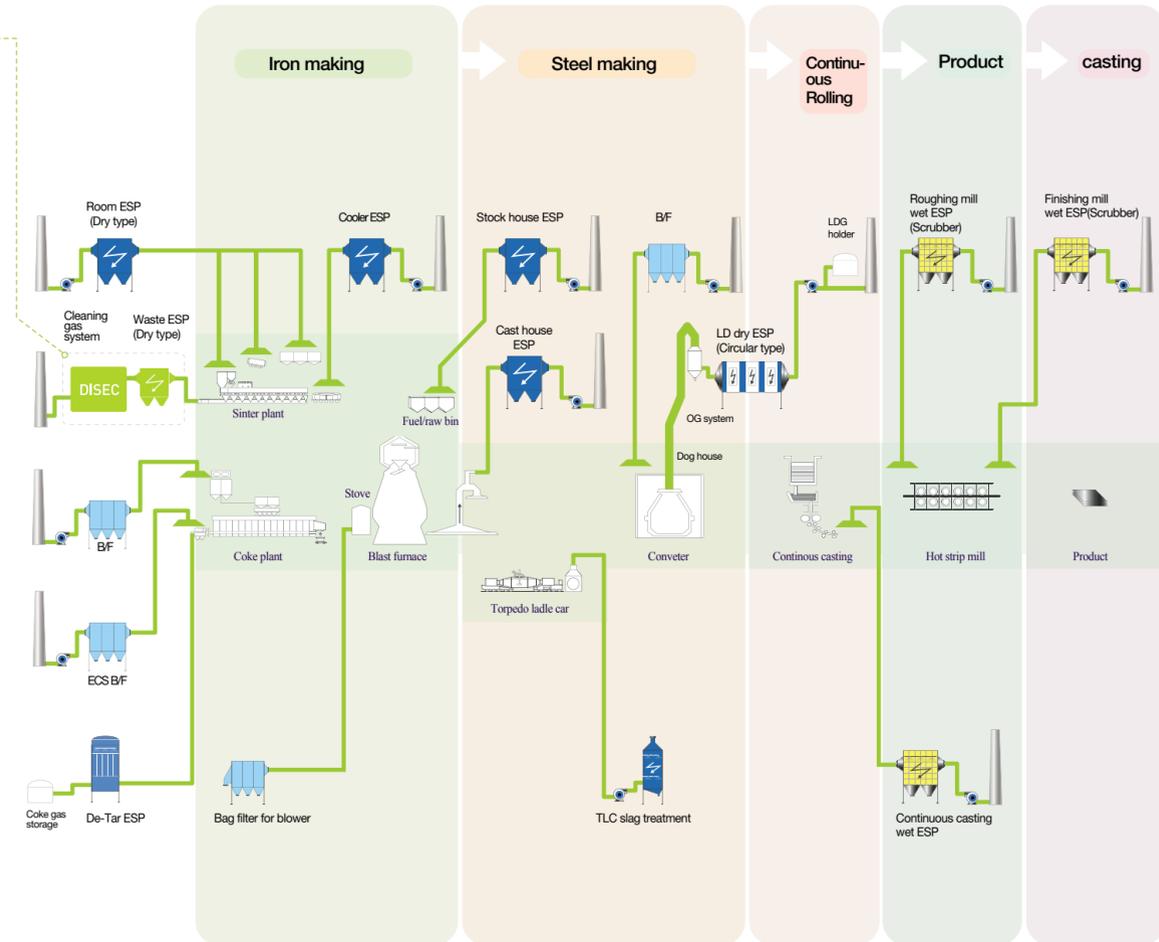
Reference of Iron and Steel Plants

Flue gas treatment system

- SDR (Semi Dry Reactor) system
- De-NO_x (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 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

A Global Leader in Air Pollution Control

- 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

DeNO_x for APL



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