Client: SSAB Oxelösund (Sweden)

CTC - Coke Transfer Car: 1 Unit

Date: 2009/2010

Volume: Basic-, Detail Engineering Mechanic
        Basic-, Detail Engineering Electric
        Basic-, Detail Engineering Automation
        Basic-, Detail Engineering Software and Visualisation

Supply: Fabrication, Erection, Installation, Testing and Commissioning of the total machine

Coke Transfer Car Oxelösund SSAB

Technical Data: Weight: 175 t
                3 Hood Systems
                Spillage Coke Pan; Door Extractor,
                Frame Cleaner, Door Cleaner
                Circle Time: 8 Minutes
                Designed for “Man less“ Operation
Client: ArcelorMittal Seraing (Belgium)

Automation of coke oven service and operation machines 1 set

Date: 2011

Volume: Basic-, Detail Engineering Mechanic
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Fabrication, Erection, Installation, Testing and Commissioning of the new components

Components: Designed for “Man less“ Operation; Automation of Pusher Machine No. 5, Pusher Machine No. 6, Beam Guide Car No. 5, Coke Guide Car No. 6, Quenching Car No. 1, Quenching Tower, Warf, Control Room, Radio-Data Communication, Interface to the plant
Client: Dillinger Hütte ZKS Dillingen/Saar (Germany)

CTC - Coke Transfer Car: 2 Units

Date: 2007

Volume: Basic-, Detail Engineering Mechanic
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation
Commissioning

Technical Data: Weight: 250 t
4 Hood Systems
Spillage Coke Conveyer with Spillage Coke Pan
Door Extractor, Frame Cleaner, Door Cleaner
Circle Time: 8 Minutes
Designed for “Man less” Operation
Client: ArcelorMittal Gent (Belgium)

Hood Car: 1 Unit

Date: 2008/2009 and 2010/2011

Volume:
- Verification Detail Engineering Mechanic
- Basic-, Detail Engineering Electric
- Basic-, Detail Engineering Automation
- Basic-, Detail Engineering Software and Visualisation

Supply:
- Electrical and Automation Equipment
- Pre-Erection, Erection, Installation, Testing and Commissioning of the total machine
Client: ArcelorMittal Gent (Belgium)

CGC - Coke Guide Car: 1 Unit

Date: 2008/2009 and 2010/2011

Volume: Verification Detail Engineering Mechanic Basic-, Detail Engineering Electric Basic-, Detail Engineering Automation Basic-, Detail Engineering Software and Visualisation

Supply: Electrical and Automation Equipment Pre-Erection, Erection, Installation, Testing and Commissioning of the total machine
Coke Guide Car Cabins:

- Electrical cabin
- Operator cabin
- Hydraulic cabin
Client: SSAB Oxelösund (Sweden)

PECS - Pushing Emission Control System: 1 Unit

- 1 System of third rail, girders, columns, duct and walk ways

Date: 2009/2010

Volume: Basic-, Detail Engineering Mechanic

Supply: Fabrication, Erection, Installation, Testing and Commissioning of the total system together with the coke transfer car.
Client: RAG AG / ArcelorMittal Bottrop (Germany)

HDC - HuDe Drive Control for Coke Oven Machines: 2 Units

Date: 2008/2009

Volume: Engineering, Fabrication and Supply for:
- Long Travel Control
- Raw Positioning
- Fine Positioning
- Oven Identification
- Interlocking

Testing and Commissioning
Client: Wakayama Steel (Japan)

CTC - Coke Transfer Cars: 2 Units

Date: 2008/2009

Volume: Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Electrical and Automation Equipment
Testing and Commissioning
Client: Wakayama Steel (Japan)

Pusher Machines: 2 Units

Date: 2008/2009

Volume: Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Electrical and Automation Equipment
Testing and Commissioning
Client: Beijing Coking (China)

SCP - Stamping Machines: 3 Units

Date: 2008/2009

Volume: Basic-, Detail Engineering Mechanic for Door Extractor, Frame Cleaner and Door Cleaner

For the total Machines:
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Electrical and Automation Equipment
Testing and Commissioning
Client: ArcelorMittal Gent (Belgium)

PECS - Pushing Emission Control System: 1 Unit

- 1 System of third rail, girders, columns, duct and walk ways

Date: 2008/2009 and 2010/2011

Volume: Verification Detail Engineering Mechanic

Supply: Erection, Installation, Testing and Commissioning of the total system together with the hood- and coke guide car.
Client: Wakayama Steel (Japan)

CC - Charging Cars (Controlled Charging): 2 Units

Date: 2008/2009

Volume: Basic-, Detail Engineering Controlled Charging
Basic-, Detail Engineering Software and Visualisation for Controlled Charing

Supply: Electrical and Automation Equipment
Testing and Commissioning
Client: Tata Iron Steel Jamshedpur (India)

SCP - Stamping Machines: 3 Units

Date: 2008/2009

Volume: Basic-, Detail Engineering Mechanic for Door Extractor and Frame Cleaner

For the Machine:
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Electrical and Automation Equipment
Testing and Commissioning
Client: Tata Iron Steel Jamshedpur (India)

CGTC - Coke Gas Transfer Cars: 3 Units

Date: 2008/2009

Volume: Basic-, Detail Engineering Electric
        Basic-, Detail Engineering Automation
        Basic-, Detail Engineering Software and Visualisation

Supply: Hydraulic, Electrical and Automation Equipment
        Installation, Testing and Commissioning
Client: Beijing Coking (China)

HDC - HuDe Drive Control for Coke Oven Machines: 3 Units

Date: 2008/2009

Volume: Engineering, Fabrication and Supply for:
- Long Travel Control
- Raw Positioning
- Fine Positioning
- Oven Identification
- Interlocking

Testing and Commissioning

Function:


- TTL - signals
- actual value of increments
- Target-Position
- Actual-Position
- Set Point (mA)
- Set Point
- Travelling Track
Client: RAG AG / ArcelorMittal Bottrop (Germany)

Automation Charging Hole Cleaning System for CC:  1 Units

Date: 2009

Volume: Basic-, Detail Engineering Mechanic/Hydraulic for the Charging Hole Cleaning System

Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Hydraulic, Electrical and Automation Equipment
Installation, Testing and Commissioning
Client: RAG AG / ArcelorMittal Bottrop (Germany)

Automation Lit Luting Device for Charging Car: 1 Units

Date: 2010

Volume: Basic-, Detail Engineering Mechanic/Hydraulic for the Lit Luting Device

Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Hydraulic, Electrical and Automation Equipment
Installation, Testing and Commissioning
Client: RAG AG / ArcelorMittal Bottrop (Germany)

Revamping Long Travel Drives Control CTC and PM: 4 Units

Date: 2006/2007 and 2007/2008

Volume: Basic-, Detail Engineering Mechanic/Hydraulic for the Long Travel Equipment

Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Hydraulic, Electrical and Automation Equipment
Installation, Testing and Commissioning

Hydraulic Motor Control

Rexroth High Power Motor

New Drive Control Systems for Coke Transfer Cars with Hydraulic Long Travel Equipment and a Total weight of at least 450 t.
Client: RAG AG / ArcelorMittal Bottrop (Germany)

Automation for Coke Oven Battery 1-3 Standpipe Control: 3 Unit

Date: 2006 and 2010/2011

Volume: Basic-, Detail Engineering Mechanic/Pneumatic for Flame Control, Standpipe Lid Control, Suction Valve and High Pressure Water Injection

Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Electrical and Automation Equipment
Installation, Testing and Commissioning

Principles of the HuDe Standpipe Control and Interlocking System with Flame Control
Client: RAG AG / ArcelorMittal Bottrop (Germany)

CTC - Coke Transfer Car - Revamping Hood System: 2 Unit

Date: 2010/2011

Volume: Study / verification existing hood system
- static inspection
- fluidal flow, pressure and temperature measures
- CAE / structural analysis
- static calculation

Basic-, Detail Engineering Hood Mechanics
Basic-, Detail Engineering Hydraulic
Basic-, Detail Engineering Electric

Supply: Dismantling of the old hood system.
Mechanics: hood system, ducts, van’s, static structure
Electric and hydraulic equipment
Pre-Erection, erection, installation, and commissioning of the new hood system

Existing old hood system, temperature and flow measure
velocity - pathlines

CAE / structural analysis

New hood design

versus

old hood system
Client: Tata Iron Steel Jamshedpur (India)

HDC - HuDe Drive Control for Coke Oven Machines: 6 Units

Date: 2008/2009

Volume: Engineering, Fabrication and Supply for:
- Long Travel Control
- Raw Positioning
- Fine Positioning
- Oven Identification
- Interlocking

Testing and Commissioning

Components of HuDe Drive Control:

- Position targets
- Incremental Encoder
- Measuring wheel with incremental encoder
- Code reader
- Function and control unit
Client: RAG AG / ArcelorMittal Bottrop (Germany)

Housing for Special Door Cleaner Coke Transfer Car 2: 1 Unit

Date: 2009/2010

Volume: Basic-, Detail Engineering Mechanic/Hydraulic for the new door cleaner housing.

Supply: Mechanics: Housing system, static structure
Hydraulic cylinders, equipment
Erection, installation, and commissioning of the new housing system at RAG coke plant
Client: RAG AG / ArcelorMittal Bottrop (Germany)

Automation Charging Car 2: 1 Unit

Date: 2010

Volume: Basic-, Detail Engineering Electric / PLC

Supply: Replacement of PLC Hard- and Software
Electrical Re-Wiring
Installation and Commissioning
Client: RAG AG / ArcelorMittal Bottrop (Germany)

Pusher Machine No. II – Exchange Hood & Filter System: 1 Unit

Date: 2010/2011

Volume: Exchange of existing hood & filter system
- static inspection
- CAE / structural analysis
- static calculation
Basic-, Detail Engineering Mechanics
Basic-, Detail Engineering Hydraulic
Basic-, Detail Engineering Electric

Supply: Dismantling of the old filter system.
Mechanics: Filter and Pipe system, ducts, van’s, static structure
Electric and hydraulic equipment
Pre-Erection, erection, installation, and commissioning of the new duct and filter system
Client: Pangang Group Xichang Corporation, China

SCP Stamping-Charging-Pushing Machine : 2 Units
For 6.25 m Coke Oven Batteries

Date: 2010/2012

Volume: Basic-, Detail Engineering Mechanic
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: Key Components
- Stamping Unit
- Positioning
- Door Handling
- Electric System
- Hydraulic System
- Pneumatic System
- Airconditioning
- Cabins

Testing and Commissioning

Dimensions
- Length 28,0 m
- Width 34,8 m
- Height 27,1 m

Total mass approx. 1200 tons
Client: ESSAR Steel (Hazira) Ltd., India

SCP Stamping Charging Pushing Machine: 2 Units

Date: 2010/2013

Volume: Basic-, Detail Engineering Mechanic
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: 100 % Delivery
Testing and Commissioning

Dimensions
- Length: 24.7 m
- Width: 27.5 m
- Height: 22.5 m

Total mass: approx. 1000 tons
Client: ESSAR Steel (Hazira) Ltd., India

CGT Charging Gas Transfer Car : 2 Units
For 5,55 m Coke Oven Batteries

Date: 2010/2013

Volume: Basic-, Detail Engineering Mechanic
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: 100 % Delivery
Testing and Commissioning

Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
<th>Total mass</th>
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<tbody>
<tr>
<td></td>
<td>9,4 m</td>
<td>10,9 m</td>
<td>7,9 m</td>
<td>approx. 57 tons</td>
</tr>
</tbody>
</table>

Total mass: approx. 57 tons
Client: Bhushan Power & Steel, India

CTC Coke Transfer Car: 2 Units
For 5,9 m Coke Oven Batteries

Date: 2012/2014

Volume: Basic-, Detail Engineering Mechanic
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: 100 % Delivery
Testing and Commissioning
Client: Bhushan Power & Steel, India

Self-Propelled Quenching / Bucket Car 2 Units
For 5,9 m Coke Oven Batteries

Date: 2012/2014

Volume: Basic-, Detail Engineering Mechanic
Basic-, Detail Engineering Electric
Basic-, Detail Engineering Automation
Basic-, Detail Engineering Software and Visualisation

Supply: 100 % Delivery
Testing and Commissioning

- Self-propelled car to carry CDQ bucket and/or wet quenching trailer

- Self-propelled coke dry quenching bucket car
- Combined self-propelled coke dry quenching bucket car train
- One bucket car operates as tractor unit for the wet quench car trailer
Client: Bhushan Power & Steel, India

Transfer System for Quenching / Bucket Car 1 Unit
For 5,9 m Coke Oven Batteries

Date: 2012/2014

Volume: Basic-, Detail Engineering Mechanic
Supply: Key Components (Winch, Gearbox, Rope, Control)

Transfer operation with bucket car / wet quench trailer
View of the company

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