PRIMETALS TECHNOLOGIES

RH PLANTS
THE VACUUM RECIRCULATION PROCESS

The RH (Ruhrstahl Heraeus) process is carried out in a refractory-lined vessel, equipped with two snorkels which are immersed in the steel bath.

By reducing the system pressure, the melt rises into the vacuum vessel where decarburization, degassing, and other metallurgical processes take place. The injection of lift gas into one of the snorkels initiates a steel circulation between ladle and vacuum vesse. Thereby, the whole heat is treated quickly. Immersion of the snorkels is either carried out by lowering the vacuum vessel or by lifting the ladle. In order to minimize vessel exchange time a quick-change vessel system can be provided.

DESIGN FEATURES

- Single or Twin solutions up to 350 tons
- Split type or mono block vessel design
- Snorkel lifetime of up to 150 heats
- Combined Oxygen Blowing (COB) Lance with self-ignition
- Various lifting solutions
- Automatic temperature and sampling lance
- Camera surveillance systems
- Steam ejector pumps or dry mechanical pumps available

180-t RH plant, TISCO, Taiyuan, China

Highly productive on a small footprint - RH plants with CVL Lifting system

NEW LIFTING SYSTEM

With the brand new CVL (Combined Vessel and Ladle Lifting) system the plant provides flexibility on a very small footprint, since it combines ladle lifting and vessel exchange capabilities. It requires a minimum of space and foundation works and allows a “drive-through” material flow for fast treatment even in areas unreachable for cranes.

LIFECYCLE SERVICES

Primetals Technologies provides competitive performance for plants at every phase of their lifecycle. Reliable technical support, efficient maintenance solutions, and permanent plant improvements are the basics to operate safe and cost-efficient.

To guarantee a long lifespan of metallurgical plants, we offer a wide selection of spare parts in OEM quality.

SELECTED REFERENCES:

- ThyssenKrupp CSA, Rio de Janeiro, Brazil
- voestalpine Stahl, Linz, Austria
- ArcelorMittal Méditerranée, Fos-sur-Mer, France
- Maanshan ISCO, Maanshan, China
- Zhangjiagang Rong Sheng, Jinfeng Town, China
- Companhia Siderúrgica Paulista (COSIPA), Cubatão, Brazil
- ArcelorMittal Tubarão (CST), Tubarão, Brazil
- Gerdau Açominas, São Paulo, Brazil
- Zhangjiagang Rong Sheng (ZRS), Jinfeng Town, China
- TISCO, Taiyuan, China
- Companhia Siderúrgica do Atlântico, Sepetiba, Brazil
- Nanjing Iron & Steel Co., Ltd., Nanjing, China
- SAIL, Rourkela, India
- Byelorussian Steelworks, Zhlobin, Belarus

FEATURES AND BENEFITS

- Optimum decarburization to less than 15 ppm
- Operation also with varying initial carbon contents
- Flexibility to use lower-cost HC alloying materials
- Chemical heating of the melt possible
- Low final content of dissolved gas
- Improved overall steel cleanliness
- Achievement of exact compositional values
- Optimum decarburization control of the final range (15-25 ppm)

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