

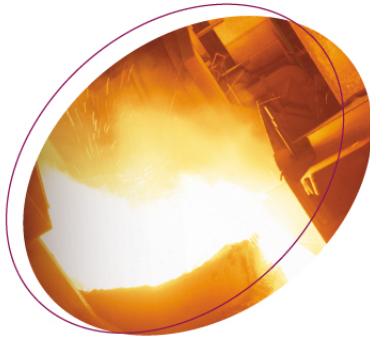
Dream of Human-Oriented Technology

Maintenance System

WOOJIN INC.



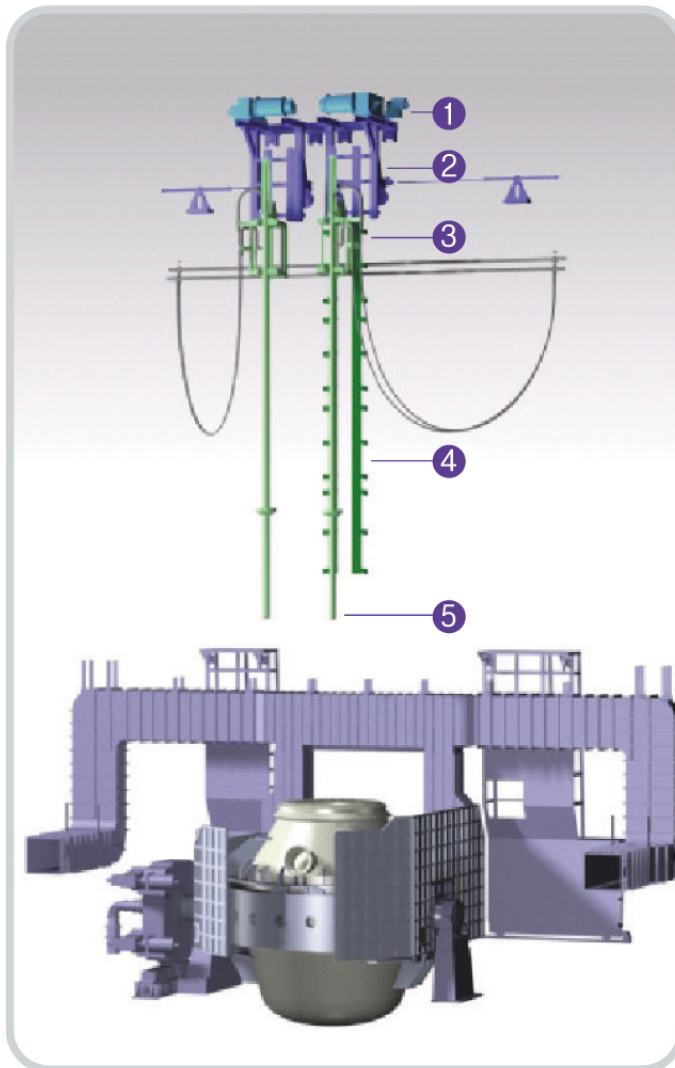
Mainlance System



In steel making process, it is essential for production of high quality steels to control temperature and components of molten steel. The Mainlance system enables to control them and get rid of C, Si, P, S, and so on in molten steel by increasing temperature through blowing oxygen at high speed. With the mainlance system, various types of high quality steels are produced.



1. Mechanical parts



Mainlance System

1 Mainlance hoisting unit

The mainlance hoisting unit is a device for vertical movement of the mainlance and consists of an AC motor, a brake, a wire rope drum and a decelerator. In emergency the sublance is carried to the home position by the air motor.

- ▶ Speed
 - a) Normal : 30m/min ~ 3m/min
 - b) Emergency lifting : 5m/min
- ▶ Position accuracy : approx. ± 20 mm

2 Exchanging device

The exchanging device is for horizontal movement of the mainlance carriage equipped with the mainlance body by the hydraulically-operated cylinder.

3 Mainlance carriage

Mainlance carriage equipped with mainlance body moves vertically along with the mainlance guide.

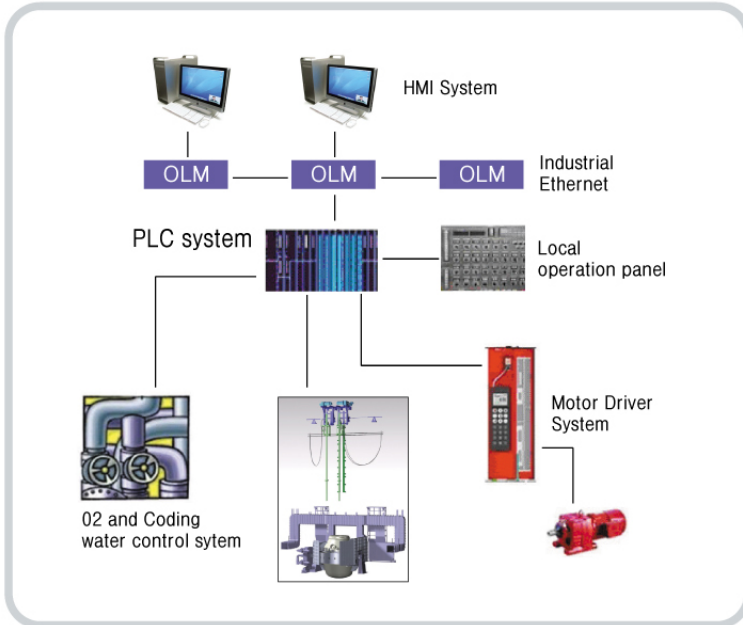
4 Mainlance guide

The mainlance guide is a guide rail for vertical movement of the mainlance carriage.

5 Mainlance body

The mainlance body is a triple piped structure for blowing oxygen in the converter.

2. Electrical parts



PLC system

The programmable logic controller is for controlling all of the operations in the mainline system and interlocking between other various mechanical parts properly.

Motor drive system

The motor drive system is for controlling operation, speed and location of the lance.

Local operation panel

At local work site, it separately controls specific mechanical operations and functions.

Oxygen and cooling water control system

The valve station consists of various types of valves to control cooling water and oxygen gas.

3. Stability of operation

Emergency lifting

In emergency such as electricity failure and unusual case, the mainline carriage is carried to the home position by the air motor.

4. Advantages and features

- ▶ The most optimized system can be installed based on simultaneous drawing works with Sublance system because it can minimize interferences between Mainline system and Sublance system.
- ▶ Troubles at site is minimized due to various types of trial tests before setting up at work site.
- ▶ High quality equipment optimized at client's requirement.
(Certified as Excellent partner for last five years from POSCO and POSCO E&C)





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