

KES

Ladle Preheating Device

KES G – B315B

(EST.) 1987 – 07 – 05
(REV.) 1989 – 11 – 10
(REV.) 1991 – 05 – 04

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1. Scope of Application

This shall regulate ladle preheating device heating ladle more than 500 C to protect melt solution cooling by low temperature ladle.

2. Equipment Composition and Explanation

(1) Housing

This shall be against heat diffusion and exhaust gas leakage and consists of door and watch window. Outer part shall be made of steel for general structure to sustain heat stress and load and inner part shall be treated with adiabatic material and sus plate to minimize heat diffusion.

(2) Ladle cover

This shall be for protecting upper part of ladle to increase combustion efficiency and combustion burner shall be set at center of cover. Outer shall be made of steel for general structure and inner shall be made of refractory material to sustain heat stress.

(3) Combustion device

This shall consist of burner, pilot burner, blower, gas valve and gauge, flame detection device and safety device. Preheat by burner install at upper of ladle cover.

(4) Control plate

This shall control and operate operational condition of equipment. This shall consist of instrument panel and safety device for operation.

Note (1) Refer to appended drawing for equipment lay-out and ladle drawings.

3. Equipment Specification

3.1 General specification

(1) Power

AC 3 ϕ $\times$ 440V $\times$ 60Hz $\pm$ 10%

(2) Used Fuel

LNG (10,500kcal /Nm³), 0.15 ~ 0.2 kg / cm²)

(3) Air

Compressed Air 4 ~ 5 kg/m²

3.2 Detailed Sepcification

(1) Preheat temperature

More than 500 °C

(2) Preheat time

Within 20 minutes

(3) Control type

On-Off control

(4) Driving method

Up and down driving by air cylinder

(5) Heating method

Ladle inner part direct heating method

Note (1) Flame length should be controlled more than 600mm.

(6) Ignition method

Pilot burner ignition type by ignition trans.

(7) Operation relation

Manual and automatic driving