

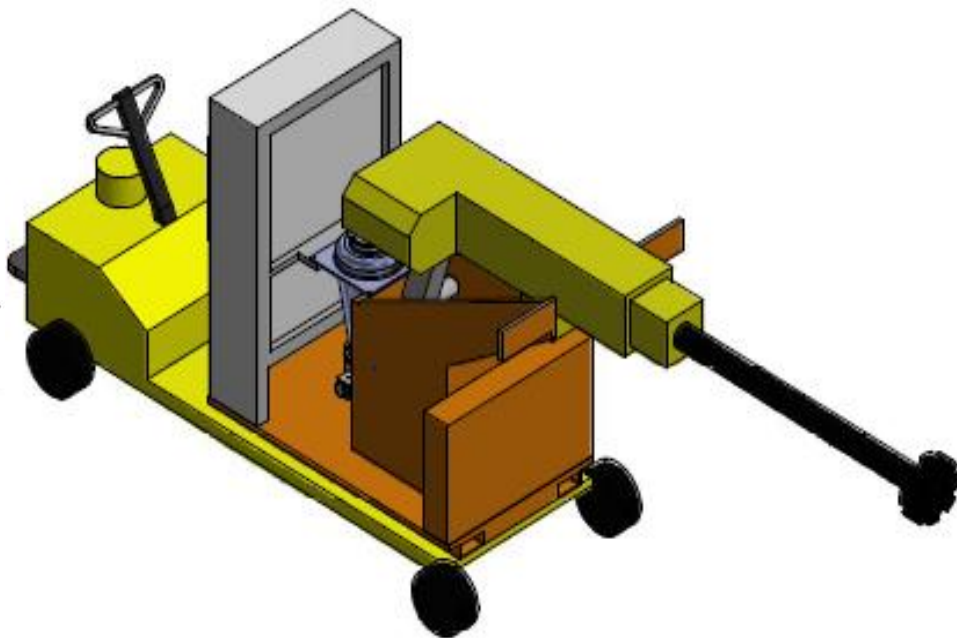


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## **SCOT ROTARY FLUX INJECTOR SYSTEM**

Brand definition of Rotary Auto Fluxing and Degassing system for Aluminium Smelters.



### **Introduction :-**

SCOT-RFI efficiently design to Inject the Flux and Gas through the Shaft which immerse into the bottom of the liquid metal. Its help to get the highest level of clean Liquid metal.

### **EXPORT HOUSE**

(Government of India Recognised)

Factory : Unit 1 : J-31, MIDC Taloja, Dist. Raigad, Maharashtra (INDIA).  
Unit 2 : J-79, MIDC Taloja, Dist. Raigad, Maharashtra (INDIA).  
Unit 3 : W-163/164 MIDC Taloja, Dist. Raigad, Maharashtra (INDIA).



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#### Why RFI :-

- To improve Melt quality at lowest Alkali level.
- Cleaning the metal for Inclusions.
- Helps to reduce the Hydrogen level.
- Automated and Safe operation without operator fatigue.

#### What is RFI :-

- It is an automated metal treatment station that provides a platform to perform all necessary metal treatments in a single operation.
- Improves efficiency of the various treatments.
- Reduces operator involvement.
- Reduces emissions.

The RFI is based upon the Auto Fluxing through shaft and Impeller technology but with the additional capability of injecting of a range of metal treatment products. The addition of these treatment products uses a unique method, whereby the fluxes are feed from a dispensing unit into the bottom of liquid metal by spinning rotor. It is carefully controlled to effect a very efficient mixing of the treatment products.

#### The standard treatment cycle using the RFI consists of a series of stages that can be summarised as follows:

- Machine take to position in front of the Melting Furnace.
- Introduction of Silicon carbide shaft & Rotor on the liquid metal surface.
- Preheating of Shaft and Rotor on metal surface.
- Immerse the silicon carbide Shaft and Rotor at 45 Degree into the liquid metal with Inert gas purging.
- Cycle start as per the Setting done in Control panel.
- Rotor start rotating into the liquid metal with inert gas at low speed.
- Flux get feeding through centre hole of shaft into the liquid metal.
- Rotor enhance the Flux feeding process and spread the Flux throughout the liquid metal for better reaction.
- Silicon Carbide shaft and Rotor comes to its original position after cycle completion.
- Machine get backward direction from Melting furnace.

#### Economical benefits :-

- Reduction in treatment costs
- Reduces inert gas consumption.
- Reduces flux consumption as compare with Manual operation.
- Reduces aluminium loss in the dross.

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- Reduces labour costs
- Improving performance for fast & lowest Alkaline removal.

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**Machine components :-**

- Rugged Machine base.
- Flux Feeding system with Stainless steel hopper.
  - Flux feeding options –
  - 0.5 kg/ min
  - 1.0 kg / min
  - 1.5 kgs / min
  - 2.0 kgs / min
- Tilting mechanism by Electric cylinder.
- Rotor and Shaft motor spindle assembly.
- Rotor speed can be set to following option ---
  - 0-600 RMP is the range of the shaft rotation
  - Idea rotation speed should be 300-400 depending on furnace size.
- Main Control panel with separate Inert gas purging panel.
- Silicon Carbide shaft and Rotor set.
- Machine will be PLC based with HMI / MMI for easy operation.

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