ECL Tapping Flow Regulation System

An accurate control of your metal tapping

- Flow rate automatic control
- Perfectly suitable for all Tending Assembly applications
- Quick and easy installation on existing equipment
The pioneering technology to ensure your metal quality

With the objective of producing a metal free from impurities, each step of the process, from potline to casthouse, has to be carefully considered. It includes the tapping operation that consists of drawing liquid metal from a cell and filling a crucible with a predefined mass of metal.

PRINCIPLES OF THE SOLUTION
To maximise productivity and quality, two main criterias are essential (see Fig 1):
— To implement the best operation practices
— To optimize flow rate
Fives has designed, qualified and industrialized a system based on the automatic control of the flow rate to avoid the sucking of electrolytic bath during tapping operation.

IMPLEMENTATION
This solution is suitable for any smelter configuration using any technology, both for greenfield and brownfield projects.
— Easy integration directly on the Pot Tending Machine and in the ladle tapping beam
— Process optimization by Fives’ experts for:
  • analysis of the current situation such as bath consumption
  • installation of the new system
  • final measurement and follow up
  • training for best practices in operation

OPERATIONAL ADVANTAGES
— Self-adaptive system: no action from the operator
— Reduced metal treatment
— Less waste and skimming
— Less cleaning, damages and replacement of ladles and tapping tube
— Less clogging of tubes, transfer launders or siphoning systems
— Easy diagnostic in case of tube clogging or vacuum issues
— Good process quality thanks to a stable balance between bath and metal

BENEFITS AT A GLANCE
— Easy operation
— Maximization of productivity and quality
— Increased casthouse furnace lifetime
— Operating and maintenance cost reduction:
  • low maintenance
  • quick return on investment

Up to 50% less sucked bath during tapping operations

Fig 1: Conditions for a good tapping