

New cash flow by a refurbished and relocated LM2 at Gerdau Pinda (Brazil)

After 10 years in operation the combo tool (Sampling/Temp/Injection) found a new home.

The Pindamonhangaba (Pinda) plant in Brazil is operating two electric arc furnaces with a tap weight of 100 t. This Gerdau unit is producing SBQ grades and supplying the automotive and heavy industry. As the melt shop in Usiba stopped production indefinitely, which made the originally in 2009 installed tool available. Gerdau Pinda decided to relocate this "abandoned" LM2 to its new home 1,800 km away. The Gerdau team asked BSE to assist with this endeavor.

INITIAL SITUATION AT PINDA

- Manual Oxygen Lancing
- Manual Carbon Injection
- Standalone simple temp/sample taking unit

MAIN MOTIVATION

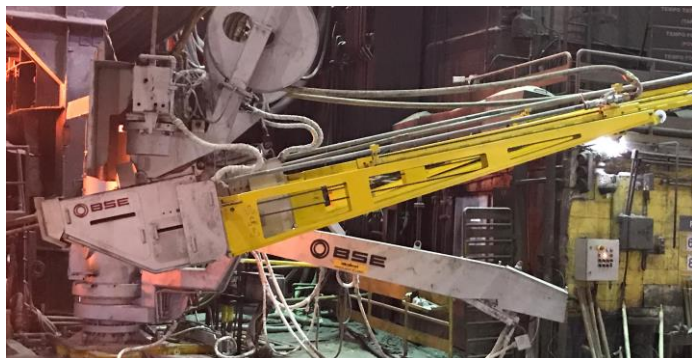
- Highest Safety for operators
- Improve slag process practices
- Higher productivity

TYPICAL ADVANTAGES OF A LM2

- Injection and measurement in just one single unit
- Better oxygen efficiency and productivity
- Reliable injection as a result of appropriate actuation
- Reduction of TTT due to measuring without interruption – and foaming slag practice
- Accurate, reproducible measuring and sample taking
- Usage of standard cartridge sizes (CELOX possible)
- Remote controlled operation for a maximum safety and best ergonomics
- Rigid design and highest quality for long lifetime and high availability
- Attractive cost / performance ratio for a quick ROI.

UPGRADE SCOPE AND BENEFITS

- Upgrade to the latest lance feeding unit:
 - ➔ Smaller head therefore less exposure and easier maintenance
- New oxygen valve train
 - ➔ State of the art valves and less losses
- Wireless remote control:
 - ➔ Operation from various locations



IMPLEMENTATION

- Team work: Very smooth installation in Gerdau Pinda, thanks to a close communication between the project managers on both sides
- Start-up: The first arc was on January 7th, 202
- Training and coaching: Operation and Maintenance personnel was trained during and after start-up; on the job.



RESULTS

Parameter	Reason	Improvement
Pon [min]	more efficient Oxygen input	-1 min
Poff [min]	de-phosphorization and more reliable temp/sample taking	-3 min
kWh/t	better homogenized melting	- 6 kWh/t
O2/t on	better oxygen injection	-2 Nm ³ /t
C/ ton	improved slag practice	-0.5kg/t

- **Safety** of the operators improved considerably
- Project executed **on time and on budget**
- **Better process time** due to optimized slag practice, resulting in less phosphorus corrections with now the right O2 and C input.

Contact:
e-mail gabriel.stegemann@bse-kehl.de
Phone + 55 41 99504 2772