

# Customer Testimonial

## WISCO's Steelmaking Plants Achieve Fast & Accurate Nitrogen Analysis with Considerable Cost Savings!



WISCO Quality and Inspection Center (China), are a Central Lab that serve a production of 177 million tons of iron and steel, providing a full range of analytical instruments for ore, fuel, iron & steel analysis for both off & on line applications. WISCO are currently using more than ten instruments from Thermo Fisher Scientific; these are ARL 3460, ARL 4460 optical emission spectrometers (OES) as well as automated ARL 4460 with SMS-2000 Sample Manipulation Systems; they provide improved analysis, in terms of quality and productivity, cost savings and ensure all analyses are completed within 3-5 minutes (including data transfer to ERP). WISCO rely on the excellent precision and the long stability with 24 hours of continuous operation, the robustness, the simplicity of operation, the easy maintenance, as well as the lower operational costs of these OES instruments.

The Thermo Scientific ARL Metals Analyzers have been continually selected by WISCO and have become their first choice for the past 13 years. In 2004, WISCO purchased the first two automated ARL 4460 with SMS-2000 in their No.3 Steelmaking Laboratory and now two automated ARL 4460 with SMS-2000 have also been selected by two new steelmaking plants, the new No.2 Steelmaking and the new CSP Plant. One was installed in August 2007 and the second is due in May 2008. WISCO have been planning to upgrade all existing ARL 4460s with SMS-2000 during the next few years in order to comply with the increasing analysis needs, enormous increases in production quantity and high expectation in quality.

After many years' experience, WISCO have been able to achieve accurate measurement of nitrogen at 0.0020% - 0.0090%. OES is now the sole instrumentation used for this analysis, eliminating the need for additional Thermal Conductivity analysis.

With cost saving as a high priority, WISCO's first (No.1) Steelmaking Laboratory is a good example of a fast and accurate nitrogen analysis using ARL OES Metals Analyzers. Cost savings are achieved by the following:

1. Labor saving: The reduction of one headcount per shift as the nitrogen analysis is no longer a separate analysis. Total reduction is four headcounts from the four shifts per day. With an employee cost of RMB 40K annually per person, the total annual saving is RMB 160K (US\$ 22,330).
2. Equipment saving: Reduced investment on nitrogen analysis equipment. Where previously two combustion analyzers were used and by counting the cost of RMB650K per unit, the total cost saving is RMB 1,300K. Consequently, there is no more requirement for maintenance, saving RMB 10K per unit or a total of RMB 20K, plus the cost of consumables (crucibles + He gas), about RMB130K (US\$ 18,150) savings per year.

With reference to these cost reductions, the total saving is about RMB 310K per year (US\$ 43,263). Thus the No.1 Steelmaking Laboratory has been saving RMB 4,400K (US\$ 615K) (RMB 3,100K on labor & consumables + RMB 1,300K on equipments) since 1998.

This considerable saving was made while achieving fast and accurate nitrogen analysis with the Thermo Scientific ARL Metals Analyzers ARL 3460 and ARL 4460 OES.



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