

## PRODUCT APPLICATION NOTE

SN0505

**Industry:** Primary Metals, Chemical and Allied Products

**Application:** Level monitoring of iron oxide slurry

**Optech Equipment:** Sentinel 3100

**Accessories:** Articulating bracket and air curtain

**Application Description:** The customer wanted continuous monitoring and control of the level of an iron oxide slurry.

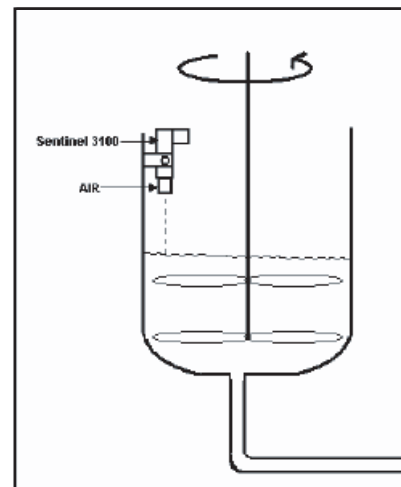
A manufacturer of industrial magnet cores wanted to upgrade a mixing vessel to allow for continuous monitoring and control of the level of an iron oxide slurry. In the past, five or six point level switches were used to give rough indications of level; these were only coarse measurements that did not allow the process to be optimized.

When the unit was upgraded, the customer found that it was more cost effective to install one laser-based Sentinel 3100 level monitor than to install five or six point level switches. The wide beam divergence of ultrasonic and radar sensors, combined with the lack of a central mounting location, made these sensors unsuitable. In addition, the impeller blades created background noise and false echoes for both devices.

By contrast, the Sentinel 3100's narrow beam divergence and small spot size allowed it to be aimed between the edge of the impeller blades and the side of the vessel without the need for windowing or extra programming of the controller. The Sentinel 3100 outputs a 4-20 mA signal to the programmable logic controller (PLC), and this more accurate level control resulted in a less out-of-specification product. The upgrade also included a mounting bracket, for easy installation and alignment, and an air curtain to keep the unit window clean and thus ensure that no signal degradation occurs.

### KEY ADVANTAGES OF LASER TECHNOLOGY IN LEVEL MEASUREMENT

- Measurements unaffected by temperature variations
- Small beam divergence and spot size allow measurements in small spaces
- Non-contact continuous measurement
- Short setup time and easy calibration of set points
- Measurements unaffected by varying surface conditions or background noise



300 Interchange Way • Vaughan, ON • Canada L4K 5Z8

Tel: [905] 660-0808 • Fax: [905] 660-0829

Web: [www.optech.ca](http://www.optech.ca) • Email: [inquiries@optech.ca](mailto:inquiries@optech.ca)