

LM80 Laser Level and Position Transmitter Beer Brewing Industry Application

One of the important steps in brewing beer is the additions of hops to the Malt based liquor. The hops are used to flavor the beer and make it more or less bitter.

Measurement made easy



In order to automate the addition of hops level sensors are required and are used to monitor 2 parameters in the Hop bins:

- Is it full to the proper level? This allows the discharge of the right amount of Hops into the brewing kettle.
- Is it completely empty? This ensures that the right amount was delivered into the brewing kettle and no remaining material is bridged in the hop bins.

ABB LM80 laser level transmitters were installed for this application at a brewery in the US Midwest. The laser transmitters were mounted on a support beam off the ceiling such that the distance to the top of the hops in the bin was about 5ft when full and 12ft when empty. This placement ensured that the bins could be moved, filled and emptied without any chance of the transmitters being damaged.

The customer had attempted to use ultrasonic transmitters without success due to the severe peak up and slump down in the Hops bins. They also considered using Optech laser transmitters but shied away at the very high cost. These devices had performed well in testing but were extremely expensive (2½ to 3 times more than the ABB offering) and were more difficult to setup.

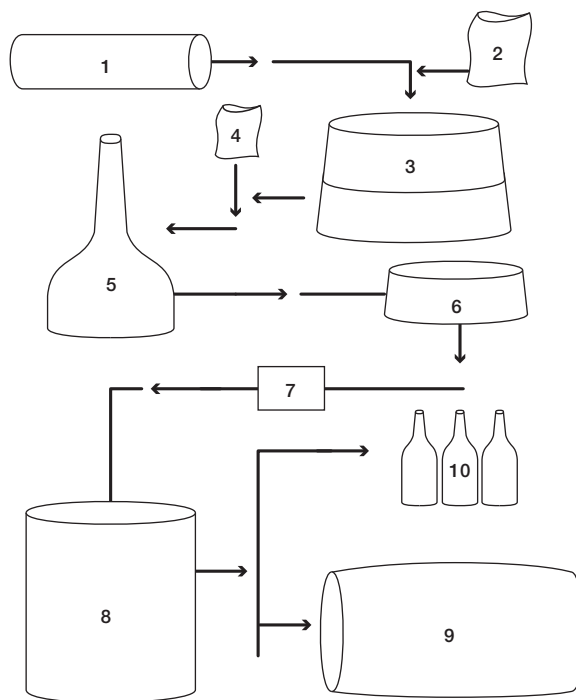


Diagram illustrating the process of brewing beer.
1. Hot Water Tank / 2. Malt / 3. Mash Tun / 4. Hops / 5. Copper
6. Hopback / 7. Heat exchanger / 8. Yeast Fermenter / 9. Cask or Keg / 10. Bottling

While not tested by the customer it is expected that open path radar type level transmitters would also have difficulty with this measurement for the same reasons that the Ultrasonic transmitters failed: severe peak up and slump down in the hops bins.

The selection criteria for the ABB laser transmitters were:

- 1) Proper measurement in all “angles of repose” of the hops
- 2) Competitive Price
- 3) Ease of Installation
- 4) Ease of Configuration
- 5) Dust tubes
- 6) The simple 2 axis mounting kit
(Adjustable pivot bracket A800)
- 7) Quick Delivery (in stock)

Contact us

**ABB Analytical Measurements
Level Products**

585 Charest Boulevard East, Suite 300
Quebec, (Quebec) G1K 9H4

Canada

Phone: +1 418 877-8111

1 800 858-3847 (North America)

Fax: +1 418 877-2834

E-Mail: laserscanner.support@ca.abb.com

www.abb.com/level

Note

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents - in whole or in parts – is forbidden without prior written consent of ABB.

Copyright© 2013 ABB
All rights reserved

3KXP300007R1001



Sales



Service