

Perfect solutions for the brewing process with Anton Paar's L-Sonic 5100 sound velocity sensor

Relevant for: **Breweries**

Monitoring the brewhouse process with Anton Paar's L- Sonic 5100 brewery solutions ensures a constant product quality, unique product specification, decreases out-of-spec production and guarantees a satisfied and happy end-customer.



1 Our experience is your success

In several decades of experience, Anton Paar has acquired an excellent know-how of monitoring and measuring at all steps in the brewing process. From the biggest industrial-shaped breweries to very small but sophisticated craft beer manufacturers, the best of them rely on the expertise and the sensors of Anton Paar.

From wort monitoring to filling process, from laboratory analysis to inline measurement, Anton Paar provides the full portfolio for a successful brewery process.

Based on our experience, Anton Paar has defined several specific measurement locations within the brewhouse that are common critical points for quality control, quality assurance and data acquisition. Simultaneously, one can save time, manpower and money when using the fast and reliable Anton Paar inline measurement systems.

Beside the precise density measurement system (L- Dens 7400), Anton Paar also offers cost-effective and easy to integrate brewhouse process monitoring solutions which can be realized by using L- Sonic 5100 and its tailored accessories. If budget is a factor,

L-Sonic 5100 brewing solutions offer the instrumentation of the brewer's choice.

Find out, what makes the L- Sonic 5100 brewing kit so unique for your success.

2 The brewhouse process

Figure 1 shows a part of the brewhouse process where Anton Paar inline measurement systems can be selected in order to enhance the beer production and beer quality.

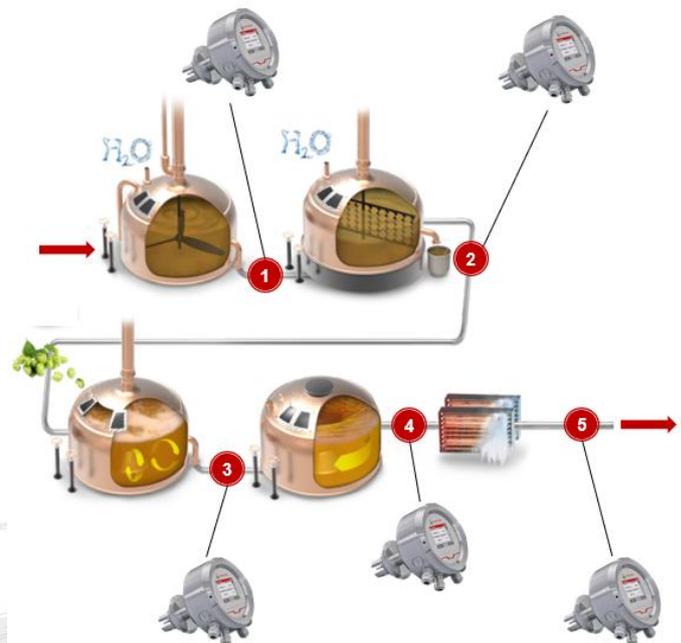


Figure 1: Brewhouse process- inline measurement points

2.1 Mash and lauter wort monitoring (1-2)

During lautering process, wort is separated from the grains via either a lautur tun or mash filter. In order to enhance the efficiency and the output of the extract, a precise and reliable inline monitoring process from the

first to the last wort is important and can be realized by L- Sonic 5100.

2.2 Hot wort measurement (3)

After lautering the wort is pumped into the kettle. By adding hops during the 45 to 90 minutes of boiling various processes like giving the wort its aroma and flavor are triggered. With Anton Paar's L- Sonic 5100 brewing kit, the brewer can check for example the evaporation rate, the wort concentration or the process quality inline in an easy and cost-effective way. In addition, the sensor can be cleaned without effort after kettle draining from wort residues with the tailored sound fork cleaning accessories.

2.3 Whirlpool and cold wort monitoring (4-5)

After the boiling process the hopped wort is pumped into the whirlpool where solid particles are separated from the liquid. Following this process, the fluid is cooled down via a heat exchanger to final fermentation process temperature. Using Anton Paar's L- Sonic 5100, the original extract can be determined before the fermentation process or the product identification (water/wort) during flushing.

3 L- Sonic 5100 brewery solutions

Anton Paar offers a comprehensive portfolio for the brewing industry. With the well proven L-Sonic 5100 sound velocity sensor version beverage, Pico 3000 or mPDS 5 evaluation units and the smart and tailor-made cleaning accessories (Figure 2 and Figure 3), Anton Paar provides a cost-effective, easy- to-integrate and maintenance-free brewing kit which fulfills any master brewer's needs.

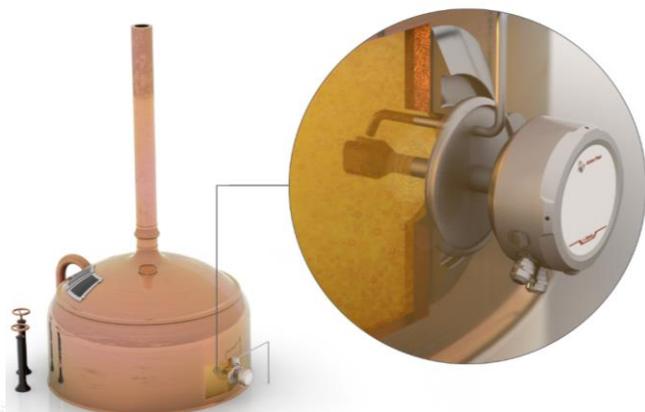


Figure 2: L-Sonic 5100 VG CN installed in wort kettle

Brewers know that every recipe has its unique ingredients and raw materials. As sound velocity is influenced by the type of sugar and concentration and hence by the recipe, our evaluation units are optimized to flexible product selection. If you change your recipe, you just change the product type at the evaluation unit and the sensor will automatically compensate for the sugar influence.

Coatings from extract and hop oils are a common challenge for every inline measurement system in the brewing process. With a directly integrated spray nozzle (Figure 2) or a cleaning spray nozzle (Figure 3) adapted to the process pipeline, Anton Paar offers a sensor-adjusted accessory for L- Sonic 5100 which completes the smart brewing kit.

Figure 3 shows the L-Sonic 5100 spray nozzles that can be integrated into the process line:



Figure 3: L-Sonic 5100 sensor with separated spray nozzle

4 L- Sonic 5100 brewery solutions - your benefits at a glance

If budget matters and convenience, Anton Paar has the right solution for every brewer. The flexible sound velocity system can be equipped for every size of brewhouse process conditions and needs:

- Cost-efficient monitoring system
- Maintenance-free
- Flexible product configuration
- Easy to install (inline) and operate
- Optimized accessories for sensor cleaning and drift-free measurement
- Fast amortization of project costs and simultaneous enhancement of product quality
- Satisfied and happy end-customers

For further questions, quotes and project references please ask the Anton Paar experts:

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