

Use cases of build-up measurement in the food & beverage industry

Fouling and cleaning-monitoring by combination of conductive and capacitive measurement



Use cases in the food & beverage industry

- **Measuring Principle**
- **Use Cases**
 1. UHT milk heating
 2. Soft drink pasteurisation
 3. Hot beer wort
 4. Filler cabinet monitoring

Liquipoint QMW43 – measuring principle

Combination of
conductive & capacitive measurement

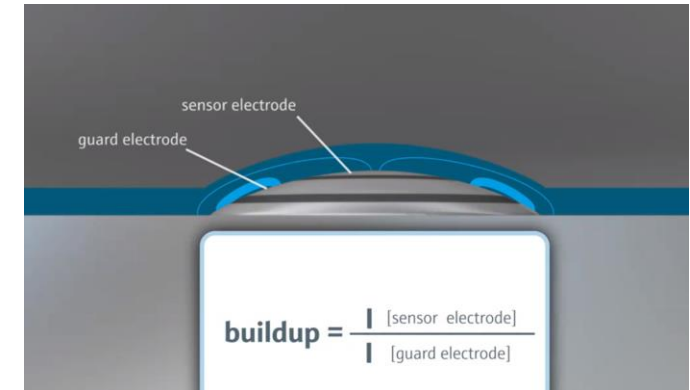
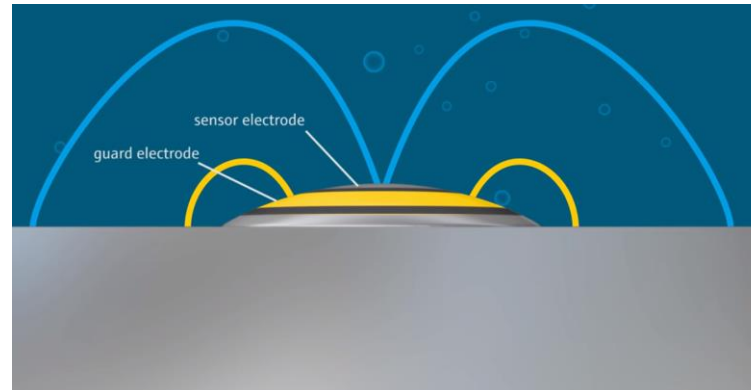


Liquitrend QMW43- technology

Conductive Media:

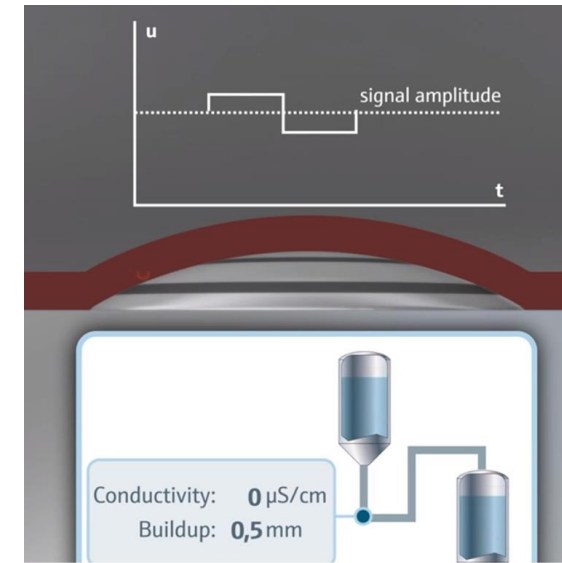
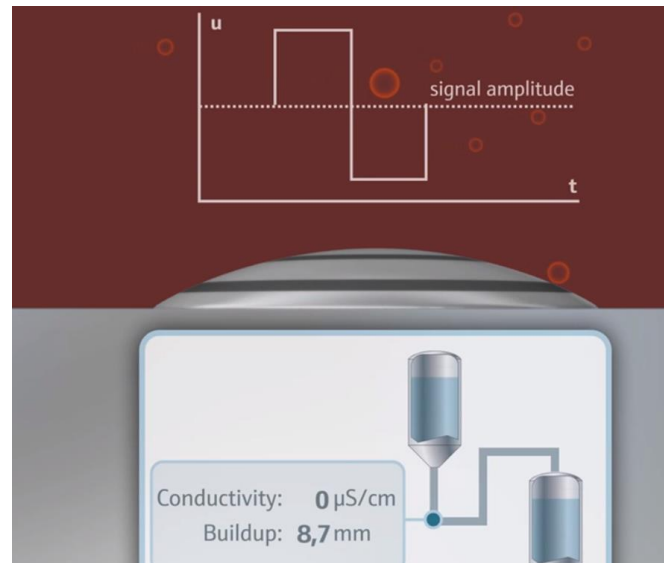
Build-up= relation between sensor electrode and guard electrode current

conductivity= guard electrode current which is influenced by media resistance

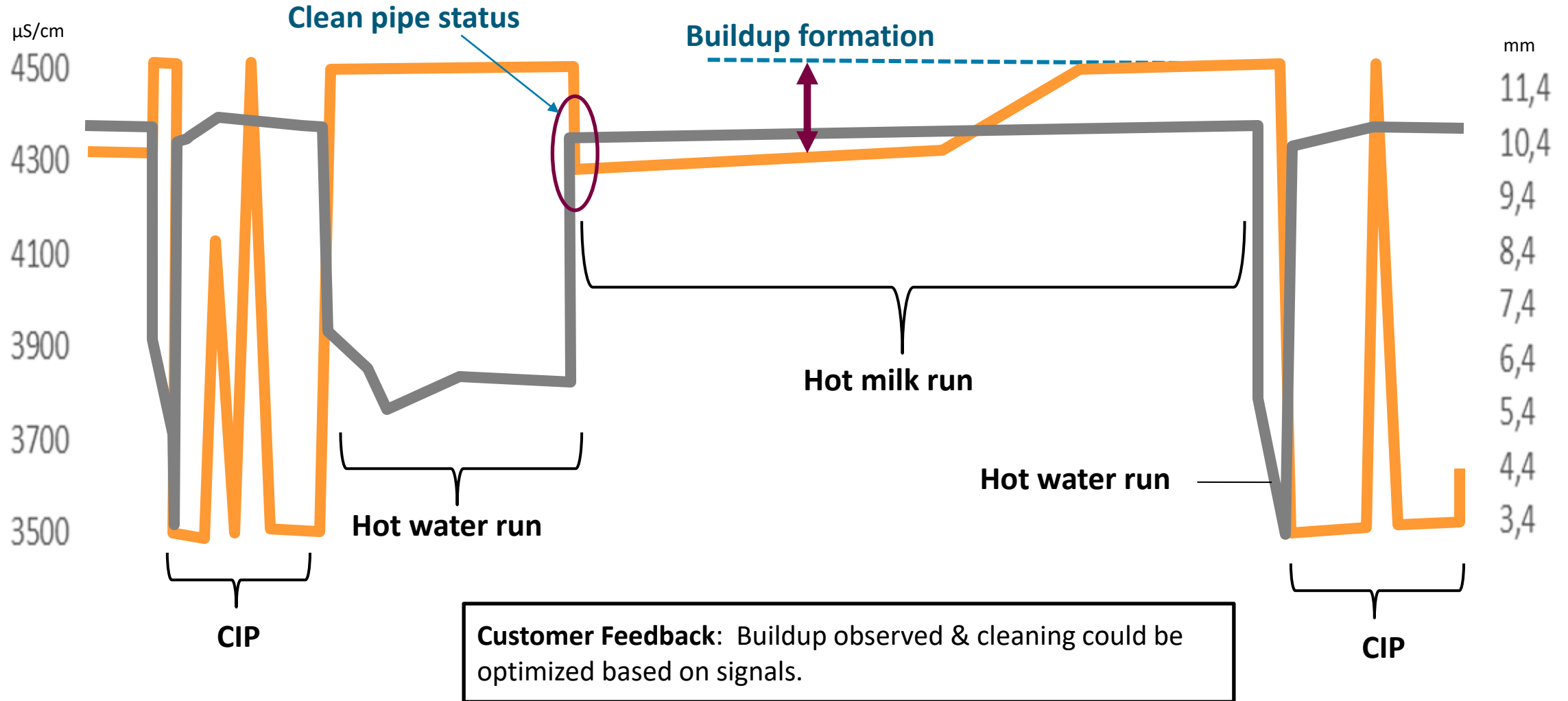


Non conductive media:

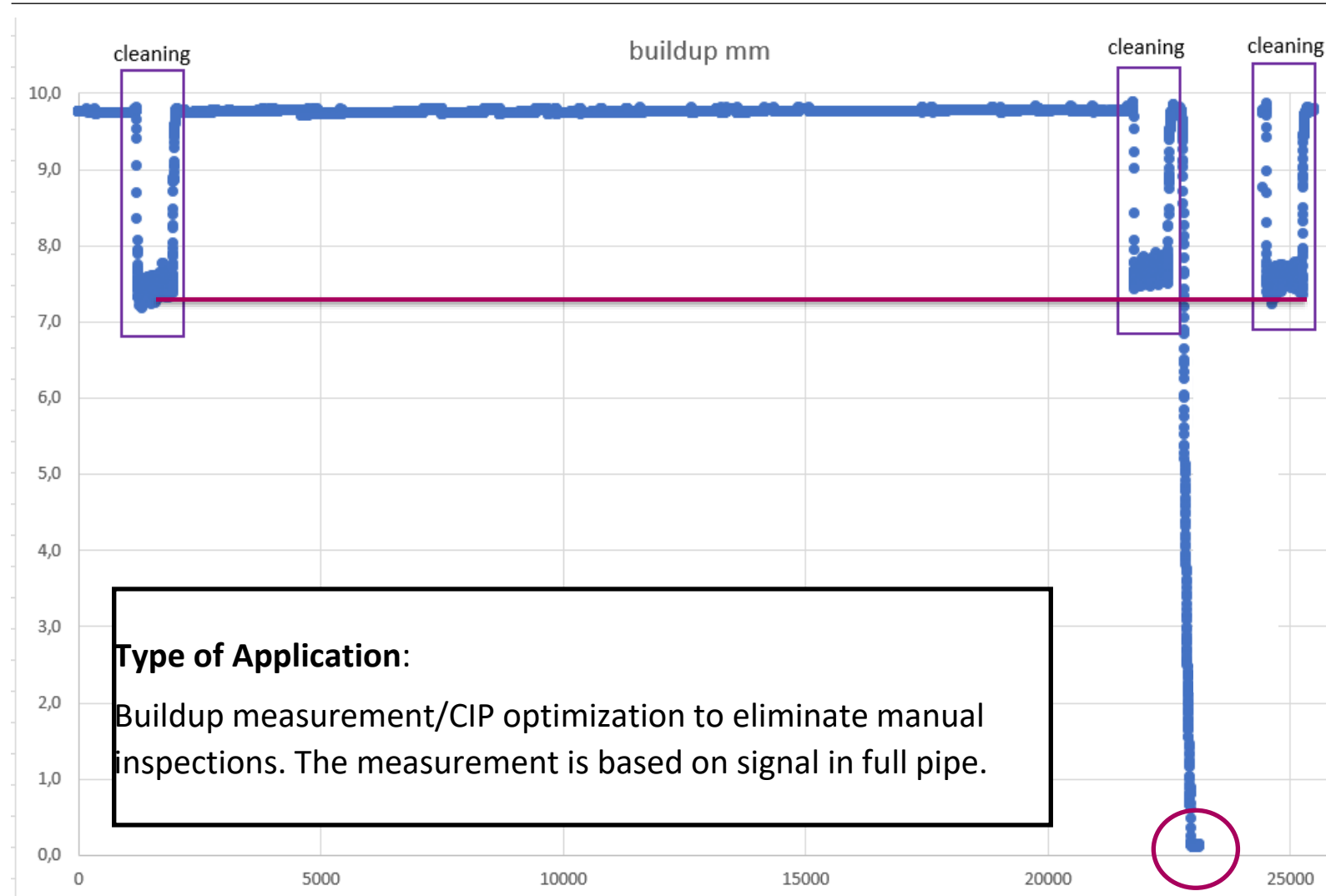
Build-up= proportional to signal amplitude of sensor electrode (capacitive measurement)



1. UHT milk production (UHT holding tube)

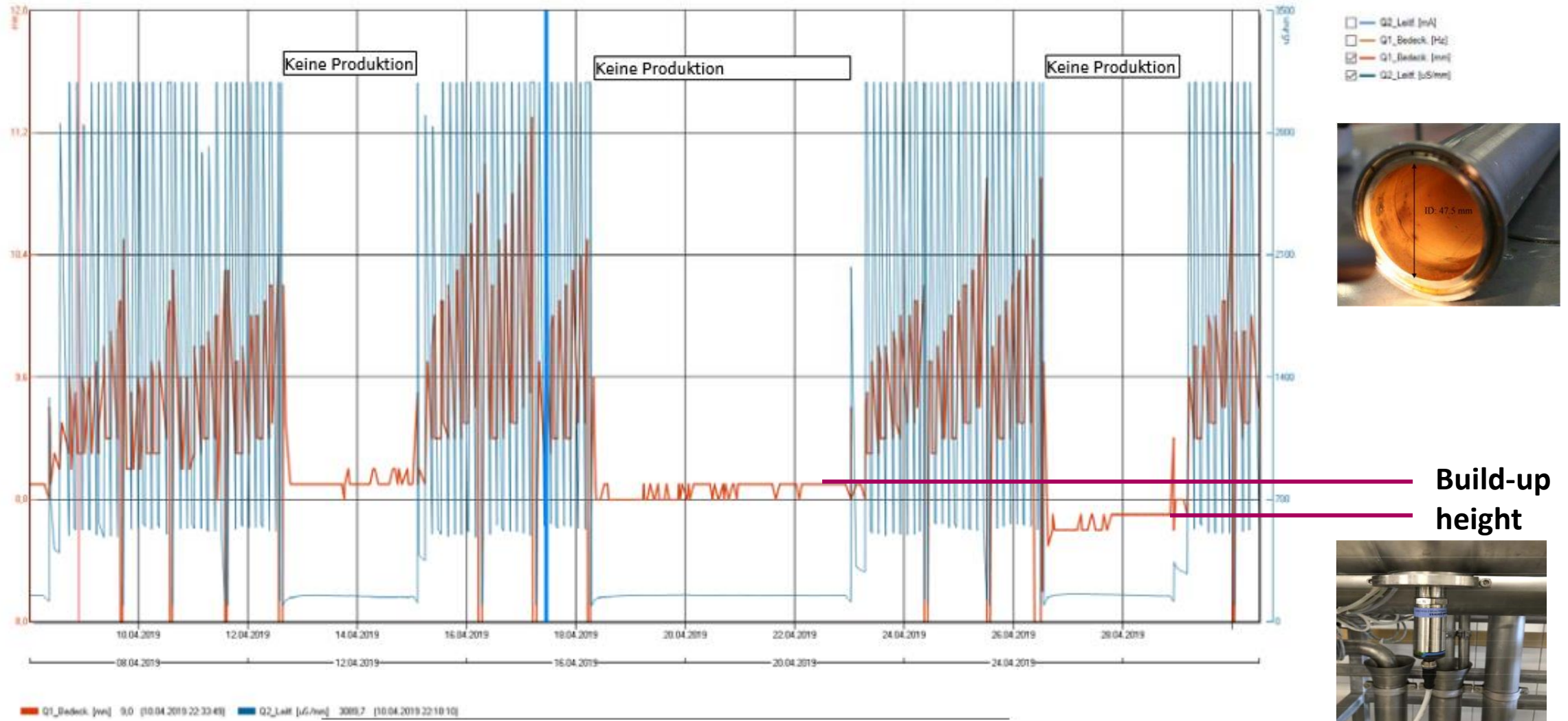


2. Soft drink pasteurization: Mixed beverages based on fruit juices & tea extracts

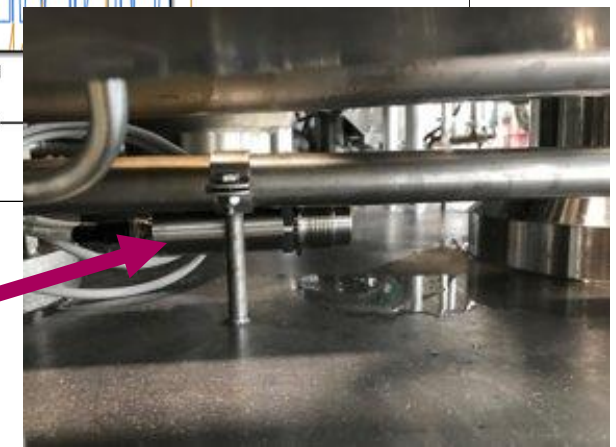
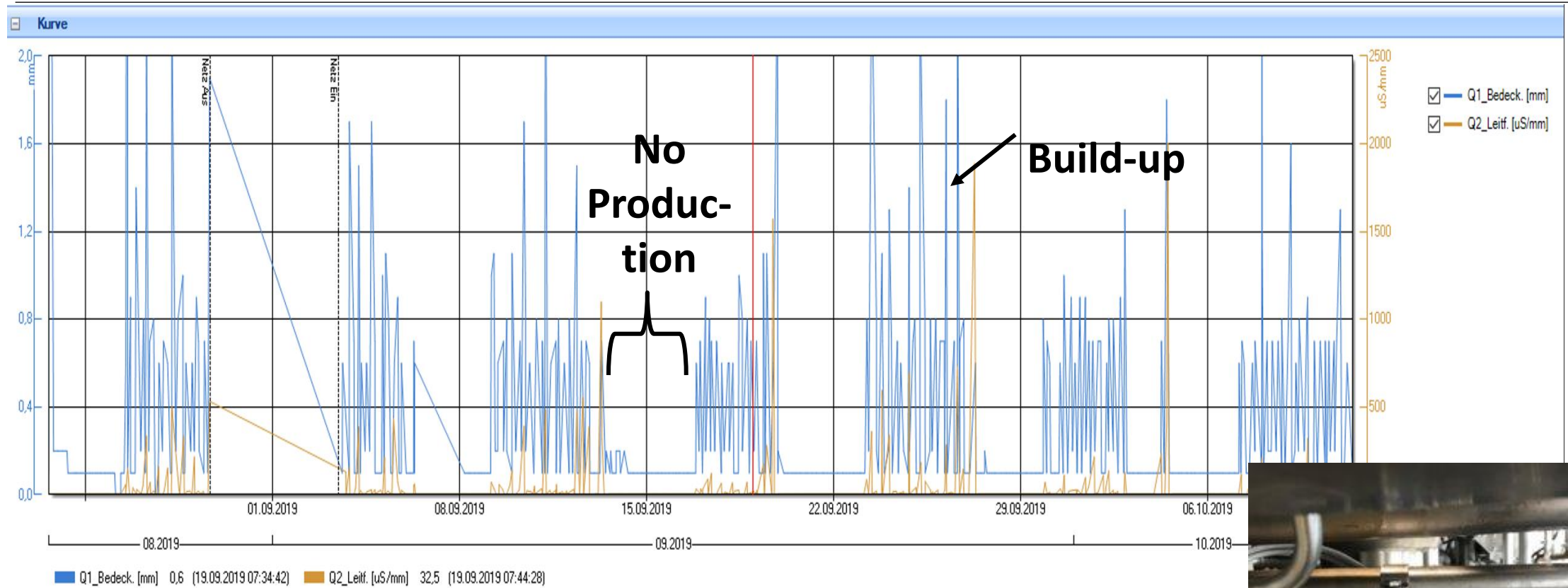


Point of Installation:
In line(after pasteurizer)

3. Hot beer wort (Hot wort pipe always filled)



4. Filler cabinet monitoring: Beer bottle filler



Customer Feedback: the device is useful in determining the necessary manual cleaning frequency.

Summary

- Liquitrend QMW43 suitable for many applications
- Sensor sensitivity $\geq 0,1$ mm
- Each application has to be developed
 - definition of “zero-point”
- Interpretation of signals has to be learned
- Robust, reliable and repeatable measurement for build-up

Questions?

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