

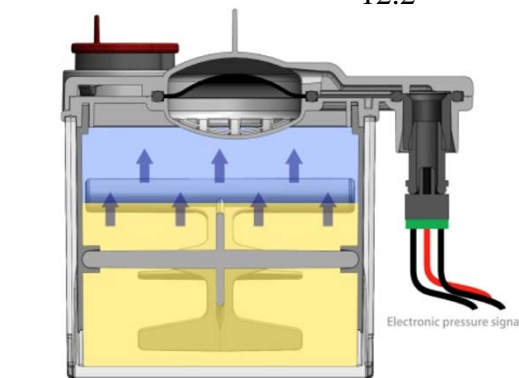
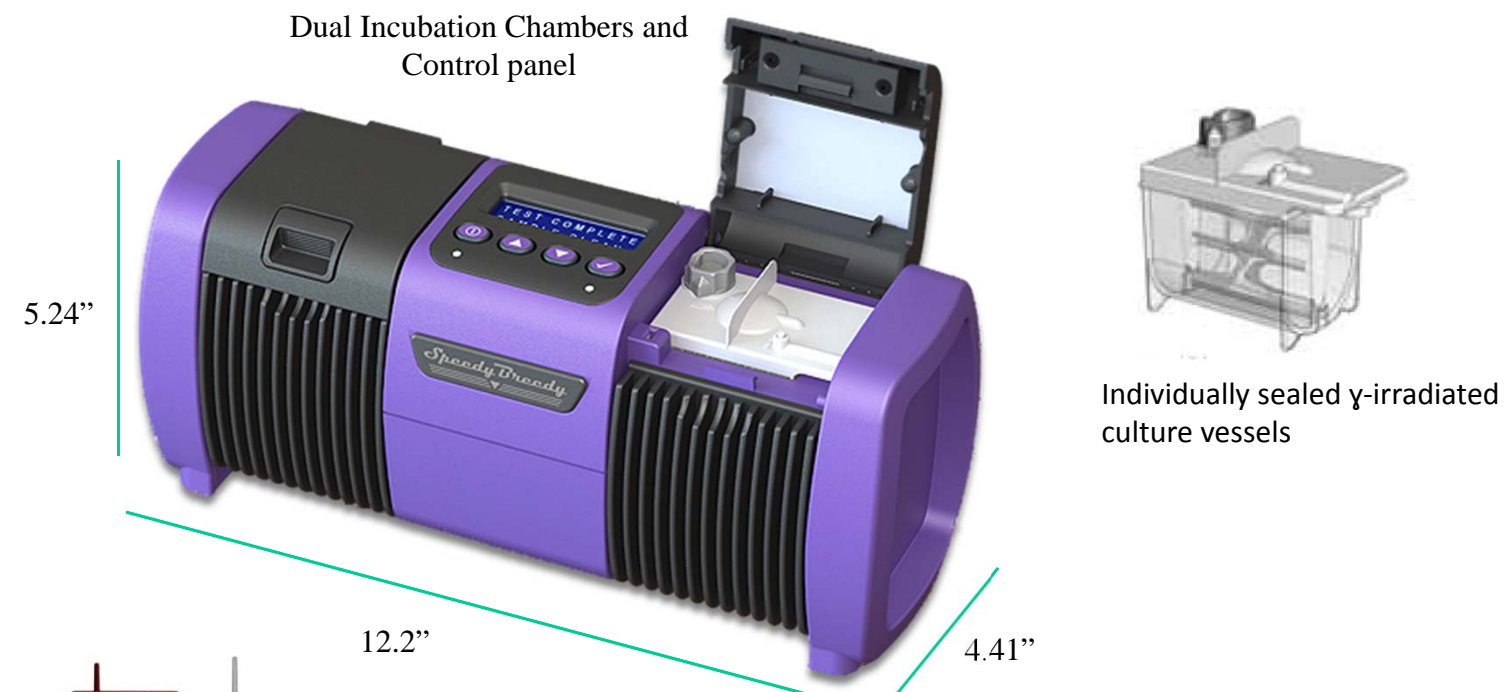


Speedy Breedy: A portable microbial respirometer for rapid and reliable detection of brewing contaminants

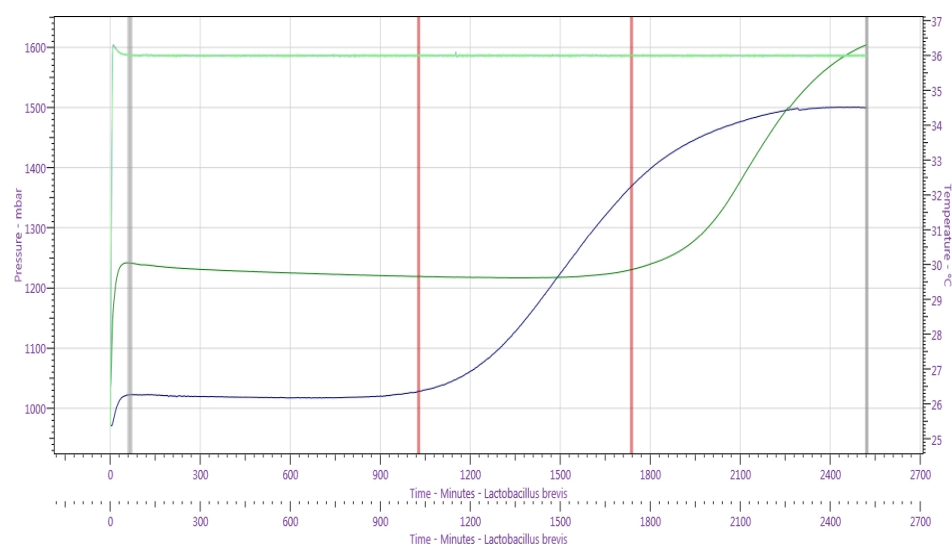


MBAA Annual Conference
June 5-7, 2014
Palmer House, a Hilton Hotel
Chicago, IL

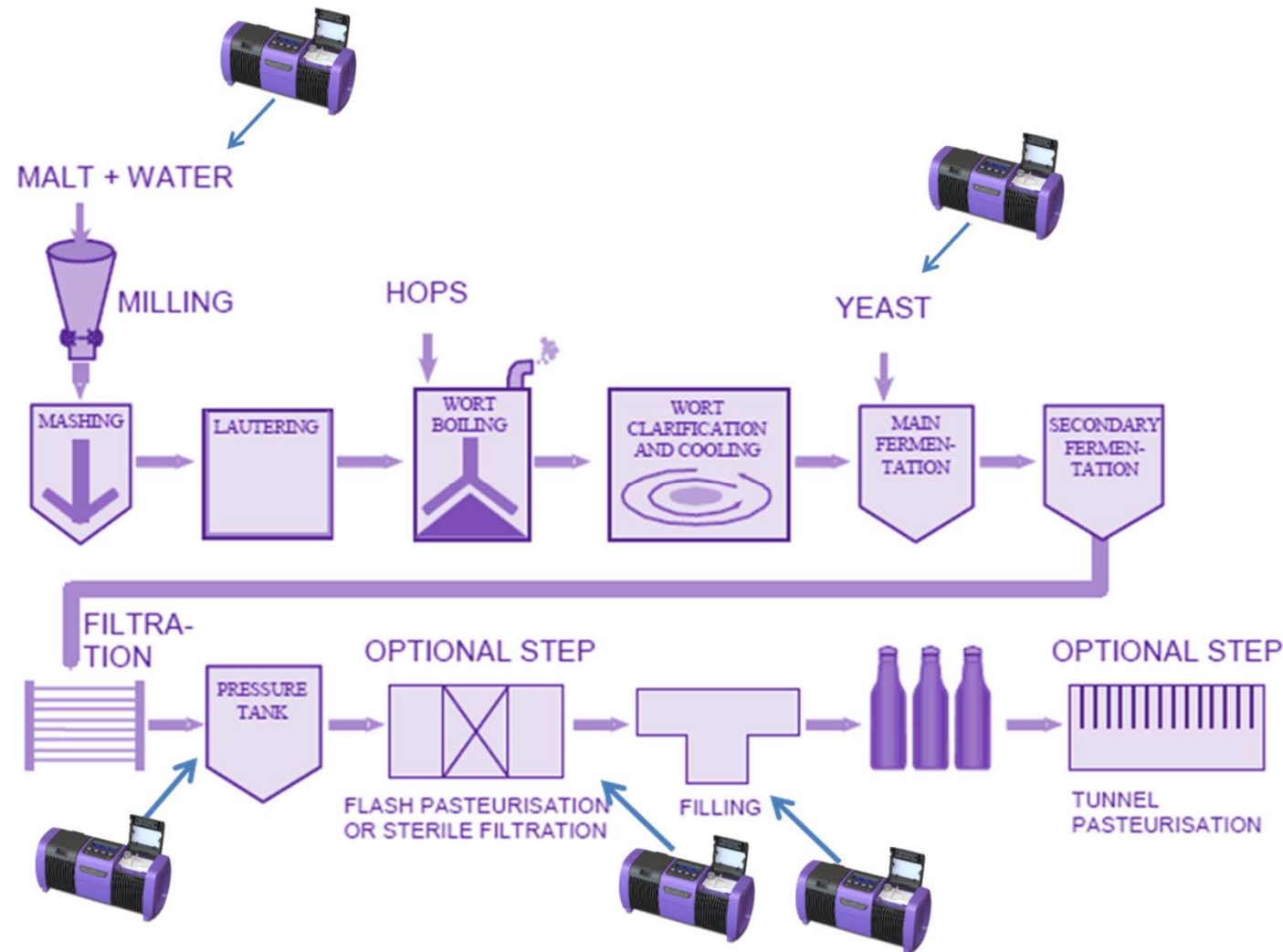
The Speedy Breedy is a Sensitive, Precision Respirometer and Detector of Microbial Activity



The **Speedy Breedy** culture vessel is used to cultivate micro-organisms, where mixing technology improves gas exchange to a pressure sensing system as micro-organisms metabolise nutrient media in the vessel. Data is then exported and graphed in software for analysis.



The Benefits of Speedy Breedy in Brewing



A user-friendly design, with portability, simplicity and user safety as key features allows for rapid microbiology analysis without the need of additional equipment (such as incubators) or experience as a microbiologist.

Speedy Breedy can be incorporated into a HACCP system to monitor and detect contamination at key stages in the brewing process. A full electronic audit trail is maintained during testing to provide detailed records of testing activity and results.

Speedy Breedy Can Detect Multiple Microorganisms Encountered in the Brewing Industry

Organism	Inoculum (CFU)	Speedy Breedy Detection Time	Traditional Culture Incubation Time
<i>Lactobacillus brevis</i>	2330	27 Hours (1.13 Days)	5 Days
	1370	37 Hours (1.54 Days)	5 Days
	20	42 Hours (1.75 Days)	5 Days
	3	48 Hours (2.00 Days)	5 Days
<i>Pediococcus damnosus</i>	1810	38 Hours (1.58 Days)	5 Days
	323	41 Hours (1.71 Days)	5 Days
	27	53 Hours (2.21 Days)	5 Days
	5	62 Hours (2.58 Days)	5 Days

Organism	Inoculum (CFU)	Speedy Breedy Detection Time	Traditional Culture Incubation Time
<i>Geotrichium sp. S122</i>	2950	11.63 Hours (0.49 Days)	3 Days
<i>Pichia anomala</i>	6050	14.79 Hours (0.61 Days)	3 Days
<i>Pichia farinosa</i>	9210	13.57 Hours (0.57 Days)	3 Days
<i>Pichia kudriavzevii</i>	7100	40.86 Hours (1.70 Days)	3 Days
<i>Pichia membranifaciens</i>	2850	48.45 Hours (2.02 Days)	3 Days
<i>Saccharomyces diastaticus</i>	24200	15.45 Hours (0.64 Days)	3 Days

Independent studies have shown **Speedy Breedy** to be technically effective and rapid, offering benefits over traditional approaches to microbiology in the brewing industry, saving time and money.

References

- Speedy Breedy- Instrument Assessment Report, Campden BRI August 2013
- Premium Lagers, Beers & Ciders, Keynote Market Report 2013
- Global Beer Industry, Yahoo Finance, August 22 2013



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