

Instrument Guidance for Beer Quality Labs

Lab Instrument Guide for New and Growing Breweries

Category	Instrument	Method(s)	Additional Materials & Notes
Raw Materials	Sieve Set	Grist Analysis	
	Sensory Panel	Malt, Hop, and Brewing Water Sensory Analysis	Training is strongly encouraged for reliable sensory analysis.
Category	Instrument	Method(s)	Additional Materials & Notes
Hot Side (Brew House) QC	Hydrometer	Specific Gravity	Test Cylinder
	Digital Density Meter	Specific Gravity	
	Digital pH Meter	pH	
	Temperature Probe	Temperature	
	Spectrophotometer	Wort Bitterness (IBU), Wort Free Amino Nitrogen (FAN), Wort Color (SRM)	
	Sensory Panel	Wort Analysis	Training is strongly encouraged for reliable sensory analysis.
Category	Instrument	Method(s)	Additional Materials & Notes
Yeast &	Hydrometer	Specific Gravity	
Fermentation	Digital Density Meter	Specific Gravity	
	Digital pH Meter	pH	Burette, NaOH, Hot/Stir Plate
	Temperature Probe	Fermentation Temperature	
	Compound Microscope	Yeast Cell Concentration and Viability	Haemocytometer, Pipette(s), Methylene Blue Dye
	Automatic Cell Counter	Yeast Cell Concentration & Viability	Pipette(s), Dye (corresponding to the model used)
	Hot/Stir Plate	Forced Fermentation	Airlock, Magnetic Stir Bar
	Water Bath or Sous Vide	Forced Diacetyl Test	Clean Jars, Trained Sensory Panel
	Spectrophotometer	VDK (Diacetyl), Bitterness (IBU), Color (SRM)	Chemical Reagents, Fume Hood, Fire Proof Chemical Cabinet, Quartz Cuvettes, Wrist Action Shaker & Centrifuge (ASBC 23)
	Sensory Panel	Production Release (Pass/Fail)	
Category	Instrument	Method(s)	Additional Materials & Notes
Sanitation & Contamination	Aseptic Sampling Kit	Sterile Sampling	
	Compound Microscope	Gram Staining	Gram Stain Kit, Microscope Slides
	Hot/Stir Plate	Media Preparation	Aseptic Sampling Supplies, Selective or differential media of choice, Sterile Tubes or Petri Dishes
	Autoclave & Incubator	Detection & Identification of Microorganisms	Aseptic Sampling Supplies, Selective or differential media of choice, Sterile Tubes or Petri Dishes
	Anaerobic Chamber	Detection & Identification of [Anaerobic] Microorganisms	Aseptic Sampling Supplies, Selective or differential media of choice, Sterile Tubes or Petri Dishes
	Selective & Differential Media (ie: Fast Orange, HLP, WLM, LCSM, LWYM, etc.)	Detection & Identification of Microorganisms	Laminar Flow Hood, Aseptic Sampling Supplies, Sterile Jars or Whirlpak® Sterile Bags, Sterile Pipette(s), Sterile Tubes or Petri Dishes
	Membrane Filtration Kit	Detection & Identification of Microorganisms	Laminar Flow Hood, Aseptic Sampling Supplies, Sterile Jars or Whirlpak® Sterile Bags, Sterile Pipette(s), Selective or differential media of choice, Sterile Tubes or Petri Dishes
	ATP Luminometer	Testing Equipment Cleanliness	Proprietary Swabs or Wands
	PCR Instrumentation	Detection & Identification of Microorganisms	Aseptic Sampling Kit
Category	Instrument	Method(s)	Additional Materials & Notes
Packaging Quality	Zahm & Nagel Air Tester	Measuring CO2 in Brite Tanks, Measuring CO2 & Headspace Air in Package	20% solution NaOH or KOH
	Optical CO2 & Dissolved Oxygen Meter	Measuring CO2 & O2 in Bright Tanks & Package	
	Bottle Crimp Gauge	Bottle Crimp Analysis	
	Can Seam Micrometer	Can Seam Analysis	
	Can Seam Monitor	Advanced Can Seam Analysis	