## **Microbrewery Equipment Accessories List**

Here's a detailed list of common accessories and components that are typically included or required for microbrewery equipment:

Accessory/Component	Description
Mash/Lauter Tun Accessories	<ul> <li>False Bottom: Stainless steel perforated plate for separating wort from grain.</li> <li>Rake System: Adjustable rakes for improving mash consistency and efficiency.</li> <li>Mash Mixer: Motorized mixer for uniform mash and preventing grain bed compaction.</li> </ul>
Kettle/Whirlpool Accessories	<ul> <li>Whirlpool Inlet: Tangential inlet for creating a whirlpool to separate trub.</li> <li>Steam Jacket: For even heat distribution in the kettle.</li> <li>Sight Glass: Allows monitoring of liquid levels and clarity during the boiling process.</li> </ul>
Fermentation Tank Accessories	<ul> <li>Glycol Cooling Jacket: For precise temperature control during fermentation.</li> <li>Pressure Relief Valve: Ensures safe operation by releasing excess pressure.</li> <li>Sampling Valve: Allows for sampling the beer during fermentation.</li> <li>Racking Arm: Rotating arm for transferring beer without disturbing the sediment.</li> <li>CIP Spray Ball: Provides 360-degree cleaning coverage inside the tank.</li> </ul>
Bright Beer Tank Accessories	<ul> <li>Carbonation Stone: Used to carbonate beer before packaging.</li> <li>Pressure Gauge: For monitoring internal pressure.</li> <li>Temperature Probe: Monitors and controls temperature during conditioning.</li> <li>Wort Pump: Sanitary pump for transferring</li> </ul>
Pumps	- <b>Wort Pump:</b> Sanitary pump for transferring wort between vessels.

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	- <b>CIP Pump:</b> Used in Clean-In-Place systems to circulate cleaning solutions.
	- Glycol Pump: Circulates glycol for cooling
	in fermentation and bright tanks.
Heat Exchanger	- Plate Heat Exchanger: Rapidly cools wort
	from boiling to fermentation temperature. - <b>Thermowell:</b> For monitoring wort
	temperature during cooling.
	- Glycol Reservoir: Holds glycol mixture for
	the cooling system.
	- Expansion Tank: Manages glycol expansion
Glycol Chiller	and contraction due to temperature changes.
	- Temperature Controller: Automates and
	adjusts glycol cooling cycles.
	- PLC Control System: Automates the brewing
	process, including temperature and pump
	controls.
Control Panel	- Touchscreen Interface: User-friendly
Control Panel	display for monitoring and controlling
	brewing operations.
	- Emergency Stop Button: For immediate
	shutdown in case of an emergency.
	- Tri-Clamp Fittings: Sanitary connections
	used throughout the brewery.
Piping and Valves	- Butterfly Valves: Control the flow of
	liquids between vessels.
	- <b>Sight Glass Valves:</b> For visual monitoring of liquid flow.
CIP (Clean-In-Place) System	
	- <b>CIP Spray Ball:</b> For cleaning the interior surfaces of tanks.
	- CIP Pump: Circulates cleaning solutions
	through the system.
	- CIP Tank: Holds cleaning and sanitizing
	solutions.
	- Grain Mill: Crushes malted barley for
	mashing.
Grain Handling	- Grain Auger: Transports crushed grain to
Equipment	the mash tun.
	- Grain Hopper: Holds milled grain before
	mashing.

Accessory/Component	Description
Keg Handling Equipment	<ul> <li>Keg Washer: Cleans and sanitizes kegs before filling.</li> <li>Keg Filler: Automated or manual system for filling kegs with beer.</li> <li>Keg Couplers: Attach to kegs for dispensing or cleaning.</li> </ul>
Hoses and Fittings	<ul> <li>Sanitary Hoses: Food-grade hoses for transferring liquids.</li> <li>Hose Clamps: Secure hoses to fittings.</li> <li>Quick-Disconnect Fittings: For easy connection and disconnection of hoses.</li> </ul>
Filtration Equipment	<ul> <li>Beer Filter: Removes particulate matter for clear beer.</li> <li>Hop Filter: Used during brewing to filter out hop particles.</li> <li>Inline Filter Housing: Houses filters for inline filtration.</li> </ul>
Thermometers and Sensors	<ul> <li>Digital Thermometers: For accurate temperature readings.</li> <li>pH Meters: Measures the acidity of the wort and beer.</li> <li>Pressure Sensors: Monitors pressure in tanks and pipelines.</li> </ul>
Packaging Equipment	<ul> <li>Bottle Filler: Automated system for filling bottles with beer.</li> <li>Bottle Capper: Seals bottles after filling.</li> <li>Can Seamer: Seals cans for packaging beer.</li> </ul>
Miscellaneous Accessories	<ul> <li>Brewer's Hose Barb: Connects hoses to equipment.</li> <li>Flow Meters: Measures the flow rate of liquids.</li> <li>Drip Trays: Collects spills during filling or dispensing.</li> <li>Fermentation Locks: Prevents contamination during fermentation.</li> </ul>

This list provides a comprehensive overview of the various accessories and components that are commonly associated with microbrewery equipment. These items are essential for the efficient operation, cleaning, and maintenance of brewing systems in a microbrewery.