

External wort boiling

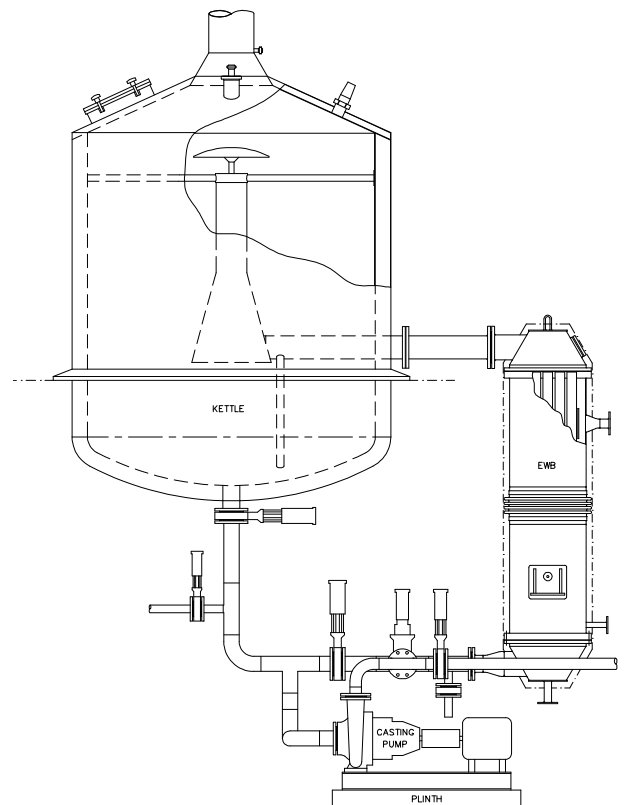
Industriel Techniques Ltd design and manufacture kettles with external wort boiling systems constructed to PD 5500 – 2009 and CE marked, from micro brewery volumes to 250 Brl capacity, supplied individually or retro fitted to existing kettles or supplied as part of a packaged brewhouse.

Wort boiling accounts for the highest energy consumption in the brewing process therefore our design principle is based on a large heating surface area operating at lower steam pressures than conventional heating coils and jackets the reduced steam pressure delivers energy savings and higher evaporation rates.

The large surface area and low ΔT between product and heating medium reduces fouling and the shell and tube design lends itself to in place cleaning.

Key design features:

- ✓ Vigorous rolling boil
- ✓ Low colour pick up
- ✓ Pumped and thermosyphoning options
- ✓ Suitable for pellets, hop extract and whole hops
- ✓ Sight glasses positioned in the external wort boiler bonnet allow visual monitoring of tube surface condition.
- ✓ Expansion bellows positioned in the heat exchanger shell reduce tube end loadings.
- ✓ Easily retro-fitted to existing kettles.



Overview

Wort is run into the kettle, at around 15% full the recirculation pump is started and the heating phase begins, wort is raised to boiling, the pump diversion bypass route opened and thermosyphoning takes place.

Clean in place requirements are indicated when the external wort boilers performance begins to drop, typically every 15 brews.

Thermal design of the external wort boiler is specific to the clients required evaporation duty and hop form.

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