



Case Study – Beer Bottling Line

Reduced Reject Rate

Location : Europe Beer Bottle Line

Target : Reduced extract loss, energy saving, reduced bottle rejects.

Total Annualised Benefit
€ 131,922

Situation : The brewer was filling 375ml bottles at 40,000 bottles per hour on a Sidel mechanical filler with approx. 60% of product filled (Pilsner), 40% lager beer. Operational performance of the line showed 2ml beer extract losses from over foaming prior to capping, bottle reject rate of 0.87% due to under-fills and faulty caps and TPO level (between 70-90ppb).

Solution : Cavitus fitted a BLE Lite unit to the bottle line, rated up to 40,000 bottles per hour. As this line had high foam levels and a speed of 40,000bphr the smaller powered unit was recommended. The Cavitus unit was fitted 15cm prior to the high pressure jetter. The installation of the transducer/sonotrode on the star wheel was completed in 30 minutes during a routine maintenance service and the cabinet control panel was fitted outside of the filler and completed in 1.2 hours.

Result : By applying the Cavitus foam control system prior to jetting on the star wheel section of the filler, the benefits delivered to the customer were;

1. Reducing the foam loss around the jetter and capper section of the line,
2. Client was able to reduce beer loss extract by 1.7ml per bottle on all SKU products (by adjustment of

- beer filler settings on filler),
3. Maintaining the same TPO level,
4. Reduce the beer bottle reject rate from 0.87% to 0.55 % due to less underfills

Payback period for the client was less than 5 month.



Business Case returns based on an average 40,000 bph facility, operating for 6000 hours per annum, OEE 65% (4500 hours), 330ml bottle.

Improvement	Est Volume per annum	Value
Fill Volume increased by 0.5% (1.875ml reduced extract beer loss)	315.000 litres @ 14c per litre	€ 44,100
Waste Treatment Saving at 5c per litre	315,000 litres from overfill on star wheel and capper	€ 15,750
Reduced reject reduction from under-fills (0.87% to 0.55% achieved)	369,600 less bottles rejected. (based on value of can and product at 0.195 euro per unit)	€ 72,072
Total Savings		€ 131,922

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