



Case Study – Bottle Line Filling CSD

Increased fill speed

Location : Europe Beverage Bottle Line
Target : Increased filling speed, improved yield

Total Annualised Benefit
€ 934,203

Situation : The beverage company was filling 500ml PET bottles at 42,000 bottles per hour on a Krones volumetric filler with approx. 50% of product filled (cola), 30% csd fruit flavour beverages, 20% energy drinks, tonic water, ginger beer, root beer. Operational performance of the line showed reduced filling line speed of 12.5%, beverage syrup losses from over foaming.

Solution : Cavitus fitted a Gen2 de-foaming unit to the line, rated to 75,000 bottles per hour. As this line had high foam levels and a speed of 42,000bphr the larger powered unit was recommended. The Cavitus unit was fitted 150cm prior to capper. The installation of the transducer/sonotrode on the star wheel was completed in 30 minutes (minimal 30minute down time of the line and impact on production) and the cabinet control panel was fitted outside of the filler.

Result : By applying the Cavitus de-foaming system to the PET bottle line, the following benefits were reported by the beverage company;

1. Reducing the foam loss around the star wheel

2. The client was able to report a filling line increase of 12.5% to 48,000bphr

Payback period for the client was less than 1 month.



Business Case returns based on an average 48,000 bph facility, operating for 6000 hours per annum at OEE of 62% , 500ml PET bottle

Improvement	Est Volume per annum	Value
Fill Volume increased by 0.44% (2.2ml reduced syrup losses per bottle)	392,460 litres syrup cost saving	€ 41,403
Line speed increase from 42,000bphr to 48,000bphr	12.5% filling speed increase (22,320,000 bottles per year) @ 04c margin per bottle	€ 892,800
Total Savings		€ 934,203

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