

Dear Sirs,

I have gone through the document on reference and I have the feeling that, apart from conveyor speed and water consumption, other aspects have –maybe- been slightly disregarded.

The “Contact time”, for instance, (i.e. the time needed by the detergent to activate and perform its enzymes activity) is a basic point to achieve the sanitation of dishes (as well described on the DIN 10510 norms) and the final rinse temperature, both to achieve a further sanitization and to start the evaporation process, to help the crockery dry. As we all know, is not enough to “wet” the dishes and remove the visible dirt only.

For this reason the water/electrical consumption should be in inverse relation with the length of the contact time.

Given as “100%” the sum of the 3 factors (time, water consumption, energy applied) once we want to reduce one or two of the 3 factors, we need to increase the 3rd to keep the “100%” total in place.

This means that is we want to reduce water consumption only, we need more energy (heat and/or chemicals) and/or more contact time (less speed of the conveyor)

If we want to reduce energy (heat and/or chemicals), we need more water and more contact time.

If we want to make compact machines (i.e. high speed, as you often do in the U.S.) you need much more water and energy (chemicals/heat).

If, as today, you want to start reducing water and energy consumption, the contact time needs to be increased either lengthening the machines (i.e. multi-tanks) to maintain the wash-capacity/hour or reducing the conveyor speed i.e. reducing the hourly wash-capacity: **this is a physical law, not theory only** and it goes both for conveyor and belt machines.

On the cost effectiveness, the report totally disregards steam as water heating (and drying!) method, by far the most inexpensive and environmentally friendly. Please consider that steam is easily available (often totally “for free”) on ships, hospitals, clinics, military basis and industrial sites in general, and I think that this natural resource should be evaluated quite carefully as well.

Should you need more details, please do not hesitate to contact me.

Yours faithfully

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