

# APPLE PROCESSING

## FRUIT WASH



## CASE HISTORY

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# SUMMARY

**INDUSTRY** : Food & Beverage

**PRODUCT** : S2000 6-Pod Self-Cleaning Filter / 2,400 LPM @ 75 micron

**PLANT** : Apple Wash & Packaging Plant / 75,000 L process

**LOCATION** : Paarl, South Africa

**DATE** : January 2007

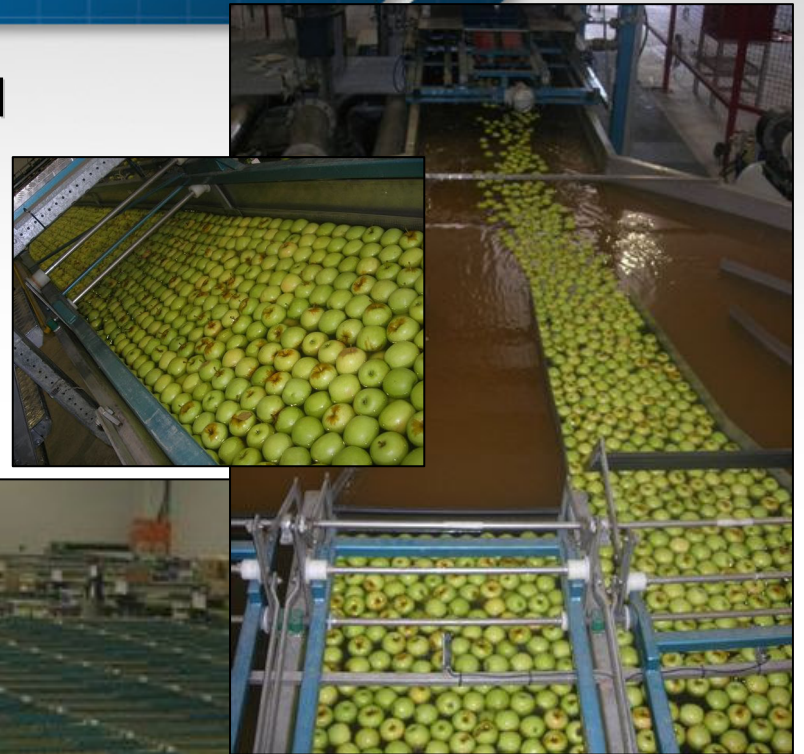
**SUMMARY** : The ZGF filter maintains low TSS levels, providing consistent product quality control and enabling the plant to save significant amounts of water & chemicals.

**ROI** : TBA.

# PROBLEM DESCRIPTION

Water is used as a transport medium and a sanitiser in the washing & packaging process.

Tight water-chemistry control (pH etc) is absolutely critical in this food process.





# PROBLEM DESCRIPTION



Dirt from the apples and crates contaminates the water, leading to excessive bacterial growth.

To control the bacteria, biocides are dosed. However, dosage levels in the process water are constrained by strict health regulations.

Maintaining the appropriate balance between low bacteria counts and acceptable water chemistry is a considerable challenge and could only be achieved by complete and frequent replacement of the water.

# PROBLEM DESCRIPTION

DISADVANTAGES OF THIS PROCEDURE WHERE WATER IS REPLACED **EVERY TWO DAYS**:



1. Very High Water Consumption => 75,000 L / 2 days
2. High Chemicals Loss
3. Difficult to Control => Management Risk!
4. Excessive Labor Requirement for Monitoring & Cleaning
5. Lost Production due to Frequent Process Downtime. Ambitious production target of 500 bins per day is impossible.

# SOLUTION

A Zero Gravity Filters “System 2000/6” self-cleaning filter was installed to continually remove dirt from the process water.

## PERFORMANCE TARGET

”...Extend the Use of the Water from 2 Days to 2 Weeks...”



- Side-Stream Configuration;
- 2,400 LPM (Nominal);
- 75 micron;
- Self-Cleaning;
- Fully Automatic.



# SOLUTION

The filter was configured to provide automatic sequencing of filtration between the two main wash tanks (every 1.5 hrs) and a smaller third machine (every 12 hrs), delivering a fully standalone, automatic cleaning solution for all the machines in the entire plant.



# RESULTS



- ✓ **Quality Control:** water chemistry has stabilised, raising the bar of continuous quality control;
- ✓ **Water Savings:** previously replaced every 2 days, the 75,000 L process water now lasts 35 days! Target is to extend the life to 42 days.
- ✓ **Chemicals Savings**
- ✓ **Production Up-Time:** the production target of 500 bins per day is now achievable
- ✓ **Labour Savings:** 4-hour cleaning intervals previously required every 2 days are now only performed once every 35 to 42 days.



# RESULTS

Customer is quite happy...

...as are the apples.



# CONTACT US

Let us help you find out how our Zero Gravity Filters can improve your operations, and save you time and money.

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