Winery Engineering Association

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(Technical Presentation)

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As CEO…….

- Under constant pressure to meet certain financial targets and objectives
- Maintain profit margins , if not growing the business

Profit Margin:

- Increase price => dictated by external economic market forces

- Control Costs =>reduce costs (Direct and Indirect) => limitation as to how much we can do this?

- Increase productivity => limited by resources (machinery & equipment, staff)

<u>Very Often</u>: we looked at the most obvious places

BUT

have we look at……

The efficiencies of our equipment and machinery:

- **Have we looked at all the configuration options?**

  => *Minimum setup to get up and running; costs*

- **Are they being installed correctly?**

  => *Could the line be installed differently? Better?*

- **Are they being operated to their maximum capabilities?**

  => *Can we get the extra bit out of it?*

(Some of the components installed with the machine/production line may not be the best one nor the right one BUT does the job, i.e. it does the job. You just 'inherit' these components)

CASE STUDIES

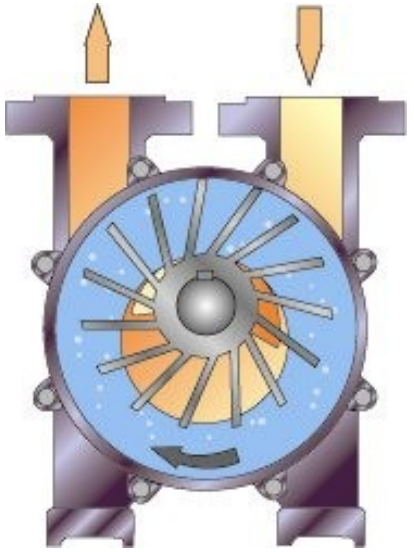
Case Study: De Bortoli Wines Pty Ltd.

Pictures by Courtesy and Permission of

De Bortoli Wines Pty Ltd.

Cut Costs and Save Water –

By Using New Alternative Technologies



Case Study: De Bortoli Wines Pty Ltd.

Original Pump: Liquid Ring Vacuum Pump

Size: 100m3/h

Water Consumption: 1.4m3/h

Power absorbed: 3.5kW (4.0kW Motor 4-Pole)

Other Limitations:

The volumetric displacement of the pump depends seal fluid temperature. This is typical of any iso-thermal vacuum pumps

Cavitation problem => repairs/replacement costs on impeller

Power absorbed => always higher as compared with other direct motor-driven vacuum pump

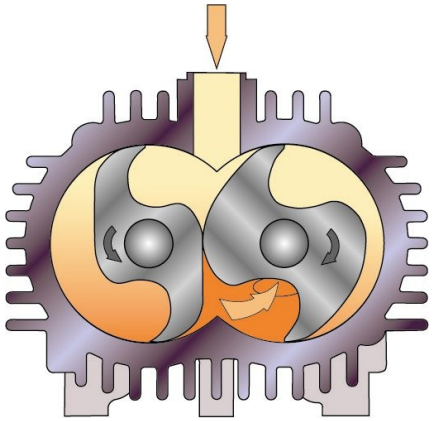
Case Study: De Bortoli Wines Pty Ltd.

Replacement Pump: Dry-Running Twin Claw Vacuum Pump MM1142)

Size: 140m3/h

Water Consumption: Zero

Power absorbed: 2.0kW (3.0kW Motor 2-Pole)



Points to Note:

The volumetric displacement of the pump is constant throughout the pumping speed curve

Maintenance free

Non-Contacting => no wear on parts

Other Case Studies:

1. **Murray Goulburn**
   - Cheese Block Formers
   - De-Aeration
   - Falling Film Evaporator

2. **Melbourne University (Hospitals)**

   Changed over from liquid ring vacuum pumps to non-water vacuum pump (R5 Series – Oil-sealed rotary vane)

   => Melbourne Water Authority is looking at grant provision

3. Wexford Creamery Ltd., Ireland

- Cheese Block Formers
- (Falling Film Evaporator)

WATER

We often take the most obvious thing for granted and

WATER

is one of them!

SAVING WATER

In most, if not all, of the manufacturing processes in the food industry use water

DIRECTLY or **INDIRECTLY**

DIRECTLY:

In the manufacturing of the product itself as part of the recipe

INDIRECTLY:

As an ancillary facility like washing bottles, machinery and equipment wash-down, cleaning/washing of floor

WATER COSTS $$$$

It costs money to use!

It costs money after use!

Have you calculated the cost of your water usage?

Where do we go from here?

What do we do?

What can we do?

MAKE THE CHANGE……

Be Pro-Active –

Move out of these comfort zones…

INVESTIGATE

NEW and/or ALTERNATIVE TECHNOLOGIES

Easier Said Than Done!

“Catch-22 Situation”

⇒ Want to make the change but ‘afraid’ to do so for various reasons:

- what if it doesn’t work?
- time = money: cannot afford downtime!
- change = extra work that one doesn’t need!

Very often we are haunted by Clichés like……

"Traditions die hard"

- "The devil you know…."
- "The old reliable"
- "If it's not broken why fix it?"

ANSWER:

- Work with the vendor
- Acquire confidence
- If it's a financial 'draw-back' – negotiate a deal

Due to certain circumstances, people are working on 'short-term solutions' only and letting the better 'long-term solutions' go by.

COSTS OF OWNERSHIP:

Capital Cost vs Costs of Ownership (long term)

⇒ **very often, the costs of ownership of these machines are of are often over-looked by short-term costs**

⇒ **if available funds is an issue => work with vendors**

As engineers, we have our own dilemma!

Finding time to do these things….. getting funds to carry out the things you want to do!

- PAY-BACK TO INVESTMENT
- LONG TERM IMPLICATION
- NEW DIMENSION: ENVIRONMENTAL CONCERN

Put pen to paper….

write down the numbers….

you'll be amazed at the end-results!

Special Thanks to:

- **DeBortoli Wines, Griffith**
- **Murray Goulburn, Cobram**
- **Wexford Creamery Ltd., Ireland**

For their permission to use their names and pictures in our Case Studies presentation

THE END

Thank you for your attention