Why Plate Heat Exchangers and why in Titanium – today and tomorrow?

TITANIUM 2007

Orlando

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Alfa Laval is one of the largest Plate Heat Exchanger manufacturer with more than 35 years of experience working with titanium!
Why Plate Heat Exchangers?

- Contribute to the world energy saving and environmental program by being
  - Efficient
  - Compact
  - Reduction of energy consumption
- Designed for energy and environmental saving application like for example
  - Fresh water generator (titanium)
  - Waste water cleaning (titanium)
Contribute to the world energy savings program
Why efficient?

- High turbulence
- Thin plates
- Counter current flow

Which add value to a number of applications and therefore generate a wide base of opportunities
Contribute to the world energy and environmental savings program

How to utilize the Efficiency?

➢ By efficient design –
  ➢ Ideal for heat recovery
  ➢ Better process control
➢ By pumping less cooling water, it saves energy
Contribute to the world energy and environmental savings program

How to utilize the Efficiency?

- Efficient type of heat exchanger - compact
- Require less material/ Kcal
- Less space –
  - on board ship; room for more cargo per ship
  - in building; can reduce space and construction material
- Lower weight - less demand on transportation
Contribute to the world energy savings program
How much Compact!

3 meter

13 meter

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Why is the Plate Heat exchanger market also interesting for the titanium industry?
Less sensitive to market fluctuations

- Beverage
- Biochemical
- Brewery
- Chemical
- Engineering
- Fish and meat processing
- Food processing
- Heating and ventilation
- Marine
- Mining

- Oil and gas
- Pharmaceutical
- Power generation
- Refrigeration
- Steelworks
- Starch
- Sugar
- Vegetable oil
- Water and waste water treatment

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Alfa Laval Plate Heat Exchangers have a large variety of models in order to optimize every demand.
Contribute to the world energy and environmental savings program

Why Plate Heat Exchangers in Titanium?

In the past

- Long history and was introduced to replace S&T heat exchangers, mainly in CuNi

Today

- A well introduced and accepted product in the market with continuous new opportunities and customer optimizations

For the future

- If titanium is secured customers will stay loyal and the continuous growth over time is there
Contribute to the world energy and environmental savings program

Why Plate Heat Exchangers in Titanium?

- By efficient design of the Plate Heat Exchangers the titanium can be cost efficient alternative for the end customer.

- Longer life time in high chloride environment

- Using less global resources
Plate Heat Exchangers influence on the titanium market?

The Industrial Titanium market is strengthening its position by developing different segments like the Plate Heat Exchanger market, that has both

- a stable growth over time and
- a demand on quality and other performance parameters.
Alfa Laval’s role for the titanium market?

Alfa Laval, one of the major companies producing Plate Heat Exchangers in Titanium, wants to see the business continue to grow by

- our own efforts in R&D, Production, Marketing and Sales, but also
- by the Titanium Industry’s ability to meet our demands, which was not the case during this year!
Alfa Laval focus on R&D

- 25-30 new products annually
- More than 200 patents related to own products
Alfa Laval Global presence, production in more than 25 sites

www.alfalaval.com
A global Sales and Marketing company

- Sales companies in 50 countries
- Other sales representation in 45 countries
Alfa Laval has complementary products that support the PHE titanium business like:

- High speed separators
- Tank cleaning equipment
- Filtration
- Engineering & Supply
Therefore Alfa Laval`s message to the titanium industry is:

- Make sure the increased sponge capacity is focusing on qualities that can be used for pressing plates for PHE.
- For ingot production; take care of the “good“ part of the sponge.
- Make sure the increased melting capacity is also producing CP1 material for the PHE business with low oxygen to meet the demand.
- By getting this support from the titanium market we keep the customers trust, faith and loyalty for continuous growth of the PHE market and the Titanium market.
Because don’t forget!!

PHE market is a much less volatile market compared to many others.

![Graph showing market performance over years with PHE highlighted.](www.alfalaval.com)
Why is Alfa Laval`s titanium PHE business important for the future titanium market?

We want to generate a stable growth and we want to grow together with you, the titanium industry!
Thank you for your attention!