

# Steam Infusion Reduces Production Time By Over 50%



## At a Glance

### What they wanted to do

- Increase processing capacity
- Eliminate burn on contamination
- Reduce processing stages
- Simplify the production process

### What were the success criteria

- Produce all the béchamel sauce in their Tokyo factory
- Remove reliance on 3rd party producers

### What they accomplished

- 9000kg of soup produced in 1 hour
- Production time reduced by over 50%
- Increased flavour profile

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## Customer

With a turnover of \$4.5b Nissui is one of the largest seafood companies in Japan. Since being founded in 1943, the company has seen several acquisitions and a steady growth with their employee levels at reaching over 8,000. Nissui have processing units in Europe, US, China and the Middle East in addition to their own production in Tokyo. They currently purchase 20,000 tonnes of Béchamel sauce a year from a third party manufacturer.

## Challenge

Nissui wanted to produce all the white sauce in their Tokyo factory directly, removing reliance on third party producers.

The major constraint was the processing capacity of the existing 3 stage manufacturing process; it took 100 minutes to produce 1000kg's of sauce. On top of this processing time was a further 20 minutes of down time per batch because of cleaning to remove burn-on contamination.

Staying true to their values of taking care of the environment and stressing the importance of quality and cost, Nissui contacted OAL as their values reciprocated their own.

***“1000kg of Béchamel sauce can now be processed in 17 minutes, reducing production time by 83%”***





The Steam Infusion process simplified the entire production to one single stage allowing:

- Reduction of processing time
- Elimination of burn-on contamination
- Reduction in processing stages
- Simplification of the entire production process
- Enhanced Mixing capability

### Results

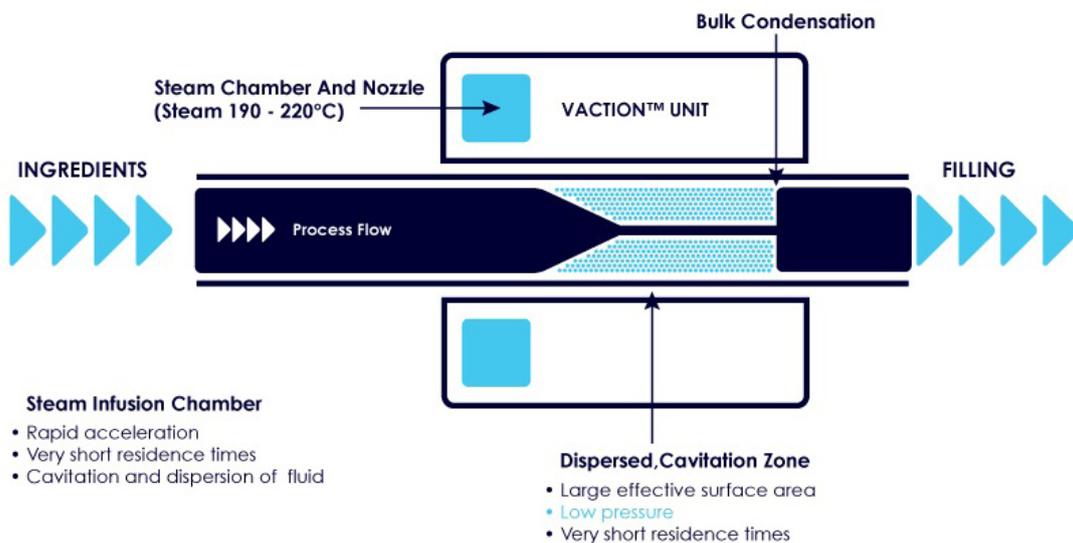
The solution has achieved in-house production, reducing processing time and costs. The innovative engineering in the Steam Infusion solution means that:

- Enhanced mixing has removed 20% of the flour from the recipe with no taste effects
- On current volumes Nissui have saved 300 tonnes of flour and approximately 2.1 million litres of milk per annum
- Burn-on contamination has been eliminated, reducing clean down time to single figure minutes.

### Solution

The OAL Group team installed a Steam Infusion system with a batch capacity of 1200kg. Steam Infusion, is a heating and mixing process which unlike direct steam injection, does not expose products to excess heat temperatures.

Steam is accelerated within a Vaction™ unit through a unique nozzle design. As the steam comes into contact with the product it creates a large dispersion zone and partial vacuum due to the Venturi effect.



Temperature rise of 10 - 15°C across the unit. Can be considered instantaneous for fluids.

# OAL

Olympus Automation trading as OAL  
 A1 Parkway, Orton Southgate, Peterborough,  
 Cambridgeshire, PE2 6YN, United Kingdom  
 Tel: +44 (0) 1733 394700 Fax: +44 (0) 1733 394901  
 Web: [www.oalgroup.com](http://www.oalgroup.com)  
 Email: [sales@oalgroup.com](mailto:sales@oalgroup.com)