



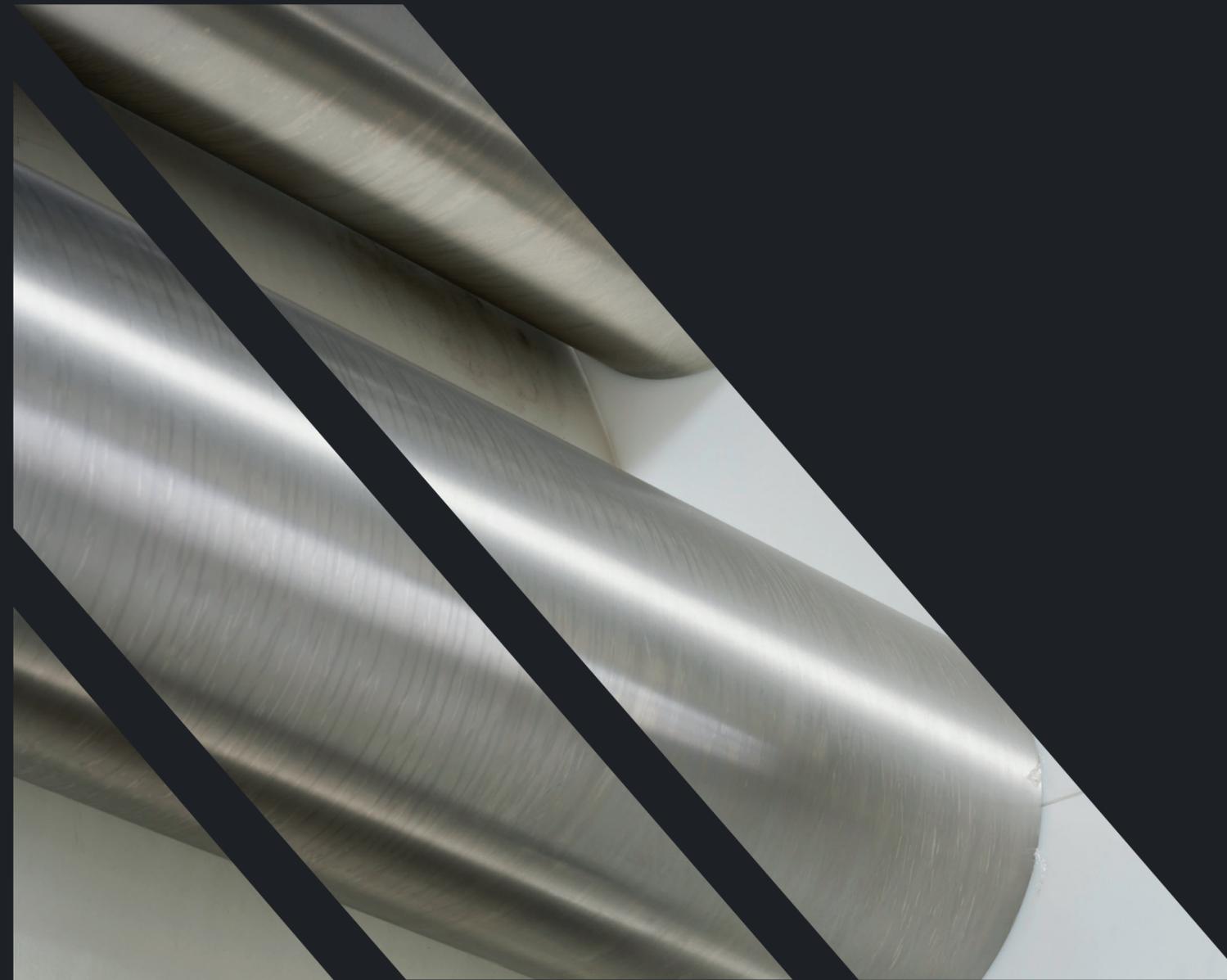
# E<sup>2</sup>E FLAKE LINE



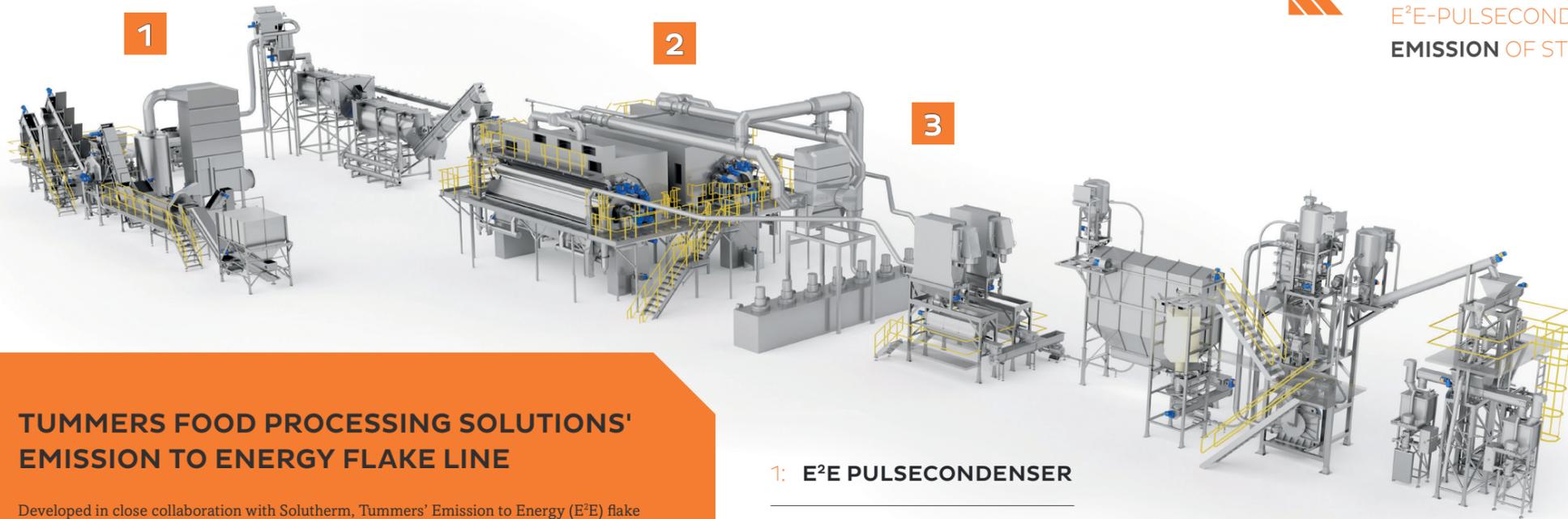
Tummers USA Inc.  
8512 West Elisa Street, Suite A  
Boise, Idaho, 83709

Other offices in:  
United - Kingdom, Hong Kong, India and  
The Netherlands (Headquarters)

Reception: +1 (208) 296-7149  
Vice-President of Sales: +1 (208) 296-7298  
E-mail: [information@tummers-usa.com](mailto:information@tummers-usa.com)  
[www.tummers-usa.com](http://www.tummers-usa.com)



# E<sup>2</sup>E FLAKE LINE



“TUMMERS’ GROUNDBREAKING INNOVATION, THE E<sup>2</sup>E-PULSECONDENSER, PUTS AN END TO THE EMISSION OF STEAM PEELING”



## THE MOST EFFICIENT WAY TO PEEL POTATOES

Steam peeling is the most efficient way to peel potatoes, but its emission also causes lots of noise, a smelly steam cloud and loss of energy. Tummers’ groundbreaking innovation, the E<sup>2</sup>E-PulseCondenser, puts an end to the emission of steam peeling.

The E<sup>2</sup>E-condenser is the fourth generation condenser and distinguishes itself through its compact size. He redirects and condenses the steam peelers’ emission, in order to use the excess energy for purposes which take place later in the process. Because hereby the steam does not escape to the atmosphere, the peeling process does not cause any emission.

As the condensed steam still has a temperature of about 194 to 203°F, the excess energy of the steam peeler can be perfectly used for other purposes like blanching, the heating of cleaning water or heating the building. The E<sup>2</sup>E-condenser therefore saves energy and is a sustainable solution to save operational costs.

In addition to the development of a compact and energy saving condenser, emphasis was also given to the back pressure of the system. The design of the E<sup>2</sup>E condenser allows for a lower back-pressure than conventional exhaust systems. Because the exhaust flow hereby improves, the steam pressure can be quickly reduced to ensure an optimum peeling result and a higher efficiency of the peeling process.

### BENEFITS

- 0% emission
- Energy saving
- Compact footprint
- High efficiency
- Payback Time (1-4 years)

### SUSTAINABILITY THROUGH INNOVATION

At Tummers, we’re constantly trying to find solutions that will convert emissions into energy to enable us to make as many parts of the production process as possible emissions-free. The E<sup>2</sup>E SteamClosure is a fantastic milestone in that respect, but it doesn’t stop there. Our R&D department gone straight back to working hard on other interesting, sustainable innovations for your factory of the future!

## TUMMERS FOOD PROCESSING SOLUTIONS' EMISSION TO ENERGY FLAKE LINE

Developed in close collaboration with Solutherm, Tummers’ Emission to Energy (E<sup>2</sup>E) flake line is the next step in creating your emissions-free factory of the future.

The process of drying out potato puree to make flakes, produces a lot of emissions in the form of steam. With conventional flake lines, this steam was still being released into the outside world through flues, wasting energy and polluting the landscape with visible and smellable emissions. Now, thanks to the development of the E<sup>2</sup>E SteamClosure, those days are over.

Flake production involves passing puree over a heated drum dryer, which evaporates the moisture to leave a thin potato sheet behind. This is subsequently ground up into potato flakes of the desired size. A lot of steam is released during the process and has to be extracted. All the steam is captured in pure form due to the ingenious design of the newly developed and patented Tummers E<sup>2</sup>E SteamClosure, which is fitted hermetically over the drum dryer.

Normally the steam would be extracted along with plenty of air, but here the steam is being fed into the E<sup>2</sup>E FlowCondenser and turned into water. This new innovation produces water at 185 – 203°F, which can be reused elsewhere in the production process for blanching, heating, cleaning or other purposes. A revolutionary process that save you a sizeable amount of costs, as it is focused solely on moisture extracted from the potatoes. Moreover, the E<sup>2</sup>E SteamClosure renders the flake production process entirely free of steam and odour emissions, which is a genuine breakthrough.

### FACTORY OF THE FUTURE

The fact that the E<sup>2</sup>E SteamClosure is hermetically sealed means that the flakes are being dried in a controllable environment at a constant temperature and humidity, making the drying process more stable. What’s more, the hermetic seal also ensures that there’s no longer any air in the extractor, which means you can monitor the drying process perfectly because of the windows in the housing.

In principle, the combination of the high, constant temperature and the sealed environment creates a sterile space, boosting the hygiene of the production process. Once the extractor is switched off, it automatically drains nearly completely dry. The fact that no condensation is left in the extractor is beneficial in terms of hygiene and saves you a lot of cleaning work!

In short: we bring you the factory of the future!

### BENEFITS

- Innovative design
- Water extraction (185 – 203°F)
- 0% emission
- Cost effective
- Improved hygiene

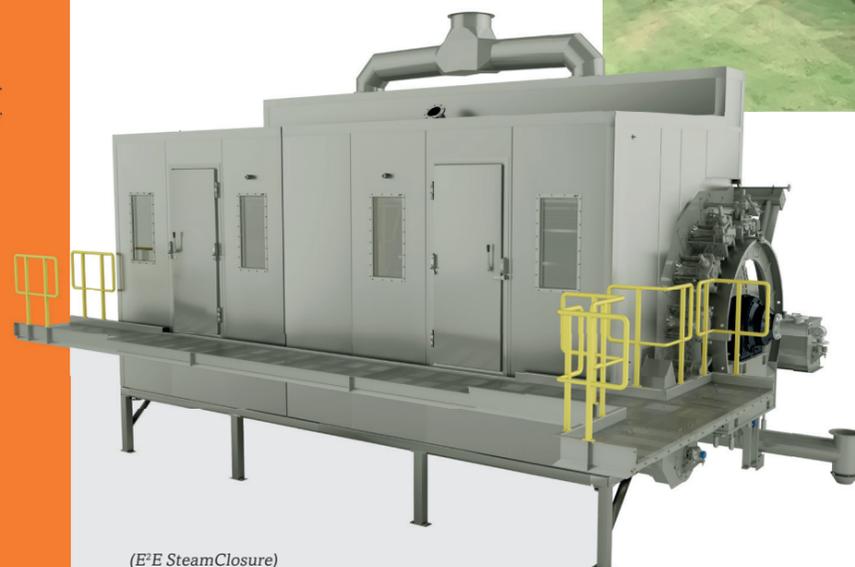
### 1: E<sup>2</sup>E PULSECONDENSER

### 2: E<sup>2</sup>E STEAMCLOSURE

### 3: E<sup>2</sup>E FLOWCONDENSER



“DEVELOPED TO CONVERT EMISSIONS TO ENERGY FOR CREATING A FUTURE-PROOF, SUSTAINABLE AND COST-EFFICIENT PRODUCTION PROCESS”



(E<sup>2</sup>E SteamClosure)

