

## REVTECH's continuous heat treatment solution: a fantastic tool to flexibilize and optimize your processes





1<sup>st</sup> of March, 2023 Nashville, TN



#### Few words about Revtech

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#### Few words about Revtech



30 employees



Founded in 1997, HQ in France



150 projects worldwide





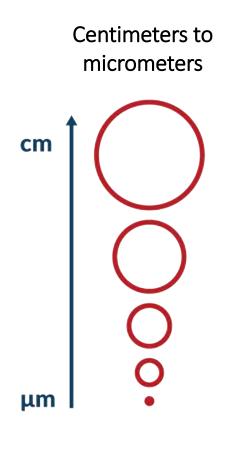






### Markets & Applications





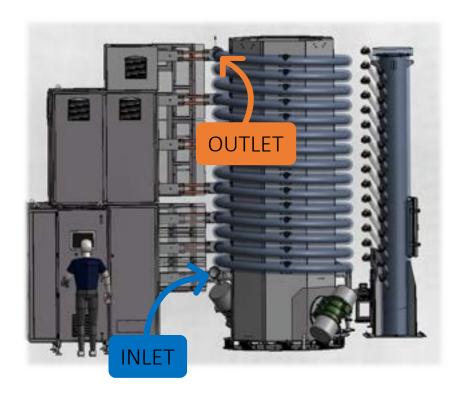


#### Markets & Applications

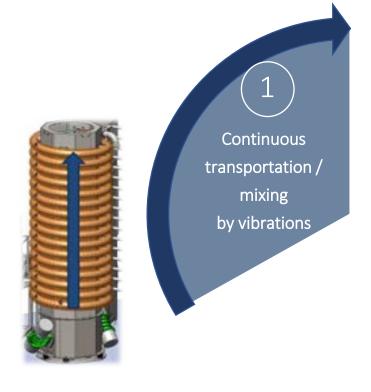




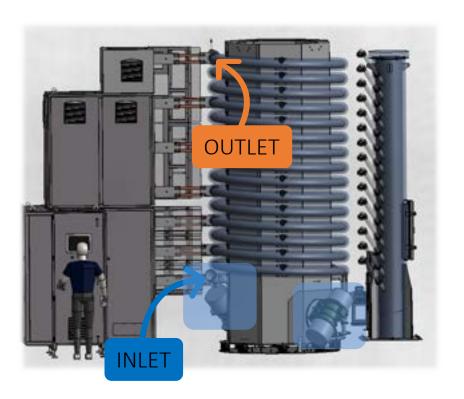






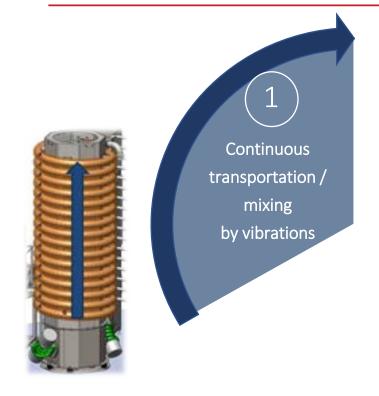


Product flow can be uphill or downhill

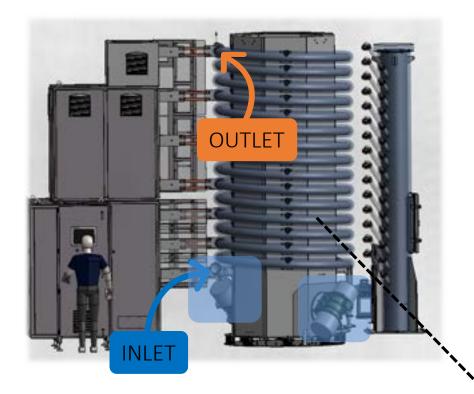






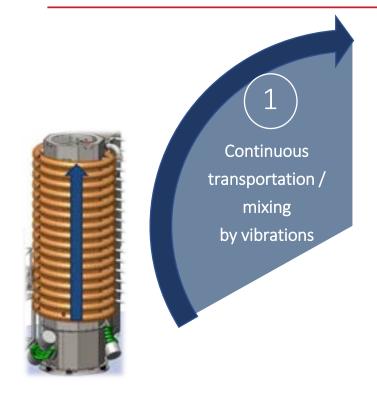


Product flow can be <u>uphill</u> or <u>downhill</u>

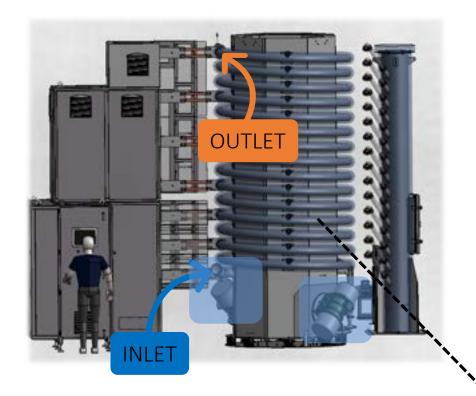








Product flow can be uphill or downhill



Perfectly Plug flow

Gentle conveying of the product

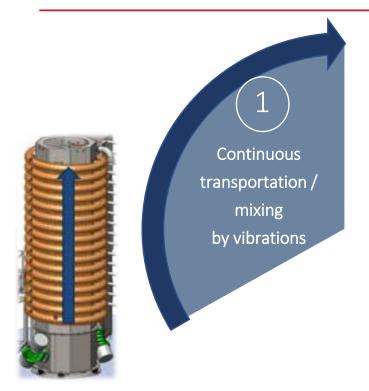
Tunable residence time (motor angle)

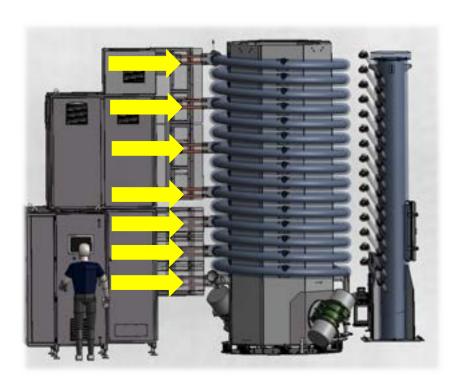
Closed system

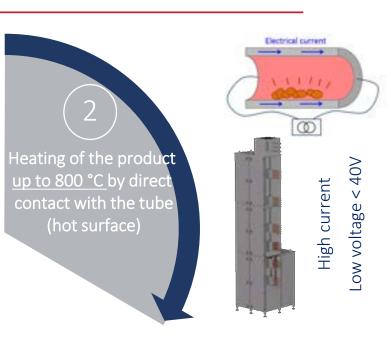
25-35%

Stainless-steel (304, 316, 321...) Inconel Titanium

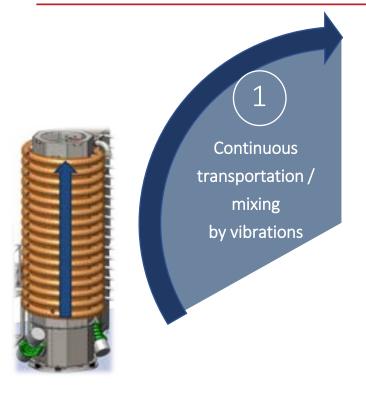


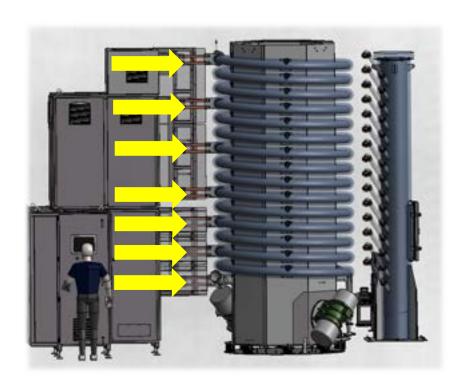


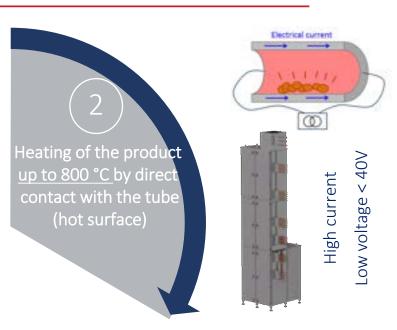


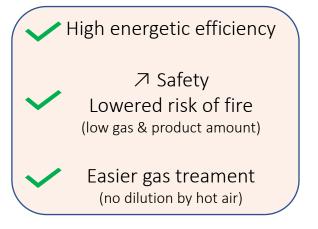




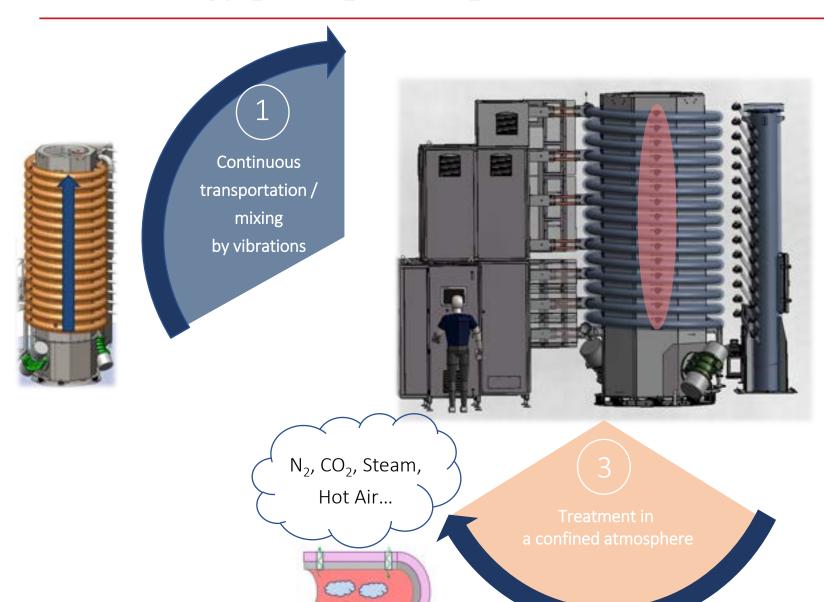


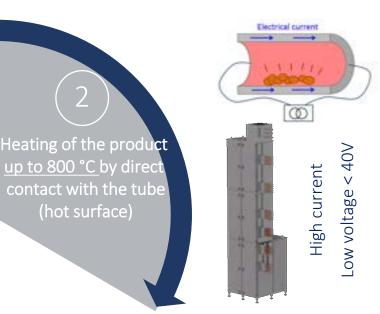




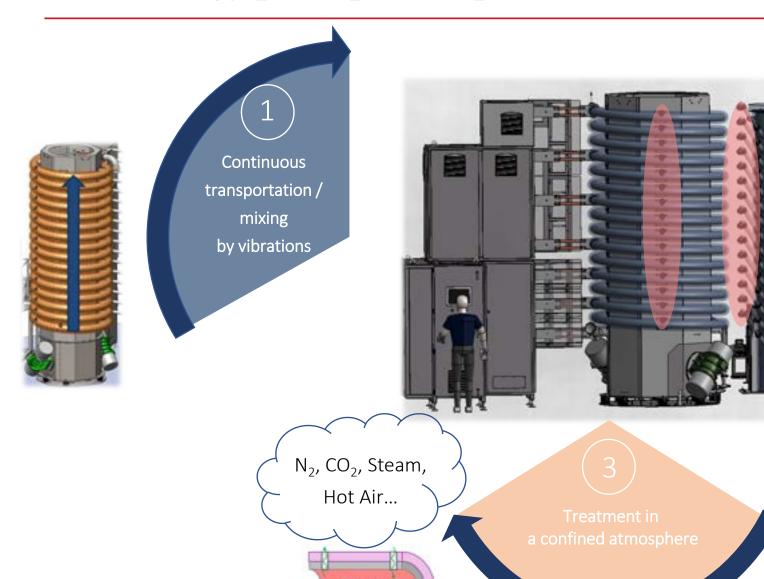




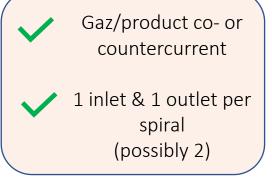








Heating of the product up to 800 °C by direct contact with the tube (hot surface)





# EXAMPLES OF APPLICATION

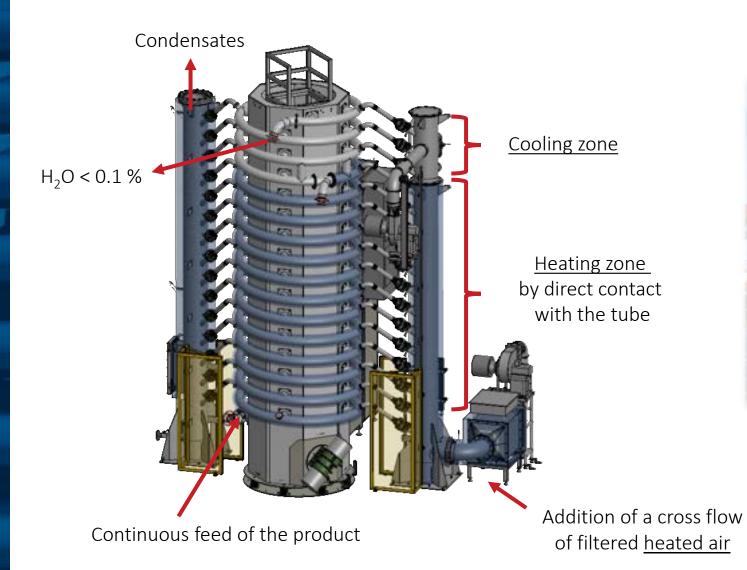
1 DRYING

2 CATALYST PREPARATION

3 STRIPPING



## 1. Drying

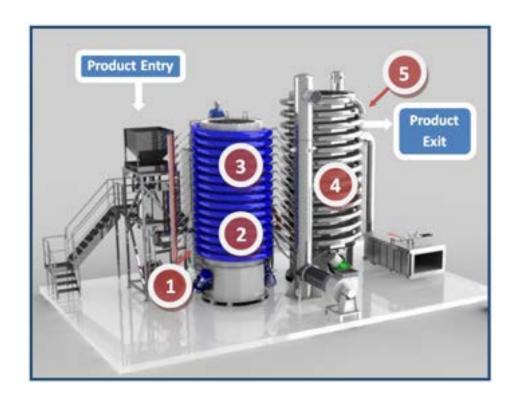




Installation of a 500 kg/h drying unit



### 2. Catalyst preparation: drying and calcination



- 1. Product entry
- 2. Progressive heating of the product
- 3. Calcination zone
- 4. Product cooling
- 5. Product output

Example of installation of a 1500 kg/h catalyst treatment line



## 3. Stripping



#### Controlled atmosphere

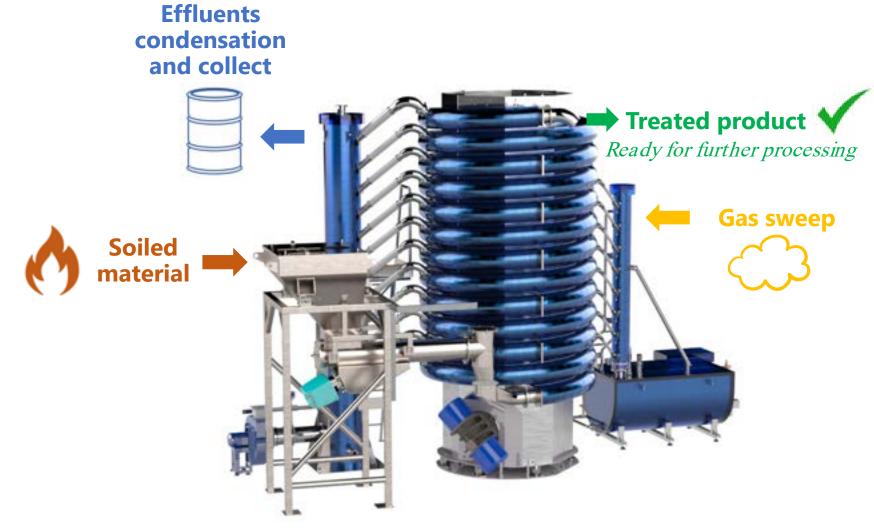


## "Wet" shredded batteries recycling

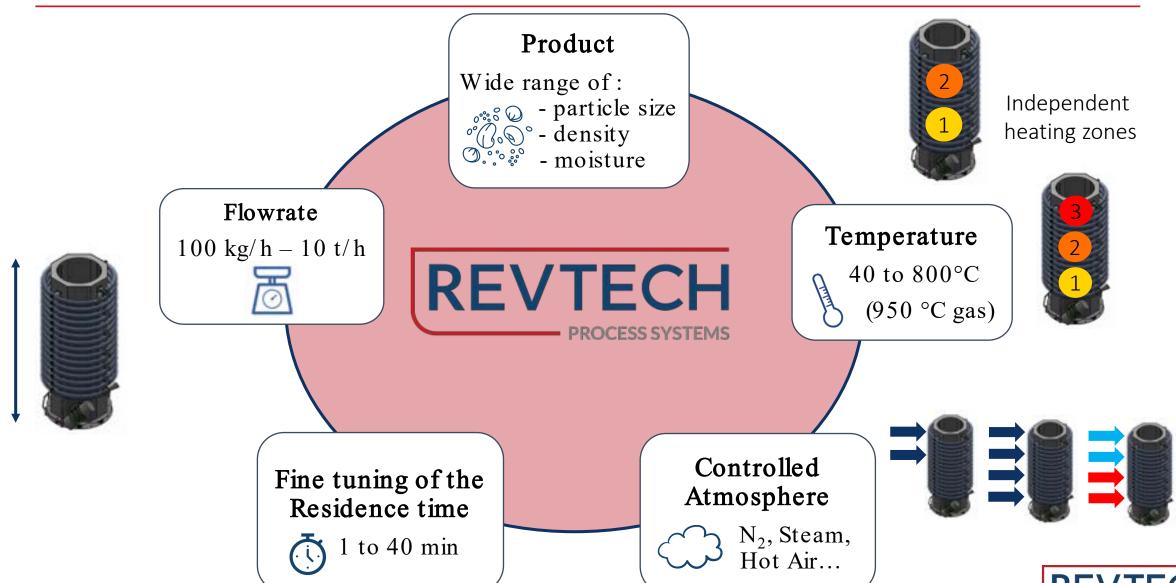
(Thermal removal of electrolytes at atmospheric pressure)



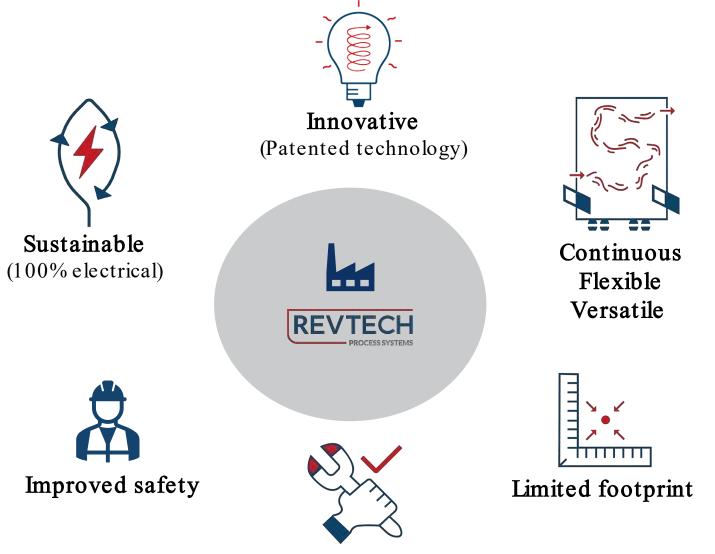
Catalyst regeneration
(Thermal desorption of hydrocarbons)



#### Overview of features



#### Advantages & Benefits



Tailor-made on your process specifications

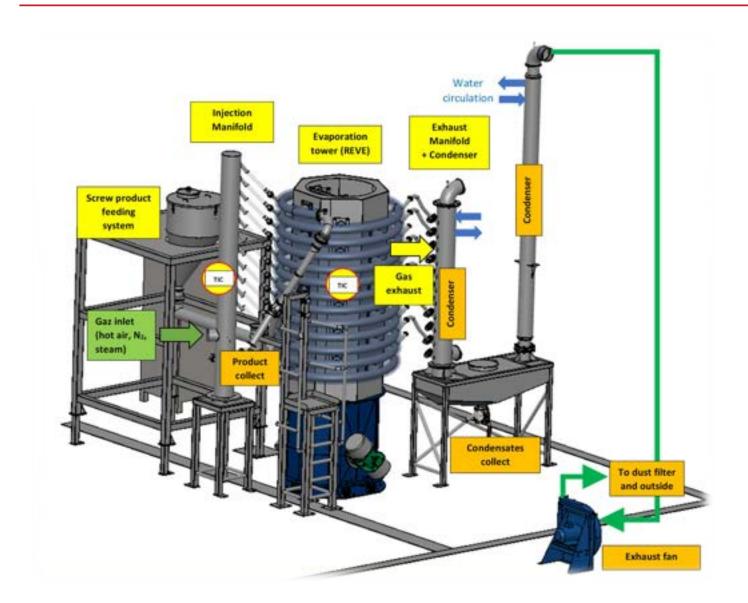


Each Revtech is unique!

High robustness, low maintenance (24 hours/day; 7 days/week operability)

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#### Trials at Revtech



#### A pilot unit dedicated to chemistry:

- Product flow up to 500 kg/h
- Temperature up to 650 °C
- Steam, hot air, N<sub>2</sub> injection



#### Trials at Revtech

#### **YOU CHOOSE**

- Flowrate
- Temperature
- Residence time
- Atmosphere
- Post treatment

On **YOUR** product



#### **WE MEASURE**

- O<sub>2</sub>
- Moisture of off gas
- Temperature

and we collect samples for further analyses





## THANK YOU FOR YOUR ATTENTION AND COME VISIT US!











