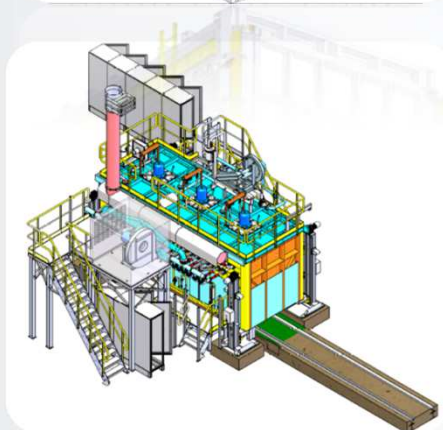
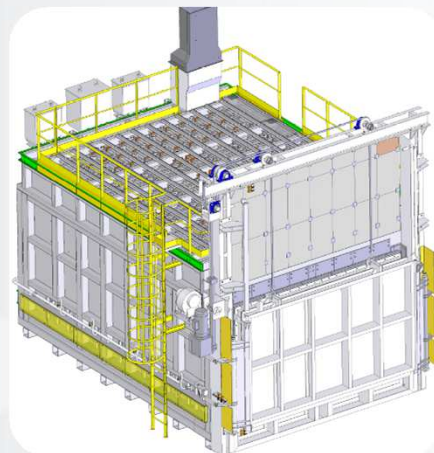




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Serthel References - Europe

France :

Groupe SAFRAN Snecma –
Gennevilliers, Corbeil,
Villaroche...
Groupe PSA – Charleville,
Metz...
CATERPILLAR – Grenoble
BODYCOTE
RENAULT – Cléon, Le Mans...
STA – Ruitz
LE BRONZE INDUSTRIEL –
Suippes
AREVA – Cezus
AUBERT & DUVAL – Pamiers,
Imphy...
UKAD – St Georges de Mons
Etc...

Netherlands :
NEDSCHROEF

Belgium :
CATERPILLAR

Poland :
GE AVIO

Spain :
DYTSA

Italy :
GE AVIO
SAFRAN
(Forgital)



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Serthel References

Worldwide

Canada :
INFASCO

USA :
IVACO

Mexico :
Groupe SAFRAN

Algeria :
SIBEA

China :
Groupe SAFRAN

Thailand :
MAGOTTEAUX



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VPA/FIC/VPC installations

In the same type of installation can be used the following processes

- ⇒ Vapor Phase Aluminizing
- ⇒ And/or Fluor Ion Cleaning
- ⇒ And/or Chromaluminizing.

Type : Vapor phase aluminizing furnace

Heating: electrical – up to 200 kW

Temperature Max : 1160°C

Norms : AMS 2750 E

Available gases depending on process: Ar, H₂, HCl, HF, N₂

Wet scrubbers for FIC: NaOH, KOH

Weight of the load up to 1500 kg



Example of parts treated in a VPA furnace

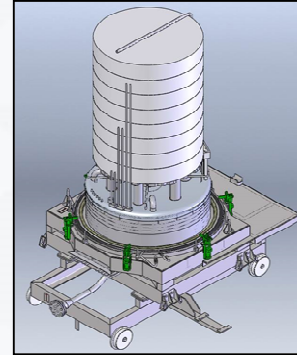


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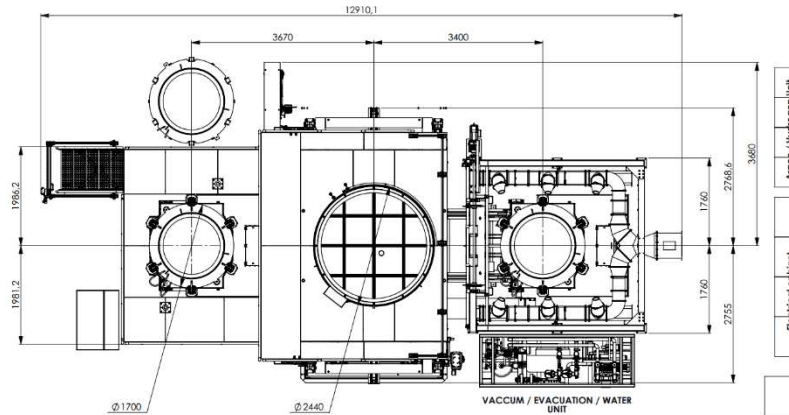
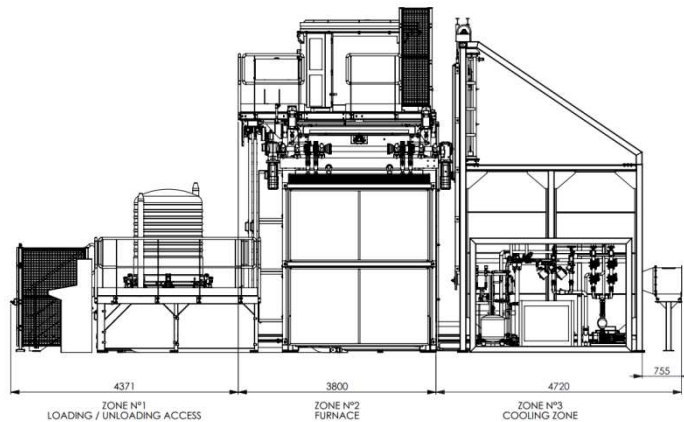


Full automated version

The installation is fitted with 2 bells placed on a mobile support through which the gas injection and evacuation is achieved.



The movement of the two mobile supports is fully automatized and cooling is made in hidden time to achieve a higher production capacity.



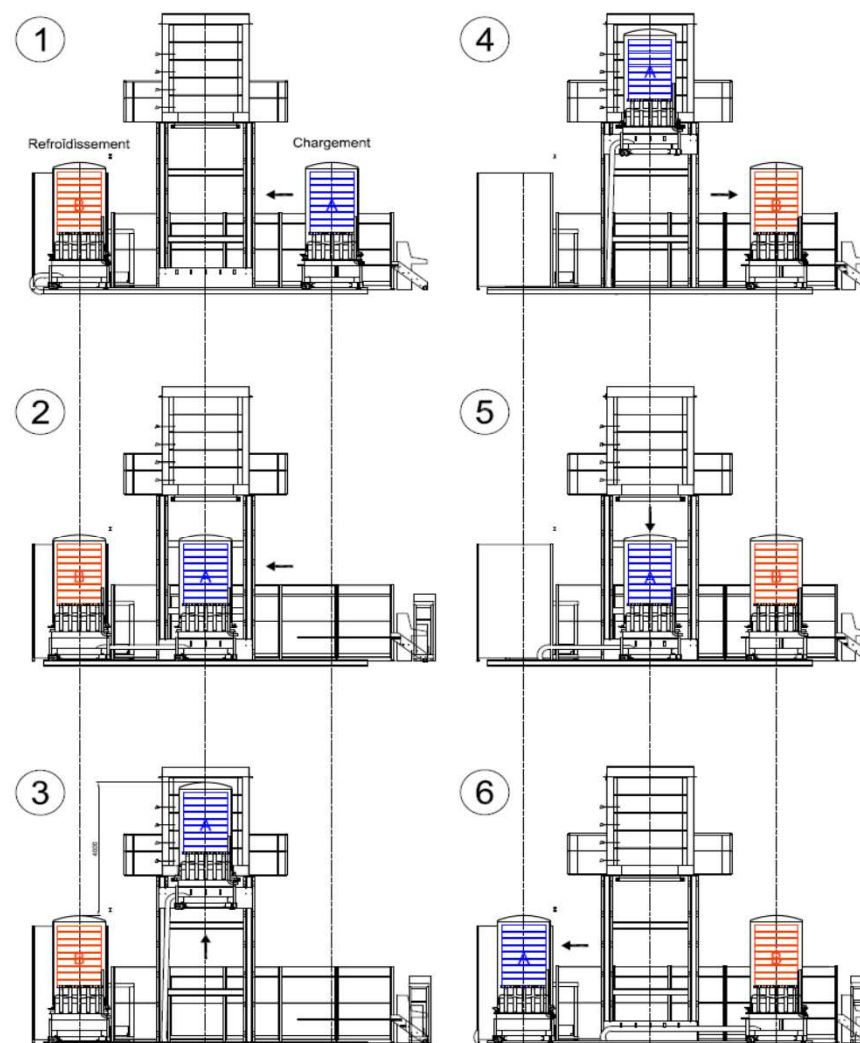
For the FIC process, we add to each mobile support a hydrogen line. The exhaust HF gas will be treated by bubbling through a sodium hydroxide liquid tank linked to each mobile support.



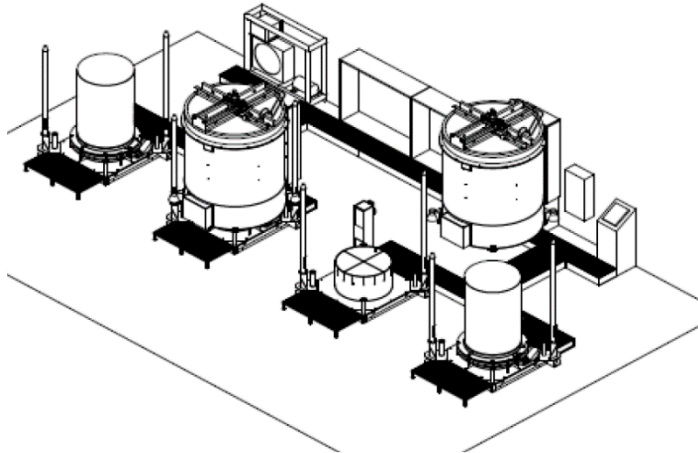
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Cinematic of an automated VPA installation

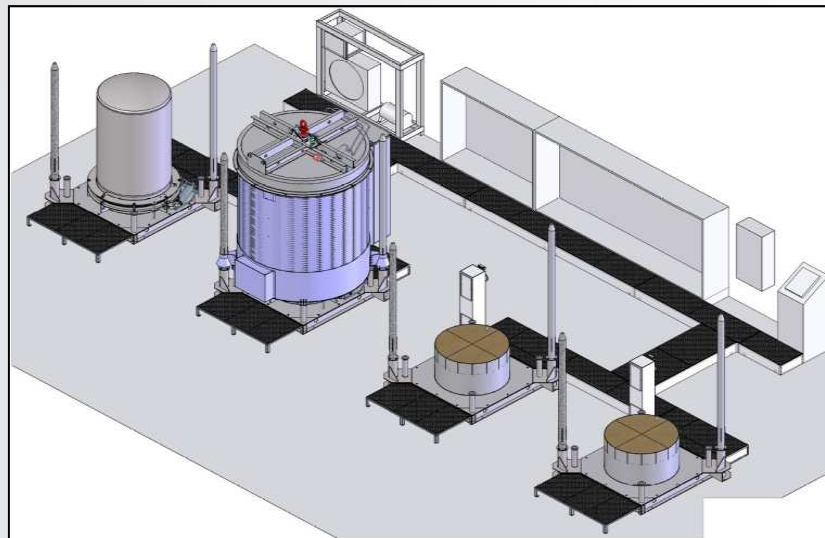


Manual version

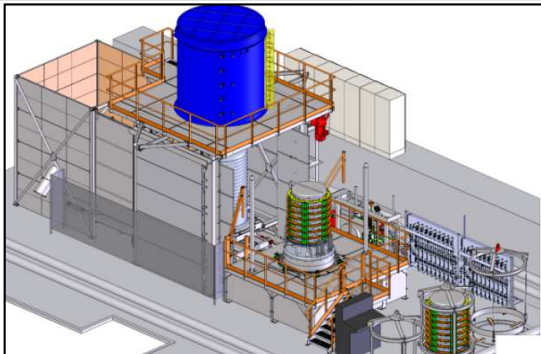


The installation is fitted with 2 fixed bells placed through which the gas injection and evacuation is achieved.

The furnace will be moved over the fixed bells through which the gas injection and evacuation is achieved.

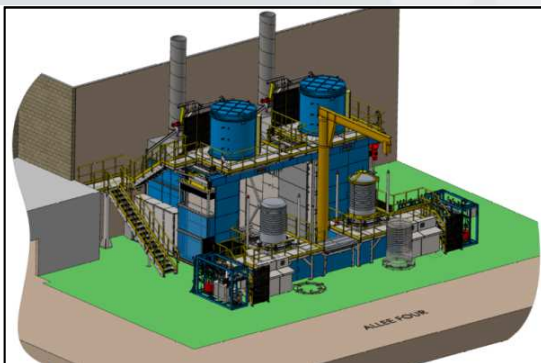


Exemple of installations



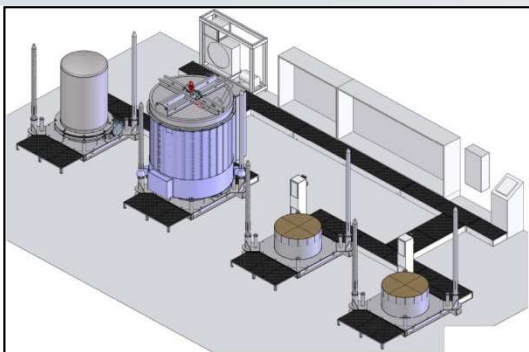
Automated line fitted with:

- Loading station for preparation of the load
- One loading unloading position
- One fixed bell furnace
- One cooling position



2 automated line fitted with:

- Common loading station for preparation of the load and crane for transfer to the loading position
- One loading unloading position
- One fixed bell furnace
- One cooling position



Manual line fitted with:

- One loading unloading position
- One moving bell furnace
- One cooling position
- One position for the bell furnace preheating and storage



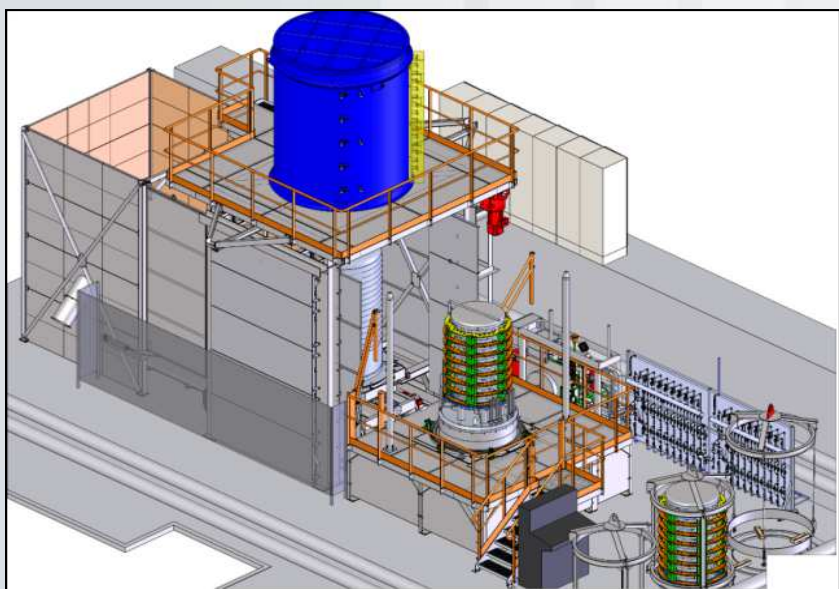
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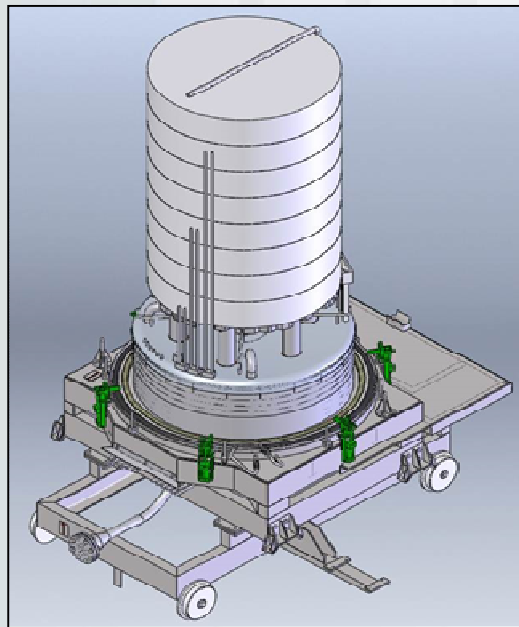
VPA 700 & 1200 – Avio (Italy)

- Type : Automatized aluminizing furnace
- Heating: electrical – 130 & 200 kW
- Temperature : 1160°C
- Norm : AMS 2750 E



VPA 1200 – Avio (Poland)

- Type : Automatized aluminizing furnace
- Heating: electrical – 200 kW
- Temperature : 1160°C
- Norm : AMS 2750 E



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