

PFTH FURNACE

VERTICAL VACUUM OIL QUENCHING FURNACE DEDICATED TO LARGE SIZED LOADS



Our PFTH range of furnaces is particularly adapted to the treatment of large sized parts mainly found in aeronautical applications such as landing gears, but also present in other industries that need to process heavy loads or long shafts.

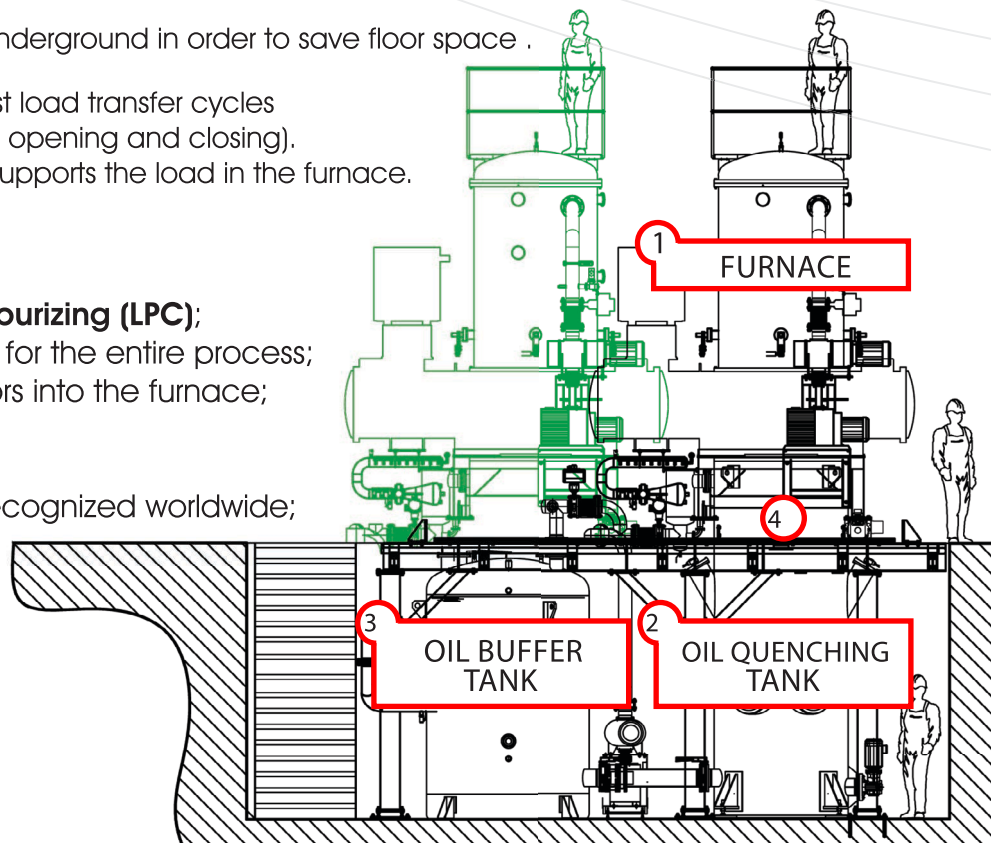
This fully automated installation is specifically recommended for perfect reproducibility of results and increase of productivity.

PFTH design relies on 4 main features:

- 1 - **A high-temperature furnace** (up to 1350°C) using 3 heating zones for better homogeneity. Uses both graphite or metallic heating elements depending on the application;
- 2 - **A high-efficiency oil quenching tank** with cold water double-wall and integrated propellers.
- 3 - **An oil buffer tank**, fully integrated underground in order to save floor space .
- 4 - **A mechanized elevator system**, fast load transfer cycles (less than 25 seconds including doors opening and closing). An original motorized clamp system supports the load in the furnace.

ADVANTAGES

- Compatible with **Low Pressure Carburizing (LPC)**;
- A fully automated handling system for the entire process;
- An airtight door preventing oil vapors into the furnace;
- Optimized to use less floor space;
- Designed to simplify maintenance;
- Proven and automated process, recognized worldwide;



TREATMENT CAPACITY

	Ø Diameter	Height*	Gross load
PFTH 900	900 mm	1800 mm	up to 1000kg
PFTH 1500	1500 mm	2000 mm	up to 2000kg

* OTHER SPECIFIC HEIGHT ON REQUEST



AVAILABLE FUNCTIONS

Thermal

- Graphite
- Metallic

Vacuum

- Primary
- Secondary

Gas

- Nitrogen
- Argon
- Hydrogen
- Acetylene
- Ammonia

Standards

- AMS 2750
- AMSH 81200
- AMS 28013

Quenching

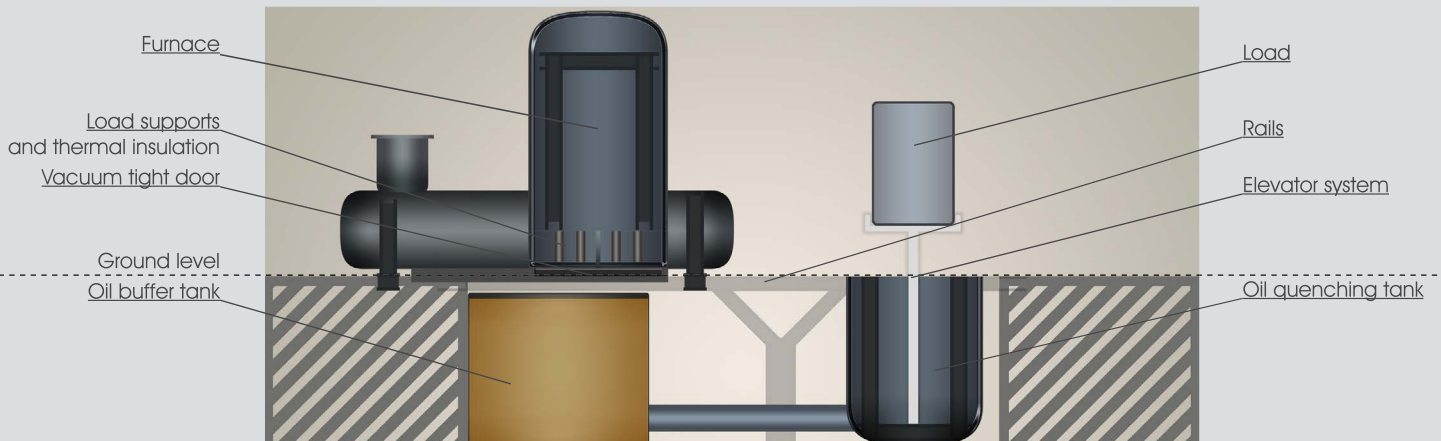
- Hot oil
- Cold oil

Supervision

- Process control
 - Production tracking
 - Process data backup

Options

- Loading platform
- Handling tool
- Washing machine
- Forced cooling system
1.45 Bar abs, neutral gas



1. Loading using the elevator system

2. The furnace moves up to the oil quenching

3. Pulling vacuum and opening of both thermal insulation and tight doors

4. The load is driven up to the furnace; doors closing

3 Heating zones

5. Heating process under vacuum (Option Low Pressure Carburising process)

6. Fill up the oil bath for quenching

7. End of the heating cycle, and opening of the furnace doors

8. Oil quenching operation. The load transfer needs less than 25 seconds

9. Cooling using energetic oil circulation.

10. The oil is evacuated to the oil tank

11. The furnace moves back to the garage position

12. Unloading operation

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