# Experimental facilities Brasimone for corrosion tests in liquid lead

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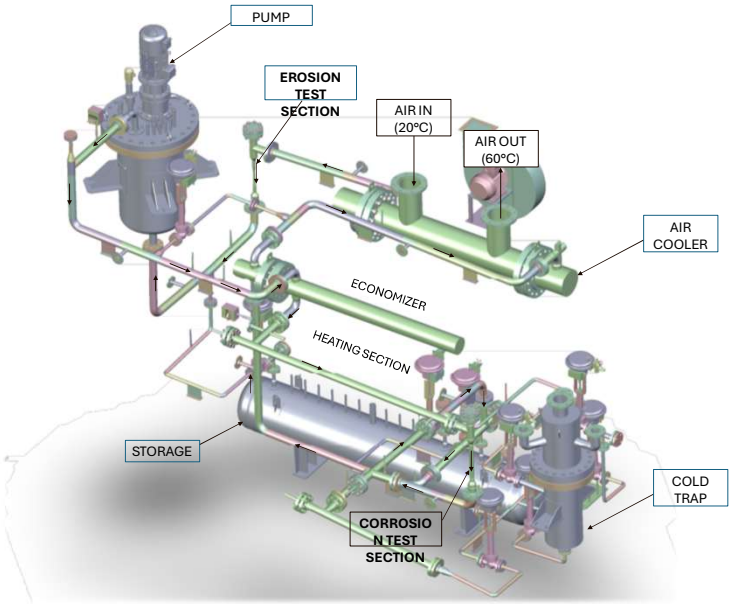
SERAFIN WORKSHOP

ENEA NUClear systems for ENERgy

2nd ENEA NUC-ENER Division Workshop




**CORE**
**200 kW**
operational by March 2024

**Loop-type** facility Set up for experimental campaigns in fluent Pb under oxygen-controlled concentration

Oxygen control via Ar-H2-air injection

Corrosion test section: $T_{operative}$ = 650 °C, $v_{Pb}$ =1m/s;

Erosion test section: $T_{operative}$ = 520 °C, $v_{Pb}$ =10 m/s.

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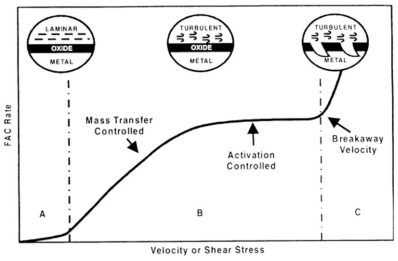
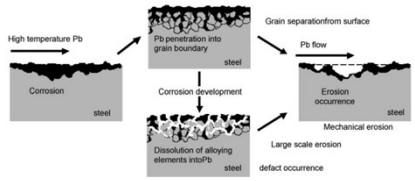
|---|---|
| FACILITY TYPE | FORCED CIRCULATION, NON-ISOTHERMAL LOOP TO INVESTIGATE MASS TRANSFER |
| OPERATING FLUID | LIQUID LEAD |
| ELECTRICAL POWER | 200 kW |
| FLUID INVENTORY | 4500 kg |
| OPERATING TEMPERATURE | 520-650°C |
| MAXIMUM FLUID VELOCITY | 10 m/s (EROSION TS) |
| COVER GAS PRESSURE | 100 mbarg |
| PUMP HEAD (@5 kg/s) | 12 bar |
| MATERIAL OF PIPING AND COMPONENTS | AISI 321H + Al CVD pack cementation |

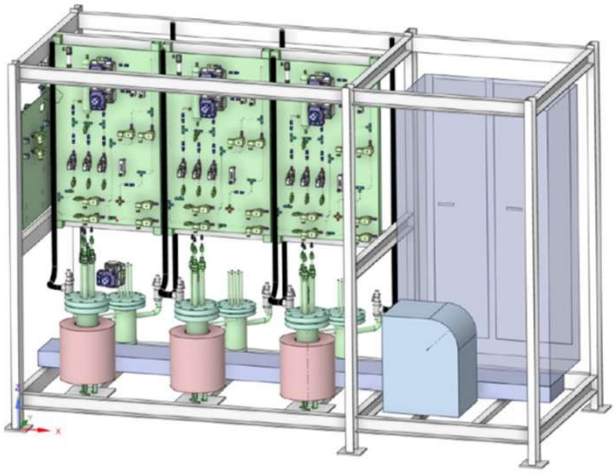


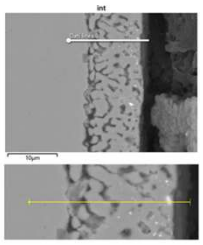



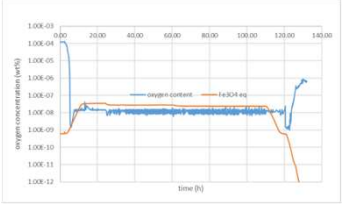

**CAPSULE**
operational by February 2024

Set up for experimental campaigns in static Pb, under oxygen-controlled concentration.
Operative T: 450 - 750 °C

Oxygen control via Ar-H2-air injection







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Mattia Salvi, Luca Silvioli

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