

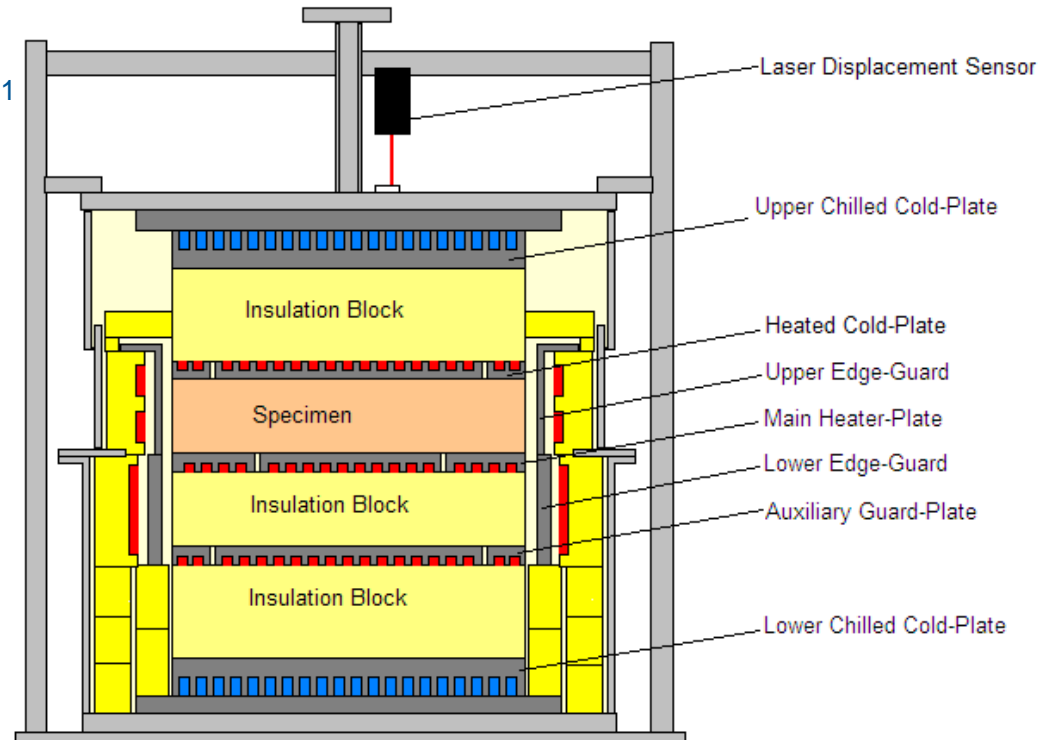
NPL In-house Designed HTGHP and LTGHP

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Conforms to ISO 8302:1991, EN 12667:2001 and prEN/TS 15548-1:2011

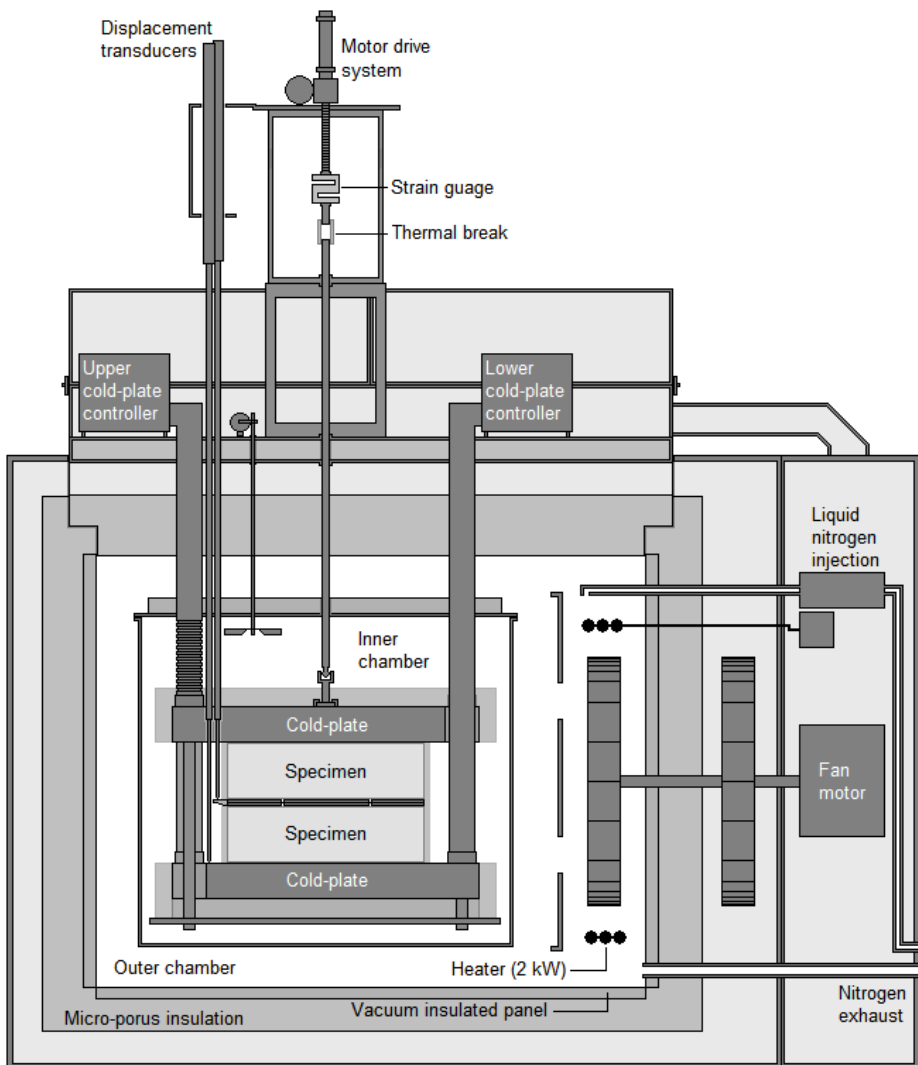
- Single specimen
 $\text{Ø}305 \text{ mm} \times (25 \text{ mm to } 60 \text{ mm})$
- T: 140 °C to 800 °C
- λ : 0.02 $\text{Wm}^{-1}\text{K}^{-1}$ to 0.2 (0.5) $\text{Wm}^{-1}\text{K}^{-1}$
- ΔT : 50 K
- Static lower module with sealed bottom
- Movable upper module, telescopic
- Central stack
- Lateral Guarded heater-plates
- Gaps filled with insulation
- Lower edge-guard
- Auxiliary guard-plate
- Upper edge-guard
- Static pressure load 3.7 kPa
- Laser displacement sensor for in-situ thickness measurement
- Overall uncertainty: 4% (k=2)



- Dimensions:
 - Overall lateral : \varnothing 305 mm
 - Metering area : \varnothing 150.0 mm
 - Centre/Guard gap width: 2.0 mm filled with alumina cement
- Plates:
 - 10 mm thick Nickel 201 alloy plates
 - Pyromark 2500 Flat Black, surface emissivity ≥ 0.8
 - Metering area corrected for expansion
- Thermocouples:
 - Type N, MIMS \varnothing 1mm, bare-wire for differential
 - 12-way centre/guard differential (24 junctions) on main heater-plate
 - 4-way centre/guard differential on heated cold-plate
- Heaters:
 - Mineral insulated Inconel sheathed cable heater
 - Optimal heater location



Note: Before being painted



- Double specimen
- ISO 8302:1991 & EN 12667:2001
- Validated with IRMM-440 up to 50°C
- Temperatures: -175 °C to 150 °C
- λ : up to 0.15 Wm⁻¹K⁻¹
- ΔT : 20 K
- Dimensions: 305 by 305 mm by (25 to 60 mm)
- Metering area : 152.5 by 152.5 mm
- Centre/Guard gap width: 2.0 mm unfilled
- Plates: 5 mm thick Al plates
- surface emittance ≥ 0.9
- Thermocouples: Type T
- 32-way centre/guard differential (64 junctions) on main heater-plate
- Heaters: Inconel heater wire in Kepton sheets.





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