

Specimen Cooling Bath CBL10

The Imatek DWTT cooling bath accommodates up to 10 specimens of up to 50mm thickness at a time, enabling pre-conditioning of the specimen at low temperature.

External construction of zinc-coated steel sheet, with external surfaces finished in stoved epoxy paint. Internal construction from 304 grade stainless steel.

Top loading via pneumatically operated access door. Cooling operation inhibited while door open.



Specifications

External construction	Zinc-coated mild steel sheet. External surfaces finished in stoved epoxy paint
Internal construction	Bath and guides from 304 grade stainless steel
Capacity	Sufficient to accommodate up to 10 specimens of thickness from 6mm up to 50mm with minimum 26mm gap between each specimen
Chamber access	Top loading, via pneumatically operated access door.
Temperature range	-80°C to +20°C
Temperature accuracy	± 0.5°C (displayed vs actual)
Temperature stability	± 2°C (at set-point)
Cooling method	Injection of liquid nitrogen via cryogenic valves at 1-2Bar
Cooling medium	Ethanol or suitable alternative)
Temperature sensor	RTD100 temperature sensor
Temperature control	PLC based control system; RS422 SV/PV transmission
System control	Via control software; input of set point; soak time, ramp rate
Temperature indication	By local display on bath and PC monitor. Temperature display replicated on main HMI PC
Protection	Isolation of cooling via safety contactor triggered by industry-standard temperature monitor. Requires manual re-set when tripped. Pressure relief valves fitted to prevent build-up of excess pressure in nitrogen pipework.
Liquid nitrogen consumption (estimated)	80 litres of liquid nitrogen, based on reducing full load of specimens to -80°C and holding for 2 hours; compressed air 30l/min
Services	230VAC ±10%, 16Amp 50/60Hz, single-phase, neutral and protective earth Liquid nitrogen: 0.1Mpa to 0.2Mpa Air: 0.6Mpa to 0.8Mpa clean air
Dimensions	W900mm x D1400mm x H800mm
Weight	200kg