



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION

PR NO. 1000039976

Rfx No. 6100001869

Technical specifications for Temptronic Thermochuck system (1 Unit)

Sr. No.	Description	Value / Range	Technical Compliance (YES / NO)	Additional Information (if any)
1	An integrated system consisting of both the controller and the heat exchanger assembly in a single chassis			
2	Uses self-contained coolant			
3	Closed loop glycol/water cooling			
4	No external compressed air or coolant facility required			
5	Thermoelectric heating			
6	Power:	220 VAC, 50/60 Hz (210 to 230V range), 5 amp		
7	Dimensions in rackmount configuration:	Panel - 13.3 cm (H) × 48.25 cm W), Chassis - 13.25 cm (H) × 42.5 cm (W) × 69 cm (D)		
8	Weight:	24.1 kg		
9	Ability to mount on a 19" EIA rack			
10	Standard Temperature Range:	0°C to +200°C		
11	Control Power:	Bi-polar DC Proportional, Integral, Derivative (PID)		
12	Temperature Accuracy:	±0.5°C (when calibrated against a primary or transfer standard)		
13	Temperature Stability:	±0.1°C		
14	Temperature Resolution Set:	0.1°C, Indicate: 0.1°C		
15	Ambient Operating Temperature:	+10° to +30°C		
16	Humidity Operating Range:	0 to 90%, non-condensing		
17	"Overheat Protect" Temperature:	+205°C (High temperature in system range +200°C)		
18	Temperature Display:	Four digits, 0.1°C resolution		
19	Remote Control:	IEEE-488 and RS232 I/O		
20	Local Control:	3 push buttons for the selection of two operating temperatures and one "ambient" preset temperature. 4 x 4 keypad for the setting of temperatures and all other system control parameters.		
21	Status Indicators:	Seventeen LED lamps to indicate operating, mode and selected setpoint and operating state of IEEE0488 interface		
22	Non-Volatile Memory for Back up retention of set-up parameters			
23	Controller:	Large alphanumeric displays and an intuitive front panel.		
24	The microprocessor-based controller features three selectable operating modes:			

25	Manual:	Front panel control, three easily programmed and selectable temperature setpoints.		
26	Auto:	Permits fully programmed operation without the need for an external computer, allows the operator to program and run up to 5 temperatures with ramp times, soak times and number of cycles. All user selected and programmed parameters and status information are displayed continuously during this operating mode.		
27	Remote:	Permits programming and operation for external computer using either IEEE-488 or RS232 interface.		
28	Non-volatile memory retains all programmed parameters.			
29	Built-in protection against excessive high temperature prevents damage to both the DUT and the system.			
30	The controller has a simple, automated calibration procedure and several self-diagnostic routines.			
31	A relay closure to provide visual indication or an interlock when the chuck surface is set above +70°C.			
32	ThermoChuck Specification sheet-			
33	203mm (8.0 inch) diameter			
34	Surface:	Gold plated and electrically isolated with provisions for grounding or biasing		
35	Surface Flatness:	0.001 inch TIR up to +130°C, 0.002 inch TIR up to +200°C		
36	High precision:	Excellent temperature control, stability and uniformity		
37	Low stray capacitance and high electrical resistance to ground			
38	Ability to shut off outer vacuum rings for better "hold down" of smaller wafers			
39	DC power controller to minimize electrical noise			
40	Surface Electrical Isolation:	>10 ⁹ ohms at 500V DC		
41	Surface Base Parallelism:	0.001 inch TIR up to +25°C		
42	Temperature Uniformity:	Gradients as low as: ±0.5°C or ±0.5% of set temperature (whichever is greater)		
43	Surface to Ground Capacitance:	203mm (8.0 inch) chuck <950pf		
44	Height (approximate):	25.4 mm (1.0 inch) nominal		
45	Weight (approximate):	203mm (8.0 inch) chuck: 1.8kg (4lbs.)		
46	Overall Warranty:	3 yrs		