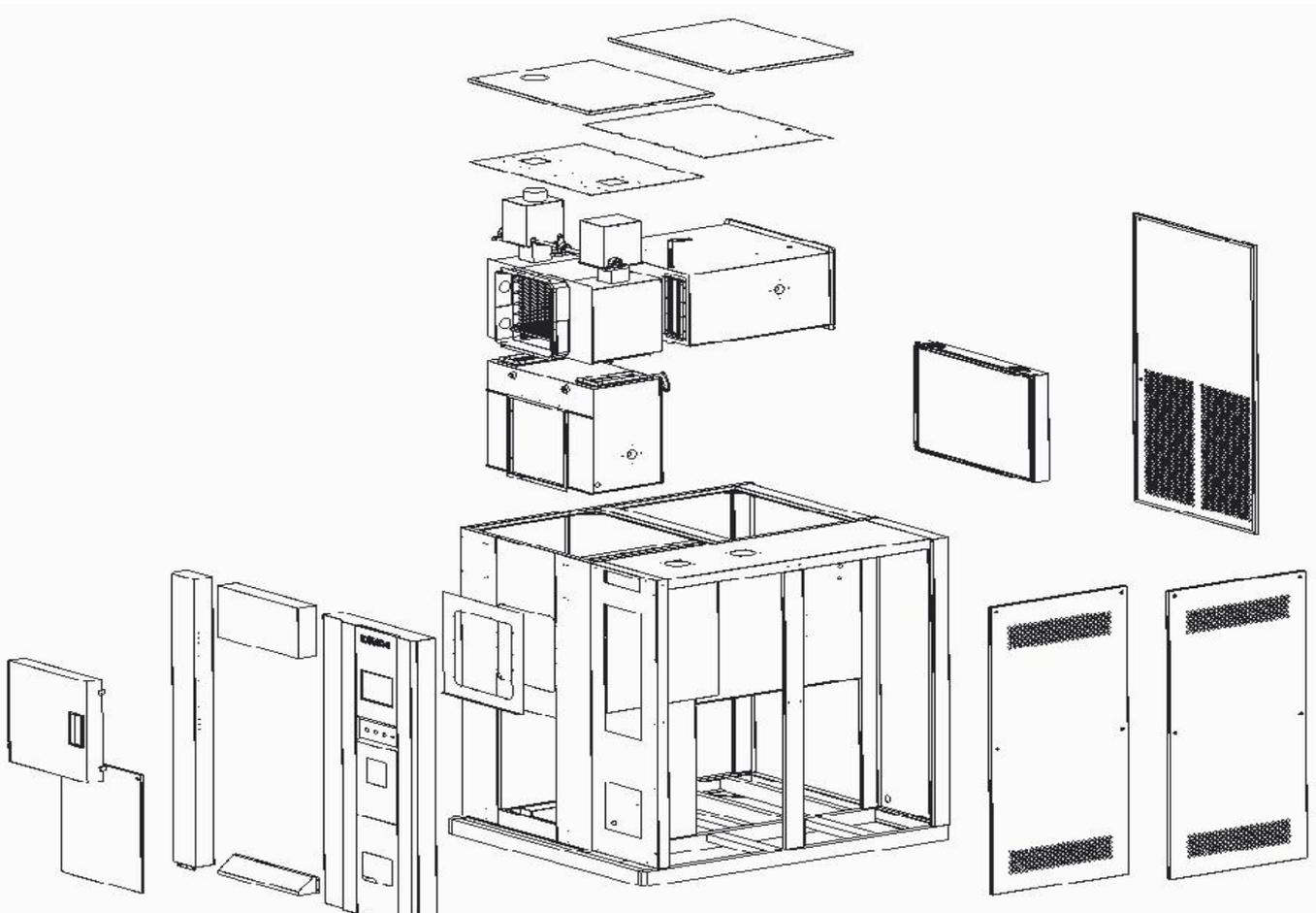
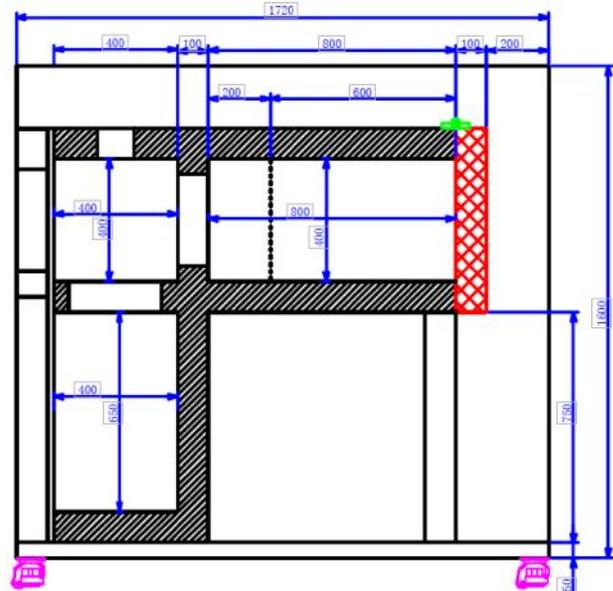
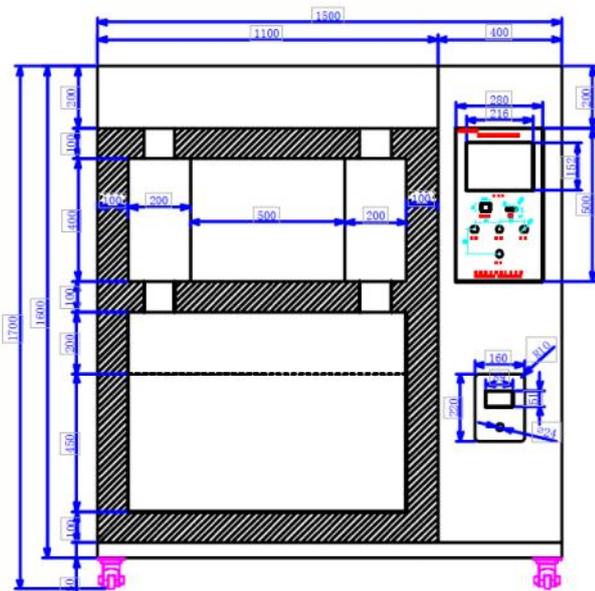


Chapter 2 Mechanical Structure Design for Rapid Thermal Shock Test Chamber WE–STS–080

01.	Inner Box Material: Heatproof and cold resistance stainless steel plate with circumferential welding (SUS # 304)
02.	Outside Box Material: Using galvanized sheet with advanced powder paint or Heatproof and cold resistant steel plate (SUS # 304)
03.	Cold/heat Storage Material: High efficiency aluminum to store large of heat and cold so that achieve cold and hot exchange. The main structure design: Composed of four parts: Metal plate, Circuit , Frozen water flow .
04.	Insulation Structure:
	01. Wall: Two-sided galvanized steel, surface with spray treatment (Reference ESPEC Chamber's Color)
	02. External structure reinforcement: Double-sided galvanized steel, surface is spraying or Q235 steel with surface acid, phosphate and surface spray
	03. The inner wall: SUS304 stainless steel plate
	04. Heat insulating material: The rigid polyurethane foam, glass fiber and high temperature insulation cotton ; Chamber bottom load capacity: 100kg / m2 (uniform load)
	05. However, the overall box bearing weight (bottom and sample holder) does not exceed: 120kg
05.	Air Conditioning Access Fans, heaters, evaporators, drainage device, humidifier, dry preventer, wet bulb temperature sensor, wet sink
06.	Door's Structure
	01. Hinged doors, hinges on the left box (when facing the front of the box)
	02. Observation Window: Install multi-layer hollow rectangular insulated glass windows (310 × 420mm)and there is energy-efficient LED lighting on the window.
	03. On the door (automatic adjustment) can be anti-frost, anti-condensation hollow Preparation electric door (automatic adjustment) anti frost, condensation device.
	04. Equipment inside the door lights (LED light efficiency and longevity)
07.	Control Cabinet: Cooling fan ; Buzzer ; Distribution boards ; RS-485, RJ-45 Ethernet physical interface (equipped with monitoring software together) ; Main Power Circuit Breaker;
08.	Heater: Nickel-chromium alloy heating wire heater ; Heater Control: non-contact & other periodic pulse width modulation, SSR (solid state relay)
09.	

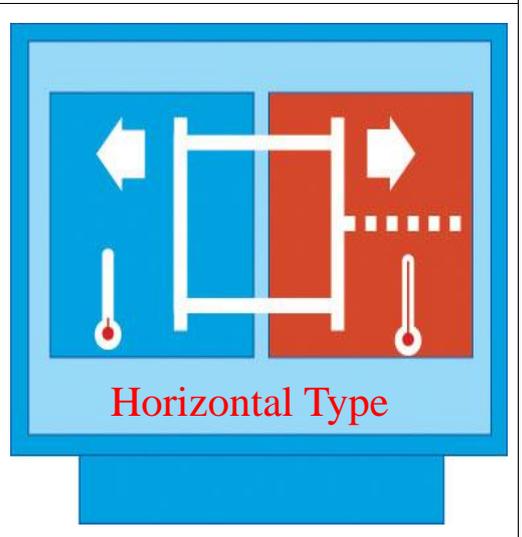
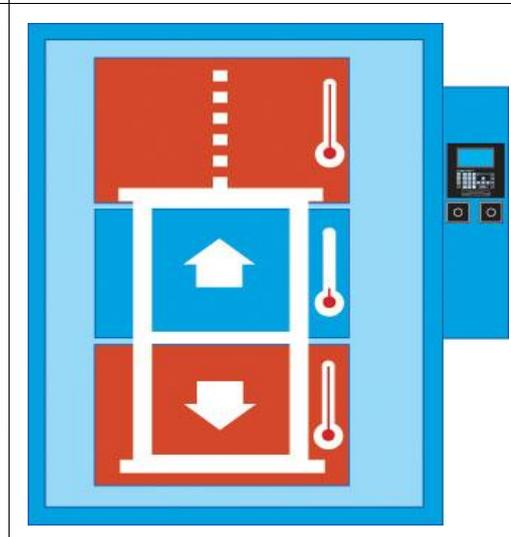
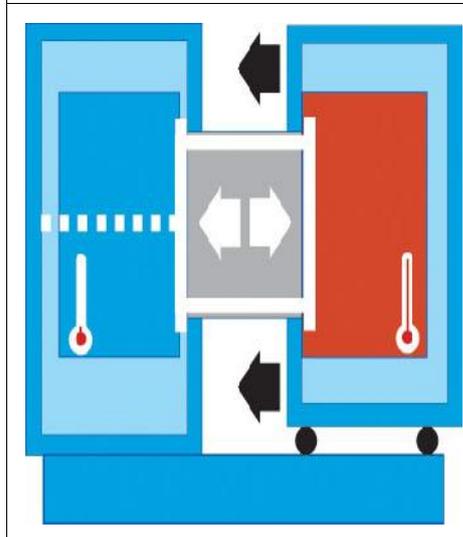
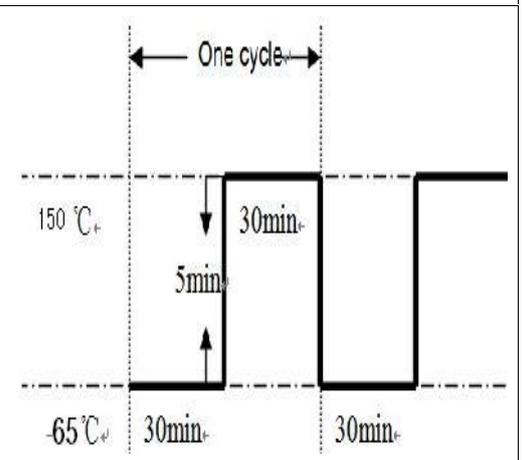
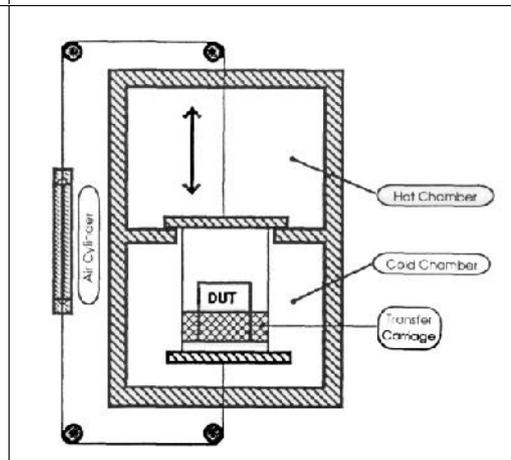
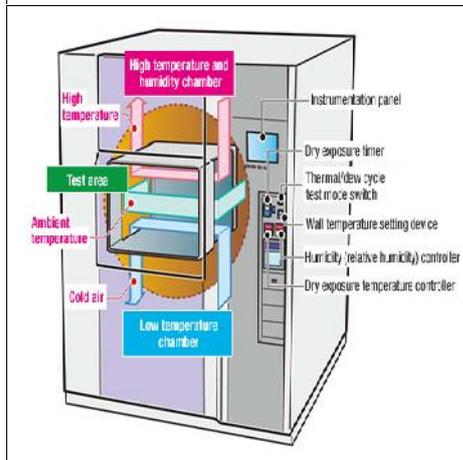
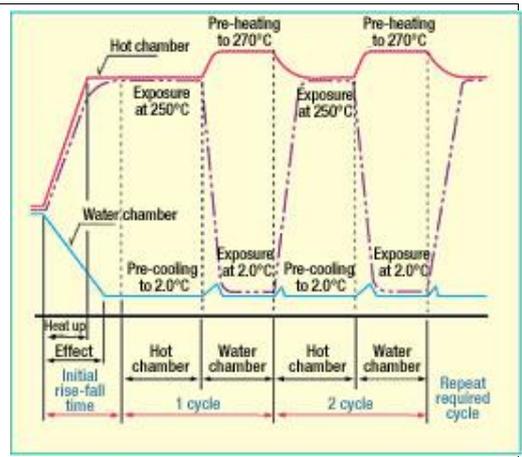
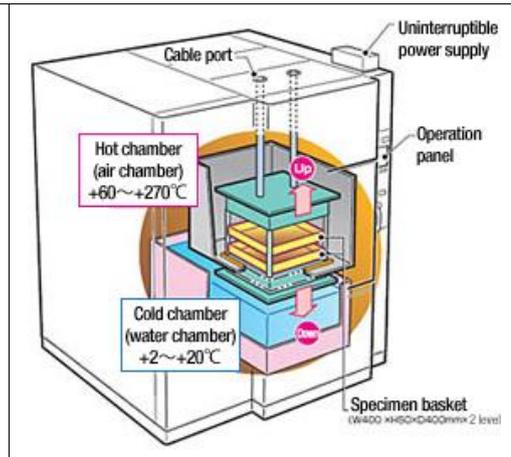
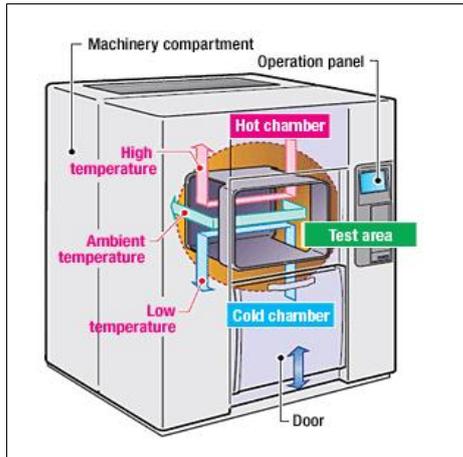
10.	Sample Bearing Course: Sample on one layer is not more than 30 kg
11.	Driving Device: Motor and ball screw driven basket to move up and down, indicator lights shows the hanging position and moving direction.
12.	Insulation: Thermal insulation layer composed of flame fire PU + Mineral wool insulation (insulation thickness 10.0 cm)
13.	Box Tray: Adjustable shelves and two stainless steel strips (5.0 cm interval between two layout)
14.	Machine Positioning: There are installation of four high-loading corner bearing pulleys and PU wheels at the bottom of the machine to facilitate moving the machine.
15.	Cabinet Structure: Taiwan imported plane embedded rotatable knob; (1)Hinges: Original Japanese imported, to prevent shaking from the door, made of SUS 304; (2)Energy-saving LED 18W inside, to make four corners of the test items observed clearly; (3)High-low temperature resistible high tensile silicone foam ;



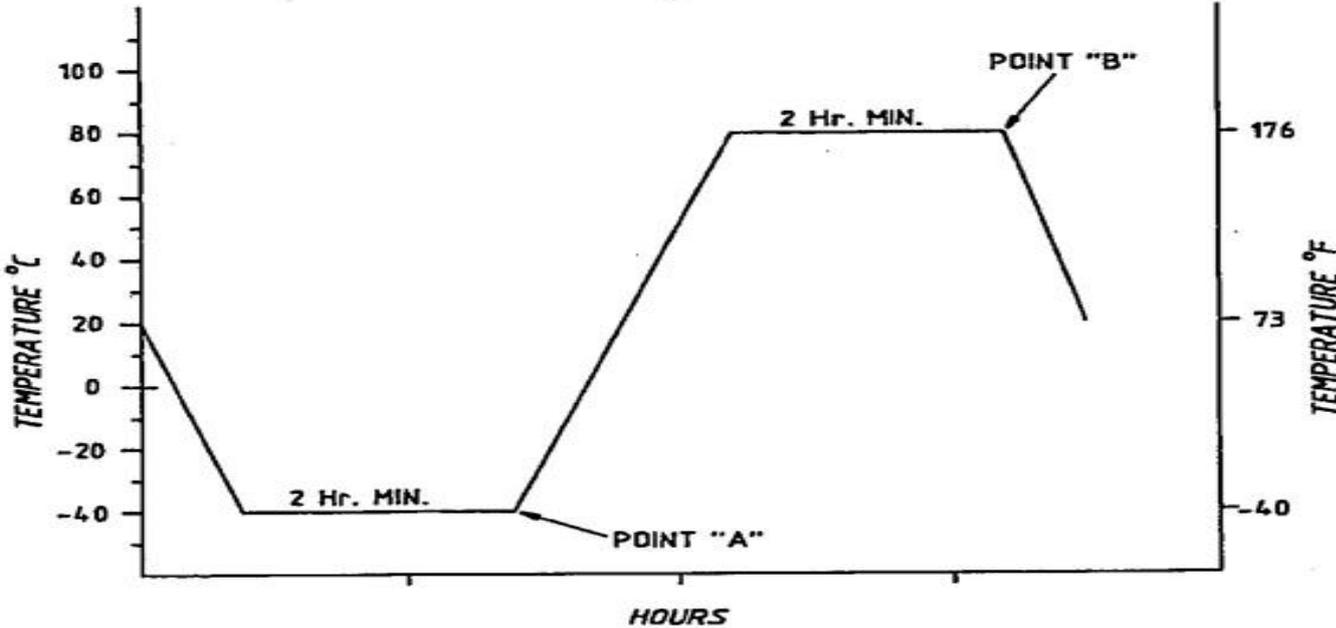
Chapter 3 Electric Circulatory System for Rapid Thermal Shock Test Chamber WE-STS-080-B

01.	Electric Circulatory System: Designed as thermal ,moisture-proof and stainless steel loop extension axis motor
02.	Circulating Fan: High / low temperature resistance aluminum Sirocco fan
03.	Electric Storage Control: Balanced thermostat with P.I.D and control with S.S.R
04.	Microcomputer Control Structure: Microcomputer control, pre-cooling preheating temperature conversion control, computer calculations can reach high precision and high output power saving .

05.	Automatic Control: 1)U-shaped fin high-speed heating electric heater; 2)Refrigeration system is completely independent so does not affect the control lines; 3)Calculated with the heat content of the heating rate of test substance.
06.	Humidity System: 1) using micro-electronic and humidification systems.2) Humidification barrel made of stainless steel along with water level observation window. 3) Attached overheating and overflow device. 4) Humidification and dehumidification system is completely independent. 5) Water level control with mechanical float raft, to eliminate electronic malfunction.6) Water supply system with automatic replenishment attached filter so that the buyers don't need to add water manually.7) using expendable recycled water system.
07.	Dehumidification System: 1) Independent compression and refrigeration system . 2) Dew point temperature of the evaporator tube containers (ADP) layer contact with dehumidification.



Chapter 4: Refrigeration System: Refrigeration system using binary refrigeration system which with good efficiency and energy saving !!!

01.	Freezing Device: European and American imported high-efficiency cryogenic refrigeration compressor (air cooling mode). Germany Bitzer + France Tecumseh ; Equipped with air/water cooling flow automatic adjustment device.
02.	Refrigeration Control Method: <ul style="list-style-type: none"> (01) Control system automatically adjusts the refrigerator to run the best energy-saving operating mode based on test conditions. (02) Return air compressor cooling circuit (03) Energy regulation loop. (04) Evaporation pressure regulating valve.
03.	Refrigeration System: Refrigeration system controller digital display high and low pressure, exhaust temperature and compressor operating current.
04.	Cold Switching Device: Adopt ultra-efficient refrigerant cold exchange SWEP plate, has higher efficiency than traditional inner spiral.
05.	Heating Load Regulation: Computer automatically adjusts the refrigerant flow, take products heat away, the technology is same as German and Japanese technical synchronization. [control, which has better stability, reproducibility and energy saving than traditional design]
06.	Condenser: Using coil or barrel type (larger systems use) adopt water-cooled or air-cooled mode
07.	Super Performance refrigeration control refrigerant: Refrigerant pipes are welded with pressurized nitrogen and passed the leak test.
08.	Evaporator: High efficiency evaporator assembly adopted slope (AC & R double spoiler-type aluminum fins).
09.	Standard Modular Design: High component compatibility interoperability quality stability; Control system automatically adjust the operating conditions of the refrigeration machine according to the test conditions.
10.	Option Device: (1) Compressor return air cooling circuit; (2) Condensing pressure regulating valve; (3) Circulating cooling water filter.
11.	Expansion Properties: Control system can be set aside isothermal liquid nitrogen valve LN2V & refrigerant control valve FV control interface
12.	Expansion Capabilities: With automatic defrost evaporator icing circuit caused by long time work in low temperature.
13.	Special Function: Siroco Fan forced convection air flow, improve the efficiency of uniform temperature
14.	Special Function: The test area are using PID + SSR microcomputer temperature control system to control the accuracy of automatic calculation
15.	Refrigerant: DuPont Green Refrigerant R404a and R23a
16.	Original Auxiliary: Expansion valve (USA SPORLAN), the solenoid valve (Italy CASTEL); screening program (U.S. SPORLAN); pressure controller (BAR RANCO); oil separator (Europe and America ALCO) and other refrigeration parts which are imported
17.	 <p style="text-align: center;">THERMAL CYCLE PROFILE</p>