

# Technical Specification for Thermal Shock Chamber (Three zone type)



**Model: KTS-252A**

**Manufacturer: KOMEGB Technology Ind Co., Ltd**

**I . Control method and characteristics**

Using low temperature and high temperature hot and cold storage tank, in accordance with the need open the DAMPER, achieve rapid impact effect; Balance (BTC) temperature control system, to control SSPR by P.I.D. , make the system of heat up equal to the amount of heat loss, thus the use of long-term stability

**II . Features: Water cooled. Ambient Temp. +25°C no-load**

2.1 Low Temperature Chamber Temp. Range	-55°C~-10°C
2.2 Low Temperature Chamber cooling time	+20°C to -55°C, ≤60 min
2.3 High Temperature Chamber Temp. Range	+60~+200°C
2.4 Heat up Time	+60°C to +200°C, ≤20 min
2.5 Thermal Temp. Range	high temperature:+60~+150°C ; low temperature: -40°C~0°C
2.6 Temperature stability	±0.5°C
2.7Temperature uniformity	±2.0°C
2.8 Recovery time	-40°C~150°C, within 5mins , with 5KG aluminium load, High Temperature and low temperature each exposure 30 min (the sensor put in the outlet of the unit)

**III. Structure**

3.1 Internal dimension	W700 × H600 × D600 mm
3.2 EX. Dimension	W1750 × H2000× D1930 mm
3.3 Chamber Structure	independent product testing area, High temperature storage area, Low temperature cold storage area
3.4 Inner wall material:	Stainless Steel Plate SUS304
3.5 Wall material:	Top-grade Carbon Steel Plate
3.6 Insulation material	High temperature chamber: 24k Glass wool Low temperature chamber:Rigid polyurethane Foam + glass fiber
3.7 Heater	Nickel - Chromium Alloy Wire heater

3.8 Supply air circulation system	<ul style="list-style-type: none"> <li>a. Teco motors</li> <li>b. Stainless steel long axis</li> <li>c. (SIROCCO FAN)</li> </ul>
3.8 Door	<ul style="list-style-type: none"> <li>Single door</li> <li>a. Planar embedded handle</li> <li>b. Button: SUS #304</li> <li>c. Silicone foam strip</li> </ul>
3.9 Refrigeration System	<ul style="list-style-type: none"> <li>a. Compressor: Germany BOCK Semi-closed Compressor</li> <li>b. Refrigerant: environment friendly refrigerant</li> <li>c. Condenser: Water cooled condenser</li> <li>d. Evaporator: Finned heat exchange</li> <li>e. Other accessories: desiccant, oil separator, Refrigerant flow valve, Repair valve</li> <li>f. Expansion system: Capacity control of the refrigeration system</li> </ul>
<b>IV. Control System</b>	
4.1 Controller Model	KM-5188T
4.2 Controller	7 TFT Color LCD Touch screen controller
4.3 Program Mode	Program mode
4.4 Setting Mode	Chinese English Menu, True color touch screen input
4.5 Program Capacity	127 programs, extra long run, 999 hours per paragraph, programmable cycle could reach 32000 times.
4.6 Setting range	High Temp. Limit: : +220°C; Low Temp. Limit: : -80°C; Test chamber (The sample area): high temperature +60°C~+75°C; low temperature: -10°C~-65°C
4.7 Display resolution	Sampling temperature: 0.1°C, setting temperature 1°C。 Time: 0.25S
4.8 Control mode	resistance integral saturation PID, fuzzy algorithm. B Tc Equilibrium temperature control mode
4.9 Curve record function	Automatically save the test value and sampling time





4.10 Auxiliary function	Failure alarm and reason, solution indicating, failure recording, over temp. protection, Testing stop, alarm output, automatic schedule start and stop function; Maintenance items and matters need attentions are instructed in the controller.
4.11 Temperature sensor	T type sheathed thermocouple
<b>V. Control cabinet</b>	
<ul style="list-style-type: none"> <li>a. Emergency stop switch</li> <li>b. Power switch</li> <li>c. RS-485 interface</li> <li>d. USB interface</li> </ul>	
<b>VI. Others</b>	
6.1 Safety device	<ul style="list-style-type: none"> <li>a. Over temperature protection device</li> <li>b. Heater dry combustion protection switch</li> <li>c. Motor overload protection</li> <li>d. Compressor high pressure protection switch</li> <li>e. Compressor over temperature protection switch</li> <li>f. Compressor overcurrent protection switch</li> <li>g. Overvoltage open phase, reverse protection switch</li> <li>h. Circuit breaker</li> <li>i. RCCB</li> <li>j. Cooling water protection</li> </ul>
6.2 Cable port	Φ50mm cable port located on left sides with rubber stopper and plastic cover
6.3 Sample holder	Two layers of stainless steel sample holder
6.4 Ambient environment	<ul style="list-style-type: none"> <li>a. Permissible temperature range: 0~35°C</li> <li>b. Performance guarantee scope: 5~35°C</li> </ul>
6.5 Power	AC 3ψ4W 380V 50HZ (R.S.T.N.G)
6.6 Air Source	5kg/cm2 customer provide
6.7 Warranty	One year (excluding the damages caused by the natural disasters, abnormal power, improper operation and maintenance, etc.)

P.S.

1. Please equip the above power demanded to the terminal box of the machine control, user must prepare an exclusively no-fuse switch for the machine.
2. The above water source demand to match to the host machine and connected the host.
3. The above compressed air source demand to match to the host machine and connected the host.
4. Please confirm whether it can enter the door or access elevators.
5. This offer is only the price of the machine, do not contain power cord outside the machine, gas supply, cooling towers and piping engineering cost.

**Main parts list**

	Parts	Brand	Remarks
1	Compressor	BOCK semi-hermetic compressor	
2	Oil separator	Emerson	
3	Plate heat exchanger	Germany GEA	
4	Press switch	DANFOSS	
5	Condenser	Klean Air	
6	Evaporator	Yongqiang	
7	Dryer	Denmark DANFOSS	
8	Expansion valve	Denmark DANFOS / HONEYWELL	
9	Magnetic valve	Japan SAGLNOMLYA or Nickideu or Denmark DANFOS	
10	Controller	KOMEG	
11	No-fuse switch	French Schneider	
12	AC contactor	French Schneider	
13	Thermorelay	French Schneider	

14	Phase sequence relay	Carlo Gavazzi	
15	Solid-state relay	Carlo Gavazzi	
16	Intermediate relay	OMRON	
17	CYCLE MOTOR	TECO	
	Note: Two options listed is for alternate choice and backup purpose		