

# TK Series

# TEST CABINETS



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TK series test cabinets are developed to simulate real environmental conditions by controlling temperature, humidity and day & night lighting cycles. By means of their wide temperature and humidity control range various kinds of tests could be performed in different areas. Stability, artificial aging and storage tests can be easily done as well. The excellent design of TK series test cabinets allows them to be used for different purposes in different sectors such as :

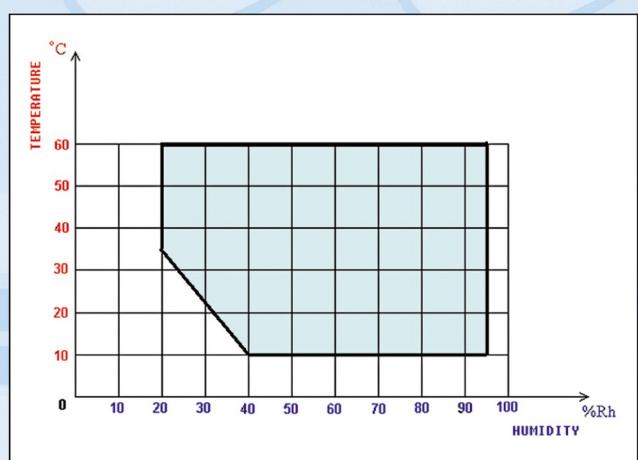
- Electric and electronic industry
- Automobile industry
- Automobile supply industry
- Chemical industry
- Plastic industry
- Textile industry
- Pharmaceutical industry
- Food industry
- Packaging industry
- Plant growth
- Seed germination
- Acclimation of plants
- Culture of plant cells and tissues
- Genetic manipulations of plants
- Cultivation of protoplasm and cells
- Incubation and rearing of insects



To ensure maximum durability and reliability, adequate materials were chosen for the construction of the product. The chamber is made of stainless steel. The outer body including the door is made of epoxy-polyester powder coated stainless steel to resist high humidity levels. The lights are located inside the door and protected with a glass window. There is also an internal glass door which allows controlling the samples without disturbing the temperature and humidity conditions inside the chamber. Ø25 mm access port on the left side of the body is offered as standard.

The insulation becomes more important for the efficiency of the product when cold and hot temperatures are concerned. The insulation of TK Series is made of high density injected polyurethane.

The humidity is produced by the humidity generator and measured by a humidity sensor. The recovery time is fast and humidity measurement is sensitive. The heating function is controlled by PID while cooling and humidity functions are controlled by proportional system.





Powerful air circulation system maintains temperature and humidity uniformity and stability even at low temperatures. Directional airflow assures quick recovery after door openings.

Automatic defrost system prevents the frost on cooling coils for efficient refrigeration.

The state-of-art control system is based on programmable microprocessor technology. Easy to use control system allows to program the following parameters :

**Program name:** There are ten program memories.

**Temperature:** -10°C / 60°C

**Humidity:** 20 % - 95 % RH

**Alarm:** 2 - 10°C, 5 - 20 % RH

**Lighting:** 0 - 24 hours, 2 periods lights on, 2 periods lights off

**Time:** 0 - 999 hours 59 minutes and hold position.

**No of steps:** 1 - 9

**No of program**

**repetitions:** 1 - 99



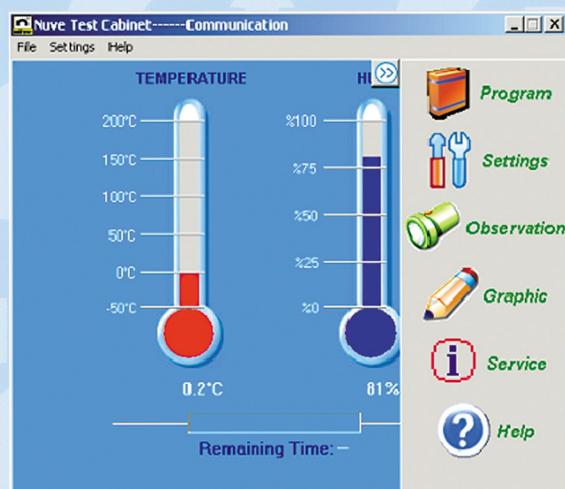
The control system also contains a comprehensive self-diagnostic system to provide information regarding any system malfunction. The self-diagnostic system warns the user in case of:

- Overheating
- Cooling system failure
- Communication failure
- Power failure

- Temperature sensor failure
- Humidity sensor failure
- Low water level
- Full reserve tank
- Open door

In addition to self-diagnostic system, there is also an adjustable safety thermostat for heating.

User friendly control panel includes 128x64 pixel LCD display. The messages written on the display lead the user to make a new program. The control system of TK Series has 32 kb memory which can be upgraded to 256 Kb as an option.



Printer port is standard and the operated programs in the memory and the current operating program can be printed easily by the connection of a dot-matrix printer. By means of the optional RS 232 connection, TK series can be connected to a computer. Optional **NüveGrowth™** software allows programming the instrument and controlling the operations via computer.

Besides all the technical advantages, TK 120/252/600 are environmentally friendly with CFC-free insulation and refrigerant.



## TECHNICAL SPECIFICATIONS

	TK 120	TK 252	TK 600
Useful Volume, liters	120	252	600
Temperature range without humidity		-10°C / + 60°C (Lights Off) 0°C / + 60°C (Lights On)	
Temperature range with humidity		10°C / +60°C	
Humidity range		20 % - 95 % Rh	
Temperature set and reading sensitivity		0.1°C	
Humidity set and reading sensitivity		1 % Rh	
Max. light level	6,000 lux	12,000 lux	12,000 lux
Lighting timer		0 – 24 hours	
Program timer		0-999 hours and 59 minutes + Hold position	
No of program memory		10	
No of steps		9	
No of program repetitions		1 - 99	
Memory capacity		32 Kb	
No of shelves (standard / max) pcs.	2 / 9	2 / 21	2 / 27
Internal material		Stainless steel	
External material		Epoxy-polyester powder coated stainless steel	
Internal dimensions (WxDxH) mm	475x540x485	475x540x985	740x650x1315
External dimensions (WxDxH) mm	675x785x1150	675x785x1845	985x910x1995
Power consumption	1800 W	2000 W	3000 W
Power supply		230 V, 50 Hz.	

### FACTORY FITTED OPTIONS

- TK XXX W **NüveGrowth™** data control software and RS 232 interface  
 TK XXX A Automatic water supply unit  
 TK XXX R Remote alarm outlet

### OPTIONS

- A 08 142 **AlerText™** GSM alarm module Should be ordered with TK XXX R  
 K 13 009 **NüveWarn™** remote alarm system with 10 m cable  
 E 05 073 256 KB memory

### ACCESSORIES

- R 01 130 Shelf for TK 120 / TK 252  
 K 23 040 Shelf Carrier for TK 120 / TK 252  
 R 01 146 Shelf for TK 600  
 K 23 060 Shelf Carrier for TK 600



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ISO 9001: 2008   
 ISO 13485: 2003