

## KB 8000 SERIES: COOLING INCUBATORS

Series KB 8000 consists of three different cabinets in two different sizes. The KB 8400L is equipped with programmable light.

These cabinets have been developed to meet the needs of reliability, accurate and safe control over the entire temperature range and low power consumption.

To achieve those goals, the latest technology available in cooling, temperature control and insulation is used.

Interior housing and shelves are in stainless steel. Externally, the cabinets are constructed of electrolytically galvanized steel sheets, coated with a grey epoxy polyester paint (RAL 7035).



**KEY FEATURES**

- ✓ Temperature range from -9,9 °C to +70 °C (KB 8400L -2 °C to +70 °C)
- ✓ Accurate control over the entire temperature range
- ✓ Automatic safety thermostat settings
- ✓ Low power consumption
- ✓ Temperature /light programming in real time \*
- ✓ Printer reporting \*
- ✓ Air jacket
- ✓ PID Temperature controller
- ✓ Digital Calibration
- ✓ Alarm
- ✓ Timer
- ✓ Data logging

\* Optional

**ACCESSORIES**

	KB 8182	KB 8400	KB 8400 L
Internal Power Socket 220v	✓	✓	✓
Programmable light function	–	–	✓
Door Lock	✓	✓	✓
Access Port 30 mm	✓	✓	✓
Printer report system	✓	✓	✓
Real time program	✓	✓	✓
Thermal printer	✓	✓	✓
Trippel glass window with cover	✓	✓	✓

– Not available

### EASY TO OPERATE

The basic operations can be learned in a minute. A number of "Pages" can be selected in the LCD display. The information is easy to understand. All settings can easily be changed with the five buttons.

### AUTOMATIC SAFETY THERMOSTAT SETTINGS

This unique feature also simplifies the operation. A safety thermostat system is integrated in the electronic control system. Both the upper and lower safety thermostats are automatically set whenever a new temperature is set. The samples inside the cabinet are thereby fully protected against temperature extremes.

### TIMER

The KB8182 and KB8400 have a timer system included. It can be used as a delayed stop or start timer. This timer is disabled when the optional Real Time Program is used.



### REAL TIME PROGRAMMING (OPTIONAL)

The program system can handle up to twenty settings of temperature and light. A setting is made active when the real time matches the time connected to a particular setting. The changes can be done a number of times every day, on a specific day of the week, or on a specific week in the year, or a combination of all of them. In addition, the settings can be ramped towards the new setting at a defined rate. The system can be automatically adjusted for European Daylight Saving Time, DST.

### PRINTER REPORT (OPTIONAL)

An optional thermal printer (SEIKO OPU-414) can be connected to the serial data port on the cabinet. The date, time, temperature and humidity can be printed at an adjustable time rate, down to one minute.

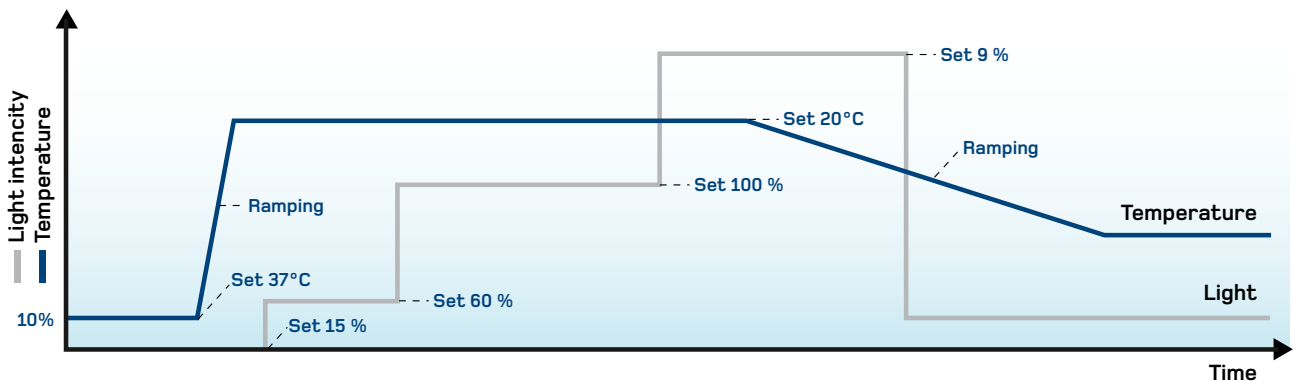
Events, such as new settings and alarm conditions can also be printed. This can be a useful aid in documentation of a test cycle.

By using a PC instead of a printer, remote settings and monitoring are possible.

### CUSTOM SPECIALS AND UPGRADES

The system software can easily be replaced via a Windows based PC connected to the serial port. This makes it possible to keep the system up to date.

Customers with special functional needs, can get their software on a CD or via the Internet from Termaks.



COOLED INCUBATORS

TEMP. CONTROL		KB 8182	KB 8400	KB 8400 L
Variation	+ / - °C	0,1	0,1	0,1
Deviation (spatial)	+ / - °C	0,2	0,2	0,2
Readability / Set ability	°C	0,1	0,1	0,1
Range	°C	-9,9-70,0	-9,9-70,0	-2-70,0
Sensor thermocouple "K"		Yes	Yes	Yes
Controller		PID	PID	PID
Display		LCD	LCD	LCD

TIMER

Minutes / hours		0-999	0-999	0-999
Delayed start options		Yes	Yes	Yes
Real time program		Optional *	Optional *	Optional *
Printer report		Optional*	Optional*	Optional*
Free trial periode		1 month	1 month	1 month

SAFETY

Alarm flashing / Acoustic		Yes	Yes	Yes
Alarm limit settable		Yes	Yes	Yes
Fuses		10A	10A	10A

LIGHT CONTROL

Light readability/set ability	%	No	No	3-100
Light intensity in the middle	Lux	0	0	12000
Light intensity both sides	Lux	0	0	25000

FEATURES

Access port	30mm	Optional	Optional	Optional
Inspection window		Optional	Optional	Optional
Castors, lockable		Yes	Yes	Yes
Data Port, Serial	RS 232	Yes	Yes	Yes
Automatic de-icing **		Yes	Yes	Yes
Pot. free alarm output		Optional	Optional	Yes

SHELVES

Standard / Max	pcs	3/14	3/22	3/22
Dimensions WxD	mm	500x450	610x580	610x580
Max load pr shelf	kg	20	30	30
Permitted total load	kg	80	120	120

POWER

Maximum power usage	W	950	950	1200
Nominal voltage	VAC	230	230	230
Frequency	Hz	50		50

DIMENSIONS

Exterior WxDxH	mm	680x580x1430	830x720x1840	960x720x1840
Interior WxDxH	mm	520x451x777	630x592x1073	630x592x1073
Volume	litres	182	400	400

WEIGHTS / VOLUME

Net weight	kg	95	180	210
Shipping weight	kg	120	210	240
Shipping dimensions WxDxH	mm	780x680x1630	930x830x2040	82x106x202
Shipping volume	dm <sup>3</sup>	865	1575	1795

\* THIS OPTION IS STORED IN THE SYSTEM AND CAN FREELY BE TESTED FOR 30 DAYS. A UNIQUE CODE IS NEEDED IN ORDER TO MAKE IT AVAILABLE FOR PERMANENT USE

\*\* AT LOW TEMPERATURES THIS SYSTEM WILL AFFECT TEMPERATURE CONTROL

THESE TECHNICAL DATA ARE SPECIFIED FOR AN EMPTY CABINET AND AMBIENT TEMPERATURE OF 23°C  
SUBJECT TO TECHNICAL ALTERATION

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