

# PLANT GROWTH CHAMBER

RK-340 CH

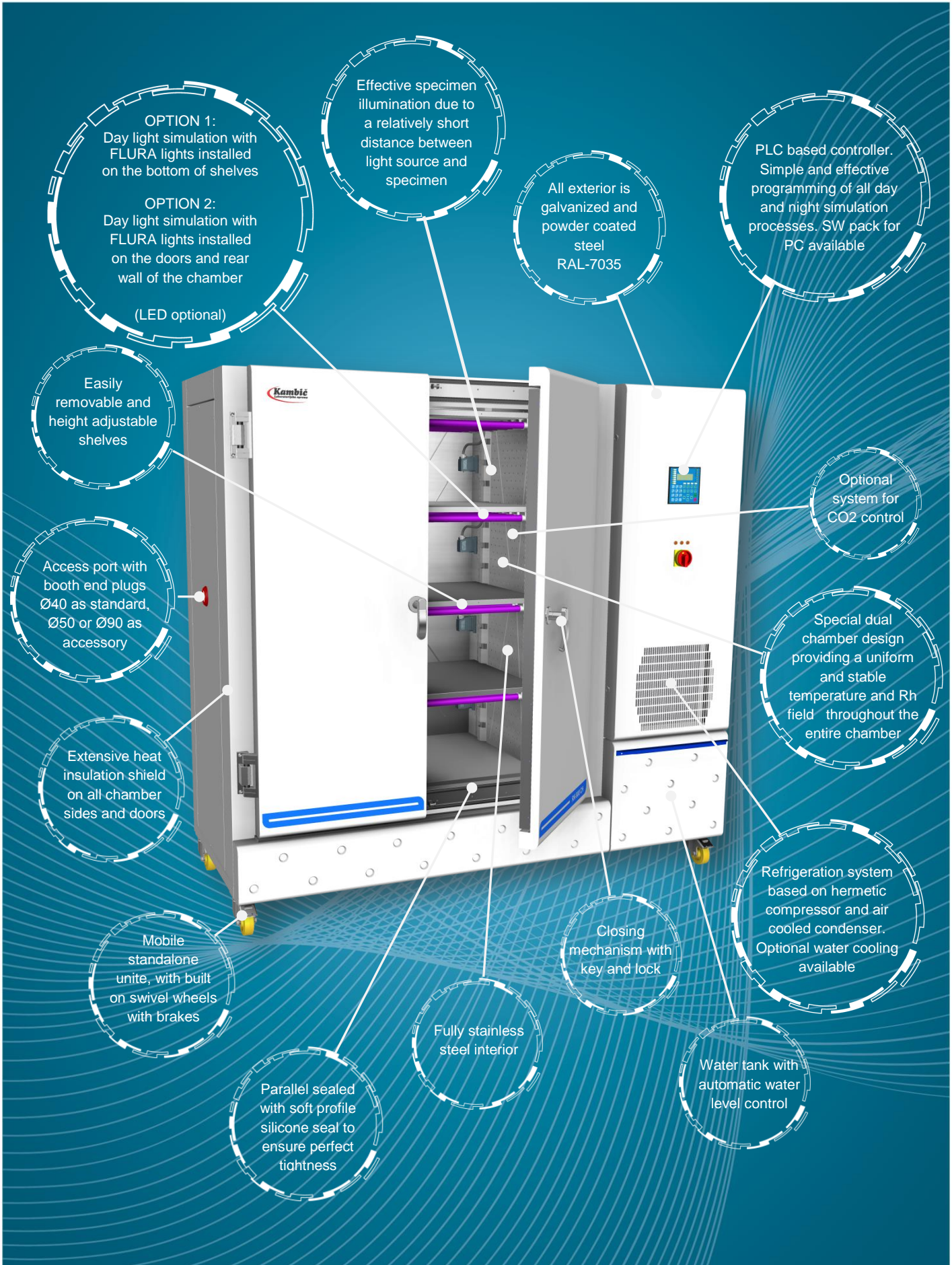
RK-500 CH

RK-1000 CH

Perfect solution for botanical and agricultural applications, plant pathology, plant tissue culture studies, seed germination studies, plant genetic research...

- Three different sizes (small, medium, large)
- Easy to use fully programmable controller
  - State of the art repeatability
  - Day light simulation control
- Relative humidity control
  - Temperature control
  - CO2 control (option)





OPTION 1:  
Day light simulation with FLURA lights installed on the bottom of shelves

OPTION 2:  
Day light simulation with FLURA lights installed on the doors and rear wall of the chamber  
(LED optional)

Effective specimen illumination due to a relatively short distance between light source and specimen

All exterior is galvanized and powder coated steel RAL-7035

PLC based controller. Simple and effective programming of all day and night simulation processes. SW pack for PC available

Easily removable and height adjustable shelves

Access port with booth end plugs Ø40 as standard, Ø50 or Ø90 as accessory

Extensive heat insulation shield on all chamber sides and doors

Mobile standalone unite, with built on swivel wheels with brakes

Parallel sealed with soft profile silicone seal to ensure perfect tightness

Fully stainless steel interior

Closing mechanism with key and lock

Refrigeration system based on hermetic compressor and air cooled condenser. Optional water cooling available

Water tank with automatic water level control

Optional system for CO2 control

Special dual chamber design providing a uniform and stable temperature and Rh field throughout the entire chamber

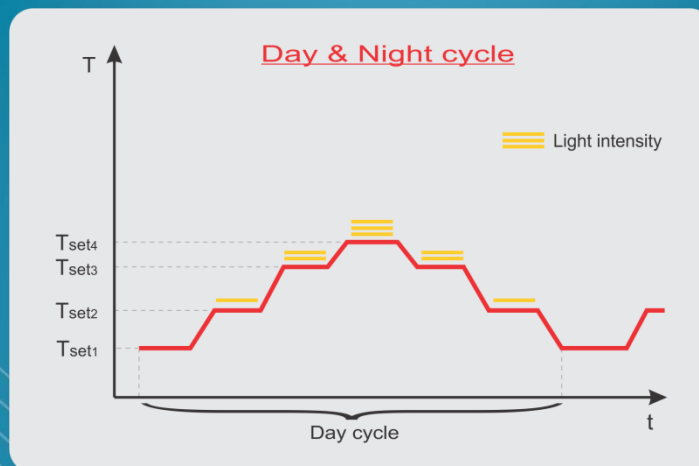
## Controller functions:

### 24 hour day & night cycle control:

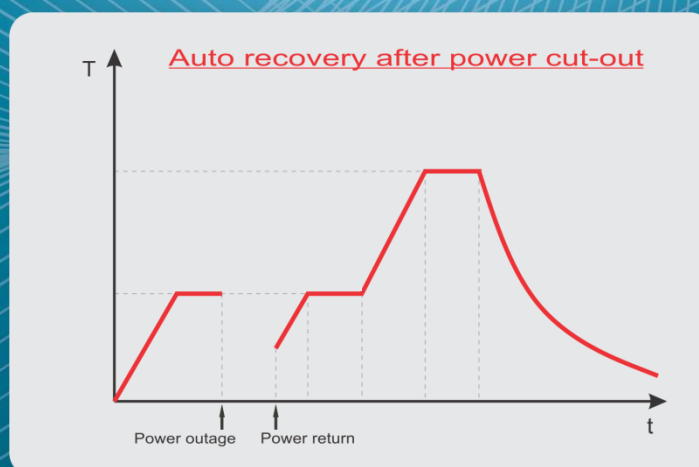
24 hours (one day) can be divided into five phases of day and five phases of night!

Example:


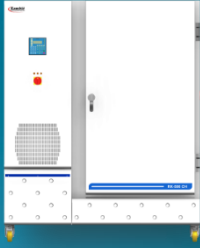
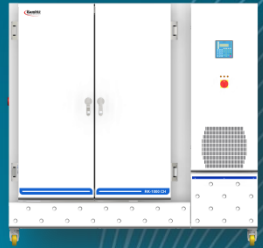
- Phase 1 (day): 07:00 to 10:00,  $T = 15^{\circ}\text{C}$ ,  $R_h = 70\%$ , light intensity 1
- Phase 2 (day): 10:00 to 18:00,  $T = 30^{\circ}\text{C}$ ,  $R_h = 80\%$ , light intensity 3
- Phase 3 (day): 18:00 to 21:00,  $T = 23^{\circ}\text{C}$ ,  $R_h = 75\%$ , light intensity 2
- .....
- Phase 1 (night): 21:00 to 01:00,  $T = 20^{\circ}\text{C}$ ,  $R_h = 70\%$ , no lights
- Phase 2 (night): 01:00 to 05:00,  $T = 18^{\circ}\text{C}$ ,  $R_h = 73\%$ , no lights
- Phase 3 (night): 05:00 to 07:00,  $T = 19^{\circ}\text{C}$ ,  $R_h = 75\%$ , no lights
- .....



### Auto recovery after power cut-out:



## Technical data:

	RK-340 CH	RK-500 CH	RK-1000 CH
			
External dimensions (WxHxD) in mm	834 x 1895 x 1135	1600 x 1980 x 700	2040 x 1983 x 886
Internal dimensions (WxDxH) in mm	600 x 830 x 685	680 x 1400 x 520	1045 x 1400 x 700
Volume (L)	~340	~500	~1000
Number of shelves with lights (lights on shelves option)	2	3	3
Number of wire shelves	2	3	3
Temperature range (°C) (lights on or off)	+5...+60	+5...+60	+5...+60
Rh range (%) (DEW point limits)	10...95	10...95	10...95
Temperature & Rh display resolution	0.1°C / 1%	0.1°C / 1%	0.1°C / 1%
Temperature set resolution (°C)	0.1	0.1	0.1
Rh set resolution (%)	1	1	1
Temperature stability (°C) (lights off)	Better than ±0,3°C	Better than ±0,3°C	Better than ±0,3°C
Temperature uniformity (°C) (lights off)	< ± 1 @ +37°C	< ± 1 @ +37°C	< ± 1 @ +37°C
Rh Stability (%) (lights off)	Better than ±3	Better than ±3	Better than ±3
Heating rate	~ 2°C/min	~ 2°C/min	~ 2°C/min
Cooling rate	~ 1.5°C/min	~ 1.5°C/min	~ 1.5°C/min
Day light simulation	FLUORA lights (LED option)	FLUORA lights (LED option)	FLUORA lights (LED option)
Illumination intensity	1/3, 2/3, 3/3	1/3, 2/3, 3/3	1/3, 2/3, 3/3
Temperature Control	PID	PID	PID
Cooling	Air cooled compressor aggregate	Air cooled compressor aggregate	Air cooled compressor aggregate
Power supply	3x400 V 50/60 Hz (± 10%)	3x400 V 50/60 Hz (± 10%)	3x400 V 50/60 Hz (± 10%)
Wattage (W)	4500	4500	4500
Interface	RS 232 (USB or Ethernet optional)	RS 232 (USB or Ethernet optional)	RS 232 (USB or Ethernet optional)
Weight (kg)	318	469	642

### Ordering information and accessories:

Description	Part no.
Plant Growth Chamber RK-340 CH	922
Plant Growth Chamber RK-500 CH	903
Plant Growth Chamber RK-1000 CH	2638
Access Port w. Plug Ø 40 mm	2629
Access Port w. Plug Ø 50 mm	608
Access Port w. Plug Ø 90 mm	1731
Evaluation report	1719
Monitoring and data collection software for PC	104
USB interface	1466
Ethernet interface	1716
Automatic water feeding	1744
Password protection	1718
CO2 control system	2108
Shelve wire RK-340 CH	2109
Shelve wire RK-500 CH	2110
Shelve wire RK-1000 CH	2111
Shelve with lights RK-340 CH	2112
Shelve with lights RK-500 CH	2113
Shelve with lights RK-1000 CH	2114

