



EKOCTL series
Stability Test and
Plants Growth chambers
Light & Temperature
controls

(picture of cod. 13300, EKOCTL 1500P with all doors open)

The chambers of EKOCTL series are designed to control the internal temperature in the range -10°C to +60°C and lights as ON / OFF or cycling. The versions **EKOCTL 900P and **EKOCTL 1500P** are supplied as standard with a programmable microprocessor to generate T and light ramps while all other models have standard controllers only.**

Main features of EKOCTL chambers

TEMPERATURES RANGE:

- from -10°C to +60°C with light OFF
- from +10°C to +50°C with light ON

TEMPERATURE UNIFORMITY:

- + / - 1.5 °C with light OFF
- + / - 3.0 °C with light ON

LIGHT RANGE:

- from 0 to 20.000 Lux

FRAME

Exterior is in steel plate pre-painted in grey with self-closing door/s equipped with magnetic & key lock and specific rubber gasket and heater to prevent water condensation.

Interior is in stainless steel AISI 304 with one or two inner glass door/s and a porthole with diameter of 50 mm with rubber cap.

The chamber has internal rounded corners, a basin floor for liquid collecting and a courtesy light.

Adjustable front levelling feet.

Internal wire shelves.

THERMAL INSULATION

By high density expanse – injected polyurethane foam: **insulation size 75 mm.**

COOLING SYSTEM:

By totally sealed compressor located in the upper part of the chambers with air condensing unit.

Internal evaporator is air ventilated.

REFRIGERANT

Standard R134a or R404a (only EKOCTL 900P and 1500P), both allowed by the Montreal Convention and accepted as "environment friend gas" under the London amendment too.

LIGHTS

By high-density fluorescent tubes **OSRAM 36W tone 954** and by fluorescent tubes **OSRAM 36W lights tone 77** for up to 20.000 Lux radiation (measured with probe oriented towards the lamps and centrally positioned at 30 cm from light source). Lighting tubes are vertically oriented on the two lateral sides and are separated from the chamber by two temperate glasses. Service doors for lights replacement are standard. On request (to specify what), others lighting tubes can be ordered with different light tones to get any available spectrum of light radiation.

CONTROLLERS

The models **EKOCTL 700 and EKOCTL 1500** are equipped with one standard electronic controller for temperature (P.I.D. controller) and one manual "clock-type" controller for ON /OFF all the lamps at once. The T controller use one Pt100 probe for Temperature measurements. As option (see OPTIONALS), they can be equipped with an extra controller for completely back-upping the main temperature controller in case of failure.

The models **EKOCTL 900P and EKOCTL 1500P**, instead than the standard controllers, have one programmable ramps generator (PLC) to set temperature and lighting cycles (to simulate sunrise, day light and sunset).

- equipped with a battery back-up to provide energy for up to 24-48 hours in case of main black-out (parameters only, NOT for alarms, see OPTIONAL ACCESSORIES for alarms battery back-up),
- Possibility to store up to 1000 cycles of 350 segments,
- **For each working segment programmed inside one cycle, the lamps can be turned ON/ OFF using six different levels, approximately with the following value:**
 1. 800 Lux
 2. 1500 Lux
 3. 5500 Lux
 4. 9500 Lux
 5. 15000 Lux
 6. 2000 Lux (max)
- Unlimited possibility to register temperature levels variations,
- Log of alarms with recording of displaying time, number of total interventions, stored cycles (can be exported by a Compact Flash card or a Pen drive directly through the USB door on the controls panel)
- Temperature graphs available on display,
- Visualization of functioning synoptic graphs,
- Predisposition for 4-20mA signals for temperature,
- Remote alarms for temperature (normally open / normally closed contact),
- RS232 serial port,
- Membrane controls panel with full-color display and with the following functions:
 1. ON/OFF chamber.
 2. ON/OFF climate.
 3. SET switches for Temperature,
 4. Visualization of current Temperature,
 5. Visualization of alarms for high pressure or chamber lock.

ORDERING INFORMATION AND AVAILABLE MODELS

Code 12882 – EKOCTL 700 700 litres

Net sizes & weight

- External: 840W x 940D x 2100H mm
- Internal: 590W x 600D x 1500H mm
- Weight 180 kg

Number of doors: 1 + 2 lateral
Number of wire shelves 4

Voltage 208 – 252 VAC, 50 Hz (60Hz optional)
Amperage 9A (18A with lamps turn on)
Noise level <65 dB

OPTIONAL ONLY for code 12882 – EKOCTL 700:

Code	Description
17140	Wooden cage for safe transportation
13085	Additional grid steel shelf
11340	Battery back-up system to feed the alarms even if main power is OFF (max for 48h)
11874	Electronic back-up controller. In case of failure of the main controller, this option acts as back-up controller limiting the T variation inside a specific min and max values (variable): particularly useful to protect at 100% any high value material present in the chamber.

Code 12883 – EKOCTL 1500 1500 litres

Net sizes & weight

- External: 1580W x 940D x 2100H mm
- Internal: 1330W x 600D x 1500H mm
- Weight 260 kg

Number of doors: 2 + 2 lateral
Number of wire shelves 6

Voltage 208 – 252 VAC, 50 Hz (60Hz optional)
Amperage 9A (18A with lamps turn on)
Noise level <65 dB

OPTIONAL ONLY for code 12883 – EKOCTL 1500:

Code	Description
17142	Wooden cage for safe transportation
13085	Additional wire shelf
11340	Battery back-up system to feed the alarms even if main power is OFF (max for 48h)
11874	Electronic back-up controller. In case of failure of the main controller, this option acts as back-up controller limiting the T variation inside a specific min and max values (variable): particularly useful to protect at 100% any high value material present in the chamber.

Code 13414 – EKOCTL 900P (with T and lights ramps generator) 900 litres

Net sizes & weight

- External: 910W x 1135D x 2100H mm
- Internal: 660W x 800D x 1500H mm
- Weight 210 kg

Number of doors: 1 + 2 lateral

Number of wire shelves 4

Voltage 208 – 252 VAC, 50 Hz (60Hz optional)

Amperage 9A (18A with lamps turn on)

Noise level <65 dB

OPTIONAL ONLY for code 13414 – EKOCTL 900P:

Code	Description
12095	Angelantoni Winkratos™ software (Windows based) for remote control and complete recording of chambers' parameters.
13415	Additional wire shelf
17141	Wooden cage for safe transportation

Code 13300 – EKOCTL 1500P (with T and lights ramps generator) 1500 litres

Net sizes & weight

- External: 1580W x 940D x 2100H mm
- Internal: 1330W x 600D x 1500H mm
- Weight 260 kg

Number of doors: 2 + 2 lateral

Number of wire shelves 6

Voltage 208 – 252 VAC, 50 Hz (60Hz optional)

Amperage 9A (18A with lamps turn on)

Noise level <65 dB

OPTIONAL ONLY for code 13300 – EKOCTL 1500P:

Code	Description
12095	Angelantoni Winkratos™ software (Windows based) for remote control and complete recording of chambers' parameters.
13085	Additional wire shelf
17142	Wooden cage for safe transportation

OPTIONAL ACCESSORIES APPLICABLE TO ALL CHAMBERS OF EKOCTL SERIES

Code	Description
13570	Two channels recorder (T and RH)
11676	Standard additional Pt100 Temperature probe
12132	Pt100 T probe Class A with 3 calibration points
12850	Additional porthole diam. 23 mm
12851	Additional porthole diam. 50 mm

OTHERS TECHNICAL DATA

Product Name :	EKOCTL series – stability tests and plant growth chambers
Manufacturer:	Angelantoni Life Science S.r.L. Loc. Cimacolle, 464 06056 Massa Martana (PG) - Italy
Ambient conditions of use:	Temperature: +10° ~ +30° C Relative humidity: 30 ~ 80% without condensation
Stocking condition:	Temperature: +0° ~ + 40° C Relative humidity: 20 ~ 80% without condensation
Alarms types:	Acoustic and Optical
In case of power black-out:	Compressors OFF (Controller is powered for 24-48h by a battery back-up)