



Best Technology
For Your Laboratory

GROWTH CHAMBER

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ZFL 400



Overview | ZFL400

The FG ZFL series growth chambers achieve homogeneous light distribution and ensure consistent temperature conditions with its natural illumination. Minimized response times guarantee that all test and growth parameters remain balanced. The weekly program timer integrated in the controller is a real plus in handling.

This device is used in a variety of industrial, agriculture and research laboratories

Main features | ZFL400

User- friendly LCD color screen with touch key

Very tight door closure with 2-point door latch

4 CASTERS (2 front casters with brake)

Automatic temperature monitor

Two stainless steel shelves

Door Heating system

Inner glass door

Real-time clock

Circulation fan

Special benefits | ZFL400

HCT (Homogenic chamber technology)

Temperature and humidity stability and reproducibility

Uniform circulation even under full load

Uniformity @ 27 points of chamber

Short recovery time

Triple-walled

DUAL SAFETY

Class 3.3 independent temperature safety device (DIN12880) (TWW)

Class 3.1 independent temperature safety device (DIN12880) (TWB)

Adjustable safety thermostat with separate sensor

Audible and Visual alarm

NON-CUT technology

Powerful cooling system for safe operation up 30°C ambient temperature

Dual evaporator

Frost-free

Special benefits | ZFL400

Flexible water management with anti-polar technology

Water sensor protection thanks to anti-polar technology

Electric sensor for adjust water surface

Prevent water deposition on sensors

Unique humidification system

Vapor pressure humidification with fast response time

Solution independent of installation sight

Pump for discharges up to 1 m in height

Short recovery times after door opening

Drift-free, capacitive humidity sensor

Finely adjustable humidity control

External water supply

Special benefits | ZFL400

ARM series micro controller

Save temperature, humidity, fan speed and all events up to 5 years

Controller which can store 3 programs of 100 steps

6 points user temperature calibration

Double PT100 temperature sensor

2 points user humidity calibration

PID controller with high accuracy

"7" Color graphic TFT LCD

Capacitive touch key

Lock functions

DOCUMENTATION

Internal memory for temperature, humidity, fan speed logs up to two years

Ethernet (LAN) interface for connecting to PC, using FG lab software

Documentation in support of GMP/GLP compliance

Special benefits | ZFL400

STM (smart temperature monitor)

Alarm for temperature and humidity

Audible and visual alarm

Door open alarm

SMS alarm

HLD technology (homogeneous light distribution)

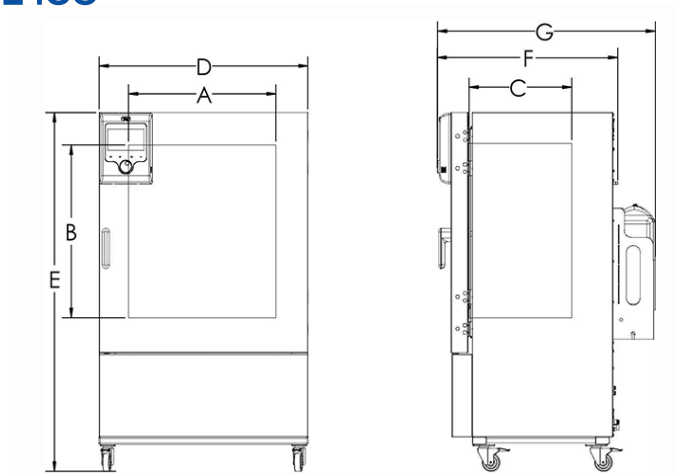
Changeable light (Cool white light, warm white light, Flouora)

Variable position and removable illumination cassettes

Homogeneous light over the entire usable space

Dimmable LED light by 10%

Specifications | ZFL400



Exterior dimensions

Depth Plus controller, door handle and water source (cm)	95
Depth Plus door handle(cm)	75
Width (cm)	90
Height (incl. feet) (cm)	204
Number of doors	1
Number of glass door	1

Interior dimensions

Interior volume (L)	400
Height (cm)	137
Width (cm)	66
Depth (cm)	45.5
Weight (empty) (kg)	220
Load per rack (Kg)	40
Permitted total load (Kg)	200
Racks (number standard-max)	2-15
Light intensity (lux)	7500
Number of cassettes	3

Specifications | ZFL400

Climatic data

Recovery time after doors were open for 30sec @ 25°C and 60% humidity(min)*	10
Temperature uniformity with illumination @ 25°C(±K)	±1.5
Temperature fluctuation with illumination @ 25°C(±K)	±1
Temperature uniformity with illumination @ 40°C(±K)	±1.5
Temperature fluctuation with illumination @ 40°C(±K)	±1
Temperature fluctuation without cassette @ 25°C (±K)	±0.5
Temperature uniformity without cassette @ 25°C (±K)	±1
Temperature uniformity without cassette @ 40°C (±K)	±1
Temperature fluctuation without cassette @ 40°C (±K)	±0.5
Humidity fluctuation (%RH)	±5
Temperature range without light cassette (°C)	10-60
Temperature range with light cassette (°C)	15-40
Humidity range without light cassette (%RH)	10-80
Humidity range with light cassette (%RH)	30-80

Specifications | ZFL400

Installation conditions

Wall clearance, rear (cm)	20
Wall clearance, side (cm)	15
Wall clearance, above (cm)	40
Maximum ambient temperature(°C)	26
Minimum ambient temperature(°C)	16
Maximum ambient humidity (%RH)	70

Electrical data

Power (W)	3410
Frequency (HZ)	50
Voltage (V AC)	220
Current (A)	15.5

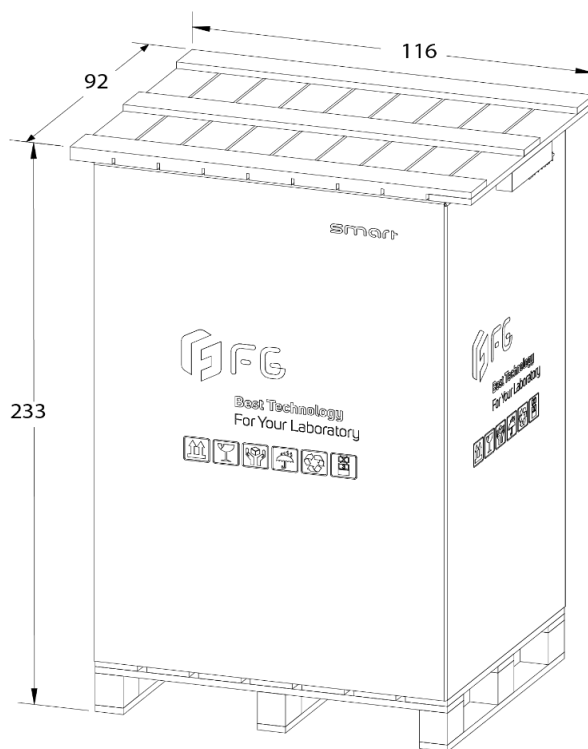
Specifications | ZFL400

Packing/ shipping data

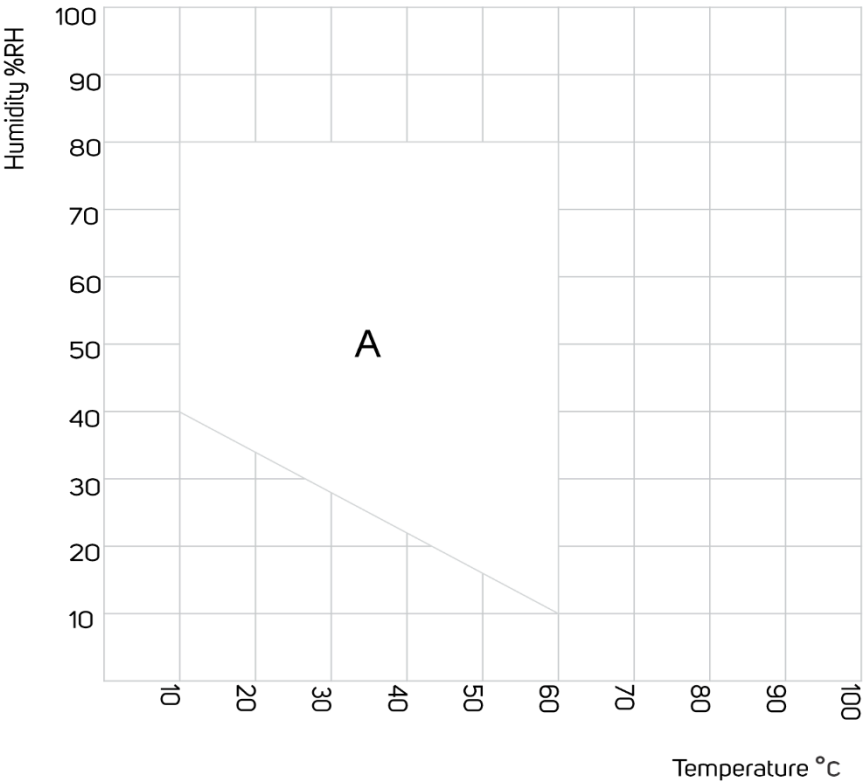
Transport information	Device Must be transported upright
Width incl carton (CM) approx.	116
Height incl carton & pallet underneath (CM) approx.	233
Depth incl carton (CM) approx.	92
Packing Material	Carton & 2 pallet: one underneath and one on top
Gross weight (KG) approx. with packing	280

* To 98% of set value

- All technical data are specified for units with standard equipment at an ambient temperature of 25 °C and a line voltage fluctuation of ± 10
- There are some limits for set humidity and temperature, please see the temperature-humidity chart.



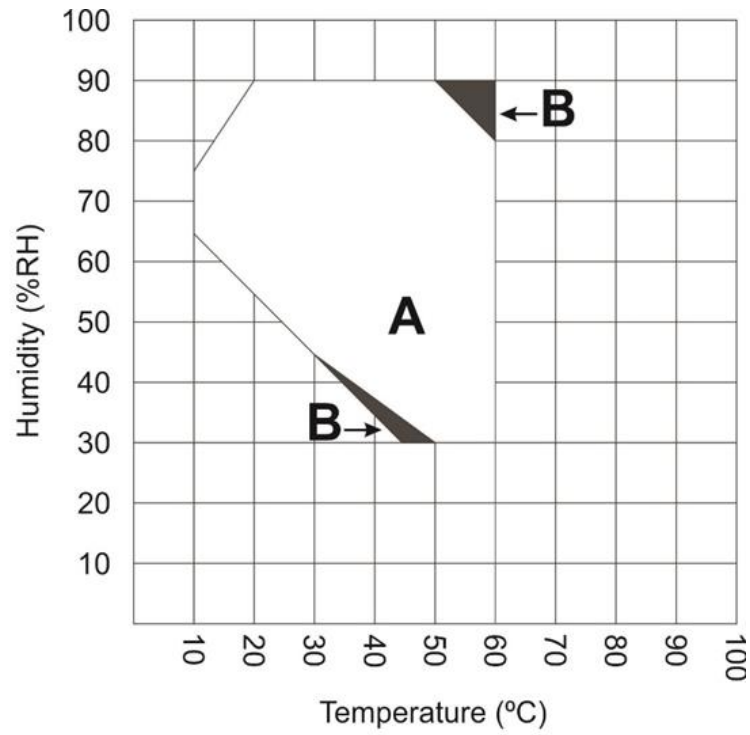
Specifications | ZFL400



A: Guaranteed condensation-free range
B: Time-limited operation (max. 24 hours)

Temperature -humidity chart without light cassette

Specifications | ZFL400



Temperature -humidity chart with light

- A. Condensation free area
- B. Deviations of technical data may be possible
Other temperature-humidity values may be possible by order

Options and accessories | ZFL400

Custom made order is available

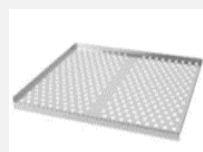


Access port with silicone plug

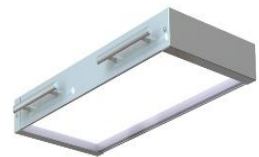
Qualification folder IQ/OQ/PQ



Additional stainless-steel rack



Light cassette



Calibration certificate





Email: global@fginst.com
Website: www.fginst.com