

For perfect in-vivo conditions and natural environmental simulation

KBWF series: precise and constant for any climate

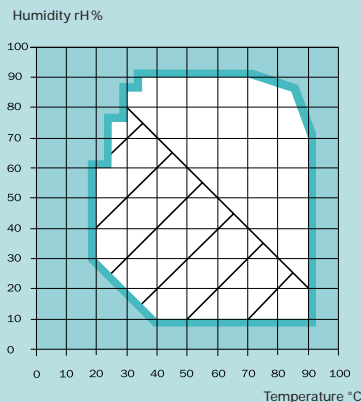
Thanks to the exceptional capability and considerable diversity of the programming facilities, all parameters for natural conditions, such as temperature, humidity and light, can be perfectly simulated in the KBWF plant growth chambers. Technologically, this unit series is based on the KBF precision climatic chambers, with all their well-known advantages. Due to the broad climatic range, any atmosphere can be simulated constantly and precisely over long periods of time. The horizontal air conduction of the APT.Line preheating chamber technology, in conjunction with the controllable air turbine enables simulation of the natural air-flow conditions. The effective lighting is located in the doors and is thermally disconnected from the inner chamber. A lighting device can be placed beneath the unit ceiling as an option, in order to simulate multi-directional lighting conditions. The lamps can be switched in three groups. The day/night simulation is controlled via the program control.

The KBWF series is ideal for simulating any given climate naturally over longer periods of time.



► Operative ranges:

Plant biotechnology, agricultural industry, forestry and timber industry, pharmaceutical and chemical industry, basic research, quality assurance



The light area shows the control range of temperature and relative humidity. The hatched area shows the control range of temperature and relative humidity without condensation

► Performance features:

- -5°C to 100 °C (without humidity and lighting)
- Microprocessor-controlled humidification and dehumidification system with humidity range of 10 % - 90 % rH; +/- 1.5 %
- Operation with normal tap water
- Maintenance-free capacitive precision-humidity sensor
- 10 FLUORA® growth lamps, can be switched in three groups
- Lighting device possible beneath unit ceiling (as an option)
- RS 422 interface for the communication software APT-COM® DataControlSystem
- Calibrations and validations possible
- Inner chamber volume in litres: 240; 700

► Equipment:

- Colour screen controller with 25 programs, each with 100 sections for temperature, humidity and light
- Memory capacity of controller: max. 500 program segments
- Direct DCT® cooling system with environmentally friendly refrigerant R134a
- Continuous defrosting device for long-term operation
- Collecting tray for condensate on the door
- Inner glass door with smooth inner side
- 2 or 3 stainless steel shelves
- Temperature safety device Cl. 3.1
- Leadthroughs ø 29 mm right side top and bottom

KBWF series	KBWF 240	KBWF 720
Exterior dimensions		
Width (mm)	1034	1234
Height (inclusive feet/castors) (mm)	1142	1816
Depth (mm)	746	867
plus door handle, I-panel, connection (mm)	100	100
Interior dimensions		
Width (mm)	800	1000
Height (mm)	600	1200
Depth (mm)	500	600
Interior volume (l)	240	720
Shelves (number standard/max)	2/7	2/15
Load per shelf (kg)	30	45
Permitted total load (kg)	70	120
Temperature range		
with humidity without illumination(°C)	10–90	10–90
with humidity and illumination (approx. °C)	20–70	20–70
Temperature variation ²⁾		
without humidity at 10 °C (± °C)	0.4	0.4
without humidity at 37 °C (± °C)	0.4	0.4
Temperature variation with humidity (± °C) ²⁾	1.0	1.0
Nominal voltage (10%) 50/60 Hz (V)	230	230
Nominal power (W)	2420	2950
Number of door(s)	2	2
Optional		
Temperature safety device class 3.3 acc. to DIN 12880	●	●
Lockable door	●	●
Access ports with silicone plug	●	●
Water-proof interior socket 230 VAC	●	●
Measuring protocol acc. to DIN 12880, Part 2	●	●
built-in 2-channel line recorder with digital display of temperature and humidity values	●	●
Analogue outputs 4 – 20 mA for temperature and humidity with DIN bushing 6-poles	●	●
Shelves, stainless steel	●	●
Calibration certificate and extension for calibration certificate	●	●

All technical data are specified for units with standard equipment at an ambient temperature of +22 °C and a voltage fluctuation of ±10 %. The temperature data are determined in accordance to DIN 12880, part 2 respecting the recommended wall clearances of 10 % of the height, width and depth of the inner chamber. All indications are average values, typical for units produced in series. We reserve the right to alter technical specifications at all times.

By bringing in a humidity source to the inner chamber the minimal humidity range is affected.

A water tap (1–6 bar) with normal tap water (approx. 200 – 500 µS/tolerance range: +300 to –150 µS, total hardness appr. 4–8° dH) is necessary for the installation of the “humidifying and dehumidifying system”. Furthermore, a 40 mm water drain with descending gradient is required.

¹⁾ to 98 % of the set value

²⁾ value without lighting

³⁾ Measured in center of usable volume

● Optional

– not available