KBF ICH 240 (E5.1) - Constant climate chamber with ICH illumination

Specialized equipment for photostability tests. Integrated cooling of fans consistently compensates for the additional heat from the light and thus provides unambiguous, meaningful test results in compliance with guideline ICH Q1B, Option 2. The two sources for visible and UV light can be controlled separately, which provides higher accuracy for analysis.

Performance features and equipment:

- Electronically controlled APT.line™ preheating chamber and refrigerating system assuring temperature accuracy and reproducible results
- Temperature range 0 °C (32 °F) up to 70 °C (158 °F) - without humitiy
- Humidity range 10 % to 75 % RH (with illumination)
- Humidity range 10 % RH to 80 % RH (without illumination cassette)
- MCS controller with 25 storable programs of 100 sections each for a maximum of 500 program segments
- Features:
  - User friendly LCD screen
  - Easy-to-read menu guide
  - Integrated electronic chart recorder
  - Variety of options for the graphic display of process parameters
  - Real time clock
- Electronically controlled humidification and dehumidification system with capacitive humidity sensor suitable for stability tests according to ICH guideline Q1A (R2)
- Inner glass door with sealing
- Environmental friendly refrigerant R 134a
- Independent adjustable temperature safety device class 3.1 (DIN 12880), with visual and audible temperature alarm
- Access port with silicone plug Ø 30 mm (1.18 inch), left side
- Complete safety connection kit for water supply and drainage, including water hose, total length 6 m (19.7 ft.)
- Ethernet interface for APT-COM™ DataControlSystem software
- 2 stainless steel racks included
- 2 variable positioned illumination cassettes with 3 cool white fluorescent tubes and 2 BINDER Q1B Synergy Light fluorescent tubes for photo-stability testing in accordance with ICH guideline Q1B, Option 2
- BINDER test certificate

Technical specification KBF ICH 240 (E5.1)

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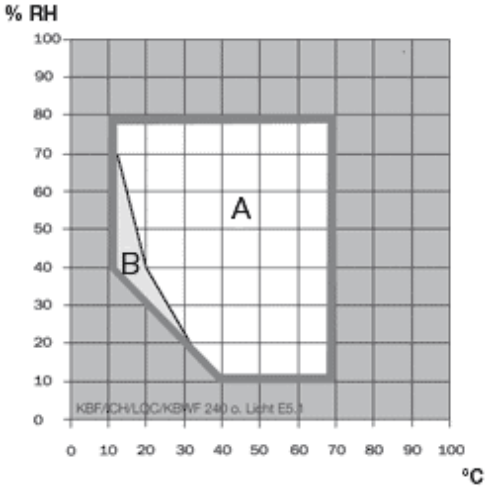
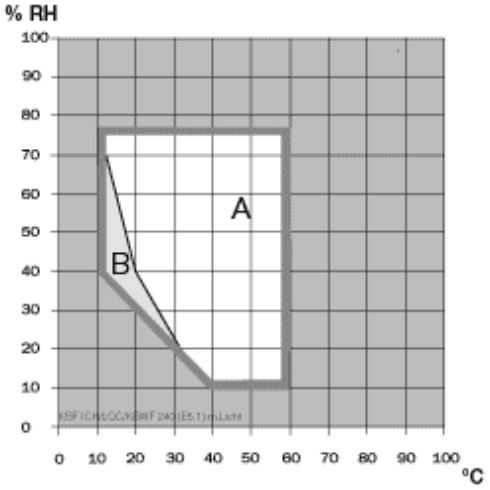
Exterior dimensions	
Width (mm/inch)	925 / 36.4
Height (incl. castors) (mm/inch)	1460 / 57.5
Depth (mm/inch)	800 / 31.5
Plus door handle, I - panel, connection (mm/inch)	50 / 1.9
Wall clearance rear (minimum) (mm/inch)	100 / 3.9
Wall clearance side (minimum) (mm/inch)	100 / 3.9
Steam space volume (l/cu.ft.)	348 / 12.3
Number of doors	1
Number of inner glass doors	1
Interior dimensions	
Width (mm/inch)	650 / 25.6
Height (mm/inch)	785 / 30.9
Depth (mm/inch)	485 / 19.1
Interior volume (l/cu.ft.)	247 / 8.73
Racks, chrome - plated (number standard/max.)	2 / 7
Quantity of light cassettes (number standard/max.)	2
Load per rack (kg/lbs.)	30 / 66
Permitted total load (kg/lbs.)	100 / 221
Weight of the unit (empty) (kg/lbs.)	213 / 470
Temperature data (without humidity)	
Temperature range without light cassettes 1) (°C/°F)	0 - 70 / 32 - 158
Temperature range with light cassettes, with illumination 1) (°C/°F)	10 - 60 / 50 - 140
Max. heat compensation up to 40 °C (104 °F) with illumination (W)	400
Climatic data (with humidity)	
Temperature range without light cassettes 1) (°C/°F)	10 - 70 / 50 - 158
Temperature range with light cassettes, with illumination 1) (°C/°F)	10 - 60 / 50 - 140
Temperature variation (spatial) with illumination at 25 °C (77 °F) and 60% RH (±K)	0.6
Temperature variation (spatial) with illumination at 40 °C (104 °F) and 75% RH (±K)	0.6
Temperature fluctuation with illumination at 25 °C (77 °F) and 60% RH (±K)	0.2
Temperature fluctuation with illumination at 40 °C (104 °F) and 75% RH (±K)	0.2
Humidity range without light cassettes (% RH)	10 - 80
Humidity range with light cassettes, with illumination 1) (°C/°F)	10 - 75
Humidity fluctuation at 25 °C (77 °F) and 60% RH with illumination (± % RH)	1.5
Humidity fluctuation at 40 °C (104 °F) and 75% RH with illumination(± % RH)	2
Recovery time after doors were open for 30 sec at 25 °C (77 °F) and 60% RH with illumination 2) (Minutes)	3
Recovery time after doors were open for 30 sec at 40 °C (104 °F) and 75% RH with illumination 2) (Minutes)	4
Illumination data per light cassette	
ICH compliant illumination for photo stability testing 3) (Lux)	7500
ICH compliant illumination for photo stability testing 3) (UVA W/m²)	1.4
Electrical data	
Housing protection acc. to EN 60529	IP 20

Temperature-humidity chart without light



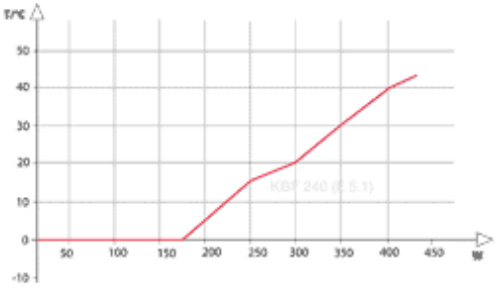
A: Standard Climate range / B: Discontinuous range

Temperature-humidity chart with light



A: Standard Climate range / B: Discontinuous range

Heat compensation



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Nominal voltage (±10%) 50 / 60 Hz (V)	200-240 1N~
Nominal power at 240 V (kW)	2.4
Energy consumption at 40 °C (104 °F) / 75 % RH 4) (W)	600
Noise level approx. (dB (A))	52

1. Tap water [municipal] with a max. hardness of 8.0° dH = 1.4285 mmol/l.
   (The hardness can be established from the water analysis of your water supplier.)

2. We recommend the BINDER Pure Aqua Service for longer maintenance intervals, regardless of water quality.

3. Demineralized or deionized water available at the customers location.

1) Lower values are valid up to an ambient temperature of max. 25 °C (77 °F)
2) up to 98 % of the set value
3) Average value, measured with a spherical sensor (±10%) by 12 cm (4.7 inch) below the light cassette
4) Use this value for dimensioning air condition systems
All technical data are specified for units with standard equipment at an ambient temperature of 25 °C (77 °F) and a voltage fluctuation of ±10 %. The temperature data are determinated in ccordance to factory standard following DIN 12880 respecting the recommended wall clearances of 10 % of the height,width and depth of the inner chamber. Technical data refers to 100 % fan speed. All indications are average values, typical for units produced in series. We reserve the right to alter technical specifications at all times.

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Access ports

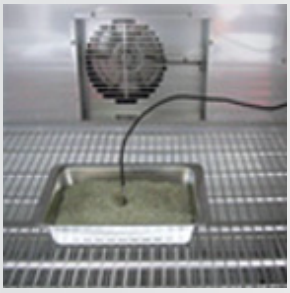
With silicon plugs for inserting external measuring devices into the chamber. Access ports with 10, 50, and 100 mm diameter.

BINDER Pure Aqua Service

Our efficient, flexible water purification system delivers top water quality and extends the maintenance period. Special feature: Our system uses a disposable purification cartridge and also has a water quality indicator.

External fresh water supply set

External fresh water supply set consits of fresh and waste water canister, cabling and pump.



Specimen temperature measurement

Additional flexible PT 100 temperature sensor for precise temperature measurement of the specimen with digital temperature display. Recording of measured data possible via Ethernet or RS 422 interface.

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	KBF ICH 240 (E5.1)
Access port with silicone plugs, 30 mm (1.18 inch), 50 mm (1.97 inch), 100 mm (3.94 inch)	O
RS 422 connection for communication software APT - COM™ DataControlSystem	O
Additional PT 100 temperature sensor, flexibly installed, with external connection, including LEMO connector (3 - pin)	O
Factory calibration certificate for temperature and humidity. Measurement in center of chamber at 25 °C (77 °F) / 60% RH or at specified values	O
Extension to factory calibration certificate for temperature and humidity. Each additional measurement at an additional measuring point or set of values	O
Temperature precision measurement according to DIN 12880 and 9 - point humidity measurement / factory standard with measurement log and certificate, measured at 25 °C (77 °F) / 60% RH or at specified values	O
External fresh supply set consits of fresh and waste water canister, cabling and pump	O
BINDER PURE AQUA SERVICE consisting of disposible cartridge, hose set and measuring unit	O
Rack, stainless steel	O
Reinforced rack, stainless steel, with 1 set of securing elements (4 pieces) (max. load 70 kg / 154 lbs.)	O
Shelf, perforated, stainless steel	O
Safety device, Class 3.3 (DIN 12880) with optical alarm	O
4 - 20 mA analog output for temperature and humidity measurements (e.g. chart recorder connection), with 6-pin DIN socket. Outputs are adjusted automatically as the controller is adjusted	O
Zero-voltage relay alarm outputs for temperature (±2 °C) and humidity (±5 % RH), accessible via 6-pin DIN socket, with acoustic signal that can be switched off (maximum power rating 24 V AC / DC, 2.5 A)	O
Switchable waterproof interior socket 230 V AC (max. 500 W), IP 65 protected, with corresponding plug (IP 66 protected)	O
Lockable door	O

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