# Model KBF PRO 130 | Constant climate chambers with expanded temperature / humidity range

**A powerful all-rounder among constant climate chambers: Equipped with all kinds of sophisticated technology, the KBF PRO takes any material test in its stride – whether it takes place at -20°C or under THB conditions at +85°C and 85% relative humidity. It offers flexible water supply options for all installation sites and consumes up to 40% less energy than its predecessor, the KMF model.**

## BENEFITS

- Reliable and powerful thanks to innovative temperature control technology
- Reliable: long-term operation based on proven compressor technology and inner chamber made of stainless steel
- Smart: signal triangle with light-up status display, ergonomic control terminal with touchscreen program controller, rack with telescopic rails
- Efficient: low energy consumption thanks to modern inverter cooling technology



Model 130



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## IMPORTANT FEATURES

- Temperature range: -20 °C to +100 °C
- Humidity range: 10% to 98% RH
- Proven APT.line™ preheating chamber technology
- Up to 40% lower energy consumption compared to the previous model
- Energy-efficient cooling with modern inverter cooling unit
- Cooling with the natural, low-GWP refrigerant R-290
- Door heating to prevent condensation
- Adjustable fan speed
- Humidity regulation with capacitive humidity sensor and responsive steam humidification
- Sturdy housing design with HIT sandwich technology
- Stainless-steel inner chamber
- Inner doors made of metal oxide-coated safety glass
- Two racks made of stainless steel
- Ø 30 mm access port with silicone plug
- Stackable
- Intuitive touchscreen controller with time-segment and real-time programming
- Internal data logger, measured values can be read out in open format via USB
- Class 3.3 independent temperature safety device(DIN 12880) with visual and acoustic alarms
- Unit self-test for comprehensive status analysis
- Data interfaces: Ethernet, USB
- BINDER Multi Management Software APT-COM™ basic edition

## ORDERING INFORMATION

| Interior volume [L] | Power supply - unit fuse | Plug* | Version | Model version | Art.-No. |
|---|---|---|---|---|---|
| **Model KBF PRO 130** | | | | | |
| 127 | 208...240 V 1~ 50/60 Hz -16,0 A | CEE 7/7 | Standard | KBFPRO130-230V | 9020-0439 |

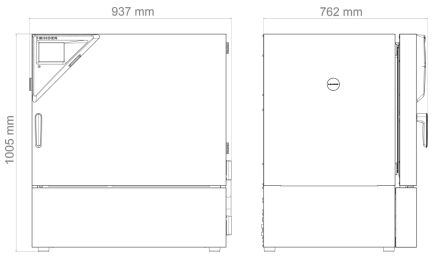
## TECHNICAL DATA

| | |
|---|---|
| **Data** | |
| Article Number | 9020-0439 |
| Designation | KBFPRO130-230V |
| Option model | Standard |
| **Performance Data Temperature** | |
| Temperature range | -20...100 °C |
| Max. heat compensation at 40°C | 450 W |
| **Performance Data Climate** | |
| Temperature range with humidity | 10...90 °C |
| Humidity range | 10...98 % RH |
| Temperature uniformity at 25°C and 60% RH | 0.2 ± K |
| Temperature uniformity at 40°C and 75% RH | 0.2 ± K |
| Temperature fluctuation at 25°C and 60% RH | 0.1 ± K |
| Temperature fluctuation at 40°C and 75% RH | 0.1 ± K |
| Humidity fluctuation at 25°C and 60% RH | 1 ± % RH |
| Humidity fluctuation at 40°C and 75% RH | 1 ± % RH |
| Recovery time after door was opened for 30 s at 25°C and 60% RH | 2 min |
| Recovery time after door was opened for 30 s at 40°C and 75% RH | 3 min |
| **Electrical data** | |
| Rated Voltage | 208...240 V |
| Power frequency | 50/60 Hz |
| Nominal power | 1,9 kW |
| Unit fuse | 16,0 A |
| Phase (Nominal voltage) | 1~ |
| **Dimensions and weights** | |
| Interior volume | 127 L |
| Net weight of the unit (empty) | 142 kg |
| Load per rack | 30 kg |
| Permitted load | 150 kg |
| Wall clearance back | 100 mm |

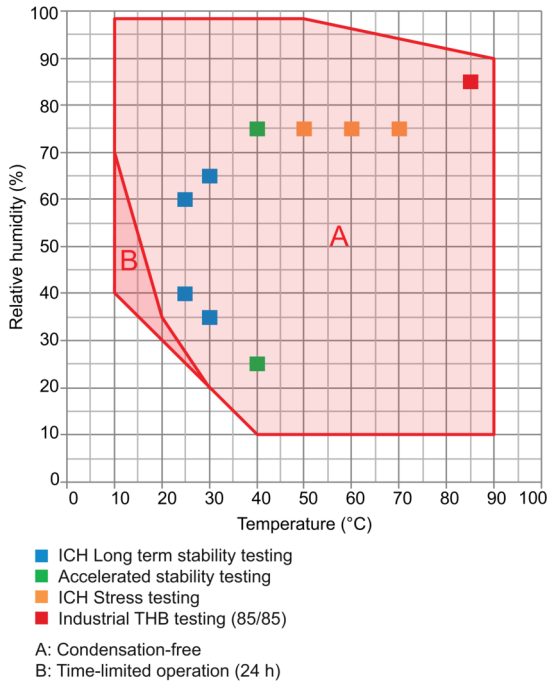
| | |
|---|---|
| Wall clearance sidewise | 100 mm |
| **Housing dimensions not incl. fittings and connections** | |
| Width net | 900 mm |
| Height net | 1,005 mm |
| Depth net | 710 mm |
| **Internal Dimensions** | |
| Interior width | 656 mm |
| Interior height | 500 mm |
| Interior depth | 386 mm |
| Inner doors | 1 |
| Unit doors | 1 |
| **Environment-specific data** | |
| Sound-pressure level at 25°C and 60% RH | 46 dB(A) |
| Energy consumption at 25°C and 60% RH | 235 Wh/h |
| Energy consumption at 40°C and 75% RH | 255 Wh/h |
| Energy consumption at 85°C and 85% RH | 345 Wh/h |
| **Fixtures** | |
| Number of shelves (std./max.) | 2/6 |

All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing 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 change technical specifications at any time.

## DIMENSIONS Incl. fittings and connections [mm]



## DIAGRAMS




Climate chart

## OPTIONS

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| Access port with silicone plug | left | | |
| | 30 mm | 01 | 8012-2489 |
| | 50 mm | 01 | 8012-2490 |
| | right | | |
| | 30 mm | 01 | 8012-2492 |
| | 50 mm | 01 | 8012-2493 |
| | top | | |
| | 30 mm | 01 | 8012-2500 |
| | 50 mm | 01 | 8012-2495 |
| | 100 mm | 01 | 8012-2496 |
| Alarm output, zero-voltage | accessible via 3-pin clamping sleeve (max. 24 V - 2.5 A) | - | 8012-2504 |
| Analog output 4-20 mA | for temperature and humidity values (output not adjustable) | - | 8012-2375 |
| Calibration certificate, expanded | for temperature and humidity; for extending the measurement in center of chamber to include another test value | - | 8012-2576 |

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| Calibration certificate, temperature | temperature measurement incl. certificate, 9 measuring points at specified temperature | - | 8012-2379 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | - | 8012-2383 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | - | 8012-2427 |
| Calibration certificate, temperature and humidity | Measurement in center of chamber at 25°C / 60% RH or at specified test values | - | 8012-2438 |
| | temperature (according to DIN12880) and humidity measurement incl. certificate, 27 temperature measuring points and 1 humidity measuring point, at 25 °C / 60 % RH or at specified values | - | 8012-2578 |
| Coated heat exchanger | For preventing damage to the aluminum heat exchanger caused by corrosive sample material | - | 8012-2582 |
| Door lock | lockable door handle | - | 8012-2538 |
| Door lock, electromechanical | can be opened with PIN code via controller | - | 8012-2540 |
| Inner chamber, reinforced | max. total load 100 kg | - | 8012-2524 |
| Interior lighting | With climate-resistant LEDs, switches when the unit door is opened | - | 8012-2562 |
| Specimen temperature display | Flexible Pt 100 indoor temperature sensor, for object temperature display or control | - | 8012-2554 |

## ACCESSORIES

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| APT-COM™ 4 GLP-Edition | for working under GLP-compliant conditions. Measured values are documented in a tamper-proof way in line with the requirements of FDA Regulation 21 CFR 11. | | |
| | version 4, GLP edition | - | 9053-0042 |
| APT-COM™ 4 PROFESSIONAL-Edition | convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units. | | |
| | version 4, PROFESSIONAL edition | - | 9053-0040 |
| Base | With swivel casters, for mobile installation or leveling of the unit or stack of units | - | 9051-0045 |
| BINDER PURE AQUA SERVICE | System for preparation or complete desalination of tap water, complete set containing PURE AQUA 300 single-use cartridge, measuring device, and all necessary connecting parts | - | 8012-0759 |
| BINDER PURE AQUA SERVICE, accessories | Single-use, replacement cartridge for BINDER PURE AQUA System | - | 6011-0165 |
| LED light bars | Basic set consisting of 2 pieces, attachment material, control unit for max. 4 light strips, 100-240 V, 50/60 Hz | | |
| | Basic set 300, length 30 cm | - | 8012-1107 |
| | Basic set 500, length 50 cm | - | 8012-1108 |
| | Expansion set consisting of 2 pieces, attachment material: clips. For expanding the basic set of light bars | | |
| | Expansion set 300, length 30 cm | - | 8012-1716 |
| | Expansion set 500, length 50 cm | - | 8012-1717 |

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | - | 8012-2250 |
| Qualification documents | IQ/OQ/PQ documents – supporting documents for validation performed by customers, according to customer requirements, PQ section added to qualification folder IQ/OQ; parameters: temperature and humidity values | | |
| | Digital in PDF format | - | 7057-0006 |
| | Hard copy inside folder | - | 7007-0006 |
| | IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature and humidity values | | |
| | Digital in PDF format | - | 7057-0002 |
| | Hard copy inside folder | - | 7007-0002 |
| Reinforced rack | Shelf rack in set with pair of retaining rails (U rails), made entirely of stainless steel | | |
| | Load-bearing capacity 50 kg | - | 8012-2412 |
| Shelf rack, perforated | Shelf rack in set with pair of retaining rails (U rails), made entirely of stainless steel | | |
| | Load-bearing capacity 25 kg | - | 8012-2406 |
| Stacking adapter | For safe stacking of two identical units | - | 9051-0048 |
| Standard rack | Shelf rack in set with pair of retaining rails (U rails), made entirely of stainless steel | | |
| | Load-bearing capacity 25 kg | - | 8012-2389 |
| Water supply | External, free-standing, set consisting of 20-liter fresh water canister with pump and level sensor and 20-liter waste water canister | - | 8012-2592 |

## SERVICES

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| **Calibration services** | | | |
| Temperature and humidity calibration | Expansion –Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate | 05 | DL30-0302 |
| | Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate | 05 | DL30-0340 |
| Temperature and humidity measurement, 9-1 measuring points | Temperature measurement with 9 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 05 | DL30-0309 |
| Temperature and humidity measurement, 18-1 measuring points | Temperature measurement with 18 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 05 | DL30-0318 |
| Temperature and humidity measurement, 27-1 measuring points | Temperature measurement with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 05 | DL30-0327 |

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| Temperature and humidity measurement according to DIN12880 | Temperature measurement in accordance with DIN 12880 with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate | 05 | DL30-0427 |
| **Installation services** | | | |
| Unit commissioning | Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work) | 05 | DL10-0170 |
| Unit instructions | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming | 05 | DL10-0550 |
| **Maintenance contracts** | | | |
| BRONZE 3-year maintenance contract | Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts | 05 | DL20-0710 |
| GOLD 3-year maintenance contract | Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity value, including certificate | 05 | DL20-0920 |
| SILVER 3-year maintenance contract | Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate | 05 | DL20-0820 |
| **Maintenance services** | | | |
| Maintenance | One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space without certificate | 05 | DL20-0613 |
| **Validation services** | | | |
| Execution of IQ/OQ | Execution of IQ/OQ in accordance with qualification folder | 05 | DL42-0300 |
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder | 05 | DL44-0500 |
| **Warranty service** | | | |
| 1-year warranty extension | The warranty is extended by 1 year from the delivery date, wear parts are excluded | 05 | DL50-0030 |

## NOTES

01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

05 Quoted prices do not include travel costs. Please refer to the chapter on BINDER Service for travel costs for your region. Quoted prices for services performed in Switzerland do not include a country-specific added fee (available on request).

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