

Model FP 115 | Drying and heating chambers with forced convection and program functions

A BINDER material test chamber with mechanical convection of the FP series provides reliably short drying times and particularly fast heating – even for chambers under full loads.

BENEFITS

- High temperature accuracy thanks to APT.line™ technology
- User-friendly controller with large display
- Computer interface: Ethernet
- Class 2 independent adjustable temperature safety device (DIN 12880) and class 3.1 independent temperature safety device (DIN 12880) with visual/acoustic alarm available for selection on the controller



Model 115



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IMPORTANT FEATURES

- Temperature range: +10°C above ambient temperature up to +300°C
- High temperature accuracy thanks to APT.line™ technology
- Adjustable fan speed
- Controller with interval and real-time programming
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 liters are stackable
- Class 2 independent adjustable temperature safety device (DIN 12880) and class 3.1 independent temperature safety device (DIN 12880) with visual/acoustic alarm available for selection on the controller
- Ergonomic handle design
- Computer interface: Ethernet
- Internal data logger, measured values can be read out in open format via USB

ORDERING INFORMATION

| Interior volume | Power supply - unit fuse | Plug* | Version | Model version | Art.-No. |
|---------------------|---------------------------|-----------|----------|---------------|-----------|
| [L] | [L] | | | | |
| Model FP 115 | | | | | |
| | 230 V 1~ 50/60 Hz -10,0 A | CEE 7/7 | Standard | FP115-230V | 9010-0364 |
| 116 | 120 V 1~ 60 Hz -16,0 A | NEMA 5-20 | Standard | FP115UL-120V | 9010-0368 |

TECHNICAL DATA

| Data | | |
|---|--|--|
| Designation | FP115-230V | FP115UL-120V |
| Article Number | 9010-0364 | 9010-0368 |
| Option model | Standard | Standard |
| Performance Data Temperature | | |
| Temperature range | +10 °C above ambient temperature to 300 °C | +10 °C above ambient temperature to 300 °C |
| Temperature uniformity at 150°C | 1.4 ± K | 1.4 ± K |
| Temperature fluctuation at 150°C | 0.3 ± K | 0.3 ± K |
| Heating up time to 150°C | 19 min | 19 min |
| Recovery time after door was opened for 30 s at 150°C | 5 min | 5 min |
| Air change data | | |
| Air change rate at 100°C | 32 x/h | 32 x/h |
| Electrical data | | |
| Rated Voltage | 230 V | 120 V |
| Power frequency | 50/60 Hz | 60 Hz |
| Nominal power | 1,4 kW | 1,4 kW |
| Unit fuse | 10,0 A | 16,0 A |
| Phase (Nominal voltage) | 1~ | 1~ |
| Measures | | |
| Interior volume | 116 L | 116 L |
| Net weight of the unit (empty) | 55 kg | 55 kg |
| Load per rack | 30 kg | 30 kg |
| Permitted load | 150 kg | 150 kg |
| Wall clearance back | 160 mm | 160 mm |
| Wall clearance sidewise | 100 mm | 100 mm |
| Housing dimensions not incl. fittings and connections | | |
| Width net | 714 mm | 714 mm |
| Height net | 732 mm | 732 mm |
| Depth net | 636 mm | 636 mm |
| Internal Dimensions | | |

| | | |
|-----------------|--------|--------|
| Interior width | 550 mm | 550 mm |
| Interior height | 550 mm | 550 mm |
| Interior depth | 383 mm | 383 mm |
| Unit doors | 1 | 1 |

Environment-specific data

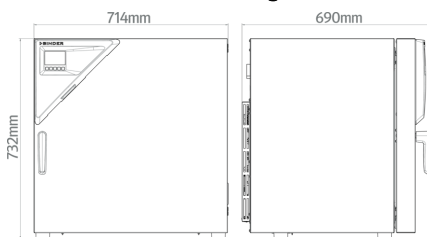
| | | |
|-----------------------------|----------|----------|
| Sound-pressure level | 43 dB(A) | 43 dB(A) |
| Energy consumption at 100°C | 230 Wh/h | 230 Wh/h |
| Energy consumption at 150°C | 370 Wh/h | 370 Wh/h |

Fixtures

| | | |
|-------------------------------|-----|-----|
| Number of shelves (std./max.) | 2/5 | 2/5 |
|-------------------------------|-----|-----|

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]



OPTIONS

| Designation | Description | FP 115 | * | Art.-No. |
|--------------------------------|-------------|--------|----|-----------|
| | left | | | |
| | 10 mm | • | 01 | 8012-2198 |
| | 30 mm | • | 01 | 8012-2210 |
| | 50 mm | • | 01 | 8012-2213 |
| | 100 mm | • | 01 | 8012-2207 |
| Access port with silicone plug | right | | | |
| | 10 mm | • | 01 | 8012-2206 |
| | 30 mm | • | 01 | 8012-2212 |
| | 50 mm | • | 01 | 8012-2215 |
| | 100 mm | • | 01 | 8012-2209 |

| Designation | Description | FP 115 | * | Art.-No. |
|--------------------------------------|--|--------|----|-----------|
| | top | | | |
| | 10 mm | • | 01 | 8012-2199 |
| | 30 mm | • | 01 | 8012-2211 |
| | 50 mm | • | 01 | 8012-2214 |
| | 100 mm | • | 01 | 8012-2208 |
| Analog output 4-20 mA | for temperature values (output not adjustable) | • | 02 | 8012-2188 |
| Calibration certificate, expanded | for temperature; for extending the measurement in center of chamber to include another test temperature | • | - | 8012-2231 |
| | for temperature, measurement in center of chamber at specified temperature | • | - | 8012-2227 |
| Calibration certificate, temperature | temperature measurement incl. certificate, 9 measuring points at specified temperature | • | - | 8012-2230 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | • | - | 8012-2228 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | • | - | 8012-2229 |
| Door gasket | made of FKM, silicone-free | • | - | 8012-2234 |
| Door lock | lockable door handle | • | - | 8012-2237 |
| Gas-tight option model | Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option | • | - | 8012-2217 |
| HEPA air filter | On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99,995% at 0,3 µm); not in conjunction with reinforced heating output, reinforced fan | • | - | 8012-2220 |
| Inert gas connection | With gas inlet and outlet, Ø 10 mm, incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option | • | - | 8012-2196 |
| Inner chamber, reinforced | max. total load 170 kg | • | - | 8012-2224 |
| Interior lighting | with 27 W light bulb | | | |
| | 230/240 V option model | • | - | 8012-2190 |
| Measurement of air exchange rate | in accordance with ASTM D5374, definition and protocol according to ambient temperature | • | - | 8012-2232 |
| Pt 100 temperature sensor | additional flexible Pt 100, interior, for displaying the temperature on the unit display | • | - | 8012-2193 |

ACCESSORIES

| Designation | Description | FP 115 | * | Art.-No. |
|-------------|------------------------------------|--------|---|-----------|
| APT-COM™ 4 | Multi Management Software APT-COM™ | | | |
| | version 4, BASIC edition | • | - | 9053-0039 |

| Designation | Description | FP 115 | * | Art.-No. |
|-------------------------|---|--------|---|-----------|
| | version 4, GLP edition | • | – | 9053-0042 |
| | version 4, PROFESSIONAL edition | • | – | 9053-0040 |
| | 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, CO ₂ , O ₂ – or pressure, depending on unit | | | |
| | Digital in PDF format | • | - | 7057-0005 |
| | Hard copy inside folder | • | - | 7007-0005 |
| Qualification documents | IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, CO ₂ , O ₂ , pressure, depending on unit | | | |
| | Digital in PDF format | • | - | 7057-0001 |
| | Hard copy inside folder | • | - | 7007-0001 |
| | max. load per rack 30 kg | | | |
| Rack | chrome plated | • | - | 8012-2040 |
| | stainless steel | • | - | 8012-2168 |
| Rack accessories | fasteners (1 set of 4) for additional security of racks | • | - | 8012-0531 |
| Rubber pads | set anti-slip feet | • | - | 8012-2030 |
| | max. load per rack 30 kg | | | |
| Shelf, perforated | Stainless steel | • | - | 8012-2176 |
| Table on castors | stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm | • | - | 9051-0018 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | • | - | 8012-2250 |

SERVICES

| Designation | Description | * | Art.-No. |
|---|---|---|-----------|
| Calibration services | | | |
| Measurement of air exchange rate | including certificate (in accordance with ASTM D5374) | – | DL33-0000 |
| Temperature calibration | Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate. | – | DL30-0101 |
| | Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate. | – | DL30-0102 |
| Temperature measurement, 9 measuring points | Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required. | – | DL30-0109 |

| Designation | Description | * | Art-No. |
|--|---|---|-----------|
| Temperature measurement, 18 measuring points | Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required. | – | DL30-0118 |
| Temperature measurement, 27 measuring points | Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required. | – | DL30-0127 |
| Installation services | | | |
| Unit installation | 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) Travel to be quoted as separate. | – | DL10-0100 |
| Unit instructions | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours. | – | DL10-0500 |
| Maintenance services | | | |
| BRONZE 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate. | – | DL20-0710 |
| GOLD 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate of Temperature. 25% Discount on Spare Parts and Labor for any additional Services needed. One additional courtesy visit per year can be used for service visit or operator. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate. | – | DL20-0910 |
| Preventive maintenance | One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate. | – | DL20-0200 |
| SILVER 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate. | – | DL20-0810 |
| Validation services | | | |
| Execution of IQ/OQ | Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate. | – | DL41-0200 |
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate. | – | DL44-0500 |
| Warranty service | | | |
| 1-year warranty extension | The warranty is extended by 1 year from the delivery date, wear parts are excluded | – | DL50-0010 |

NOTES

- 01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.
- 02 UL mark is not granted when this option is used.

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