BINDER
Best conditions for your success

# Drying and heating chambers







## Avantgarde.Line
ED | FD | FED series

## Classic.Line
E | ED | FD | FED | FP | M series

EN

# Drying and heating chambers Avantgarde.Line


| | |
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| Series ED | Page 6 |
| Series FD | Page 9 |
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| Options and Accessories | Page 15 |


BINDER drying chambers with natural convection or forced convection are renowned for their high quality and reliability. Thanks to their extensive redevelopment, these all-rounders are now even more firmly focused on addressing the requirements involved in drying or heating samples. What's more, in addition to the new design, convenient operation, and efficiency of these units, the latest APT.line™ technology offers outstanding temperature accuracy to give this new generation of incubators real appeal.

# PRODUCT SELECTION DRYING AND HEATING CHAMBERS AVANTGARDE.LINE

| **Features** | **ED** › Page 6 | **FD** › Page 9 | **FED** › Page 12 |
|---|---|---|---|
| Model | | | |
| Model 56 | • | • | • |
| Model 115 | • | • | • |
| Model 260 | • | • | • |
| General data | | | |
| Temperature range 5-6 °C above ambient temperature to [°C] | 300 | – | – |
| Temperature range 10 °C above ambient temperature to [°C] | – | 300 | 300 |
| Ethernet interface | – | – | • |
| USB interface | • | • | • |
| Natural convection | • | – | – |
| Forced convection | – | • | • |
| Controller and timer functions | | | |
| Controller display | | LCD | |
| Ramp function | • | • | • |
| Time delayed OFF | • | • | • |
| Time delayed ON | – | – | • |
| Temperature dependent delayed OFF | – | – | • |
| Adjustable fan speed | – | – | • |
| Class 2 independent adjustable temperature safety device | • | • | • |
| Temperature alarm, visual | • | • | • |

•Standard equipment

# ADVANTAGES AT A GLANCE



### EASY DATA LOGGING

Series ED, FD, FED

Via the USB connector which comes as standard and via Ethernet, which is available as standard for FED and as an option for ED and FD.



### EXCELLENT ENERGY EFFICIENCY AND LOW INSTALLATION REQUIREMENTS

Series ED, FD, FED

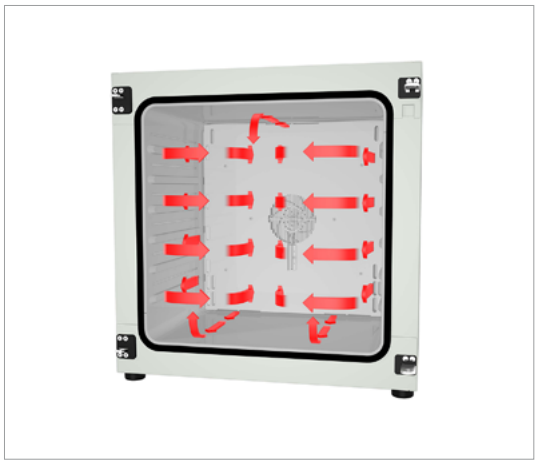
Low heat dissipation and an optimized heating system provide energy efficiency.




### EASY, INTUITIVE HANDLING

Series ED, FD, FED

Thanks to state-of-the-art controller with LCD display, excellent readability, alphanumeric display, and various functions. Choice of languages as standard: English, German, and French.



### COMPLETELY HOMOGENEOUS TEMPERATURE DISTRIBUTION

Series FD, FED

With excellent spatial and temporal temperature accuracy thanks to the all-new generation of APT.line™ technology.

# **Series ED** | with natural convection

The strengths of a BINDER ED series drying chamber include routine drying and sterilization tasks up to 300 °C. Thanks to the natural convection, all thermal processes which use this drying chamber are highly efficient. The ED series ensures fast, uniform drying.





ED 56 model

## MAIN FEATURES

- Temperature range (model 56; model 260): ambient temperature plus 5 °C to 300 °C
- Temperature range (model 115): ambient temperature plus 6 °C to 300 °C
- High temperature accuracy thanks to APT.line™ technology
- Natural convection
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 L are stackable
- Class 2 independent temperature safety device (DIN 12880) with visual temperature alarm
- Ergonomic handle design

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| ED 56 | 57 | › go2binder.com/en-ED56 |
| ED 115 | 114 | › go2binder.com/en-ED115 |
| ED 260 | 255 | › go2binder.com/en-ED260 |

▸ Other Classic.Line models › page 17

## TIPS & TRICKS

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Case Studies: › go2binder.com/en-case-studies

Find all details online
go2binder.com/en-ED-a

## TECHNICAL DATA

| Description | ED 56 | ED 115 | ED 260 |
|---|---|---|---|
| Measures - Outer dimensions | | | |
| Width net [mm] | 560 | 710 | 810 |
| Height net [mm] | 625 | 735 | 965 |
| Depth net [mm] | 565 | 605 | 760 |
| Measures - Internal Dimensions | | | |
| Width [mm] | 360 | 510 | 610 |
| Height [mm] | 420 | 530 | 760 |
| Depth [mm] | 380 | 425 | 550 |
| Measures | | | |
| Interior volume [L] | 57 | 114 | 255 |
| Net weight of the unit (empty) [kg] | 39 | 54 | 85 |
| permitted load [kg] | 70 | 150 | 270 |
| Load per rack [kg] | 30 | 30 | 40 |
| Performance Data Temperature | | | |
| Temperature range 5-6 °C above ambient temperature to [°C] | 300 | 300 | 300 |
| Temperature variation at 150 °C [± K] | 2.5 | 2.0 | 2.0 |
| Temperature fluctuation at 150 °C [± K] | 0.5 | 0.4 | 1.0 |
| Heating-up time to 150 °C [min] | 55 | 45 | 55 |
| Recovery time after 30 seconds door open at 150 °C [min] | 20 | 16 | 20 |
| Electrical data | | | |
| Nominal power (Version 120 V) [kW] | 1.15 | 1.35 | – |
| Nominal power (Version 230 V) [kW] | 1.05 | 1.25 | 2.25 |
| Nominal power (Version 240 V) [kW] | – | – | 2.45 |
| Fixtures | | | |
| Number of shelves (std./max.) | 2/4 | 2/5 | 2/8 |

## ORDERING INFORMATION [Art. No.]

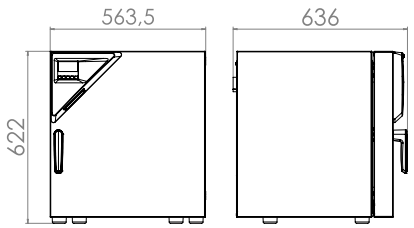
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | ED 56 | ED 115 | ED 260 |
|---|---|---|---|---|
| 240 V 1~ 60 Hz | Standard | – | – | 9010-0340 |
| 230 V 1~ 50/60 Hz | Standard | 9010-0333 | 9010-0335 | 9010-0339 |
| 120 V 1~ 60 Hz | Standard | 9010-0334 | 9010-0336 | – |

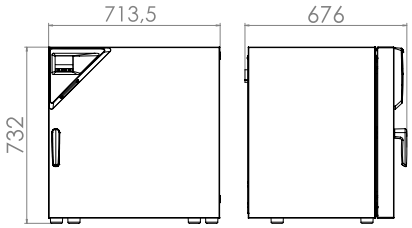
▸ You will find a selction of options, accessories and services suitable for each product on page 15

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

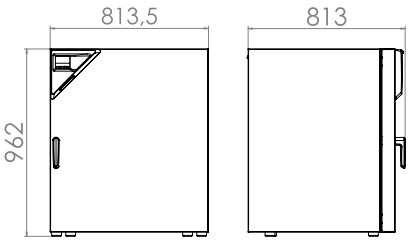
ED 56




ED 115




ED 260



# **Series FD** | with forced convection

A BINDER FD series Avantgarde.Line heating oven is always used when fast drying and sterilization is required. Thanks to its fully homogeneous temperature distribution, quick dynamics and powerful fan, this heating oven saves valuable time.





FD 56 model

## MAIN FEATURES

- Temperature range: ambient temperature plus 10 °C to 300 °C
- High temperature accuracy thanks to APT.line™ technology
- Forced convection
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 L are stackable
- Class 2 independent temperature safety device (DIN 12880) with visual temperature alarm
- Ergonomic handle design
- USB port for recording data

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| FD 56 | 60 | › go2binder.com/en-FD56 |
| FD 115 | 116 | › go2binder.com/en-FD115 |
| FD 260 | 259 | › go2binder.com/en-FD260 |

▸ Other Classic.Line models › page 17

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Case Studies: › go2binder.com/en-case-studies

Find all details online
go2binder.com/en-FD-a

## TECHNICAL DATA

| Description | FD 56 | FD 115 | FD 260 |
|---|---|---|---|
| Measures - Outer dimensions | | | |
| Width net [mm] | 560 | 710 | 810 |
| Height net [mm] | 625 | 735 | 965 |
| Depth net [mm] | 565 | 605 | 760 |
| Measures - Internal Dimensions | | | |
| Width [mm] | 400 | 550 | 650 |
| Height [mm] | 440 | 550 | 780 |
| Depth [mm] | 345 | 385 | 515 |
| Measures | | | |
| Interior volume [L] | 60 | 116 | 259 |
| Net weight of the unit (empty) [kg] | 39 | 54 | 85 |
| permitted load [kg] | 70 | 150 | 270 |
| Load per rack [kg] | 30 | 30 | 40 |
| Performance Data Temperature | | | |
| Temperature range 10 °C above ambient temperature to [°C] | 300 | 300 | 300 |
| Temperature variation at 150 °C [± K] | 1.7 | 1.7 | 1.9 |
| Temperature fluctuation at 150 °C [± K] | 0.3 | 0.3 | 0.5 |
| Heating-up time to 150 °C [min] | 15 | 19 | 20 |
| Recovery time after 30 seconds door open at 150 °C [min] | 4 | 5 | 6 |
| Electrical data | | | |
| Nominal power (Version 120 V) [kW] | 1.2 | 1.4 | – |
| Nominal power (Version 230 V) [kW] | 1.1 | 1.3 | 2.3 |
| Nominal power (Version 240 V) [kW] | – | – | 2.5 |
| Fixtures | | | |
| Number of shelves (std./max.) | 2/4 | 2/5 | 2/8 |

## ORDERING INFORMATION [Art. No.]

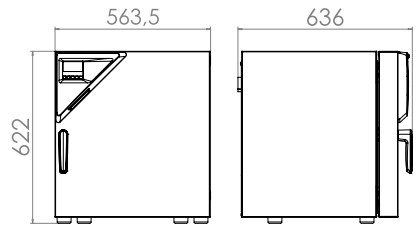
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | FD 56 | FD 115 | FD 260 |
|---|---|---|---|---|
| 240 V 1~ 60 Hz | Standard | – | – | 9010-0310 |
| 230 V 1~ 50/60 Hz | Standard | 9010-0303 | 9010-0305 | 9010-0309 |
| 120 V 1~ 60 Hz | Standard | 9010-0304 | 9010-0306 | – |

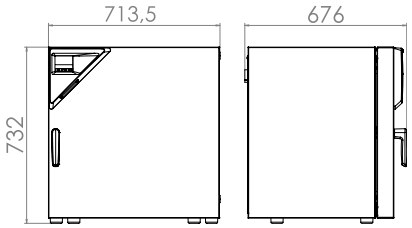
▸ You will find a selction of options, accessories and services suitable for each product on page 15

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

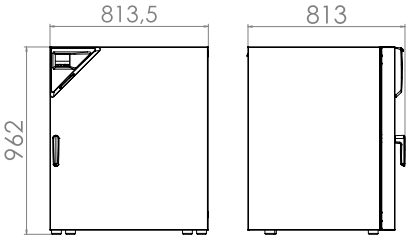
**FD 56**




**FD 115**




**FD 260**



# **Series FED** | with forced convection and enhanced timer functions

BINDER heating chambers of the FED Avantgarde.Line series provide almost unlimited capacity and are particularly adaptable. With advanced timing functions and a controllable fan, temperature and convection conditions are easily controlled.





FED 56 model

## MAIN FEATURES

- Temperature range: ambient temperature plus 10 °C to 300 °C
- High temperature accuracy thanks to APT.line™ technology
- Adjustable fan speed
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 L are stackable
- Class 2 independent temperature safety device (DIN 12880) with visual temperature alarm
- Ergonomic handle design
- Ethernet interface

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| FED 56 | 60 | › go2binder.com/en-FED56 |
| FED 115 | 116 | › go2binder.com/en-FED115 |
| FED 260 | 259 | › go2binder.com/en-FED260 |

▸ Other Classic.Line models › page 17

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Find all details online
go2binder.com/en-FED-a

## TECHNICAL DATA

| Description | FED 56 | FED 115 | FED 260 |
|---|---|---|---|
| Measures - Outer dimensions | | | |
| Width net [mm] | 560 | 710 | 810 |
| Height net [mm] | 625 | 735 | 965 |
| Depth net [mm] | 565 | 605 | 760 |
| Measures - Internal Dimensions | | | |
| Width [mm] | 400 | 550 | 650 |
| Height [mm] | 440 | 550 | 780 |
| Depth [mm] | 345 | 385 | 515 |
| Measures | | | |
| Interior volume [L] | 60 | 116 | 259 |
| Net weight of the unit (empty) [kg] | 39 | 54 | 85 |
| permitted load [kg] | 70 | 150 | 270 |
| Load per rack [kg] | 30 | 30 | 40 |
| Performance Data Temperature | | | |
| Temperature range 10 °C above ambient temperature to [°C] | 300 | 300 | 300 |
| Temperature variation at 150 °C [± K] | 1.4 | 1.2 | 1.6 |
| Temperature fluctuation at 150 °C [± K] | 0.3 | 0.3 | 0.5 |
| Heating-up time to 150 °C [min] | 15 | 19 | 20 |
| Recovery time after 30 seconds door open at 150 °C [min] | 4 | 5 | 6 |
| Electrical data | | | |
| Nominal power (Version 120 V) [kW] | 1.2 | 1.4 | – |
| Nominal power (Version 230 V) [kW] | 1.1 | 1.3 | 2.3 |
| Nominal power (Version 240 V) [kW] | – | – | 2.5 |
| Fixtures | | | |
| Number of shelves (std./max.) | 2/4 | 2/5 | 2/8 |

## ORDERING INFORMATION [Art. No.]

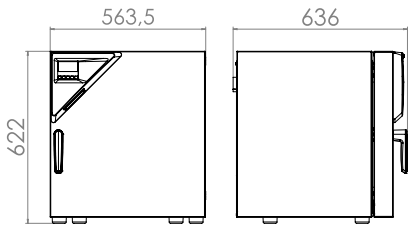
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | FED 56 | FED 115 | FED 260 |
|---|---|---|---|---|
| 240 V 1~ 60 Hz | Standard | – | – | 9010-0300 |
| 230 V 1~ 50/60 Hz | Standard | 9010-0295 | 9010-0293 | 9010-0299 |
| 120 V 1~ 60 Hz | Standard | 9010-0296 | 9010-0294 | – |

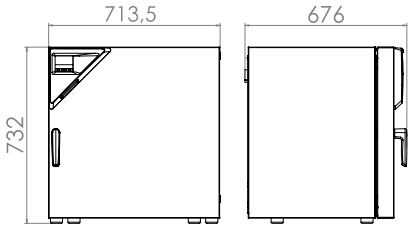
▸ You will find a selction of options, accessories and services suitable for each product on page 15

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

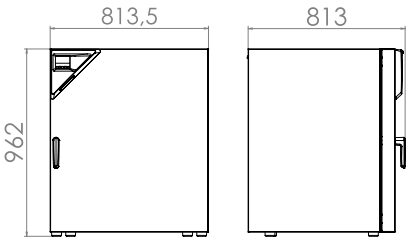
FED 56




FED 115



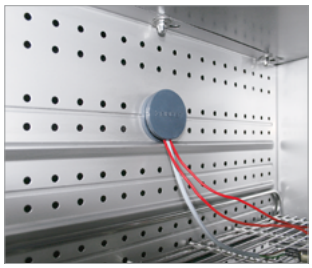

FED 260



# EXCERPT FROM OPTIONS AND ACCESSORIES

| | |
|---|---|
| **Access port with silicone plug** | For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)<br>Series ED, FD, FED |
| **Data Logger Kit T** | Independent temperature data logging. The tailored product solution contains helpful accessories: From the magnetic mounting of the data logger to the BINDER unit and securing sensor cable for accurate readings.<br>Series ED, FD, FED |
| **Viewing window and interior lighting** | Viewing window in the door with a triple-glazed insulating glass and interior lighting for easy visibility of the samples.<br>Series ED, FD, FED |
| **Shelf racks** | Perforated shelves or shelf racks, chrome-plated or made from stainless steel.<br>Series ED, FD, FED |
| **HEPA air filter** | Particle filter on fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, › 99.995% at 0.3 µm).<br>Series ED, FD, FED |
| **Services** | You can access our installation, maintenance, calibration, validation, or warranty services by taking out a Maintenance Service Agreement or by simply getting in touch when you need us. More information is available in the accessories and services chapter.<br>Series ED, FD, FED |
| **BINDER INDIVIDUAL** | Using a BINDER series production product as a basis, we develop individual solutions as a single unit or in small batches. All products are tested, certified, and supplied with a full functional guarantee and warranty. More information is available in the accessories and services chapter.<br>Series ED, FD, FED |

▸ All extras online go2binder.com/en-options



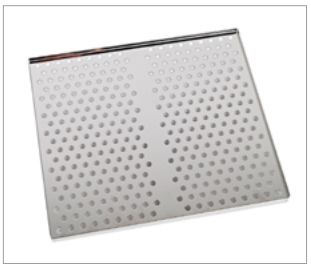
Access port with silicone plug




Data Logger for temperature



Viewing window in the door



Shelf

# Drying and heating chambers Classic.Line


| | |
|---|---|
| Series E | Page 20 |
| Series ED | Page 22 |
| Series FD | Page 25 |
| Series FED | Page 27 |
| Series FP | Page 29 |
| Series M | Page 32 |
| Options and Accessories | Page 35 |

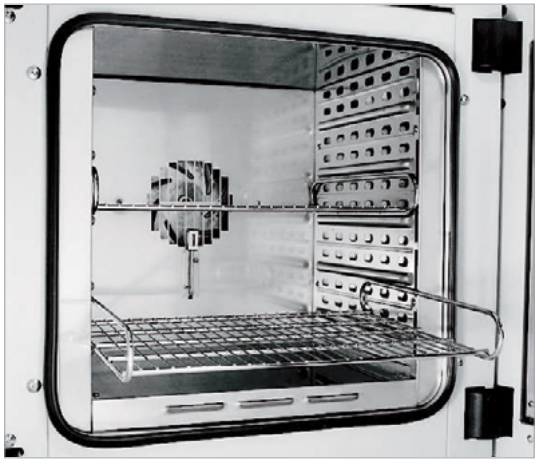

With natural or forced convection, all BINDER drying and heating chambers offer first-rate quality and process reliability. With its wide temperature range from 5 °C above ambient temperature to 300 °C, the heating chamber can be used in all applications. Short heating-up times and large power reserves are ideal for applications in science, research, and industry. The excellent thermal insulation also reduces operating costs.
In its FP and M series, BINDER offers material test chambers with forced convection and customized programming.

# PRODUCT SELECTION DRYING AND HEATING CHAMBERS CLASSIC.LINE

| **Features** | **E** › Page 20 | **ED** › Page 22 | **FD** › Page 25 | **FED** › Page 27 | **FP** › Page 29 | **M** › Page 32 |
|---|---|---|---|---|---|---|
| Model | | | | | | |
| Model 23 | – | • | • | – | – | – |
| Model 28 | • | – | – | – | – | – |
| Model 53 | – | – | – | – | • | • |
| Model 115 | – | – | – | – | • | • |
| Model 240 | – | – | – | – | • | • |
| Model 400 | – | • | – | • | • | • |
| Model 720 | – | • | – | • | • | • |
| General data | | | | | | |
| Temperature range [°C] | 60...230 | – | – | – | – | – |
| Temperature range 5 °C above ambient temperature to [°C] | – | 300 | 300 | 300 | 300 | 300 |
| RS 422 interface | – | – | • | • | • | • |
| Natural convection | • | • | – | – | – | – |
| Forced convection | – | – | • | • | • | • |
| Controller and timer functions | | | | | | |
| Controller display | LED | LED | LED | LED | LED | LCD color display |
| Ramp function | – | • | • | • | • | • |
| Time delayed OFF | – | • | • | • | • | – |
| Time delayed ON | – | – | – | • | • | • |
| Temperature dependent delayed OFF | – | – | – | • | • | – |
| Programming option | – | – | – | – | • | • |
| Weekly program function | – | – | – | – | • | • |
| Adjustable fan speed | – | – | – | • | • | • |
| Real-time clock | – | – | – | – | • | • |
| Class 2 independent adjustable temperature safety device | – | • | • | • | • | • |
| Temperature alarm, acoustic | – | – | – | – | – | • |
| Temperature alarm, visual | – | • | • | • | • | • |

•Standard equipment

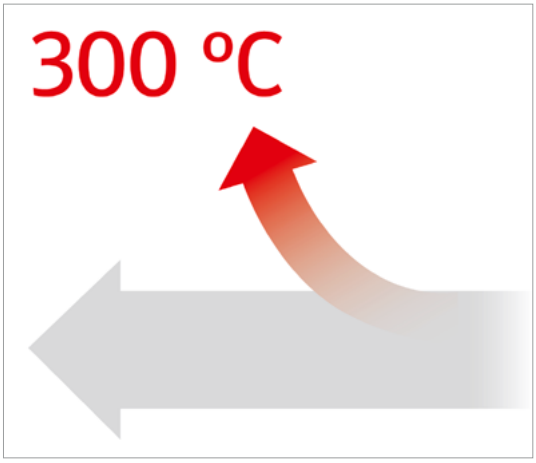
# ADVANTAGES AT A GLANCE



### CONVENIENT WORK ENVIRONMENT

Series E, FD, FED, FP, M

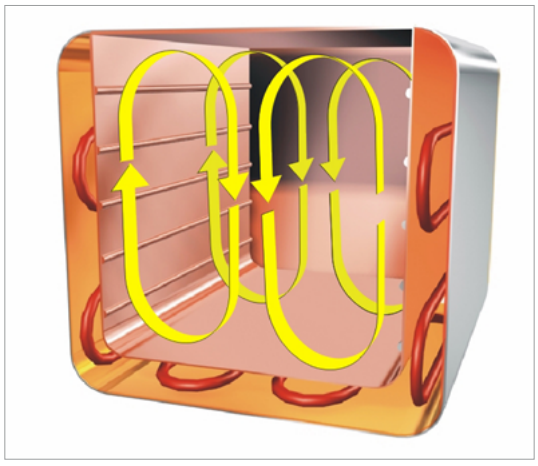
BINDER APT.line™ preheating chamber technology ensures long-term operational stability even under full load.




### BROAD RANGE OF APPLICATIONS

Series ED, FD, FED, FP, M

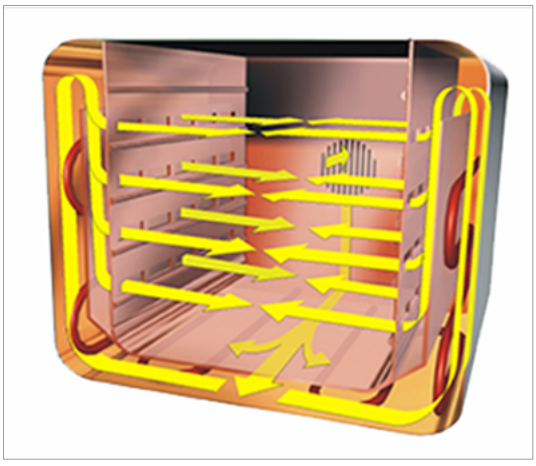
Many differnt applications can take advantage of the wide temperature range from 5 °C above ambient temperature to 300 °C. The FP and M series also impress with their adjustable air change rates and large power reserves.



### HOMOGENEOUS TEMPERATURE CONDITIONS WITH NATURAL CONVECTION

Series E, ED

Gentle temperature distribution with APT.line™ preheating chamber technology.



### HOMOGENEOUS TEMPERATURE CONDITIONS WITH FORCED CONVECTION

Series FD, FED, FP, M

Long-term operational stability even under full load using APT.line™ preheating chamber technology.

# **Series E** | with mechanical adjustment

With a BINDER E series heating oven, you obtain a reliable and powerful unit in a solid configuration at a very attractive price. This heating oven is preferred for tasks in basic research, as well as in human and veterinary medicine.






E 28 model

## MAIN FEATURES

- Temperature range: 60 °C to 230 °C
- Adjustable exhaust air flap
- Hydro-mechanical thermostat
- Class 1 temperature limitation device (Model E028-230V-T)
- Timer 0 – 120 min
- 2 chrome-plated racks

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| E 28 | 28 | › go2binder.com/en-E28 |

Find all details online
go2binder.com/en-E-c

## TECHNICAL DATA

| Description | E 28 |
|---|---|
| Measures - Outer dimensions | |
| Width net [mm] | 580 |
| Height net [mm] | 405 |
| Depth net [mm] | 425 |
| Measures - Internal Dimensions | |
| Width [mm] | 400 |
| Height [mm] | 280 |
| Depth [mm] | 250 |
| Measures | |
| Interior volume [L] | 28 |
| Net weight of the unit (empty) [kg] | 22 |
| permitted load [kg] | 25 |
| Load per rack [kg] | 10 |
| Performance Data Temperature | |
| Temperature range [°C] | 60...230 |
| Heating-up time to 150 °C [min] | 36 |
| Recovery time after 30 seconds door open at 150 °C [min] | 19 |
| Electrical data | |
| Nominal power (Version 120 V) [kW] | 0.8 |
| Nominal power (Version 230 V) [kW] | 0.8 |
| Fixtures | |
| Number of shelves (std./max.) | 2/4 |

## ORDERING INFORMATION [Art. No.]

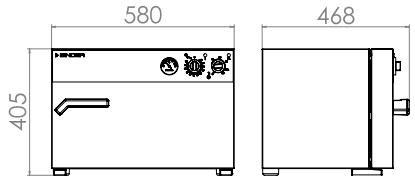
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | E 28 |
|---|---|---|
| 230 V 1~ 50/60 Hz | Standard | 9010-0001 |
| | with TB class 1 | 9010-0003 |
| 120 V 1~ 60 Hz | Standard | 9010-0106 |

▸ You will find a selction of options, accessories and services suitable for each product on page 35

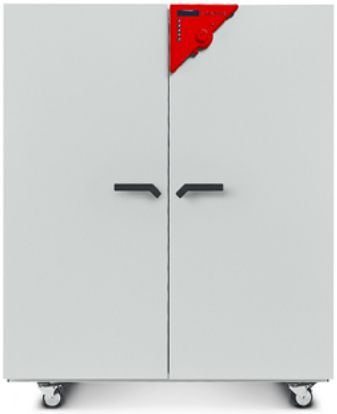
## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

E 28



# **Series ED** | with natural convection

The strengths of a BINDER ED series drying chamber include routine drying and sterilization tasks up to 300 °C. Thanks to the natural convection, all thermal processes which use this drying chamber are highly efficient. The ED series ensures fast, uniform drying.





ED 720 model

## MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Free convection
- Adjustable exhaust air flap
- Controller with timer functions
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| ED 23 | 20 | › go2binder.com/en-ED23 |
| ED 400 | 400 | › go2binder.com/en-ED400 |
| ED 720 | 720 | › go2binder.com/en-ED720 |

▸ Other Avantgarde.Line models › page 3

Find all details online
go2binder.com/en-ED-c

## TECHNICAL DATA

| Description | ED 23 | ED 400 | ED 720 |
|---|---|---|---|
| Measures - Outer dimensions | | | |
| Width net [mm] | 435 | 1235 | 1235 |
| Height net [mm] | 495 | 1025 | 1530 |
| Depth net [mm] | 520 | 765 | 865 |
| Measures - Internal Dimensions | | | |
| Width [mm] | 222 | 1000 | 1000 |
| Height [mm] | 330 | 800 | 1200 |
| Depth [mm] | 300 | 520 | 620 |
| Measures | | | |
| Interior volume [L] | 20 | 400 | 720 |
| Net weight of the unit (empty) [kg] | 27 | 125 | 174 |
| permitted load [kg] | 25 | 90 | 120 |
| Load per rack [kg] | 12 | 35 | 45 |
| Performance Data Temperature | | | |
| Temperature range 5 °C above ambient temperature to [°C] | 300 | 300 | 300 |
| Temperature variation at 150 °C [± K] | 2.8 | 3 | 3.6 |
| Temperature fluctuation at 150 °C [± K] | 0.5 | 0.5 | 0.5 |
| Heating-up time to 150 °C [min] | 28 | 71 | 84 |
| Recovery time after 30 seconds door open at 150 °C [min] | 28 | 31 | 34 |
| Electrical data | | | |
| Nominal power (Version 120 V) [kW] | 0.8 | – | – |
| Nominal power (Version 208 V) [kW] | – | 3.4 | 5 |
| Nominal power (Version 230 V) [kW] | 0.8 | – | – |
| Nominal power (Version 400 V) [kW] | – | 3.4 | 5 |
| Fixtures | | | |
| Number of shelves (std./max.) | 2/4 | 2/10 | 2/16 |

## ORDERING INFORMATION [Art. No.]

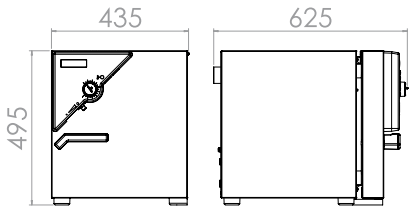
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | ED 23 | ED 400 | ED 720 |
|---|---|---|---|---|
| 400 V 3~ 50/60 Hz | with RS 422 | – | 9010-0075 | 9010-0076 |
| 230 V 1~ 50/60 Hz | Standard | 9010-0190 | – | – |
| | with RS 422 | 9010-0191 | – | – |
| 208 V 3~ 60 Hz | with RS 422 | – | 9010-0168 | 9010-0169 |
| 120 V 1~ 60 Hz | Standard | 9010-0192 | – | – |
| | with RS 422 | 9010-0193 | – | – |

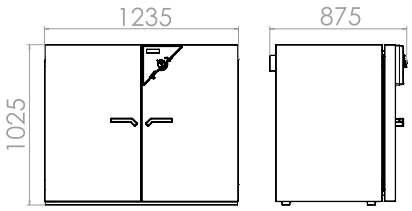
▸ You will find a selction of options, accessories and services suitable for each product on page 35

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

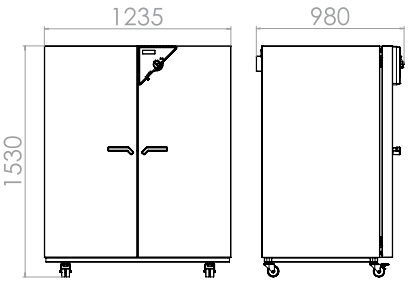
ED 23




ED 400



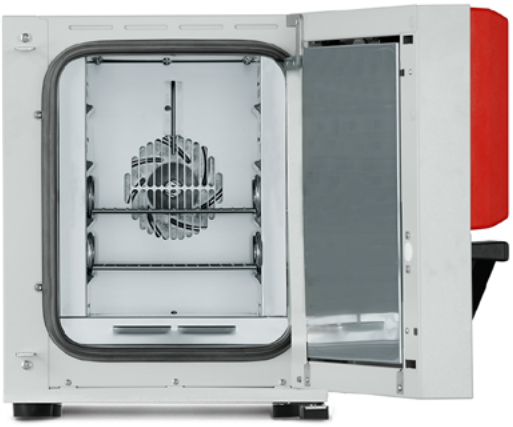

ED 720



# **Series FD** | with forced convection

A BINDER FD series heating oven is always used when fast drying and sterilization is required. Thanks to its fully homogeneous temperature distribution, quick dynamics and powerful fan, this heating oven saves valuable time.



FD 23 model

## MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Forced convection
- Adjustable exhaust air flap
- Controller with timer functions
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| FD 23 | 20 | › go2binder.com/en-FD23 |

▸ Other Avantgarde.Line models › page 3

Find all details online
go2binder.com/en-FD-c

## TECHNICAL DATA

| Description | FD 23 |
|---|---|
| Measures - Outer dimensions | |
| Width net [mm] | 435 |
| Height net [mm] | 495 |
| Depth net [mm] | 520 |
| Measures - Internal Dimensions | |
| Width [mm] | 222 |
| Height [mm] | 330 |
| Depth [mm] | 300 |
| Measures | |
| Interior volume [L] | 20 |
| Net weight of the unit (empty) [kg] | 27 |
| permitted load [kg] | 25 |
| Load per rack [kg] | 12 |
| Performance Data Temperature | |
| Temperature range 5 °C above ambient temperature to [°C] | 300 |
| Temperature variation at 150 °C [± K] | 2.5 |
| Temperature fluctuation at 150 °C [± K] | 0.3 |
| Heating-up time to 150 °C [min] | 25 |
| Recovery time after 30 seconds door open at 150 °C [min] | 6 |
| Electrical data | |
| Nominal power (Version 120 V) [kW] | 0.8 |
| Nominal power (Version 230 V) [kW] | 0.8 |
| Fixtures | |
| Number of shelves (std./max.) | 2/4 |

## ORDERING INFORMATION [Art. No.]

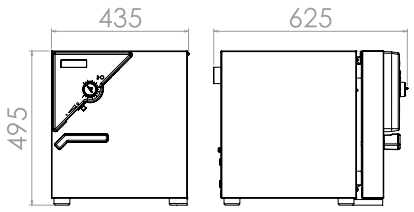
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | FD 23 |
|---|---|---|
| 230 V 1~ 50/60 Hz | Standard | 9010-0194 |
| 120 V 1~ 60 Hz | Standard | 9010-0196 |

▸ You will find a selction of options, accessories and services suitable for each product on page 35

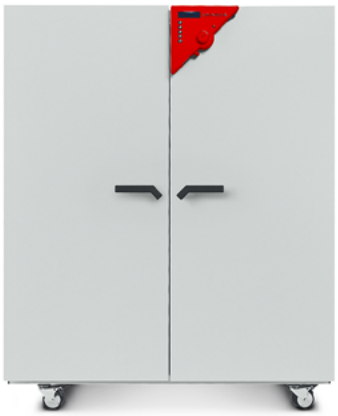
## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

FD 23



# **Series FED** | with forced convection and enhanced timer functions

BINDER heating chambers of the FED series provide almost unlimited capacity and are particularly adaptable. With advanced timing functions and a adjustable fan, temperature and convection conditions are easily controlled.





FED 720 model

## MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Adjustable fan speed
- Adjustable exhaust air flap
- Controller with expanded timer functions
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| FED 400 | 400 | › go2binder.com/en-FED400 |
| FED 720 | 720 | › go2binder.com/en-FED720 |

▸ Other Avantgarde.Line models › page 3

Find all details online
go2binder.com/en-FED-c

## TECHNICAL DATA

| Description | FED 400 | FED 720 |
|---|---|---|
| Measures - Outer dimensions | | |
| Width net [mm] | 1235 | 1235 |
| Height net [mm] | 1025 | 1530 |
| Depth net [mm] | 765 | 865 |
| Measures - Internal Dimensions | | |
| Width [mm] | 1000 | 1000 |
| Height [mm] | 800 | 1200 |
| Depth [mm] | 510 | 610 |
| Measures | | |
| Interior volume [L] | 400 | 720 |
| Net weight of the unit (empty) [kg] | 145 | 195 |
| permitted load [kg] | 90 | 120 |
| Load per rack [kg] | 35 | 45 |
| Performance Data Temperature | | |
| Temperature range 5 °C above ambient temperature to [°C] | 300 | 300 |
| Temperature variation at 150 °C [± K] | 3.8 | 3 |
| Temperature fluctuation at 150 °C [± K] | 0.7 | 0.3 |
| Heating-up time to 150 °C [min] | 29 | 29 |
| Recovery time after 30 seconds door open at 150 °C [min] | 6 | 8 |
| Electrical data | | |
| Nominal power (Version 208 V) [kW] | 3.4 | 5 |
| Nominal power (Version 400 V) [kW] | 3.4 | 5 |
| Fixtures | | |
| Number of shelves (std./max.) | 2/10 | 2/16 |

## ORDERING INFORMATION [Art. No.]

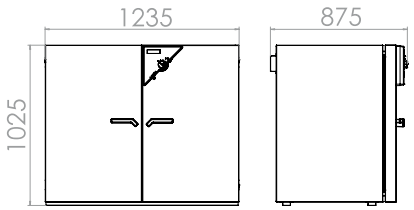
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | FED 400 | FED 720 |
|---|---|---|---|
| 400 V 3~ 50/60 Hz | Standard | 9010-0216 | 9010-0218 |
| 208 V 3~ 60 Hz | Standard | 9010-0217 | 9010-0219 |

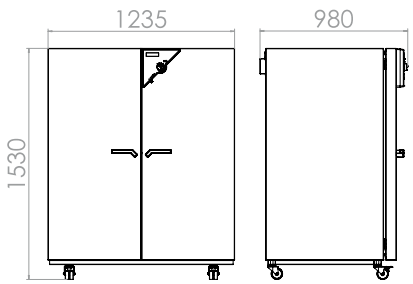
▸ You will find a selction of options, accessories and services suitable for each product on page 35

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

FED 400




FED 720



# **Series FP** | 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.





FP 115 model

## MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Adjustable fan speed
- Adjustable exhaust air flap
- Controller with time-segment and real-time programming
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| FP 53 | 53 | › go2binder.com/en-FP53 |
| FP 115 | 115 | › go2binder.com/en-FP115 |
| FP 240 | 240 | › go2binder.com/en-FP240 |
| FP 400 | 400 | › go2binder.com/en-FP400 |
| FP 720 | 720 | › go2binder.com/en-FP720 |

▸ Other Avantgarde.Line models › page 93

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go2binder.com/en-FP-c

## TECHNICAL DATA

| Description | FP 53 | FP 115 | FP 240 | FP 400 | FP 720 |
|---|---|---|---|---|---|
| Measures - Outer dimensions | | | | | |
| Width net [mm] | 635 | 835 | 1035 | 1235 | 1235 |
| Height net [mm] | 620 | 705 | 825 | 1025 | 1530 |
| Depth net [mm] | 575 | 645 | 745 | 765 | 865 |
| Measures - Internal Dimensions | | | | | |
| Width [mm] | 400 | 600 | 800 | 1000 | 1000 |
| Height [mm] | 400 | 480 | 600 | 800 | 1200 |
| Depth [mm] | 340 | 410 | 510 | 510 | 610 |
| Measures | | | | | |
| Interior volume [L] | 53 | 115 | 240 | 400 | 720 |
| Net weight of the unit (empty) [kg] | 44 | 62 | 96 | 145 | 194 |
| permitted load [kg] | 40 | 50 | 70 | 90 | 120 |
| Load per rack [kg] | 15 | 20 | 30 | 35 | 45 |
| Performance Data Temperature | | | | | |
| Temperature range 5 °C above ambient temperature to [°C] | 300 | 300 | 300 | 300 | 300 |
| Temperature variation at 150 °C [± K] | 2 | 1.8 | 2 | 2.5 | 2 |
| Temperature fluctuation at 150 °C [± K] | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Heating-up time to 150 °C [min] | 24 | 30 | 27 | 35 | 39 |
| Recovery time after 30 seconds door open at 150 °C [min] | 5 | 8 | 10 | 17 | 20 |
| Electrical data | | | | | |
| Nominal power (Version 120 V) [kW] | 1.2 | 1.6 | – | – | – |
| Nominal power (Version 208 V) [kW] | – | – | 2.7 | 3.4 | 5 |
| Nominal power (Version 230 V) [kW] | 1.2 | 1.6 | 2.7 | – | – |
| Nominal power (Version 400 V) [kW] | – | – | – | 3.4 | 5 |
| Fixtures | | | | | |
| Number of shelves (std./max.) | 2/5 | 2/6 | 2/7 | 2/10 | 2/16 |

## ORDERING INFORMATION [Art. No.]

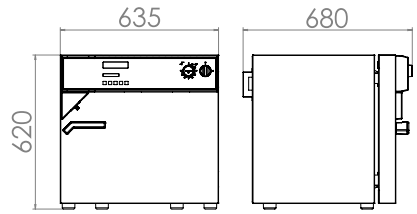
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | FP 53 | FP 115 | FP 240 | FP 400 | FP 720 |
|---|---|---|---|---|---|---|
| 400 V 3~ 50/60 Hz | Standard | – | – | – | 9010-0265 | 9010-0267 |
| 230 V 1~ 50/60 Hz | Standard | 9010-0153 | 9010-0255 | 9010-0263 | – | – |
| 208 V 1~ 60 Hz | Standard | – | – | 9010-0264 | 9010-0266 | 9010-0268 |
| 120 V 1~ 60 Hz | Standard | 9010-0175 | 9010-0262 | – | – | – |

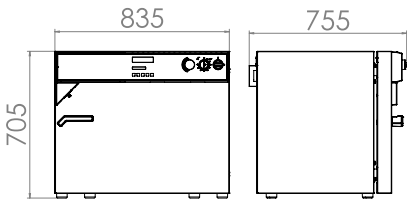
▸ You will find a selction of options, accessories and services suitable for each product on page 35

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

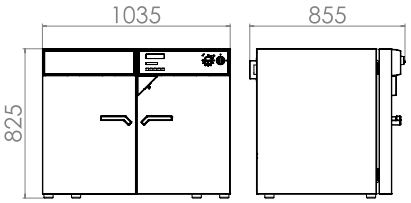
FP 53



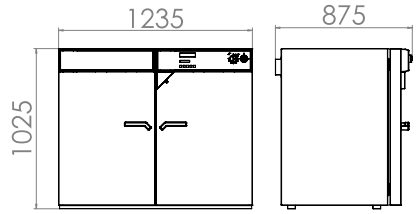

FP 115



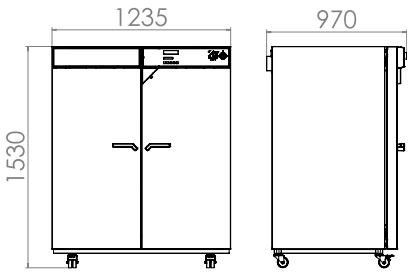

FP 240




FP 400




FP 720



# **Series M** | with forced convection and advanced program functions

With a maximum of 300 °C and various programming options the M series material test chambers are ideal for material and aging tests. With a high air flow, the powerful fans ensure rapid heating.





M 53 model

## MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Adjustable fan speed
- Program-controlled ventilation flap
- Color LCD controller with time-segment programming
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422

## AVAILABLE SIZES

| Model | Interior volume [L] | Online data sheets |
|---|---|---|
| M 53 | 53 | › go2binder.com/en-M53 |
| M 115 | 115 | › go2binder.com/en-M115 |
| M 240 | 240 | › go2binder.com/en-M240 |
| M 400 | 400 | › go2binder.com/en-M400 |
| M 720 | 720 | › go2binder.com/en-M720 |

▸ Other Avantgarde.Line models › page 3

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Find all details online
go2binder.com/en-M-c

## TECHNICAL DATA

| Description | M 53 | M 115 | M 240 | M 400 | M 720 |
|---|---|---|---|---|---|
| Measures - Outer dimensions | | | | | |
| Width net [mm] | 635 | 835 | 1035 | 1235 | 1235 |
| Height net [mm] | 780 | 865 | 985 | 1190 | 1690 |
| Depth net [mm] | 575 | 645 | 745 | 795 | 865 |
| Measures - Internal Dimensions | | | | | |
| Width [mm] | 400 | 600 | 800 | 1000 | 1000 |
| Height [mm] | 400 | 480 | 600 | 800 | 1200 |
| Depth [mm] | 340 | 410 | 510 | 510 | 610 |
| Measures | | | | | |
| Interior volume [L] | 53 | 115 | 240 | 400 | 720 |
| Net weight of the unit (empty) [kg] | 61 | 89 | 131 | 173 | 203 |
| permitted load [kg] | 40 | 50 | 70 | 90 | 120 |
| Load per rack [kg] | 15 | 20 | 30 | 35 | 45 |
| Performance Data Temperature | | | | | |
| Temperature range 5 °C above ambient temperature to [°C] | 300 | 300 | 300 | 300 | 300 |
| Temperature variation at 150 °C [± K] | 1.3 | 1.5 | 1.5 | 1.5 | 1.9 |
| Temperature fluctuation at 150 °C [± K] | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Heating-up time to 150 °C [min] | 15 | 16 | 19 | 18 | 21 |
| Recovery time after 30 seconds door open at 150 °C [min] | 3 | 3 | 3 | 3 | 3 |
| Electrical data | | | | | |
| Nominal power (Version 230 V) [kW] | 1.2 | 1.6 | 2.7 | – | – |
| Nominal power (Version 400 V) [kW] | – | – | – | 3.4 | 5 |
| Fixtures | | | | | |
| Number of shelves (std./max.) | 2/5 | 2/6 | 2/7 | 2/10 | 2/16 |

## ORDERING INFORMATION [Art. No.]

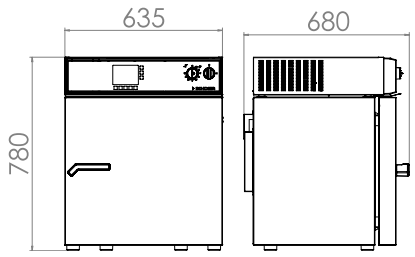
**Further details:** Go to www.binder-world.com › Search › Enter Article Number

| Voltage | Option model | M 53 | M 115 | M 240 | M 400 | M 720 |
|---|---|---|---|---|---|---|
| 400 V 3~ 50/60 Hz | Standard | – | – | – | 9010-0204 | 9010-0205 |
| 230 V 1~ 50/60 Hz | Standard | 9010-0201 | 9010-0202 | 9010-0203 | – | – |

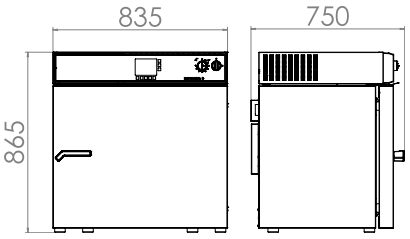
▸ You will find a selction of options, accessories and services suitable for each product on page 35

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

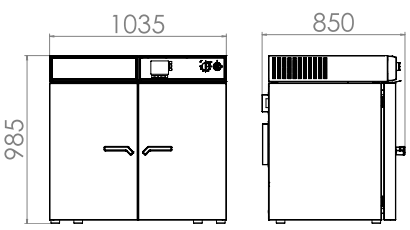
M 53



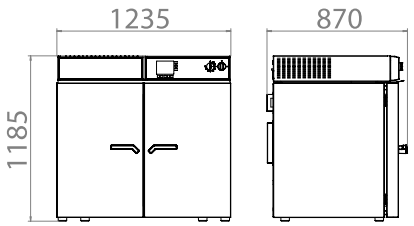

M 115



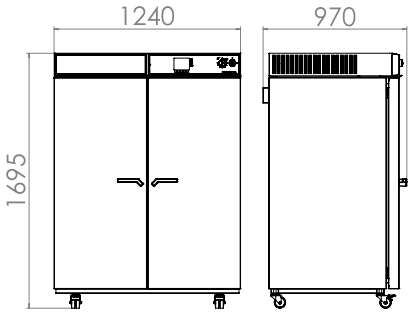

M 240



M 400



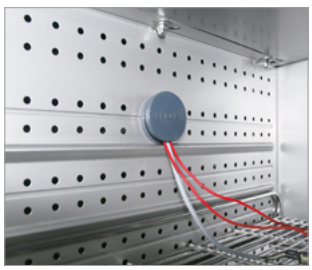

M 720



# EXCERPT FROM OPTIONS AND ACCESSORIES

| | |
|---|---|
| **Access port with silicone plug** | For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)<br>Series ED, FD, FED, FP, M |
| **Viewing window and interior lighting** | Viewing window in the door with interior lighting for easy samples viewing.<br>Series ED, FD, FED, FP, M |
| **Shelf racks** | Perforated shelves or shelf racks, chrome-plated or made from stainless steel.<br>Series E, ED, FD, FED, FP, M |
| **Services** | You can access our installation, maintenance, calibration, validation, or warranty services by taking out a Maintenance Service Agreement or by simply getting in touch when you need us.<br>More information is available in the accessories and services chapter.<br>Series E, ED, FD, FED, FP, M |
| **BINDER INDIVIDUAL** | Using a BINDER series production product as a basis, we develop individual solutions as a single unit or in small batches. All products are tested, certified, and supplied with a full functional guarantee and warranty. More information is available in the accessories and services chapter.<br>Series E, ED, FD, FED, FP, M |

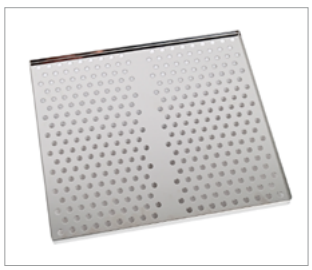
▸ All extras online go2binder.com/en-options



Access port with silicone plug



Viewing window in the door



Shelf



Services