

Drying and heating chambers



Avantgarde.Line
ED | FD | FP | FED series

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

Solid.Line
ED-S | FD-S series



Drying and heating chambers Avantgarde.Line

Series ED Avantgarde.Line Page 6

Series FD Avantgarde.Line Page 12

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Series FP Avantgarde.Line Page 26

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 best energy efficiency on the market and convenient operation, the latest APT.line™ technology offers outstanding temperature accuracy to give the Avantgarde.Line incubators real appeal.

PRODUCT SELECTION DRYING AND HEATING CHAMBERS AVANTGARDE. LINE

Features	Series ED Avantgarde.Line › Page 6	Series FD Avantgarde.Line › Page 12	Series FED Avantgarde. Line › Page 19	Series FP Avantgarde.Line › Page 26
Model				
Model 56	•	•	•	•
Model 115	•	•	•	•
Model 260	•	•	•	•
Model 720	•	•	•	•
General data				
Temperature range +5 °C above ambient temperature to [°C]	300	–	–	–
Temperature range +10 °C above ambient temperature to [°C]	–	300	300	300
Temperature range +12 °C above ambient temperature to [°C]	–	300	300	300

•Standard equipment

ADVANTAGES AT A GLANCE



EASY DATA LOGGING

Series ED, FD, FED

The USB connector, standard on the ED, FD and FED, provides easy data logging. Ethernet connectivity is standard on FED and an option for ED and FD.



BEST ENERGY EFFICIENCY ON THE MARKET AND LOW INSTALLATION REQUIREMENTS

Series ED, FD, FED

thanks to low heat dissipation and an optimized heating system.



EASY, INTUITIVE HANDLING

Series ED, FD, FED

Our state-of-the-art controller with LCD display, excellent readability, alphanumeric display, and various functions provide a user friendly interface. Choice of languages as standard: English, German, and French.



COMPLETELY HOMOGENEOUS TEMPERATURE DISTRIBUTION

Series FD, FED

This feature provides excellent spatial and temporal temperature accuracy with the all-new generation of APT.line™ technology.

Series ED Avantgarde.Line | 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

BENEFITS

- Best energy efficiency on the market
- Excellent temporal and spatial temperature accuracy
- USB connection for recording data
- Temperature range up to +300 °C

MAIN FEATURES

- Temperature range: +5 °C above ambient temperature to +300 °C
- Up to 30% lower energy consumption compared to conventional units on the market
- 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 liters are stackable
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design

AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
ED 56	57	› go2binder.com/en-ED56-AL
ED 115	114	› go2binder.com/en-ED115-AL
ED 260	255	› go2binder.com/en-ED260-AL
ED 720	743	› go2binder.com/en-ED720-AL

OPTIONAL EQUIPMENT

Access port with silicone plug

For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)



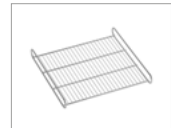
Viewing window and interior lighting

Viewing window in the door with a triple-glazed insulating glass and interior lighting for easy visibility of the samples.



Shelf racks

Perforated shelves or shelf racks, chrome-plated or made from stainless steel.



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).



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.



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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

Description	ED 56	ED 115	ED 260	ED 720
Measures				
Interior volume [L]	57	114	255	743
Net weight of the unit (empty) [kg]	42	57	85	169
Permitted load [kg]	70	150	270	315
Load per rack [kg]	30	30	40	45
Wall clearance back [mm]	160	160	160	160
Wall clearance sidewise [mm]	100	100	100	100
Internal Dimensions				
Width [mm]	360	510	610	960
Height [mm]	420	530	760	1280
Depth [mm]	380	425	550	605
Housing dimensions not incl. fittings and connections				
Width net [mm]	560	710	810	1165
Height net [mm]	625	705	940	1590
Depth net [mm]	565	605	760	870
Performance Data Temperature				
Temperature range +5 °C above ambient temperature to [°C]	300	300	300	300
Temperature variation at 150 °C [± K]	2.3	1.5	1.8	3.2
Temperature fluctuation at 150 °C [± K]	0.4	0.4	0.8	0.8
Heating-up time to 150 °C [min]	50	45	50	85
Recovery time after 30 seconds door open at 150 °C [min]	19	16	20	25
Tabellen				
Air change (approx.) at 100 °C [x/h]	8	6	3	2
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	–
Nominal power (version 400 V) [kW]	–	–	–	4.1
Fixtures				
Number of shelves (std./max.)	2/4	2/5	2/8	2/16

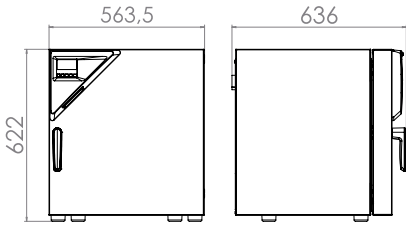
ORDERING INFORMATION [Art. No.]

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

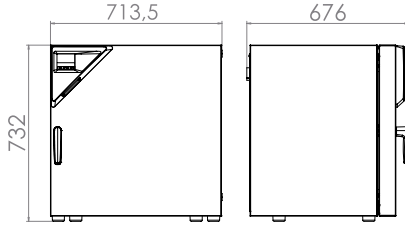
Voltage	Option model	ED 56	ED 115	ED 260	ED 720
400 V 3~ 50/60 Hz	Standard	–	–	–	9010-0341
240 V 1~ 60 Hz	Standard	–	–	9010-0340	–
230 V 1~ 50/60 Hz	Standard	9010-0333	9010-0335	9010-0339	–
120 V 1~ 60 Hz	Standard	9010-0334	9010-0336	–	–

DIMENSIONS incl. fittings and connections [mm]

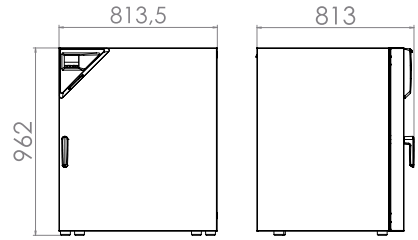
ED 56



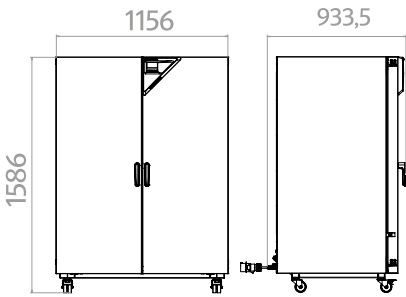
ED 115



ED 260



ED 720



ORDERING INFORMATION OPTIONS

Designation	Description	ED 56	ED 115	ED 260	ED 720	Art. No.
Access port with silicone plug	back					
	10 mm	•	•	•	•	8012-1282
	30 mm	•	•	•	•	8012-0540
	50 mm	•	•	•	•	8012-0546
	left					
	10 mm	•	•	•	•	8012-1275
	30 mm	•	•	•	•	8012-1018
	50 mm	•	•	•	•	8012-1022
	100 mm	–	•	•	•	8012-1030
	right					
	10 mm	•	•	•	•	8012-1268
	30 mm	•	•	•	•	8012-1017
	50 mm	•	•	•	•	8012-1021
	100 mm	–	•	•	•	8012-1031
	top					
	10 mm	•	•	•	•	8012-1262
30 mm	•	•	•	•	8012-0539	
50 mm	•	•	•	•	8012-0545	
100 mm	•	•	•	•	8012-1029	
Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device	•	•	•	•	8012-1635
Analog output 4-20 mA	for temperature values (output not adjustable)	•	•	•	•	8012-1623
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	•	•	•	8012-1115

Designation	Description	ED 56	ED 115	ED 260	ED 720	Art. No.
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	•	•	•	8012-1134
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	•	•	•	8012-1593
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	•	•	•	8012-1572
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	•	•	•	8012-1551
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	•	•	•	8012-0985
Clock	battery-backed	•	•	•	•	8012-1640
Door gasket	made of FKM, silicone-free	•	–	–	–	8012-1008
		–	•	–	–	8012-1009
		–	–	•	–	8012-1011
		–	–	–	•	8012-1013
		•	•	•	–	8012-1664
Door lock	lockable door handle	–	–	–	•	8012-1817
		•	•	•	–	8012-1645
Ethernet interface	for Multi Management Software APT-COM™	–	–	–	•	8012-1836
		•	•	•	•	8012-1645
Inner chamber, reinforced	max. total load 350 kg	–	–	–	•	8012-1827
Interior lighting	with 15 W light bulb					
	120 V option model	•	•	–	–	8012-1631
	230/240 V option model	•	•	•	–	8012-1627
	with two 15 W light bulbs					
400 V option model	–	–	–	•	8012-1824	
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	•	•	•	8012-0195
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	•	•	•	8012-1619
Viewing window and interior lighting	viewing window (triple insulating glass) in door, 240 x 240 mm, and 15 W interior					
	120 V option model	•	–	–	–	8012-1059
	230 V option model	•	–	–	–	8012-1058
	viewing window (triple insulating glass) in door, 300 x 480 mm, and 30 W interior					
	400 V option model	–	–	–	•	8012-1830
	viewing window (triple insulating glass) in door, 370 x 370 mm, and 15 W interior					
	120 V option model	–	•	–	–	8012-1063
	230 V option model	–	•	–	–	8012-1060
	240 V option model	–	–	•	–	8012-1064
		–	–	•	–	8012-1065

ORDERING INFORMATION ACCESSORIES

Designation	Description	ED 56	ED 115	ED 260	ED 720	Art. No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units.					
	version 4, BASIC edition	•	•	•	•	9053-0039

Designation	Description	ED 56	ED 115	ED 260	ED 720	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
Ethernet interface	for Multi Management Software APT-COM™	•	•	•	–	8012-1645
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	•	•	•	8012-2250
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
	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
Rack		•	–	–	–	8012-2039
		–	•	–	–	8012-2041
	chrome plated	–	–	•	–	8012-2043
		–	–	–	•	8012-2045
		•	–	–	–	8012-2171
		–	•	–	–	8012-2172
	stainless steel	–	–	•	–	8012-2173
		–	–	–	•	8012-2174
Rack, heavy load	Stainless steel, max. load per rack 70 kg	–	–	•	–	8012-2187
		–	–	–	•	8012-2186
Rubber pads	set anti-slip feet	•	•	•	–	8012-2030
Shelf, perforated		•	–	–	–	8012-2179
	Stainless steel	–	•	–	–	8012-2180
		–	–	•	–	8012-2181
		–	–	–	•	8012-2182
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	•	•	–	–	9051-0018
	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	–	–	•	–	9051-0019

Series FD Avantgarde.Line | 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

BENEFITS

- Best energy efficiency on the market
- Excellent temporal and spatial temperature accuracy
- USB connection for recording data
- Temperature range up to +300 °C

MAIN FEATURES

- Temperature range: +10 °C above ambient temperature 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-AL
FD 115	116	› go2binder.com/en-FD115-AL
FD 260	259	› go2binder.com/en-FD260-AL
FD 720	741	› go2binder.com/en-FD720-AL

OPTIONAL EQUIPMENT

Access port with silicone plug

For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)



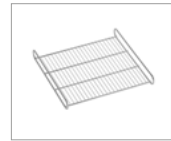
Viewing window and interior lighting

Viewing window in the door with a triple-glazed insulating glass and interior lighting for easy visibility of the samples.



Shelf racks

Perforated shelves or shelf racks, chrome-plated or made from stainless steel.



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).



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.



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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

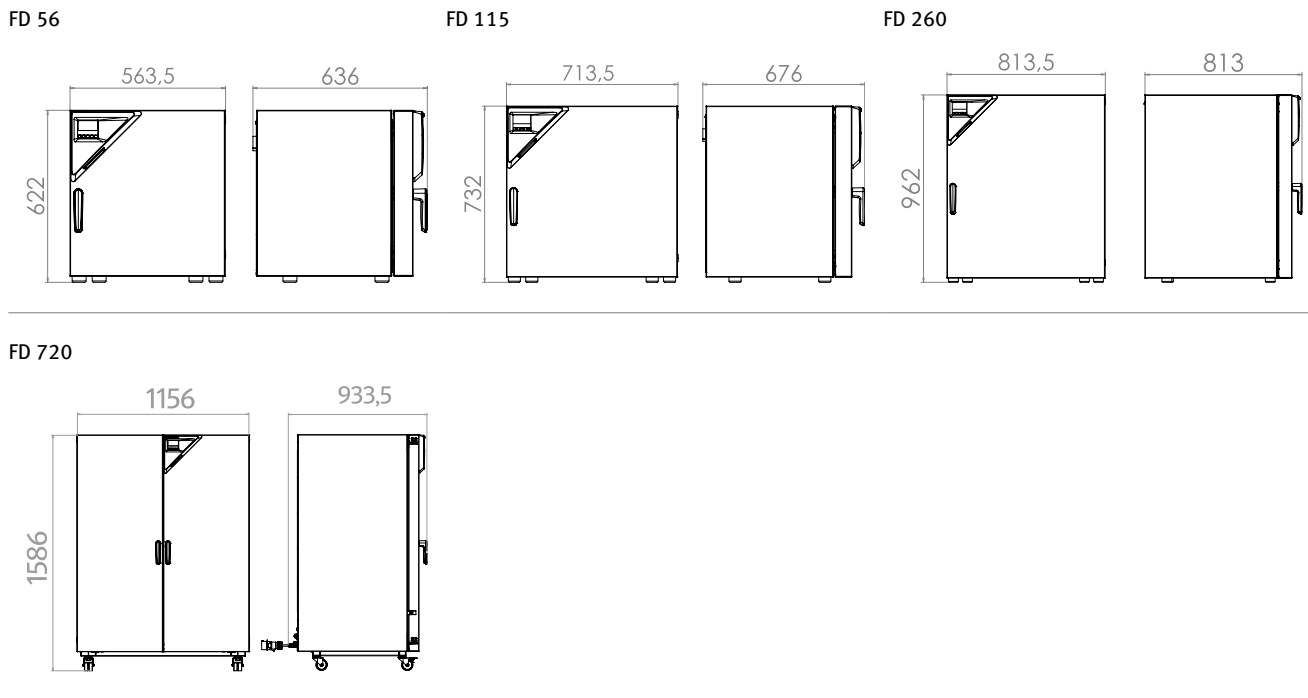
Description	FD 56	FD 115	FD 260	FD 720
Measures				
Interior volume [L]	60	116	259	741
Net weight of the unit (empty) [kg]	41	57	85	166
Permitted load [kg]	70	150	270	315
Load per rack [kg]	30	30	40	45
Wall clearance back [mm]	160	160	160	160
Wall clearance sidewise [mm]	100	100	100	100
Internal Dimensions				
Width [mm]	400	550	650	1000
Height [mm]	440	550	780	1300
Depth [mm]	345	385	515	570
Housing dimensions not incl. fittings and connections				
Width net [mm]	560	710	810	1165
Height net [mm]	625	735	940	1590
Depth net [mm]	565	605	825	870
Performance Data Temperature				
Temperature range +10 °C above ambient temperature to [°C]	300	300	300	–
Temperature range +12 °C above ambient temperature to [°C]	–	–	–	300
Temperature variation at 150 °C [± K]	1.7	1.7	1.9	2.5
Temperature fluctuation at 150 °C [± K]	0.3	0.3	0.4	0.6
Heating-up time to 150 °C [min]	15	18	19	25
Recovery time after 30 seconds door open at 150 °C [min]	4	4	5	6
Tabellen				
Air change (approx.) at 100 °C [x/h]	80	32	9	5
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	–
Nominal power (version 400 V) [kW]	–	–	–	4.5
Fixtures				
Number of shelves (std./max.)	2/4	2/5	2/8	2/16

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

Voltage	Option model	FD 56	FD 115	FD 260	FD 720
400 V 3~ 50/60 Hz	Standard	–	–	–	9010-0311
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	–	–

DIMENSIONS incl. fittings and connections [mm]



ORDERING INFORMATION OPTIONS

Designation	Description	FD 56	FD 115	FD 260	FD 720	Art. No.
Access port with silicone plug	left					
	10 mm	•	•	•	•	8012-1276
	30 mm	•	•	•	•	8012-1016
	50 mm	•	•	•	•	8012-1020
	100 mm	–	•	•	•	8012-1027
	right					
	10 mm	•	•	•	•	8012-1269
	30 mm	•	•	•	•	8012-1015
	50 mm	•	•	•	•	8012-1019
	100 mm	–	•	•	•	8012-1028
	top					
	10 mm	•	•	•	•	8012-1263
	30 mm	•	•	•	•	8012-1364
	50 mm	•	•	•	•	8012-1380
	100 mm	•	•	•	•	8012-1671
	Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device	•	•	•	•
Analog output 4-20 mA	for temperature values (output not adjustable)	•	•	•	•	8012-1624
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	•	•	•	8012-1116

Designation	Description	FD 56	FD 115	FD 260	FD 720	Art. No.
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	•	•	•	8012-1135
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	•	•	•	8012-1594
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	•	•	•	8012-1573
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	•	•	•	8012-1552
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	•	•	•	8012-1643
Clock	battery-backed	•	•	•	•	8012-1641
		•	–	–	–	8012-1648
Door gasket	made of FKM, silicone-free	–	•	–	–	8012-1650
		–	–	•	–	8012-1652
		–	–	–	•	8012-1833
		•	•	•	–	8012-1665
Door lock	lockable door handle	–	–	–	•	8012-1818
		•	•	•	–	8012-0988
Ethernet interface	for Multi Management Software APT-COM™	–	–	–	•	8012-0989
Fan, reinforced	for increased air change rates, incl. uprated heat output for faster heating up time and improved recovery time; max. 300 °C; not in conjunction with load management option	–	–	–	•	8012-1062
	400 V option model	•	–	–	–	8012-1683
Gas-tight option model	Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	–	•	–	–	8012-1685
		–	–	•	–	8012-1687
Heating output, reinforced	for faster heating up time and improved recovery time; max. 300 °C	–	–	–	•	8012-1061
	400 V option model	•	–	–	–	8012-1056
	120/230 V option model	–	•	–	–	8012-1057
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	•	–	–	–	8012-1050
		–	•	–	–	8012-1051
		–	–	•	–	8012-1052
		–	–	–	•	8012-1099
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	•	–	–	–	8012-1689
		–	•	–	–	8012-1691
		–	–	•	–	8012-1693
Inner chamber, reinforced	max. total load 170 kg	–	•	–	–	8012-1054
	max. total load 300 kg	–	–	•	–	8012-1055
	max. total load 350 kg	–	–	–	•	8012-1821
	max. total load 85 kg	•	–	–	–	8012-1053
Interior lighting	with 15 W light bulb	–	–	–	–	–
	120 V option model	•	•	–	–	8012-1632
	230/240 V option model	•	•	•	–	8012-1628
	with two 15 W light bulbs	–	–	–	–	–
Measurement of air exchange rate	400 V option model	–	–	–	•	8012-1825
	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	•	•	•	8012-1195
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	•	•	•	8012-1620

Designation	Description	FD 56	FD 115	FD 260	FD 720	Art. No.
Viewing window and interior lighting	viewing window (triple insulating glass) in door, 240 x 240 mm, and 15 W interior					
	120 V option model	•	–	–	–	8012-1702
	230 V option model	•	–	–	–	8012-1700
	viewing window (triple insulating glass) in door, 300 x 480 mm, and 30 W interior					
	400 V option model	–	–	–	•	8012-1831
	viewing window (triple insulating glass) in door, 370 x 370 mm, and 15 W interior					
	120 V option model	–	•	–	–	8012-1706
	230 V option model	–	•	–	–	8012-1704
	240 V option model	–	–	•	–	8012-1708
	240 V option model	–	–	•	–	8012-1710

ORDERING INFORMATION ACCESSORIES

Designation	Description	FD 56	FD 115	FD 260	FD 720	Art. No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	•	•	•	•	9053-0039
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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	•	•	•	8012-2250
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
	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
Rack	chrome plated	•	–	–	–	8012-2038
		–	•	–	–	8012-2040
		–	–	•	–	8012-2042
		–	–	–	•	8012-2044
		•	–	–	–	8012-2085
	stainless steel	–	•	–	–	8012-2168
		–	–	•	–	8012-2169
		–	–	–	•	8012-2170
		–	–	•	–	8012-2184
		–	–	–	•	8012-2185
Rubber pads	set anti-slip feet	•	•	•	–	8012-2030

Designation	Description	FD 56	FD 115	FD 260	FD 720	Art. No.
Shelf, perforated	Stainless steel	•	-	-	-	8012-2175
		-	•	-	-	8012-2176
		-	-	•	-	8012-2177
		-	-	-	•	8012-2178
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	•	•	-	-	9051-0018
	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	-	-	•	-	9051-0019

Series FED Avantgarde.Line | 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

BENEFITS

- Best energy efficiency on the market
- Excellent temporal and spatial temperature accuracy
- USB connection for recording data
- Temperature range up to 300 °C

MAIN FEATURES

- Temperature range: +10 °C above ambient temperature to +300 °C
- Up to 30% lower energy consumption compared to conventional units on the market
- High temperature accuracy thanks to APT.line™ technology
- Adjustable fan speed
- Controller with LCD display and enhanced time functions
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Units up to 115 liters are stackable
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design







AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
FED 56	60	› go2binder.com/en-FED56-AL
FED 115	116	› go2binder.com/en-FED115-AL
FED 260	259	› go2binder.com/en-FED260-AL
FED 720	741	› go2binder.com/en-FED720-AL



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

OPTIONAL EQUIPMENT

Access port with silicone plug	For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)	
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.	
Shelf racks	Perforated shelves or shelf racks, chrome-plated or made from stainless steel.	
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).	
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.	
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.	

► All extras online go2binder.com/en-options

TECHNICAL DATA

Description	FED 56	FED 115	FED 260	FED 720
Measures				
Interior volume [L]	60	116	259	741
Net weight of the unit (empty) [kg]	41	57	85	166
Permitted load [kg]	70	150	270	315
Load per rack [kg]	30	30	40	45
Wall clearance back [mm]	160	160	160	160
Wall clearance sidewise [mm]	100	100	100	100
Internal Dimensions				
Width [mm]	400	550	650	1000
Height [mm]	440	550	780	1300
Depth [mm]	345	385	515	570
Housing dimensions not incl. fittings and connections				
Width net [mm]	560	710	810	1165
Height net [mm]	625	705	940	1590
Depth net [mm]	565	605	760	870
Performance Data Temperature				
Temperature range +10 °C above ambient temperature to [°C]	300	300	300	-
Temperature range +12 °C above ambient temperature to [°C]	-	-	-	300
Temperature variation at 150 °C [± K]	1.4	1.2	1.6	2.0
Temperature fluctuation at 150 °C [± K]	0.3	0.3	0.4	0.6
Heating-up time to 150 °C [min]	15	18	19	25
Recovery time after 30 seconds door open at 150 °C [min]	4	4	5	6
Electrical data				
Nominal power (version 120 V) [kW]	1.2	1.4	-	-
Nominal power (version 208 V) [kW]	-	-	-	4.5
Nominal power (version 230 V) [kW]	1.1	1.3	2.3	-
Nominal power (version 240 V) [kW]	-	-	2.5	-
Nominal power (version 400 V) [kW]	-	-	-	4.5
Fixtures				
Number of shelves (std./max.)	2/4	2/5	2/8	2/16

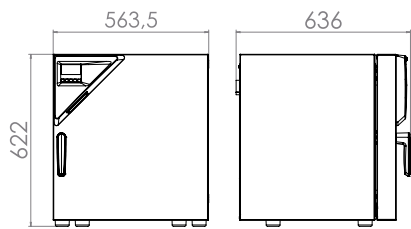
ORDERING INFORMATION [Art. No.]

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

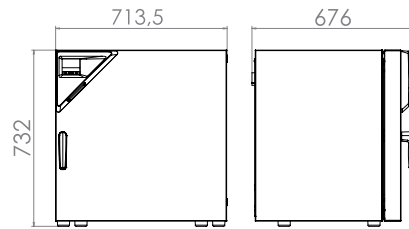
Voltage	Option model	FED 56	FED 115	FED 260	FED 720
400 V 3~ 50/60 Hz	Standard	-	-	-	9010-0301
240 V 1~ 60 Hz	Standard	-	-	9010-0300	-
230 V 1~ 50/60 Hz	Standard	9010-0295	9010-0293	9010-0299	-
208 V 3~ 60 Hz	Standard	-	-	-	9010-0302
120 V 1~ 60 Hz	Standard	9010-0296	9010-0294	-	-

DIMENSIONS incl. fittings and connections [mm]

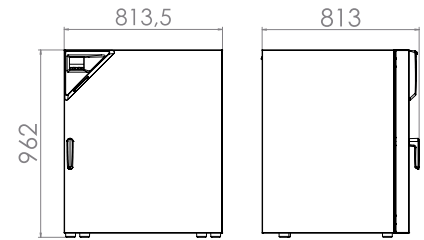
FED 56



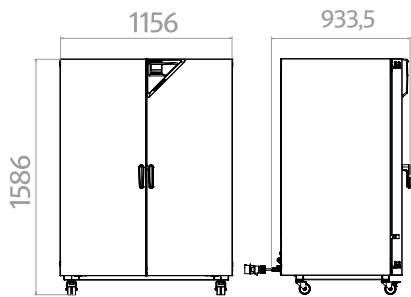
FED 115



FED 260



FED 720



ORDERING INFORMATION OPTIONS

Designation	Description	FED 56	FED 115	FED 260	FED 720	Art. No.
Access port with silicone plug	left					
	10 mm	•	•	•	•	8012-1278
	30 mm	•	•	•	•	8012-1655
	50 mm	•	•	•	•	8012-1657
	100 mm	–	•	•	•	8012-1669
	right					
	10 mm	•	•	•	•	8012-1271
	30 mm	•	•	•	•	8012-1654
	50 mm	•	•	•	•	8012-1656
	100 mm	–	•	•	•	8012-1670
	top					
	10 mm	•	•	•	•	8012-1264
	30 mm	•	•	•	•	8012-1365
	50 mm	•	•	•	•	8012-1381
	100 mm	•	•	•	•	8012-1672
	Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device	•	•	•	•
Analog output 4-20 mA	for temperature values (output not adjustable)	•	•	•	•	8012-1625
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	•	•	•	8012-1118

Designation	Description	FED 56	FED 115	FED 260	FED 720	Art. No.
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	•	•	•	8012-1137
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	•	•	•	8012-1596
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	•	•	•	8012-1575
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	•	•	•	8012-1554
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	•	•	•	8012-1644
Clock	battery-backed	•	•	•	•	8012-1642
Door gasket	made of FKM, silicone-free	•	–	–	–	8012-1649
		–	•	–	–	8012-1651
		–	–	•	–	8012-1653
		–	–	–	•	8012-1834
		•	•	•	–	8012-1666
Door lock	lockable door handle	–	–	–	•	8012-1819
Fan, reinforced	for increased air change rates, incl. uprated heat output for faster heating up time and improved recovery time; max. 300 °C; not in conjunction with load management option	•	–	–	–	8012-1684
	400 V option model	–	–	–	•	8012-1781
Gas-tight option model	Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	–	•	–	–	8012-1686
		–	–	•	–	8012-1688
		•	–	–	–	8012-1698
Heating output, reinforced	for faster heating up time and improved recovery time; max. 300 °C	–	•	–	–	8012-1699
	120/230 V option model	•	–	–	–	8012-1695
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	–	•	–	–	8012-1696
		–	–	•	–	8012-1697
		–	–	–	•	8012-1835
		•	–	–	–	8012-1690
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	–	•	–	–	8012-1692
		–	–	•	–	8012-1694
		–	•	–	–	8012-1714
Inner chamber, reinforced	max. total load 170 kg	–	–	•	–	8012-1715
	max. total load 300 kg	–	–	–	•	8012-1822
	max. total load 350 kg	•	–	–	–	8012-1713
	max. total load 85 kg	–	–	–	–	8012-1713
Interior lighting	with 15 W light bulb	•	•	–	–	8012-1633
	120 V option model	•	•	•	–	8012-1629
	230/240 V option model	–	–	–	•	8012-0972
	with two 15 W light bulbs	–	–	–	•	8012-1826
	208 V option model	–	–	–	•	8012-1826
Measurement of air exchange rate	400 V option model	•	•	•	•	8012-1197
Pt 100 temperature sensor	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	•	•	•	8012-1197
	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	•	•	•	8012-1621

Designation	Description	FED 56	FED 115	FED 260	FED 720	Art. No.
Viewing window and interior lighting	viewing window (triple insulating glass) in door, 240 x 240 mm, and 15 W interior					
	120 V option model	•	–	–	–	8012-1703
	230 V option model	•	–	–	–	8012-1701
	viewing window (triple insulating glass) in door, 300 x 480 mm, and 30 W interior					
	208/400 V option model	–	–	–	•	8012-1832
	viewing window (triple insulating glass) in door, 370 x 370 mm, and 15 W interior					
	120 V option model	–	•	–	–	8012-1707
	230 V option model	–	•	–	–	8012-1705
	240 V option model	–	–	•	–	8012-1711

ORDERING INFORMATION ACCESSORIES

Designation	Description	FED 56	FED 115	FED 260	FED 720	Art. No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	•	•	•	•	9053-0039
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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	•	•	•	8012-2250
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
	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
Rack		•	–	–	–	8012-2038
		–	•	–	–	8012-2040
		–	–	•	–	8012-2042
		–	–	–	•	8012-2044
		•	–	–	–	8012-2085
		–	•	–	–	8012-2168
		–	–	•	–	8012-2169
		–	–	–	•	8012-2170
Rack, heavy load	Stainless steel, max. load per rack 70 kg	–	–	•	–	8012-2184
		–	–	–	•	8012-2185
Rubber pads	set anti-slip feet	•	•	•	–	8012-2030

Designation	Description	FED 56	FED 115	FED 260	FED 720	Art. No.
Shelf, perforated	Stainless steel	•	–	–	–	8012-2175
		–	•	–	–	8012-2176
		–	–	•	–	8012-2177
		–	–	–	•	8012-2178
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	•	•	–	–	9051-0018
	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	–	–	•	–	9051-0019

Drying and heating chambers Classic.Line

Series E Classic.Line	Page 36
Series ED Classic.Line	Page 40
Series FD Classic.Line	Page 45
Series FED Classic.Line	Page 50
Series M Classic.Line	Page 55

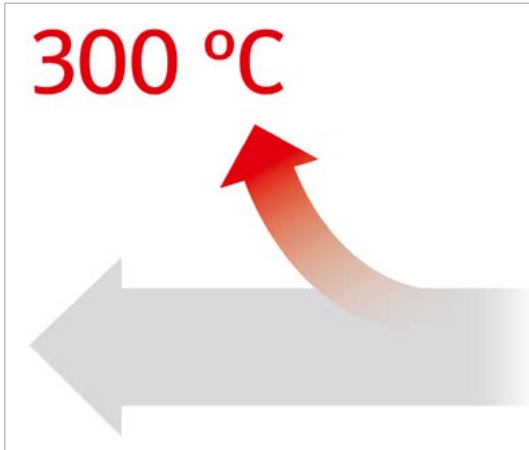
With natural or forced convection, all BINDER drying and heating chambers offer first-rate quality and process reliability. With its wide temperature range from 5 °C above ambient temperature to 300 °C, the heating chamber can be used in all applications. Short heating-up times and large power reserves 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	Series E Classic.Line › Page 36	Series ED Classic.Line › Page 40	Series FD Classic.Line › Page 45	Series FED Classic.Line › Page 50	Series M Classic.Line › Page 55
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

•Standard equipment

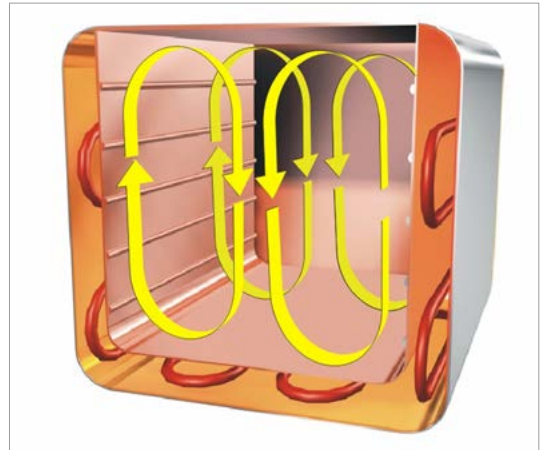
ADVANTAGES AT A GLANCE



BROAD RANGE OF APPLICATIONS

Series ED, FD, FED, M

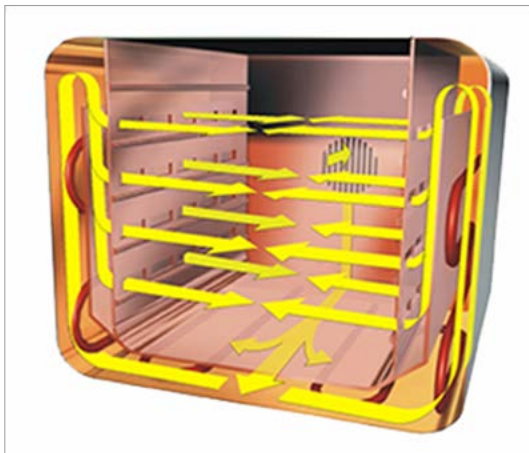
Many different applications can take advantage of the wide temperature range from 5 °C above ambient temperature to 300 °C. The FP and M series also impress with their adjustable air change rates and large power reserves.



HOMOGENEOUS TEMPERATURE CONDITIONS WITH NATURAL CONVECTION

Series ED

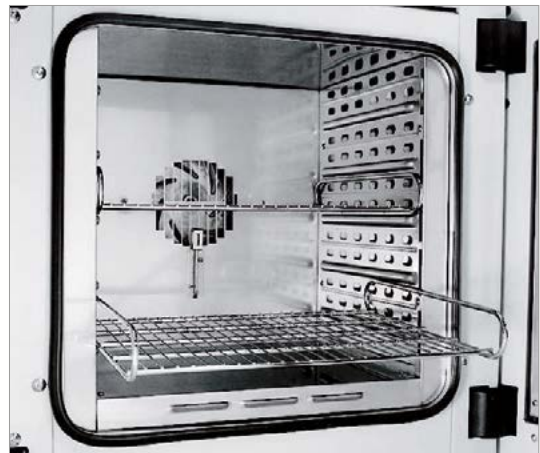
Gentle temperature distribution provided by the APT.line™ preheating chamber technology.



HOMOGENEOUS TEMPERATURE CONDITIONS WITH FORCED CONVECTION

Series FD, FED, M

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



CONVENIENT WORK ENVIRONMENT

Series E, FD, FED, M

BINDER interior concept: highlights rack with tilt protection, no permanent fixtures and stainless-steel inner chamber.

Series E Classic.Line | 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

BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs

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-CL

OPTIONAL EQUIPMENT

Access port with silicone plug

For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)



Viewing window and interior lighting

Viewing window in the door with interior lighting for easy samples viewing.



Shelf racks

Perforated shelves or shelf racks, chrome-plated or made from stainless steel.



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.



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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

Description	E 28
Measures	
Interior volume [L]	28
Net weight of the unit (empty) [kg]	22
Permitted load [kg]	25
Load per rack [kg]	10
Wall clearance back [mm]	160
Wall clearance sidewise [mm]	100
Internal Dimensions	
Width [mm]	400
Height [mm]	280
Depth [mm]	250
Housing dimensions not incl. fittings and connections	
Width net [mm]	580
Height net [mm]	405
Depth net [mm]	425
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

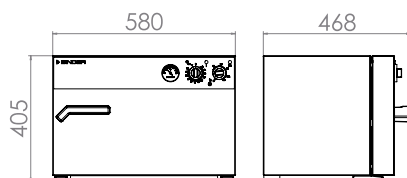
ORDERING INFORMATION [Art. No.]

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
120 V 1~ 60 Hz	Standard	9010-0106

DIMENSIONS incl. fittings and connections [mm]

E 28



ORDERING INFORMATION OPTIONS

Designation	Description	E 28	Art. No.
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	8012-1114
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	8012-1133

ORDERING INFORMATION ACCESSORIES

Designation	Description	E 28	Art. No.
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	8012-2250
Rack	chrome plated	•	8012-2032
Shelf, perforated	Stainless steel	•	8012-2160

Series ED Classic.Line | 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.



BD 400 model

BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs

MAIN FEATURES

- Temperature range: +5 °C above ambient temperature to +300 °C
- APT.line™ preheating chamber technology
- Natural 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-CL
ED 400	400	› go2binder.com/en-ED400-CL

OPTIONAL EQUIPMENT

Access port with silicone plug

For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)



Viewing window and interior lighting

Viewing window in the door with interior lighting for easy samples viewing.



Shelf racks

Perforated shelves or shelf racks, chrome-plated or made from stainless steel.



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.



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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

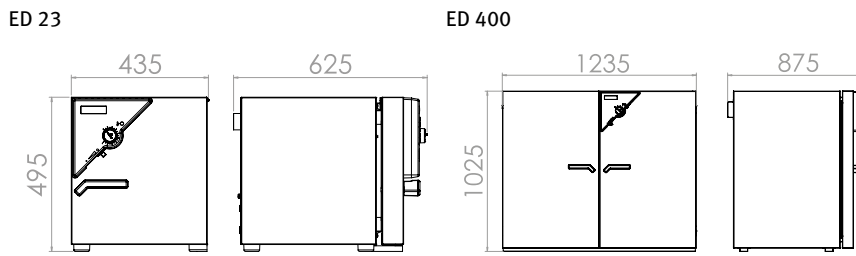
Description	ED 23	ED 400
Measures		
Interior volume [L]	20	400
Net weight of the unit (empty) [kg]	27	125
Permitted load [kg]	25	90
Load per rack [kg]	12	35
Wall clearance back [mm]	100	160
Wall clearance sidewise [mm]	100	100
Internal Dimensions		
Width [mm]	222	1000
Height [mm]	330	800
Depth [mm]	300	520
Housing dimensions not incl. fittings and connections		
Width net [mm]	435	1235
Height net [mm]	495	1025
Depth net [mm]	520	765
Performance Data Temperature		
Temperature range +5 °C above ambient temperature to [°C]	300	300
Temperature variation at 150 °C [± K]	2.8	3
Temperature fluctuation at 150 °C [± K]	0.5	0.5
Heating-up time to 150 °C [min]	28	71
Recovery time after 30 seconds door open at 150 °C [min]	5	31
Electrical data		
Nominal power (version 120 V) [kW]	0.8	–
Nominal power (version 208 V) [kW]	–	3.4
Nominal power (version 230 V) [kW]	0.8	–
Nominal power (version 400 V) [kW]	–	3.4
Fixtures		
Number of shelves (std./max.)	2/4	2/10

ORDERING INFORMATION [Art. No.]

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

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

DIMENSIONS incl. fittings and connections [mm]



ORDERING INFORMATION OPTIONS

Designation	Description	ED 23	ED 400	Art. No.
Access port with silicone plug	back			
	10 mm	•	•	8012-1282
	30 mm	•	•	8012-0540
	50 mm	•	•	8012-0546
	left			
	10 mm	•	•	8012-1275
	30 mm	•	•	8012-0537
	50 mm	•	•	8012-0542
	100 mm	–	•	8012-0722
	right			
	10 mm	•	•	8012-1268
	30 mm	•	•	8012-0536
	50 mm	•	•	8012-0541
	100 mm	–	•	8012-0721
	top			
	10 mm	•	•	8012-1262
30 mm	•	•	8012-0539	
50 mm	•	•	8012-0545	
100 mm	•	•	8012-0547	
Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device			
	120/208 V option model	•	•	8012-1303
	230/400 V option model	•	•	8012-1299
Analog output 4-20 mA	for temperature values (output not adjustable)	•	•	8012-0430
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	•	8012-1115
	for temperature, measurement in center of chamber at specified temperature	•	•	8012-1134
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	•	8012-1593
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	•	8012-1572
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	•	8012-1551
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	•	8012-0032
Door gasket	made of FKM, silicone-free	•	–	8012-0493
		–	•	8012-0497

Designation	Description	ED 23	ED 400	Art. No.
Door lock	lockable door handle	•	–	8012-1246
		–	•	8012-1253
Inner chamber, reinforced	including 2 reinforced racks	–	•	8012-1730
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	•	8012-0195
Pt 100 temperature sensor	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	•	•	8012-1173
Viewing window and interior lighting	viewing window in door, 180 x 180 mm, and 15 W interior lighting			
	120 V option model	•	–	8012-0379
	230 V option model	•	–	8012-0378
	viewing window in each door, 290 x 470 mm, and 30 W interior lighting			
	208 V option model	–	•	8012-0271
	400 V option model	–	•	8012-0269

ORDERING INFORMATION ACCESSORIES

Designation	Description	ED 23	ED 400	Art. No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	–	•	9053-0039
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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	•	8012-2250
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
	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
Rack	chrome plated	•	–	8012-2031
		–	•	8012-2036
	stainless steel	•	–	8012-2046
		–	•	8012-2159
Rubber pads	set anti-slip feet	•	–	8012-2030
Shelf, perforated	Stainless steel	–	•	8012-2162
Table on castors	stable cart, castors with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	–	•	9051-0019

Series FD Classic.Line | 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

BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs

MAIN FEATURES

- Temperature range: +5 °C above ambient temperature 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-CL



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

OPTIONAL EQUIPMENT

Access port with silicone plug

For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)



Viewing window and interior lighting

Viewing window in the door with interior lighting for easy samples viewing.



Shelf racks

Perforated shelves or shelf racks, chrome-plated or made from stainless steel.



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.



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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

Description	FD 23
Measures	
Interior volume [L]	20
Net weight of the unit (empty) [kg]	27
Permitted load [kg]	25
Load per rack [kg]	12
Wall clearance back [mm]	160
Wall clearance sidewise [mm]	100
Internal Dimensions	
Width [mm]	222
Height [mm]	330
Depth [mm]	300
Housing dimensions not incl. fittings and connections	
Width net [mm]	435
Height net [mm]	495
Depth net [mm]	520
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

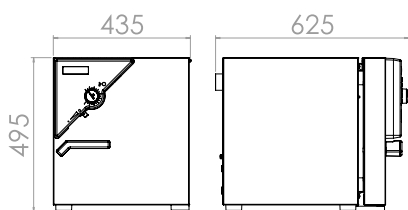
ORDERING INFORMATION [Art. No.]

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

DIMENSIONS incl. fittings and connections [mm]

FD 23



ORDERING INFORMATION OPTIONS

Designation	Description	FD 23	Art. No.
Access port with silicone plug	back		
	10 mm	•	8012-1283
	left		
	10 mm	•	8012-1276
	30 mm	•	8012-1359
	50 mm	•	8012-1376
	right		
	10 mm	•	8012-1269
	30 mm	•	8012-1354
	50 mm	•	8012-1372
	top		
	10 mm	•	8012-1263
	30 mm	•	8012-1364
	50 mm	•	8012-1380
Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device		
	120 V option model	•	8012-1304
	230 V option model	•	8012-1300
Analog output 4-20 mA	for temperature values (output not adjustable)	•	8012-0431
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	8012-1116
	for temperature, measurement in center of chamber at specified temperature	•	8012-1135
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	8012-1594
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	8012-1573
Calibration certificate, temperature	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	8012-1552
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	8012-1147
Door gasket	made of FKM, silicone-free	•	8012-1306
Door lock	lockable door handle	•	8012-1247
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	8012-1195
Pt 100 temperature sensor	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	•	8012-1174
Viewing window and interior lighting	viewing window in door, 180 x 180 mm, and 15 W interior lighting		
	120 V option model	•	8012-1260
	230 V option model	•	8012-1259

ORDERING INFORMATION ACCESSORIES

Designation	Description	FD 23	Art. No.
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	8012-2250

Designation	Description	FD 23	Art. No.
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
	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		
Rack	Digital in PDF format	•	7057-0005
	Hard copy inside folder	•	7007-0005
Rack accessories	chrome plated	•	8012-2031
	stainless steel	•	8012-2046
Rack accessories	fasteners (1 set of 4) for additional security of racks	•	8012-0531
Shelf, perforated	Stainless steel	•	8012-2164

Series FED Classic.Line | 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.



BF 400 model

BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs

MAIN FEATURES

- Temperature range: +5 °C above ambient temperature 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-CL

OPTIONAL EQUIPMENT

Access port with silicone plug

For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top)



Viewing window and interior lighting

Viewing window in the door with interior lighting for easy samples viewing.



Shelf racks

Perforated shelves or shelf racks, chrome-plated or made from stainless steel.



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.



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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

Description	FED 400
Measures	
Interior volume [L]	400
Net weight of the unit (empty) [kg]	145
Permitted load [kg]	90
Load per rack [kg]	35
Wall clearance back [mm]	160
Wall clearance sidewise [mm]	100
Internal Dimensions	
Width [mm]	1000
Height [mm]	800
Depth [mm]	510
Housing dimensions not incl. fittings and connections	
Width net [mm]	1235
Height net [mm]	1025
Depth net [mm]	765
Performance Data Temperature	
Temperature range +5 °C above ambient temperature to [°C]	300
Temperature variation at 150 °C [± K]	3.8
Temperature fluctuation at 150 °C [± K]	0.7
Heating-up time to 150 °C [min]	29
Recovery time after 30 seconds door open at 150 °C [min]	6
Electrical data	
Nominal power (version 208 V) [kW]	3.4
Nominal power (version 400 V) [kW]	3.4
Fixtures	
Number of shelves (std./max.)	2/10

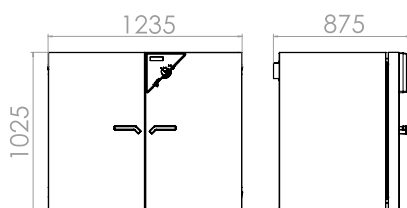
ORDERING INFORMATION [Art. No.]

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

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

DIMENSIONS incl. fittings and connections [mm]

FED 400



ORDERING INFORMATION OPTIONS

Designation	Description	FED 400	Art. No.
Access port with silicone plug	back		
	10 mm	•	8012-1285
	30 mm	•	8012-1369
	50 mm	•	8012-1385
	left		
	10 mm	•	8012-1278
	30 mm	•	8012-1361
	50 mm	•	8012-1377
	100 mm	•	8012-1509
	right		
	10 mm	•	8012-1271
	30 mm	•	8012-1356
	50 mm	•	8012-1373
	100 mm	•	8012-1506
	top		
	10 mm	•	8012-1264
30 mm	•	8012-1365	
50 mm	•	8012-1381	
100 mm	•	8012-1388	
Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device		
	208 V option model	•	8012-1305
	400 V option model	•	8012-1301
Analog output 4-20 mA	for temperature values (output not adjustable)	•	8012-0433
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	8012-1118
	for temperature, measurement in center of chamber at specified temperature	•	8012-1137
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	8012-1596
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	8012-1575
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	8012-1554
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)	•	8012-1148
Door gasket	made of FKM, silicone-free	•	8012-1310
Door lock	lockable door handle	•	8012-1254
Fan, reinforced	to increase air change rates		
	400 V option model	•	8012-0200
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	•	8012-0076
Inner chamber, reinforced	including 2 reinforced racks	•	8012-0339
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	•	8012-1197
Pt 100 temperature sensor	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	•	8012-1176
Viewing window and interior lighting	viewing window in each door, 290 x 470 mm, and 30 W interior lighting		
	208 V option model	•	8012-1241
	400 V option model	•	8012-1239

ORDERING INFORMATION ACCESSORIES

Designation	Description	FED 400	Art. No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	•	9053-0039
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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	8012-2250
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
	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
Rack	chrome plated	•	8012-2036
	stainless steel	•	8012-2159
Rack accessories	fasteners (1 set of 4) for additional security of racks	•	8012-0531
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	•	8012-0346
Shelf, perforated	Stainless steel	•	8012-2162
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	•	9051-0019

Drying and heating chambers Solid.Line

Series ED-S Solid.Line

Page 66

Series FD-S Solid.Line

Page 70

With its new Solid.Line range, BINDER is expanding its product portfolio of drying and heating chambers, incubators, and constant climate chambers. This new line embodies solid product design with great value for money. The new Solid.Line is the ideal addition to BINDER's popular premium products, thus complementing the entire product range with BINDER's quality guarantee – Made in Germany.

PRODUCT SELECTION DRYING AND HEATING CHAMBERS SOLID.LINE

Features	Series ED-S Solid.Line <small>› Page 66</small>	Series FD-S Solid.Line <small>› Page 70</small>
Model		
Model 56	•	•
Model 115	•	•
General data		
Temperature range +7 °C above ambient temperature to [°C]	250	–
Temperature range +10 °C above ambient temperature to [°C]	–	250
•Standard equipment		

ADVANTAGES AT A GLANCE



EASY OPERATION OF THE UNIT

Series ED-S, FD-S

Using controller with digital display in °C and °F.



ADJUSTABLE EXHAUST AIR FLAP ABOVE THE UNIT

Series ED-S, FD-S

For setting the air change rates.



COMPLETELY HOMOGENEOUS TEMPERATURE DISTRIBUTION

Series FD-S

This feature provides excellent spatial and temporal temperature accuracy with the all-new generation of APT.line™ technology.

Series ED-S Solid.Line | with natural convection

The new products in the Solid.Line impress with their tried-and-tested BINDER quality and reliability. They are suited to drying and heating. The attributes of the Solid.Line are geared towards the application in question and therefore used in research and quality assurance.



ED-S 56 model

BENEFITS

- Easy handling
- Accurate temperature control
- Simple and ergonomic door opening

MAIN FEATURES

- Temperature range: +7 °C above ambient temperature to +250 °C
- APT.line™ preheating chamber technology
- Natural convection
- Adjustable exhaust air flap
- Controller with timer function
- 1 chrome-plated rack, incl. shelf supports
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm

AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
ED-S 56	62	› go2binder.com/en-ED-S56
ED-S 115	118	› go2binder.com/en-ED-S115



OPTIONAL EQUIPMENT

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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

Description	ED-S 56	ED-S 115
Measures		
Interior volume [L]	62	118
Net weight of the unit (empty) [kg]	36	50
Permitted load [kg]	45	75
Load per rack [kg]	15	20
Wall clearance back [mm]	160	160
Wall clearance sidewise [mm]	100	100
Internal Dimensions		
Width [mm]	400	550
Height [mm]	440	550
Depth [mm]	350	390
Housing dimensions not incl. fittings and connections		
Width net [mm]	614	764
Height net [mm]	625	735
Depth net [mm]	577	616
Performance Data Temperature		
Temperature range +7 °C above ambient temperature to [°C]	250	250
Temperature variation at 150 °C [± K]	3.4	2.8
Temperature fluctuation at 150 °C [± K]	0.8	0.9
Heating-up time to 150 °C [min]	60	55
Electrical data		
Nominal power (version 120V) [kW]	1.15	1.35
Nominal power (version 230V) [kW]	1.05	1.25
Environment-specific data		
Energy consumption at 150 °C [Wh/h]	210	300
Fixtures		
Number of shelves (std./max.)	1/3	1/5

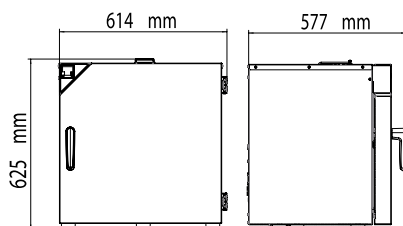
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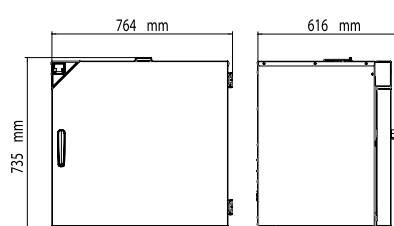
Voltage	Option model	ED-S 56	ED-S 115
230 V 1~ 50/60 Hz	Standard	9090-0014	9090-0020
120 V 1~ 60 Hz	Standard	9090-0015	9090-0021

DIMENSIONS incl. fittings and connections [mm]

ED-S 56



ED-S 115



ORDERING INFORMATION ACCESSORIES

Designation	Description	ED-S 56	ED-S 115	Art. No.
Grid shelf	Incl. shelf supports	•	–	8012-1807
	chrome plated	–	•	8012-1808
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	•	8012-2250
Rubber pads	set anti-slip feet	•	•	8012-2030

Series FD-S Solid.Line | with forced convection

The new products in the Solid.Line impress with their tried-and-tested BINDER quality and reliability. They are suited to drying and heating. The attributes of the Solid.Line are geared towards the application in question and therefore used in research and quality assurance.



FD-S 115 model

BENEFITS

- Easy handling
- Accurate temperature control
- Simple and ergonomic door opening

MAIN FEATURES

- Temperature range: +10 °C above ambient temperature to +250 °C
- APT.line™ preheating chamber technology
- Forced convection
- Adjustable exhaust air flap
- Controller with timer function
- 1 chrome-plated rack, incl. shelf supports
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm

AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
FD-S 56	55	› go2binder.com/en-FD-S56
FD-S 115	106	› go2binder.com/en-FD-S115

OPTIONAL EQUIPMENT

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.



► All extras online go2binder.com/en-options

TECHNICAL DATA

Description	FD-S 56	FD-S 115
Measures		
Interior volume [L]	55	106
Net weight of the unit (empty) [kg]	36	48
Permitted load [kg]	45	75
Load per rack [kg]	15	20
Wall clearance back [mm]	160	160
Wall clearance sidewise [mm]	100	100
Internal Dimensions		
Width [mm]	400	550
Height [mm]	440	550
Depth [mm]	310	350
Housing dimensions not incl. fittings and connections		
Width net [mm]	614	764
Height net [mm]	625	735
Depth net [mm]	577	616
Performance Data Temperature		
Temperature range +10 °C above ambient temperature to [°C]	250	250
Temperature variation at 150 °C [± K]	2.6	2.0
Temperature fluctuation at 150 °C [± K]	0.4	0.4
Heating-up time to 150 °C [min]	15	20
Tabellen		
Air change (approx.) at 100 °C [x/h]	4	2
Electrical data		
Nominal power (version 120V) [kW]	1.2	1.4
Nominal power (version 230V) [kW]	1.1	1.3
Environment-specific data		
Energy consumption at 150 °C [Wh/h]	290	340
Fixtures		
Number of shelves (std./max.)	1/3	1/5

ORDERING INFORMATION [Art. No.]

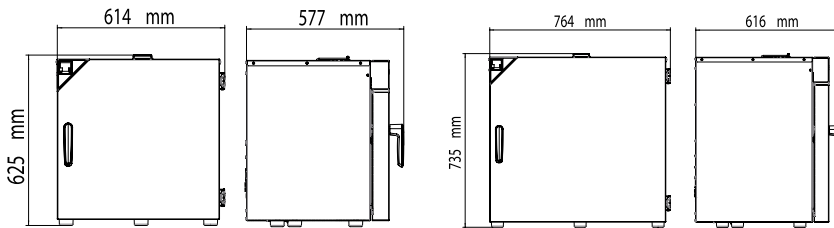
Further details: Go to www.binder-world.com > Search > Enter Article Number

Voltage	Option model	FD-S 56	FD-S 115
230 V 1~ 50/60 Hz	Standard	9090-0018	9090-0024
120 V 1~ 60 Hz	Standard	9090-0019	9090-0025

DIMENSIONS incl. fittings and connections [mm]

FD-S 56

FD-S 115



ORDERING INFORMATION ACCESSORIES

Designation	Description	FD-S 56	FD-S 115	Art. No.
	Incl. shelf supports			
Grid shelf		•	–	8012-1807
	chrome plated	–	•	8012-1808
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	•	8012-2250
Rubber pads	set anti-slip feet	•	•	8012-2030

BINDER products

CO₂ incubators

Incubators

Cooling incubators

Growth chambers

Ultralow temperature freezers

Drying and heating chambers

Safety drying chambers

Vacuum drying chambers

Constant climate chambers

Dynamic climate chambers

Battery test chambers

Walk-in-chambers

Multi Management Software



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