

FED series: Heating chambers with forced convection

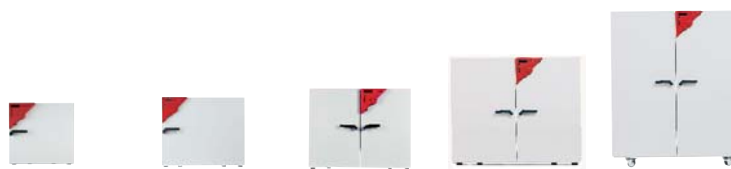
The FED series is a true all-rounder. It has a virtually unlimited capacity and is at the same time particularly adaptable to the specific requirements of a large variety of testing applications. The enhanced time functions and the digitally controlled air turbine can be used to adjust ideal temperature parameters and recirculation air conditions.



► Performance features and equipment:

- Electronically-controlled APT.line™ preheating chamber technology with forced convection
- Temperature range of 5 °C (9 °F) above ambient temperature up to 300 °C (572 °F)
- MS Controller with several timer functions
- Controller timer functions: delayed ON, delayed OFF, temperature dependent delayed OFF
- Digital temperature setting with an accuracy of one degree
- One ramp function
- Adjustable fan speed (0 to 100 %)
- Independent adjustable temperature safety device, Class 2 (DIN 12880), with visual temperature alarm
- Adjustable ventilation by means of rear exhaust duct Ø 50 mm (2 inch) with ventilation flap and front ventilation slide
- RS 422 interface for communication software APT-COM™ DataControlSystem, or switch over to printer output with RS 232 / RS 422 interface converter
- Adjustable intervals for printer
- Units up to 115 liters (4.1 cu.ft.) are stackable
- 2 chrome-plated racks
- BINDER test certificate





	FED 53	FED 115	FED 240	FED 400	FED 720
▶ Exterior dimensions					
Width (mm/inch)	634 / 25.0	834 / 32.8	1034 / 40.7	1234 / 48.6	1234 / 48.6
Height (inclusive feet/castors) (mm/inch)	617 / 24.3	702 / 27.6	822 / 32.4	1022 / 40.2	1528 / 60.2
Depth (mm/inch)	575 / 22.6	645 / 25.4	745 / 29.3	765 / 30.1	865 / 34.1
Plus door handle, I-panel and exhaust duct (mm/inch)	105 / 4.1	105 / 4.1	105 / 4.1	105 / 4.1	105 / 4.1
Wall clearance rear (mm/inch)	100 / 3.9	100 / 3.9	100 / 3.9	100 / 3.9	100 / 3.9
Wall clearance side (mm/inch)	160 / 6.3	160 / 6.3	160 / 6.3	160 / 6.3	160 / 6.3
Exhaust duct outer-Ø (mm/inch)	52 / 2.1	52 / 2.1	52 / 2.1	52 / 2.1	52 / 2.1
Steam space volume (l/cu.ft.)	77 / 2.7	158 / 5.6	308 / 10.9	498 / 17.6	869 / 30.7
Number of doors	1	1	2	2	2
▶ Interior dimensions					
Width (mm/inch)	400 / 15.8	600 / 23.6	800 / 31.5	1000 / 39.4	1000 / 39.4
Height (mm/inch)	400 / 15.8	480 / 18.9	600 / 23.6	800 / 31.5	1200 / 47.2
Depth (mm/inch)	330 / 13.0	400 / 15.8	500 / 19.7	500 / 19.7	600 / 23.6
Interior volume (l/cu.ft.)	53 / 1.9	115 / 4.1	240 / 8.6	400 / 14.3	720 / 25.7
Racks, chrome-plated (number standard/max.)	2 / 5	2 / 6	2 / 7	2 / 10	2 / 16
Load per rack (kg/lbs.)	15 / 33	20 / 44	30 / 66	35 / 77	45 / 99
Permitted total load (kg/lbs.)	40 / 88	50 / 110	70 / 155	90 / 199	120 / 265
Weight of the unit (empty) (kg/lbs.)	44 / 97	62 / 137	96 / 212	145 / 320	195 / 430
▶ Temperature data					
Temperature range, 5 °C (9 °F) above ambient up to (°C/°F)	300 / 572	300 / 572	300 / 572	300 / 572	300 / 572
Temperature variation ¹⁾					
at 70 °C (158 °F) (± °C)	0.8	0.7	0.8	1	1
at 150 °C (302 °F) (± °C)	2	1.8	2	2.5	2
at 300 °C (572 °F) (± °C)	3.7	3.9	4.3	4.8	5.5
Temperature fluctuation (± °C)	0.3	0.3	0.3	0.3	0.3
Heating up time ²⁾					
to 70 °C (158 °F) (Min.)	6	7	12	18	25
to 150 °C (302 °F) (Min.)	24	30	27	35	39
to 250 °C (572 °F) (Min.)	45	49	50	60	65
Recov. time after door was opened for 30 sec. ²⁾					
at 70 °C (158 °F) (Min.)	2	2	2	2	2
at 150 °C (302 °F) (Min.)	5	8	10	17	20
at 300 °C (572 °F) (Min.)	10	15	16	21	24
Air change ³⁾					
at 150 °C (302 °F) (x/h)	43	32	20	18	12
▶ Electrical data					
Housing protection acc. to EN 60529	IP 20	IP 20	IP 200	IP 20	IP 20
Nominal voltage (± 10 %) 50/60 Hz (V)	230 / 115	230 / 115	230 / 208 (3N)	400 / 208(3N)	400 / 208 (3N)
Nominal power (W)	1200	1600	2700	3400	5000
Energy consumption					
at 70 °C (158 °F) (W)	162	230	370	520	570
at 150 °C (302 °F) (W)	397	544	850	1200	1320
at 300 °C (572 °F) ,(W)	933	1100	1400	2340	2600

¹⁾ value without window ²⁾ up to 98 % of the set value ³⁾ The air change depends on the inner chamber- and ambient temperature and is subject to significant individual variance. The indicated air change rate represents average values for standard equipment. Individual measurement of air change rate in acc. to ASTM D 5374 are optionally available.

All technical specification are specified for units with standard equipment at an ambient temperature of 25 °C (77 °F) and a voltage fluctuation of ±10 %. The temperature data are determined in accordance to factory standard following DIN 12880, part 2 respecting the recommended wall clearances of 10 % of the height, width and depth of the inner chamber. All indications are average values, typical for units produced in series. We reserve the right to alter technical specifications at all times.