

FED 53 - Heating chamber 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 assuring temperature accuracy and reproducible results
- Temperature range 5 °C (32 °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
- Adjustable fan speed
- Front ventilation flap slide and rear exhaust duct Ø 50 mm (1.97 inch)
- Independent adjustable temperature safety device class 2 (DIN 12880), with visual temperature alarm
- RS 422 interface for communication software APT-COM™ DataControlSystem, or switch over to printer output with RS 232 / RS 422 interface converter
- Units up to 115 liters are stackable
- 2 chrome-plated racks included
- BINDER test certificate



FED 53

Exterior dimensions	
Width (mm/inch)	634 / 25.0
Height (inclusive feet/casters) (mm/inch)	617 / 24.3
Depth (mm/inch)	575 / 22.6
Plus door handle, l-panel and exhaust duct (mm/inch)	105 / 4.1
Wall clearance rear (mm/inch)	100 / 3.9
Wall clearance side (mm/inch)	160 / 6.3
Exhaust duct outer- Ø (mm/inch)	52 / 2.1
Steam space volume (l/cu.ft.)	77 / 2.7
Number of doors	1
Interior dimensions	
Width (mm/inch)	400 / 15.8
Height (mm/inch)	400 / 15.8
Depth (mm/inch)	330 / 13.0
Interior volume (l/cu.ft.)	53 / 1.9
Racks, chrome-plated (number standard/max.)	2 / 5
Load per rack (kg/lbs.)	15 / 33
Permitted total load (kg/lbs.)	40 / 88
Weight of the unit (empty) (kg/lbs.)	44 / 97
Temperature data	
Temperature range, 5 °C (41 °F) above ambient up to °C / °F	300 / 572
Temperature variation 1)	
at 70 °C (± °C)	0.8
at 150 °C (± °C)	2
at 300 °C (± °C)	3.7
Temperature fluctuation (± °C)	0.3
Heating up time 2)	
to 70 °C (Min.)	6
to 150 °C (Min.)	24
to 250 °C (Min.)	45
Recov. time after door was opened for 30 sec. 2)	
at 70 °C (Min.)	2
at 150 °C (Min.)	5
at 300 °C (Min.)	10
Air change data	
Air change	
at 150 °C (x/h)	43
at 300 °C (x/h)	66
Electrical data	
Housing protection acc. to EN 60529	IP 20
Nominal voltage (±10 %) 50 / 60 Hz (V)	230
Nominal power (kW)	1.2
Energy consumption	
at 70 °C (W)	145
at 150 °C (W)	300
at 300 °C (W)	720

1) value without window
 2) up to 98 % of the set value

All technical data are specified for units with standard equipment at an ambient temperature of 25 °C and a voltage fluctuation of ±10 %. The temperature data are determined in accordance to factory standard following DIN 12880 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.



▶ Access ports

With silicon plugs for inserting external measuring devices into the chamber. Access ports with 10, 30, 50 and 100 mm (0.4, 1.2, 2, 3.9 inch) diameter.



▶ Door with window and interior lighting

For optimum process control in the interior, available for all equipment sizes.



▶ Lockable door

Prevents unauthorized access and interference with processes in the chamber.



▶ Calibration certificates

Measurement in the center at specified values. Additional measuring points or test values according to your specification.

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Access port with silicone plugs, 10 mm (0.39 inch), 30 mm (1.18 inch), 50 mm (1.97 inch), 100 mm (3.94 inch)	<input type="radio"/>
HEPA fresh - air filter, Class EU14 (according to EN 1822; min. 99.999% for 0.3 µm particles)	<input type="radio"/>
Independent adjustable temperature safety device, Class 3.1 (DIN 12880)	<input type="radio"/>
Analog temperature output, 4 - 20 mA, with 6 - pin DIN socket (output not adjustable)	<input type="radio"/>
Anti - slip rubber pads for safe stacking (4 pieces)	<input type="radio"/>
Temperature measurement acc. to DIN 12880 (27 measuring points) at 150 °C (302 °F) or at specified temperature with measuring protocol and certificate	<input type="radio"/>
Factory calibration certificate. Measurement in center of chamber at 150 °C (302 °F) or at specified testing temperature	<input type="radio"/>
Extension to factory calibration certificate. Each additional measurement at an additional measuring point or temperature	<input type="radio"/>
Over temperature alarm, acoustic, can be switched off. Temperature limit can be set at the independent, adjustable temperature safety device class 2	<input type="radio"/>
Measurement of air change rate according to ASTM D5374, with definition and protocol	<input type="radio"/>
Rack, chrome - plated or stainless steel	<input type="radio"/>
Shelf, perforated, stainless steel	<input type="radio"/>
Lockable door	<input type="radio"/>
FKM door gasket	<input type="radio"/>
Inert gas connection (gas inlet and outlet)	<input type="radio"/>
Mostly gas - tight version	<input type="radio"/>
Door with window and interior lighting, 15 W (230 x 230 mm / 9.06 x 9.06 inch)	<input type="radio"/>