



# ASSOCIATED ENVIRONMENTAL SYSTEMS

## FD Series

TEMPERATURE FLOOR CHAMBER



### *Description:*

The FD series floor chamber can create a wide range of temperatures with the maximum being  $-65^{\circ}\text{C}$  to  $180^{\circ}\text{C}$ . The chambers range from 1 cubic foot to 64 cubic feet. AES's inner baffle design provides increased temperature stability by creating even air circulation.

### *Standard Features:*

- Interior: All stainless steel type 304
- Exterior: Heavy gauge cold rolled steel with powder coat paint
- 3" access port and plug on right side wall
- Adjustable digital high temperature safety
- 12" or 8" multi-pane viewing window in door
- Internal light with external switch
- Casters (set of 4)
- Watlow F4 programmable controller with RS232 interface



# FD Series

## Specifications

### Options:

- Custom Port Sizes
- Shelf Modification
- LN<sub>2</sub>/CO<sub>2</sub> Cooling
- CO<sub>2</sub> Scrubber
- IEEE-488 Interface
- Ethernet Interface
- Dry Nitrogen Purge
- Programmable Chart Recorder
- Adjustable High/Low Temperature Safety
- Noise Reduction Package
- Touch Screen

### Control

#### FD – 400 Series (Sm.)

Temperature Range: -17°C to +180°C (0°F to +356°F)

Compressors: Copeland, Single Stage

Controller: Watlow F4 Programmable Controller with RS232 Communication

Model	Working Volume (cu. ft.)	Dimensions: (H" x W" x D")	Temp. Rise Time – Ambient to Upper Limit	Temp. Pull Down Time – Ambient to Lower Limit	Power Requirements
FD-401	1	Internal: 9 x 13.75 x 16 External: 40 x 17.75 x 32.5	20 min.	20 min.	1 Phase 120 Volt 60 Hz. 1 Phase 100 Volt 50 Hz.
FD-402	2	Internal: 16 x 13.75 x 16 External: 63 x 27 x 28	20 min.	20 min.	1 Phase 120 Volt 60 Hz. 1 Phase 100 Volt 50 Hz.
FD-405	5	Internal: 20 x 22 x 20 External: 69 x 31 x 44	20 min.	20 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-408	8	Internal: 24 x 24 x 24 External: 70 x 33 x 43	20 min.	20 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-410	10	Internal: 28 x 24 x 27 External: 71 x 33 x 52	20 min.	20 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-413	13	Internal: 28 x 28 x 28 External: 71 x 37 x 52	20 min.	20 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.

#### FD-500 Series (Sm.)

Temperature Range: -37°C to +180°C (-35°F to +356°F)

Compressors: Copeland, Single Stage

Controller: Watlow F4 Programmable Controller with RS232 Communication

Model	Working Volume (cu. ft.)	Dimensions: (H" x W" x D")	Temp. Rise Time – Ambient to Upper Limit	Temp. Pull Down Time – Ambient to Lower Limit	Power Requirements
FD-501	1	Internal: 9 x 13.75 x 16 External: 40 x 17.75 x 32.5	20 min.	35 min.	1 Phase 120 Volt 60 Hz. 1 Phase 100 Volt 50 Hz.
FD-502	2	Internal: 16 x 13.75 x 16 External: 63 x 27 x 28	20 min.	35 min.	1 Phase 120 Volt 60 Hz. 1 Phase 100 Volt 50 Hz.
FD-505	5	Internal: 20 x 22 x 20 External: 69 x 31 x 44	20 min.	35 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-508	8	Internal: 24 x 24 x 24 External: 70 x 33 x 43	20 min.	50 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-510	10	Internal: 28 x 24 x 27 External: 71 x 33 x 52	20 min.	35 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-513	13	Internal: 28 x 28 x 28 External: 71 x 37 x 52	20 min.	35 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.

#### FD – 200 Series (Sm.)

Temperature Range: -65°C to +180°C (-85°F to +356°F)

Compressors: Copeland, Cascade

Controller: Watlow F4 Programmable Controller with RS232 Communication

Model	Working Volume (cu. ft.)	Dimensions: (H" x W" x D")	Temp. Rise Time – Ambient to Upper Limit	Temp. Pull Down Time – Ambient to Lower Limit	Power Requirements
FD-201	1	Internal: 9 x 13.75 x 16 External: 40 x 17.75 x 32.5	20 min.	60 min.	1 Phase 120 Volt 60 Hz. 1 Phase 100 Volt 50 Hz.
FD-202	2	Internal: 16 x 13.75 x 16 External: 63 x 27 x 28	20 min.	60 min.	1 Phase 120 Volt 60 Hz. 1 Phase 100 Volt 50 Hz.
FD-205	5	Internal: 20 x 22 x 20 External: 69 x 31 x 44	20 min.	60 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-208	8	Internal: 24 x 24 x 24 External: 70 x 33 x 43	20 min.	60 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-210	10	Internal: 28 x 24 x 27 External: 71 x 33 x 52	20 min.	60 min.	1 Phase 220 Volt 60 Hz. 1 Phase 200 Volt 50 Hz.
FD-213	13	Internal: 28 x 28 x 28 External: 71 x 37 x 52	20 min.	60 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.



# FD Series

## Specifications

### Options:

- Custom Port Sizes
- Shelf Modification
- LN<sub>2</sub>/CO<sub>2</sub> Cooling
- CO<sub>2</sub> Scrubber
- IEEE-488 Interface
- Ethernet Interface
- Dry Nitrogen Purge
- Programmable Chart Recorder
- Adjustable High/Low Temperature Safety
- Noise Reduction Package
- Touch Screen Control

<b>FD – 400 Series (Lg.)</b>					
Temperature Range: -17°C to +180°C (0°F to +356°F)					
Compressors: Copeland, Single Stage					
Controller: Watlow F4 Programmable Controller with RS232 Communication					
Model	Working Volume (cu. ft.)	Dimensions: (H" x W" x D")	Temp. Rise Time – Ambient to Upper Limit	Temp. Pull Down Time – Ambient to Lower Limit	Power Requirements
FD-421	21	Internal: 32 x 32 x 32 External: 72 x 41 x 54	20 min.	20 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-427	27	Internal: 36 x 36 x 36 External: 81 x 54 x 74	20 min.	20 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-432	32	Internal: 38 x 38 x 38 External: 83 x 56 x 76	20 min.	20 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-449	49	Internal: 42 x 42 x 44 External: 87 x 60 x 82	20 min.	20 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-464	64	Internal: 48 x 48 x 48 External: 95 x 70 x 85	20 min.	20 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.

<b>FD – 500 Series (Lg.)</b>					
Temperature Range: -37°C to +180°C (-35°F to +356°F)					
Compressors: Copeland, Single Stage					
Controller: Watlow F4 Programmable Controller with RS232 Communication					
Model	Working Volume (cu. ft.)	Dimensions: (H" x W" x D")	Temp. Rise Time – Ambient to Upper Limit	Temp. Pull Down Time – Ambient to Lower Limit	Power Requirements
FD-521	21	Internal: 32 x 32 x 32 External: 72 x 41 x 54	20 min.	35 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-527	27	Internal: 36 x 36 x 36 External: 81 x 54 x 74	20 min.	35 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-532	32	Internal: 38 x 38 x 38 External: 83 x 56 x 76	20 min.	50 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-549	49	Internal: 42 x 42 x 44 External: 87 x 60 x 82	20 min.	35 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-564	64	Internal: 48 x 48 x 48 External: 95 x 70 x 85	20 min.	35 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.

<b>FD – 200 Series (Lg.)</b>					
Temperature Range: -65°C to +180°C (-85°F to +356°F)					
Compressors: Copeland, Cascade					
Controller: Watlow F4 Programmable Controller with RS232 Communication					
Model	Working Volume (cu. ft.)	Dimensions: (H" x W" x D")	Temp. Rise Time – Ambient to Upper Limit	Temp. Pull Down Time – Ambient to Lower Limit	Power Requirements
FD-221	21	Internal: 32 x 32 x 32 External: 72 x 41 x 54	20 min.	60 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-227	27	Internal: 36 x 36 x 36 External: 81 x 54 x 74	20 min.	60 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-232	32	Internal: 38 x 38 x 38 External: 83 x 56 x 76	20 min.	60 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-249	49	Internal: 42 x 42 x 44 External: 87 x 60 x 82	20 min.	60 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.
FD-264	64	Internal: 48 x 48 x 48 External: 95 x 70 x 85	20 min.	60 min.	3 Phase 220 Volt 60 Hz. 3 Phase 200 Volt 50 Hz.