



**ASSOCIATED**  
ENVIRONMENTAL SYSTEMS

FDR Series | RF Shielding Temperature Chambers | Specifications



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# FDR Series Radio Frequency Blocking

## Performance Data

Model	FDR-501	FDR-505
Inside Dimensions (in)	25.5"W x 32"D x 41"H	22"W x 20"D x 20"H
Inside Dimensions (mm)	1,333.5W x 815D x 1040H mm	560W x 510D x 510H mm
Outside Dimensions (in)	25.5"W x 32"D x 41"H	37.5"W x 39.3"D x 66.7"H
Outside Dimensions (mm)	1,333.5W x 815D x 1040H mm	952.5W x 998.2D x 1694.2H mm
Working Volume	1.125 cu.ft. / 31.856 liters	5.092 cu.ft. / 144.189 liters
Approx. Weight	325 lbs. / 147.4 kg.	550 lbs. / 249.5 kg.
Temperature Range*	-37°C to 94°C (-34.6°F to 201.2°F)	-37°C to 94°C (-34.6°F to 201.2°F)
Temperature Stability*	±½°C at sensor after stabilization	±½°C at sensor after stabilization
Approx. Temp. Rise Rate*	3.14°C/minute	3.14°C/minute
Approx. Temo. Pull Down Rate*	1.0°C/minute	1.0°C/minute
Electrical Supply	120 V, 1 Ph, 60 Hz	208 or 230V, 1 Phase, 60 Hz
Full Load Amps	20 Amps	22 Amps
Power Requirements	NEMA L5-20	NEMA L6-30
Refrigeration System	Single Stage	Single Stage

\*Temperature stability at sensor. Rise and Pull-down rates calculated using IEC 60068-3-5 standard.

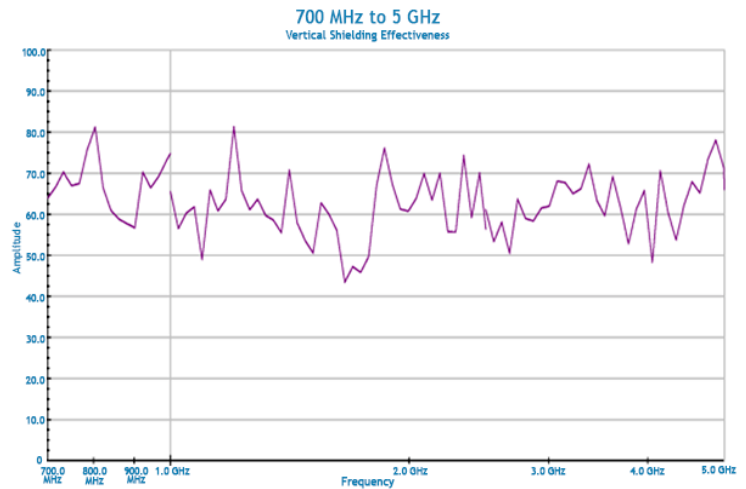
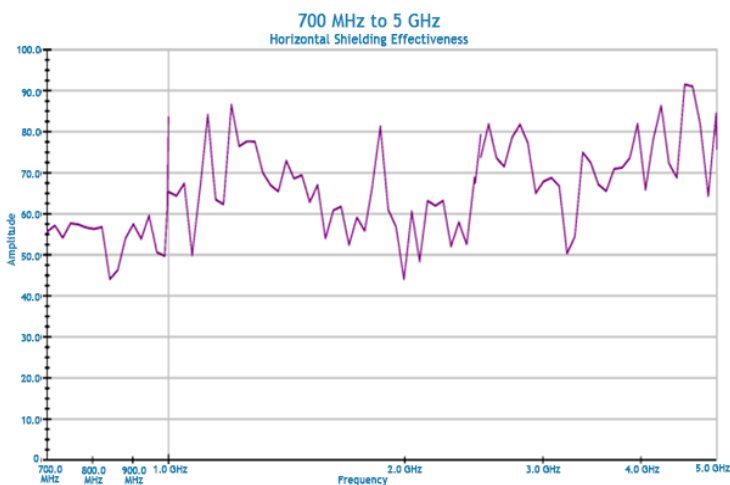
### Attenuation

Specification approximately 60 dB from to 700 MHz to 2.6 GHz and no less than 40-50 dB at frequencies up to 6.0 GHz or higher.

If you have specific attenuation requirements different than above speak with a sales team member to discuss customizing this option.

### Connectors

There are more than 15 different connectors that have been integrated into the port system. Share your connection requirements with a team member.



# FDR Series Radio Frequency Blocking

## Temperature

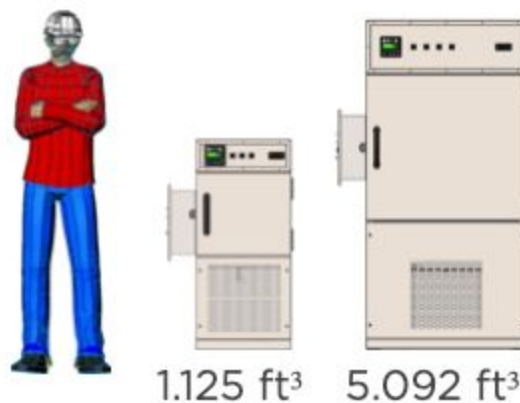


Model	FDR-501	FDR-505
Temperature Range*	-37°C to 94°C -34.6°F to 201.2°F	-37°C to 94°C -34.6°F to 201.2°F
Temperature Stability*	±½°C at sensor after stabilization	±½°C at sensor after stabilization

*\*Temperature measured at sensor*

## Dimensions

Model	Inside Dimensions	Outside Dimensions	Working Volume
FDR-501	13.5W x 16D x 9H in 340.5W x 405D x 230H mm	25.5W x 32D x 41H in 1,333.5W x 815D x 1,040H mm	1.125 cu.ft. 31.856 liters
FDR-505	22W x 20D x 20H in 560W x 510D x 510H mm	37.5W x 39.3D x 66.7H in 952.5W x 998.2D x 1,694.2H mm	5.092 cu.ft. 144.189 liters



# FDR Series

## Radio Frequency Blocking

### Standard Features: Chamber

#### Interior Cabinet

Working volume 1 or 5 cu.ft.  
Stainless steel type 304 with No. 4 finish  
Full opening door, with manual door latch  
Includes 4 swivel casters with wheel locks  
Internal light with external switch

#### Shielding Features

Sealed Workspace uses cellular, metallic, chromatic gaskets and conductive adhesives  
Shielded grill separates circulation motor  
RF filters block waves from wiring  
Connectors install on side-mount-interface plate for communication with device under test

#### Refrigeration

FDR-500 Models are single-stage, air-cooled mechanical refrigeration conditioning units

#### Exterior Cabinet

Color: Bone, powder coat finish  
Exterior heavy gauge cold rolled steel





#### Quality Control

Pre-ship test  
Final design drawings (custom chambers)  
Manuals electronic (hard copy on request)  
Startup installation (optional)

#### Safety

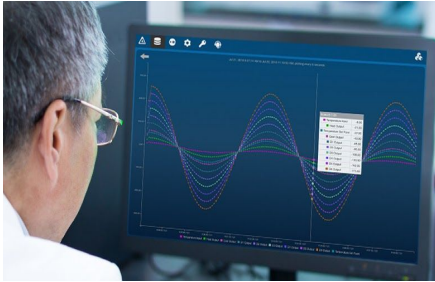
High-temperature limit switch  
Refrigeration system overpressure safety circuit

#### Electrical

Power Requirements		Plug AES Provided	Receptacle Provided by Customer
FDR-501	120V, 1Ph, 50-60Hz 20A	 NEMA 5-20P	 NEMA 5-20R
FDR-505	208 or 230V, 1Ph, 50-60Hz 22A	 NEMA L6-30P	 NEMA L6-30R
6 Foot Power Cable and Plug			

# FDR Series Radio Frequency Blocking

## Standard Instrumentation



### OPERATION & DATA MANAGEMENT DASHBOARD

**DASHBOARD.** Operate and program the controller at the chamber, at a desktop, or remotely via laptop or tablet. Graph and analyze test data right from your browser

**PROFILE BUILDER\*** Drag & drop profile builder from a web-browser to create, edit, save and move between profiles.

**DATA LOGGING.** On-board multi-year data logging abilities. Collect and manage live and historical data while chamber is operating

**COMMUNICATION & CONTROL.** Standard and well-documented JSON API for easy communication and integration into existing test platforms. Python template scripts available

**SECURITY.** Control user access with 3 authentication methods and 6 permission levels. Ability to lock out chamber to prevent test interference

Go to [AES|XCHANGE](#) for detailed product specifications.



### Watlow F4T Controller

The F4T features a 4.3" capacitive touchscreen minimizing the chance for error. Ethernet communication supported by AES|XCHANGE



### 100Ω Platinum RTD Temperature Sensor

Platinum resistance temperature detector (RTD) based on the din curve. The RTD sensor can operate from -200°C to +200°C (-328°F to -392°F). Platinum resistance elements are specially designed to ensure precise and repeatable temperature measurement. RTDs and thermistors are accurate, sensitive, standardized and interchangeable.

\* F4T- AES|XCHANGE combination only; not available with F4

# FDR Series Radio Frequency Blocking

## Optional Chamber Features

### Fully Adjustable Shelf

Model FDR-501 \$255.00

Model FDR-505 \$281.00

### Additional Shelf

Model FDR-501 \$108.00

Model FDR-505 \$162.00

Add ship wt. 4lbs (1.8kg) ea.



## Optional Features: Instrumentation

### High/Low Temperature Limit

\$745.00



- Shuts down chamber operation in the event of an over/under temperature limit is reached
- User programmable high and low-temperature limits

Add ship wt. 0.25lb (0.1kg)



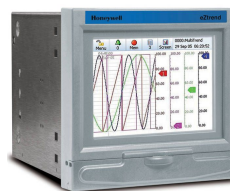
### Honeywell Truline Chart Recorder

- 2-channel temperature & humidity
- Top-mount in enclosure  
12" dia. thermal paper recorder \$2500.00  
10" dia. thermal paper recorder \$1850.00

Add ship wt. 13.2lb (6 kg)

### EZ Trend Digital Chart Recorder

\$2,500.00





- 5" LCD
  - Top-mount in enclosure
- Add ship wt. 5.3lb (2.3kg)



# FDR Series Radio Frequency Blocking

## Facility & Utility Requirements

### Power Input

Power Requirements		Receptacle Provided by Customer
FDR-501	120V, 1Ph, 50-60Hz 20A	 NEMA 5-20R
FDR-505	208 or 230V, 1Ph, 50-60Hz 22A	 NEMA L6-30R
6 Foot Power Cable and Plug		

*Please specify voltage at time of order placement.  
Alternative power source requirements are available.*

### Clearance

18" in front and on either side of the chamber

### Ambient Room Temperature

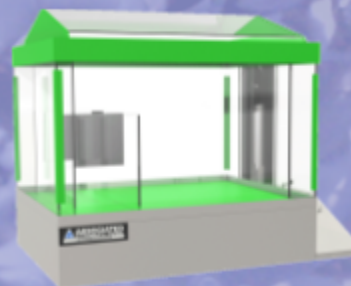
20°C (68°F) for optimal performance  
15°C to 30°C (60°F to 85°F) acceptable range

## Approximate Base-Model Shipping Weight and Dimensions

Model	Unpacked Weight	Crated Weight	Crated Dimensions
FDR-501	325 lbs. (147.4 kg.)	435 lbs. (197.3 kg)	35 X 33 X 44 in. (88.9 X 83.8 X 111.8 kg.)
FDR-505	550 lbs. (249.5 kg.)	660 lbs. (299.4 kg)	65 X 48 X 79 in. (165.1 X 121.9 X 200.7 kg.)

*Ask your Sales Engineer for a quote for your specific chamber order.*

**AES environmental  
test chambers  
make your products  
stronger, faster,  
safer, and  
longer-lasting.**



*AES lean manufacturing processes allow for continuous improvement in product design and construction. Associated Environmental Systems reserves the right to make improvements without notice or obligation.*

*All dimensions are theoretical and may not include ancillary required or optional equipment attached to a chamber.*

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