



# 83% Hi-Boy, Lo-Boy and Counterflow Oil Furnaces with PSC Multi-Speed Blower Motors



**Hi-Boy**



**Lo-Boy**



**Counterflow**

## Standard Engineered Features



### Combustion Chamber and Burner Mounting System

Enables dealer to remove the entire assembly to inspect the combustion chamber and ensure proper burner alignment.

### Plug-In Connectors

Promote easy maintenance and service of burner and blower motors.

### Heat Exchanger

Heavy 12 and 14 gauge steel construction has proven to be a superior design, with precision welding and the advantage of 4 easily accessible cleanout ports. Full front opening permits easy one-piece combustion chamber replacement.



Limited Lifetime Warranty.

### Electronic Blower Control

Controls operation of blower. Heating is 75 seconds on (fixed) and off selectable 150, 180, 210 or 240 seconds. Cooling is 6-second delay on and 60-second off (fixed). Humidifier and air cleaner terminal -115V.



### Pyrolite Combustion Chamber

Sound absorbing, high temperature fiber provides faster heat build-up in heat exchanger for greater efficiency and quieter operation.

### Beckett Flame Retention Oil Burner

- PSC motor for higher and more reliable static pressure.
- Electronic ignitor for more reliable ignition, especially with cold oil.
- Beckett CleanCut™ fuel pump with integrated solenoid for positive shut-off.
- Beckett GeniSys™ 7505B Advanced Burner Control — 15-second lockout, 15-second prepurge, interrupted duty, limited recycle, limited reset and cad cell diagnostics.

### Multi-Speed Direct Drive Blower

Provides the advantage of "fine tuning" the furnace to your home's specific airflow requirements.

### Blower Door Safety Interlock Switch

Prevents system operation during inspection or maintenance.

### Barometric Control

A high quality draft control is included with each furnace.

### Secondary Limit Control

Line break limit operates above primary limit control setpoint for extra safety.

### Galvanized 20 Gauge Zinc Coated Steel Cabinet

Cleaned, rinsed, sealed and dried before the polyurethane primer is applied. The cabinet is handsomely finished with a baked on textured enamel which allows it to withstand 1000 hours of salt spray exposure.

### Fiberglass Insulation

Extra thick to retain internal heat, keep cabinet cool and effectively quiet operating sounds.

### Air Filtration

Hi-Boy - External filter and filter rack available as field installed option.

Lo-Boy - High efficiency 1" pleated standard size filters are included and accessible by easy removal of access panel.

Counterflow - Field installed filter kit is available.

### Flue Connection

Multi-position flue box allows connection out top or either side.

### Utility Connections

Both oil and electrical connections can come in from either side.

### Combustion Air Compatible

Designed for easy installation of an outdoor air combustion air boot (field supplied).

### Sidewall Vent Compatible

Suitable for use with sidewall venting system (field supplied)

### Full Length Vestibule

Interior burner and control compartment is entire height of furnace for easy access.

### 40VA Transformer

Combines with heat/cool blower relay to accommodate the addition of an optional air conditioning unit.

### Warranty-Plus Program

5-year parts warranty standard on all FL, FH and FC furnaces. Limited Lifetime Warranty on heat exchanger.



• Intertek ETL Listed to Standard for Safety of Oil-Fired Furnaces UL 727 – Ninth Edition, dated April 7, 2006.

Specifications															
Model Number	Flue Location	Beckett Burner Type	Nozzle		Input Btuh	Heating Capacity <sup>①</sup>	AFUE <sup>①</sup>	Heating Blower Speed <sup>②</sup>	Temp Rise Range	Maximum CFM @ 0.50 In. WC	Dimensions (inches)				Shipping Weight (Lbs.)
			Size	Type							Pump Pressure	Furnace Casing HxWxD	Warm Air Supply WxD	Cold Air Return WxD	
<b>Hi-Boy</b>															
FH085D36F	Front		0.75*		105,000	87,000	83.0	Medium	60-90	1160	53 x 23 x 30½	22 x 20	16 x 19¼	6	265
FH085D36F	Front	AFG	0.65	70° Hollow	91,000	76,000	83.0	Low	70-100	1160	53 x 23 x 30½	22 x 20	16 x 19¼	6	265
FH085D36F	Front		0.55		77,000	64,000	83.0	Low	70-100	1160	53 x 23 x 30½	22 x 20	16 x 19¼	6	265
FH110D48F	Front	NX	0.85*	60° Solid	140,000	116,000	83.0	Medium-Low	60-90	1640	59 x 23 x 30½	22 x 20	16 x 19¼	6	300
FH110D48F	Front		0.75		119,000	99,000	83.0	Low	70-100	1640	59 x 23 x 30½	22 x 20	16 x 19¼	6	300
FH110D60F	Front	NX	0.85*	60° Solid	140,000	116,000	83.0	Medium-Low	60-90	1970	59 x 23 x 30½	22 x 20	16 x 19¼	6	300
FH110D60F	Front		0.75		119,000	99,000	83.0	Low	60-90	1970	59 x 23 x 30½	22 x 20	16 x 19¼	6	300
<b>Lo-Boy</b>															
FLF085D36F	Front		0.75*		105,000	87,000	83.0	Medium	60-90	1275	36-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	275
FLF085D36F	Front	AFG	0.65	70° Hollow	91,000	76,000	83.0	Low	60-90	1275	36-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	275
FLF085D36F	Front		0.55		77,000	64,000	83.0	Low	60-90	1275	36-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	275
FLR085D36F	Rear		0.75*		105,000	87,000	83.0	Medium	60-90	1275	36-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	275
FLR085D36F	Rear	AFG	0.65	70° Hollow	91,000	76,000	83.0	Low	60-90	1275	36-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	275
FLR085D36F	Rear		0.55		77,000	64,000	83.0	Low	60-90	1275	36-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	275
FLF110D48F	Front		0.85*	60° Solid	140,000	116,000	83.0	Medium-High	60-90	1625	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLF110D48F	Front	NX	0.75		119,000	99,000	83.0	Medium-Low	60-90	1625	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLR110D48F	Rear		1.00*	70° Hollow	140,000	116,000	83.0	Medium-High	60-90	1625	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLR110D48F	Rear	AFG	0.85		119,000	99,000	83.0	Medium-Low	60-90	1625	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLF110D60F	Front		0.85*	60° Solid	140,000	116,000	83.0	Medium-High	60-90	1935	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLF110D60F	Front	NX	0.75		119,000	99,000	83.0	Medium-Low	60-90	1935	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLR110D60F	Rear		1.00*	70° Hollow	140,000	116,000	83.0	Medium-High	60-90	1935	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLR110D60F	Rear	AFG	0.85		119,000	99,000	83.0	Medium-Low	60-90	1935	40-5/8 x 23 x 48-1/8	22 x 20	22 x 14	6	310
FLR140D60F	Rear		1.25*	70° Hollow	175,000	145,000	83.0	Medium-High	60-90	2250	47-5/8 x 26 x 50¼	25 x 20	25 x 16	6	365
FLR140D60F	Rear	AFG	1.10		154,000	127,000	83.0	Medium-Low	60-90	2250	47-5/8 x 26 x 50¼	25 x 20	25 x 16	6	365
<b>Counterflow</b>															
FC085D36F	Front		0.75*		105,000	87,000	83.0	Medium	60-90	1230	54 x 23 x 28½	18 x 19	22 x 20	6	260
FC085D36F	Front	AFG	0.65	70° Hollow	91,000	76,000	83.0	Low	70-100	1230	54 x 23 x 28½	18 x 19	22 x 20	6	260
FC085D36F	Front		0.55		77,000	64,000	83.0	Low	70-100	1230	54 x 23 x 28½	18 x 19	22 x 20	6	260

\* Factory installed standard nozzle size. All other firing rates (nozzle sizes) shown are field installed options.

① Heating capacity and Annual Fuel Utilization Efficiency based upon U.S. Government standard tests using D.O.E. isolated combustion rating procedure.

② Factory connected heating blower speed. Factory connected cooling blower speed is High, must be field changed if needed to match add-on cooling system airflow requirements.

## Electrical Ratings

Model Number	Volts	Hz	Phase	Total Unit Amps	Blower Motor		Burner Motor		Minimum Circuit Ampacity	Max. Time Delay Fuse or HACR Circuit Breaker
					HP	FLA	HP	FLA		
<b>Hi-Boy</b>										
FH085D36	115	60	1	7.3	1/3	5.6	1/7	1.7	9	15
FH110D48	115	60	1	12.2	1/2	10.5	1/7	1.7	15	20
FH110D60	115	60	1	14.2	3/4	12.5	1/7	1.7	18	20
<b>Lo-Boy</b>										
FLF085D36, FLR085D36	115	60	1	7.3	1/3	5.6	1/7	1.7	9	15
FLF110D48, FLR110D48	115	60	1	12.2	1/2	10.5	1/7	1.7	15	20
FLF110D60, FLR110D60	115	60	1	14.2	3/4	12.5	1/7	1.7	18	20
FLR140D60	115	60	1	14.2	3/4	12.5	1/7	1.7	18	20
<b>Counterflow</b>										
FC085D36	115	60	1	7.3	1/3	5.6	1/7	1.7	9	15

## Airflow Ratings

Model Number	Blower Size Dia. X Width	Motor HP	No. of Speeds	Speed Range	CFM @ inches H2)			Max. A/C Tons
					0.20	0.30	0.50	
<b>Hi-Boy</b>								
FH085D36	10 x 8	1/3	3	Low	830	800	730	2
				Med	1010	980	900	2.5
				High	1300	1275	1160	3
FH110D48	10 x 10	1/2	4	Low	1030	1025	1020	2.5
				Med-Low	1315	1300	1280	3
				Med-High	1655	1600	1495	3.5
				High	1885	1815	1640	4
FH110D60	11 x 10	3/4	4	Low	1325	1320	1300	3
				Med-Low	1540	1515	1460	3.5
				Med-High	1790	1750	1660	4
				High	2150	2100	1970	5
<b>Lo-Boy</b>								
FLF085D36, FLR085D36	10 x 9	1/3	3	Low	880	865	790	2
				Med	1210	1185	1090	2.5
				High	1425	1380	1275	3
FLF110D48, FLR110D48	10 x 10	1/2	4	Low	1040	1030	1000	2.5
				Med-Low	1235	1220	1150	3
				Med-High	1550	1465	1355	3.5
				High	1760	1685	1625	4
FLF110D60, FLR110D60	11 x 10	3/4	4	Low	1140	1140	1090	2.5
				Med-Low	1335	1310	1255	3
				Med-High	1560	1535	1515	4
				High	2120	2060	1935	5
FLR140D60	11 x 10	3/4	4	Low	1220	1210	1190	3
				Med-Low	1425	1420	1400	3.5
				Med-High	1690	1675	1640	4
				High	2470	2430	2250	5
<b>Counterflow</b>								
FC085D36	10 x 9	1/3	3	Low	870	845	775	2
				Med	1200	1150	1070	2.5
				High	1400	1345	1230	3

# Hi-Boy Models - Dimensions and Clearances

## Dimensions (Inches)

Model Number	Flue Dia.	Optional Filter Rack <sup>Ⓜ</sup>			Recommended Air Filter Size <sup>Ⓢ</sup>
		Model Number	Dimensions	Return Air Duct Size	
FH085D36	6	FR23	16 x 25 x 1	14 x 23	16 x 25 x 1
FH110D48	6	FR23	16 x 25 x 1	14 x 23	16 x 25 x 1
FH110D60	6	FR24	20 x 25 x 3	18 x 23	20 x 25 x 1

Ⓢ No filters are supplied with the furnace. Filter velocities should not exceed 400 fpm for fiberglass (disposable) type, and 575 fpm for washable type filters.

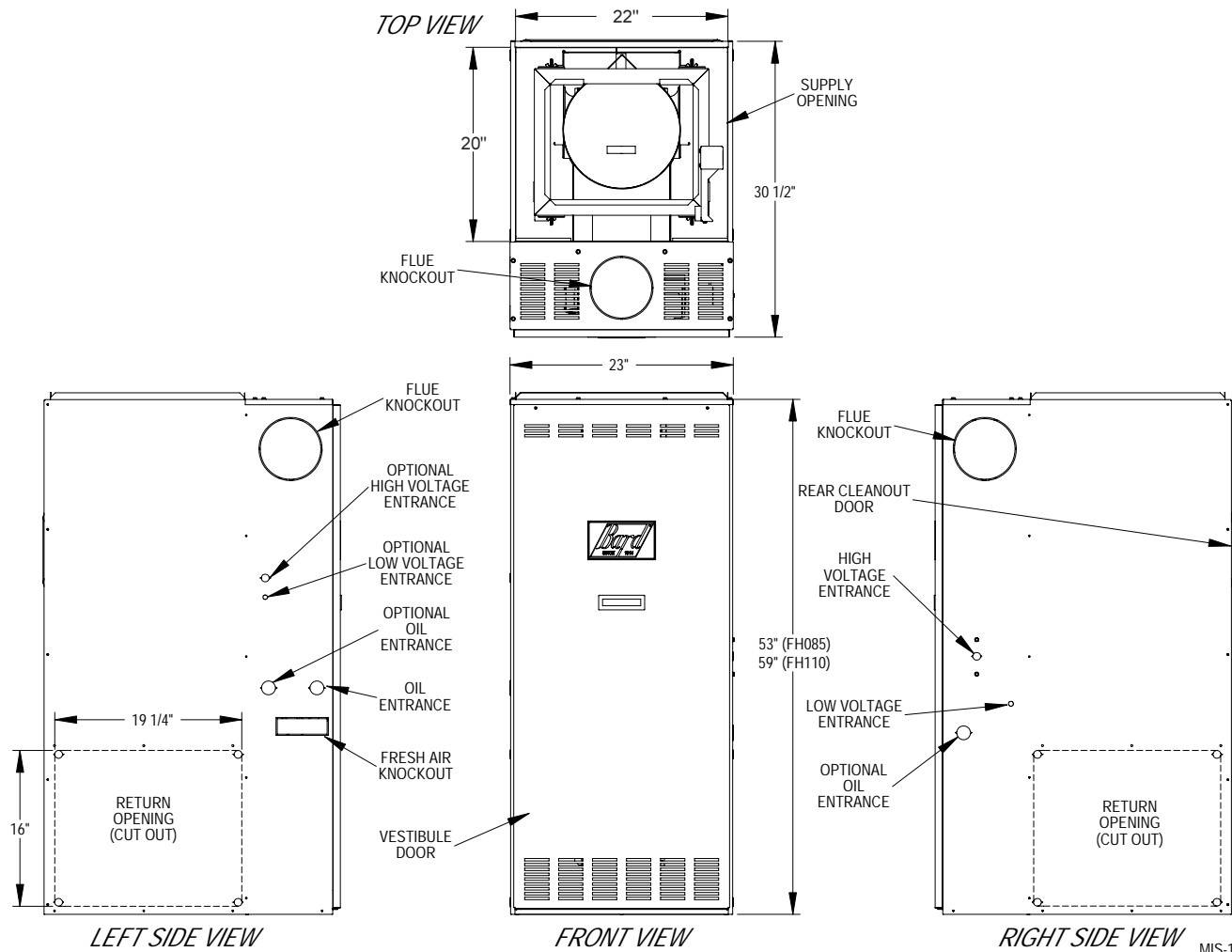
Ⓜ Washable aluminum mesh filters are supplied with the optional filter rack.

## Clearance (Inches)

All Models	Installation	Front	4
		Back	1
		Sides	2
		Plenum Top	2
		Plenum Sides	2
		Flue	9
		Duct	2 Ⓢ
		Floor	C Ⓢ
	Service	Front	24

Ⓢ 0 inch after 1st 3 feet of duct.

Ⓢ May be installed on combustible floor material.



MIS-1814 A

## Accessory Coil Cabinets

Furnace Model	Coil Cabinet Model No.	Fits Coils						Dimensions (inches)			Shipping Weight
		A30 2.5 Ton	A36 3 Ton	A37 3 Ton	A42 3.5 Ton	A48 4 Ton	A61 5 Ton	Width	Length	Height	
FH085D36	UCB23-22	X	X	X				23.00	21.00	23.50	30 lbs.
FH110D48	UCB23-22	X	X	X	X	X		23.00	21.00	23.50	32 lbs.
FH110D60	UCB26-26 Ⓢ						X	26.00	21.00	27.25	37 lbs.

Ⓢ Requires AKCBF-3 adapter. Use only if A61 coil being used. All other coils use UCB23-22 coil cabinet.

## Lo-Boy Models - Dimensions and Clearances

### Dimensions (Inches)

Model Number	Cabinet			Plenum Openings			Flue Connection				Air Filters ①	
	A Width	B Depth	C Height	D x E Supply	G	D x F Return	Location	Dia.	H	J	Size	No. Used
FLF085D36	23	48-1/8	36-5/8	22x20	3-1/4	22x14	Front	6	--	5-1/8	16x20x1	1
FLR085D36	23	48-1/8	36-5/8	22x20	3-1/4	22x14	Rear	6	34	-	16x20x1	1
FLF110D48, FLF110D60	23	48-1/8	40-5/8	22x20	3-1/4	22x14	Front	6	--	5-1/8	20x20x1	1
FLR110D48, FLR110D60	23	48-1/8	40-5/8	22x20	3-1/4	22x14	Rear	6	38	-	20x20x1	1
FLR140D60	26	50-1/4	47-5/8	25x20	4	25x16	Rear	6	43-5/8	-	20x25x1	1

① 1" pleated disposable filters - (non-washable type) are supplied with the furnace.

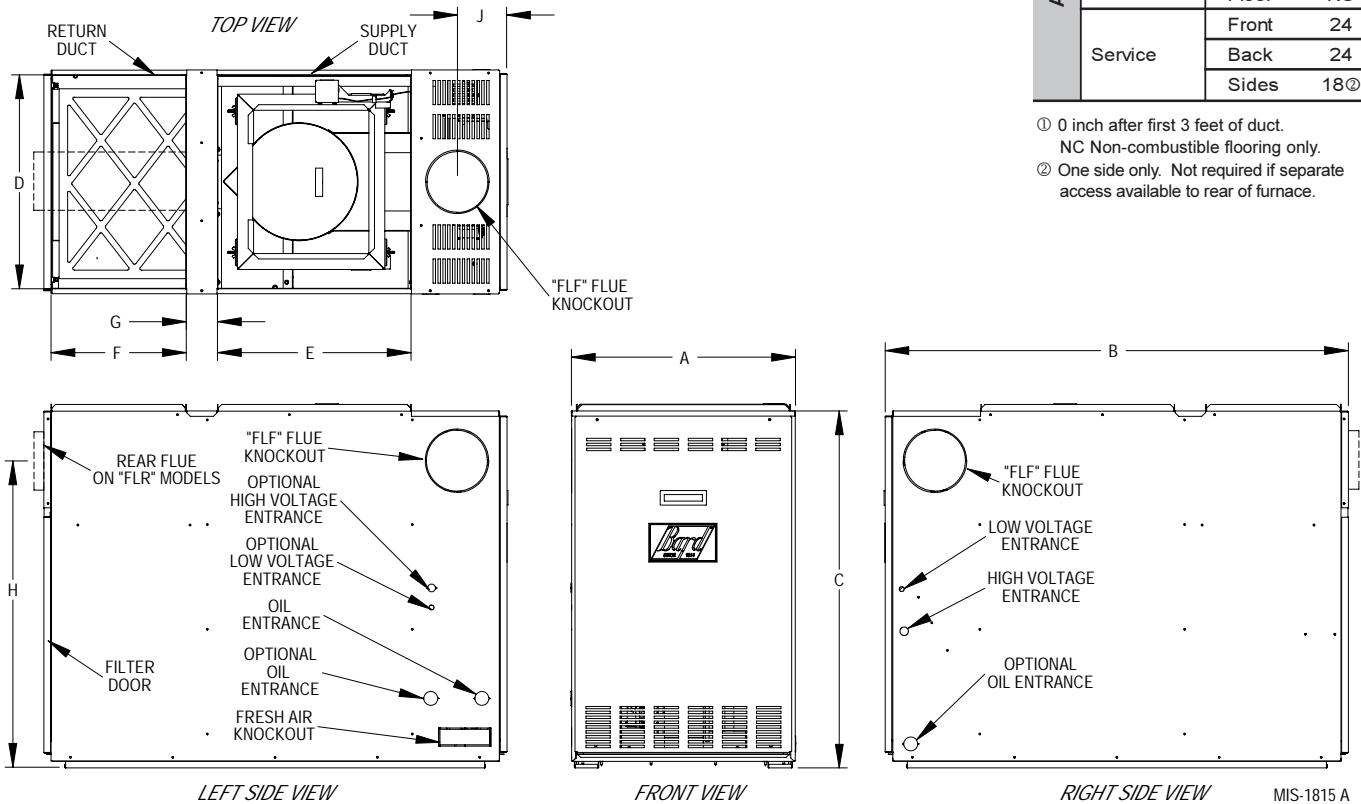
### Clearance (Inches)

All Models	Installation	Front	6
		Back	18
Installation	Sides	2	
	Plenum	2	
	Duct	2①	
	Flue	9	
	Floor	NC	
Service	Front	24	
	Back	24	
	Sides	18②	

① 0 inch after first 3 feet of duct.

NC Non-combustible flooring only.

② One side only. Not required if separate access available to rear of furnace.



MIS-1815 A

### Accessory Coil Cabinets

Furnace Model	Coil Cabinet Model No.	Fits Coils						Dimensions (inches)			Shipping Weight
		A30 2.5 Ton	A36 3 Ton	A37 3 Ton	A42 3.5 Ton	A48 4 Ton	A61 5 Ton	Width	Length	Height	
FLF/FLR085D36	UCB23-22	X	X	X				23.00	21.00	23.50	30 lbs.
FLF/FLR110D48	UCB23-22	X	X	X	X	X		23.00	21.00	23.50	32 lbs.
FLF/FLR110D60	UCB26-26 ①						X	26.00	21.00	27.25	37 lbs.
FLR140D60	UCB26-26	X	X	X	X	X	X	26.00	21.00	27.25	37 lbs.

① Requires AKCBF-3 adapter. Use only if A61 coil being used. All other coils use UCB23-22.

## Counterflow Model - Dimensions and Clearances

### Duct Connection & Air Filter Sizes (Inches)

Model Number	Return Air W x D	Supply Air W x D	Recommended Filter Size
FC085D36	22 x 20	18 x 19	16 x 20 (2) ①

① No filters are supplied with the furnace. Two (2) 16x20x1 washable aluminum mesh filters are supplied with optional field installed kit, part number FR25. This kit also includes easy access front door panel plus 3 additional side pieces to form complete filter enclosure.

### Combustible Base Dimensions (Inches)

Furnace Model	Base Model	Base Width	Floor Cut-Out		Duct Size	
			Width	Depth	Width	Depth
FC085D36	CFB23A	23.5	21.00	19.00	18.00	16.63

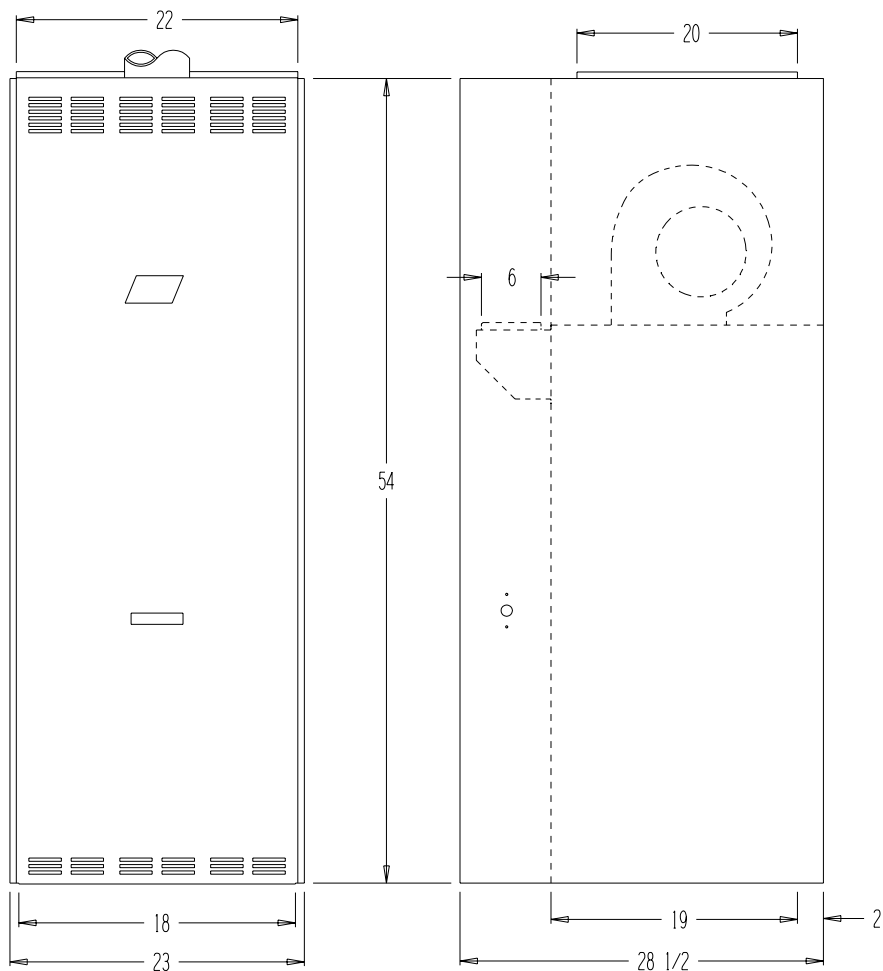
**NOTE:** Combustible base adds 1 inch to height of furnace. For air conditioning installations with DCB23-22 coil cabinet, an additional 23.5 inches is added.

### Clearances (Inches)

Model	FC085	
Installation	Front	4
	Back	1
	Sides	2
	Plenum Top	2
	Plenum Sides	2
	Flue	9
	Duct	2 ②
Service	Floor	NC ③
	Front	24

② 0 inch after first 3 feet of duct. NC Non-combustible flooring only.

③ For installation on non-combustible floors only. When installed on combustible flooring, a CFB23A floor base is required.



MIS-1344 A

### Accessory Coil Cabinet

Furnace Model	Coil Cabinet Model No.	Fits Coils			Dimensions (inches)			Shipping Weight
		A30 2.5 Ton	A36 3 Ton	A37 3 Ton	Width	Length	Height	
FC085D36	DCB23-22	X	X	X	23.00	21.00	23.50	35 lbs.



Bard Manufacturing Company, Inc.  
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Due to our continuous product improvement policy, all specifications subject to change without notice.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

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