



37AHB Series Hydronic Furnace

Part of the Rinnai Tankless Heating System

PATENT PENDING



FEATURES

- Four models covering a range of heating capacities
 - 27,100 to 96,300 BTU/hour
- Multi-position (upflow, downflow, horizontal left, horizontal right) without modifications *
 - Modifiable for side-entry return air
- Low-flow, high-head pump custom designed to work with Rinnai's tankless water heaters
- Integrated control board with learning algorithm
- No combustion air infiltration losses when used with a Rinnai tankless water heater
- Four selectable heat blower off delay times
- Multi-speed motors (ECM)
- Strong 20-gauge steel cabinet
 - Galvanized, painted
 - Fully insulated cabinet
 - Low 34 inch profile
- Multi-position control box
- Designed for serviceability
- Schrader valves to purge air from the system
- Integral filter rack with filter
- Fan motor with ECM technology

* NOTE: The unit is not designed to be installed on its back or face down.

The optimum in hydronic technology, the newly designed Rinnai® multi-position hydronic furnaces offer a unique solution for a wide variety of small- and medium-sized residential and light commercial applications. They are compact and ready to fit in tight spaces which may include, but not limited to, attics, basements, closets, crawlspaces, and utility rooms.

Intelligent Microprocessor Controller

The 37AHB units are equipped with an intelligent microprocessor control that allows for domestic hot water priority and adapts to available hot water flow for space heating by automatically regulating the pump and fan sequence to maximize comfort.

Fine Tuned to Work with Rinnai Tankless Water Heaters

These unique hydronic furnaces are designed to work in combination with our line of Rinnai® tankless water heaters to deliver heating capacities that cover a wide spectrum of residential and light commercial heating applications. When combined, the units form the Rinnai Tankless Heating System, the first matched, tankless hydronic heating solution in the industry!



This product is manufactured in a facility registered by UL to ISO 9001.

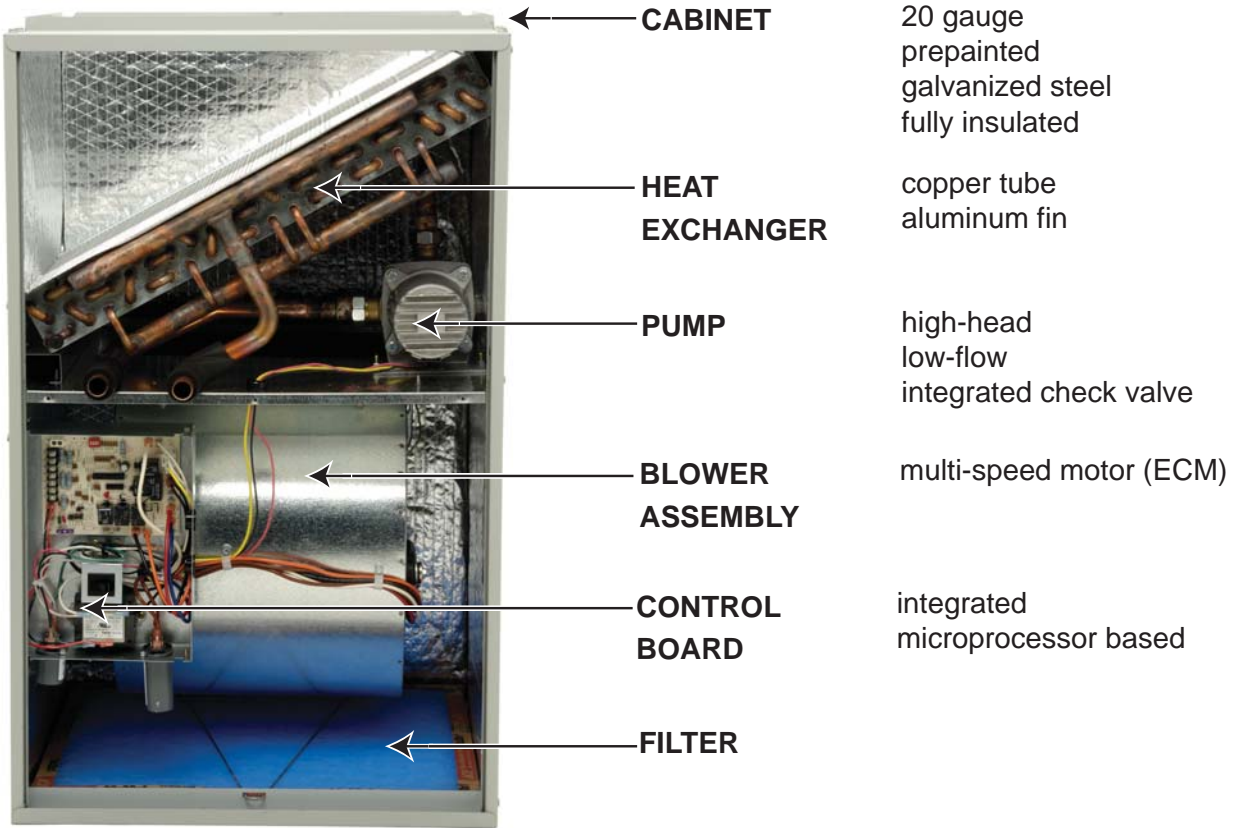
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Rinnai

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Equipment



Accessories



THERMOSTATS

Programmable, 5-2 days;
both A/C and heat pump
versions



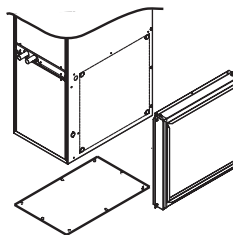
FLOW SENSOR *

For domestic hot water priority
* Supplied with the unit



ANTI-SCALD MIXING VALVE

To maintain safe domestic
hot water temperature



FILTER RACK and BOTTOM FILL PLATES

For modification to allow side-entry
return airflow

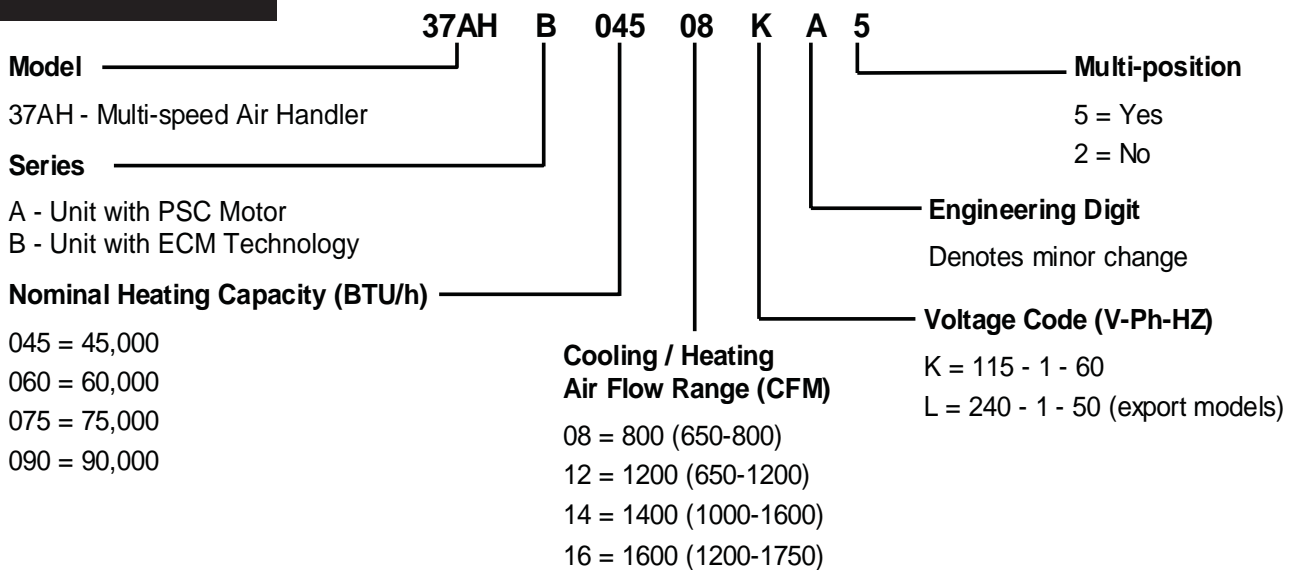
Factory available from Rinnai

Optional Equipment

FIELD-SUPPLIED ACCESSORIES capable of interfacing with the Rinnai Air Handler:

- Humidifier (HUM)** Connect an auxiliary 2.5 FLA, 2.5 LRA @ 115 VAC max Humidifier. Connections are made via the "HUM" quick connects. The humidifier output is on whenever a heating demand is being satisfied. The contacts of this output are isolated to allow application of 24 VAC or 115 VAC to one terminal and the humidifier load to the other.
- Electronic Air Cleaner (EAC)** Connect an auxiliary Electronic Air Cleaner; rating shall be max 1.0 Amp @ 115 VAC. This output is energized whenever any of the four blower speeds are energized. Connections are made via 0.250 x 0.032" male quick connect terminals labeled "EAC" and "N3".
- UV Lamp** Connect an auxiliary UV lamp (if required); rating shall be max 1.0 Amp @ 115 VAC. This output is energized whenever any of the four blower speeds are energized. Connections are made via 0.250 x 0.032" male quick connect terminals labeled "UV" and "N2".
- Cooling Coil** Can accommodate most brands of evaporator A-coil for cooling applications.

Nomenclature



Heating Capacities

Nominal heating capacities as tested with Rinnai tankless water heaters. For final rated capacities refer to the Air Delivery and Performance Table in the Operation and Installation Manual.

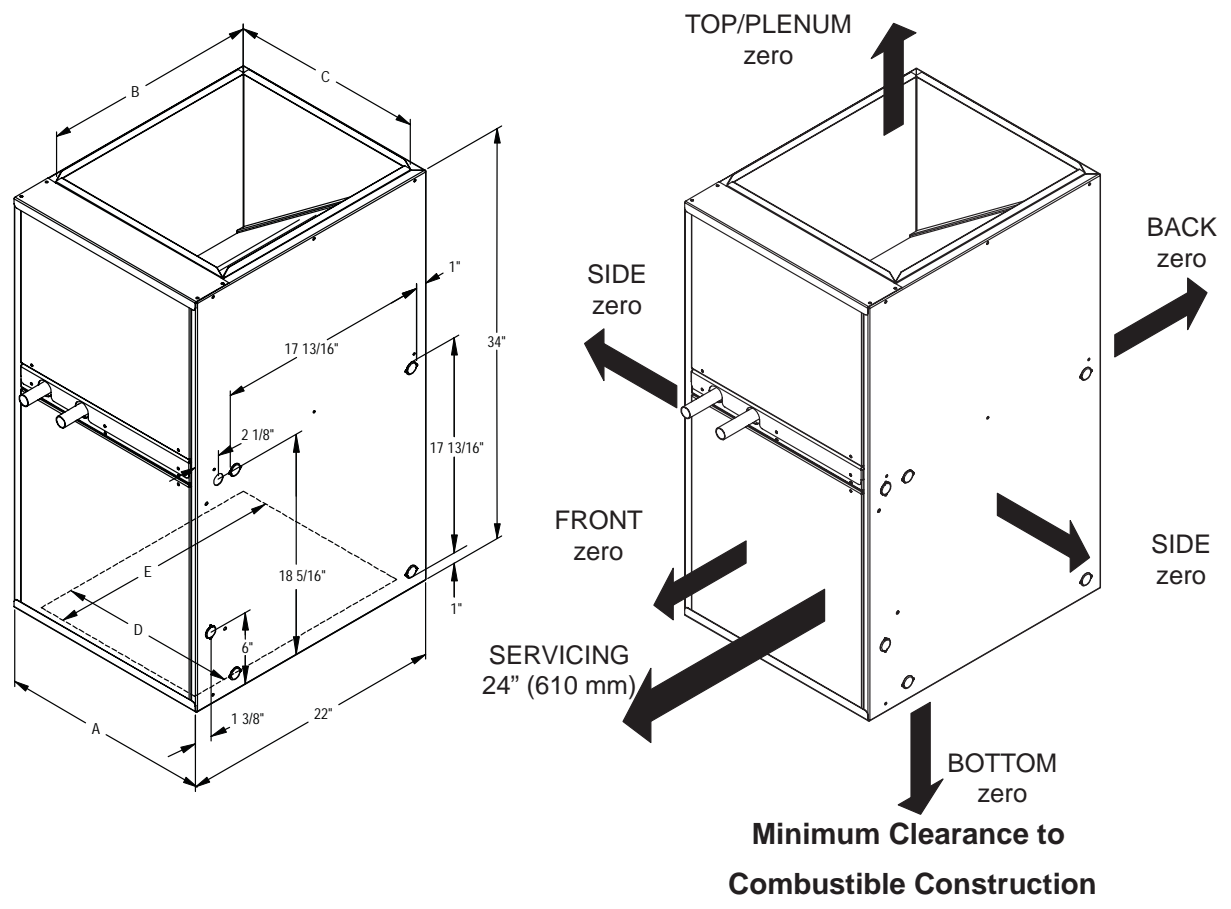
	AHB45 (BTU)	AHB60 (BTU)	AHB75 (BTU)	AHB90 (BTU)
120° F	27,100	36,400	47,000	54,900
130° F	32,300	45,100	54,300	63,900
140° F	39,700	50,800	63,000	76,200
150° F	45,200	59,700	72,000	86,600
160° F	51,200	68,100	80,400	96,300





Dimensions

UNIT SIZE	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
37AHB04508KA5 (AHB45)	14	355.6	18	457.2	12	304.8	10 1/2	266.7	19	482.6
37AHB06012KA5 (AHB60)	17 - 1/2	444.5	18	457.2	16	406.4	16 - 11/16	423.9	19 - 1/4	489
37AHB07514KA5 (AHB75)	21	533.4	18	457.2	20	508	18 - 11/16	474.7	19 - 1/2	495.3
37AHB09016KA5 (AHB90)	24 - 1/2	622.3	18	457.2	24	609.6	21 - 1/8	536.6	19	482.6



Warranty

Parts: 5 years * / Labor: 1 year *

* In order to receive full warranty coverage on the hydronic air handler when connected to any other type or brand of product other than a Rinnai tankless water heater, the flow rate through the air handler must not exceed a maximum of 5 GPM.

Rinnai will repair or replace the covered product or any part or component that is defective in materials or workmanship as set forth.

Rinnai will pay reasonable labor charges associated with the repair or replacement of any such part or component.

All repair parts must be genuine Rinnai parts. All repairs or replacements must be performed by an individual or servicing company that is properly trained, state qualified or licensed to do the type of repair.





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Specifications

UNIT MODELS		37AHB04508KA5	37AHB06012KA5	37AHB07514KA5	37AHB09016KA5
Trade Name		AHB45	AHB60	AHB75	AHB90
RATING AND PERFORMANCE		Descriptor (Typ.)			
Nominal Output Capacity (BTU/h) †		45,000	60,000	75,000	90,000
Air Side Temperature Rise Rate in °F (68°F Entering Air @ 150°F Entering Water)		Heat Speed	50	50	50
External Static Pressure		(in. W.C.)	0 to 1.0	0 to 1.0	0 to 1.0
Nominal Airflow (CFM)		Heating	800 ±	1200 ±	1400 ±
		Cooling Range	650 - 800	650 - 1200	1000 - 1600
ELECTRICAL					
Power Supply		V - HZ - PH	115-60-1		
Minimum Circuit Ampacity		MCA	9.6	9.6	12.43
Max. Rating of Overcurrent Protective Device		MOP (Calculated)	13.6	13.6	18
Maximum Fuse or CKT BKR Size		Amps	15	15	20
Transformer (24V)		40 VA (Primary: 120 VAC / Secondary: 24 VAC)			
Printed Circuit Board		PCB	INTEGRAL (with connections for A/C system, UV lamp, Humidifier, and electronic air cleaner)		
CONTROLS					
Available Unit Configurations		A/C or HP	Dip Switch Selectable (SW1)		
		Single or Two Stage	Dip Switch Selectable (SW1)		
		FS or WH	Shunt Selectable (P-7)		
Safety Door Switch		Rated Voltage	125 VAC		
		Resistive Load	21 Amp		
Blower Off Delay		HTG/CLG	Dip-switch Selectable/Fixed 30 Sec		
Cool / Heat Blower On Delay		Varies	Cool: 1 second / Heat: 25 seconds (see Sequence of Operations)		
INDOOR BLOWER MOTOR					
Type		DIRECT DRIVE MOTOR (ECM)			
Motor HP		1/2	1/2	3/4	1
Motor (Full Load Amps)		FLA	6.2	6.2	8.5
Run Capacitor		mfd/volts	N/A		N/A
Volts-PH-HZ		115-1-60			
CIRCULATING PUMP					
Type		Wet Rotor			
Volts-PH-HZ		115-1-60			
Motor (Full Load Amps/Locked Rotor Amps)		FLA/LRA	1.8 / 2.6		
Pump Motor HP		1/8			
Run Capacitor		mfd/volts	14/250		
Maximum Working Pressure		PSI	125		
Min/Max Fluid Temperature		°F (°C)	120 (49) / 160 (71)		
HYDRONIC HEATING COIL					
Coil Construction		3/8" OD copper tubes, aluminum fins, galvanized steel frame			
Rows...Fins/in		2...16	2...16	3...14	3...15
Total Face Area		Sq. Ft.	2.3	2.6	2.8
Approximate Internal Volume		Gallons	0.47	0.53	0.86
PIPING CONNECTIONS - (QTY)					
Type		Copper Stubs			
Supply Diameter		Inches	(1) 3/4		
Return Diameter		Inches	(1) 3/4		
RETURN-AIR FILTERS					
Filter Type (Throwaway)		Inches ††	12 X 20 X 1	16 X 20 X 1	20 X 20 X 1
					(2) 12 X 20 X 1
UNIT WEIGHT					
Shipping		lbs	92	109	118
Installed (with water)		lbs	107	127	138

† Tested in accordance with ANSI/ASHRAE Standard 37-Latest edition.

‡ Airflows shown are for bottom only return-air (blower speeds are factory set). For air delivery other than stated, refer to the Air Delivery & Performance table.

†† Required filter sizes shown are based on the larger of the AHRI (Air Conditioning & Refrigeration Institute) rated cooling airflow or the heating airflow velocity of 300 ft/min for throwaway type or 450 ft/min for high-capacity type.

Side intake filter to be (1) 20"x20"x1" typical for all models.

Air filter pressure drop for non-standard filters must not exceed 0.08 in. wg.

This product is manufactured in a facility registered by UL to ISO 9001. File No. A6887.

Air Delivery

AIR DELIVERY AND CAPACITY CHART (BOTTOM OR SIDE RETURN w/ FILTER)													
UNIT SIZE	ECM SPEED TAP	SUPPORTS COOLING CAP. RANGE (TONS)	External Static Pressure (ESP)								AIRFLOW (CFM)		
			0	0.1	0.2	0.3	0.4	0.5	0.6	0.7		0.8	0.9
37AHB045 with RC98HP, RC80HP, R94LS, R75LS, or V53i	TAP 3 (H)	2.0	948	921	891	868	841	819	795	772	701	596	567
	TAP 4 (M)	2.0	921	891	864	836	812	788	768	742	699	594	559
	TAP 5 (L)	1.5	803	768	740	712	682	652	628	596	569	541	510
37AHB060 with RC98HP, RC80HP, R94LS, R75LS, or V53i	TAP 1 (H)	3.0	1343	1318	1296	1270	1248	1225	1197	1168	1109	1025	889
	TAP 2 (MH)	2.5	1148	1128	1103	1072	1045	1012	984	955	937	908	690
	TAP 4 (ML)	2.0	971	942	911	880	847	817	784	751	715	680	642
	TAP 5 (L)	1.5	844	810	777	734	698	665	626	581	533	504	466
37AHB075 with RC98HP, RC80HP, R94LS, or R75LS	TAP 1 (H)	4.0	1700	1666	1635	1604	1576	1543	1518	1492	1465	1430	1402
	TAP 2 (MH)	3.5	1561	1524	1490	1456	1428	1396	1364	1330	1230	1265	1224
	TAP 3 (ML)	3.0	1391	1350	1320	1281	1245	1209	1190	1131	1090	1064	1031
	TAP 4 (L)	2.5	1222	1174	1140	1100	1063	1014	979	937	887	829	777
37AHB090 with RC98HP, RC80HP, R94LS, or R75LS	TAP 1 (H)	5.0	1934	1889	1857	1818	1784	1750	1715	1680	1568	1491	1377
	TAP 2 (MH)	4.0	1777	1732	1694	1650	1630	1592	1553	1517	1464	1441	1361
	TAP 3 (ML)	3.5	1573	1530	1490	1448	1417	1372	1327	1293	1253	1221	1175
	TAP 4 (L)	3.0	1400	1351	1317	1275	1225	1183	1134	1095	1053	1011	951