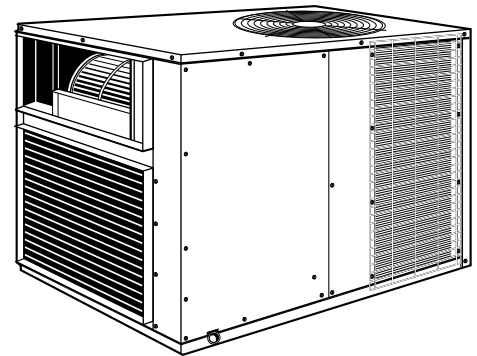




Product Data

Single Packaged Heat Pumps 13.4 SEER2 2 – 3 1/2 Ton

4WHC4024B1000A
4WHC4030B1000A
4WHC4036B1000A
4WHC4042B1000A



Note: "Graphics in this document are for representation only. Actual model may differ in appearance."



SAFETY SECTION

Important — This document contains a wiring diagram, a parts list, and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

⚠ WARNING

HAZARDOUS VOLTAGE!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized.

⚠ WARNING

SAFETY AND ELECTRICAL HAZARD!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

These servicing instructions are for use by qualified personnel only. To reduce the risk of electrical shock, do not perform any servicing other than that contained in these operating instructions unless you are qualified to do so.

⚠ CAUTION

GROUNDING REQUIRED!

Failure to inspect or use proper service tools may result in equipment damage or personal injury.

Reconnect all grounding devices. All parts of this product that are capable of conducting electrical current are grounded. If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

⚠ WARNING

UNIT CONTAINS R-410A REFRIGERANT!

Failure to use proper service tools may result in equipment damage or personal injury. R-410A operating pressure exceeds the limit of R-22. Proper service equipment is required. Service using only R-410A Refrigerant and approved POE compressor oil.

⚠ WARNING

SAFETY HAZARD!

Operating the unit without the access panels properly installed may result in severe personal injury or death.

Do not operate the unit without the evaporator fan access panel or evaporator coil access panel in place.

⚠ WARNING

WARNING!

This product can expose you to chemicals including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Important: Wear appropriate gloves, arm sleeve protectors and eye protection when servicing or maintaining this equipment.

Important: Air filters and media wheels or plates shall meet the test requirements in UL 900.



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Single Packaged Heat Pump System

Horizontal Packaged Heat Pumps

Trane 4WHC4 packaged heat pumps are designed for efficiency, reliability and easy installation.

Reliable electronic Demand Defrost, rugged compressor, filter drier and thermal expansion devices are the backbone of the Trane heat pump. We have also made installation easier and less costly by standardizing the cabinet and accessories. One standardized cabinet design for the 2-3-1/2 ton models.

Single Packaged Electric Heat Pumps are easy and versatile to install. These heat pump units have an over/under horizontal configuration which provides an efficient airflow delivery. This dedicated design eliminates the need for any unit conversion, saving field labor and installed cost.

Better Installability With standardized cabinet designs, all components were designed to be located in the same location, regardless of unit size.

Better Serviceability Our single packaged cooling/heating units offer efficiencies that are unmatched in the industry and provide you with a product far superior in performance than the competition.

With standardized cabinet designs, all components were designed to be located in the same location, regardless of unit size.

A simplified control panel that features colored and numbered wire is standard on all products. This aids in reducing troubleshooting time when wire tracing is required. And easy access to all major components can be accomplished by removing quick service access panels.

Unmatched quality and reliability. All major components on these products, including the compressor, have been designed and manufactured for maximum service. Every Climatuff™ compressor is designed and manufactured to exacting specifications. Each design is life tested in extreme environments to ensure reliable and long lasting operation in normal applications. Each compressor has internal motor protection for added reliability.

Design Features

- Climatuff™ compressor, designed and manufactured to provide reliable, economical operation
- Internal pressure relief and internal overload protection
- High Efficiency multi-speed direct drive indoor fan motor.
- Thermal expansion valve refrigerant control.
- Demand defrost control system.
- Reliable, solenoid-operated reversing valve.
- Copper tube, aluminum plate fin coils.
- Polarized plug for easy field connection of low voltage to supplementary heater.
- Duct flanges.
- Outdoor coil guard.

Accessories

- Supplemental Electric Heaters
- Thermostats
- Low ambient cooling to 0°F.



Optional Equipment Listing

Optional Equipment for 4WHC4 Packaged Units (check mark indicates accessories included)

Anti-Short Cycle Timer ^(a) ^(b)	1BAYASCT001 []
Extreme Conditions Mounting Kit - slab or rack mount	BAYECMT003A []
Low Ambient Cooling Kit	BAYLOAM011A []
5 Minute Delay Relay ^(b)	TAYASCT501A []
3Heat/2Clg	TCONT402A []
2Heat/2Clg	TCONT602A []
3Heat/2Clg	TCONT802A []
3Heat/2Clg w/Humidity Display	TCONT803A []

^(a) Not for use with electronic thermostats.

^(b) Activated on Power off



Product Specifications

MODEL	4WHC4024B1000A	4WHC4030B1000A	4WHC4036B1000A	4WHC4042B1000A
RATED Volts/PH/Hz	208-230/1/60	208-230/1/60	208-230/1/60	208-230/1/60
Performance Cooling BTUH ^(a)	24200	29400	35400	39000
Indoor Airflow (CFM)	830	1050	1070	1200
Power Input (KW)	1.87	2.33	2.91	3.33
EER/SEER (BTU/Watt-Hr.) ^(b)	10.6 / 13.4	10.6 / 13.4	10.6 / 13.4	10.6 / 13.4
Sound Power Rating [dB(A)] ^(c)	74	74	75	75
Performance (Heating)				
(High Temp.) BTUH — C.O.P.	22200 — 3.68	26600 — 3.61	33000 — 3.53	35800 — 3.5
Power Input (KW)	1.82	2.21	2.74	3.05
(Low Temp.) BTUH — C.O.P.	12200 — 1.99	14100 — 1.95	19100 — 2.19	21600 — 2.20
Power Input (KW)	1.75	2.12	2.56	2.86
HSPF (BTU / Watt-Hr.)	6.7	6.7	6.7	6.7
POWER CONN. V/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60	208-230/1/60
Min. Brch. Cir. Ampacity ^(d)	18.5	20.9	26	29.7
Fuse Size — Max. (amps)	25	30	40	45
Fuse Size — Recmd. (amps)	25	30	40	45
COMPRESSOR	SCROLL	SCROLL	SCROLL	SCROLL
No. Used — No. Speeds	1 — 1	1 — 1	1 — 1	1 — 1
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60	208-230/1/60
R.L. Amps — L.R. Amps	10.9 / 63	12.8 / 68.0	15.4 — 84	16.7 / 109
OUTDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I	2 / 22	2 / 22	2 / 22	2 / 22
Face Area (sq. ft.)	11.2	11.2	11.2	12.3
Tube Size (in.)	3/8	3/8	3/8	3/8
Refrigerant Control	TXV—NB	TXV—NB	TXV—NB	TXV—NB
INDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I	4 / 12	4 / 12	4 / 12	5 / 15
Face Area (sq. ft.)	3.44	3.44	3.44	3.44
Tube Size (in.)	3/8	3/8	3/8	3/8
Refrigeration Control	TXV—NB	TXV—NB	TXV—NB	TXV—NB
Drain Conn. Size (in.)	3/4 FEMALE PVC	3/4 FEMALE PVC	3/4 FEMALE PVC	3/4 FEMALE PVC
Duct Connections	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER	PROPELLER
No. Used/Dia. (in)	1 / 20	1 / 20	1 / 20	1 / 20
Drive Type/No. Speeds	DIRECT / 1	DIRECT / 1	ECM / 1	ECM / 1
CFM @ 0.0 in. w.g. ^(e)	2500	2500	2500	2600

Product Specifications

MODEL	4WHC4024B1000A	4WHC4030B1000A	4WHC4036B1000A	4WHC4042B1000A
No. Motors — HP/RPM	1 / 1/5 / 850	1 / 1/5 / 850	1 / 1/3 / 850	1 / 1/3 / 850
Volts/Ph/Hz	208–230/1/60	208–230/1/60	208–230/1/60	208–230/1/60
F.L. Amps/L.R Amps	1.0 — 2.2	1.0 / 2.2	2.8	2.8
INDOOR FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia. x Width (in.)	10 X 10	10 X 10	10 X 10	10 X 10
No. Used	1	1	1	1
Drive / Type / Speeds (No.)	DIRECT / CTM / 3	DIRECT / CTM / 3	DIRECT / CTM / 3	DIRECT / CTM / 3
CFM @ 0.0 in. w.g. ^(f)	SEE FAN PERF TABLE	SEE FAN PERF TABLE	SEE FAN PERF TABLE	SEE FAN PERF TABLE
Motor — HP/R.P.M.	1/ 0.5 / 1050	1/ 0.5 / 1050	1/ 0.5 / 1050	1/ 0.75 / 1050
Volts/Ph/Hz	208–230/1/60	208–230/1/60	208–230/1/60	208–230/1/60
F.L. Amps	3.9	3.9	3.9	6.0
FILTER / FURNISHED	NO	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft.) ^(g)	2.67	3.33	4.00	4.67
REFRIGERANT	R-410	R-410	R-410	R-410
Charge (lbs.)	7.5	7.8	7.2	8.7
Subcooling	6° F	10° F	8° F	10° F
DIMENSIONS	H X D X W	H X D X W	H X D X W	H X D X W
Crated (in.)	36 X 33–13/16 X 48	36 X 33–13/16 X 48	36 X 33–3/4 X 48	36 X 33–13/16 X 48
WEIGHT				
Shipping (lbs.) / Net (lbs.)	322 / 275	322 / 275	322 / 275	353 / 306

^(a) Rated in accordance with AHRI Standard 210/240.

^(b) Rated in accordance with D.O.E. test procedure.

^(c) Sound Power values are not adjusted for AHRI 270–95 tonal corrections.

^(d) Calculated in accordance with currently prevailing Nat'l Electrical Code.

^(e) Standard Air — Dry Coil — Outdoor.

^(f) Standard Air — Dry Coil — Indoor

^(g) Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.



Heater Data

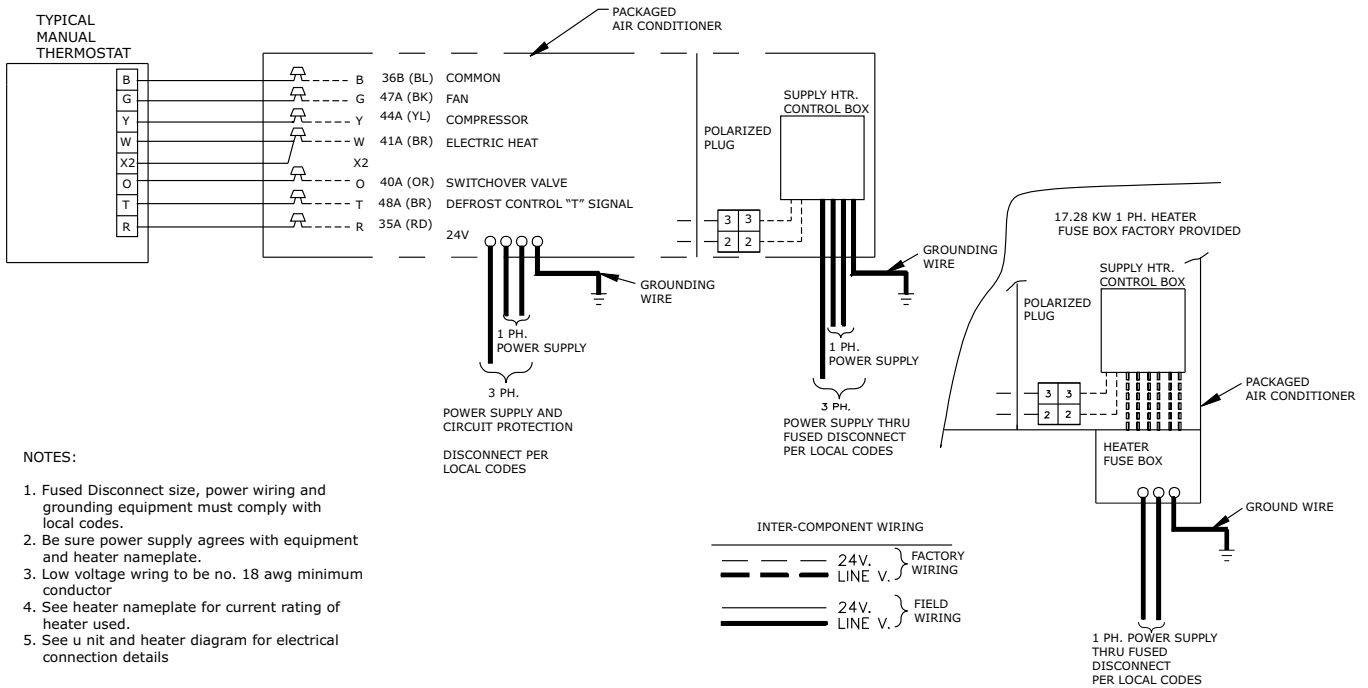
Unit Model	Electric Heater Model	Rated Voltage	Phase	Heater Capacity		No. of Stages	KW/Stage		MCA ^(a) _(b)	Max Fuse or HACR CKT BKR Size ^(c)	Canada Only Max. CKT BKR Size ^(d)
				KW	BTUH		1	2			
4WHC4024B1000*	BAYHTRC106A BAYHTRC111A	208/ 240	1	4.33/5.76 7.93/10.56	14800/19600 27000/36000	1	4.33/5.76 7.93/10.56	-	26/30 48/55	30/30 50/60	30/30 50/60
4WHC4030B1000*	BAYHTRC106A BAYHTRC111A BAYHTRC117A ^(e)	208/ 240	1	4.33/5.76 7.93/10.56 12.98/17.28	14800/19600 27000/36000 44300/59000	1	4.33/5.76 7.93/10.56 12.98/17.28	-	26/30 48/55 78/90	30/30 50/60 80/90	30/30 50/60 100/100
4WHC4036B1000*	BAYHTRC106A BAYHTRC109A BAYHTRC111A BAYHTRC117A	208/ 240	1	4.33/5.76 6.12/8.16 7.93/10.56 12.98/17.28	14800/19600 20900/27800 27000/36000 44300/59000	1	4.33/5.76 6.12/8.16 7.93/10.56 12.98/17.28	-	26/30 37/43 48/55 78/90	30/30 40/45 50/60 80/90	30/30 40/50 50/60 100/100
4WHC4042B1000*	BAYHTRC106A BAYHTRC109A BAYHTRC111A BAYHTRC117A	208/ 240	1	4.33/5.76 6.12/8.16 7.93/10.56 12.98/17.28	14800/19600 20900/27800 27000/36000 44300/59000	1	4.33/5.76 6.12/8.16 7.93/10.56 12.98/17.28	-	26/30 37/43 48/55 78/90	30/30 40/45 50/60 80/90	30/30 40/50 50/60 100/100

Note: All power supplies and circuits must be wired and protected in accordance with local electrical codes.

- (a) The MCA values listed are for electric heater only.
- (b) Field wire must be rated at least 75°C
- (c) The HACR circuit breaker is for U.S.A. installations only.
- (d) For Canada installation reference only.
- (e) Heater uses fuses.

Field Hookup Diagram — 4WHC4

Figure 1. Field Hookup Diagram (With Supplementary Heaters)





Indoor Fan Performance

4WHC4024B1		EXTERNAL STATIC PRESSURE (IN. WG)				
MOTOR SPEED		0.1	0.3	0.5	0.7	0.9
LOW ^(a)	SCFM	-	826	736	641	542
	Watts	-	139	153	167	180
MED	SCFM	-	-	898	815	731
	Watts	-	-	209	225	241
HIGH	SCFM	-	-	-	876	782
	Watts	-	-	-	229	246

Note: Airflow must not exceed 900 CFM due to condensate blowoff.

^(a) Factory Setting

4WHC4030B1		EXTERNAL STATIC PRESSURE (IN. WG)				
MOTOR SPEED		0.1	0.3	0.5	0.7	0.9
LOW ^(a)	SCFM	-	1065	995	904	804
	Watts	-	223	240	257	268
MED	SCFM	-	-	1074	987	824
	Watts	-	-	279	296	276
HIGH	SCFM	-	-	1139	1069	1001
	Watts	-	-	299	318	338

Note: Airflow must not exceed 1125 CFM due to condensate blowoff.

^(a) Factory Setting

4WHC4036B1		EXTERNAL STATIC PRESSURE (IN. WG)				
MOTOR SPEED		0.1	0.3	0.5	0.7	0.9
LOW ^(a)	SCFM	1272	1200	1127	1062	991
	Watts	279	302	322	341	359
MED	SCFM	1316	1251	1190	1128	1062
	Watts	302	323	344	364	384
HIGH	SCFM	-	1343	1281	1216	1153
	Watts	-	392	415	436	456

Note: Airflow must not exceed 1350 CFM due to condensate blowoff.

^(a) Factory Setting

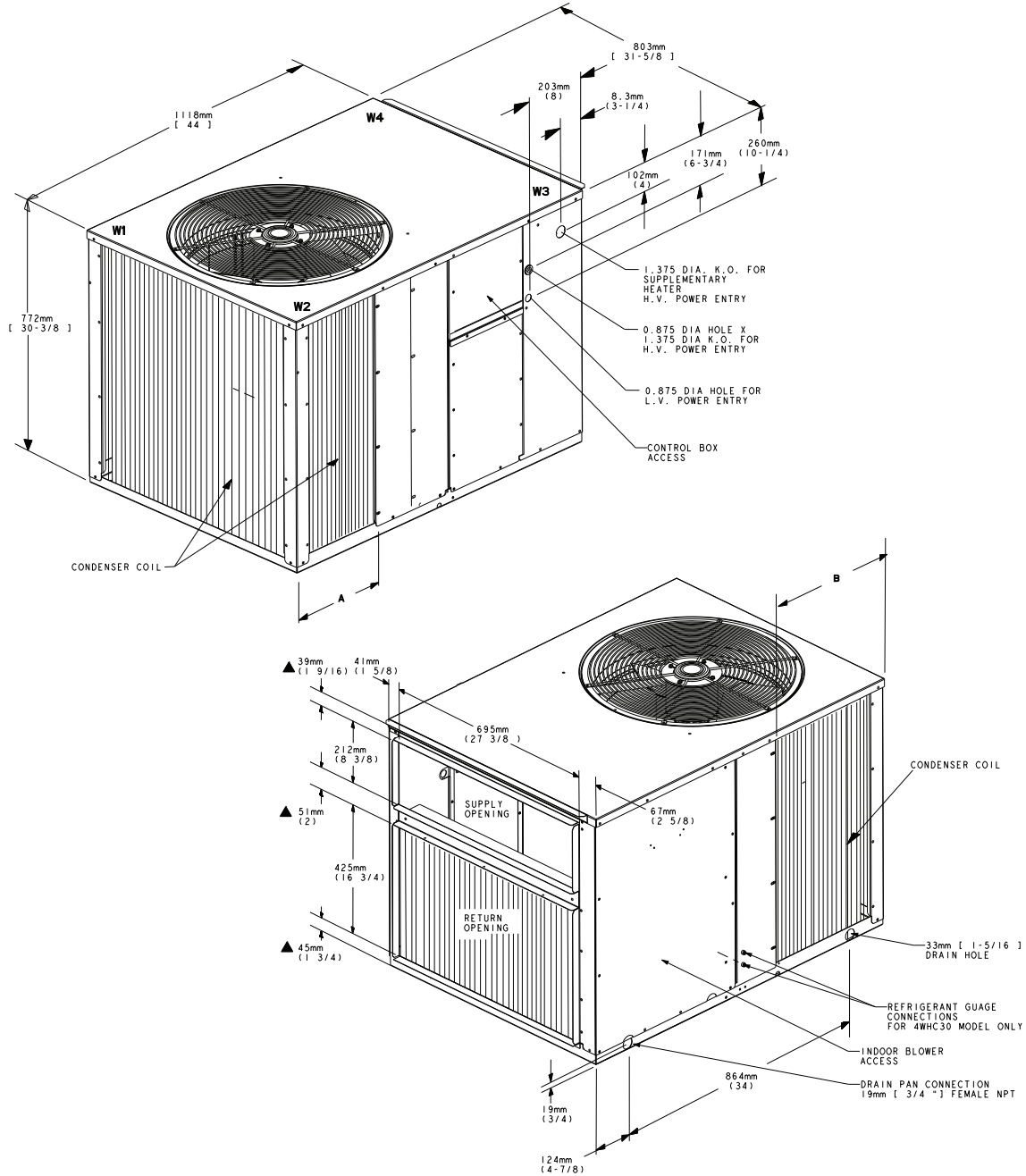
4WHC4042B1		EXTERNAL STATIC PRESSURE (IN. WG)				
MOTOR SPEED		0.1	0.3	0.5	0.7	0.9
LOW ^(a)	SCFM	1417	1348	1285	1214	1151
	Watts	349	372	394	416	437
MED	SCFM	1455	1388	1314	1251	1187
	Watts	367	391	414	435	455
HIGH	SCFM	-	-	-	1581	1518
	Watts	-	-	-	714	729

Note: Airflow must not exceed 1575 CFM due to condensate blowoff.

^(a) Factory Setting

Outline Drawing

Figure 2. Outline Drawing



MODEL	APPROX. CORNER WEIGHT - KG(LBS)				TOTAL WEIGHT KG(LBS)	COIL DIMENSION-mm (in)	
	W1	W2	W3	W4		A	B
4WHC3024	47 (103)	30 (66)	30 (66)	29 (63)	135 (298)	356 (14)	406 (16)
4WHC3030	47 (103)	30 (66)	30 (66)	29 (63)	135 (298)	356 (14)	406 (16)
4WHC3036	47 (103)	30 (66)	30 (66)	29 (63)	135 (298)	356 (14)	406 (16)
4WHC3042	39 (87)	37 (81)	30 (66)	33 (72)	139 (306)	508 (20)	406 (16)
4WHC4024	35 (78)	33 (73)	27 (59)	30 (65)	125 (275)	356 (14)	406 (16)
4WHC4030	35 (78)	33 (73)	27 (59)	30 (65)	125 (275)	356 (14)	406 (16)
4WHC4036	35 (78)	33 (73)	27 (59)	30 (65)	125 (275)	356 (14)	406 (16)
4WHC4042	39 (87)	37 (81)	30 (66)	33 (72)	139 (306)	508 (20)	406 (16)



Mechanical Specifications

General

All units are factory assembled, piped, internally wired and fully charged with R-410A. Units are certified to UL Standard 1995. All units are factory run-tested to check cooling and heating operation, defrost operation, fan and blower rotation and control sequence. Units shall be designed to operate at ambient temperatures as high as 115°F. Cooling and heating performances are rated in accordance with AHRI standards. Units are designed for either rooftop or ground level installation. All units shall be dedicated horizontal airflow and are not convertible.

Unit Casing

All components are mounted in a weather-resistant steel cabinet with a baked-on enamel finish. Access panels are provided for unit controls, indoor coil and supply air fan. Top covers shall be removable for access or installation of electric heaters and outdoor fan and compressor. Indoor air section is completely insulated with fireproof, permanent, odorless glass fiber material. Knockouts are provided for utility and control connections. Drain connections are provided to accommodate indoor coil water runoff.

Compressor

Hermetically sealed, high efficiency Climatuff™ compressor designed for heat pump duty. Internal over current and over temperature protection, low pressure protection.

Refrigerant Circuit

All units have thermostatic expansion valve refrigerant control for heating and cooling operation. Service pressure tap ports, check valves, solenoid-operated reversing valve, and refrigerant line filter driers are standard.

Indoor and Outdoor Coil

Indoor and outdoor coils are constructed of aluminum plate fins mechanically bonded to 0.375 inch seamless copper tubing.

Outdoor Fan

One, direct-drive, statically and dynamically balanced propeller fan is used in a top discharge configuration. Permanently lubricated weatherproof motors have built-in thermal overload protection.

Indoor Fan

Forward-curved, centrifugal-type fan with multispeed, Direct-drive Constant Torque Motor. Permanently lubricated with built-in overload protection.

Demand Defrost Control

Microcomputer logic is used to sense the need for defrost and permits defrost cycles only when coil icing conditions begin to cause serious heat pump capacity reductions.

Accessories

Supplemental Electric Heater-Heater module shall mount in unit discharge air passage. Each heater assembly includes automatically resetting heat limit switches for thermal protection. A polarized plug provides connection to unit low voltage control wiring.

Indoor Thermostat

Two-stage heating, one-stage cooling thermostat is available in either manual or automatic changeover. Thermostat provides automatic or continuous fan operation and includes outdoor thermistor, emergency heat switch with indicator light, and auxiliary heat indicator light.

Low Ambient Control Kit

Provides low ambient cooling operation to 0°F



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