UNITARY SIDE DISCHARGE SPLIT SYSTEM 24VAC CONTROL

60,000 BTU / H UNITARY HEAT PUMP SPLIT SYSTEM

SUBMITTAL DATA: TUD60-24AH2ADU / TU60-48WADU

Job Name	Location		Date	
Purchaser	Engineer			
Submitted To	For	☐ Reference	☐ Approval	☐ Construction
Unit Designation	Schedule No.			

SYSTEM TYPE:
HEAT PUMP



TUD60-24AH2ADU



TU60-48WADU

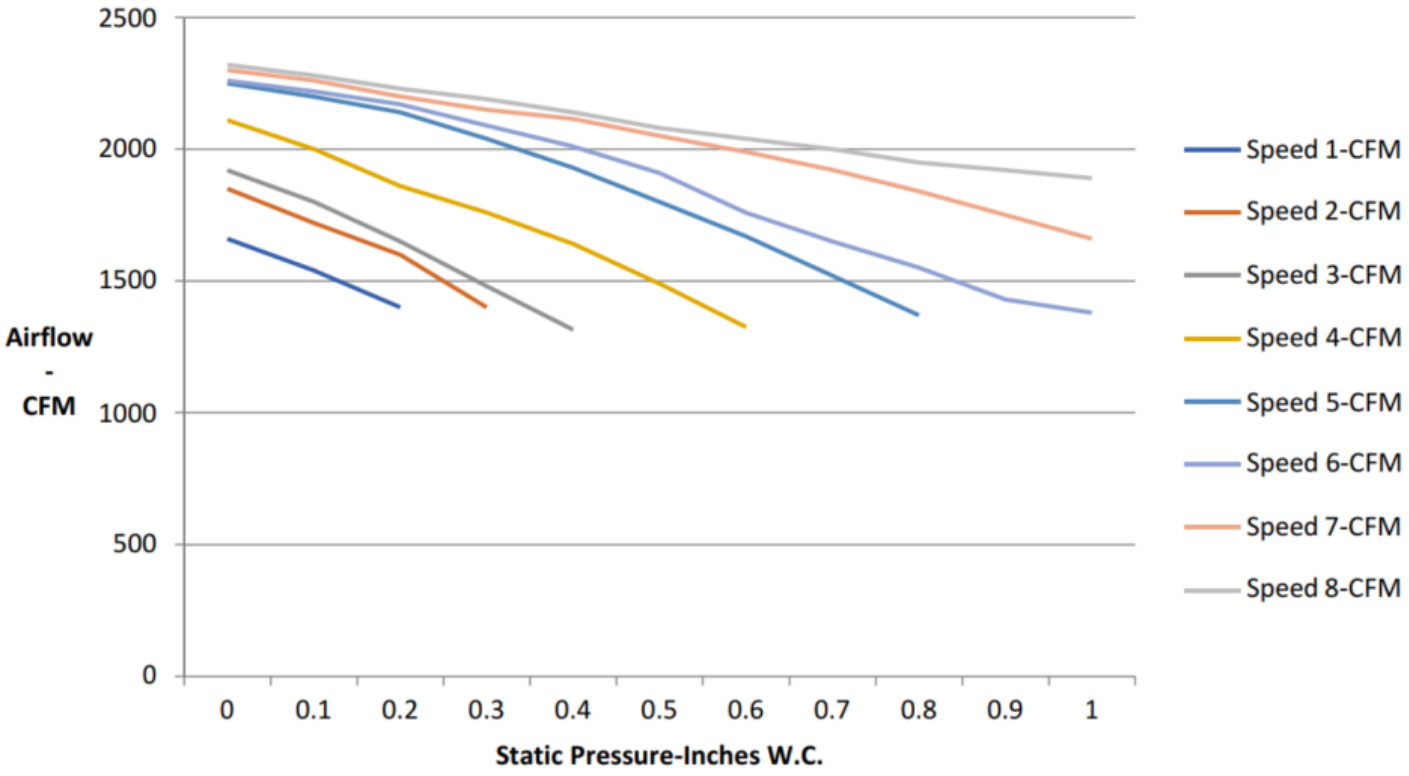
SYSTEM PERFORMANCE			
Cooling	Rated Capacity @ 95°F	Btu/h	54,000
	Min-Max Capacity	Btu/h	35,000 – 54,000
Heating	Rated Capacity @ 47°F	Btu/h	54,000
	Rated Capacity @ 17°F	Btu/h	36,000
	Min-Max Capacity	Btu/h	35,000 – 60,000
SEER / EER			17.0 / 10.5
HSPF / COP			10.00 / 3.45
SEER2 / EER2			15.8 / 10.0
HSPF2			9.0
AHRI Number			206414274
Cooling Temperature Range		°F/°C	5 ~ 129 / -15 ~ 54
Heating Temperature Range		°F/°C	-22 ~ 75 / -30 ~ 24
INDOOR UNIT			**TUD60-24AH2ADU**
Fan Motor Output Power		W	746
Fan Motor FLA		A	5
Air Flow (Min - Max)		CFM	1,600
Static Pressure (Rated / Maximum)		In w.c	0.2 / 1.0
Sound Pressure Level (Cooling / Heating)		dB(A)	51
Dehumidification		pt/hr	12.13
Condensate Drain Size (OD)		in	3 / 4
Unit Dimension (WxHxD)		in	24 3/4 x 57 x 21 1/4
Package Dimension (WxHxD)		in	27 5/16 x 59 3/8 x 26
Weight (Net / Gross)		lbs	202 / 218
Electric Heater (Optional)		kW	10, 15, 20
OUTDOOR UNIT			**TU60-48WADU**
Compressor Type			Inverter Rotary
Compressor RLA		A	19
Fan Motor Output Power (2)		W	149 * 2
Fan Motor (2)		A	1.5 * 2
Sound Pressure Level (Cooling / Heating)		dB(A)	55 (48 – 61)
Unit Dimension (WxHxD)		in	39 3/8 x 53 5/8 x 14 1/2
Package Dimension (WxHxD)		in	45 7/16 × 59 1/4 × 19 7/16
Weight (Net / Gross)		lbs	308 / 337
Refrigerant Charge - R410A		oz	220.5
Coil Type (Blue Fin)			Copper Tube / Aluminum Fin
REFRIGERANT PIPING			
Line Set Size (Liquid - Gas)		in	3/8 - 3/4
Pre-Charge Lengh		ft	31
Additional Charge		oz/ft	0.32
Pipe Length (Min - Max)		ft	10 - 98
Max. Pipe Elevation		ft	49
ELECTRICAL			
Power Supply			208/230V / 1Ph / 60 Hz
Outdoor Unit	Rated Current (Cooling / Heating)	A	30 / 31
	MCA / MOCP	A	35 / 45
Indoor Unit	Rated Current (Cooling / Heating)	A	5/ 5
	MCA / MOCP	A	8 / 15
Main Power Wire Size		AWG	Size Per Local Code
LIMITED WARRANTY	10 Year Parts, 10 Years Compressor - Residential & Commercial		

GENERAL FEATURES

- High Efficiency DC Inverter Technology
- Compact and Quiet 55 dB(A) Side Discharge Outdoor Unit
- Zero Lot Line Design
- Match with TOSOT or Competitive Indoor Unit
- Designed for New Construction or Replacement Market
- 24VAC Thermostat Compatible
- 8 Speed Fan Motor
- Low Ambient Cooling down to 5°F(-15°C)
- Low Ambient Heating down to -22°F(-30°C)
- Outdoor Coil has Copper Tube/Aluminum Fin with Acetal-Resin Coating (Golden Fin – 1,500Hr Salt Spray Rating)
- Indoor Coil has Copper Tube/Aluminum Fin with Acetal-Resin Coating (Blue Fin - 500Hr Salt Spray Rating)

TOSOT

FAN PERFORMANCE: TUD60-24AH2ADU



Static Pressure Inches W.C.	0	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Speed 1-CFM	1660	1540	1470	1400								
Speed 2-CFM	1850	1720	1650	1600	1400							
Speed 3-CFM	1920	1800	1730	1650	1480	1315						
Speed 4-CFM	2110	2000	1950	1860	1760	1640	1490	1325				
Speed 5-CFM	2250	2200	2190	2140	2040	1930	1800	1670	1520	1370		
Speed 6-CFM	2260	2220	2200	2170	2090	2010	1910	1760	1650	1550	1430	1380
Speed 7-CFM	2300	2260	2230	2200	2150	2115	2050	1990	1920	1840	1750	1660
Speed 8-CFM	2320	2280	2250	2230	2190	2140	2080	2040	2000	1950	1920	1890

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EXTENDED RATINGS: TUD60-24AH2ADU / TU60-48WADU

COOLING PERFORMANCE

Outdoor Ambient Temperature (DB)		Return Air Temperature																			
		70°F (DB) / 59°F (WB)					75°F (DB) / 63°F (WB)					80°F (DB) / 67°F (WB)					90°F (DB) / 73°F (WB)				
		TC (Btu/h)	SC (Btu/h	SHR	EER	Power Input (W)	TC (Btu/h)	SC (Btu/h	SHR	EER (Btu/ (h·W))	Power Input (W)	TC (Btu/h)	SC (Btu/h	SHR	EER (Btu/ (h·W))	Power Input (W)	TC (Btu/h)	SC (Btu/h	SHR	EER (Btu/ (h·W))	Power Input (W)
MAX OUTPUT*	5°F	45900	32130	70.00%	14.76	3110	49950	34565	69.20%	16.59	3010	54000	37000	68.52%	18.56	2910	56000	38400	68.57%	18.79	2980
	10°F	45900	32130	70.00%	14.12	3250	49950	34565	69.20%	15.86	3150	54000	37000	68.52%	17.70	3050	56000	38400	68.57%	17.95	3120
	15°F	45900	32130	70.00%	13.58	3380	49950	34565	69.20%	15.28	3270	54000	37000	68.52%	17.09	3160	56000	38400	68.57%	17.34	3230
	20°F	45900	32130	70.00%	13.11	3500	49950	34565	69.20%	14.58	3425	54000	37000	68.52%	16.12	3350	56000	38400	68.57%	16.37	3420
	25°F	45900	32130	70.00%	12.75	3600	49950	34565	69.20%	14.03	3560	54000	37000	68.52%	15.34	3520	56000	38400	68.57%	15.60	3590
	30°F	45900	32130	70.00%	12.54	3660	49950	34565	69.20%	13.70	3645	54000	37000	68.52%	14.88	3630	56000	38400	68.57%	15.14	3700
	35°F	45900	32130	70.00%	12.31	3730	49950	34565	69.20%	13.37	3735	54000	37000	68.52%	14.44	3740	56000	38400	68.57%	14.70	3810
	40°F	45900	32130	70.00%	12.11	3790	49950	34565	69.20%	13.04	3830	54000	37000	68.52%	13.95	3870	56000	38400	68.57%	14.21	3940
	45°F	45900	32130	70.00%	11.92	3850	49950	34565	69.20%	12.74	3920	54000	37000	68.52%	13.53	3990	56000	38400	68.57%	13.79	4060
	50°F	45900	32130	70.00%	11.77	3900	49950	34560	69.19%	12.46	4010	54000	36990	68.50%	13.11	4120	56000	38390	68.55%	13.37	4190
	55°F	45900	32130	70.00%	11.65	3940	49950	34715	69.50%	12.33	4050	54000	37300	69.07%	12.98	4160	56000	38700	69.11%	13.24	4230
	60°F	45900	32130	70.00%	11.53	3980	49950	34815	69.70%	12.21	4090	54000	37500	69.44%	12.86	4200	56000	38900	69.46%	13.11	4270
	65°F	45900	32130	70.00%	11.39	4030	49950	34965	70.00%	12.07	4140	54000	37800	70.00%	12.71	4250	56000	39200	70.00%	12.96	4320
	70°F	45900	32080	69.89%	11.17	4110	49950	34915	69.90%	11.84	4220	54000	37750	69.91%	12.47	4330	56000	39150	69.91%	12.73	4400
	75°F	45900	32038	69.80%	10.98	4180	49950	34865	69.80%	11.64	4290	54000	37692	69.80%	12.27	4400	56000	39092	69.81%	12.53	4470
	80°F	45900	31950	69.61%	10.80	4250	50200	34950	69.62%	11.45	4385	54500	37950	69.63%	12.06	4520	56500	39350	69.65%	12.31	4590
	85°F	45900	31901	69.50%	10.63	4320	50450	35063	69.50%	11.25	4485	55000	38225	69.50%	11.83	4650	57000	39625	69.52%	12.08	4720
	90°F	45900	23015	50.14%	10.09	4550	50450	30683	60.82%	10.53	4790	55000	38350	69.73%	10.93	5030	57000	39750	69.74%	11.18	5100
	95°F	45900	32130	70.00%	9.58	4790	50450	35315	70.00%	9.89	5100	55000	38500	70.00%	10.17	5410	57000	39900	70.00%	10.40	5480
	100°F	45900	31880	69.46%	8.42	5450	50200	34890	69.50%	8.69	5775	54500	37900	69.54%	8.93	6100	56500	39300	69.56%	9.16	6170
	105°F	45900	31671	69.00%	7.40	6200	49950	34466	69.00%	7.77	6425	54000	37260	69.00%	8.12	6650	56000	38660	69.04%	8.33	6720
	110°F	45900	28900	62.96%	8.20	5600	47950	32080	66.90%	8.20	5850	50000	35260	70.52%	8.20	6100	52000	36660	70.50%	8.43	6170
	115°F	36000	25560	71.00%	7.20	5000	41000	29110	71.00%	7.66	5350	46000	32660	71.00%	8.07	5700	48000	34060	70.96%	8.32	5770
	120°F	35000	25000	71.43%	7.29	4800	38500	28050	72.86%	7.48	5150	42000	31100	74.05%	7.64	5500	44000	32500	73.86%	7.90	5570
	122°F	34000	24500	72.06%	7.39	4600	37750	27600	73.11%	7.55	5000	41500	30700	73.98%	7.69	5400	43500	32100	73.79%	7.95	5470
	125°F	32000	23300	72.81%	7.44	4300	36400	26800	73.63%	7.58	4800	40800	30300	74.26%	7.70	5300	42800	31700	74.07%	7.97	5370
	129°F	30000	22700	75.67%	7.50	4000	29500	26800	90.85%	7.02	4200	29000	30900	106.55%	6.59	4400	31000	32300	104.19%	6.94	4470

*Maximum Output values are not based on AHRI test conditions

LEGEND:	W - Watts
	DB - Dry Bulb
	TC - Total Capacity
	SC - Sensible Capacity
	SHR - Sensible Heat Ratio
	COP - Coeffecient of Performance

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EXTENDED RATINGS: TUD60-24AH2ADU / TU60-48WADU

HEATING PERFORMANCE

	Outdoor Ambient Temperature (DB)	Return Air Temperature											
		70°F (DB) / 59°F (WB)			75°F (DB) / 63°F (WB)			80°F (DB) / 67°F (WB)			90°F (DB) / 73°F (WB)		
		TC (Btu/h)	COP (W/W)	Power Input (W)	TC (Btu/h)	COP (W/W)	Power Input (W)	TC (Btu/h)	COP (W/W)	Power Input (W)	TC (Btu/h)	COP (W/W)	Power Input (W)
MAX OUTPUT*	-22°F	27000	1.25	6350	26500	1.22	6380	26000	1.19	6410	27500	1.24	6490
	-20°F	29000	1.31	6500	29000	1.30	6525	28500	1.29	6480	30000	1.34	6560
	-15°F	32000	1.40	6700	31500	1.39	6630	31000	1.38	6560	32500	1.43	6640
	-10°F	34000	1.45	6900	33750	1.47	6750	33000	1.45	6690	34500	1.49	6770
	-5°F	37000	1.55	7000	36000	1.53	6910	35000	1.50	6820	36500	1.55	6900
	0°F	40500	1.68	7080	39500	1.64	7040	38500	1.61	7000	40000	1.66	7080
	5°F	44000	1.80	7160	43000	1.76	7165	42000	1.72	7170	43500	1.76	7250
	10°F	45500	1.87	7140	44250	1.83	7105	43000	1.78	7070	44500	1.82	7150
	15°F	47250	1.94	7120	45625	1.90	7045	44000	1.85	6970	45500	1.89	7050
	17°F	49000	2.02	7100	47000	1.97	6985	45000	1.92	6870	46500	1.96	6950
	20°F	51000	2.17	6900	49000	2.10	6825	47000	2.04	6750	48500	2.08	6830
	25°F	53000	2.32	6700	51250	2.24	6700	49500	2.17	6700	51000	2.20	6780
	30°F	54000	2.43	6500	53000	2.36	6580	52000	2.29	6660	53500	2.33	6740
	35°F	54000	2.33	6800	53000	2.32	6700	52000	2.31	6600	53500	2.35	6680
	40°F	54800	2.55	6300	53400	2.54	6150	52000	2.54	6000	53500	2.58	6080
	45°F	55500	2.80	5800	53750	2.79	5650	52000	2.77	5500	53500	2.81	5580
	47°F	56000	3.10	5300	54000	3.06	5175	52000	3.02	5050	53500	3.06	5130
	50°F	57000	3.04	5500	54500	3.10	5150	52000	3.18	4800	53500	3.21	4880
	55°F	58500	3.09	5550	55250	3.19	5075	52000	3.31	4600	53500	3.35	4680
	60°F	60000	3.26	5400	55000	3.29	4900	50000	3.33	4400	51500	3.37	4480
	65°F	60000	3.32	5300	55000	3.47	4650	50000	3.66	4000	51500	3.70	4080
	70°F	60000	3.38	5200	55000	3.66	4400	50000	4.07	3600	51500	4.10	3680
	75°F	60000	3.45	5100	55000	3.88	4150	50000	4.58	3200	51500	4.60	3280
	80°F												
	86°F												

*Maximum Output values are not based on AHRI test conditions

LEGEND:	W - Watts
	DB - Dry Bulb
	TC - Total Capacity
	SC - Sensible Capacity
	SHR - Sensible Heat Ratio
	COP - Coeffecient of Performance

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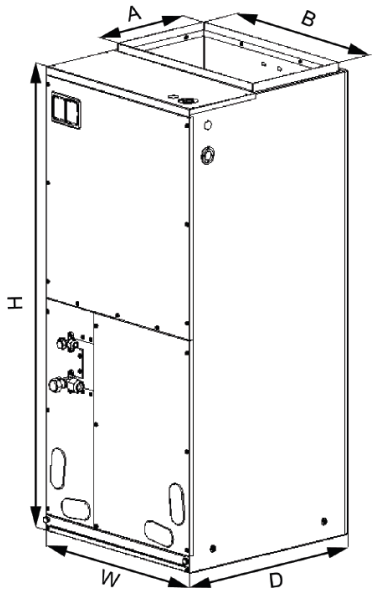
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FEATURES SUMMARY: TUD60-24AH2ADU/ TU60-48WADU

SYSTEM FEATURES	
Compressor	Inverter
Ultra Low Frequency Torque Control	YES
Power Factor Correction	YES
Compressor Type	Rotary
Refrigerant Type	R410A
Outdooor Electronic Expansion Valve (EEV)	YES
Indoor TXV Control	YES
Basepan With Electric Heater	YES
Compressor With Electric Heater	YES
Fin Coating (Outdoor & Indoor)	Acrylic Resin
Intelligent Defrosting	YES
Intelligent Preheating	YES
Low Voltage Startup	YES
Memory/Power Failure Recovery	YES
Self Diagnosis	YES
Low Ambient Cooling	YES
24VAC Thermostat Compatible	YES
Indoor Fan Type	Centrifugal
Multi Fan Speeds	8 Speeds
Auxiliary Electrical Heater	Optional

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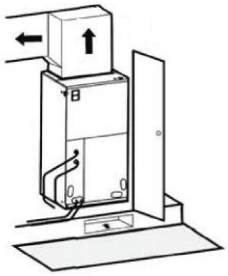
DIMENSIONS & CLEARANCES: TUD60-24AH2ADU

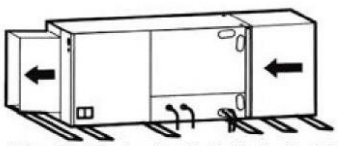


Dimensions	
A	11 5/8
B	20
H	57
W	24 3/4
D	21 1/4

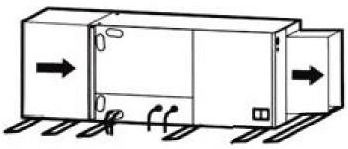
Filter Size	
Supplied*	20 5/8 x 20 5/16 x 1/2
Suggested	20 5/8 x 20 5/16 x 1
*Supplied filter is metal mesh	

Clearances	
Front	> 24 inch
	Allow a minimum of 24” in front of the unit for service clearance. When installing in an area directly over a finished ceiling (such as an attic), an emergency drain pan is required directly under the unit. See local and state codes for requirements. When installing this unit in an area that may become wet, elevate the unit with a sturdy, non-porous material. In installations that may lead to physical damage (i.e. a garage) it is advised to install a protective barrier to prevent such damage.This air handler is designed for a complete supply and return ductwork system.
Multi-Position Capabilities	





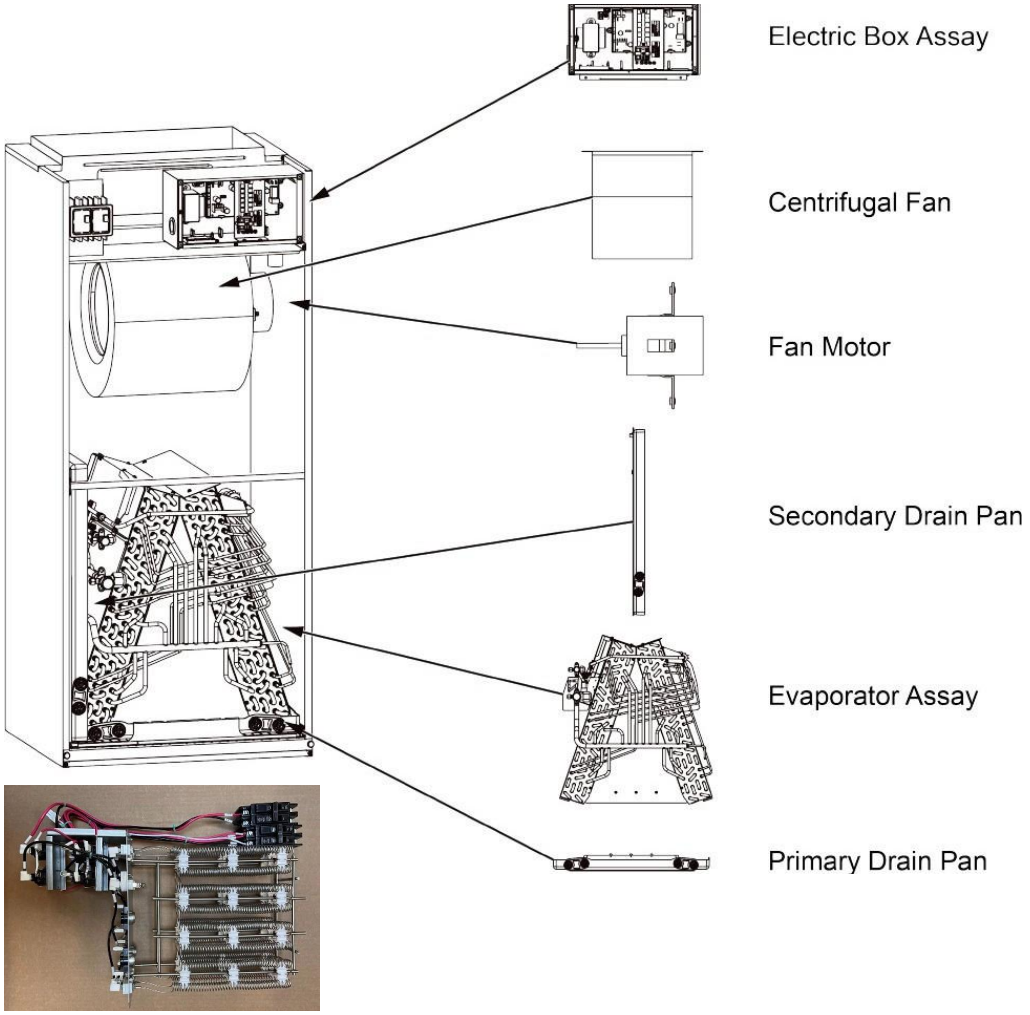
Horizontal Left Configuration - No Modification Needed



Horizontal Right Configuration - Must Relocate Drain Pan

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ACCESSORY HEATER AND GENERAL INFORMATION: TUD60-24AH2ADU

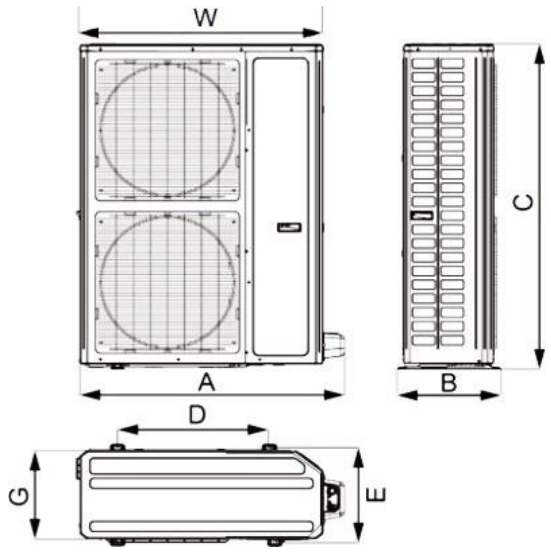


Model	Heat Kit Model	Electric Heat (kW)		Min. Circuit		Max.Fuse or Breaker	
		240V	208V	240V	208V	240V	208V
TUD60-24AH2ADU	TUD-HEAT KIT-5KW	5	3.76	26	22.6	30	25
	TUD-HEAT KIT-8KW	8	6.00	41.7	36	45	40
	TUD-HEAT KIT-10KW	10	7.51	52	45	60	45
	TUD-HEAT KIT-15KW	15	11.25	52 & 26	45 & 22.6	60 & 30	45 & 25
	TUD-HEAT KIT-20KW	20	15.02	52 & 52	45 & 45	60 & 60	45 & 45

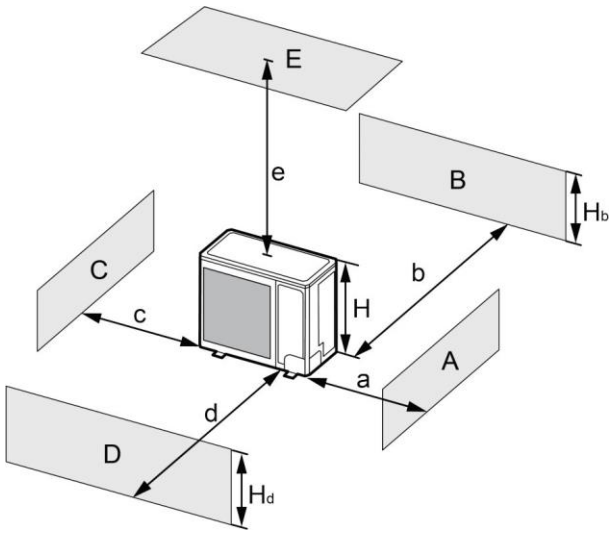
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DIMENSIONS & CLEARANCES: TU60-48WADU



Dimensions	
A	42-3/4
B	16-7/8
C	53-5/8
D	24-3/8
E	15-5/8
G	14-1/2



Obstacle/Wall A~E	Obstacle/Wall Hb Hd H		Clearance (in)				
			A	b	c	d	e
B	—		-	⩾4	-	-	-
A,B,C,	—		⩾12	⩾4	⩾4	-	-
B,E	—		-	⩾4	-	-	⩾10
A,B,C,E	—		⩾12	⩾6	⩾6	-	⩾40
A,C,E	—		⩾8	-	⩾20	-	⩾10
D	—		-	-	-	⩾40	-
D,E	—		-	-	-	⩾40	⩾40
B,D	Hb < Hd	Hd > H	-	⩾4	-	⩾40	-
	Hb > Hd	Hd < H	-	⩾4	-	⩾40	-
B,D,E	Hb < Hd	Hb⩽1/2H	-	⩾10	-	⩾80	⩾40
		1/2H < Hb⩽H	-	⩾10	-	⩾80	⩾40
		Hb > H	Prohibited				
	Hb > Hd	Hd⩽1/2H	-	⩾4	-	⩾80	⩾40
		1/2H < Hd⩽H	-	⩾200	-	⩾80	⩾40
		Hd > H	Prohibited				

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