ECONOMICAL CENTRAL DUCTED SPLIT SYSTEM 24VAC CONTROL

36,000 BTU/H UNITARY HEAT PUMP SPLIT SYSTEM

SUBMITTAL DATA: TUD36AH2/D-D(U) TUD36W2/D-D(U)

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

SYSTEM TYPE:
HEAT PUMP



TUD36W2/D-D(U)



TUD36AH2/D-D(U)

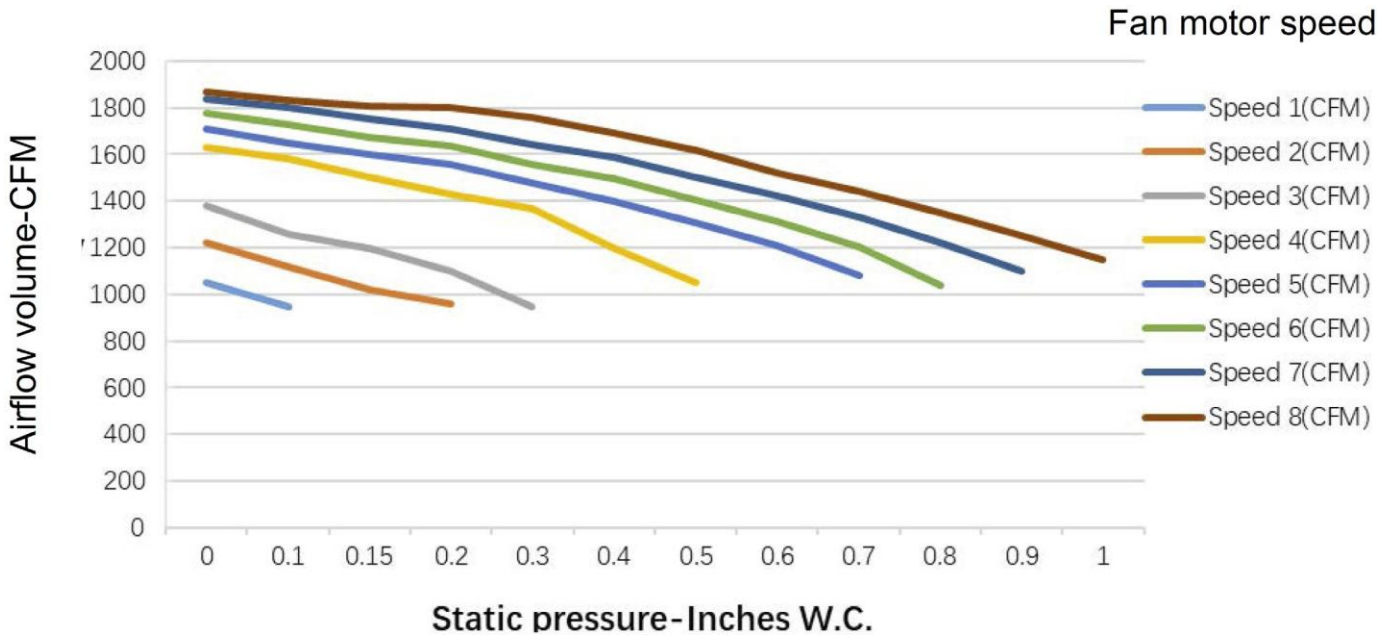
GENERAL FEATURES

- High Efficiency DC Inverter Technology
- Universal 24V communication
- Flexible installation and space saving
- Match with TOSOT or Competitive Indoor Unit
- Designed for New Construction or Replacement Market
- High efficiency airfoil blade, Low noise design
- 8 Speed Fan Motor
- Low Ambient Cooling down to 5°F(-15°C)
- Low Ambient Heating down to 5°F(-15°C)
- Indoor Coil has /Aluminum Fin with Acetal-Resin Coating (Blue Fin - 500Hr Salt Spray Rating)
- Designed for both commercial and residential use

SYSTEM PERFORMANCE			
Cooling	Rated Capacity @ 95°F	Btu/h	34,000
	Min-Max Capacity	Btu/h	9,900-34,000
Heating	Rated Capacity @ 47°F	Btu/h	34,000
	Rated Capacity @ 17°F	Btu/h	25,000
	Min-Max Capacity	Btu/h	7,700-34,000
SEER2 / EER2			15.5 / 10
HSPF2 / COP			7.7 / 2.93
Indoor Full-Load Air Volume Rate		SCFM(A2)	1,050
Total Cooling Full-Load Air Volume Rate		SCFM	1,050
AHRI Number			211078855
Cooling Temperature Range		°F / °C	5 – 115 / -15 – 46
Heating Temperature Range		°F / °C	5 – 75 / -15 – 24
INDOOR UNIT			**TUD36AH2/D-D(U)**
Fan Motor Type			ECM
Fan Motor Output Power		HP	1/2
Fan Motor FLA		A	3.20
Air Flow(Rated)		CFM	1,050
Static Pressure (Rated / Maximum)		In w.c	0.1 / 1.0
Sound Pressure Level (Cooling / Heating)		dB(A)	51
Dehumidification		pt/hr	8.3
Condensate Drain Size (OD)		In	3 / 4
Unit Dimension (WxHxD)		In	21 1/4 x 48 3/16 x 21 1/4
Weight (Net / Gross)		lbs	154 / 167
Electric Heater (Optional)		kW	5, 8, 10
Coil Type (Blue Fin)			Copper Tube / Aluminum Fin
OUTDOOR UNIT			**TUD36W2/D-D(U)**
Compressor Type			Inverter Rotary
Compressor RLA		A	14.5
Fan Motor Type			ECM
Fan Motor Output Power		HP	1/8
Fan Motor		A	1.5
Sound Pressure Level (Cooling / Heating)		dB(A)	60 (54 – 62)
Unit Dimension (WxHxD)		In	36 11/32 x 29 3/8 x 14 9/16
Weight (Net / Gross)		Lbs	132 / 141
Refrigerant Charge - R410A		oz	106
Coil Type (Golden Fin)			Copper Tube / Aluminum Fin
REFRIGERANT PIPING			
Line Set Size (Liquid - Gas)		in	3/8 - 3/4
Pre-Charge Lengh		ft	24.6
Additional Charge		oz/ft	0.32
Pipe Length (Min - Max)		ft	10 – 164
Max. Pipe Elevation		ft	100
ELECTRICAL			
Power Supply (Voltage Operating Range)			208/230V / 1Ph / 60 Hz
Outdoor Unit	Rated Current (Cooling / Heating)	A	20.0 / 20.0
	MCA / MOCP	A	24 / 40
Indoor Unit	Rated Current (Cooling / Heating)	A	1.82 / 1.82
	MCA / MOCP	A	4 / 15
Main Power Wire Size		AWG	Size Per Local Code

TOSOT

FAN PERFORMANCE: TUD36AH2/D-D(U)



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	1050	950										
Speed 2-CFM	1220	1120	1020	960								
Speed 3-CFM	1380	1260	1200	1100	950							
Speed 4-CFM	1630	1580	1500	1430	1370	1200	1050	970				
Speed 5-CFM	1710	1650	1600	1560	1480	1400	1250	1130	960			
Speed 6-CFM	1775	1725	1675	1635	1560	1495	1405	1315	1205	1040		
Speed 7-CFM	1840	1800	1750	1710	1640	1590	1500	1420	1330	1220	1100	930
Speed 8-CFM	1870	1830	1810	1800	1760	1690	1620	1520	1440	1350	1250	1150

R410A INVERTER Intertek AHRI CERTIFIED

TOSOT

FEATURES SUMMARY: TUD36AH2/D-D(U) TUD36W2/D-D(U)

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

R410A INVERTER ETL Intertek AHRI CERTIFIED SA

TOSOT

EXTENDED RATINGS: TUD36AH2/D-D(U) TUD36W2/D-D(U)

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)				
		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)
MAX OUTPUT*	5°F	27,000	18,900	70%	11.59	2,330	29,350	20,545	70%	12.41	2,365	31,700	22,190	70%	13.21	2,400
	10°F	27,000	18,900	70%	11.49	2,350	29,350	20,545	70%	12.36	2,375	31,700	22,190	70%	13.15	2,410
	15°F	27,000	18,900	70%	11.44	2,360	29,350	20,545	70%	12.31	2,385	31,700	22,190	70%	13.10	2,420
	20°F	27,000	18,900	70%	11.39	2,370	29,350	20,545	70%	12.25	2,395	31,700	22,190	70%	13.05	2,430
	25°F	27,000	18,900	70%	11.34	2,380	29,350	20,545	70%	12.20	2,405	31,700	22,190	70%	12.99	2,440
	30°F	27,000	18,900	70%	11.30	2,390	29,350	20,545	70%	12.15	2,415	31,700	22,190	70%	12.94	2,450
	35°F	27,000	18,900	70%	11.20	2,410	29,350	20,545	70%	12.05	2,435	31,700	22,190	70%	12.83	2,470
	40°F	27,000	18,900	70%	11.11	2,430	29,350	20,545	70%	11.96	2,455	31,700	22,190	70%	12.78	2,480
	45°F	27,000	18,900	70%	11.02	2,450	29,350	20,545	70%	11.86	2,475	31,700	22,190	70%	12.73	2,490
	50°F	27,000	18,900	70%	10.89	2,480	29,350	20,545	70%	11.72	2,505	31,700	22,190	70%	12.58	2,520
	55°F	27,000	18,900	70%	10.76	2,510	29,350	20,545	70%	11.58	2,535	31,700	22,190	70%	12.43	2,550
	60°F	27,000	18,900	70%	10.63	2,540	29,350	20,545	70%	11.44	2,565	31,700	22,190	70%	12.33	2,570
	65°F	27,600	19,600	71%	10.74	2,570	29,650	20,900	70%	11.43	2,595	31,700	22,190	70%	12.01	2,640
	70°F	29,400	20,950	71%	11.35	2,590	31,200	22,100	71%	11.89	2,625	33,000	23,250	70%	12.41	2,660
	75°F	30,260	21,700	72%	11.59	2,610	32,130	22,820	71%	12.15	2,645	34,000	24,075	71%	12.69	2,680
	80°F	31,150	22,290	72%	12.07	2,580	33,000	23,500	71%	12.62	2,615	35,000	24,800	71%	13.21	2,650
	85°F	30,600	22,060	72%	10.77	2,840	32,300	23,230	72%	11.23	2,875	34,000	24,400	72%	11.93	2,850
	90°F	30,600	22,150	72%	9.90	3,090	32,300	23,350	72%	10.34	3,125	34,000	24,550	72%	11.06	3,075
	95°F	30,600	22,230	73%	9.19	3,330	32,300	23,460	73%	9.59	3,365	34,000	24,700	73%	10.00	3,400
	100°F	28,750	21,375	74%	8.77	3,280	30,170	22,420	74%	9.10	3,315	31,600	23,475	74%	9.43	3,350
	105°F	26,880	20,520	76%	8.32	3,230	28,040	21,380	76%	8.59	3,265	29,200	22,250	76%	8.85	3,300
	110°F	25,130	19,665	78%	7.90	3,180	26,000	20,340	78%	8.09	3,215	26,900	21,025	78%	8.28	3,250
	115°F	23,270	18,810	81%	7.43	3,130	23,880	19,300	81%	7.55	3,165	24,500	19,800	81%	7.66	3,200

*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

R410A INVERTER ETL Intertek AHRI CERTIFIED www.ahridirectory.org SA

EXTENDED RATINGS: TUD36AH2/D-D(U) TUD36W2/D-D(U)

HEATING PERFORMANCE

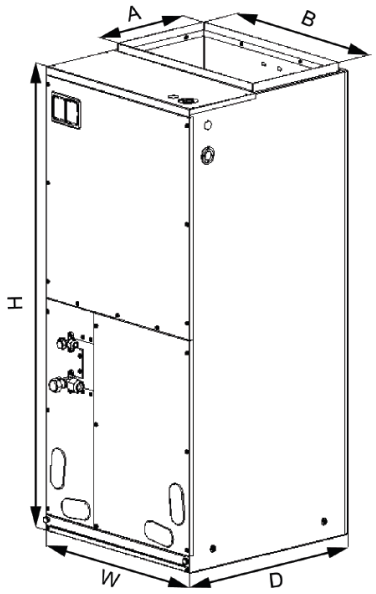
Outdoor Ambient Temperature (DB)		Return Air Temperature								
		70°F (DB) / 59°F (WB)			75°F (DB) / 63°F (WB)			80°F (DB) / 67°F (WB)		
		TC (Btu/h)	COP (W/W)	Power Input (W)	TC (Btu/h)	COP (W/W)	Power Input (W)	TC (Btu/h)	COP (W/W)	Power Input (W)
MAX OUTPUT*	5°F	18,700	1.76	3,110	17,300	1.62	3,125	15,895	1.48	3,140
	10°F	18,700	1.85	2,966	17,450	1.71	2,986	16,200	1.58	3,006
	15°F	18,800	1.96	2,810	17,700	1.76	2,940	16,600	1.70	2,863
	17°F	19,000	2.10	2,650	18,050	1.78	2,980	17,100	1.85	2,710
	20°F	22,150	2.06	3,158	21,050	1.93	3,190	19,935	1.82	3,218
	25°F	24,180	2.24	3,165	23,210	2.13	3,195	22,230	2.02	3,225
	30°F	26,320	2.45	3,149	25,480	2.34	3,190	24,630	2.23	3,230
	35°F	28,560	2.67	3,130	27,850	2.57	3,175	27,130	2.47	3,220
	40°F	30,100	2.73	3,230	29,500	2.64	3,270	28,900	2.55	3,320
	45°F	31,800	2.82	3,310	31,160	2.72	3,360	30,530	2.63	3,407
	47°F	34,000	2.93	3,396	33,660	2.87	3,440	33,320	2.80	3,486
	50°F	34,900	2.99	3,416	34,670	2.94	3,460	34,390	2.87	3,506
	55°F	35,900	3.06	3,436	35,700	3.01	3,480	35,460	2.95	3,526
	60°F	37,000	3.14	3,456	36,815	3.10	3,485	36,630	3.05	3,516
	65°F	37,000	3.30	3,283	36,815	3.26	3,310	36,630	3.21	3,340
	70°F	37,000	3.48	3,120	36,815	3.43	3,145	36,630	3.38	3,173
	75°F	37,000	3.66	2,965	36,815	3.61	2,990	36,630	3.56	3,014

*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

R410A INVERTER ETL Intertek AHRI CERTIFIED www.ahridirectory.org SA

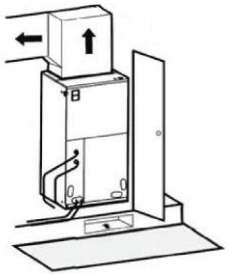
DIMENSIONS & CLEARANCES: TUD36AH2/D-D(U)

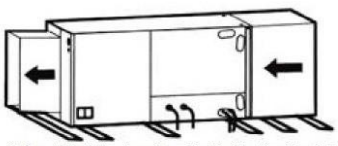


Dimensions	
A	11 5/8
B	20
H	48 1/4
W	21 1/4
D	21 1/4

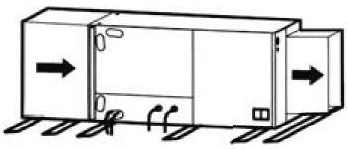
Filter Size	
Supplied	19 1/4 x 20 1/4 x 1/2
Filter Type	Metal mesh

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	





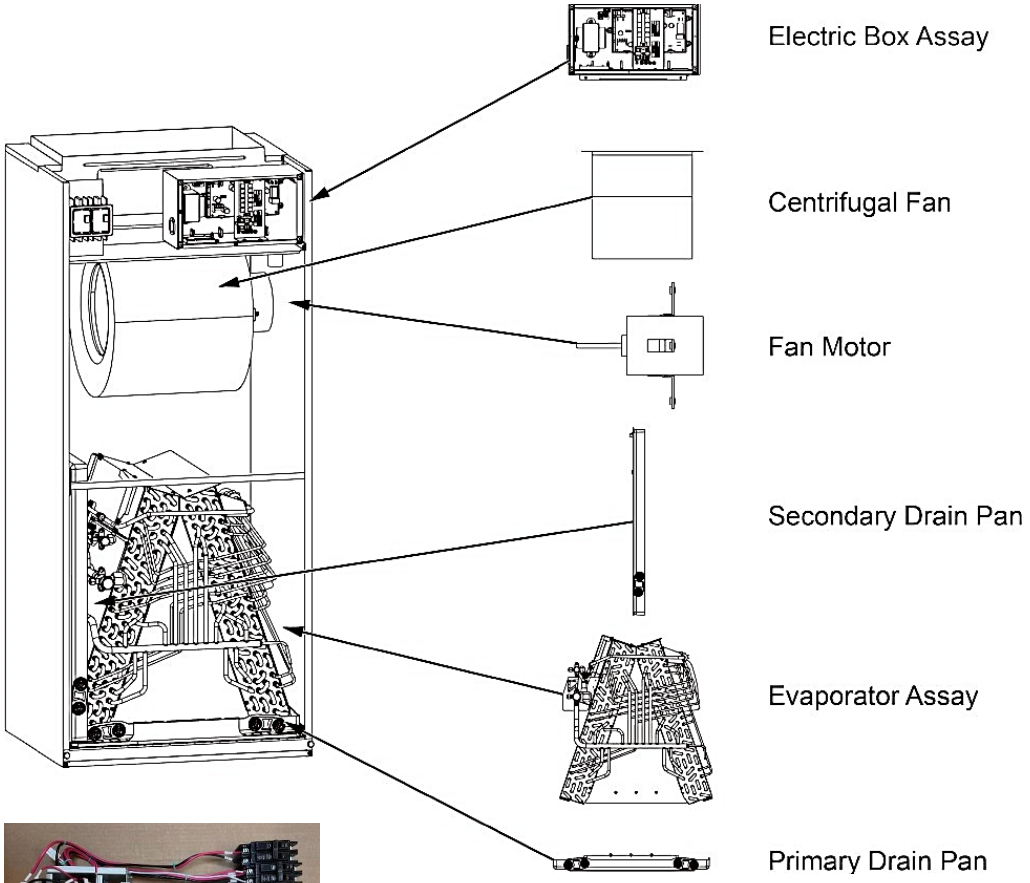
Horizontal Left Configuration - No Modification Needed

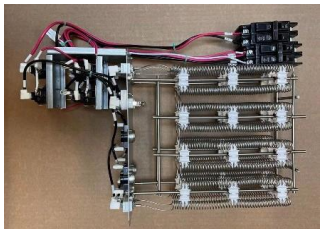


Horizontal Right Configuration - Must Relocate Drain Pan

TOSOT

ACCESSORY HEATER AND GENERAL INFORMATION: TUD36AH2/D-D(U)



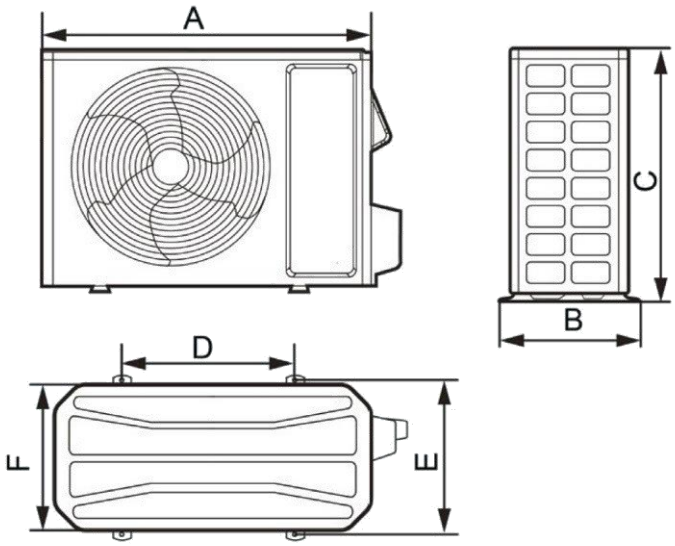


Model	Heat Kit Model	Electric Heat (kW)		Min. Circuit		Max.Fuse or Breaker	
		240V	208V	240V	208V	240V	208V
TUD36AH2/D-D(U)	TUD-HEAT KIT-5KW	5	3.76	26.0	22.6	30	25
	TUD-HEAT KIT-8KW	8	6.00	41.7	36.0	45	40
	TUD-HEAT KIT-10KW	10	7.51	52.0	45.0	60	45

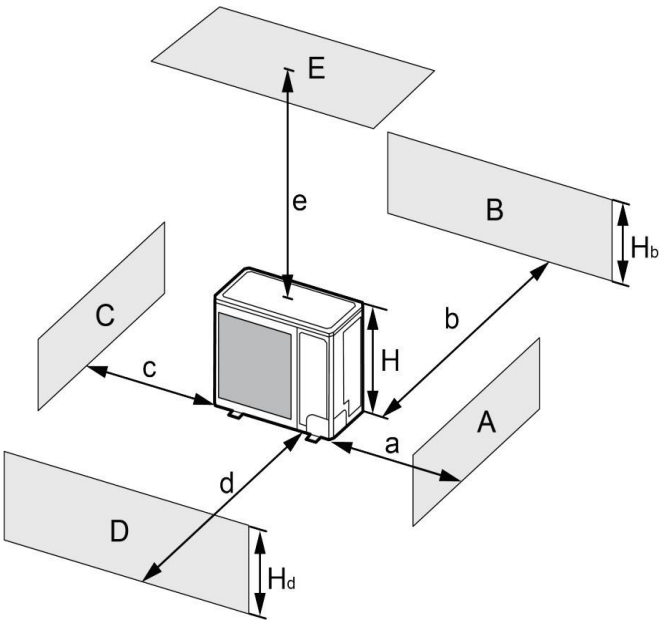
R410A INVERTER Intertek AHRI CERTIFIED

TOSOT

DIMENSIONS & CLEARANCES: TUD36W2/D-D(U)



Dimensions	
A	36-5/16
B	16-13/16
C	29-3/8
D	24
E	15-9/16
F	14-9/16



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	-	⩾8	-	⩾80	⩾40
		Hd > H	Prohibited				

R410A INVERTER ETL Intertek AHRI CERTIFIED SA