

TOSOT

ULTRA HEAT / ULTRA COOL

MULTI- ROOM DUCTLESS HEAT-PUMP SYSTEMS 42000 BTU

SUBMITTAL DATA: TM42H50

Job Name	Location	Date
Purchaser	Engineer	
Submitted To	For	<input type="checkbox"/> Reference <input type="checkbox"/> Approval <input type="checkbox"/> Construction
Unit Designation	Schedule No.	

**AHRI CERTIFIED REF
NO: 204344221**



SYSTEM RATINGS		OUTDOOR UNIT DATA		
Rated Cooling Capacity	42,000 BTUH	Compressor		
Cooling Capacity (min-max)	8,871-42,991 BTUH	Type	DC Inverter Driven Rotary	
Rated Heating Capacity	42,000 BTUH	RLA	28.5 A	
Heating Capacity (min-max)	8,871-46,062 BTUH	Starting Current	5.0 A	
SEER/EER	23.0 / 9.0	Fan Motor		
HSPF/COP	10.0 / 3.4	Output Power	90 W	
Operating Range		FLA	1.0 A	
Cooling - Low/High Ambient	(Min-Max)	0 - 115°F	Air Flow (Max)	
		-18 - 46°C		
Heating - Low/High Ambient	(Min-Max)	-31 - 75°F	Sound Pressure Level	
		-35 ~ 24°C		
Power Supply		Cooling	62 dB(A)	
Normal Operational Voltage		208/230 V, 1 Phase, 60 Hz	Heating	62 dB(A)
Voltage Range		187 - 253 V	Dimensions & Weights	
Main Power Wire Size		8-2 AWG	Unit Dimensions Overall (WxDxH)* including Valve Covers and Grilles	42.8 x 17.3 x 43.4 -in
Interconnecting Cable Wire Size		14-4 AWG	Weight (Net/Shipping)	282.2/300-lbs
MCA	38 A	Min. Number of Indoor Units	2	
MOCP/Breaker Size	60 A	Max. Number of Indoor Units	5	
REFRIGERANT PIPING DATA				
Refrigerant Type	R410A			
Refrigerant Charge	176.4-oz			
Additional Charge Per Line Length	0.21-oz/ft			
Connection Method-Flared	1/4x3/8-in			
Factory Charge for Total Line Length	131-ft			
Total Refrigerant Pipe Length	262-ft			
Max Refrigerant Piping Length to any Indoor Unit	82-f			
Min Refrigerant Piping Length to any Indoor Unit	10-ft			
Max Elevation between Indoor Units	49-ft			
Max Lift from Outdoor to Indoor Unit	49-ft			
Max Drop from Outdoor to Indoor Unit	49-ft			

GENERAL FEATURES

- Up to 5 Indoor Units(5-Port)
- G10 DC Inverter Technology - 2 Stage / 3 Cylinder
- Compressor/Chassis Heaters
- Copper Tubing w/ Acrylic-Resin Coated Aluminum Fins
- Intelligent Defrost
- Auto Restart on Power Outages
- Multi-point Diagnostics

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FEATURES & FUNCTION SUMMARY: TM42H50

SYSTEM FEATURES	
Compressor Type	Inverter Rotary
Core Technology Three Cylinder Two Stage Compressor	G10
Ultra Low Frequency Torque Control	YES
Power Factor Correction	YES
Refrigerant Type	R410A
Electronic Expansion Valve (EEV)	4
Basepan With Electric Heater	YES
Compressor Preheat	YES
Compressor With Electric Heater (-40°F)	YES
-40°F Wiring UL Approved	YES
Multi "Independent" Port Design	YES
Condenser Fan	Axial
Condenser Motor Type	DC
Condenser Motor Drive	Direct
Condenser Coil	Aluminum Fin/Copper Tube
Outdoor Fin Coating (Blue)	Acrylic Resin
Intelligent Defrosting	YES
Low Voltage Startup	YES
Memory/Power Failure Recovery	YES
Self Diagnosis	YES
Ultra Heating (-31°F - 75°F)	YES
Ultra Cooling (0°F - 118°F)	YES
XK19 Wired Controller Interface	YES
XK19 WIRED CONTROLLER FUNCTIONS ²	
On/Off	YES
Operating Mode	YES
Fan Speed	YES
Room Setpoint	YES
Model Numbers	YES
Timer Mode	YES
Sleep Mode	YES
Turbo Mode	YES
X-Fan Mode	YES
Privacy Lock	YES

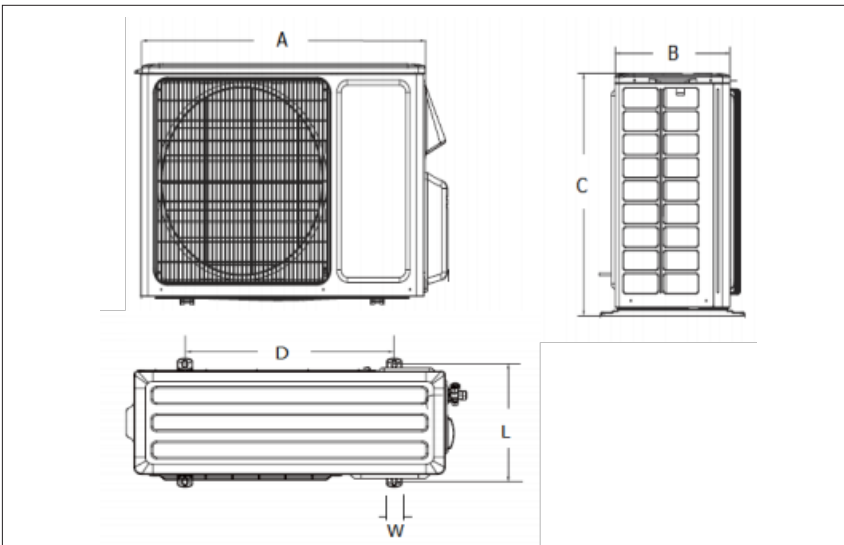
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DIMENSIONAL SPECIFICATIONS: TM42H50

42,000 BTUH MODEL

Model # TM42H50 42,000 BTUH 230V

Units: inch



Dimensions	
A (in)	40
B (in)	17.3
C (in)	43.5
D (in)	24.8
L (in)	16.2
W (in)	3.1

Weight (Net/Shipping) 280/300 lbs

Suction/Gas Line Port Size

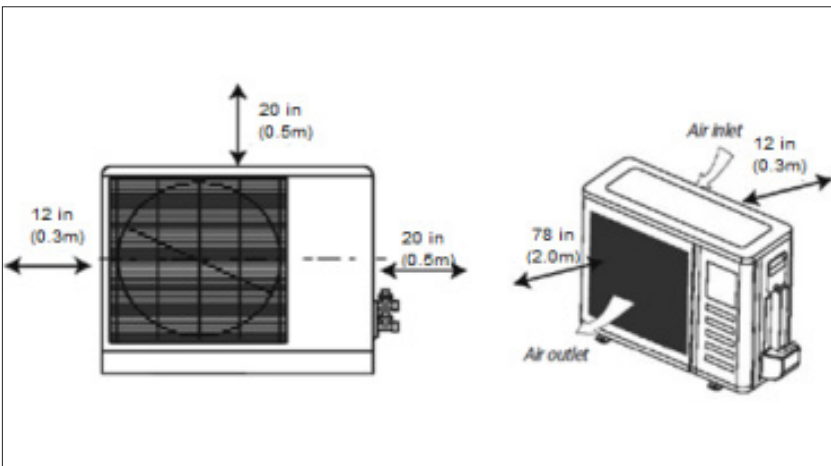
Port A	3/8-in OD Flared
Port B	3/8-in OD Flared
Port C	3/8-in OD Flared
Port D	3/8-in OD Flared
Port E	3/8-in OD Flared

Liquid Line Port Size

Port A	1/4-in OD Flared
Port B	1/4-in OD Flared
Port C	1/4-in OD Flared
Port D	1/4-in OD Flared
Port E	1/4-in OD Flared

MINIMUM SPACING REQUIREMENTS

Units: inch



Factory Supplied Piping Adapters

Adapter	P/N	Qty
3/8 (F) to 5/8 (M)	6654100009	3
3/8 (F) to 1/2 (M)	6654100013	4
1/4 (F) to 3/8 (M)	6654104	2

Notes:

1. Recommended Interconnecting Cable Type 14 AWG 4 Stranded Copper Conductors Wire.
2. Power wiring cable size must comply with applicable national and local codes.
3. Test conditions are based on AHRI 210/240.



EXTENDED & RATINGS: TM42H50

COOLING PERFORMANCE (BtuH)*

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures					
	68F DB		73°F DB		80°F DB	
	57F WB		61°FWB		67°FWB	
	TC	SHC	TC	SHC	TC	SHC
0°F	21827	16500	22800	18000	24000	19500
5°F	21927	17196	23181	18162	25527	20029
14°F	22968	18014	24264	19023	27384	21478
23°F	25164	19740	26916	21113	30840	24188
32°F	25758	45964	27663	49363	31994	57088
41°F	23613	65750	25520	71058	29746	82822
50°F	21549	81552	23437	88695	27533	104195
59°F	30516	23933	32640	25598	35748	28029
68°F	34560	27106	36720	28795	39240	30776
77°F	34152	26790	36324	28491	38880	30497
86°F	32472	25465	34632	27166	37800	29646
95°F	30732	24103	32880	25781	36000	28236
104°F	29244	22936	31380	24614	35064	27507
113°F	27744	21757	29880	23435	33576	26328

HEATING PERFORMANCE (BtuH)*

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures								
	68°F DB			73°F DB			80°F DB		
	57°FWB			61°FWB			67°FWB		
	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP
-31°F	23000	5.50	1.23	24000	5.72	1.23	24500	5.85	1.23
-22°F	25563	5.57	1.34	25910	5.73	1.33	24899	5.91	1.24
-13°F	28859	5.65	1.50	28373	5.81	1.43	27293	5.99	1.33
-5°F	33638	5.64	1.75	33072	5.79	1.67	31837	5.98	1.56
0°F	36089	5.73	1.85	35488	5.89	1.77	34105	6.08	1.64
5°F	36259	5.70	1.86	35648	5.86	1.78	34291	6.05	1.66
10°F	39753	5.76	2.02	39091	5.92	1.94	37581	6.11	1.80
17°F	41794	5.72	2.14	41097	5.88	2.05	39475	6.06	1.91
19°F	41758	5.50	2.23	41075	5.65	2.13	39443	5.83	1.98
24°F	40398	5.42	2.18	39787	5.58	2.09	38397	5.75	1.96
32°F	39260	5.19	2.22	38728	5.33	2.13	37514	5.50	2.00
41°F	40725	5.11	2.33	40247	5.26	2.24	39090	5.42	2.11
43°F	41822	5.10	2.40	41330	5.24	2.31	40199	5.41	2.18
47°F	45450	5.22	2.55	44663	5.36	2.44	42837	5.53	2.27
53°F	45900	4.74	2.84	45098	4.87	2.71	43272	5.03	2.52
59°F	42259	4.78	2.59	41513	4.92	2.47	39818	5.07	2.30
64°F	43158	4.39	2.88	42398	4.51	2.75	40678	4.65	2.56
70°F	43968	4.46	2.89	43208	4.58	2.76	41437	4.73	2.57
75°F	44588	4.07	3.21	43803	4.19	3.07	42031	4.32	2.85
78°F	44993	4.11	3.21	44208	4.22	3.07	42411	4.36	2.85

* Maximum system capacity TC- Total Capacity (BtuH) COP- Coefficient of Performance





OPERATIONAL PERFORMANCE SPECIFICATIONS: TM42H50

COOLING CAPACITY (BTUH)					
Indoor Units Combinations	Rated System Capacity (BtuH)	Indoor Unit A (BtuH)	Indoor Unit B (BtuH)	Indoor Unit C (BtuH)	Indoor Unit D (BtuH)
9+9	18,000	9,000	9,000	NA	NA
9+12	21,000	9,000	12,000	NA	NA
9+18	26,000	8,000	18,000	NA	NA
9+24	29,000	9,000	20,000	NA	NA
12+12	24,000	12,000	12,000	NA	NA
12+18	27,000	10,000	17,000	NA	NA
12+24	31,000	11,000	20,000	NA	NA
18+18	31,000	15,500	15,500	NA	NA
18+24	35,000	15,000	20,000	NA	NA
24+24	38,000	19,000	19,000	NA	NA
9+9+9	27,000	9,000	9,000	9,000	NA
9+9+12	29,000	9,000	9,000	11,000	NA
9+9+18	33,000	8,500	8,500	16,000	NA
9+9+24	37,000	8,500	8,500	20,000	NA
9+12+12	32,000	8,000	12,000	12,000	NA
9+12+18	36,000	9,000	12,000	15,000	NA
9+12+24	37,500	7,500	10,000	20,000	NA
9+18+18	37,500	7,500	15,000	15,000	NA
9K+18K+24K	39,500	9,000	13,500	17,000	NA
12+12+12	33,000	11,000	11,000	11,000	NA
12+12+18	37,000	10,500	10,500	16,000	NA
12+12+24	38,000	9,500	9,500	19,000	NA
12+18+18	38,000	9,000	14,500	14,500	NA
12K+18K+24K	39,500	10,000	13,000	16,500	NA
18K+18K+18K	39,600	13,200	13,200	13,200	NA
9+9+9+9	36,000	9,000	9,000	9,000	9,000
9+9+9+12	36,500	8,500	8,500	8,500	11,000
9+9+9+18	37,500	7,500	7,500	7,500	15,000
9+9+9+24	39,500	8,000	8,000	8,000	15,500
9+9+12+12	37,000	8,500	8,500	10,000	10,000
9+9+12+18	38,000	7,500	7,500	9,000	14,000
9K+9K+12K+24K	40,000	7,000	7,000	9,000	17,000
9+9+18+18	40,000	7,000	7,000	13,000	13,000
9+12+12+12	37,500	7,500	10,000	10,000	10,000
9K+12K+12K+18K	39,500	8,000	9,000	9,000	13,500
12+12+12+12	38,000	9,500	9,500	9,500	9,500
12+12+12+18	40,000	9,000	9,000	9,000	13,000



OPERATIONAL PERFORMANCE SPECIFICATIONS: TM42H50

HEATING CAPACITY (BTUH)					
Indoor Units Combinations	Rated System Capacity (BtuH)	Indoor Unit A (BtuH)	Indoor Unit B (BtuH)	Indoor Unit C (BtuH)	Indoor Unit D (BtuH)
9+9	18,000	9,000	9,000	NA	NA
9+12	21,000	9,000	12,000	NA	NA
9+18	26,000	8,000	18,000	NA	NA
9+24	30,000	9,000	21,000	NA	NA
12+12	24,000	12,000	12,000	NA	NA
12+18	30,000	12,000	18,000	NA	NA
12+24	31,000	11,000	20,000	NA	NA
18+18	31,000	15,500	15,500	NA	NA
18+24	37,000	17,000	20,000	NA	NA
24+24	40,000	20,000	20,000	NA	NA
9+9+9	27,000	9,000	9,000	9,000	NA
9+9+12	29,000	9,000	9,000	11,000	NA
9+9+18	34,500	9,000	9,000	16,500	NA
9+9+24	37,000	8,500	8,500	20,000	NA
9+12+12	31,000	9,000	11,000	11,000	NA
9+12+18	36,000	8,500	11,500	16,000	NA
9+12+24	39,000	8,000	11,000	20,000	NA
9+18+18	39,000	8,000	15,500	15,500	NA
9K+18K+24K	41,000	8,000	15,000	18,000	NA
12+12+12	34,500	11,500	11,500	11,500	NA
12+12+18	37,000	11,000	11,000	15,000	NA
12+12+24	40,000	10,000	10,000	20,000	NA
12+18+18	40,000	10,000	15,000	15,000	NA
12K+18K+24K	42,500	10,000	14,500	18,000	NA
18K+18K+18K	42,000	14,000	14,000	14,000	NA
9+9+9+9	36,000	9,000	9,000	9,000	9,000
9+9+9+12	36,500	8,500	8,500	8,500	11,000
9+9+9+18	39,000	8,000	8,000	8,000	15,000
9+9+9+24	41,500	8,000	8,000	8,000	17,500
9+9+12+12	38,000	8,000	8,000	11,000	11,000
9+9+12+18	40,000	7,500	7,500	10,000	15,000
9K+9K+12K+24K	42,500	8,000	8,000	9,500	17,000
9+9+18+18	42,000	8,000	8,000	13,000	13,000
9+12+12+12	38,900	8,000	10,300	10,300	10,300
9K+12K+12K+18K	41,500	7,500	10,000	10,000	14,000
12+12+12+12	40,000	10,000	10,000	10,000	10,000
12+12+12+18	42,500	9,500	9,500	9,500	14,000