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## SUBMITTAL

### 23 SERIES

### Specifications – IP

### Single Zone Mini-Split Inverter System

M4MHW2309A1N0A

M4THS2309A11NA

<b>MODEL - Heat Pump Only</b>	<b>M4MHW2309A1N0A / M4THS2309A11NA</b>	
	<b>Cooling</b>	<b>Heating</b>
RATED Volts/PH	208 / 230 / 1	
Frequency (Hz)	60Hz	
Rated Cooling / Heating Capacity (Btu/h):	9100	11000
Minimum Cooling Capacity (@95°F) (Btu/h): ②	2457	-
Maximum Cooling Capacity (@95°F) (Btu/h): ②	10748	-
Minimum Heating Capacity (@47°F) (Btu/h): ②	-	2593
Maximum Heating Capacity (@47°F) (Btu/h): ②	-	13307
Rated Heating Capacity (@17°F) (Btu/h): ②	-	-
Total Capacity (W) (High/Standard/Low):	3150/2667/720	3900/3224/760
Nominal Power Input (W)	618	860
Nominal Input Current (A)	5.8	7.2
SEER / HSPF	23	11.2
EER (Btu/h)/W / COP	14.7	3.75
Air Flow Volume (CFM) ③	353.1/323.675/294.25/265/235.4/205.975/194.205	
Dehumidifying Volume (pt./h)	1.69	
<b>Indoor Unit</b>		
	<b>M4MHW2309A1N0A</b>	
Fan Motor Speed (r/min)	1300/1200/1100/1000/ 900/800/750/500	1300/1200/1100/1000/ 900/850/800
Fan Motor RLA(A)	0.22	
Evaporator	Aluminum Fin-Copper Tube	
Pipe Diameter (inch)	1/5	
Rows - Fin Gap (inch)	2-1/18	
Coil length (L) x depth (D) x coil width (W) (inch)	24 61/64 x 57/64 x 11 62/64	
Output of Swing Motor (W)	1.5	
Fuse (A)	3.15	
Sound PRESSURE Level dB (A) ① ③	40/37/35/32/29/26/25	
Uncrated Dimension (W/H/D) (inch)	32 31/64 x 11 34/64 x 7 46/64	
Crated Dimension of Package (L/W/H) (inch)	34 29/64 x 14 24/64 x 10 35/64	
Net Weight /Gross Weight (lbs)	20.9 / 25.4	
<b>Outdoor Unit</b>		
	<b>M4THS2309A11NA</b>	
Compressor Type	Rotary	
Compressor Oil Type	FW68DA or equivalent	
Compressor RLA(A)	6	
Compressor Power Input(W)	860	
Throttling Method	EEV	
Working Temp Range (°F)	-20~-122	-22~-86
Condenser	Aluminum Fin-Copper Tube	
Pipe Diameter (inch)	φ 18/64	
Rows - Fin Gap (inch)	2 - 4/64	
Coil length (L) x depth (D) x coil width (W) (inch)	29 14/64 x 1 32/64 x 21 42/64	
Fan Motor Speed (rpm)	900	
Output of Fan Motor (W)	30	
Fan Motor RLA (A)	0.4	
Air Flow Volume of Outdoor Unit (CFM)	1294	
Fan Diameter (inch)	17 16/64	
Defrosting Method	Automatic Defrosting	
Sound PRESSURE Level dB (A)①	52	
Uncrated Dimension (W/H/D) (inch)	33 25/64 x 23 30/64 x 12 38/64	
Crated Dimension of Package (L/W/H) (inch)	34 44/64 x 14 19/64 x 25 25/64	
Net Weight /Gross Weight (lbs)	73.9 / 80.5	
Refrigerant Charge (oz)	36.3	
MCA	9	
MOP	15	
<b>Connection Pipe</b>		
Gas additional charge(oz/ft)	0.2	
Outer Diameter Liquid Pipe (inch)	1/4	
Outer Diameter Gas Pipe (inch)	3/8	
Max Height Distance (ft)	32.8	
Max Length Distance (ft)	49.2	

- ① Sound PRESSURE Level @ 3.3 ft. dB(A)
- ② Capacities based on fixed compressor speed AHR1 validation testing
- ③ At noted fan motor speeds

# Specifications – SI

<b>MODEL - Heat Pump Only</b>	<b>M4MHW2309A1N0A / M4THS2309A11NA</b>	
	<b>Cooling</b>	<b>Heating</b>
RATED Volts/PH	208 / 230 / 1	
Frequency (Hz)	60Hz	
Rated Cooling / Heating Capacity (Btu/h):	9100	11000
Minimum Cooling Capacity (@35°C) (Btu/h): ②	2457	-
Maximum Cooling Capacity (@35°C) (Btu/h): ②	10748	-
Minimum Heating Capacity (@8.3°C) (Btu/h): ②	-	2593
Maximum Heating Capacity (@8.3°C) (Btu/h): ②	-	13307
Rated Heating Capacity (@-8.3°C) (Btu/h): ②	-	-
Total Capacity (W) (High/Standard/Low):	3150/2667/720	3900/3224/760
Nominal Power Input (W)	618	860
Nominal Input Current (A)	5.8	7.2
SEER / HSPF	23	11.2
EER (Btu/h)/W / COP	14.7	3.75
Air Flow Volume (m³/h) ③	600/550/500/450/400/350/330	
Dehumidifying Volume (L/h)	0.80	

<b>Indoor Unit</b>	<b>M4MHW2309A1N0A</b>	
Fan Motor Speed (r/min)	1300/1200/1100/1000/ 900/800/750/500	1300/1200/1100/1000 /900/850/800
Fan Motor RLA(A)	0.22	
Evaporator	Aluminum Fin-Copper Tube	
Pipe Diameter (mm)	φ 5	
Rows - Fin Gap (mm)	2 - 1.4	
Coil length (L) x depth (D) x coil width (W) (mm)	634 x 22.8 x 304.8	
Output of Swing Motor (W)	1.5	
Fuse (A)	3.15	
Sound PRESSURE Level dB (A) ① ③	40/37/35/32/29/26/25	
Uncrated Dimension (W/H/D) (mm)	825 x 293 x 196	
Crated Dimension of Package (L/W/H) (mm)	875 x 365 x 268	
Net Weight /Gross Weight (kg)	9.5 / 11.5	

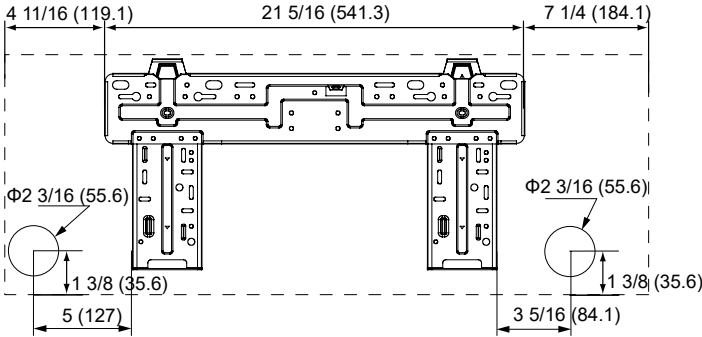
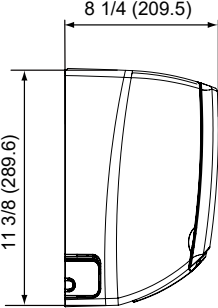
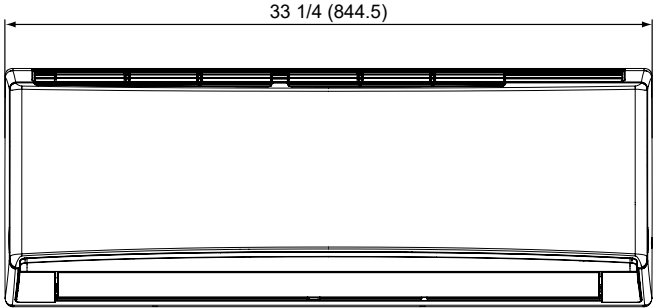
<b>Outdoor Unit</b>	<b>M4THS2309A11NA</b>	
Compressor Type	Rotary	
Compressor Oil Type	FW68DA or equivalent	
Compressor RLA(A)	6.0	
Compressor Power Input(W)	860	
Throttling Method	EEV	
Working Temp Range (°C)	-29 ~ 50	-30 ~ 30
Condenser	Aluminum Fin-Copper Tube	
Pipe Diameter (mm)	φ 7	
Rows - Fin Gap (mm)	2 - 1.4	
Coil length (L) x depth (D) x coil width (W) (mm)	742 x 38.1 x 550	
Fan Motor Speed (rpm)	900	
Output of Fan Motor (W)	30	
Fan Motor RLA (A)	0.4	
Air Flow Volume of Outdoor Unit (m³h)	2200	
Fan Diameter (mm)	438	
Defrosting Method	Automatic Defrosting	
Sound PRESSURE Level dB (A)①	52	
Uncrated Dimension (W/H/D) (mm)	848 x 596 x 320	
Crated Dimension of Package (L/W/H) (mm)	881 x 363 x 645	
Net Weight /Gross Weight (kg)	33.5/36.5	
Refrigerant Charge (kg)	1.03	
MCA	9	
MOP	15	

<b>Connection Pipe</b>	
Gas additional charge(g/m)	20
Outer Diameter Liquid Pipe (mm)	φ 6
Outer Diameter Gas Pipe (mm)	φ 9.5
Max Height Distance (m)	10
Max Length Distance (m)	15

- ① Sound PRESSURE Level @ 1m dB(A)  
 ② Capacities based on fixed compressor speed AHRI validation testing  
 ③ At noted fan motor speeds

# Unit Dimensions

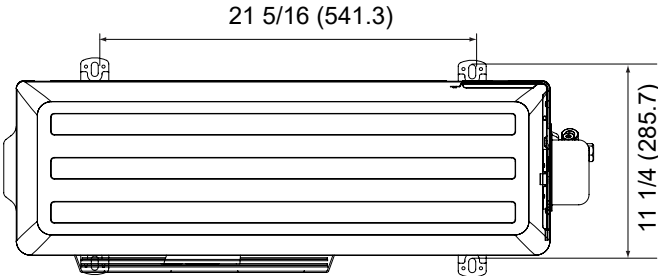
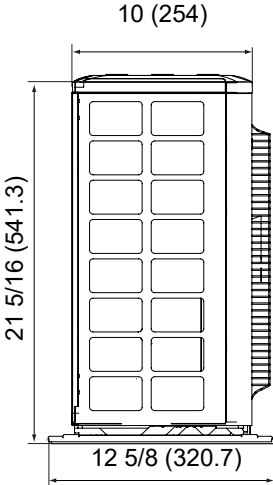
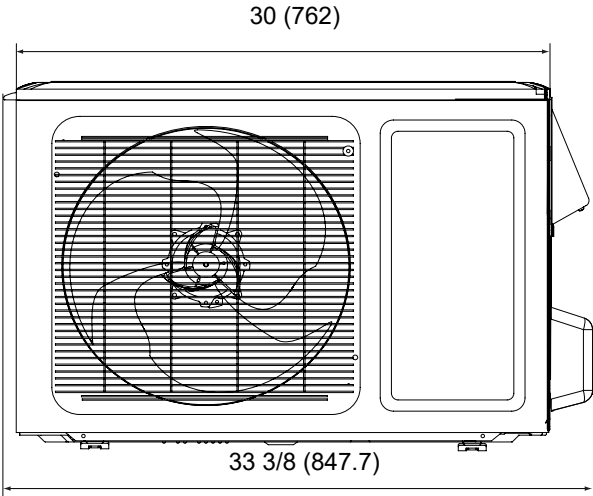
## 9K Indoor Units



The dimensions in these drawings are rounded according to standard measurement.

Unit: inch (mm)

## 9K Outdoor Units



The dimensions in these drawings are rounded according to standard measurement.

# Performance Data

## M4MHW2309A1N0A / M4THS2309A11NA - Cooling Mode Performance Data

Outdoor Ambient Air Temperature		Indoor Entering Air Temperature (Dry Bulb/Wet Bulb)							
		68F DB (20C)		73F DB (23C)		80F DB (27C)		82F DB (28C)	
Coil air		57F WB (14C)		61F WB (16C)		67F WB (19C)		68F WB (20C)	
DB F	DB C	TC*	SHC**	TC	SHC	TC	SHC	TC	SHC
-20	-29	2400	1704	2730	1938	3248	2306	3345	2370
-13	-25	3100	2217	3530	2523	4200	3001	4326	3090
-4	-20	3820	2750	4350	3132	5176	3726	5331	3836
0	-18	4342	3148	4956	3593	5900	4278	6077	4406
5	-15	5106	3727	5546	4049	6490	4738	6685	4880
14	-10	5898	4335	6136	4510	7080	5204	7292	5360
23	-5	6280	4647	6372	4715	7316	5414	7535	5576
32	0	6462	4814	6608	4923	7552	5626	7779	5795
41	5	7399	5549	7316	5487	8260	6195	8508	6381
50	10	8072	6094	8024	6058	8968	6771	9237	6974
59	15	8454	6425	8496	6457	9440	7174	9723	7390
68	20	9009	6892	8850	6770	9794	7492	10088	7717
77	25	10010	7708	10856	8359	11800	9086	12154	9359
86	30	11284	8745	11918	9236	12862	9968	13248	10267
95	35	10374	8092	10856	8468	11800	9204	12154	9480
104	40	9464	7429	9676	7596	10620	8337	10939	8587
113	45	8099	6398	8968	7085	9912	7830	10209	8065
122	50	6279	4992	7788	6191	8732	6942	8994	7150
129	54	5642	4514	6136	4909	7080	5664	7292	5834

\*Total Capacity \*\*Sensible Heat Capacity

## M4MHW2309A1N0A / M4THS2309A11NA - Heating Mode Performance Data

Outdoor Ambient Air Temperature		Indoor Entering Air Temperature (Dry Bulb/Wet Bulb)							
		68F DB (20C)		73F DB (23C)		80F DB (27C)		82F DB (28C)	
Coil air		57F WB (14C)		61F WB (16C)		67F WB (19C)		68F WB (20C)	
DB F	DB C	TC*	TC	TC	TC	TC	TC	TC	TC
-22	-30	4100	3980	3840	3780				
-13	-25	5680	5500	5290	5220				
-4	-20	7390	7160	6910	6800				
0	-18	8170	7920	7640	7530				
6	-14	9530	9240	8920	8780				
10	-12	10160	9850	9510	9360				
16	-9	10940	10612	10240	10087				
19	-7	11660	11310	10960	10727				
24	-4	12100	11737	11374	11132				
32	0	11660	11310	10960	10727				
41	5	12760	12377	11994	11739				
43	6	13640	13231	12822	12549				
47	8	15180	14725	14269	13966				
53	12	14630	14191	13752	13460				
59	15	13860	13444	13028	12751				
64	18	12980	12591	12201	11942				
70	21	12480	12100	11660	11490				
75	24	11800	11440	11040	10860				
78	26	11330	10990	10650	10424				

\*Total Capacity

Capacities in these performance tables reflect normal operation at the temperatures indicated. See specification tables above for certified values under prescribed test conditions.

# Mechanical Specifications

## Single Zone Outdoor Unit

### General

This unit shall be fully charged from the factory for 25 feet (7.6m) of piping. This unit is designed to operate at outdoor ambient temperatures as high as 115°F (46°C). Cooling capacities with the mini-split air handler shown in the catalog are AHRI certified. The unit is ETL listed for outdoor application.

### Unit Casing

The unit casing shall be constructed of heavy gauge, galvanized steel and painted with a weather-resistant powder paint.

## Single Zone Indoor High Wall

### General

The High Wall mounted type air handler shall be completely factory assembled including coil, condensate drain pan, fan motor, washable filter, air purifying filter and electric controls to be used with a wireless remote controller. Unit shall be shipped with a unit mounting plate. Unit shall be matched with a 18 Series Energy Star® outdoor unit, rated and tested in accordance with AHRI standard. Unit shall be ETL listed.

### Unit Casing

Casing shall be provided with knockouts on the right, and left of the unit to facilitate piping and electrical connection on either side of the unit. An electrical service cover shall be provided to permit easy access to the electrical terminal strip.

### Refrigerant Controls

Refrigeration system controls include condenser fan and compressor relay. High and low pressure controls are inherent to the compressor. A suction line multi function service valve is standard

### Compressor

The compressor features internal over temperature and pressure protection; total dipped hermetic motor windings. Other features include: centrifugal oil pump and low vibration and noise.

### Condenser Coil

The coil shall consist of aluminum finned coils brazed to copper tubing. The coil provides airflow resistance and efficient heat transfer. The coil is protected by the casing.

### Low Ambient Cooling

Matched 23 Series Energy Star® duct-less products, have a cooling capability to -20°F (-29°C) and heating capability to -22° F (-30°C).

### Discharge Airflow and Distribution System

Unit shall have auto swing, dual horizontal blades to optimize the aperture outlet for vertical airflow and air distribution. Blade shall close automatically when the air conditioner is turned off to minimize dust entering the unit. Five-Step preset program on the remote controller shall be available to control the blade angle.

Manually adjusted wide-angle louvers shall be provided to adjust the coverage and direction of airflow.

### Controls

Units shall have the capability to be controlled remotely.

### Remote Controller

The unit shall have an optional wireless infrared remote controller with an easily readable digital display panel to start, stop and regulate the air conditioner from a distance.

The wireless controller is included with all units.

### Healthy Filters

The unit shall have one combined active carbon and catechin filter with the unit. The filter needs to be cleaned at least once a year.

## About Trane and American Standard Heating and Air Conditioning

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The manufacturer has a policy of continuous data improvement and it reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.

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