# **S21**

## Submittal

Solar HVAC | Model "M" 4 Ton Multi-Split Residential Heat Pump

#### Part Number

## SHMUPM-480-0

Configuration MU - Multi-Split

Type

Brand M - Midea BTU's 48 - 48,000 BTUs



Options 0 - No Options

#### Description

A Solar HVAC multi-split is more than twice as efficient as a standard multi-split.

A solar box equipped with chambers lined with specialty reflective film is mounted to the top of the condensing unit. Through a patented process, ambient light is converted to thermal energy which reduces the energy demand on the compressor.

Units come with a 1-year parts warranty.



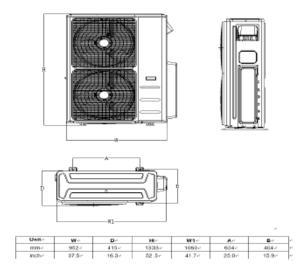




### Dimensions

SHMUPM-480 | Solar HVAC Multi-Split Dimensions

#### **Outdoor Unit:**

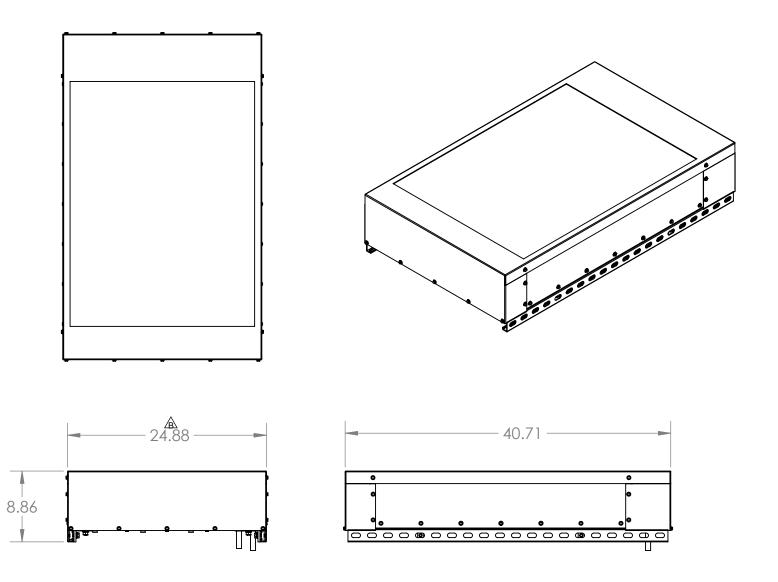




### Dimensions

**Solar Box Dimensions** 

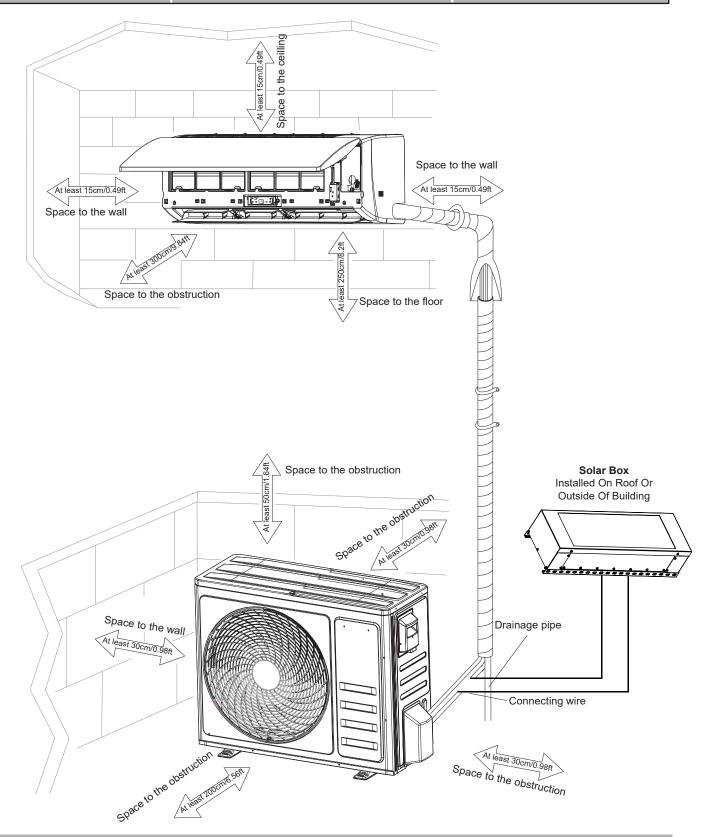
Solar Box Weight: 100 lbs.





#### Clearances

SHMUxM-xx | Solar HVAC Model "M" Multi-Split Clearances



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## Specifications

SHMUPM-480 | Solar HVAC Model "M" Multi-Split Specifications

SYSTEM PERFORMANCE DATA	4	
Power supply		
Normal Operational Voltage	(V, Ph, Hz)	208/230V,1Ph, 60Hz
Voltage Range	(V)	187-253
Electrical		
Minimum circuit ampacity	(A)	40.0
Max.fuse	( )	40.0
	(A)	14AWG*4 Stranded, unshielded
Connection wiring		14AWG 4 Stranded, unshielded
Cooling		
Capacity	(Btu/h)	48000(19000~50000)
Powrer Input	(W)	3840(750~4990)
Current	(A)	16.8(4.3~21.9)
SEER2	(Btu/W)	23.4
EER2	(Btu/W)	12.5
Heating	<b>v</b> <i>v</i>	
Capacity	(Btu/h)	48000(12500~52000)
Powrer Input	(W)	3940(770~5300)
Current	(A)	17.1(4.4~23.3)
HSPF2-4	(Btu/W)	8.7
HSPE2-5	(Btu/W)	6.8
COP	W/W	3.57
Heat at 17F(H32)	(Btu/h)	34000
Heat at 5F(H42)	(Btu/h)	33000
COP at 5F(H42)	W/W	1.80
COP at 5F(H42)		
COP at 5F(H42) REFRIGERANT PIPE DATA	`w/w´	1.80
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure		1.80
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type	W/W (PSIG)	1.80 550/340 R410A
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge	W/W (PSIG) oz	1.80 550/340 R410A 162.0
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge Refrigerant precharge	W/W (PSIG) oz (ft)	1.80 550/340 R410A 162.0 25x5
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge Refrigerant precharge Additional charge for each ft (Φ6.35	(PSIG) oz (ft) (oz/ft)	1.80 550/340 R410A 162.0 25x5 0.16
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe)	W/W (PSIG) oz (ft) (oz/ft) (g/ft)	1.80 550/340 R410A 162.0 25x5 0.16 15.0
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52	(PSIG) oz (ft) (oz/ft) (oz/ft)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe)	(PSIG) oz (ft) (oz/ft) (oz/ft) (oz/ft) (g/ft)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52	(PSIG) oz (ft) (oz/ft) (g/ft) (g/ft) (g/ft) (inch)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4"
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe)	(PSIG) oz (ft) (oz/ft) (oz/ft) (oz/ft) (inch) (mm)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe)	W/W (PSIG) oz (ft) (oz/ft) (g/ft) (oz/ft) (inch) (mm) (inch)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2"
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe) Liquid side	W/W (PSIG) oz (ft) (oz/ft) (oz/ft) (oz/ft) (inch) (mm) (inch) (mm)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2" 3x9.52+2x12.7
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe) Liquid side	W/W (PSIG) oz (ft) (oz/ft) (oz/ft) (g/ft) (inch) (mm) (inch) (mm) (ft)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2" 3x9.52+2x12.7 262.5
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe) Liquid side Gas side Max. length for all rooms	(PSIG) oz (ft) (oz/ft) (g/ft) (oz/ft) (g/ft) (inch) (mm) (inch) (mm) (ft) (m)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2" 3x9.52+2x12.7 262.5 80.0
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant tharge Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe) Liquid side Gas side	(PSIG) oz (ft) (oz/ft) (g/ft) (g/ft) (inch) (mm) (inch) (mm) (ft) (m)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2" 3x9.52+2x12.7 262.5 80.0 114.8
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant charge Additional charge for each ft (Ф6.35 (1/4") liquid pipe) Additional charge for each ft (Ф9.52 (3/8") liquid pipe) Liquid side Gas side Max. length for all rooms Max. length for one indoor unit	W/W (PSIG) oz (ft) (oz/ft) (g/ft) (oz/ft) (inch) (mm) (inch) (mm) (ft) (m) (ft) (m)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2" 3x9.52+2x12.7 262.5 80.0 114.8 35.0
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe) Liquid side Gas side Max. length for all rooms Max. length for one indoor unit Max. height difference between	W/W (PSIG) oz (ft) (oz/ft) (g/ft) (oz/ft) (g/ft) (inch) (mm) (inch) (mm) (ft) (ft) (m) (ft)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2" 3x9.52+2x12.7 262.5 80.0 114.8 33.0 49.2
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe) Liquid side Gas side Max. length for all rooms Max. length for one indoor unit Max. height difference between indoor and outdoor unit	W/W (PSIG) oz (ft) (oz/ft) (g/ft) (inch) (mm) (inch) (mm) (ft) (m) (ft) (m) (ft) (m) (ft) (m)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/8"+2x1/2" 3x9.52+2x1.2. 262.5 80.0 114.8 355.0 49.2 15.0
COP at 5F(H42) REFRIGERANT PIPE DATA Design pressure Refrigerant Type Refrigerant precharge Additional charge for each ft (Φ6.35 (1/4") liquid pipe) Additional charge for each ft (Φ9.52 (3/8") liquid pipe) Liquid side Gas side Max. length for all rooms Max. length for one indoor unit Max. height difference between	W/W (PSIG) oz (ft) (oz/ft) (g/ft) (oz/ft) (g/ft) (inch) (mm) (inch) (mm) (ft) (ft) (m) (ft)	1.80 550/340 R410A 162.0 25x5 0.16 15.0 0.32 30.0 5x1/4" 5x6.35 3x3/B"+2x1/2" 3x9.52+2x12.7 262.5 80.0 114.8 35.0 49.2

Outdoor(cooling)	(Deg. °F) (Deg. °C)	5~1 -15~
	(Deg. °F)	-15~ -13~
Outdoor(heating)	(Deg. °C)	-25~
OUTDOOR UNIT DATA		
Compressor		
Туре		ROTA
Model		ATQ360D1UM
Brand		GM
Capacity	(Btu/h)	382
Input	(W)	30
Rated current (RLA)	(A)	
Refrigerant oil/oil charge	(ml)	VG74/14
Outdoor fan motor		
Model		ZKFN-85-8-2
Qty		21111-03-0-2
Input	(W)	126.
Output	(W) (W)	85.
RLA	(VV) (A)	2.
Speed	(A) (r/min)	2. 900/850/800/7
Air flow & Noise level	(1/1101)	300/030/000/1
	(0514)	1500
Outdoor air flow (Max.)		
Outdoor air flow (Max.) Outdoor poise level	(CFM) [dB(A)]	
Outdoor noise level	(CFM) [dB(A)]	
Outdoor noise level Outdoor unit	[dB(A)]	64.
Outdoor noise level	[dB(A)] (inch)	4500. 64. 37.48x16.34x52 952v415x11
Outdoor noise level Outdoor unit Dimension (W×D×H)	[dB(A)] (inch) (mm)	64. 37.48x16.34x52 952x415x13
Outdoor noise level Outdoor unit	[dB(A)] (inch) (mm) (inch)	64. 37.48x16.34x52 952x415x13 43.11x19.49x58
Outdoor noise level Outdoor unit Dimension (W×D×H) Packing (W×D×H)	[dB(A)] (inch) (mm) (inch) (mm)	64. 37.48x16.34x52 952x415x1: 43.11x19.49x58 1095x495x14
Outdoor noise level Outdoor unit Dimension (W×D×H)	[dB(A)] (inch) (mm) (inch)	64. 37.48x16.34x52 952x415x13 43.11x19.49x58