



### Product Data

<b>Project Name:</b>	Factory 52 - Market Hall - Innovation Hub	<b>Submittal Code:</b>	238219.00-PD-01	<b>REV:</b>	00
<b>Document Set:</b>	Bid/Construction				
<b>KLH Project #:</b>	22552.01-Bid	<b>Received Date:</b>	02/09/2022		
<b>Section Name:</b>	Fan Coil Units				
<b>Section Number:</b>	238219.00				
<b>Submitted By:</b>	HGC Construction Co.				
<b>Authored By:</b>	Cincinnati Air Conditioning				
<b>Client Name:</b>	MSA Design				

SUBMITTAL REVIEW

No Exceptions

By: Jennifer C. Adamec      Date: 02/15/2022

ENGINEER'S REVIEW IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. COMMENTS DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR REMAINS RESPONSIBLE FOR ACCURACY OF QUANTITIES, DIMENSIONS, DETAILS AND COORDINATION WITH OTHER TRADES.

#### FCU-1/HP-1 - FCU-6/HP-6

- 1.1 No exceptions to the submitted TPEAD-42 model/TRUZ-36 model.
- 1.2 No exceptions to submitted accessories including wired remote thermostats.
- 1.3 Accessories for all equipment to match.

#### End of Submittal Review

Reviewed  
 Reviewed & Revisions Noted  
 Revise & Resubmit  
 Other \_\_\_\_\_

Review is for general conformance and design concept, Contractor is responsible for dimensions, quantities, coordination with other trades, techniques of construction and performing his work in a safe and satisfactory manner. Review does not relieve Contractor from responsibility for errors or deviations from contract requirements. Notations do not authorize an extra cost.

Alex Spencer 2/21/2022

Signature \_\_\_\_\_ Date \_\_\_\_\_

MSA \ DESIGN

**Note:** Review is for general conformance only. Submittal reviews featuring the "No Exceptions" designation shall not be interpreted as permission to deviate from the contract. Modifications to the contract are based on express written request and approval and submittal reviews do not satisfy this requirement.

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**HGC Construction Co.**  
 2814 Stanton Avenue  
 Cincinnati, Ohio 45206  
 P: (513) 861-8866  
 F: (513) 861-7878

**Project: 121507 F52: Food Innovation Hub GMP**  
**02**  
 2750 Park Ave.  
 Norwood, Ohio 45212

## Submittal #238219-23A.34.1 - F52: Food Innovation Hub - Fan Coil Units 238219 - Fan Coil Units

<b>Revision</b>	1	<b>Submittal Manager</b>	Kiley Sunderhaus (HGC Construction Co.)
<b>Status</b>	Open	<b>Date Created</b>	Feb 9, 2022
<b>Issue Date</b>	Feb 9, 2022	<b>Spec Section</b>	238219 - Fan Coil Units
<b>Responsible Contractor</b>	Cincinnati Air Conditioning Co	<b>Received From</b>	Ken Wietmarschen (Cincinnati Air Conditioning Co)
<b>Received Date</b>		<b>Submit By</b>	Nov 29, 2021
<b>Final Due Date</b>	Feb 17, 2022	<b>Lead Time</b>	
		<b>Cost Code</b>	
<b>Location</b>		<b>Type</b>	Product Data
<b>Approvers</b>	Kiley Sunderhaus (HGC Construction Co.), Admin (KLH Engineers), Alex Spencer (MSA Architects)		
<b>Ball in Court</b>	Admin (KLH Engineers)		
<b>Distribution</b>	Greg Roach (HGC Construction Co.), Kevin Gilbert (HGC Construction Co.), Michael Collins (J.S. Held)		
<b>Description</b>			

### Submittal Workflow

Name	Sent Date	Due Date	Returned Date	Response	Attachments
General Information Attachments					F52 Food Hub FCU and HP Submittals for approval, 2.9.22.pdf
Kiley Sunderhaus	Feb 9, 2022	Feb 9, 2022	Feb 9, 2022	Submitted	<a href="#">F52 Food Hub FCU and HP Submittals for approval, 2.9.22.pdf (Current)</a>
Admin		Feb 17, 2022		Pending	
Alex Spencer		Feb 17, 2022		Pending	

# 121507 - F52: Food Innovation Hub GMP 02

2750 Park Ave.  
Norwood, Ohio 45212  
United States



HGC Construction Co.  
2814 Stanton Avenue  
Cincinnati, Ohio 45206  
United States  
(513) 861-8866

Title  
F52: Food Innovation Hub - Fan Coil Units


Submittal Manager  
Kiley Sunderhaus

Spec Section  
238219 - Fan Coil Units

Type  
Product Data

Number	Rev
238219-23A.34	1

Description  
None



2814 STANTON AVENUE, CINCINNATI, OH 45206

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Reviewed by Kiley Sunderhaus

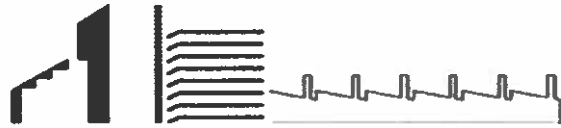
Reviewed – No Exceptions Noted

Reviewed – Exceptions Noted

Exceptions Noted – Revise and Resubmit

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This print has been reviewed as to general layout but does not relieve the subcontractor of responsibility under the contract documents. Detailed dimensions and proper integration of equipment and/or materials are the responsibility of the subcontractor.



## ***Cincinnati Air Conditioning***

### **Submittal Cover Sheet**

## **Factory 52 Food Innovation Hub**

4590 Beech Street

Norwood, Ohio 45212

Architect: MSA Design  
Engineer: KLH Engineering  
HVAC: Cincinnati Air Conditioning  
Item: Fan Coil Units & Heat Pumps  
Spec. # 235219 / 238143

Cincinnati Air Conditioning Co.

Submitted for Approval

Job #C-6047

Date: 2/9/2022

Signed: *A. Kenneth Wietmarschen*  
PM Name

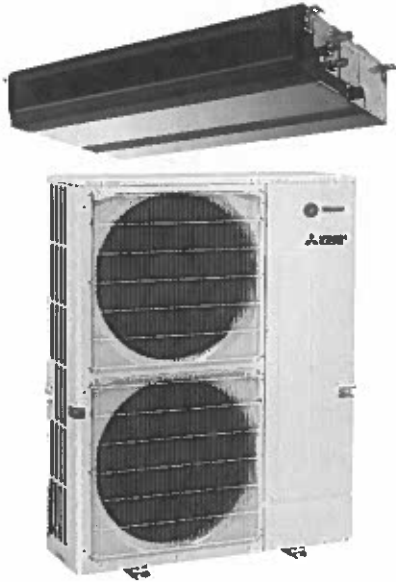
**TPEADA0421AA70A & TRUZH0421KA10NA**  
**MID STATIC HORIZONTAL-DUCTED INDOOR UNIT**  
**42,000 BTU/H HYPER-HEATING UNIVERSAL OUTDOOR**



Job Name: **Factory 52 Food Innovation Hub**

System Reference: **HP/FCU-1 thru 6**

Date: **02/09/2022**



Indoor Unit ..... TPEADA0421AA70A

Outdoor Unit ..... TRUZH0421KA10NA

**INDOOR UNIT FEATURES**

- Unobtrusive ceiling-concealed design for short-run ductwork
- Wide ranging external static pressure (0.14-0.60 in. WG)
- Built-in condensate lift mechanism (up to 27'-9/16")
- Auto fan speed mode
- Optional FB Series filter boxes for easy access and service
- Ideal for residential homes, retail shopping centers, larger classrooms, office complexes, conference rooms, ballrooms, fitness centers, and more
- Multiple control options available:
  - kumo cloud® smart device app for remote access
  - Third-party interface options
  - Wired or wireless controllers

**OUTDOOR UNIT FEATURES**

- Variable speed INVERTER-driven compressor
- Wide heating range: heating performance down to -13°F (average of 80% heating capacity)
- High speed heating at start up: Hyper-Heating INVERTER® reduces the time for heating at start up by about half compared to standard models
- Power receiver pre-charged with refrigerant volume for piping length up to 100 ft.
- High pressure/temperature protection
- Built-in base pan heater
- Flash injection circuit provides efficient high heating capacities at low ambient temperatures

# SPECIFICATIONS: TPEADA0421AA70A & TRUZH0421KA10NA

Cooling at 95°F <sup>1</sup>	Maximum Capacity	BTU/H	42,000
	Rated Capacity	BTU/H	42,000
	Minimum Capacity	BTU/H	17,100
	Maximum Power Input	W	3,900
	Rated Power Input	W	3,900
	Moisture Removal	Pints/h	4.1
	Sensible Heat Factor		0.89
Heating at 47°F <sup>2</sup>	Power Factor	%	92.0/92.0
	Maximum Capacity	BTU/H	54,000
	Rated Capacity	BTU/H	48,000
	Minimum Capacity	BTU/H	21,200
	Maximum Power Input	W	4,760
	Rated Power Input	W	3,990
	Power Factor	%	92.0/92.0
Heating at 17°F <sup>3</sup>	Maximum Capacity	BTU/H	48,000
	Rated Capacity	BTU/H	39,000
	Maximum Power Input	W	6,715
	Rated Power Input	W	5,095
Heating at 5°F <sup>4</sup>	Maximum Capacity	BTU/H	48,000
	Maximum Power Input	W	7,185
Heating at -13°F <sup>5</sup>	Maximum Capacity	BTU/H	38,400
Efficiency	SEER		15.0
	EER <sup>1</sup>		10.7
	HSPF [IV]		9.8
	COP at 47°F <sup>2</sup>		3.5
	COP at 17°F at Maximum Capacity <sup>3</sup>		2.0
	COP at 5°F at Maximum Capacity <sup>4</sup>		1.9
	COP at -13°F at Maximum Capacity <sup>5</sup>		1.5
ENERGY STAR <sup>®</sup> Certified		No	
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	198 - 253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating [SCCR]	kA	5
	Recommended Fuse/Breaker Size (Outdoor)	A	40
	Recommended Wire Size [Indoor - Outdoor]	AWG	14
Power Supply		Indoor unit is powered by the outdoor unit	
Indoor Unit	MCA	A	3.5
	Fan Motor Full Load Amperage	A	2.8
	Fan Motor Output	W	244
	Fan Motor Type		DC Motor
	Airflow Rate at Cooling, Dry	CFM	1042-1254-1483
	Airflow Rate at Cooling, Wet	CFM	1002-1214-1443
	Airflow Rate at Heating, Dry	CFM	1042-1254-1483
	Sound Pressure Level [Cooling]	dB[A]	36-40-44
	Sound Pressure Level [Heating]	dB[A]	36-40-44
	External Static Pressure	in.WG	0.14-0.2-0.28-0.4-0.6
	Drain Pipe Size	In. [mm]	1-1/4 [32]
	Condensate Lift Mechanism, Maximum Distance	In. [mm]	27-9/16 [700]
	Coating on Heat Exchanger		---
	External Finish Color		Galvanized
	Unit Dimensions	W x D x H: In. [mm]	55-1/8 x 28-7/8 x 9-7/8 [1400 x 732 x 250]
Package Dimensions	W x D x H: In. [mm]	65 x 34-11/16 x 13-7/16 [1650 x 880 x 341]	
Unit Weight	Lbs. [kg]	91 [41]	
Package Weight	Lbs. [kg]	106 [48]	
Indoor Unit Operating Temperature Range	Cooling Intake Air Temp [Maximum / Minimum]*	°F	90 DB, 72 WB / 66 DB, 61 WB
	Heating Intake Air Temp [Maximum / Minimum]	°F	77 DB / 59 DB

**NOTES:**

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)

<sup>1</sup> Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
<sup>2</sup> Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
<sup>3</sup> Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB

Conditions

<sup>4</sup> Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB
<sup>5</sup> Heating at -4°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -4 DB, -5 WB
<sup>6</sup> Heating at -5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -5 DB, -6 WB
<sup>7</sup> Heating at -13°F (Indoor // Outdoor)	°F	70 DB, 60 WB // -13 DB, -14 WB

\*Outdoor Unit Operating Temperature Range (Cooling Air Temp (Maximum / Minimum)):

- Wind baffles required to operate below 23°F DB in cooling mode.
- Refer to wind baffle documentation for further information.

\*\*Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):

- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

# SPECIFICATIONS: TPEADA0421AA70A & TRUZH0421KA10NA

Outdoor Unit	MCA	A	36.0
	MOCP	A	44
	Fan Motor Output	W	74
	Airflow Rate	CFM	3319/3319
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Sound Pressure Level, Cooling <sup>1</sup>	dB(A)	49
	Sound Pressure Level, Heating <sup>2</sup>	dB(A)	51
	Compressor Type		Scroll
	Compressor Model		ANB42FJTMT
	Compressor Rated Load Amps	A	19
	Compressor Locked Rotor Amps	A	28.0
	Compressor Oil Type // Charge	oz.	FVC68D // 1.7,57
	External Finish Color		Ivory Munsell 3Y 7.8/1.1
	Base Pan Heater		Built-in
	Unit Dimensions	W x D x H: In. (mm)	41-5/16 x 14-3/16 x 52-11/16 [1050 x 360 x 1338]
	Package Dimensions	W x D x H: In. (mm)	43 x 18 x 57 [1110 x 480 x 1440]
	Unit Weight	Lbs. (kg)	283 [128]
	Package Weight	Lbs. (kg)	307 [139]
	Outdoor Unit Operating Temperature Range	Cooling Air Temp [Maximum / Minimum]*	*F
Heating Air Temp [Maximum / Minimum]		*F	70 DB, 59 WB / -13 DB, -13 WB
Heating Thermal Lock-out / Re-start Temperatures**		*F	-22 / -13
Refrigerant	Type		R410A
	Charge	Lbs, oz	13, 4.0
	Chargeless Piping Length	Ft. (m)	0.0 [30.0]
	Additional Refrigerant Charge Per Additional Piping Length	oz./Ft. (g/m)	0.6 [56]
Piping	Gas Pipe Size O.D. [Flared]	In. (mm)	5/8 [15.88]
	Liquid Pipe Size O.D. [Flared]	In. (mm)	3/8 [9.52]
	Maximum Piping Length	Ft. (m)	245 [75]
	Maximum Height Difference	Ft. (m)	100 [30]
	Maximum Number of Bends		15

**NOTES:**

**AHRI Rated Conditions**

(Rated data is determined at a fixed compressor speed)

<sup>1</sup> Cooling (Indoor // Outdoor)	*F	80 DB, 67 WB // 95 DB, 75 WB
<sup>2</sup> Heating at 47°F (Indoor // Outdoor)	*F	70 DB, 60 WB // 47 DB, 43 WB
<sup>3</sup> Heating at 17°F (Indoor // Outdoor)	*F	70 DB, 60 WB // 17 DB, 15 WB

**Conditions**

<sup>4</sup> Heating at 5°F (Indoor // Outdoor)	*F	70 DB, 60 WB // 5 DB, 4 WB
<sup>5</sup> Heating at -4°F (Indoor // Outdoor)	*F	70 DB, 60 WB // -4 DB, -5 WB
<sup>6</sup> Heating at -5°F (Indoor // Outdoor)	*F	70 DB, 60 WB // -5 DB, -6 WB
<sup>7</sup> Heating at -13°F (Indoor // Outdoor)	*F	70 DB, 60 WB // -13 DB, -14 WB

\*Outdoor Unit Operating Temperature Range (Cooling Air Temp (Maximum / Minimum)):

- Wind baffles required to operate below 23°F DB in cooling mode.
- Refer to wind baffle documentation for further information.

\*\*Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):

- System cuts out in heating mode to avoid thermistor error and automatically restarts at these temperatures.

## INDOOR UNIT ACCESSORIES: TPEADA0421AA70A

Control Interface	BACnet® and Modbus® Interface	<input type="checkbox"/> PAC-UKPRC001-CN-1
	CN24 Relay Kit	<input type="checkbox"/> CN24RELAY-KIT-CM3
	Connector cable for remote display	<input type="checkbox"/> PAC-SA88HA-EP
	IT Extender	<input type="checkbox"/> PAC-WHS01IE-E
	kumo station® for kumo cloud®	<input type="checkbox"/> TAC-WHS01HC-E
	Lockdown bracket for remote controller	<input type="checkbox"/> RCMKP1CB
	Remote Operation Adapter†	<input type="checkbox"/> PAC-SF40RM-E
	Thermostat Interface	<input type="checkbox"/> PAC-US444CN-1
Remote Sensor	USNAP Adapter	<input type="checkbox"/> PAC-WHS01UP-E
	Flush Mount Temperature Sensor	<input type="checkbox"/> PAC-USSEN001-FM-1
	Remote Temperature Sensor	<input type="checkbox"/> PAC-SE41TS-E
Wired Remote Controller	Wireless temperature and humidity sensor for kumo cloud®	<input type="checkbox"/> PAC-USWHS003-TH-1
	Airzone ZBS Wired Blueface Principal Controller White	<input type="checkbox"/> AZZBSBLUEFACECB
	Airzone ZBS Wired Lite Controller White	<input type="checkbox"/> AZZBSLITECB
	Airzone ZBS Wired Think Controller White	<input type="checkbox"/> AZZBSTHINKCB
	Airzone ZBS Wireless Lite Controller White	<input type="checkbox"/> AZZBSLITERB
	Airzone ZBS Wireless Think Controller White	<input type="checkbox"/> AZZBSTHINKRB
	Deluxe Wired MA Remote Controller†	<input checked="" type="checkbox"/> TAR-40MAAU
	Simple MA Remote Controller†	<input type="checkbox"/> TAC-YT53CRAU-J
Wireless Remote Controller	Touch MA Controller†	<input type="checkbox"/> TAR-CT01MAU-SB
	kumo touch™ RedLINK™ Wireless Controller	<input type="checkbox"/> MHK2
	Wireless MA Controller	<input type="checkbox"/> PAR-SR32MA-E
Condensate	Wireless MA Remote Controller	<input type="checkbox"/> TAR-FL32MA-E
	Blue Diamond (Advanced) Mini Condensate Pump w/ Reservoir & Sensor (208/230V) [recommended]	<input type="checkbox"/> X87-721
	Blue Diamond (MegaBlue Advanced) Condensate Pump w/ Reservoir & Sensor	<input type="checkbox"/> X87-835
Control Wire	Blue Diamond Sensor Extension Cable — 15 Ft.	<input type="checkbox"/> C13-103
	20/2PR, 1PR shielded + 1PR plenum wire for Airzone, 100 ft reel	<input type="checkbox"/> CW2042S2-100
Disconnect Switch	20/2PR, shielded + 1PR plenum wire for Airzone, 500 ft reel	<input type="checkbox"/> CW2042S2-500
	(30A/600V/UL) [fits 2" X 4" utility box] - Black	<input type="checkbox"/> TAZ-MS303
Filter Box	(30A/600V/UL) [fits 2" X 4" utility box] - White	<input type="checkbox"/> TAZ-MS303W
	Filter Box with MERV 13 Filter	<input type="checkbox"/> FBM2-4-A
Lineset	10' x 3/8" x 10' x 5/8" Lineset (Twin-Tube Insulation) <sup>††</sup>	<input type="checkbox"/> MPLS385812T-10
	100' x 3/8" x 100' x 5/8" Lineset (Twin-Tube Insulation) <sup>††</sup>	<input type="checkbox"/> MPLS385812T-100
	15' x 3/8" x 15' x 5/8" Lineset (Twin-Tube Insulation) <sup>††</sup>	<input type="checkbox"/> MPLS385812T-15
	30' x 3/8" x 30' x 5/8" Lineset (Twin-Tube Insulation) <sup>††</sup>	<input type="checkbox"/> MPLS385812T-30
	50' x 3/8" x 50' x 5/8" Lineset (Twin-Tube Insulation) <sup>††</sup>	<input type="checkbox"/> MPLS385812T-50
	65' x 3/8" x 65' x 5/8" Lineset (Twin-Tube Insulation) <sup>††</sup>	<input type="checkbox"/> MPLS385812T-65

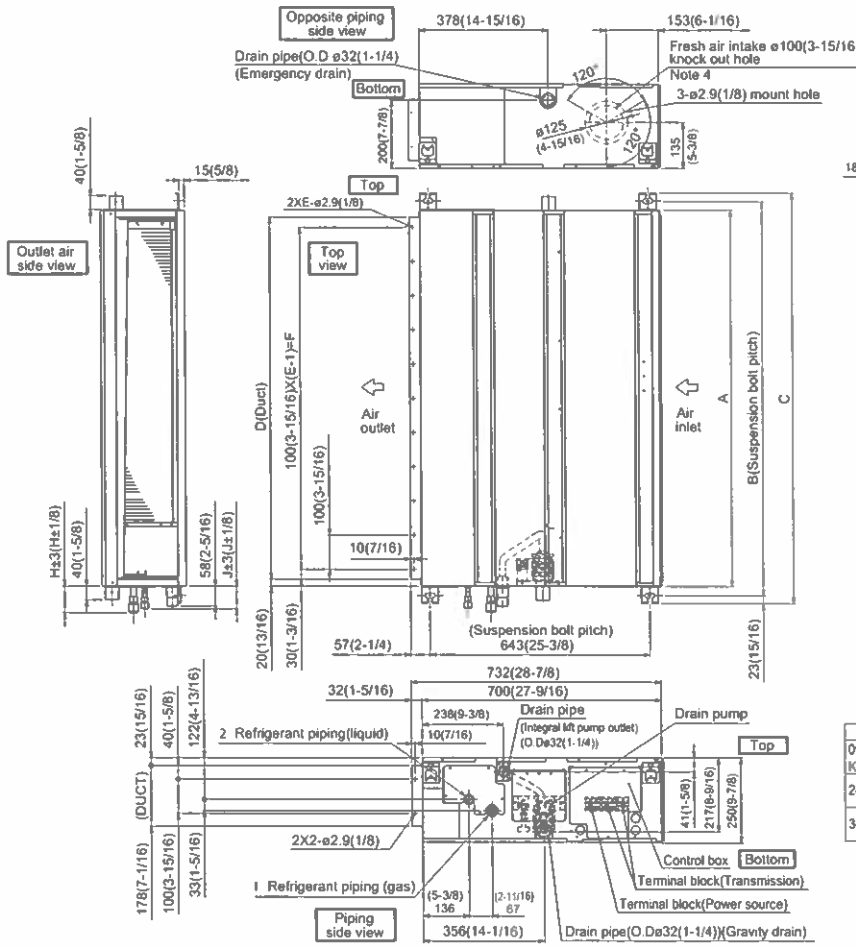
**NOTES:**

†PAC-SF40RM-E (Unable to use with wireless remote controller)

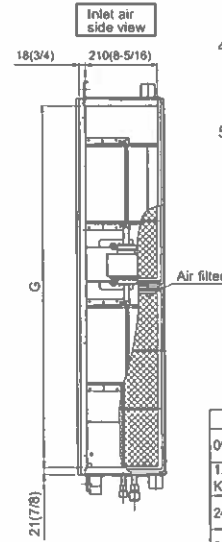
## OUTDOOR UNIT ACCESSORIES: TRUZH0421KA10NA

Air Outlet Guide	Air Outlet Guide (1 Piece)	<input type="checkbox"/> PAC-ADG096AA-E (two pieces are required)
Centralized Drain Pan	Central Drain Pan	<input type="checkbox"/> PAC-SH97DP-E
Control/Service Tool	Control/Service Tool	<input type="checkbox"/> PAC-SK52ST
Drain Socket	Drain Socket	<input type="checkbox"/> PAC-SG61DS-E
Hail Guards	Hail Guard	<input checked="" type="checkbox"/> HG-A2
M-NET Converter	M-NET Converter	<input type="checkbox"/> PAC-SJ85MA-E
	M-NET Converter	<input type="checkbox"/> PAC-SJ95MA-E
Mounting Pad	Condensing Unit Mounting Pad: 24" x 42" x 3"	<input type="checkbox"/> ULTRILITE2
Optional Defrost Heater	Optional Defrost Heater	<input type="checkbox"/> PAC-SJ20BH-E
Stand	18" Dual Fan Stand	<input type="checkbox"/> QSMS1802M
	24" Dual Fan Stand	<input type="checkbox"/> QSMS2402M
	Condenser Wall Bracket	<input type="checkbox"/> QSWB2000M-1
	Condenser Wall Bracket -Stainless Steel Finish	<input type="checkbox"/> QSWBSS
	Outdoor Unit Stand — 12" High	<input checked="" type="checkbox"/> QSMS1202M
Wind Baffle	Front Wind Baffle	<input type="checkbox"/> WB-PA3 (two pieces are required)

# INDOOR UNIT DIMENSIONS: TPEADA0421AA70A



- Note 1. Use an M10 screw for the suspension bolt (field supply).
2. Keep the service space for maintenance at the bottom.
3. This drawing is for 24·30·36·42 KBTU/H models, which have 2 fans.  
09·12·15·18 KBTU/H models have 1 fan.
4. If the inlet duct is used, remove the air filter (supplied with the unit), then install the filter (field supply) at the suction side.
5. Heat air to 0°C (32°F) or higher when taking fresh air with a fresh air intake.



Unit:mm(in.)

Model	J	1 Gas pipe	2 Liquid pipe
09,12,15,18 KBTU/H	62 (2-1/2)	ø9.52 (3/8)	ø6.35 (1/4)
12,15,18 KBTU/H	62 (2-1/2)	ø12.7 (1/2)	ø6.35 (1/4)
24,30 KBTU/H	66 (2-5/8)	ø15.88 (5/8)	ø9.52 (3/8)
36,42 KBTU/H	66 (2-5/8)	ø15.88 (5/8)	ø9.52 (3/8)

Unit:mm(in.)

Model	A	B	C	D	E	F	G	H
09,12,15,18 KBTU/H	900 (35-7/16)	954 (37-9/16)	1000 (39-3/8)	860 (33-7/8)	9	800 (31-1/2)	858 (33-13/16)	72 (2-7/8)
24,30 KBTU/H	1100 (43-5/16)	1154 (45-7/16)	1200 (47-1/4)	1060 (41-3/4)	11	1000 (39-3/8)	1058 (41-11/16)	78 (3-1/8)
36,42 KBTU/H	1400 (55-1/8)	1454 (57-1/4)	1500 (59-1/16)	1360 (53-9/16)	14	1300 (51-3/16)	1358 (53-1/2)	

