TPVA0A0421AA70A & TRUZA0421KA70BA
42,000 BTU/H MULTI-POSITION AIR HANDLER
42,000 BTU/H HEAT PUMP UNIVERSAL OUTDOOR

Job Name:

System Reference: Date:

Indoor Unit TPVA0A0421AA70A

Outdoor Unit TRUZA0421KA70BA

INDOOR UNIT FEATURES

- Ducted air handler provides a solution to cool and heat large zones
- Highly efficient totally enclosed ECM motor
- Selectable external static pressure: 0.30, 0.50 and 0.80 in.WG with 3 fan speeds at each static setting
- 1 inch R4.2 fiberglass free insulation reduces condensation and boosts efficiency
- Positive pressure cabinet with air leakage of less than 1.0% at 1.0 in.WG
- Unique blow through design allows simple coil cleaning when the blower is removed
- Multi-position installation: horizontal (left or right), vertical (up or down). For downflow configurations, the CMA-1 is recommended for proper management of condensate to prevent water blow-off in certain conditions
- Optional electric heat kit for additional heat capacity
- Optional humidifier control and ERV control
- 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
- Power receiver pre-charged with refrigerant volume for piping length up to 100 ft
- Low ambient cooling down to 0°F providing 100% capacity
- 24-hour continuous operation (cooling mode)
- High pressure protection
- Fast restart
- Superior energy and operational efficiency
- Seacoast protection on heat exchanger and base panel (rated for 2,000 hours in accordance with ASTM B117 testing)

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SPECIFICATIONS: TPVA0A0421AA70A & TRUZA0421KA70BA

Cooling at 95°F[1]	Maximum Capacity	BTU/H	42,000
	Rated Capacity	BTU/H	42,000
	Minimum Capacity	BTU/H	15,000
	Maximum Power Input	W	4,150
	Rated Power Input	W	4,150
	Moisture Removal	Pints/h	7.9
	Sensible Heat Factor		0.81
	Power Factor [208V / 230V]	%	87.6 / 87.6
Heating at 47°F[2]	Maximum Capacity	BTU/H	48,000
	Rated Capacity	BTU/H	46,000
	Minimum Capacity	BTU/H	18,100
	Maximum Power Input	W	4,320
	Rated Power Input	W	3,900
	Power Factor [208V / 230V]	%	95.4 / 95.4
Heating at 17°F[3]	Maximum Capacity	BTU/H	31,400
	Rated Capacity	BTU/H	28,400
	Maximum Power Input	W	3,490
	Rated Power Input	W	3,440
Heating at 5°F[4]	Maximum Capacity	BTU/H	26,800
	Maximum Power Input	W	3,400
Efficiency	SEER		18.0
	EER[1]		10.1
	HSPF [IV]		9.3
	COP at 47°F[2]		3.44
	COP at 17°F at Maximum Capacity[3]		2.64
	COP at 5°F at Maximum Capacity[4]		2.31
	ENERGY STAR® 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 (Oudoor)	A	30
	Recommended Wire Size [Indoor - Outdoor]	AWG	14
	Power Supply		Indoor unit is powered by the outdoor unit
Indoor Unit	MCA	A	5.5
	Fan Motor Full Load Amperage	A	4.50
	Fan Motor Type		DC Motor
	Airflow Rate at Cooling, Dry	CFM	1,040–1,262–1,485
	Airflow Rate at Heating, Dry	CFM	1,040–1,262–1,485
	Sound Pressure Level [Cooling]	dB[A]	36–40–44
	Sound Pressure Level [Heating]	dB[A]	36–40–44
	External Static Pressure	in.WG	0.30–0.5–0.8
	Drain Pipe Size	In. [mm]	3/4 FPT [19.05]
	Coating on Heat Exchanger		—
	External Finish Color		Galvanized steel cabinet-Powder coated Slate Gray
	Unit Dimensions	W x D x H: In. [mm]	25 x 21-5/8 x 59-1/2 [635 x 548 x 1,511]
	Package Dimensions	W x D x H: In. [mm]	13-7/16 x 34-11/16 x 65 [340 x 880 x 1,650]
	Unit Weight	Lbs. [kg]	172 [78]
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	[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
(Rated data is determined at a fixed compressor speed)	[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
	[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB

*Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp [Maximum / Minimum]):

- Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
  - » Wind baffles required to operate below 23°F DB in cooling mode.
  - » Heat pump system with wind baffle: 0°F - 115°F.
  - » 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.

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Outdoor Unit	MCA	A	25.0
	MOCP	A	31
	Fan Motor Full Load Amperage	A	0.5 + 0.5
	Airflow Rate [Cooling / Heating]	CFM	3880 / 3880
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Coating on Heat Exchanger		Blue Fin Coating (BS Model only)
	Sound Pressure Level, Cooling[1]	dB(A)	52
	Sound Pressure Level, Heating[2]	dB(A)	53
	Compressor Type		INVERTER-driven twin rotary
	Compressor Model		MNB33FBRMC-L
	Compressor Rated Load Amps	A	8
	Compressor Locked Rotor Amps	A	13.0
	Compressor Oil [Type // Charge]	oz.	FV50S // 45
	External Finish Color		Ivory Munsell 3Y 7.8/1.1
	Base Pan Heater		N/A
	Unit Dimensions	W x D x H: In. [mm]	41-5/16 x 13 (+1-3/16) x 52-11/16 [1050 x 330 (+30) x 1338]
	Package Dimensions	W x D x H: In. [mm]	42-15/16 x 17-11/16 x 56-4/16 [1091 x 450 x 1429]
	Unit Weight	Lbs. [kg]	214 [97]
	Package Weight	Lbs. [kg]	245 [111]
Outdoor Unit Operating Temperature Range	Cooling Air Temp [Maximum / Minimum]*	°F	115 DB / 0 DB
	Heating Air Temp [Maximum / Minimum]	°F	70 DB, 59 WB / -4 DB, -4 WB
	Heating Thermal Lock-out / Re-start Temperatures**	°F	-8 / -4
Refrigerant	Maximum Charge Quantity	Lbs, oz	10.0, 6.0
	Initial Charge Quantity	Ft. [m]	0.0 [30.0]
	Additional Refrigerant Charge Per Additional Piping Length	oz./Ft. [g/m]	0.7 [50]
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]	165 [50]
	Maximum Height Difference	Ft. [m]	100 [30]
	Maximum Number of Bends		15

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INDOOR UNIT ACCESSORIES: TPVA0A0421AA70A

Control Interface	3-Pin Connector	☐ PAC-715AD
	BACnet® and Modbus® Interface	☐ PAC-UKPRC001-CN-1
	CN24 Relay Kit	☐ CN24RELAY-KIT-CM3
	Connector cable for remote display	☐ PAC-SA88HA-EP
	IT Extender	☐ PAC-WHS01IE-E
	kumo station® for kumo cloud®	☐ TAC-WHS01HC-E
	Lockdown bracket for remote controller	☐ RCMKP1CB
	Remote Operation Adapter‡	☐ PAC-SF40RM-E
	Thermostat Interface	☐ PAC-US444CN-1
	Thermostat Interface	☐ PAC-US445CN-1
	USNAP Adapter	☐ PAC-WHS01UP-E
Remote Sensor	Flush Mount Remote Temperature Sensor	☐ PAC-USSEN002-FM-1
	Flush Mount Temperature Sensor	☐ PAC-USSEN001-FM-1
	Remote Temperature Sensor	☐ PAC-SE41TS-E
	Wireless temperature and humitity sensor for kumo cloud®	☐ PAC-USWHS003-TH-1
Wired Remote Controller	Airzone ZBS Wired Blueface Principal Controller White	☐ AZZBSBLUEFACECB
	Airzone ZBS Wired Lite Controller White	☐ AZZBSLITECB
	Airzone ZBS Wired Think Controller White	☐ AZZBSTHINKCB
	Airzone ZBS Wireless Lite Controller White	☐ AZZBSLITERB
	Airzone ZBS Wireless Think Controller White	☐ AZZBSTHINKRB
	Deluxe Wired MA Remote Controller†	☐ TAR-40MAAU
	Simple MA Remote Controller†	☐ TAC-YT53CRAU-J
	Touch MA Controller†	☐ TAR-CT01MAU-SB
Wireless Remote Controller	kumo touch™ RedLINK™ Wireless Controller	☐ MHK2
	Wireless MA Receiver	☐ PAR-SR32MA-E
	Wireless MA Remote Controller	☐ TAR-FL32MA-E
Condensate	Blue Diamond (Advanced) Mini Condensate Pump w/ Reservoir & Sensor (208/230V) [recommended]	☐ X87-721
	Blue Diamond (MegaBlue Advanced) Condensate Pump w/ Reservoir & Sensor	☐ X87-835
	Blue Diamond Sensor Extension Cable — 15 Ft.	☐ C13-103
	Refco Condensate Pump (100-240 VAC) up to 120,000 BTU/H	☐ COMBI
Control Wire	20/2PR, 1PR shielded + 1PR plenum wire for Airzone, 100 ft reel	☐ CW2042S2-100
	20/2PR, shielded + 1PR plenum wire for Airzone, 500 ft reel	☐ CW2042S2-500
Disconnect Switch	(30A/600V/UL) [fits 2” X 4” utility box] - Black	☐ TAZ-MS303
	(30A/600V/UL) [fits 2” X 4” utility box] - White	☐ TAZ-MS303W
Downflow Kit	Condensate Management Kit for downflow installation	☐ CMA-1
Electric Heat Lockout	Electric Heat Lockout	☐ ETC-211020-MIT
Electric Kit Heats	10kW Electric Heater	☐ EH10-MPA-LB
	15kW Electric Heater	☐ EH15-MPAS-LB
	17kW Electric Heater	☐ EH17-MPAS-LB
Lineset	10’ x 3/8” x 10’ x 5/8” Lineset (Twin-Tube Insulation)††	☐ MPLS385812T-10
	100’ x 3/8” x 100’ x 5/8” Lineset (Twin-Tube Insulation)††	☐ MPLS385812T-100
	15’ x 3/8” x 15’ x 5/8” Lineset (Twin-Tube Insulation)††	☐ MPLS385812T-15
	30’ x 3/8” x 30’ x 5/8” Lineset (Twin-Tube Insulation)††	☐ MPLS385812T-30
	50’ x 3/8” x 50’ x 5/8” Lineset (Twin-Tube Insulation)††	☐ MPLS385812T-50
	65’ x 3/8” x 65’ x 5/8” Lineset (Twin-Tube Insulation)††	☐ MPLS385812T-65
Terminal Block	Separate Terminal Power Block	☐ SPTB1

NOTES:
‡PAC-SF40RM-E (Unable to use with wireless remote controller)

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OUTDOOR UNIT ACCESSORIES: TRUZA0421KA70BA

Air Outlet Guide	Air Outlet Guide (1 Piece)	☐ PAC-SG59SG-E
	Air Outlet Guide (1 Piece)	☐ PAC-SH96SG-E (two pieces are required)
Control/Service Tool	Control/Service Tool	☐ PAC-SK52ST
	M- & P-Series Maintenance Tool Cable Set	☐ M21EC0397
	USB/UART Conversion Cable (Required for all laptop connection)	☐ M21EC1397
M-NET Converter	M-NET Converter	☐ PAC-SJ85MA-E
	M-NET Converter	☐ PAC-SJ95MA-E
Mounting Pad	Condensing Unit Mounting Pad: 24” x 42” x 3”	☐ ULTRILITE2
Stand	18” Dual Fan Stand	☐ QSMS1802M
	24” Dual Fan Stand	☐ QSMS2402M
	Condenser Wall Bracket	☐ QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish	☐ QSWBSS
	Outdoor Unit Stand — 12” High	☐ QSMS1202M
Wind Baffle	Front Wind Baffle	☐ WB-PA3 (two pieces are required)
	Rear Wind Baffle	☐ WB-RE6
	Side Advanced Wind Baffle	☐ WB-SD6

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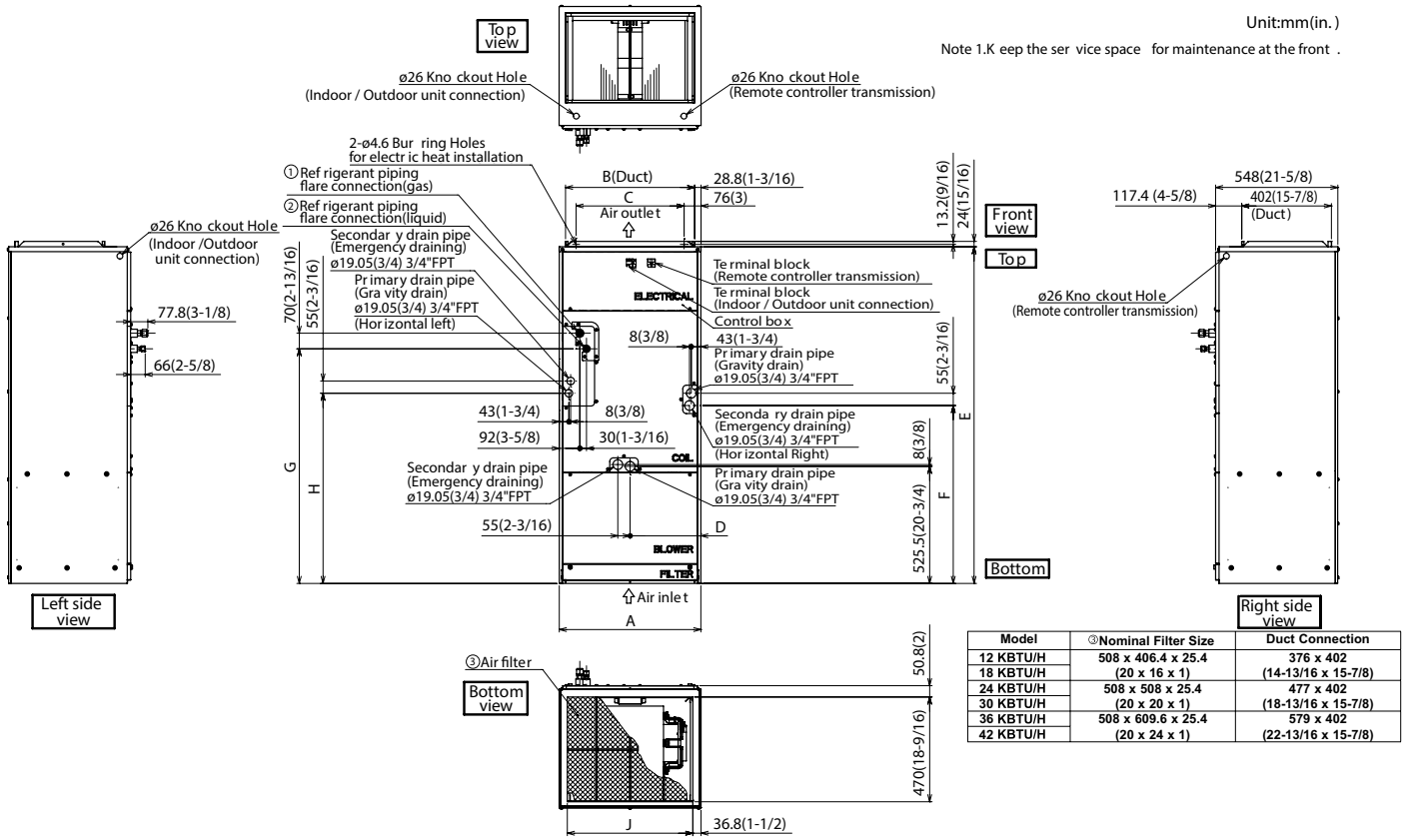
INDOOR UNIT DIMENSIONS: TPVA0A0421AA70A



Model	③Nominal Filter Size	Duct Connection
12 KBTU/H 18 KBTU/H	508 x 406.4 x 25.4 (20 x 16 x 1)	376 x 402 (14-13/16 x 15-7/8)
24 KBTU/H 30 KBTU/H	508 x 508 x 25.4 (20 x 20 x 1)	477 x 402 (18-13/16 x 15-7/8)
36 KBTU/H 42 KBTU/H	508 x 609.6 x 25.4 (20 x 24 x 1)	579 x 402 (22-13/16 x 15-7/8)

Unit: mm (in.)

Model	A	B	C	D	E	F	G	H	J	①Gas Pipe	②Liquid Pipe
12 KBTU/H 18 KBTU/H	432 (17)	376 (14-13/16)	281 (11-1/8)	224 (8-7/8)	1275 (50-1/4)	680 (26-13/16)	823 (32-7/16)	735.5 (29)	360 (14-3/16)	Φ 12.7 (1/2)	Φ 6.35 (1/4)
24 KBTU/H 30 KBTU/H	534 (21)	477 (18-13/16)	382.6 (15-1/8)	266.5 (10-1/2)	1378 (54-1/4)	737 (29-1/16)	953.5 (37-9/16)	792 (31-3/16)	461 (18-3/16)	Φ 15.88 (5/8)	Φ 9.52 (3/8)
36 KBTU/H 42 KBTU/H	635 (25)	579 (22-13/16)	484.6 (19-1/8)	317.5 (12-1/2)	1511 (59-1/2)	798.5 (31-7/16)	1053 (41-1/2)	853.5 (33-5/8)	563 (22-3/16)		

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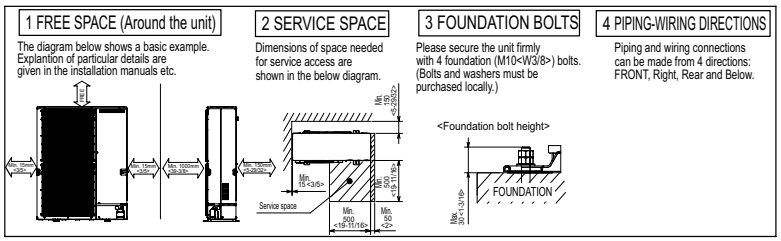
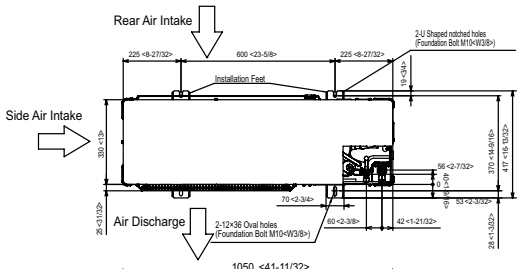
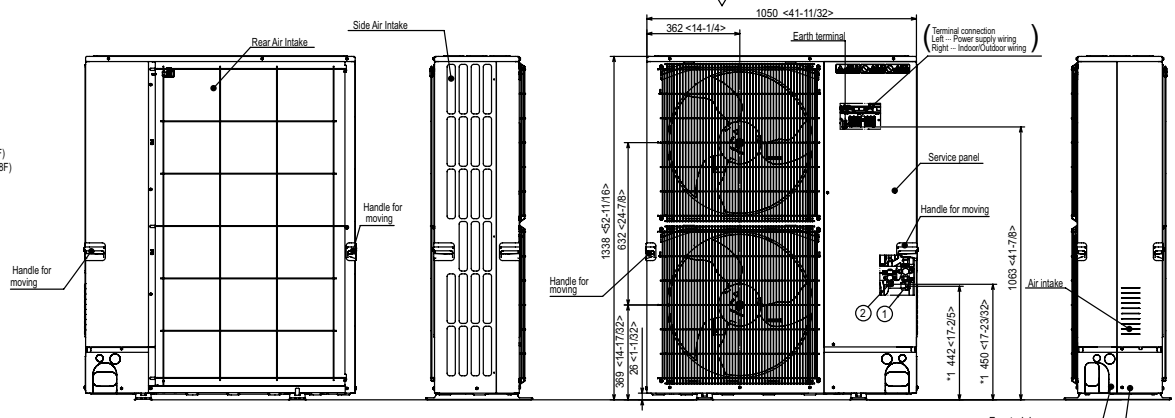
OUTDOOR UNIT DIMENSIONS: TRUZA0421KA70BA

Unit: mm<in>



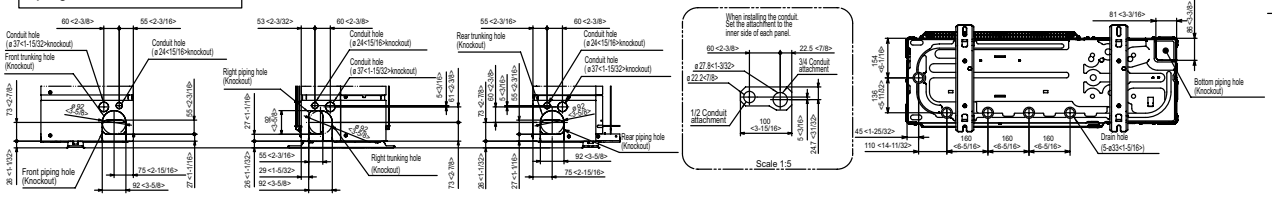




Example of Notes

① -- Refrigerant GAS pipe connection (FLARE) ø15.88(5/8F)
② -- Refrigerant LIQUID pipe connection (FLARE) ø9.52(3/8F)
*1 -- Indication of STOP VALVE connection location.

Piping Knockout Hole Details



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