

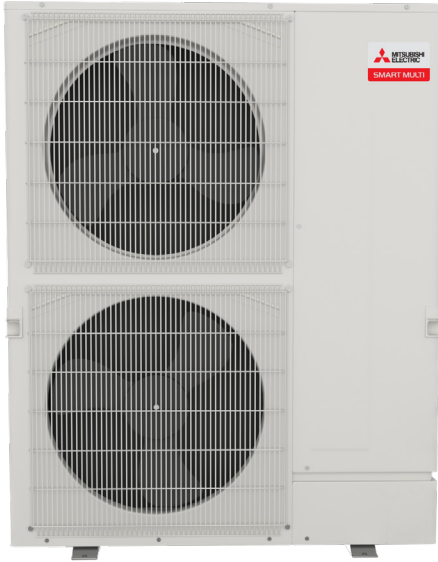
MXZ-SM48NAM-U1
4-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM



Job Name:

System Reference:

Date:



FEATURES

- Compatible with M- and P-Series and CITY MULTI indoor units. Branch box required for connection with M- and P-Series
- Variable speed INVERTER-driven compressor
- Seacoast protection on heat exchanger and base panel (rated for 2,000 hrs in accordance with ASTM B117 testing)
- Thermal Differential 1°F (with PAC-MKA32/52BC only)
- Optional base pan heater
- Quiet outdoor unit operation, rated sound pressure as low as 51 dB(A)
- High pressure protection
- Compressor thermal protection
- Compressor overcurrent detection
- Fan motor overheating/voltage protection

ENERGY STAR products are third-party certified by an EPA-recognized Certification Body.

Specifications are subject to change without notice.

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SPECIFICATIONS: MXZ-SM48NAM-U1

Cooling ¹ (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	48,000 // 48,000 // 48,000	
	Rated Capacity	BTU/H	48,000 // 48,000 // 48,000	
	Minimum Capacity	BTU/H	16,000 // 16,000 // 16,000	
	Maximum Power Input	W	3,665 // 3,930 // 4,245	
	Rated Power Input	W	3,665 // 3,930 // 4,245	
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5	
Heating at 47°F ² (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	54,000 // 54,000 // 54,000	
	Rated Capacity	BTU/H	54,000 // 54,000 // 54,000	
	Minimum Capacity	BTU/H	27,000 // 27,000 // 27,000	
	Maximum Power Input	W	3,955 // 4,335 // 4,795	
	Rated Power Input	W	3,955 // 4,335 // 4,795	
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5	
Heating at 17°F ³ (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	37,800 // 37,800 // 37,800	
	Rated Capacity	BTU/H	31,400 // 31,400 // 31,400	
	Maximum Power Input	W	5,200 // 5,650 // 3,665	
	Rated Power Input	W	3,410 // 3,840 // 4,270	
Heating at 5°F ⁴ (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	32,400 // 32,400 // 32,400	
	Maximum Power Input	W	4,530 // 4,650 // 4,770	
Efficiency (Non-Ducted // Mix // Ducted)	SEER		23.0 // 19.75 // 16.5	
	EER ¹		13.1 // 12.2 // 11.3	
	HSPF (IV)		12.0 // 11.5 // 11.0	
	COP at 47°F ²		4.0 // 3.65 // 3.3	
	COP at 17°F at Maximum Capacity ³		2.1 // 1.96 // 1.7	
	COP at 5°F at Maximum Capacity ⁴		2.0 // 2.05 // 2.0	
	ENERGY STAR [®] Certified		Yes // No // No	
Electrical	Voltage, Phase, Frequency		208/230, 1, 60	
	Guaranteed Voltage Range	V AC	187-253	
	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 if Branch Box Powered by Outdoor Unit	A	40	
	Recommended Fuse/Breaker Size without Branch Box or Branch Box Powered Separate	A	30	
	Recommended Wire Size (Indoor - Outdoor)	AWG	16	
	MCA if Branch Box Powered by Outdoor Unit	A	35.0	
	MCA without Branch Box or Branch Box Powered Separate	A	29	
	MOCP if Branch Box Powered by Outdoor Unit	A	50	
	MOCP without Branch Box or Branch Box Powered Separate	A	40	
	Fan Motor Full Load Amperage	A	0.6+0.6	
	Fan Motor Output	W	74	
	Outdoor unit	Airflow Rate (Cooling / Heating)	CFM	3,885 / 3,885
Refrigerant Control			LEV	
Defrost Method			Reverse Cycle	
Heat Exchanger Type			Plate fin coil	
Heat Exchanger Coating			Blue Fin Coating	
Sound Pressure Level, Cooling ¹		dB(A)	51	
Sound Pressure Level, Heating ²		dB(A)	54	
Compressor Type			Hermetic	
Compressor Model			ANB33FNHMT	
Compressor Motor Output		kW	3.4	
Compressor Rated Load Amps		A	19	
Compressor Locked Rotor Amps		A	22.0	
Compressor Oil Type // Charge		oz.	FV50S // 78	
Base Pan Heater			Optional (PAC-SJ20BH-E)	
Unit Dimensions		W: In. [mm]		41-11/32[1,050]
		D: In. [mm]		13[330]
		H: In. [mm]		52-11/16[1,338]
Package Dimensions		W: In. [mm]		43 [1,090]
		D: In. [mm]		18 [450]
		H: In. [mm]		57 [1,430]
Unit Weight	Lbs.[kg]		271 [123]	
Package Weight	Lbs.[kg]		295 [134]	

NOTES:

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)	¹ Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
	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
Conditions	⁴ Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB

*Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

^A when 1 or more PLA-A-EA7 connected

^B Branch box should be placed within the level between the outdoor unit and indoor units

^C 5°F DB - 115°F DB when optional wind baffles are installed

For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.

Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

SPECIFICATIONS: MXZ-SM48NAM-U1

Outdoor unit operating temperature range	Cooling Intake Air Temp (Maximum / Minimum)	°FDB	115 / 23
	Cooling Thermal Lock-out / Re-start Temperatures	°FDB	N/A / N/A
	Heating Intake Air Temp (Maximum / Minimum)	°FWB	59 / -13
	Heating Thermal Lock-out / Re-start Temperatures	°FDB	-24 / -14
Refrigerant	Type		R410A
	Charge	Lbs, oz	10, 9.0
Indoor unit connection	Maximum Number of Connected IDU with Branch Box		8 (6) ^A
	Maximum Number of Connected IDU without Branch Box		12
	Minimum Number of Connected IDU with Branch Box		2
	Minimum Number of Connected IDU without Branch Box		1
	Minimum Connected Capacity with Branch Box	BTU/H	12,000
	Maximum Connected Capacity	BTU/H	62,000
Piping	Liquid Pipe Size O.D. (Flared)	In.[mm]	3/8 [9.52]
	Gas Pipe Size O.D. (Flared)	In.[mm]	5/8 [15.88]
	Total Piping Length when using Branch Box	Ft. [m]	492 [150]
	Total Piping Length without Branch Box	Ft. [m]	984 [300]
	Maximum Height Difference ^B , ODU above IDU	Ft. [m]	164 [50]
	Maximum Height Difference ^B , ODU below IDU	Ft. [m]	131 [40]
	Maximum Height Difference ^B , between branch boxes	Ft. [m]	49 [15]
	Maximum Height Difference ^B , between branch boxes and IDU	Ft. [m]	49 [15]
	Maximum Height Difference between IDU and IDU without branch box	Ft. [m]	49 [15]
	Max. Piping Length between ODU and Branch Box	Ft. [m]	180 [55]
	Farthest Piping Length from ODU to IDU with Branch Box	Ft. [m]	262 [80]
	Farthest Piping Length from ODU to IDU without Branch Box	Ft. [m]	492 [150]
	Farthest Piping Length after Branch Box	Ft. [m]	82 [25]
	Total Piping Length between Branch Boxes and IDU	Ft. [m]	311 [95]
Maximum Number of Bends for IDU		15	

NOTES:

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

¹ Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
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

Conditions ⁴Heating at 5°F (Indoor // Outdoor) °F 70 DB, 60 WB // 5 DB, 4 WB

^AApplications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.

^A when 1 or more PLA-A-EA7 connected

^B Branch box should be placed within the level between the outdoor unit and indoor units

^C 5°F DB - 115°F DB when optional wind baffles are installed

For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.

Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

OUTDOOR UNIT ACCESSORIES: MXZ-SM48NAM-U1

Air Deflector	Vertical Air Deflector	ADV-1
Air Outlet Guide	Air Outlet Guide (1 Piece)	PAC-SH96SG-E (two pieces are required)
Ball Valve	Refrigeration Ball Valve - 1/2"	BV12FFSI2
	Refrigeration Ball Valve - 1/4"	BV14FFSI2
	Refrigeration Ball Valve - 3/8"	BV38FFSI2
	Refrigeration Ball Valve - 5/8"	BV58FFSI2
Branch Box	Branch Box	PAC-MKA32BC
	Branch Box	PAC-MKA52BC
	Branch Box Enclosure	BBE-1
Centralized Drain Pan	Central Drain Pan	PAC-SH97DP-E
Control Wire	M-Net Control Wire, 1,000' Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	CW162S-1000
	M-Net Control Wire, 250' Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	CW162S-250
Control/Service Tool	Maintenance Tool Interface	PAC-USCMS-MN-1
Distribution pipe	Brazed Connection	MSDD-50BR-E
	Flare Connection	MSDD-50AR-E
Drain Socket	Drain Socket	PAC-SH71DS-E
Hail Guards	Hail Guard	HG-A2
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	S164-50
Mounting Pad	Condensing Unit Mounting Pad: 24" x 42" x 3"	ULTRILITE2
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	DSD-400P
Optional Defrost Heater	Optional Defrost Heater	PAC-SJ20BH-E
Port Adapter	Adaptor: 1/2" x 3/8"	MAC-A455JP-E
	Adaptor: 1/2" x 5/8"	MAC-A456JP-E
	Adaptor: 3/8" x 1/2"	MAC-A454JP-E
	Adaptor: 3/8" x 5/8"	PAC-SG76RJ-E
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)

MODEL: PAC-MKA30BC, PAC-MKA31BC, PAC-MKA32BC PAC-MKA50BC, PAC-MKA51BC, AND PAC-MKA52BC BRANCH BOX



Job Name:

System Reference:

Date:



PAC-MKA30BC
PAC-MKA31BC
PAC-MKA32BC



PAC-MKA50BC
PAC-MKA51BC
PAC-MKA52BC

DESCRIPTIONS

- The PAC-MKA32/52 have a thermal differential from set point of 1F regardless of which MXZ outdoor unit generation they are connected to.

SPECIFICATIONS

Model Name			PAC-MKA50BC PAC-MKA51BC PAC-MKA52BC		PAC-MKA30BC PAC-MKA31BC PAC-MKA32BC		
Connectable number of indoor units			Maximum 5		Maximum 3		
Power supply			Single phase, 208/230 V, 60 Hz				
Input		kW	0.003				
Running current		A	0.05				
External finish			Galvanized steel				
Dimensions	Width	Inch (mm)	17-23/32 (450)				
	Depth	Inch (mm)	11-1/32 (280)				
	Height	Inch (mm)	6-11/16 (170)				
Package Dimensions	Width	Inch (mm)	20.1 (511)				
	Depth	Inch (mm)	24.4 (620)				
	Height	Inch (mm)	8.3 (211)				
Weight		lb (kg)	23.4 (10.6)		21.8 (9.9)		
Piping Connection (Flare)	Branch (indoor side)*	Liquid	Inch (mm)	ø1/4 (6.35) x 5 {A,B,C,D,E}		ø1/4 (6.35 x 3 {A,B,C}	
		Gas	Inch (mm)	ø3/8 (9.52) x 4 {A,B,C,D}, ø1/2 (12.7) x 1{E}		ø3/8 (9.52) x 3 {A,B,C}	
	Main (outdoor side)	Liquid	Inch (mm)	ø3/8 (9.52)			
		Gas	Inch (mm)	ø5/8 (15.88)			

*The piping connection size differs according to the type of and capacity of indoor units. Match the piping connection size for indoor and branch box. If the piping connection size of the branch does not match the piping connection size of the indoor units, use optional different-diameter (deformed) joints to the branch box side. (Connect deformed joint directly to the branch box side.)

ACCESSORIES

BBE-1	Branch Box Enclosure
MAC-A454JP-E	Port Adapter
MAC-A455JP-E	Port Adapter
MAC-A456JP-E	Port Adapter
PAC-493PI	Port Adapter
PAC-SG76RJ-E	Port Adapter
ADP5834	Port Adapter
MSDD-50AR-D	Flare connection distribution pipe
MSDD-50BR-E	Brazed connection distribution pipe

NOTES:

For the MXZ-8C60 outdoor unit:

- When connecting the outdoor unit to the branch box directly, the reduction in pipe size must be made at the branch box using the port adaptor: ADP5834 (5/8" F x 3/4" M).
- When connecting the outdoor unit to the distribution pipe (MSDD-50AR-D, for using 2 branch boxes), the reduction in pipe size must be made at the distribution pipe using the port adaptor: ADP5834 (5/8" F x 3/4" M).

OPTIONAL PORT ADAPTORS



Model name	Connected pipes diameter	Diameter A	Diameter B
	Inch, mm	Inch, mm	Inch, mm
MAC-A454JP-E	3/8, ø9.52 → 1/2, ø12.7	3/8, ø9.52	1/2, ø12.7
MAC-A455JP-E	1/2, ø12.7 → 3/8, ø9.52	1/2, ø12.7	3/8, ø9.52
MAC-A456JP-E	1/2, ø12.7 → 5/8, ø15.88	1/2, ø12.7	5/8, ø15.88
PAC-493PI	1/4, ø6.35 → 3/8, ø9.52	1/4, ø6.35	3/8, ø9.52
PAC-SG76RJ-E	3/8, ø9.52 → 5/8, ø15.88	3/8, ø9.52	5/8, ø15.88
ADP5834	5/8, ø15.88 → 3/4, ø19.05	5/8, ø15.88	3/4, ø19.05

DIMENSIONS: PAC-MKA50BC, PAC-MKA51BC, AND PAC-MKA52BC

PAC-MKA50BC, PAC-MKA51BC, AND PAC-MKA52BC (5-BRANCHES TYPE)

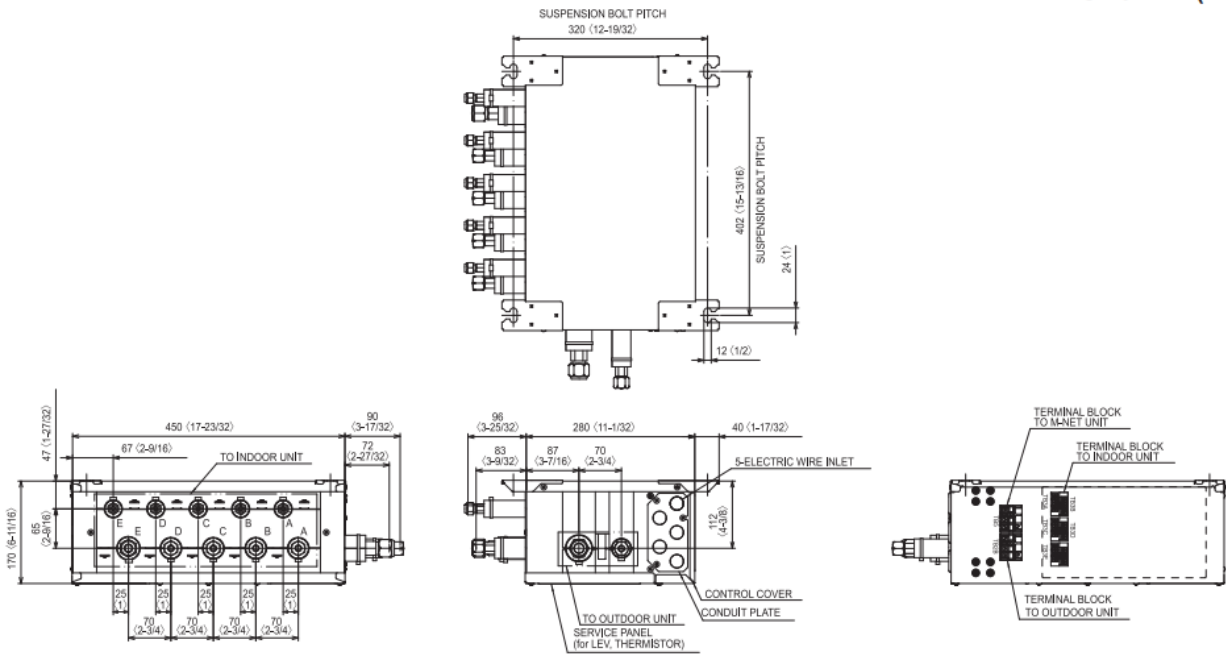
Suspension bolt: W3/8 (M10)
Refrigerant pipe flared connection

inch, mm

	To indoor unit					To outdoor unit
	A	B	C	D	E	
Liquid pipe	1/4, ø6.35	1/4, ø6.35	1/4, ø6.35	1/4, ø6.35	1/4, ø6.35	3/8, ø9.52
Gas pipe	3/8, ø9.52	3/8, ø9.52	3/8, ø9.52	3/8, ø9.52	1/2, ø12.7	5/8, ø15.88

Conversion formula	
1/4F	ø6.35
3/8F	ø9.52
1/2F	ø12.7
5/8F	ø15.88
3/4F	ø19.05

Unit: mm (inch)

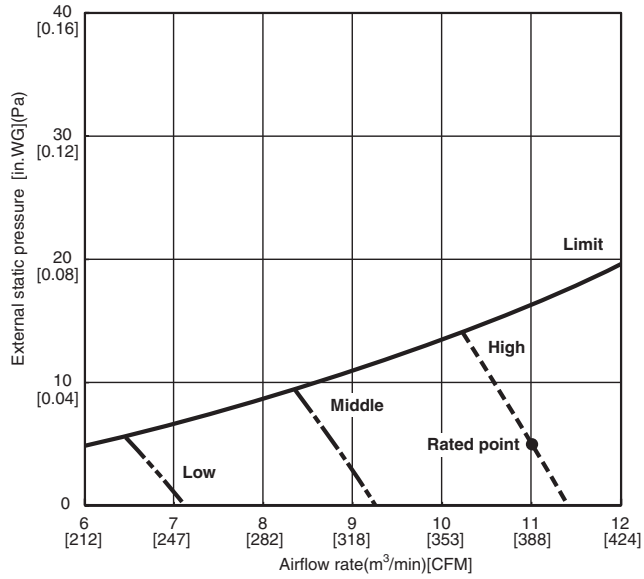


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SEZ-KD12NA4** INDOOR FAN PERFORMANCE AND CORRECTED AIR FLOW CHARTS

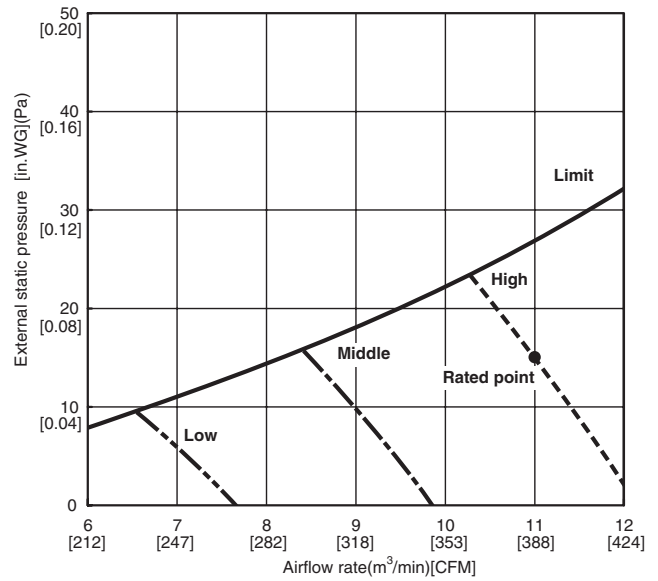
SEZ-KD12NA4

(External static pressure 0.02[in.WG](5Pa)) 208/230V 60Hz



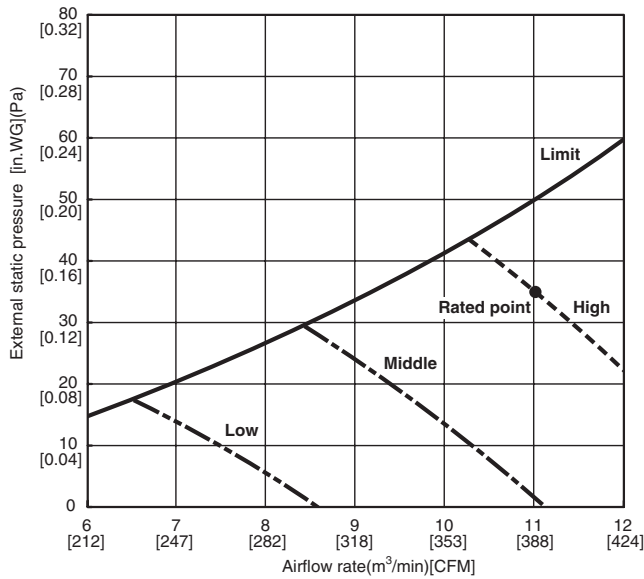
SEZ-KD12NA4

(External static pressure 0.06[in.WG](15Pa)) 208/230V 60Hz



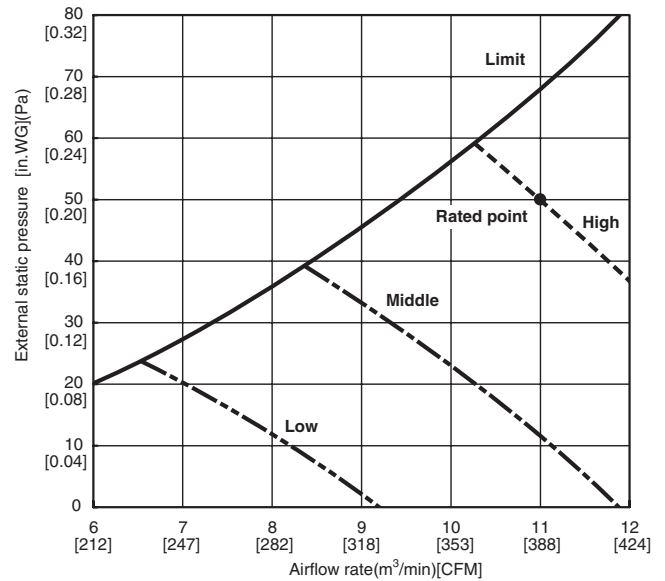
SEZ-KD12NA4

(External static pressure 0.14[in.WG](35Pa)) 208/230V 60Hz



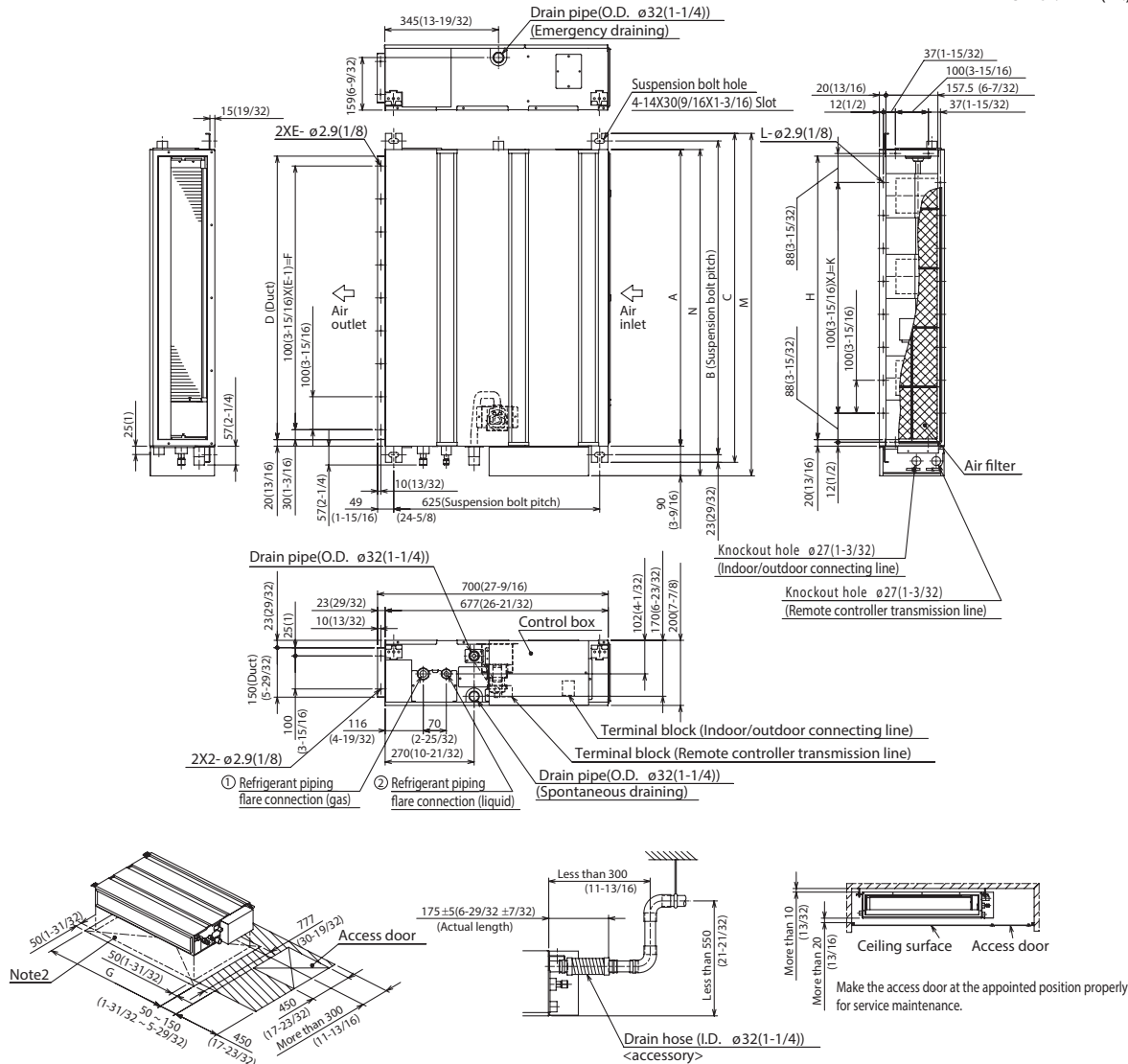
SEZ-KD12NA4

(External static pressure 0.20[in.WG](50Pa)) 208/230V 60Hz



DIMENSIONS: SEZ-KD12NA4**

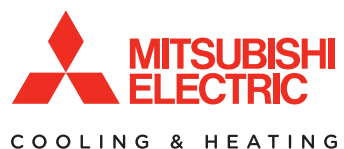
Unit : mm(in.)



Required space for service and maintenance

Model	mm(in.)														① Gas pipe	② Liquid pipe
	A	B	C	D	E	F	G	H	J	K	L	M	N			
SEZ-KD09NA4**	700 (27-9/16)	752 (29-5/8)	798 (31-7/16)	660 (26)	7	600 (23-5/8)	800 (31-1/2)	660 (26)	5	500 (19-11/16)	16	839 (33-1/16)	790 (31-1/8)	ø9.52(3/8)	ø6.35(1/4)	
SEZ-KD12NA4**	900 (35-7/16)	952 (37-1/2)	998 (39-5/16)	860 (33-7/8)	9	800 (31-1/2)	1000 (39-3/8)	860 (33-7/8)	7	700 (27-9/16)	20	1039 (40-29/32)	990 (39)	ø12.7(1/2)		
SEZ-KD15NA4**	1100 (43-5/16)	1152 (45-3/8)	1198 (47-3/16)	1060 (41-3/4)	11	1000 (39-3/8)	1200 (47-1/4)	1060 (41-3/4)	9	900 (35-7/16)	24	1239 (48-25/32)	1190 (46-7/8)			
SEZ-KD18NA4**																

- Note1. Use M10 screw for the suspension bolt (field supply).
 2. Keep the service space for the maintenance at the bottom.
 3. This chart indicates for SEZ-KD15NA4** model, which has 3 fans.
 SEZ-KD09, 12NA4** models have 2 fans.
 SEZ-KD18NA4** models have 4 fans.
 4. In case an inlet duct is used, remove the air filter (supply with the unit), then install the filter (field supply) at suction side.

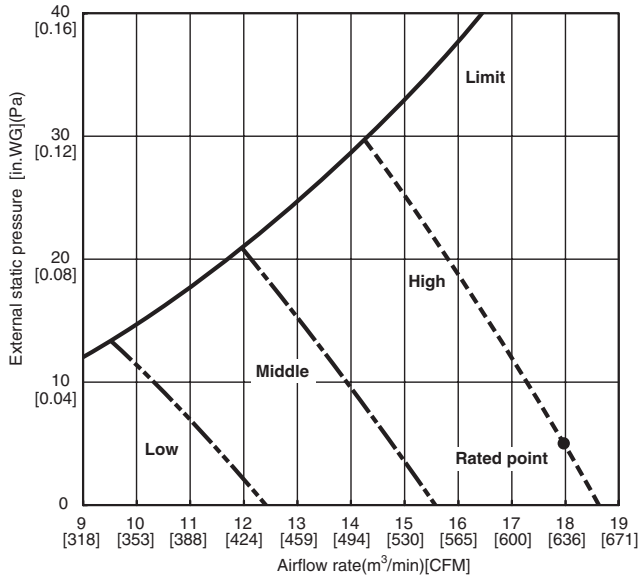


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SEZ-KD18NA4** INDOOR FAN PERFORMANCE AND CORRECTED AIR FLOW CHARTS

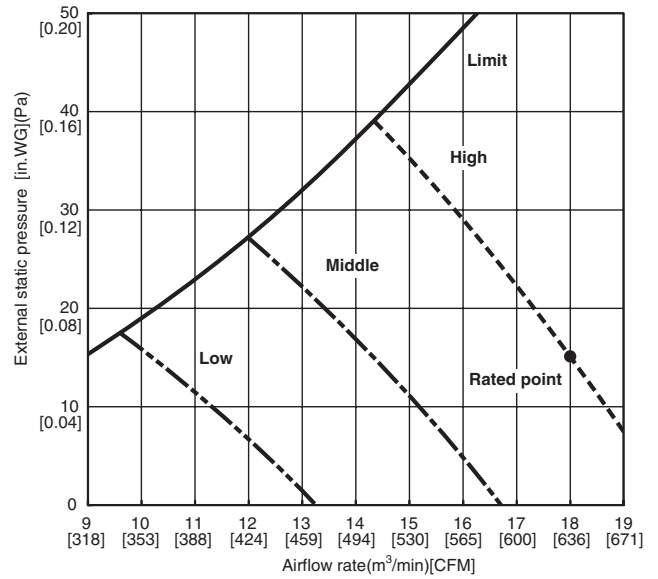
SEZ-KD18NA4

(External static pressure 0.02[in.WG](5Pa)) 208/230V 60Hz



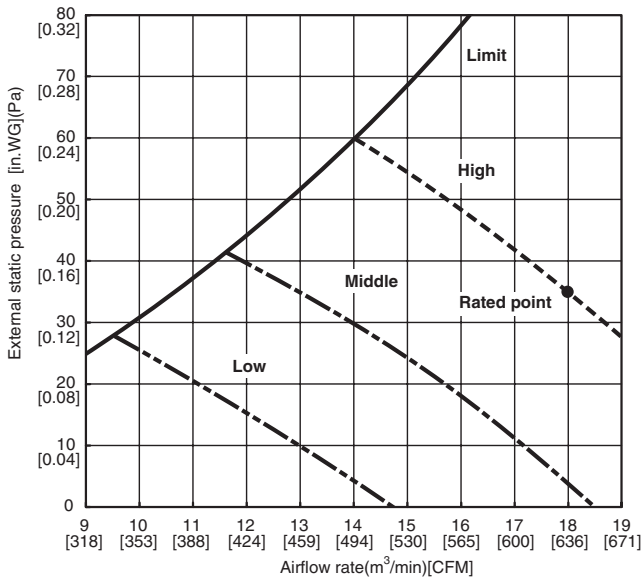
SEZ-KD18NA4

(External static pressure 0.06[in.WG](15Pa)) 208/230V 60Hz



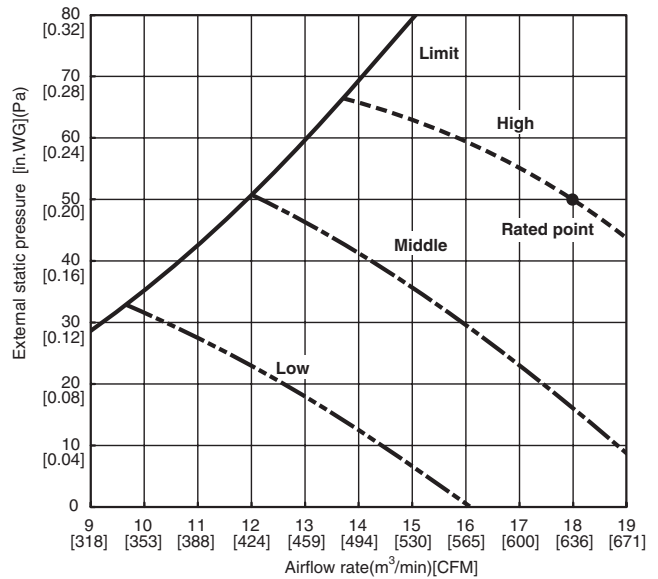
SEZ-KD18NA4

(External static pressure 0.14[in.WG](35Pa)) 208/230V 60Hz



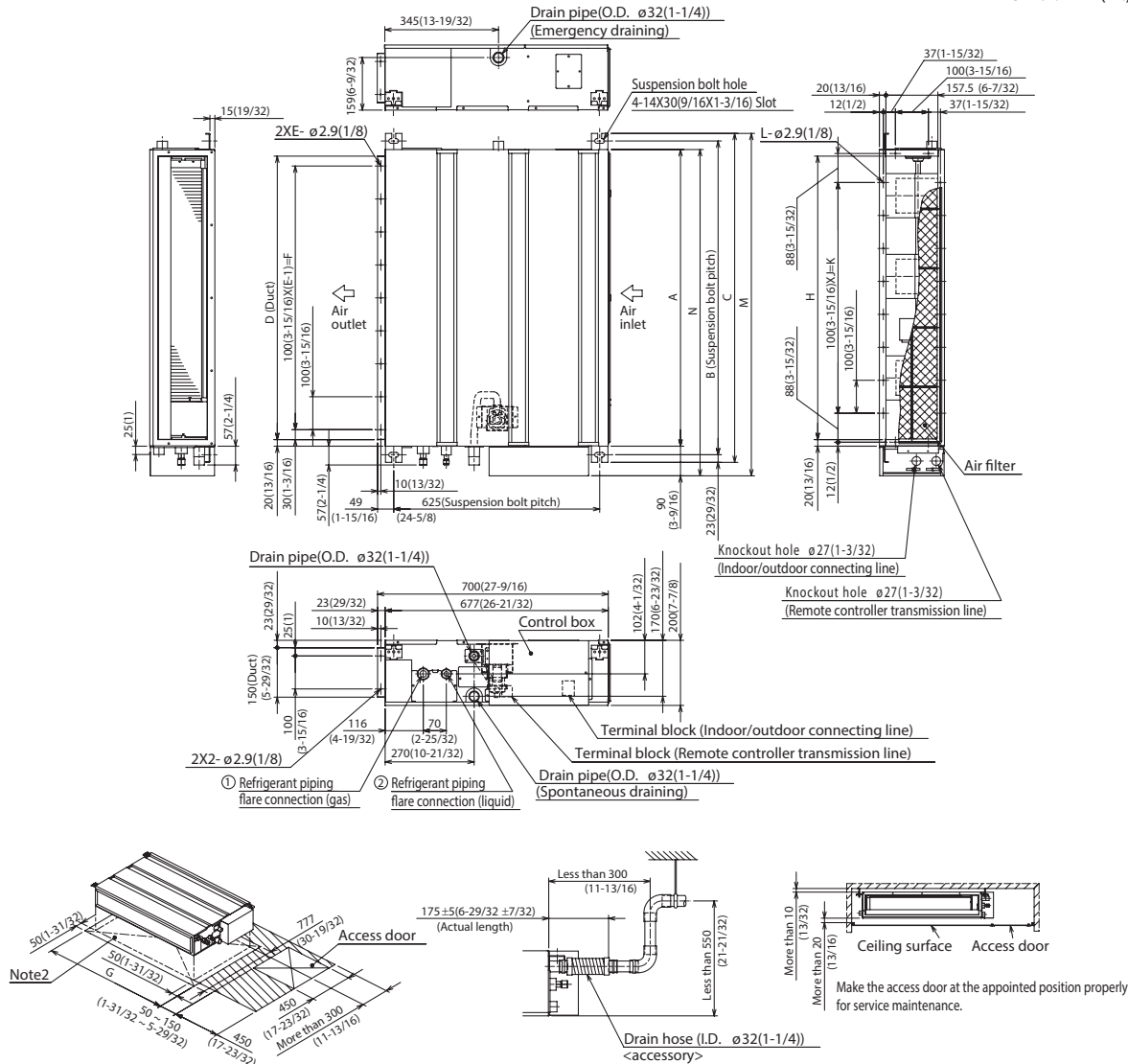
SEZ-KD18NA4

(External static pressure 0.20[in.WG](50Pa)) 208/230V 60Hz



DIMENSIONS: SEZ-KD18NA4**

Unit : mm(in.)



Required space for service and maintenance

Model	mm(in.)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	① Gas pipe	② Liquid pipe	
SEZ-KD09NA4**	700 (27-9/16)	752 (29-5/8)	798 (31-7/16)	660 (26)	7	600 (23-5/8)	800 (31-1/2)	660 (26)	5	500 (19-11/16)	16	839 (33-1/16)	790 (31-1/8)	$\phi 9.52(3/8)$	$\phi 6.35(1/4)$	
SEZ-KD12NA4**	900 (35-7/16)	952 (37-1/2)	998 (39-5/16)	860 (33-7/8)	9	800 (31-1/2)	1000 (39-3/8)	860 (33-7/8)	7	700 (27-9/16)	20	1039 (40-29/32)	990 (39)	$\phi 12.7(1/2)$	$\phi 6.35(1/4)$	
SEZ-KD15NA4**	1100 (43-5/16)	1152 (45-3/8)	1198 (47-3/16)	1060 (41-3/4)	11	1000 (39-3/8)	1200 (47-1/4)	1060 (41-3/4)	9	900 (35-7/16)	24	1239 (48-25/32)	1190 (46-7/8)	$\phi 12.7(1/2)$	$\phi 6.35(1/4)$	

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COOLING & HEATING

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