ANEXO 1 ESPECIFICACIONES TÉCNICAS
Especificaciones Técnicas Mínimas Requeridas

ADQUISICIÓN DE SISTEMA DE AIRE ACONDICIONADO PARA EL AUDITORIO DE LA EPFAC

Las especificaciones técnicas presentadas en este Anexo Técnico deberán ser cumplidas a cabalidad por el proponente so pena de rechazo de la propuesta.

1. Clasificación del Servicio de acuerdo con el Clasificador de Bienes y Servicios

CLASIFICACIÓN UNSPSC	SEGMENTO	FAMILIA	CLASE	PRODUCTO
40101701	Componentes y equipos para distribución y sistemas de acondicionamiento	Calefacción, ventilación y circulación del aire	enfriamiento	Aires acondicionados

2. **Unidad de Medida**: Unidad
3. **Especificaciones Técnicas Mínimas**

			CANTIDAD
Features	Type	Wind-Free 4Way Cassette (600x600)	7
Power Supply (Indoor Unit) [Φ, #, V, Hz]		1,2,208-230,60	
Capacity	Cooling [kW]	5.86	
	Cooling [Btu/h]	20,000	
	Heating [kW]	6.74	
	Heating [Btu/h]	23,000	
Current Input (Nominal)	Cooling 1 [A]	0.30	
	Heating 2 [A]	0.30	
System	Mode	HP/HR	
Power Input (Nominal)	Cooling 1 [W]	38.00	
	Heating 2 [W]	38.00	
Fan	Type	Turbo Fan	
	Motor (Output) [W]	65 x 1	
	Air Flow Rate (High / Mid / Low) [CFM]	477/424/360	
	Air Flow Rate (High / Mid / Low) [CMM]	13.51/12.01/10.19	
	Air Flow Rate (High/Mid/Low) [L/S]	225.11/200.10/169.90	
	External Static Pressure (Min / Std / Max) [in H20]	-	
	External Static Pressure (Min / Std / Max) [mmAq]	-	
	External Static Pressure (Min / Std / Max) [Pa]	-	
Piping Connections	Liquid Pipe (Φ, mm)	6.35	
	Liquid Pipe (Φ, inch)	1/4"	

	Gas Pipe (Φ, mm)	12.70	
	Gas Pipe (Φ, inch)	1/2"	
	Drain Pipe (Φ,mm)	VP25 (OD 32,ID 25)	
	Power Source Wire	AWG 14	
Field Wiring	Transmission Cable	2 X 16 AWG SHIELDED	
	Type	R410A	
Refrigerant	Control Method	EEV INCLUDED	
	Sound Pressure	40.0/38.0/35.0	
Sound	Sound Power	57.0	
	Net Weight(kg)	12.00	
	Shipping Weight (kg)	14.00	
	Net Dimensions (WxHxD) (mm)	575 x 250 x 575	
External Dimension (Indoor Unit)	Shipping Dimensions (WxHxD) (mm)	623 x 298 x 653	
	Panel model	PC4SUSMUN	
	Panel Net Weight (kg)	2.30	
	Shipping Weight (kg)	3.50	
	Net Dimensions (WxHxD) (mm)	620 x 45 x 620	
Panel Size	Shipping Dimensions (WxHxD) (mm)	661 x 106 x 671	
	Drain Pump	-	
	Drain Pump Max. Lifting Height/Displacement	-	
Additional Accessories	Air Filter	Removable / Washable	

			CANTIDAD
Features	Type	Wind-Free 4Way Cassette (600x600)	1
Power Supply (Indoor Unit) [Φ, #, V, Hz]		1,2,208-230,60	
	Cooling [kW]	5.28	
	Cooling [Btu/h]	18,000	
	Heating [kW]	5.86	
Capacity	Heating [Btu/h]	20,000	
	Cooling 1 [A]	0.27	
Current Input (Nominal)	Heating 2 [A]	0.27	
System	Mode	HP/HR	
	Cooling 1 [W]	36.00	
Power Input (Nominal)	Heating 2 [W]	36.00	
	Type	Turbo Fan	
	Motor (Output) [W]	65 x 1	
	Air Flow Rate (High / Mid / Low) [CFM]	459/388/336	
	Air Flow Rate (High / Mid / Low) [CMM]	13.00/10.99/9.51	
	Air Flow Rate (High/Mid/Low) [L/S]	216.62/183.11/158.57	
	External Static Pressure (Min / Std / Max) [in H20]	-	
Fan	External Static Pressure (Min / Std / Max) [mmAq]	-	

	External Static Pressure (Min / Std / Max) [Pa]	-	
Piping Connections	Liquid Pipe (Φ, mm)	6.35	
	Liquid Pipe (Φ, inch)	1/4"	
	Gas Pipe (Φ, mm)	12.70	
	Gas Pipe (Φ, inch)	1/2"	
	Drain Pipe (Φ,mm)	VP25 (OD 32,ID 25)	
Field Wiring	Power Source Wire	AWG 14	
	Transmission Cable	2 X 16 AWG SHIELDED	
Refrigerant	Type	R410A	
	Control Method	EEV INCLUDED	
Sound	Sound Pressure	39.0/36.0/33.0	
	Sound Power	56.0	
External Dimension (Indoor Unit)	Net Weight(kg)	12.00	
	Shipping Weight (kg)	14.00	
	Net Dimensions (WxHxD) (mm)	575 x 250 x 575	
	Shipping Dimensions (WxHxD) (mm)	623 x 298 x 653	
Panel Size	Panel model	PC4SUSMUN	
	Panel Net Weight (kg)	2.30	
	Shipping Weight (kg)	3.50	
	Net Dimensions (WxHxD) (mm)	620 x 45 x 620	
	Shipping Dimensions (WxHxD) (mm)	661 x 106 x 671	
Additional Accessories	Drain Pump	-	
	Drain Pump Max. Lifting Height/Displacement	-	
	Air Filter	Removable / Washable	

						CANTIDAD
Module					Single	1
Power Supply				Ø, #, V, Hz	3 | 3 | 208-230 | 60	
Mode					CO	
Performance	HP				14	
	Capacity	Cooling	Nominal	Btu/h	136486	
Power	Power Input	Cooling	Nominal	kW	8.700	
	Current Input	Cooling	Nominal	A	25.80	
	Current	MCA		A	50.00	
		MFA		A	63.00	
Efficiency	Cooling	EER		Btu/W·h	15.6959	
Casing	Material	Body			GI Steel Plate	
		Base			GI Steel Plate	
Heat Exchanger	Type				Fin & Tube	
	Material	Fin			Al	
		Tube			Cu	

	Fin Treatment			Anti-corrosion	
Compressor	Quantity		EA	2	
	Type			Propeller	
	Discharge direction			Top discharge	
	Air Flow Rate	High	CFM	10559.48	
Fan	External Static Pressure	Max	ft H20	0.03	
	Type			BLDC	
	Quantity		EA	2	
Fan Motor	Output		W	620	
		Type		Welding	
Piping	Liquid Pipe	Diameter	in	1/2''	
Connections		Type		Welding	
	Gas Pipe	Diameter	in	1 1/8''	
Wiring		Min.	㎟	0.75	
connections	Communication	Comm.Layer		F1, F2	
	Type			R410A	
Refrigerant	Factory Charging		kg	8.00	
	Sound Pressure	Cooling	dB(A)	59.5	
Sound	Sound Power Level	Cooling	dB(A)	82	
DVM S2, COOLING ONLY STANDARD (Continued)					
Outdoor Unit					
	Net Weight		kg	253.00	
	Shipping Weight		kg	269.00	
		W	mm	1295	
External		H	mm	1695	
Dimension	Net Dimensions	D	mm	765	
		W	mm	1363	
		H	mm	1887	
	Shipping Dimensions	D	mm	829	
Operating		Min.	°F	5.0	
Temp. Range	Cooling	Max.	°F	122.0	

		CANTIDAD
• Multi-channel wireless control of Samsung indoor units		2
• Can control up to 4 indoor units individual (setup required)		
• Wide display		
• Soft-touch buttons		

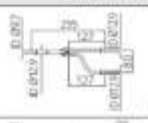
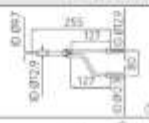
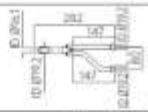
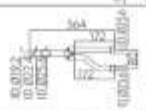
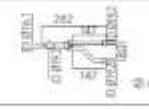
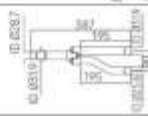
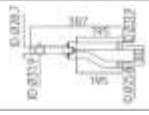
• Control options: ON/OFF, set temperature, mode, fan speed, filter reminder reset, independent louver control (AM0***N4DCH, AM0***NNDCH/**, AC0***N4DCH/**, and AJ0***NNDCH/** only), airflow direction, single event timer setting, Wind-FreeTM Cooling and Long Reach functions (applies to supported models when using the Wind-FreeTM fascia panel). • Indoor unit address and option setting programming mode • Includes holder to mount on wall • Dimensions (W X L X H): 1 13/16" X 5 3/8" X 13/16"	Compatibility • DVM S indoor units (AM0***N****/**) • Free Joint Multi (FJM) mini 4-way cassette (AJ0***NNDCH/**, AJ0**NBNDCH/**) • Single zone CAC 4-way cassette systems (AC0***N4DCH/**) • Single zone CAC duct systems (AC0***NHDCH/**, AC0**NMDCH/**, AC0***NLDCH/**) **Requires the installation of MRK-A10N wireless receiver kit**	

		Cantidad
• Required component for Samsung DVM S and DVM Eco systems (AM****X****/**) with multiple evaporators and/or Mode Change Units (MCU) • Constructed of brazed copper or brass and copper • Indoor unit Y-joint models include both liquid and suction fittings, insulation, and ties to secure insulation • Heat recovery (HR) Y-joint models are required for branching the hot gas pipe throughout heat recovery systems (HR systems only) • Included insulation shall be polystyrene certified to UL94 V0, 5/8" wall thickness • Inlet pipe shall be adjustable to facilitate different pipe sizes without having to braze additional fittings • Each model shall include adjustable reducers as noted in the table below		
		2

Model	Total indoor unit's capacities
MXJ-YA1509M	15.0 kW (51 MBH) and below
MXJ-YA2512M	Over 15.0–40.0 kW (51–136 MBH) and below
MXJ-YA2812M	Over 40.0–45.0 kW (136–154 MBH) and below
MXJ-YA2815M	Over 45.0–70.3 kW (154–240 MBH) and below
MXJ-YA3619M	Over 70.3–98.4 kW (240–336 MBH) and below
MXJ-YA4019M	Over 98.4–135.2 kW (336–461 MBH) and below
MXJ-YA4422M	Over 135.2 kW (461 MBH)

Dimensional drawing

(Unit : mm)

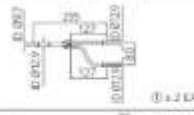
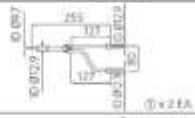
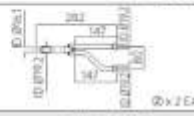
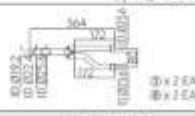
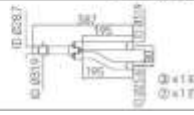
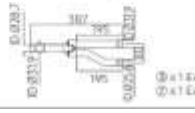
Port \ Model	MXJ-YA1509M	MXJ-YA2512M
Liquid side		
Gas side		
Port \ Model	**MXJ-YA2812M**	**MXJ-YA2815M**
Liquid side		
Gas side		

		Cantidad
• Required component for Samsung DVM S and DVM Eco systems (AM****X****/**) with multiple evaporators and/or Mode Change Units (MCU) • Constructed of brazed copper or brass and copper • Indoor unit Y-joint models include both liquid and suction fittings, insulation, and ties to secure insulation • Heat recovery (HR) Y-joint models are required for branching the hot gas pipe throughout heat recovery systems (HR systems only) • Included insulation shall be polystyrene certified to UL94 V0, 5/8" wall thickness • Inlet pipe shall be adjustable to facilitate different pipe sizes without having to braze additional fittings • Each model shall include adjustable reducers as noted in the table below		5

Model	Total indoor unit's capacities
MXJ-YA1509M	15.0 kW (51 MBH) and below
MXJ-YA2512M	Over 15.0–40.0 kW (51–136 MBH) and below
MXJ-YA2812M	Over 40.0–45.0 kW (136–154 MBH) and below
MXJ-YA2815M	Over 45.0–70.3 kW (154–240 MBH) and below
MXJ-YA3419M	Over 70.3–98.4 kW (240–336 MBH) and below
MXJ-YA4119M	Over 98.4–135.2 kW (336–461 MBH) and below
MXJ-YA4422M	Over 135.2 kW (461 MBH)

Dimensional drawing

(Unit : mm)

Port \ Model	MXJ-YA1509M	MXJ-YA2512M
Liquid side		
Gas side		
Port \ Model	**MXJ-YA2812M**	**MXJ-YA2815M**
Liquid side		
Gas side		

		CANTIDAD
Features ▪ 10.1" touch LCD controller ▪ Two communication ports for better installation flexibility ▪ Can connect and control up to 32 systems (max. 2 X channel) and up to 128 indoor units, Samsung ERVs, and hydro units ▪ Local access via IP with a PC or tablet ▪ 2D floor plan and zone configuration capability for an intuitive control experience ▪ Allows creation of zones for indoor unit grouping with customizable zone icons ▪ 2 X digital input terminals for dry-contact connection to disable/enable all connected equipment (3 optional configuration ▪ settings) ▪ Energy trending and air quality monitoring (with compatible indoor units) ▪ Error and alarm history management ▪ Full indoor unit control along with system maximum current control (current restriction) and capacity correction settings. ▪ 2 X Digital Inputs (DI) for simple system shutdown and 2 X Digital Outputs to support notification when at least one indoor unit is on and error notifi-cation. ▪ SD card slot for data backup and future software updates ▪ Customizable wallpapers provide an enhanced aesthetic appearance		
Convenience ▪ Scheduling (max. 50) ▪ All ON/OFF button ▪ Indoor unit operation mode, set temperature, fan speed, controller use/re-striction enable/disable, louver control, water operating mode and tempera-ture setting, temperature limits, discharge air temperature, filter reminder reset setting/checking, and special functions (Purify, Motion Detect Sensor, WindFree™, Long Wind, Indoor display ON/OFF, Clean, Sleep, Away). ▪ Cooling and heating temperature (desired temperature) limit setting ▪ Group/zone control ▪ Operation mode restriction setting ▪ Screen lock ▪ Restrict: ON/OFF, mode, set temperature, fan speed, advanced settings, and remote control use (basic indoor unit settings) for daily users ▪ Menu lock (restrict indoor unit control, schedule setting/changing, and controller settings for daily users) ▪ Option to group multiple indoor units to display as one indoor unit on user interface		1
Compatibility ▪ DVM S systems (AM*********AA), DVM Chiller (AG0********AA), CAC 1:1 systems (AC0*********AA), and FJM multi-zone systems (AJ0*********AA) without additional hardware/adapters. ▪ RAC (AR**********) systems using a MIM-N01 communication interface module ▪ Fresh Access™ ERV units (AN***NSEDAVAA) using MXD-K200VN ERV kit at every ERV and 1 X MIM-N10 ERV interface module per 16 ERV Kits. ▪ FCU Kit (MIM-F00N) using one MIM-F10N FCU kit interface module per 16 FCU Kits.		
Specifications The controller shall have two (2) communication ports that allows connec-tion to the Central Control layer (R1/R2) or the System Control Layer (F1/ F2). ▪ The controller supports connection up to 32 systems (max. 16 per port) when connected to the Central Control Layer (R1/R2) with maximum 128 indoor units total. ▪ The controller supports connection up to 2 systems (max. 1 per port) when connected to the System Control Layer (F1/F2) with maximum 128 indoor units total (max. 64 indoor units per channel). ▪ Power: 12VDC with included power supply (110 – 240VAC, 50/60Hz) ▪ RS485 communication ▪ Up to 16 X MCM-A300BUN controllers can connect together on R1/R2 or F1/F2 communication line ▪ 16 AWG X 2 shielded wire for communication wiring ▪ Battery Chemistry: Contains Lithium-Ion (Li-ion) coin battery		

Nota: Las unidades interiores deberán contar con tecnología WindFree o similar, que permita suministrar aire a través de múltiples microperforaciones en su panel frontal, con el fin de lograr una distribución uniforme del aire, mejorar la sensación de confort y evitar el impacto directo de las corrientes de aire sobre el personal que se encuentre al interior del recinto.

4. Lugar y Coordinaciones de Entrega

Los elementos y accesorios deben ser entregados en el primer piso del edificio JES de la escuela de Postgrados de la FAC- dirección Cra. 11 # 102-50, Bogotá DC.

Garantía: La garantía exigida para los elementos será de un año.



T1. Luna Galindo Lizeth
Comité Estructurador Técnico



TC. José Miguel Amado Balaguera
Gerente de proyecto



CR. Andrea Silvana Diaz Bohorquez
Delegado Contractual