

R-410A
50Hz

AUMR + CADX-A Series

Split Air Conditioners



Range 4 TR to 21 TR
(14 kW to 72 kW)



اجهزة تكييف هواء
AIR CONDITIONING EQUIPMENT

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SKM Split Air Conditioners

AUMR + CADX-A Series - R-410A

Contents

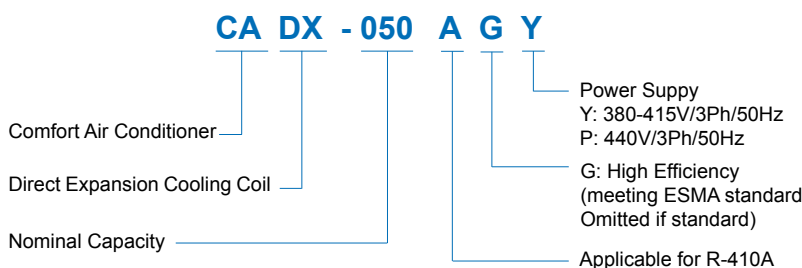
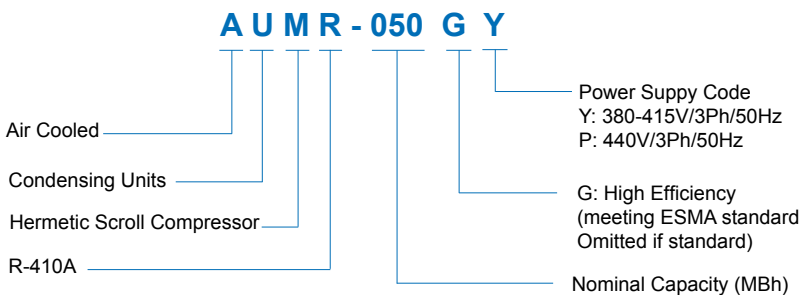
Introduction.....	02	Typical Wiring Diagram	16
Legend.....	02	Electrical Data.....	18
Nomenclature.....	02	Dimensional Data.....	19
Component Features.....	03	Loading Points & Line Sizes.....	26
Optional Features.....	05	Recommended Clearances	28
Specifications.....	06	Installation and commissioning	30
Capacity Ratings.....	10	Guide Specifications.....	32
Fan Performance.....	14		

Legend

The following legends are used throughout this manual:

AFR	Air Flow Rate	L/s.....	Liters per second
BPF.....	By Pass Factor	MBh.....	BTUH x 1000
CFM.....	Cubic feet per minute	Pa.....	Pascal
EER.....	Energy Efficiency Ratio	Ph.....	Phase
ESP.....	External Static Pressure	PI.....	Power Input of Compressor in kW
Hz.....	Hertz	RPM.....	Revolutions Per Minute
in. wg.....	Inch water gauge	RPS.....	Rated Power Supply
kW.....	Kilowatts	TR.....	Tons of Refrigeration
kg.....	Kilogram	V.....	Volts
lbs.....	Pounds weight		

Nomenclature



SKM reserves the right to change, in part or in whole the specifications of its Air Conditioning Equipment at any time in order to add the latest technology. Therefore, the enclosed information may change without any prior notice.

Introduction

The new series of SKM air cooled split system air conditioner has been developed to satisfy the needs in air conditioning practices, meet high quality of job requirements every time and to deliver the best in split system performance.

SKM air cooled split air conditioners consist of ceiling suspended indoor air handler (**CADX-A**) matched with floor mounted outdoor air cooled condensing unit (**AUMR**) series.

“ AUMR + CADX-A series is also designed to perform as per ESMA regulation to achieve high level gulf conditions.

SKM air cooled split air conditioners available in 12 variations to cover the range from 4 TR to 21 TR (15 kW to 75 kW) in 50Hz at nominal AHRI conditions. It is suitable to operate in a wide range of ambient temperatures from 50 °F (10°C) to 125°F (51.7°C).

SKM split units are internally wired and all that is required to be done on site is ducting, refrigerant piping, power wiring for **CADX-A** motor from **AUMR**, thermostat wiring and power supply connection which reduces installation work and consequently keeps costs to a minimum. Two independent refrigeration circuits are provided when two compressors are used.

SKM provides qualified service and stock of replacement parts in all major cities of the G.C.C. countries, Egypt, Jordan, and Pakistan. See back cover for details or call SKM.

SKM Air Conditioning LLC



You name it.....We cool it

SKM Split Air Conditioners

AUMR + CADX-A Series - R-410A

General Features

SKM split system air conditioners incorporate many features and benefits in both the air handler and condensing units, which together provides a heavy duty, robust and long lasting commercial unit's application.

SKM split air conditioners combined high efficiency components to provide an extremely rugged and energy efficient split system that will provide cooling with higher efficiency for a long and extended period of time.

SKM split system **AUMR + CADX-A** is yet another model in the top class range of SKM products which uses the following basic components:

- High efficiency totally sealed scroll hermetic compressor.
- Totally enclosed, Class F insulated, condenser and evaporator fan motors.
- Heavy duty condenser and evaporator coils optimized and designed for a long life maintenance free operation.
- Cabinet construction specifically for gulf climate condition.
- Electronic control board for the unit operation.
- Factory matched performance and reliable output to minimize field decisions.
- Many standard features which are not included in residential domestic type split systems.
- Typically, much heavier gauge tubing and thicker fins for ruggedness and long life.

Main Component Features

AUMR Condensing Unit

Compressors

Compressors used in the **AUMR** series condensing units are hermetically sealed, hi-efficiency, low noise, and compact scroll with the following features:

- High Efficiency.
- Quiet operation, Low Sound levels.
- Compact and light.
- Limited wear.
- 70% fewer moving parts than comparably sized reciprocating compressors.
- Unique ability to handle liquid refrigerant.
- Suction gas motor cooling.
- Suction screen.
- Centrifugal oil pumps with filter and magnet.
- Brazed fittings or Rotalock options.
- Two refrigerant circuits on larger units provides efficient part load.
- No internal valves.

Condenser Coils

Condenser coils are manufactured from cross fin Waffle Louvre and Hi-X seamless copper tubes mechanically bonded to aluminium fins to ensure optimum heat transfer. All coils are tested against leakage by high air pressure under water. An integral subcooling circuit is incorporated in the lower section of the condenser to increase system capacity. The additional condenser surface provides more cooling using less energy at no additional cost.

Condenser Fans

Condenser fans are propeller type with aluminium alloy blades and are directly driven by electric motors. Motors are Totally Enclosed Air Over (TEAO), six pole or four pole with Class F insulation and minimum IP-54 protection. The TEAO and Class F insulation features ensure long life and are unique to SKM. The condenser fans are individually statically and dynamically balanced at the factory. Complete fan assembly is mounted downward on the strong and acrylic coated fan guard for the smaller units. For larger units fan, assembly is separate and provided with suitable acrylic coated fan guard.

Control Panel

The **AUMR** series Condensing units are provided with IP-54 control panel enclosure comprising all starting, operating and safety controls.

The following are the standard components used in all **AUMR** series units.

- Starting contactors for compressors and motors.
- Internal overload protection for compressors.
- Internal OR External overload protection for the motors (depending on the model).
- Electronic control board for unit operation.
- Diagnostic LEDs on the control board for easy troubleshooting .
- Compressor short cycling protection.
- Control switch for unit on/off.
- Control circuit breaker.
- Power and control circuit terminal blocks.
- High pressure protection.
- Low pressure protection.
- Starter (contactor & overload relay) for **CADX-A** evaporator fan motor.
(Power wiring from **AUMR** control panel to **CADX-A** motor to be done at site by others)

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Casing and Structure

The unit casing used in **AUMR** series is made of hot dip galvanized (zinc coated) steel sheets, conforming to JIS-G 3302 and ASTM A525, which is phosphatized and baked after an electrostatic powder coat of approx. 60 microns. This finish and coating can pass a 1000 hour in 5% salt spray testing at 95°F (35°C) and 95% relative humidity as per ASTM B117.

CADX-A Air Handling Unit

Evaporator Coils

All evaporator coils are made of inner grooved copper tubes mechanically bonded into cross wave aluminum fins to ensure optimum heat transfer. Coils conform to AHRI-410. All evaporator coils are tested against leakage by 450 psig high pressure under water. Each evaporator coil is supplied with a factory sized and matched thermostatic expansion valves and 4 mounting holes for ceiling suspension.

Evaporator Fan & Drive

Evaporator fans are forward curved centrifugal double inlet, double width, statically and dynamically balanced. Bearings used in the fans are self aligning and lubricated for life. Evaporator fans are belt driven and use "V" belts with an adjustable variable pitch motor pulley resulting in an accurate fan air flow adjustment.

Fans are driven by Totally Enclosed, IP-55 Protected, 4 pole Class F insulated electric motors. The motors are factory wired to the control panel where the motor starters are located to control the operation of the motors. The motors conform to relevant IEC standards.

Filter

All **CADX-A** units are supplied as standard with 1" (25mm) thick permanent washable expanded aluminum flat filter having average dust arrestance 54% according to ASHRAE standard 52-76.

Casing \ Structure

The unit casing for **CADX-A** is made of zinc coated galvanized steel sheets conforming to JIS-G3302 and ASTM A525 which is phosphatized and baked after an electrostatic powder coat of approximately 60 microns. This finish and coating can pass a 1000 hour in 5% salt spray testing at 95°F (35°C) and 95% relative humidity as per ASTM B117. Panels and casing are insulated with 1" (25mm) thick fiberglass (with BGT coating) thermal and acoustic insulation having density of 2 lb/ft³. (32 kg/m³) and thermal conductivity of 0.23 BTU.in/ft²°Fh (0.033 W/m²K). Insulation meets the requirements of NFPA 90A and 90B for fire resistance.

Refrigerant R- 410A

Why 410A?

R-410A has a higher volumetric cooling capacity compared to R-22 and has better thermal exchange properties. This results in overall performance gains in terms of system efficiency. The greater density of the vapour in R-410A permits higher system velocities, reduces pressure drop losses and allows smaller diameter tubing to be used. In other words a smaller unit can be developed using a smaller displacement compressor, less coil and less refrigerant while maintaining system efficiencies comparable to current day R-22 equipment.

Benefits

- **No ozone depletion potential or phase-out date**

Using chlorine-free R-410A with zero Ozone Depletion Potential (ODP) helps protect both the environment and your investment. That's because new equipment using R-410A faces no mandated phase-out date over a 20 to 30 year equipment life expectancy.

- **Reduced service costs**

R-410A refrigerant has no significant "glide." If a leak occurs, only the lost refrigerant must be replaced.

Attention points

- Pressure level: 1.6 times of R-22.
- Lubricating oil: Ester Oil absorb moisture easily (Never mix with mineral oil).
- Tools exclusive for R-410A.
- Never mix R410A with other refrigerant.
- Driers, valves and even copper tube must be approved for use with R-410A.
- Never allow refrigerant cylinders to exceed (60°C).

SKM Split Air Conditioners

AUMR + CADX-A Series - R-410A

Optional Features

As with all SKM air conditioning units, the **AUMR** Series Split Units are available with multitude of optional features available on request:

Alternative Condenser Material

Made of copper tubes and alternative fin material and/or protective coats.

- For Pre Coated aluminum fins, specify **(FAP)**.
- For Aluminum Fins with Aeris Coat Protection, specify **(FAA)**.
- For Copper Fins, specify **(FC)**.
- For Copper Fins with Aeris Coat Protection, specify **(FCA)**.

Alternative Evaporator Material

Made of copper tubes and alternative fin material and/or protective coats.

- For Copper Fins specify **(EFC)**.
- For Precoated Aluminum Fins, specify **(EFAP)**.
- For Aluminum Fins with Aeris Coat Protection, specify **(EFAA)**.
- For Copper Fins with Aeris Coat Protection, specify **(EFCA)**.

Circuit Breaker for Compressor **(CBC)**

For those electrical specification which requires additional short circuit and overload protection for the compressors.

Pressure Relief Valve **(PRV)**

To protect the unit from being over-pressurized.

Rotalock Valves on compressors **(RVC)**

For additional facilitation of maintenance of unit.

Condenser Coil Guard **(CGP)**

Wire mesh guard, in painted finish for condenser coils. Recommended on ground level installations where coil needs to be protected against vandalism.

External Overload Protection **(EOP)**

For those electrical specification requires additional overload protection for the compressors.

Double Skin Insulation **(DSI)**

Inner skin in the evaporator section is provided with foam board insulation.

Voltage Monitoring Module **(VMM)**

Provides protection to **AUMR** Series Condensing unit in the event of:

- Phase burn-out.
- Phase reversal.
- Under / over voltage on the incoming line voltage.

Voltage Monitoring Module as per DEWA **(DVM)**

To meet DEWA regulations modified module with time delay relay. This option is available for Dubai, UAE only.

High & Low Pressure Gauges **(SDG1)**

Unit mounted for each compressor to monitor the high and low-side operating pressure.

2" (50mm) Flat Filter Section **(2AF)**

For heavy filtration, need a section, can be provided without or with aluminium cleanable filter 2" filter add 2AF).

Liquid Line Controls **(CRSP)**

Refrigeration specialties comprising solenoid valve, filter drier, sight glass and ball valve. Factory sizing and selection ensures correctly sized and selected components to complete the field installation.

Electric Heating* **(HTR1)**

Electric heating batteries are made up of finned heating elements, constructed from high quality 80/20 nickel chrome resistance wire centred in metal tube by compressed magnesium oxide. Helical fins are tightly wound around the tubular heating element.

Heater batteries when ordered comes with **CADX-A** mounted control panel consisting of stage contactors, primary auto reset thermal safety cut-out, secondary manual reset thermal safety cut-out and air flow switch. Control of the heater stages will be from **AUMR** control panel through heating/cooling thermostat (either supplied by SKM or by customer).

Following are the optional kW ratings for electric heater.

AUMR	CADX	Heater (kW)	Stages
050	050A	6	1
060	060A	7.5	
070	070A		
085	085A	9	
100	100A	12	
110	120A	15	2
130	150A		
160	150A	18	
180	180A		
205	180A	24	
240	240A		
260	240A		

Table 1

Pump Down Facility with solenoid valve **(PDS)**

The compressors will switch off each time with a Pumpdown Cycle in order to prevent Liquid refrigerant migration to the compressor during Off Cycle periods.

Low voltage thermostat **(CHTS)**

Wall mounted 24 volts cooling/heating thermostats, supplied loose for field installation.

BMS Interface Volt Free Contacts **(BMVF)**

Volt free contacts for run status, common fault status, and provision for remote on/off shall be provided as option if requirement, please contact SKM.

Anti-Freeze Thermostat **(AFT)**

for evaporator coil freeze -up protection.

Manual Reset Type High Pressure Switch **(MHP)**

To replace standard auto reset, capsule type pressure switch.

Run Hour Meter(s) **(RHM)**

To monitor operating hours of each compressor.

Up Size Evaporator Motor* **(USM)**

Unit with one up size evaporator motor.

Stainless Steel Drain Pan **(PSD)**

Stainless steel drain pan 304

Note:

* Not available for ESMA approved models.

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

CONDENSING UNIT SPECIFICATIONS - OUTDOOR

Condensing Unit		AUMR	050	060	070	085	100	110
Matched Air Handling Unit		CADX	050A	060A	070A	085A	100A	120A
Cooling Capacity (1)	MBh		52.4	65.3	75.1	85.4	98.5	120.9
	kW		15.4	19.1	22.0	25.0	28.9	35.4
Cooling Capacity (2)	MBh		47.0	57.7	67.4	76.7	88.4	107.7
	kW		13.8	16.9	19.7	22.5	25.9	31.6
Capacity Steps		%	100-0	100-0	100-0	100-0	100-0	100-50-0
Compressor	Type	Hermetic - Scroll						
	Qty.		1	1	1	1	1	2
Outdoor Coil	Type	Waffle louver fins and Hi-X tubes 3/8" OD						
	Qty.		1	1	1	1	1	2
	Face Area	ft ²		20.0	26.7	26.7	26.7	26.7
m ²			1.86	2.48	2.48	2.48	2.48	3.72
No. Refrigerant Circuits			1	1	1	1	1	2
Connections (3)	Liquid	in	1/2	1/2	1/2	1/2	1/2	1/2 (2x)
	Suction	in	7/8	7/8	7/8	1 1/8	1 1/8	7/8 (2x)
Outdoor Fan	Type	Propeller Direct Drive						
	Code/Qty		550 / 1	723 / 1	723 / 1	723 / 1	723 / 1	550 / 2
	Air Flow	cfm		4430	7090	7090	7030	7030
l/s			2091	3346	3346	3318	3318	4134
Motor	Type	Totally Enclosed Air Over, Class-F insulation, 4 pole or 6 pole, IP54 protected						
	Size / Qty.	kW / #	0.275 / 1	0.75 / 1	0.75 / 1	0.75 / 1	0.75 / 1	0.275 / 2
Refrigerant Operating Charge R-410A (4)	lbs		9.2	11.1	11.1	18.4	18.6	26.6
	kg		4.17	5.03	5.03	8.34	8.44	12.06
Operating Weight Approximate	lbs		326	362	363	443	450	701
	kg		148	164	165	201	204	318

Table 2

Condensing Unit		AUMR	130	160	180	205	240	260
Matched Air Handling Unit		CADX	150A	150A	180A	180A	240A	240A
Cooling Capacity (1)	MBh		132.7	154.8	173.6	194.3	239.2	256.5
	kW		38.9	45.4	50.9	56.9	70.1	75.2
Cooling Capacity (2)	MBh		117.1	139.7	154.8	174.6	213.1	227.7
	kW		34.3	40.9	45.4	51.2	62.4	66.7
Capacity Steps		%	100-50-0	100-50-0	100-50-0	100-50-0	100-50-0	100-50-0
Compressor	Type	Hermetic - Scroll						
	Qty.		2	2	2	2	2	2
Outdoor Coil	Type	Waffle louver fins and Hi-X tubes 3/8" OD						
	Qty.		2	2	2	2	2	2
	Face Area	ft ²		40.0	40.0	40.0	48.0	54.7
m ²			3.72	3.72	3.72	4.46	5.08	5.08
No. Refrigerant Circuits			2	2	2	2	2	2
Connections (3)	Liquid	in	1/2 (2x)	1/2 (2x)	1/2 (2x)	1/2 (2x)	5/8 (2X)	5/8 (2X)
	Suction	in	7/8 (2x)	7/8 (2x)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)
Outdoor Fan	Type	Propeller Direct Drive						
	Code/Qty		630 / 2	723 / 2	723 / 2	729 / 2	823 / 2	823 / 2
	Air Flow	cfm		9560	13900	13900	15540	19640
l/s			4512	6560	6560	7334	9269	9269
Motor	Type	Totally Enclosed Air Over, Class-F insulation, 4 pole or 6 pole, IP54 protected						
	Size / Qty.	kW / #	0.357 / 2	0.75 / 2	0.75 / 2	1.1 / 2	1.1 / 2	1.1 / 2
Refrigerant Operating Charge R-410A (4)	lbs		26.7	26.7	27.2	31.8	37.4	38.3
	kg		12.1	12.1	12.3	14.4	16.9	17.3
Operating Weight Approximate	lbs		714	781	855	940	912	912
	kg		324	354	388	426	414	414

Table 3

Notes:

- (1) Capacity ratings are based on AHRI Standard 210/240 & 340/360. Evaporator entering air conditions of 80°/67°F (27°/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 95°F (35°C) dry bulb.
- (2) Evaporator entering air conditions of 80°/67°F (27°/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 115°F (46°C) dry bulb.
- (3) Connections are based on 25 ft maximum linear distance between the outdoor & indoor unit and 66 ft maximum lift.
- (4) Refrigerant operating charge is for combined condensing unit with the matching air handling unit and 25 ft (7.6m) of interconnecting refrigerant lines.

Capacity for condition (1)&(2) is gross which does not include the effect of evaporator fan motor heat.

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

AIR HANDLING UNIT SPECIFICATIONS - INDOOR

Air Handling Unit		CADX	050A	060A	070A	085A	100A	120A
Matched Condensing Unit		AUMR	050	060	070	085	100	110
Cooling Capacity (1)		MBh	52.4	65.3	75.1	85.4	98.5	120.9
		kW	15.4	19.1	22.0	25.0	28.9	35.4
Cooling Capacity (2)		MBh	47.0	57.7	67.4	76.7	88.4	107.7
		kW	13.8	16.9	19.7	22.5	25.9	31.6
Indoor Coil	Type		Hi-X tubes 3/8" OD					
	Face Area	ft ²	4.17	5.81	5.81	6.25	7.99	7.99
		m ²	0.39	0.54	0.54	0.58	0.74	0.74
Refrigerant Control		Thermostatic Expansion Valve(s)						
Connections (3)	Liquid	in	1/2	1/2	1/2	1/2	1/2	1/2 (2x)
	Suction	in	7/8	7/8	7/8	1 1/8	1 1/8	7/8 (2x)
Indoor Fan	Type		Centrifugal DIDW Belt Drive					
	Code		10/10	10/10	10/10	12/12	12/12	12/12
	Air Flow	cfm	1700	2000	2400	2800	3000	3600
		l/s	802	944	1133	1321	1416	1699
Motor	Type		Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.					
	Size / Qty.	kW / #	0.55 / 1	0.55 / 1	0.75 / 1	1.1 / 1	1.1 / 1	1.5 / 1
Operating Weight Approximate		lbs	204	225	225	265	310	334
		kg	093	102	102	120	141	151

Table 4

Air Handling Unit		CADX	150A	150A	180A	180A	240A	240A
Matched Condensing Unit		AUMR	130	160	180	205	240	260
Cooling Capacity (1)		MBh	132.7	154.8	173.6	194.3	239.2	256.5
		kW	38.9	45.4	50.9	56.9	70.1	75.2
Cooling Capacity (2)		MBh	117.1	139.7	154.8	174.6	213.1	227.7
		kW	34.3	40.9	45.4	51.2	62.4	66.7
Indoor Coil	Type		Hi-X tubes 3/8" OD					
	Face Area	ft ²	11.67	11.67	14.17	14.17	19.36	19.36
		m ²	1.08	1.08	1.32	1.32	1.80	1.80
Refrigerant Control		Thermostatic Expansion Valve(s)						
Connections (3)	Liquid	in	1/2 (2x)	1/2 (2x)	1/2 (2x)	1/2 (2x)	5/8 (2X)	5/8 (2X)
	Suction	in	7/8 (2x)	7/8 (2x)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)
Indoor Fan	Type		Centrifugal DIDW Belt Drive					
	Code		15/15	15/15	12/12 R2	12/12 R2	15/15 R2	15/15 R2
	Air Flow	cfm	4200	4800	5800	6200	8000	8000
		l/s	1982	2265	2737	2926	3775	3775
Motor	Type		Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.					
	Size / Qty.	kW / #	1.5 / 1	1.5 / 1	2.2 / 1	2.2 / 1	2.2 / 1	2.2 / 1
Operating Weight Approximate		lbs	442	442	473	473	641	641
		kg	200	200	215	215	291	291

Table 5

Notes:

- (1) Capacity ratings are based on AHRI Standard 210/240 & 340/360. Evaporator entering air conditions of 80°/67°F (27°/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 95°F (35°C) dry bulb.
- (2) Evaporator entering air conditions of 80°/67°F (27°/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 115°F (46°C) dry bulb.
- (3) Connections are based on 25 ft maximum linear distance between the outdoor & indoor unit and 66 ft maximum lift.

Capacity for condition (1)&(2) is gross which does not include the effect of evaporator fan motor heat.

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

CONDENSING UNIT SPECIFICATIONS - OUTDOOR (ESMA APPROVED)

Condensing Unit		AUMR	50 G	60 G	70 G	85 G	100 G	110 G
Matched Air Handling Unit		CADX	060A G	060A G	070A G	100A G	100A G	120A G
Cooling Capacity (1)		MBh	48.8	58.6	69.1	75.7	85.5	102.8
		kW	14.3	17.2	20.2	22.2	25.1	30.1
		EER	8.1	8.2	8.3	8.2	8.2	8.3
Capacity Steps		%	100-0	100-0	100-0	100-0	100-0	100-50-0
Compressor	Type	Hermetic - Scroll						
	Qty.	1	1	1	1	1	2	
Outdoor Coil	Type	Hi-X tubes 3/8" OD						
	Qty.	1	1	1	1	1	2	
	Face Area	ft ²	27.3	32.0	32.0	32.0	32.0	56.0
		m ²	2.54	2.97	2.97	2.97	2.97	5.20
No. Refrigerant Circuits		1	1	1	1	1	2	
Connections (3)	Liquid	in	1/2	1/2	1/2	1/2	1/2	1/2 (2x)
	Suction	in	7/8	7/8	7/8	1 1/8	1 1/8	7/8 (2x)
Outdoor Fan	Type	Propeller Direct Drive						
	Code/Qty	630 / 1	710 / 1	710 / 1	710 / 1	710 / 1	710 / 2	
	Air Flow	cfm	5380	8380	8380	8380	8380	16560
		l/s	2540	3957	3957	3957	3957	7819
Motor	Type	Totally Enclosed Air Over, Class-F insulation, 4 pole or 6 pole, IP54 protected						
	Size / Qty.	kW / #	0.357 / 1	0.584 / 1	0.584 / 1	0.584 / 1	0.584 / 1	0.584 / 2
Refrigerant Operating Charge R-410A (4)		lbs	18.4	21.1	21.1	21.6	21.6	35.5
		kg	8.3	9.6	9.6	9.8	9.8	16.1
Operating Weight Approximate		lbs	433	472	472	489	496	906
		kg	196	214	214	222	225	411

Table 6

Condensing Unit		AUMR	130 G	160 G	180 G	205 G	240 G	260 G
Matched Air Handling Unit		CADX	150A G	150A G	180A G	180A G	240A G	240A G
Cooling Capacity (1)		MBh	111.4	137.9	150.4	169.5	204.8	220.9
		kW	32.6	40.4	44.1	49.7	60.0	64.8
		EER	8.2	8.2	8.0	8.1	8.2	7.9
Capacity Steps		%	100-50-0	100-50-0	100-50-0	100-50-0	100-50-0	100-50-0
Compressor	Type	Hermetic - Scroll						
	Qty.	2	2	2	2	2	2	
Outdoor Coil	Type	Hi-X tubes 3/8" OD						
	Qty.	2	2	2	2	2	2	
	Face Area	ft ²	56.0	56.0	56.0	56.0	54.7	54.7
		m ²	5.20	5.20	5.20	5.20	5.08	5.08
No. Refrigerant Circuits		2	2	2	2	2	2	
Connections (3)	Liquid	in	1/2 (2x)	1/2 (2x)	1/2 (2x)	1/2 (2x)	5/8 (2X)	5/8 (2X)
	Suction	in	7/8 (2x)	7/8 (2x)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)
Outdoor Fan	Type	Propeller Direct Drive						
	Code/Qty	710 / 2	710 / 2	710 / 2	710 / 2	823 / 2	823 / 2	
	Air Flow	cfm	16560	16560	16560	16560	19540	19540
		l/s	7819	7819	7819	7819	9226	9226
Motor	Type	Totally Enclosed Air Over, Class-F insulation, 4 pole or 6 pole, IP54 protected						
	Size / Qty.	kW / #	0.584 / 2	0.584 / 2	0.584 / 2	0.584 / 2	1.1 / 2	1.1 / 2
Refrigerant Operating Charge R-410A (4)		lbs	35.6	35.6	36.1	36.1	52.3	52.3
		kg	16.1	16.1	16.4	16.4	23.7	23.7
Operating Weight Approximate		lbs	912	936	1012	1020	1028	1028
		kg	414	424	459	463	466	466

Table 7

Notes:

- (1) Evaporator entering air conditions of 84.2°/66.2°F (29°/19°C) dry bulb/wet bulb and condenser entering air temperature of 114.8°F (46°C) dry bulb.
- (2) Connections are based on 25 ft maximum linear distance between the outdoor & indoor unit and 66 ft maximum lift.
- (3) Refrigerant operating charge is for combined condensing unit with the matching air handling unit and 25 ft (7.6m) of interconnecting refrigerant lines.

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

AIR HANDLING UNIT SPECIFICATIONS - INDOOR (ESMA APPROVED)

Air Handling Unit		CADX	060A G	060A G	070A G	100A G	100A G	120A G
Matched Condensing Unit		AUMR	50 G	60 G	70 G	85 G	100 G	110 G
Cooling Capacity (1)		MBh	48.8	58.6	69.1	75.7	85.5	102.7
		kW	14.3	17.2	20.2	22.2	25.1	30.1
Indoor Coil	Type		Hi-X tubes 3/8" OD					
	Face Area	ft ²	5.81	5.81	5.81	7.99	7.99	7.99
		m ²	0.54	0.54	0.54	0.74	0.74	0.74
Refrigerant Control		Thermostatic Expansion Valve(s)						
Connections (3)	Liquid	in	1/2	1/2	1/2	1/2	1/2	1/2 (2x)
	Suction	in	7/8	7/8	7/8	1 1/8	1 1/8	7/8 (2x)
Indoor Fan	Type		Centrifugal DIDW Belt Drive					
	Code		10/10	10/10	10/10	12/12	12/12	12/12
	Air Flow	cfm	1700	2000	2400	2800	3000	3600
l/s		803	944	1133	1322	1416	1700	
Motor	Type		Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.					
	Size / Qty.	kW / #	0.55 / 1	0.55 / 1	0.75 / 1	1.1 / 1	1.1 / 1	1.5 / 1
Operating Weight Approximate		lbs	246	246	246	338	338	350
		kg	112	112	112	153	153	159

Table 8

Air Handling Unit		CADX	150A G	150A G	180A G	180A G	240A G	240A G
Matched Condensing Unit		AUMR	130 G	160 G	180 G	205 G	240 G	260 G
Cooling Capacity (1)		MBh	111.4	137.8	150.4	169.5	204.8	220.1
		kW	32.6	40.4	44.1	49.7	60.0	64.5
Indoor Coil	Type		Hi-X tubes 3/8" OD					
	Face Area	ft ²	11.67	11.67	14.17	14.17	19.36	19.36
		m ²	1.08	1.08	1.32	1.32	1.80	1.80
Refrigerant Control		Thermostatic Expansion Valve(s)						
Connections (3)	Liquid	in	1/2 (2x)	1/2 (2x)	1/2 (2x)	1/2 (2x)	5/8 (2X)	5/8 (2X)
	Suction	in	7/8 (2x)	7/8 (2x)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)	1 1/8 (2X)
Indoor Fan	Type		Centrifugal DIDW Belt Drive					
	Code		15/15	15/15	12/12 R2	12/12 R2	15/15 R2	15/15 R2
	Air Flow	cfm	4200	4800	5800	6200	8000	8000
l/s		1983	2266	2738	2927	3777	3777	
Motor	Type		Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.					
	Size / Qty.	kW / #	1.5 / 1	1.5 / 1	2.2 / 1	2.2 / 1	2.2 / 1	2.2 / 1
Operating Weight Approximate		lbs	480	480	518	518	675	675
		kg	218	218	235	235	306	306

Table 9

Notes:

- (1) Evaporator entering air conditions of 84.2°/66.2°F (29°/19°C) dry bulb/wet bulb and condenser entering air temperature of 114.8°F (46°C) dry bulb.
- (2) Connections are based on 25 ft maximum linear distance between the outdoor & indoor unit and 66 ft maximum lift.

SKM Split Air Conditioners

AUMR + CADX-A Series - R-410A

Fan Performance

AUMR + CADX A	Air Flow Rate		Internal Static Pressure		External Static Pressure - in.wg(Pa)														RPM Range
					0.2(50)		0.4(100)		0.5(125)		0.6(150)		0.8(200)		1.0(250)		1.25(313)		
	cfm	l/s	in.wg	Pa	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	
050 + 050A	1146	541	0.24	59.73	602	0.1	731	0.14	793	0.17	-	-	-	-	-	-	-	-	
	1700	802	0.51	127.77	777	0.27	869	0.32	914	0.35	958	0.38	1044	0.44	1128	0.51	1233	0.6	
	2292	1082	0.96	239.26	1000	0.62	1071	0.69	1105	0.72	1139	0.76	1205	0.83	1271	0.91	1351	1.01	
060 + 060A	1597	754	0.24	59.75	630	0.18	736	0.23	785	0.25	833	0.28	926	0.33	1017	0.39	1129	0.47	
	2000	944	0.36	90.18	731	0.31	821	0.37	863	0.4	905	0.43	984	0.5	1060	0.56	1153	0.65	
	3193	1507	0.96	239.18	1085	1.15	1145	1.24	1175	1.29	1204	1.34	1261	1.43	1315	1.53	1382	1.65	
070 + 070A	1597	754	0.24	59.75	630	0.18	736	0.23	785	0.25	833	0.28	926	0.33	1017	0.39	1129	0.47	
	2400	1133	0.53	131.35	844	0.51	922	0.58	960	0.62	996	0.66	1066	0.73	1133	0.8	1214	0.9	
	3193	1507	0.96	239.18	1085	1.15	1145	1.24	1175	1.29	1204	1.34	1261	1.43	1315	1.53	1382	1.65	
085 + 085A	1719	811	0.24	59.73	-	-	642	0.22	690	0.25	736	0.28	826	0.35	-	-	-	-	
	2800	1321	0.62	155.66	760	0.57	831	0.66	865	0.7	899	0.74	962	0.83	1024	0.93	1098	1.05	
	3438	1622	0.96	239.26	908	1.01	968	1.12	997	1.17	1025	1.22	1080	1.33	1133	1.44	1198	1.58	
100 + 100 A	2196	1036	0.24	59.71	-	-	656	0.32	699	0.35	740	0.39	818	0.46	893	0.54	982	0.64	
	3000	1416	0.43	107.54	700	0.55	774	0.65	809	0.69	843	0.74	908	0.83	970	0.93	1045	1.05	
	4392	2073	0.96	239.14	973	1.6	1026	1.74	1052	1.8	1077	1.87	1127	2.01	1176	2.15	1234	2.32	
110 + 120A	2196	1036	0.28	69.69	-	-	674	0.33	716	0.37	756	0.4	834	0.48	907	0.55	996	0.66	
	3600	1699	0.74	185.52	851	0.97	913	1.09	942	1.14	972	1.2	1028	1.31	1082	1.42	1148	1.56	
	4392	2073	1.13	282.67	1019	1.72	1071	1.86	1096	1.92	1121	1.99	1170	2.13	1217	2.27	1274	2.44	
130 + 150A	3208	1514	0.24	59.71	472	0.35	549	0.45	585	0.5	619	0.55	683	0.65	744	0.76	817	0.92	
	4200	1982	0.4	98.55	568	0.7	632	0.82	662	0.88	691	0.94	746	1.06	799	1.2	862	1.37	
	6417	3028	0.96	239.21	816	2.29	861	2.46	882	2.55	904	2.64	946	2.82	986	3.0	1035	3.24	
160 + 150A	3208	1514	0.24	59.71	472	0.35	549	0.45	585	0.5	619	0.55	683	0.65	744	0.76	817	0.92	
	4800	2265	0.52	130.04	632	1	690	1.14	717	1.21	744	1.27	795	1.42	844	1.56	903	1.75	
	6417	3028	0.96	239.21	816	2.29	861	2.46	882	2.55	904	2.64	946	2.82	986	3.0	1035	3.24	
180 + 180A	4604	2173	0.29	71.1	621	0.62	714	0.78	758	0.86	799	0.93	879	1.09	955	1.26	1045	1.49	
	5800	2737	0.46	114.71	739	1.14	817	1.34	854	1.43	890	1.53	959	1.72	1025	1.92	1103	2.18	
	7792	3677	0.87	215.67	954	2.6	1015	2.86	1044	2.99	1073	3.12	1129	3.39	1183	3.65	1249	3.97	
205 + 180A	4604	2173	0.29	71.1	621	0.62	714	0.78	758	0.86	799	0.93	879	1.09	955	1.26	1045	1.49	
	6200	2926	0.53	132.42	781	1.37	855	1.58	891	1.68	925	1.79	991	1.99	1054	2.2	1129	2.47	
	7792	3677	0.87	215.67	954	2.6	1015	2.86	1044	2.99	1073	3.12	1129	3.39	1183	3.65	1249	3.97	
240 + 240A	6292	2969	0.29	71.09	513	0.77	593	0.98	629	1.08	665	1.19	732	1.42	796	1.67	873	2	
	8000	3775	0.47	117	614	1.45	680	1.7	712	1.83	742	1.96	800	2.22	855	2.5	921	2.87	
	10649	5025	0.87	215.67	785	3.23	837	3.55	863	3.72	887	3.88	935	4.22	981	4.56	1036	5.01	
260 + 240A	6292	2969	0.29	71.09	513	0.77	593	0.98	629	1.08	665	1.19	732	1.42	796	1.67	873	2	
	8000	3775	0.47	117	614	1.45	680	1.7	712	1.83	742	1.96	800	2.22	855	2.5	921	2.87	
	10649	5025	0.87	215.67	785	3.23	837	3.55	863	3.72	887	3.88	935	4.22	981	4.56	-	-	

Table 14

Notes:

1. Areas shaded in blue indicate factory setting of RPM.
2. Areas shaded in grey indicate operating range outside the standard motor. Shift to larger motor size in this area.
3. Internal static pressure is based on pressure drops through evaporator coil, fan casing and 1" flat filter.
4. The shown RPM range is with standard pulleys combination.

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Fan Performance (ESMA APPROVED)

Model AUMR G + CADX-A G	AirFlowRate		Internal Static Pressure		External static pressure - in.wg (Pa)													
					0.2(50)		0.4(100)		0.5(125)		0.6(150)		0.8(200)		1(250)		1.2(300)	
	cfm	l/s	in.wg	Pa	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
50 G + 60A G	1597	754	0.32	79.71	674	0.2	775	0.25	823	0.27	871	0.3	963	0.35	1053	0.42	1142	0.49
	1700	802	0.36	88.74	701	0.23	798	0.28	844	0.31	889	0.34	976	0.39	1062	0.46	1147	0.52
	3193	1507	1.31	326.25	1189	1.31	1246	1.41	1274	1.46	1302	1.5	1355	1.6	1408	1.7	1459	1.8
60 G + 60A G	1597	754	0.32	79.71	674	0.2	775	0.25	823	0.27	871	0.3	963	0.35	1053	0.42	1142	0.49
	2000	944	0.49	121.06	787	0.35	873	0.41	914	0.44	954	0.47	1031	0.54	1106	0.6	1180	0.67
	3193	1507	1.31	326.25	1189	1.31	1246	1.41	1274	1.46	1302	1.5	1355	1.6	1408	1.7	1459	1.8
70 G + 70A G	1597	754	0.32	79.71	674	0.2	775	0.25	823	0.27	871	0.3	963	0.35	1053	0.42	1142	0.49
	2400	1133	0.71	177.18	916	0.58	990	0.65	1026	0.69	1060	0.72	1128	0.8	1192	0.87	1256	0.95
	3193	1507	1.31	326.25	1189	1.31	1246	1.41	1274	1.46	1302	1.5	1355	1.6	1408	1.7	1459	1.8
085 G +100A G	2196	1036	0.32	79.66	602	0.28	691	0.35	732	0.38	772	0.42	849	0.49	922	0.57	993	0.66
	2800	1321	0.5	125.46	714	0.52	789	0.6	824	0.65	858	0.69	924	0.78	987	0.87	1047	0.96
	4392	2073	1.31	326.2	1065	1.84	1115	1.98	1139	2.04	1164	2.11	1211	2.25	1257	2.39	1301	2.52
100 G +100A G	2196	1036	0.32	79.66	602	0.28	691	0.35	732	0.38	772	0.42	849	0.49	922	0.57	993	0.66
	3000	1416	0.58	144.68	755	0.62	826	0.72	859	0.76	892	0.81	955	0.9	1015	1	1073	1.1
	4392	2073	1.31	326.2	1065	1.84	1115	1.98	1139	2.04	1164	2.11	1211	2.25	1257	2.39	1301	2.52
110 G +120A G	2196	1036	0.32	79.66	602	0.28	691	0.35	732	0.38	772	0.42	849	0.49	922	0.57	993	0.66
	3600	1699	0.86	213.33	886	1.04	946	1.15	975	1.21	1003	1.26	1059	1.37	1112	1.49	1163	1.6
	4392	2073	1.31	326.2	1065	1.84	1115	1.98	1139	2.04	1164	2.11	1211	2.25	1257	2.39	1301	2.52
130 G +150A G	3208	1514	0.32	79.66	504	0.39	578	0.49	612	0.54	645	0.59	708	0.7	768	0.81	826	0.94
	4200	1982	0.53	132.44	612	0.78	672	0.9	701	0.96	729	1.02	783	1.15	833	1.29	882	1.43
	6417	3028	1.31	326.3	893	2.59	-	-	-	-	-	-	-	-	-	-	-	-
160 G +150A G	3208	1514	0.32	79.66	504	0.39	578	0.49	612	0.54	645	0.59	708	0.7	768	0.81	826	0.94
	4800	2265	0.7	175.39	685	1.13	739	1.26	765	1.33	791	1.4	839	1.55	886	1.69	-	-
	6417	3028	1.31	326.3	893	2.59	-	-	-	-	-	-	-	-	-	-	-	-
180 G +180A G	3905	1843	0.29	72.95	606	0.47	705	0.61	751	0.68	796	0.75	882	0.9	965	1.07	1046	1.26
	5800	2737	0.64	159.56	810	1.32	883	1.51	918	1.61	953	1.71	1019	1.9	1082	2.1	1143	2.31
	7792	3677	1.22	302.75	1059	3.06	1115	3.32	1143	3.45	1170	3.58	1223	3.84	1274	4.1	1324	4.37
205 G +180A G	3905	1843	0.29	72.95	606	0.47	705	0.61	751	0.68	796	0.75	882	0.9	965	1.07	1046	1.26
	6200	2926	0.74	184.46	858	1.59	928	1.79	961	1.9	994	2	1057	2.21	1117	2.43	1176	2.64
	7792	3677	1.22	302.75	1059	3.06	1115	3.32	1143	3.45	1170	3.58	1223	3.84	1274	4.1	1324	4.37
240 G +240A G	5335	2518	0.25	62.9	484	0.56	570	0.74	610	0.84	648	0.94	722	1.16	793	1.4	862	1.68
	8000	3775	0.56	139.89	645	1.56	709	1.82	740	1.95	769	2.08	826	2.35	880	2.64	932	2.93
	10649	5025	1.04	259.21	831	3.51	881	3.84	905	4.01	929	4.18	975	4.52	1020	4.87	1063	5.23
260 G +240A G	5335	2518	0.25	62.9	484	0.56	570	0.74	610	0.84	648	0.94	722	1.16	793	1.4	862	1.68
	8000	3775	0.56	139.89	645	1.56	709	1.82	740	1.95	769	2.08	826	2.35	880	2.64	932	2.93
	10649	5025	1.04	259.21	831	3.51	881	3.84	905	4.01	929	4.18	975	4.52	1020	4.87	1063	5.23

Table 15

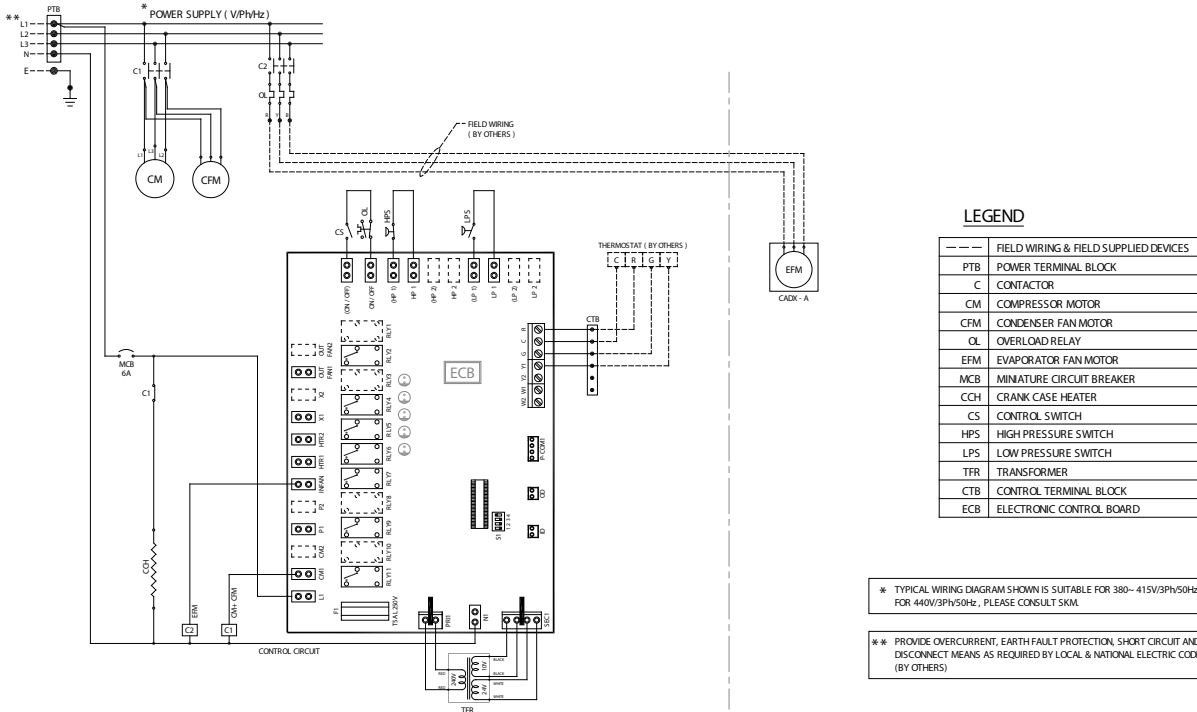
Notes:

1. Areas shaded in blue indicate factory setting of RPM.
2. Areas shaded in grey indicate operating range outside the standard motor.
3. Internal static pressure is based on pressure drops through evaporator coil, fan casing and 1" flat filter.

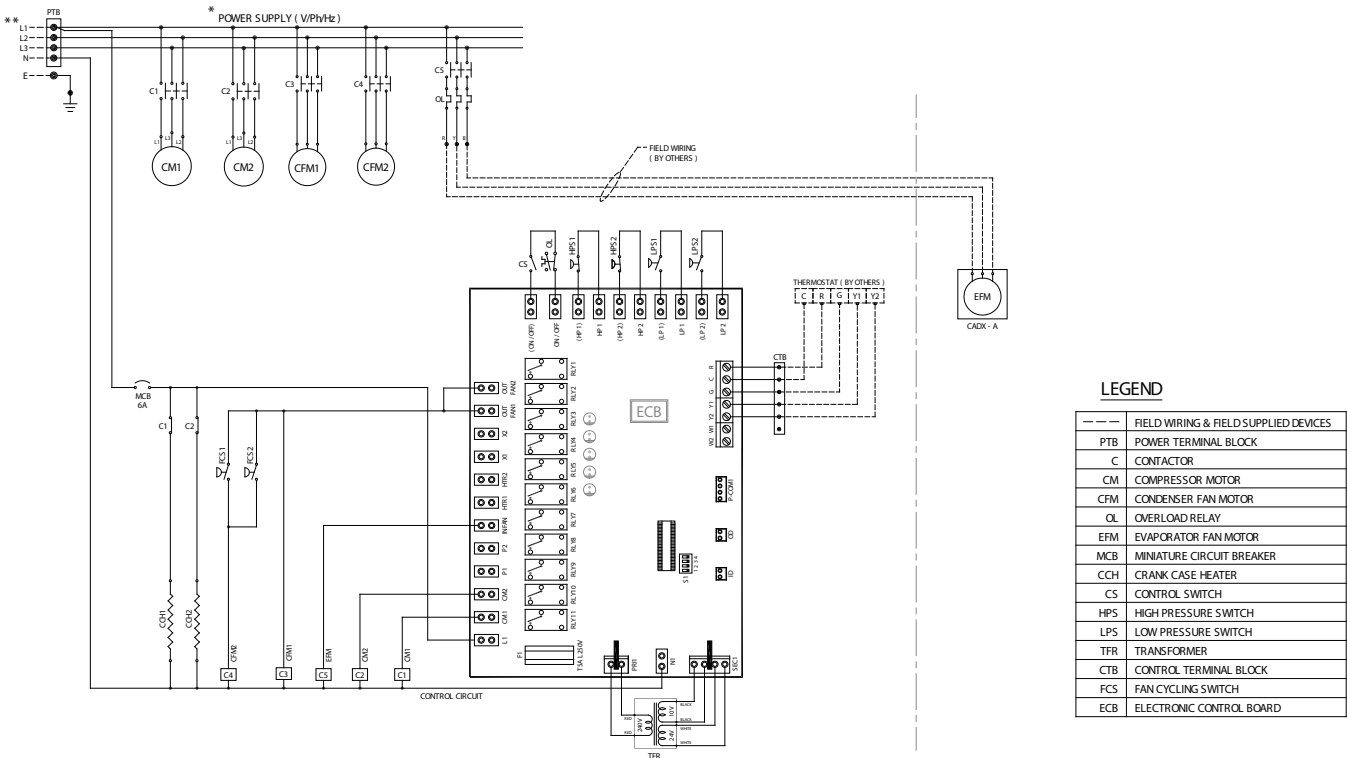
SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Typical Wiring Diagram

AUMR Models : 050 - 100



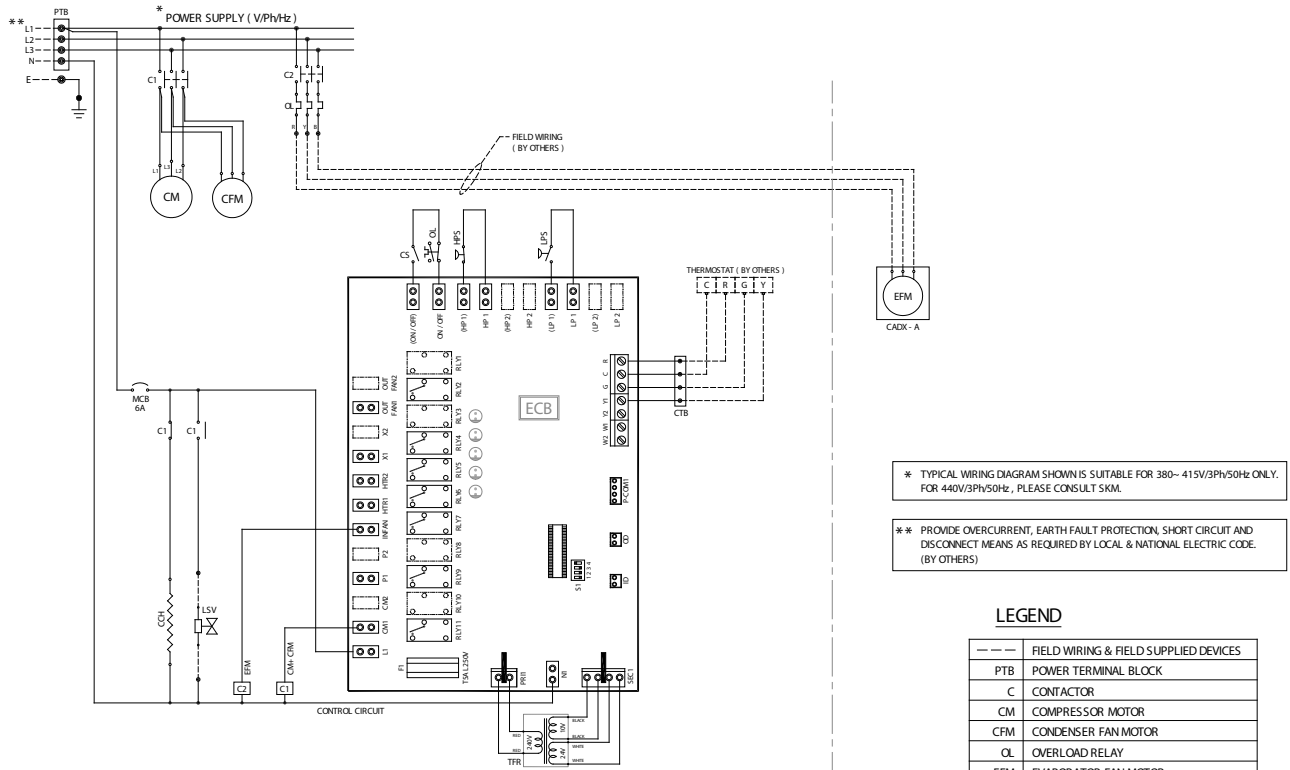
AUMR Models : 110 - 260



SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Typical Wiring Diagram (ESMA APPROVED)

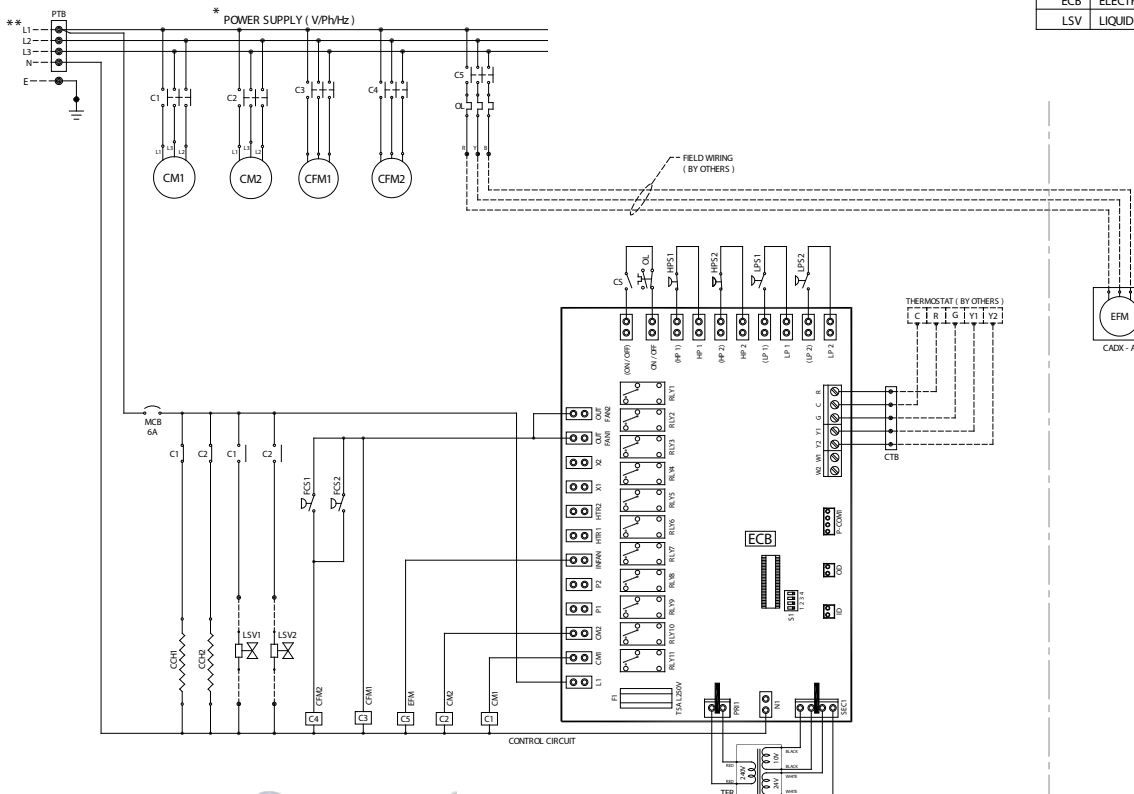
AUMR Models : 050 - 100



LEGEND

---	FIELD WIRING & FIELD SUPPLIED DEVICES
PTB	POWER TERMINAL BLOCK
C	CONTACTOR
CM	COMPRESSOR MOTOR
CFM	CONDENSER FAN MOTOR
OL	OVERLOAD RELAY
EFM	EVAPORATOR FAN MOTOR
MCB	MINIATURE CIRCUIT BREAKER
CCH	CRANK CASE HEATER
CS	CONTROL SWITCH
HPS	HIGH PRESSURE SWITCH
LPS	LOW PRESSURE SWITCH
TFR	TRANSFORMER
CTB	CONTROL TERMINAL BLOCK
FCS	FAN CYCLING SWITCH
ECB	ELECTRONIC CONTROL BOARD
LSV	LIQUID LINE SOLENOID VALVE

AUMR Models : 110 - 260



SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

ELECTRICAL DATA

Power Supply: 380-415V/3Ph/50Hz

Model AUMR	Unit Characteristic			Compressor			Condenser Fan Motor			Model CADX	Evaporator Fan Motor	
	MFA	MCA	ICF	QTY	RLA	LRA	QTY	FLA	LRA		FLA	LRA
050	32	16	79	1	11	74	1	1.1	3.3	050A	1.5	5.7
060	32	20	82	1	13	75	1	1.9	5.8	060A	1.5	5.7
070	40	21	109	1	14	101	1	1.9	5.8	070A	1.9	7.9
085	50	25	103	1	16	95	1	1.9	5.8	085A	2.6	12.0
100	50	28	119	1	19	111	1	1.9	5.8	100A	2.6	12.0
110	50	30	83	1 + 1	11 + 11	64 + 64	2	1.1	3.3	120A	3.5	18.3
130	50	35	96	1 + 1	13 + 13	75 + 75	2	1.1	3.3	150A	3.5	18.3
160	63	39	126	1 + 1	14 + 14	101 + 101	2	1.9	5.8	150A	3.5	18.3
180	63	45	124	1 + 1	16 + 16	95 + 95	2	1.9	5.8	180A	4.9	25.0
205	80	53	149	1 + 1	19 + 19	111 + 111	2	2.8	11.0	180A	4.9	25.0
240	80	56	157	1 + 1	20 + 20	118 + 118	2	2.8	11.0	240A	4.9	25.0
260	80	58	158	1 + 1	21 + 21	118 + 118	2	2.8	11.0	240A	4.9	25.0

Table 16

Power Supply: 440V/3Ph/50Hz

Model AUMR	Unit Characteristic			Compressor			Condenser Fan Motor			Model CADX	Evaporator Fan Motor	
	MFA	MCA	ICF	QTY	RLA	LRA	QTY	FLA	LRA		FLA	LRA
050	32	16	79	1	11	74	1	1.1	3.3	050A	1.3	5.2
060	40	19	82	1	13	75	1	1.9	5.8	060A	1.3	5.2
070	40	21	109	1	14	101	1	1.9	5.8	070A	1.7	7.2
085	40	24	103	1	16	95	1	1.9	5.8	085A	2.4	10.9
100	50	28	119	1	19	111	1	1.9	5.8	100A	2.4	10.9
110	50	30	83	1 + 1	11 + 11	64 + 64	2	1.1	3.3	120A	3.1	16.6
130	50	35	96	1 + 1	13 + 13	75 + 75	2	1.1	3.3	150A	3.1	16.6
160	63	38	126	1 + 1	14 + 14	101 + 101	2	1.9	5.8	150A	3.1	16.6
180	63	44	123	1 + 1	16 + 16	95 + 95	2	1.9	5.8	180A	4.5	23
205	80	53	148	1 + 1	19 + 19	111 + 111	2	3.1	9.9	180A	4.5	23
240	80	56	156	1 + 1	20 + 20	118 + 118	2	3.1	9.9	240A	4.5	23
260	80	58	157	1 + 1	21 + 21	118 + 118	2	3.1	9.9	240A	4.5	23

Table 17

ELECTRICAL DATA (ESMA APPROVED)

Power Supply: 380-415V/3Ph/50Hz

Model AUMR	Unit Characteristic			Compressor			Condenser Fan Motor			Model CADX	Evaporator Fan Motor	
	MFA	MCA	ICF	QTY	RLA	LRA	QTY	FLA	LRA		FLA	LRA
050	32	17	80	1	11	74	1	1.5	4.5	060A	1.5	5.7
060	40	19	81	1	13	75	1	1.3	4.0	060A	1.5	5.7
070	40	21	107	1	14	101	1	1.3	4.0	070A	1.9	7.9
085	40	24	102	1	16	95	1	1.3	4.0	100A	2.6	12.0
100	50	28	118	1	19	111	1	1.3	4.0	100A	2.6	12.0
110	50	31	84	1 + 1	11 + 11	64 + 64	2	1.3	4.0	120A	3.5	18.3
130	50	33	95	1 + 1	12 + 12	74 + 74	2	1.3	4.0	150A	3.5	18.3
160	63	38	124	1 + 1	14 + 14	101 + 101	2	1.3	4.0	150A	3.5	18.3
180	63	44	121	1 + 1	16 + 16	95 + 95	2	1.3	4.0	180A	4.9	25.0
205	80	50	140	1 + 1	19 + 19	111 + 111	2	1.3	4.0	180A	4.9	25.0
240	80	56	157	1 + 1	20 + 20	118 + 118	2	2.8	11.0	240A	4.9	25.0
260	80	58	158	1 + 1	21 + 21	118 + 118	2	2.8	11.0	240A	4.9	25.0

Table 18

Legend

MFA Maximum Fuse Amps (for fuse/circuit breaker sizing), complies with NEC Article 440-22 & 430-52.

MCA Minimum Circuit Amps.(for wire sizing), complies with NEC article 440-33.

Note :

Voltage imbalance not to exceed $\pm 2\%$ of the rated voltage

ICF Maximum Instantaneous Current Flow

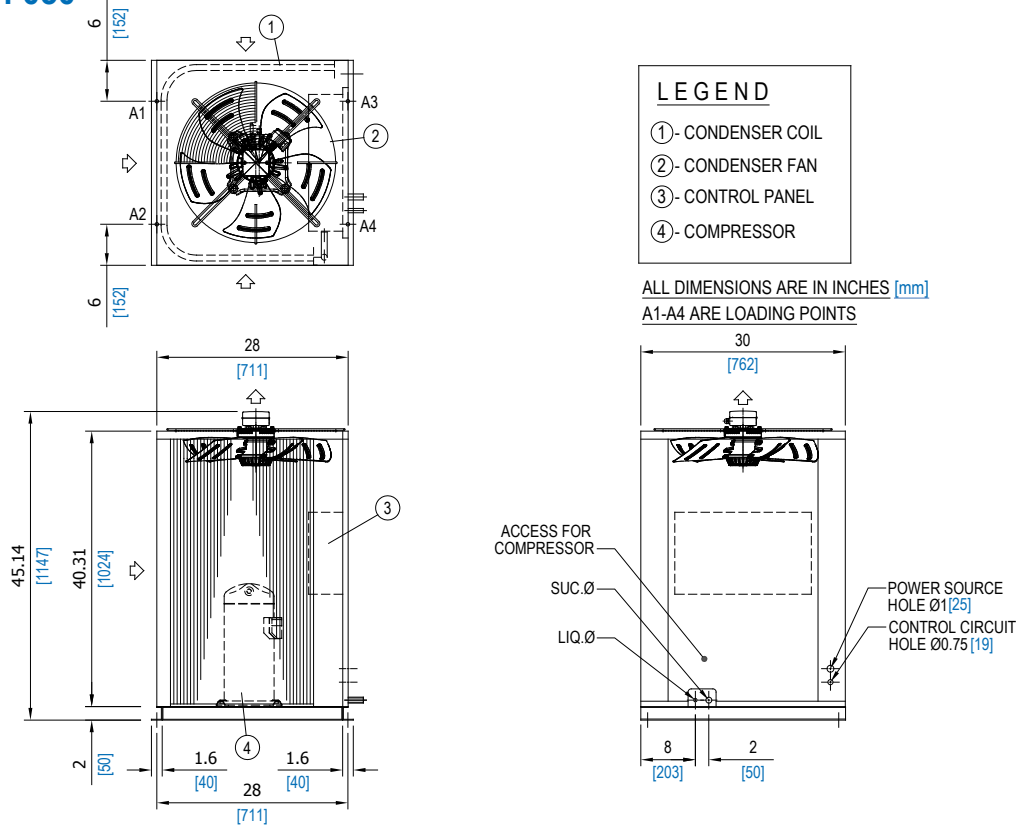
RLA Rated Load Amps. (at worst operating condition)

LRA Locked Rotor Amps

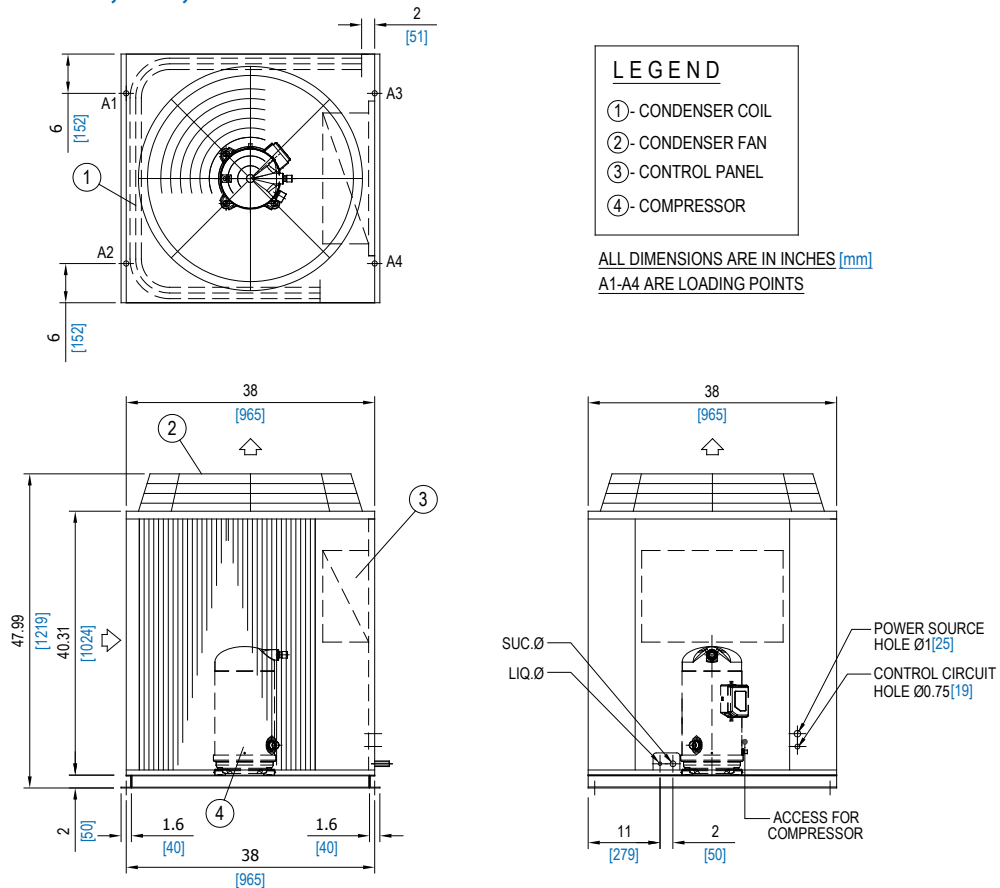
FLA Full Load Amps

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Condensing Unit Dimensional Data AUMR Model : 050



AUMR Models : 060, 070, 085 & 100

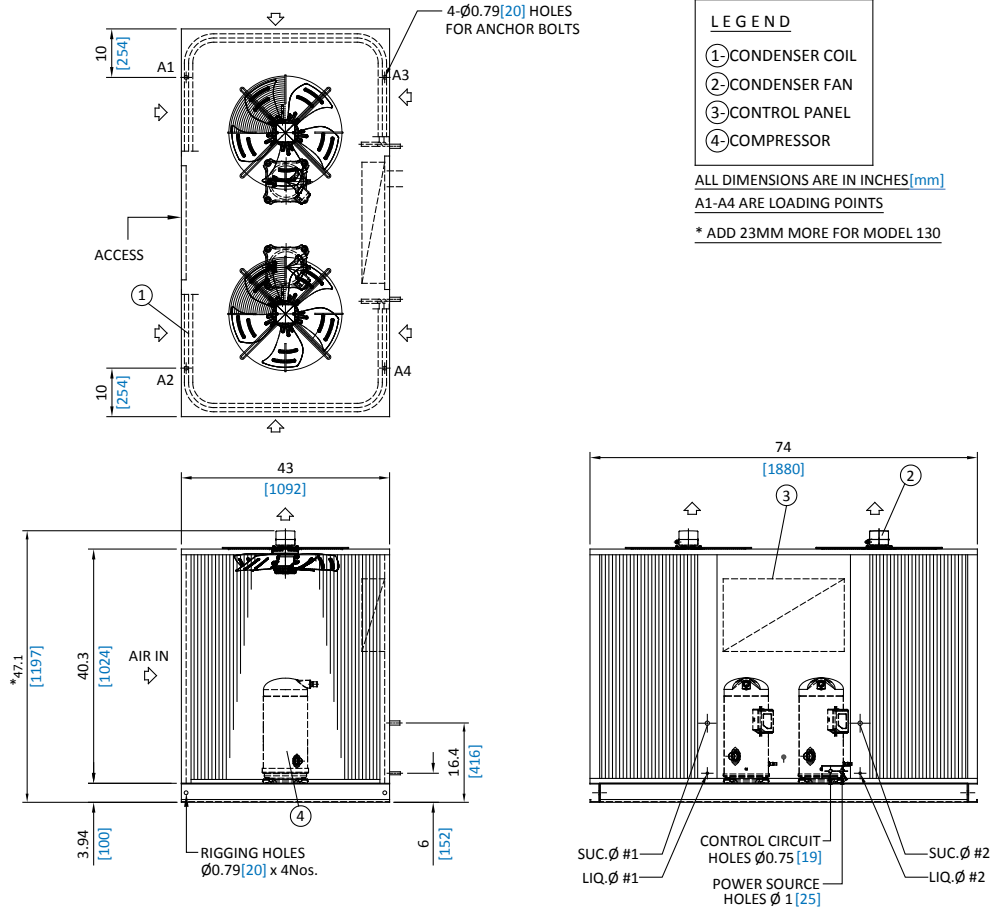


SKM Split Air Conditioners

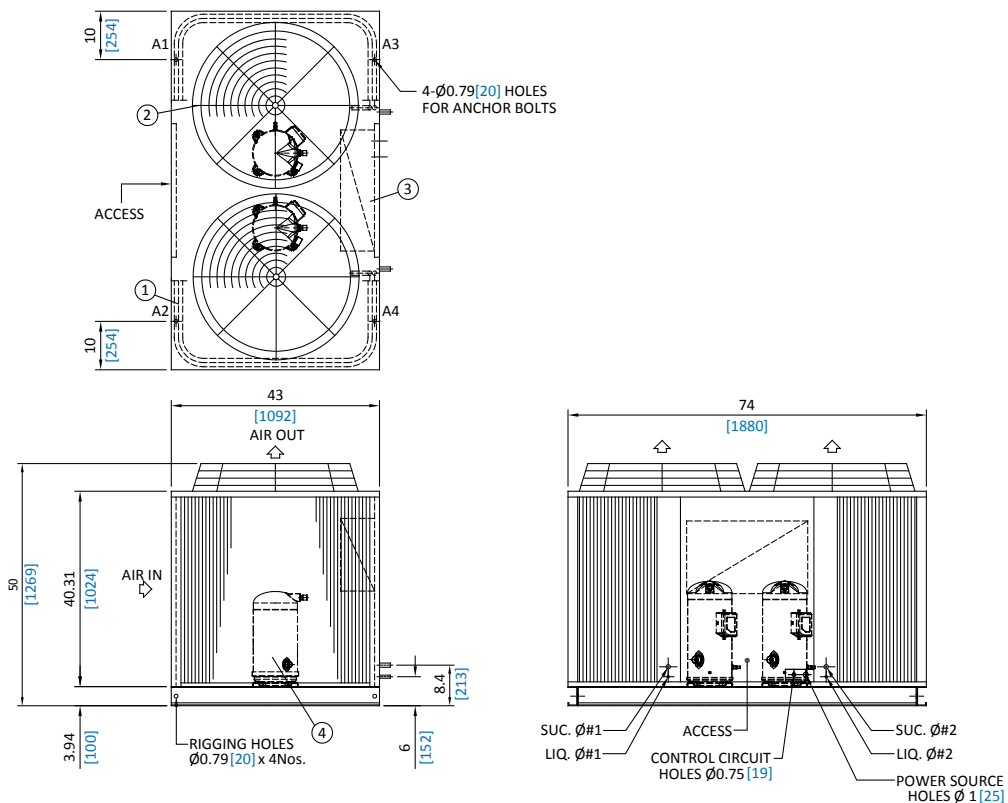
AUMR + CADX-A Series - R-410A

Condensing Unit Dimensional Data

AUMR Model : 110 & 130



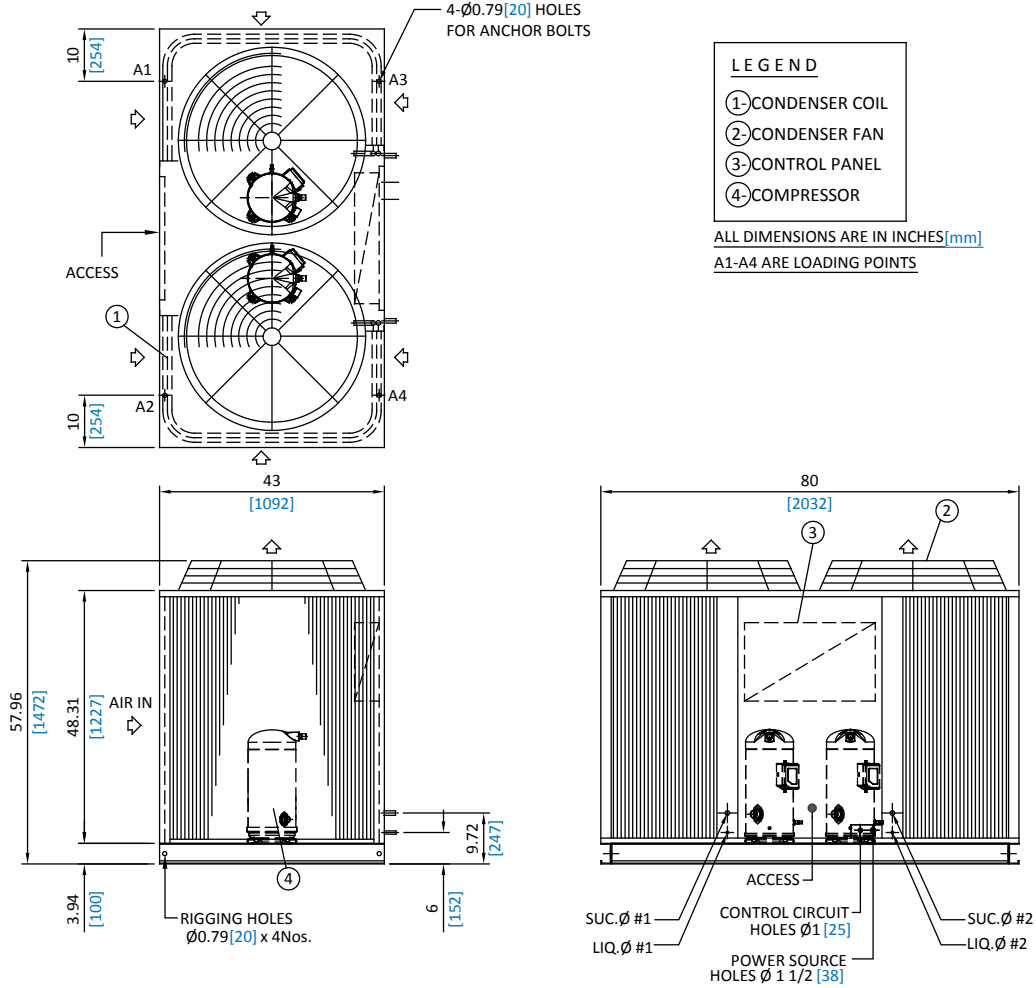
AUMR Model : 160 & 180



SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Condensing Unit Dimensional Data

AUMR Models : 205,240 & 260



SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

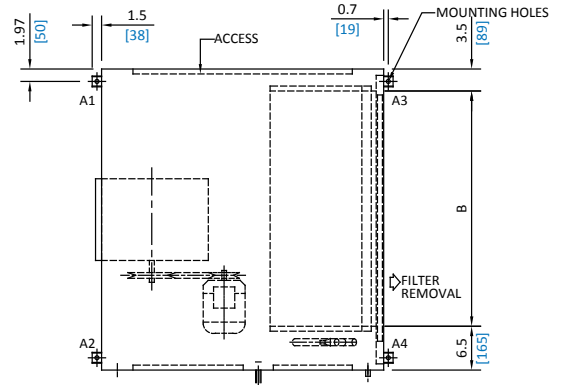
Air Handling Unit Dimensional Data

CADX Models : 050A - 150A

Model CADX-A	DIMENSIONS										
	L	W	H	A	B	C	D	E	J	G	F
050A	45 [1143]	48 [1219]	21.2 [538]	20 [508]	37.5 [952]	16 [406]	17.48 [444]	17.48 [444]	11.38 [289]	13.03 [331]	1.6 [41]
060A	45 [1143]	48 [1219]	25.2 [640]	24 [610]	38 [965]	20 [508]	17.48 [444]	17.48 [444]	11.38 [289]	13.03 [331]	1.7 [43]
070A	45 [1143]	48 [1219]	25.2 [640]	24 [610]	38 [965]	20 [508]	17.48 [444]	17.48 [444]	11.38 [289]	13.03 [331]	1.7 [43]
085A	45 [1143]	55 [1397]	25.2 [640]	24 [610]	45 [1143]	16 [406]	19.72 [501]	19.72 [501]	13.43 [341]	15.55 [395]	2.2 [57]
100A	50 [1270]	56 [1422]	27.2 [690]	26 [660]	46 [1168]	20 [508]	20.2 [514]	20.2 [514]	13.43 [341]	15.55 [395]	3.5 [89]
*120A	50 [1270]	56 [1422]	27.2 [690]	26 [660]	46 [1168]	20 [508]	20.2 [514]	20.2 [514]	13.43 [341]	15.55 [395]	3.5 [89]
*150A	58 [1474]	70 [1778]	30.2 [767]	29 [737]	60 [1524]	25 [635]	25.73 [653]	25.73 [653]	15.91 [404]	18.54 [471]	2.5 [63]

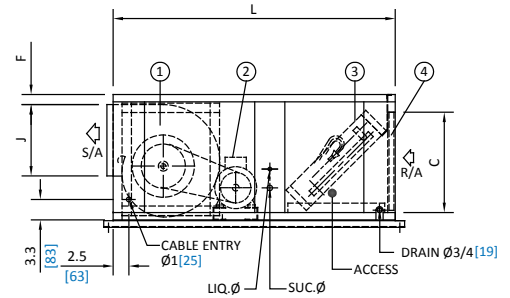
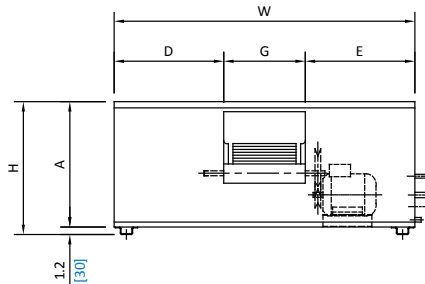
ALL DIMENSIONS ARE IN INCHES[MM]

Table 19



- LEGEND**
- ①-EVAPORATOR FAN
 - ②-EVAPORATOR FAN MOTOR
 - ③-EVAPORATOR COIL
 - ④-1"THK. FLAT FILTER

* MODELS WITH DOUBLE CIRCUITS
* USE DRAIN SIZE 1[25] FOR MODELS 150A
ALL DIMENSIONS ARE IN INCHES [mm]
A1-A4 ARE LOADING POINTS



CADX Model : 180A & 240A

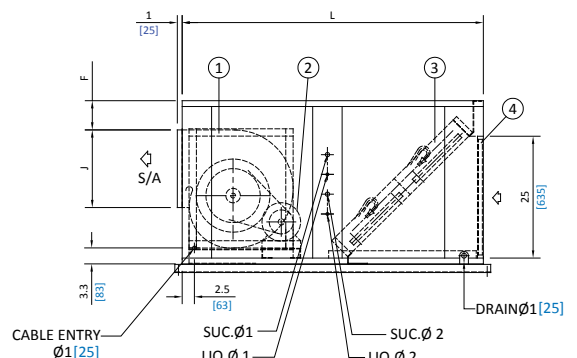
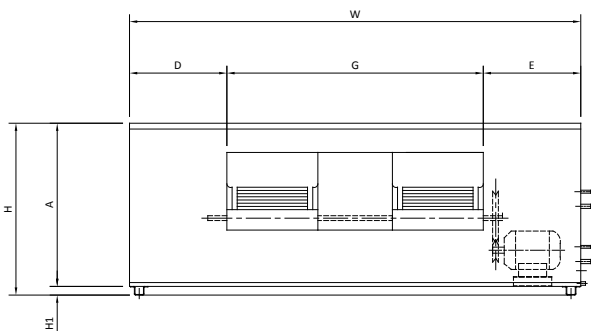
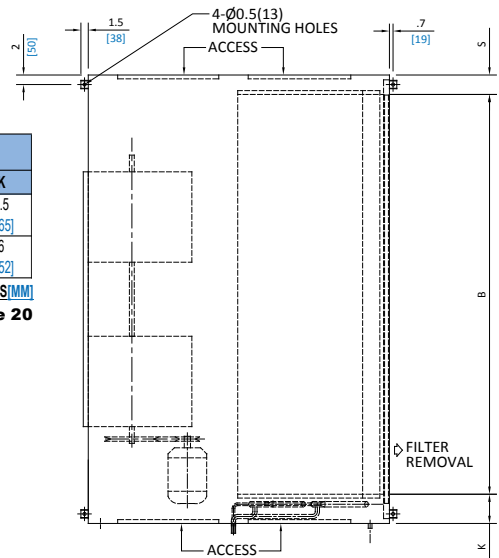
Model CADX-A	DIMENSIONS												
	L	W	H	A	H1	B	D	E	F	J	G	S	K
180A	60 [1524]	70 [1778]	33.2 [843]	32 [813]	1.2 [30]	60 [1524]	13.2 [334]	13.2 [334]	8.98 [228]	13.43 [341]	43.7 [1109]	3.5 [89]	6.5 [165]
240A	61.4 [1560]	92 [2337]	35.2 [895]	33.5 [850]	1.8 [45]	82 [2083]	19.86 [504]	19.86 [504]	6 [152]	15.91 [404]	52.28 [1328]	4 [102]	6 [152]

ALL DIMENSIONS ARE IN INCHES[MM]

Table 20

- LEGEND**
- ①-EVAPORATOR FAN
 - ②-EVAPORATOR FAN MOTOR
 - ③-EVAPORATOR COIL
 - ④-1"THK. FLAT FILTER

ALL DIMENSIONS ARE IN INCHES [mm]
A1-A4 ARE LOADING POINTS

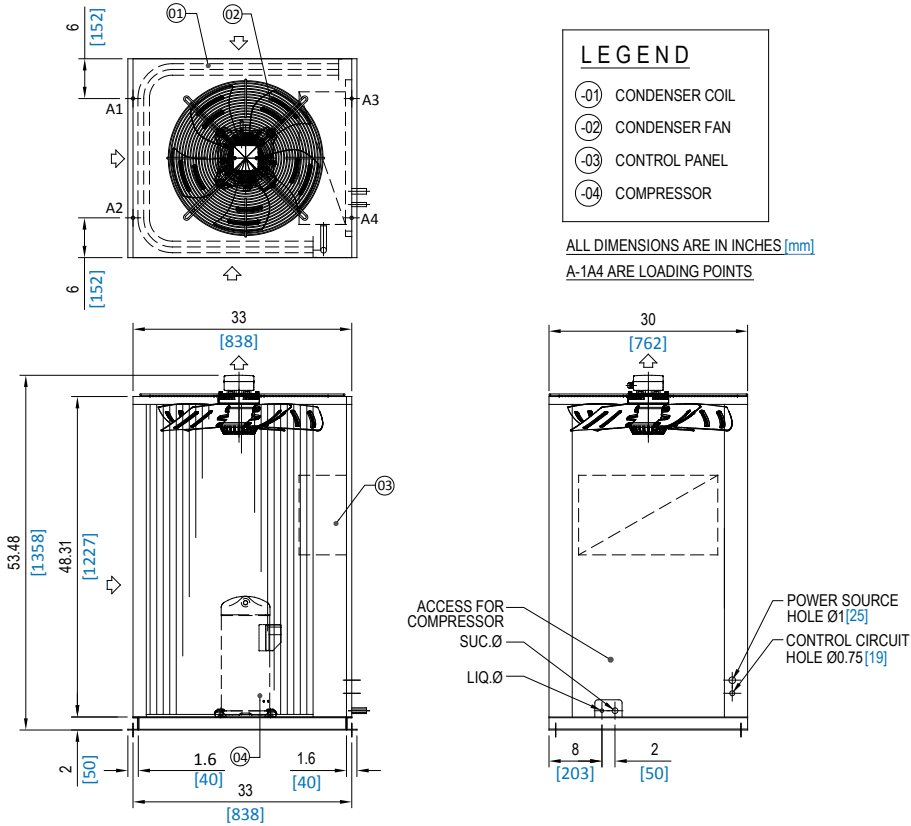


SKM Split Air Conditioners

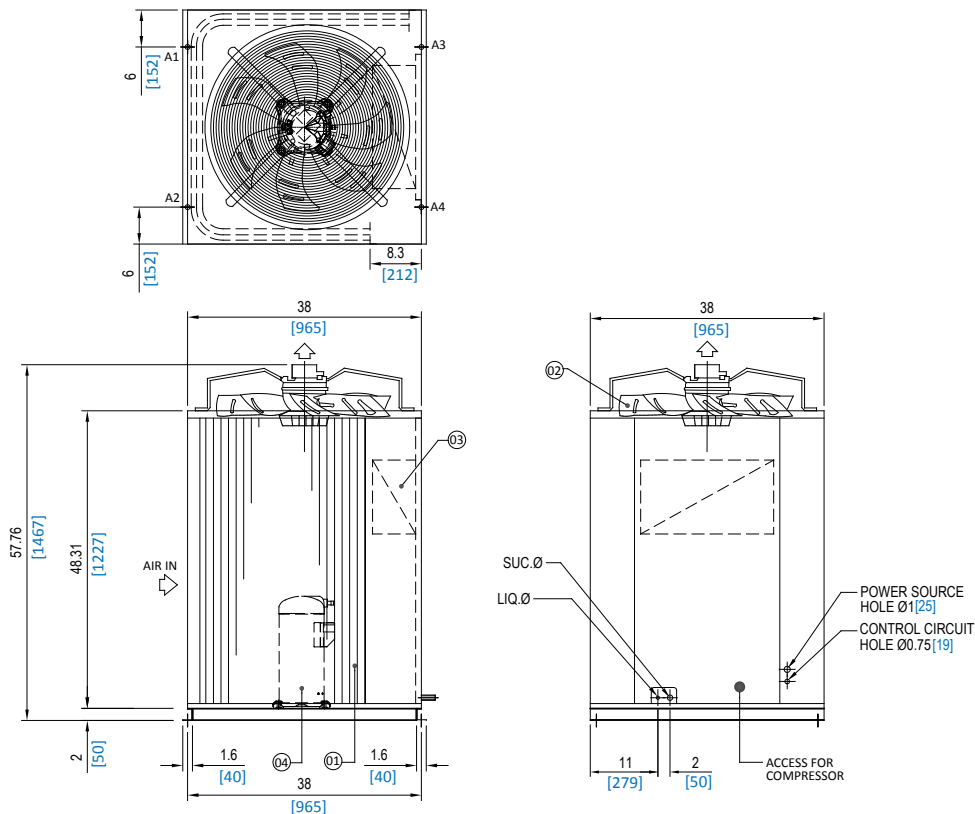
AUMR + CADX-A Series - R-410A

Condensing Unit Dimensional Data (ESMA APPROVED)

AUMR Model : 050 G



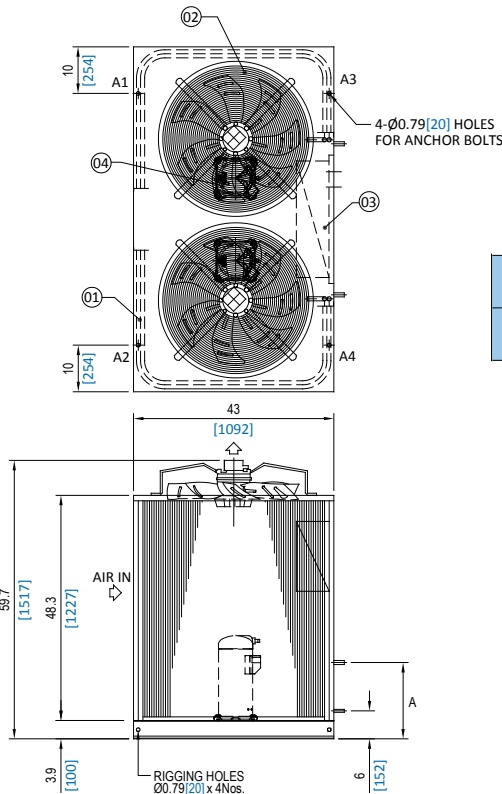
AUMR Models : 060 G, 070 G, 085 G & 100 G



SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Condensing Unit Dimensional Data (ESMA APPROVED)

AUMR Model : 110 G - 205 G



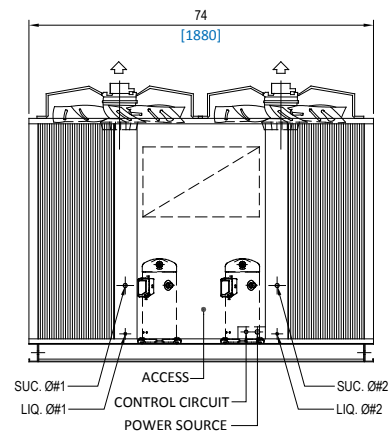
LEGEND

- 01 CONDENSER COIL
- 02 CONDENSER FAN
- 03 CONTROL PANEL
- 04 COMPRESSOR

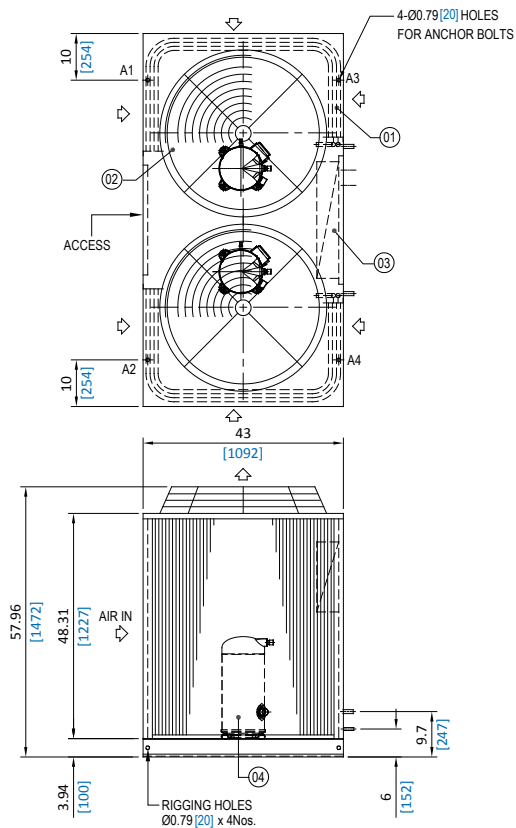
ALL DIMENSIONS ARE IN INCHES [mm]
A1-A4 ARE LOADING POINTS

Model AUMR	DIMENSIONS				
	110 G	130 G	160 G	180 G	205 G
A	16.4 [416]	16.4 [416]	8.4 [213]	9.7 [247]	9.7 [247]

Table 21



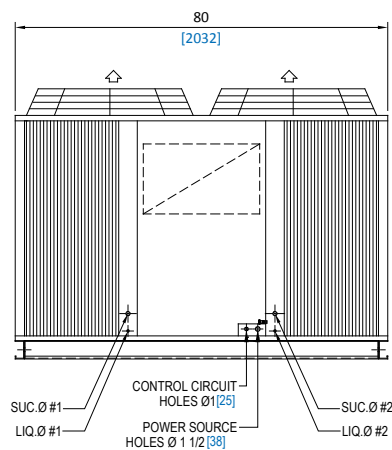
AUMR Models : 240 G & 260 G



LEGEND

- 01 CONDENSER COIL
- 02 CONDENSER FAN
- 03 CONTROL PANEL
- 04 COMPRESSOR

ALL DIMENSIONS ARE IN INCHES [mm]
A1-A4 ARE LOADING POINTS



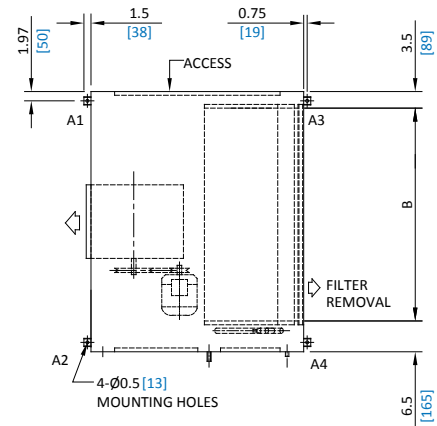
SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Air Handling Unit Dimensional Data (ESMA APPROVED)

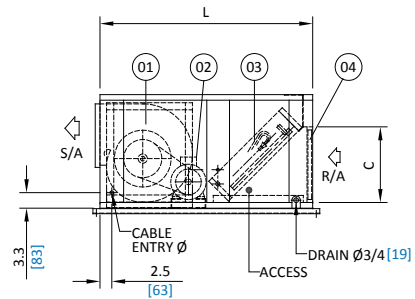
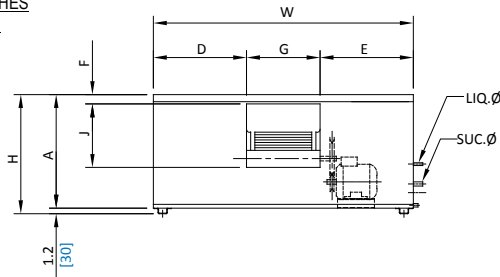
CADX Models : 060AG - 180AG

Model CADX-A	DIMENSIONS										
	L	W	H	A	B	C	D	E	J	G	F
060A G	45 [1143]	48 [1219]	26.2 [665]	25 [635]	38 [965]	20 [508]	17.48 [444]	17.48 [444]	11.38 [289]	13.03 [331]	1.7 [43]
070A G	45 [1143]	48 [1219]	26.2 [665]	25 [635]	38 [965]	20 [508]	17.48 [444]	17.48 [444]	11.38 [289]	13.03 [331]	1.7 [43]
100A G	50 [1270]	56 [1422]	28.2 [716]	27 [686]	46 [1168]	20 [508]	20.2 [514]	20.2 [514]	13.43 [341]	15.55 [395]	3.5 [89]
*120A G	50 [1270]	56 [1422]	28.2 [716]	27 [686]	46 [1168]	20 [508]	20.2 [514]	20.2 [514]	13.43 [341]	15.55 [395]	3.5 [89]
*150A G	58 [1474]	70 [1778]	30.2 [767]	29 [737]	60 [1524]	25 [635]	25.73 [653]	25.73 [653]	15.91 [404]	18.54 [471]	2.5 [63]
*180A G	60 [1524]	70 [1778]	34.2 [868]	33 [838]	60 [1524]	25 [635]	13.2 [334]	13.2 [334]	13.43 [341]	43.66 [1109]	8.98 [228]

Table 22



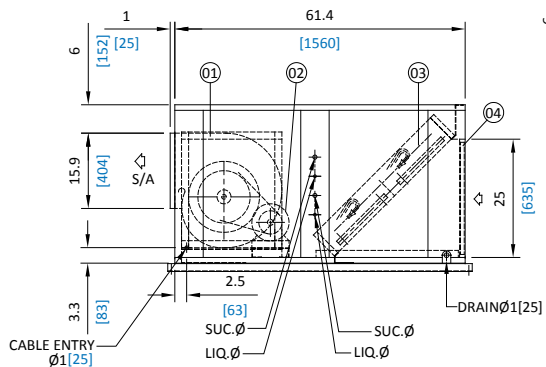
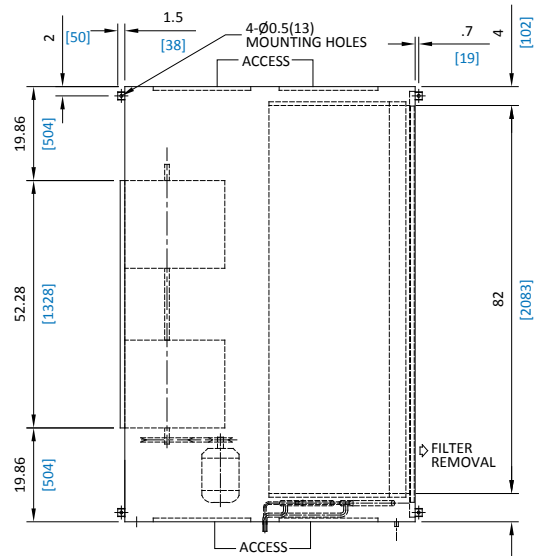
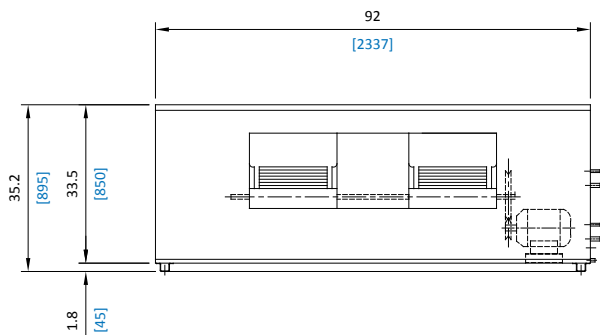
MODEL CADX-180A WITH DOUBLE BLOWER FAN
*MODELS WITH DOUBLE CIRCUITS
USE DRAIN SIZE 1/25 FOR MODELS 150A & 180A
ALL DIMENSIONS ARE IN INCHES
A1- A4 ARE LOADING POINTS



CADX Model : 240AG

LEGEND

- ① - EVAPORATOR FAN
- ② - EVAPORATOR FAN MOTOR
- ③ - EVAPORATOR COIL
- ④ - 1"THK. FLAT FILTER



SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Loading Points Weights:

Models AUMR	Units	Loading Points				Total Weight
		A1	A2	A3	A4	
050	lbs	80	83	80	82	326
	kg	36	38	36	37	148
060	lbs	89	93	89	91	362
	kg	40	42	40	41	164
070	lbs	89	93	89	91	363
	kg	41	42	41	42	165
085	lbs	109	113	109	112	443
	kg	49	51	49	51	201
100	lbs	111	115	111	113	450
	kg	50	52	50	51	204
110	lbs	174	174	176	176	701
	kg	79	79	80	80	318
130	lbs	177	177	180	180	714
	kg	80	80	81	81	324
160	lbs	194	194	196	196	781
	kg	88	88	89	89	354
180	lbs	213	213	215	215	855
	kg	96	96	98	98	388
205	lbs	234	234	236	236	940
	kg	106	106	107	107	426
240	lbs	227	227	229	229	912
	kg	103	103	104	104	414
260	lbs	227	227	229	229	912
	kg	103	103	104	104	414

Table 23

MODEL CADX-A	LOAD AT EACH POINT Lbs (Kgs)				TOTAL WEIGHT
	A1	A2	A3	A4	
050A	59	55	48	43	205
	[27]	[25]	[22]	[19]	[93]
060A	65	61	53	47	226
	[29]	[28]	[24]	[21]	[102]
070A	65	61	53	47	226
	[29]	[28]	[24]	[21]	[102]
085A	76	71	62	55	264
	[34]	[32]	[28]	[25]	[119]
100A	81	84	73	72	310
	[37]	[38]	[33]	[33]	[141]
120A	87	90	78	78	333
	[39]	[41]	[36]	[36]	[152]
150A	115	120	104	103	442
	[52]	[54]	[47]	[47]	[200]
180A	119	134	106	113	472
	[54]	[61]	[48]	[51]	[214]
240A	160	183	143	155	641
	[73]	[83]	[65]	[70]	[291]

Table 24

Recommended Suction and Liquid Line Sizes:

Models		PIPE LENGTH - FEET (m)															
		25 (7.6)				50 (15.2)				75 (22.9)				100 (30.5)			
		Circuit 1		Circuit 2		Circuit 1		Circuit 2		Circuit 1		Circuit 2		Circuit 1		Circuit 2	
AUMR	CADX	Liquid	Suction	Liquid	Suction	Liquid	Suction	Liquid	Suction	Liquid	Suction	Liquid	Suction	Liquid	Suction	Liquid	Suction
050	050A	1/2	7/8	-	-	1/2	7/8	-	-	1/2	7/8	-	-	1/2	1 1/8	-	-
060	060A	1/2	7/8	-	-	1/2	1 1/8	-	-	1/2	1 1/8	-	-	1/2	1 1/8	-	-
070	070A	1/2	7/8	-	-	1/2	1 1/8	-	-	1/2	1 1/8	-	-	5/8	1 1/8	-	-
085	085A	1/2	1 1/8	-	-	1/2	1 1/8	-	-	5/8	1 1/8	-	-	5/8	1 3/8	-	-
100	100A	1/2	1 1/8	-	-	5/8	1 1/8	-	-	5/8	1 1/8	-	-	5/8	1 3/8	-	-
110	120A	1/2	7/8	1/2	7/8	1/2	7/8	1/2	7/8	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8
130	150A	1/2	7/8	1/2	7/8	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8	5/8	1 1/8	5/8	1 1/8
160	150A	1/2	7/8	1/2	7/8	1/2	1 1/8	1/2	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8
180	180A	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8
205	180A	1/2	1 1/8	1/2	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8
240	240A	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8
260	240A	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8	3/4	1 3/8	3/4	1 3/8

Table 25

Notes :

1. Pipe diameters are based on equivalent length of copper tubing sizes.
2. Pipe sizes are based on 2°F (1.1°C) or less temperature losses for liquid and suction line in equivalent pipe length.
3. If the condensing unit is below the evaporating unit, the maximum lift should not exceed to 66 feet.
4. Do not exceed 100 feet piping length without checking with SKM.
5. These sizes are for guidance only. For detailed proper piping, refer to recognized piping references like ASHRAE Guide and Data Book.

The recommended or required suction and liquid line sizes do not necessarily correspond with the refrigerant connections available on the outdoor or indoor unit. Necessary transformation may be required and it's field performed.

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Loading Points

Condensing Unit (ESMA APPROVED)

MODEL AUMR	LOAD AT EACH POINT Lbs (Kgs)				TOTAL
	A1	A2	A3	A4	WEIGHT
50 G	112 [51]	115 [52]	102 [46]	104 [47]	433 [196]
60 G	121 [55]	125 [57]	112 [51]	114 [52]	472 [215]
70 G	121 [55]	125 [57]	112 [51]	114 [52]	472 [215]
85 G	122 [55]	126 [57]	119 [54]	122 [56]	489 [222]
100 G	124 [56]	128 [58]	121 [55]	123 [56]	496 [225]
110 G	246 [112]	246 [112]	207 [94]	207 [94]	906 [412]
130 G	247 [112]	247 [112]	209 [95]	209 [95]	912 [414]
160 G	253 [115]	253 [115]	215 [98]	215 [98]	936 [426]
180 G	272 [124]	272 [124]	234 [106]	234 [106]	1012 [460]
205 G	266 [121]	266 [121]	244 [111]	244 [111]	1020 [464]
240 G	256 [117]	256 [117]	258 [117]	258 [117]	1028 [468]
260 G	256 [117]	256 [117]	258 [117]	258 [117]	1028 [468]

Table 26

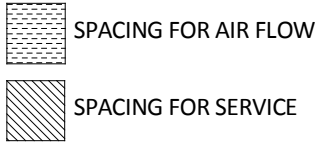
Air Handling Unit (ESMA APPROVED)

MODEL CADX-A	LOAD AT EACH POINT Lbs (Kgs)				TOTAL
	A1	A2	A3	A4	WEIGHT
060A G	67 [30]	63 [29]	62 [28]	54 [25]	246 [112]
070A G	67 [30]	63 [29]	62 [28]	54 [25]	246 [112]
100A G	84 [38]	87 [40]	85 [39]	82 [37]	338 [154]
120A G	89 [40]	93 [42]	85 [39]	83 [38]	350 [159]
150A G	119 [54]	124 [56]	120 [55]	117 [53]	480 [218]
180A G	124 [56]	139 [63]	125 [57]	130 [59]	518 [235]
240A G	164 [75]	187 [85]	157 [71]	167 [76]	675 [307]

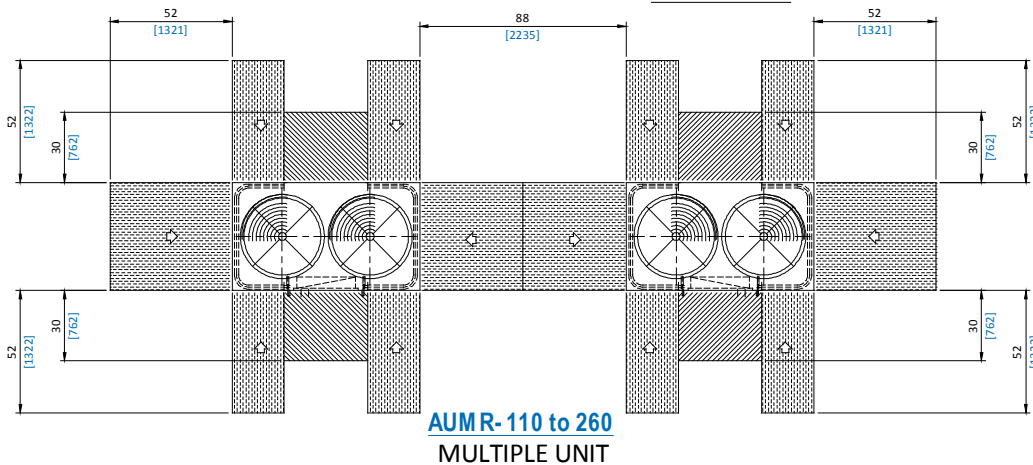
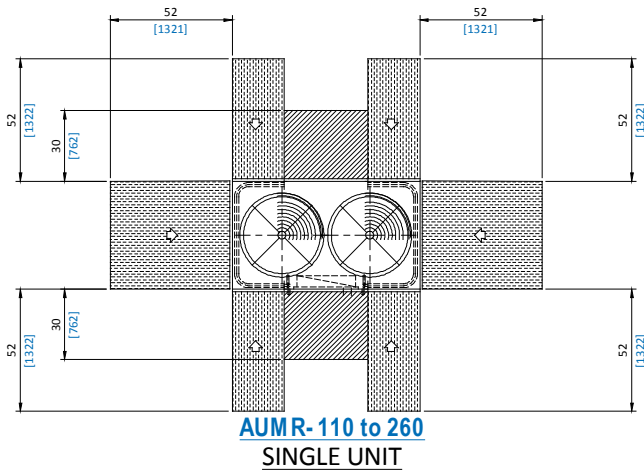
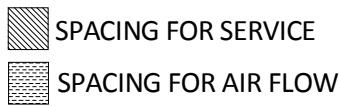
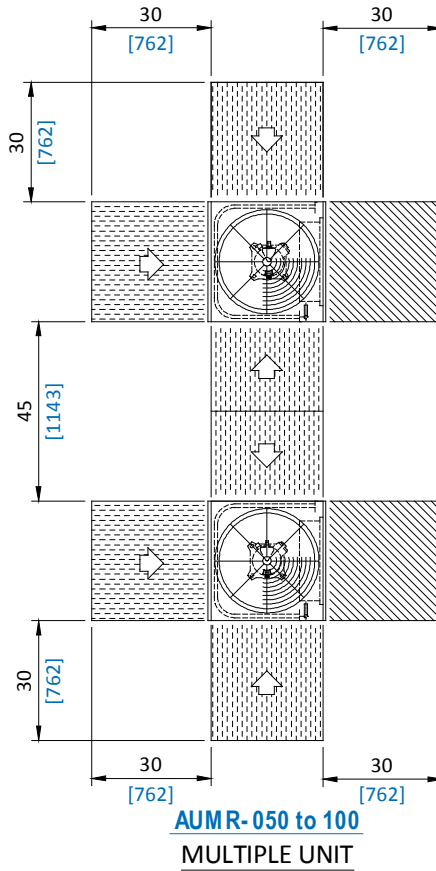
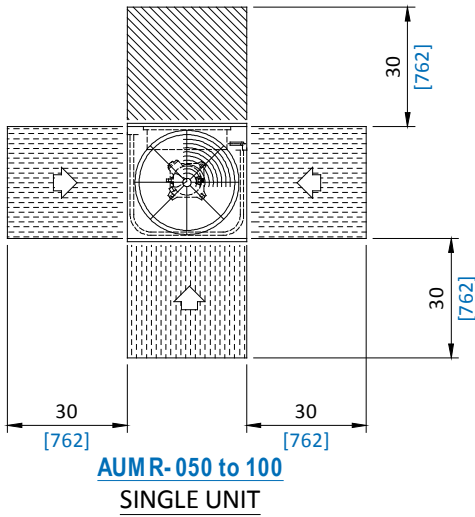
Table 27

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Recommended Clearances




ALL DIMENSIONS ARE IN INCHES[mm]




SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

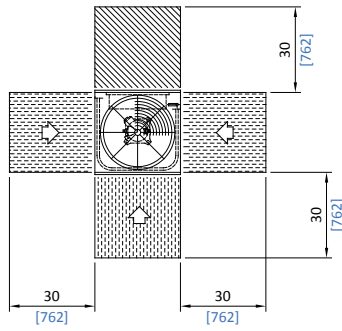
Recommended Clearances (ESMA APPROVED)

AUMR - 050 G to 100 G

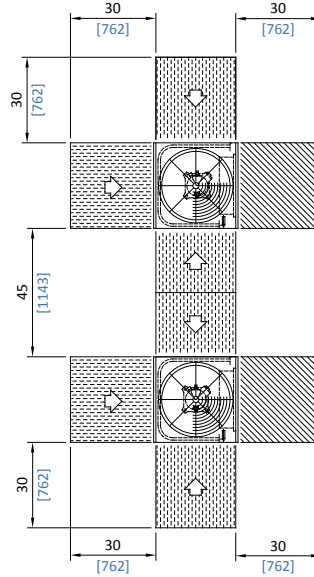
 SPACING FOR AIR FLOW

 SPACING FOR SERVICE

ALL DIMENSIONS ARE IN INCHES [mm]





SINGLE UNIT

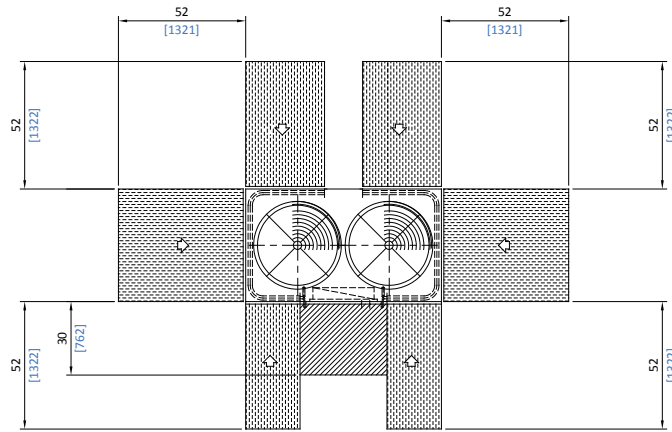


MULTIPLE UNIT

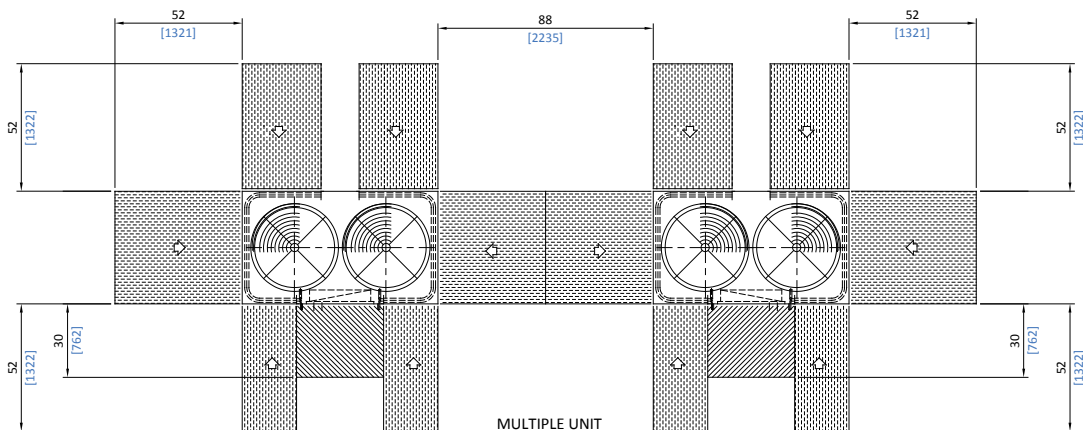
AUMR - 110 G to 205 G

 SPACING FOR SERVICE

 SPACING FOR AIR FLOW



SINGLE UNIT



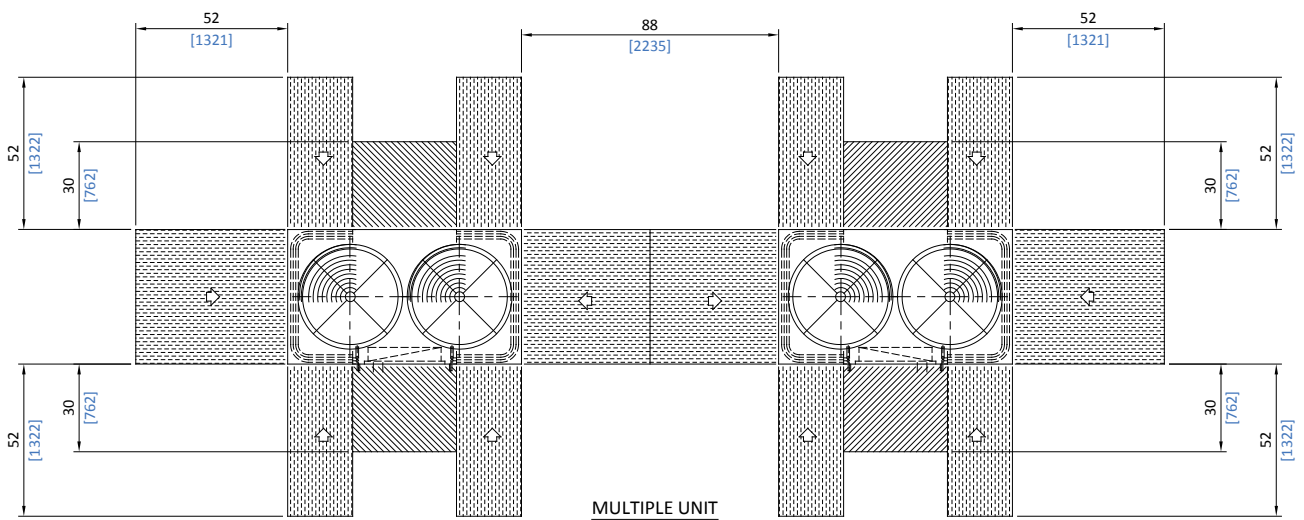
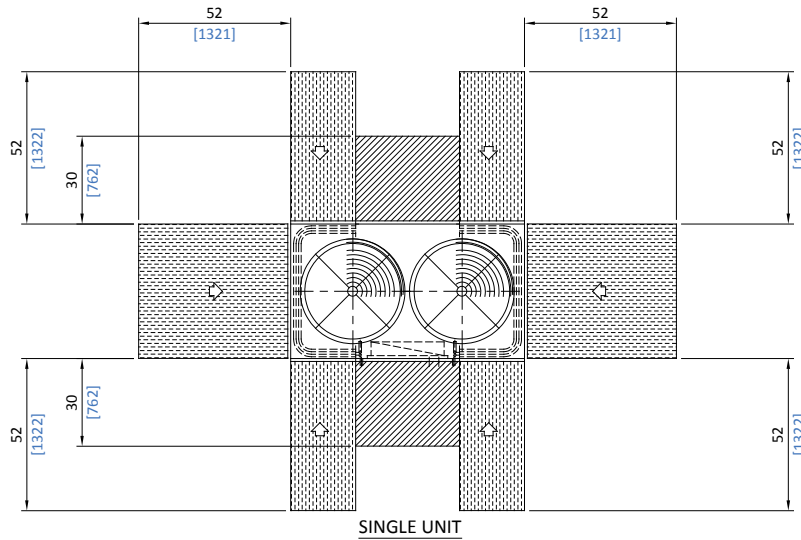
MULTIPLE UNIT

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Recommended Clearances (ESMA APPROVED)

AUMR - 240 G to 260 G



 SPACING FOR SERVICE  SPACING FOR AIR FLOW

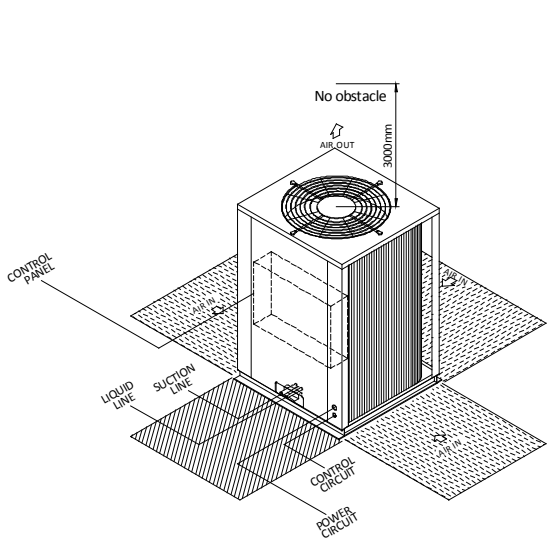


SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

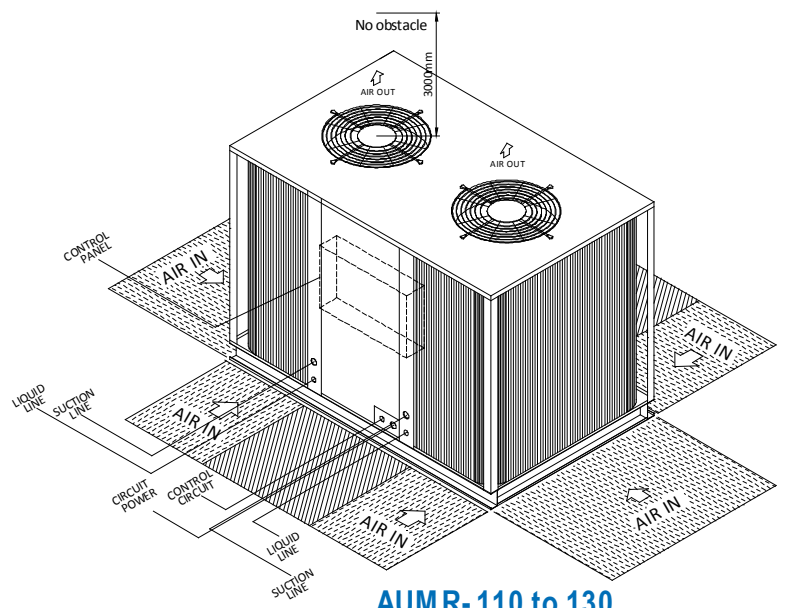
Installation and Commissioning

- Install the unit in such a location which is flat and strong enough to support its weight.
- All field wiring must comply with applicable local and national codes.
- Service spacing should be provided as shown in the figure. If any obstacles are around the unit, distributed air is short-circuited so that the unit stops frequently and access to the unit is difficult for inspection and aftersales services.

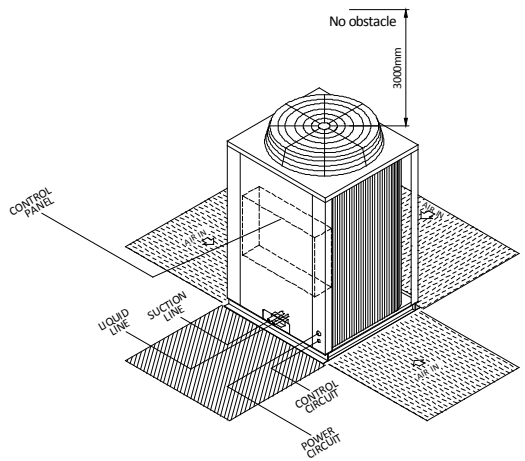
 SPACING FOR SERVICE
  SPACING FOR AIR FLOW



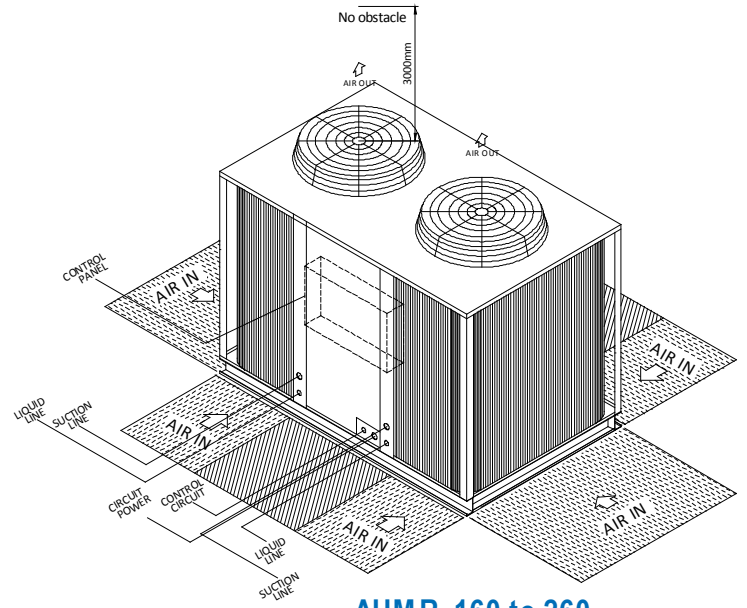
AUMR-050



AUMR-110 to 130



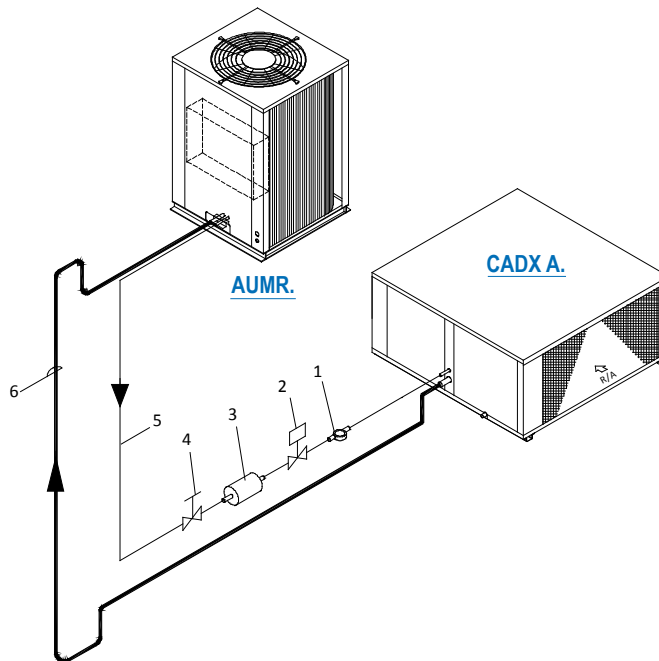
AUMR-060 to 100



AUMR-160 to 260

SKM Split Air Conditioners AUMR + CADX-A Series - R-410A

Typical Refrigeration Piping

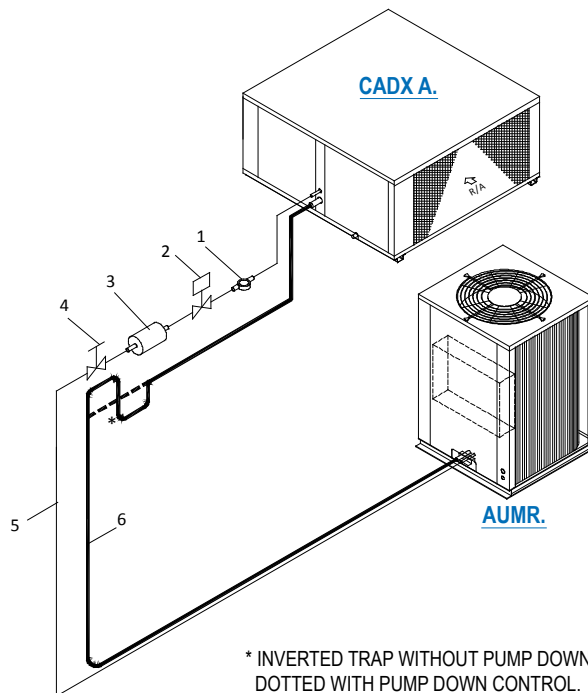


LEGEND

- 1-SIGHT GLASS.
- 2-SOLENOID VALVE.
- 3-FILTER DRIER.
- 4-SHUT OFF VALVE.
- 5-LIQUID LINE.
- 6-SUCTION LINE.

NOTE:

EXPANSION VALVE INSIDE CADX A.



LEGEND

- 1-SIGHT GLASS.
- 2-SOLENOID VALVE.
- 3-FILTER DRIER.
- 4-SHUT OFF VALVE.
- 5-LIQUID LINE.
- 6-SUCTION LINE.

NOTE:

EXPANSION VALVE INSIDE CADX A.

* INVERTED TRAP WITHOUT PUMP DOWN CONTROL.
DOTTED WITH PUMP DOWN CONTROL.

Refrigerant Piping:

Correct design and size of refrigerant piping is necessary to proper operation. The refrigerant piping generally should be designed to accomplish the following:

- a) To ensure proper refrigerant feed to the evaporator.
- b) To provide practical refrigerant line sizes without excessive pressure drop.
- c) To maintain uniform return of lubricating oil to the compressor.
- d) To prevent refrigerant from entering the compressor and causing compressor damage due to "slugging".

GUIDE SPECIFICATIONS

GENERAL

Split air conditioner shall be composed of compressor(s), condenser & evaporator coils with fans, refrigerant piping, electrical components & enclosing cabinet in one piece. These units shall be factory assembled, internally wired, fully refrigerant charged with R410A, tested under strict quality standards & are suitable for outdoor installation on rooftop or ground level with ducted system. These units shall be capable to operate from 50 °F (10°C) to 125 °F (51.7°C) ambient temperature without failure & shall be rated in accordance with AHRI-340/360 and AHRI- 210/240 standards. Capacity as per attached schedule.

CONDENSING UNIT

The condensing unit shall be composed of compressor(s), coil(s) and condenser fan(s) and motor(s).

COMPRESSOR(S)

Compressor shall be hermetically sealed, compact high efficiency and low noise scroll type. These compressors are refrigerant gas cooled, furnished with advanced scroll temperature protection or internal motor protection.

CONDENSER COIL(S)

Condenser coils shall be air cooled with integral sub cooler, constructed of special inner grooved seamless copper tubes 3/8" OD mechanically expanded into waffle louver aluminum fins. These coils shall be tested against leakage by high pressure under water, cleaned & dehydrated at the factory.

CONDENSER FAN(S) & MOTOR(S)

The machine shall be furnished with direct driven propeller type discharging air upward condenser fans. Fans shall be constructed of corrosion resistant blades such as heavy gauge aluminum. The fan and drive shall be held in proper alignment. Fan assemblies shall be provided with heavy gauge, rust resistant steel wire fan guard. All condenser fans shall be individually, statically, and dynamically balanced for vibration free operation. Motors shall be Totally Enclosed Air Over (TEAO), 4 pole or 6 pole, class F insulation, minimum IP-54 protection and factory wired to unit control panel.

EVAPORATOR COIL

Evaporator coil shall be constructed of inner grooved copper tubes 3/8" OD mechanically bonded to aluminum cross wave fins. Coil consists of headers of seamless copper tubing, thermostatic expansion valve(s) & multi-circuited distributor(s). These coils shall be tested against leakage by 450 psig high pressure under water, cleaned & dehydrated at the factory. Coil shall conform to AHRI-410.

EVAPORATOR FAN & MOTOR

Fans of evaporators shall be forward curved, double inlet double width (DIDW), centrifugal type, Statically & dynamically balanced, mounted on a single heavy duty statically & shaft with permanently lubricated bearings & driven by V belt with an adjustable variable pitch motor pulley. Motor shall be Totally Enclosed Fan Cooled (TEFC), 4 poles, class-F insulated, minimum IP55 protection & wired to unit control panel.

CASING

The unit casing for **CADX-A** is made of zinc coated galvanized steel sheets conforming to JIS-G3302 and ASTM A525 which is phosphatized and baked after an electrostatic powder coat of approximately 60 microns. This finish and coating can pass a 1000 hour in 5% salt spray testing at 95°F (35°C) and 95% relative humidity as per ASTM B117. Panels and casing are insulated with 1" (25mm) thick fiberglass (with BGT coating) thermal and acoustic insulation having density of 2 lb/ft³. (32 kg/m³) and thermal conductivity of 0.23 BTU.in/ft²°Fh (0.033 W/m²K). Insulation meets the requirements of NFPA 90A and 90B for fire resistance.

FILTER SECTION

Air handling units shall be provided with air filter. Filter should be 1" (25mm) standard or 2" (50mm) thick optional washable aluminum media with average dust arresstance 54% based on ASHRAE standards 52.1.

CONTROL PANEL

The panel shall be factory wired and confirm to IP-54 requirements. Control panel shall contain compressor and motor starting contactors, electronic control board for unit operation, compressor anti-recycle time delay, control on/off switch, control circuit breaker and power & control terminal blocks. High and Low pressure switches should be provided for protection.



*you name it
we cool it*

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