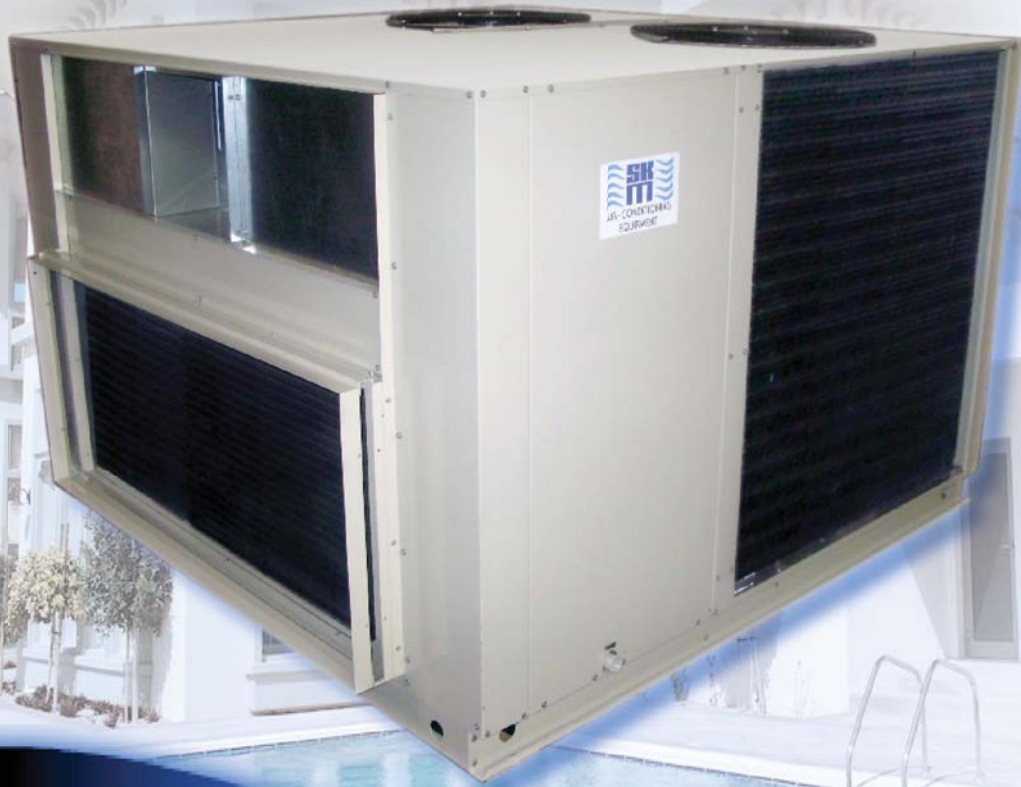


APMR Series Packaged Air Conditioners

Range 5 TR to 32 TR
(20 kW to 112 kW)



Bulletin # 076/2011



R-410A

60Hz

CE

ISO 9001
BUREAU VERITAS
Certification



SKM Packaged Airconditioning Units APMR Series - R410A



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Introduction

New SKM **APMR** Series Packaged Air Conditioners are designed and manufactured to meet the requirements of Gulf's severe climatic conditions and are built specifically for ducted systems which will enable them to be installed easily on roof tops or on the ground.

The **APMR** series Packaged Air Conditioners are compact, quiet, most efficient and self contained units are ideal for commercial and top end residential applications.

SKM **APMR** Series are available in 13 different sizes from 5.0 to 32 TR (20 to 112 kW) in 60 Hz at nominal AHRI conditions. APMR units are designed, rated and manufactured in accordance with AHRI 210/240 and 340/360 standards.

The **APMR** series units from SKM are completely assembled, leak tested, vacuumed, internally wired and fully charged with R-410A refrigerant at factory. Each unit is fully factory tested before dispatch and is ready for installation. All that is required on the site is to connect ducts, drain lines, main power supply and field wiring to the thermostat. This greatly reduces the installation work and cost.

SKM **APMR** series packaged air conditioners are designed to operate in a wide ambient temperature range between 50°F (10°C) to 125°F (52°C). Two independent refrigeration circuits are provided where two compressors are used.

SKM Airconditioning Equipment,



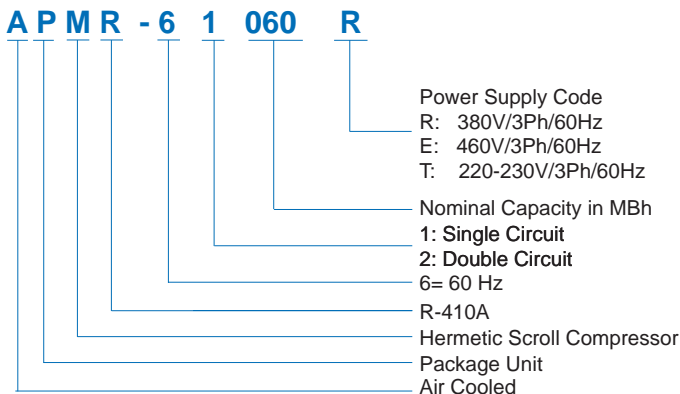
Built in the Gulf...for the World

Legend

The following legends are used throughout this manual:

cfm..... Cubic feet per minute	AFR Air Flow Rate
Hz Hertz	MBh BTUH x 1000
kW Kilowatts	Ph Phase
kg..... Kilogram	PI..... Power Input of Compressor
lbs..... Pounds	BPF..... By Pass Factor
l/s..... Liters per second	TR..... Tons of Refrigeration
Pa Pascal	V Volts
in. wg Inch water gauge	

Nomenclature



SKM Packaged Airconditioning Units APMR Series - R410A



General Features

The APMR Series is a modern, diversified and environment friendly series of packaged air conditioners which use R-410A refrigerant.

The APMR Series Packaged Air Conditioners are yet another new unique series from SKM incorporates many salient features which, together, provides a heavy duty, robust, long lasting commercial unit meant for high end residential and commercial applications. The APMR series models combine high efficiency condenser and cooling coils, evaporator blower and heavy duty motor in addition to premium safety and operational controls.

The complete APMR packaged unit provides an extremely rugged, long life, energy efficient, self contained packaged air conditioner that will provide cooling with higher efficiency over a long and extended life.

What makes APMR series yet another model in the top class range of SKM products is the use of:

- High efficiency totally sealed scroll hermetic compressors.
- Totally enclosed, Class F insulated, minimum IP55 protected condenser and evaporator fan motors.
- Heavy duty condenser and evaporator coils optimised in design for long-life maintenance free operation.
- Cabinet construction specifically designed for Gulf climates.
- Electrical panel with many features, as standard.
- Typically, much heavier gauge tubing and thicker fins for ruggedness and long life.

Main Component Features

The common standard features of all APMR series packaged units include the following

Compressors

Compressors used in APMR packaged unit series are hermetically sealed, 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 internally protected for overloads and Totally Enclosed Air Over (TEAO), six pole with Class F insulation and minimum IP55 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. Motors are wired to the control panel to control the operation of these motors along with the compressors.



Figure 1 : Condenser Fan Motor arrangement for Models APMR 61060-62180

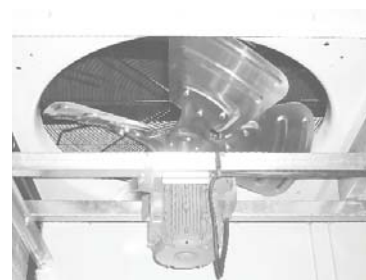


Figure 2 : Condenser Fan Motor arrangement for Models APMR 62200-62380

Evaporator

Evaporator coils are manufactured from plain copper tubes mechanically bonded to aluminium cross wave fins to ensure optimum heat transfer. All evaporator coils are tested against leakage by high air pressure of 450 psig (3100 kPa) under water. Coils conform to AHRI-410.

SKM Packaged Airconditioning Units

APMR Series - R410A

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, IP55 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.

Casing and Structure

The unit casing used in APMR 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.

The evaporator section is insulated from all the sides with 1" thick fiber glass insulation with extremely tough and durable black composite surface. The insulation cum sound liner meets the fire requirements of NFPA 90A & 90B and is secured with mechanical fasteners in addition to water resistant adhesive.

Refrigerant R- 410A

Why 410A?

R410A has a higher volumetric cooling capacity compared to R22 and has better thermal exchange properties. This results in overall performance gains in terms of system efficiency. The greater density of the vapour in R410A 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 R22 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 R22
- Lubricating oil: Ester Oil Absorb moisture easily
Never mix with mineral oil
- Tools exclusive for R410A
- Never mix R410A with other refrigerant
- Driers, valves and even copper tube must be approved for use with R410A.
- Never allow refrigerant cylinders to exceed 60°C.

Control Panel

The APMR packaged Air Conditioners are provided with IP-54 control panel enclosure comprising all starting, operating and safety controls.

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

- Compressor motor contactors.
- Condenser fan motor contactor and overload relays.
- Evaporator Fan motor contactor and overload relays.
- 24Volts low voltage fused transformer for user supplied and installed room thermostat.
- Compressor short cycling protection.
- Control disconnect switch for each circuit.
- Power and control circuit terminal blocks.
- High pressure protector.
- Low pressure protector.

Optional Features

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

Voltage Monitoring Modules (VMM)

Provides protection to APMR-Series Package unit in the event of:

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

High & Low Pressure Gauges (SDG)

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

1" (25mm) / 2" (50mm) Flat Filter Section (FFS)

For heavy filtration, need a section, can be provided without or with aluminium cleanable filter (with 1" filter add 1AF and for 2" filter add 2AF).

SKM Packaged Airconditioning Units APMR Series - R410A



Liquid Line Sight Glass (RSG)

For monitoring refrigerant charge and to provide visual indication of moisture presence in the system.

Electric Heating (HC@)

The following electric heaters are available as optional accessories on request. Components include electric heater elements, magnetic contactors, thermal safety cut-out (manual & auto) and airflow switch.

MODEL	HEATER (kW)	STAGES
APMR		
61060	4.5	1
61075		
61090		
61100	9	1
62125		
62140		
62160	18	2
62180		
62200		
62250		
62270	24	2
62300		
62380		

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.

With this option, each circuit will be provided with an additional discharge check valve to prevent Refrigeration Migration from High side to Low side when the compressor is off.

Low Voltage Thermostat (CHTS)

(1 or 2 stages as per model) for wall mounting and for either cooling (COTS) or cooling/heating (CHTS) operation (not required with MCP Option).

Extra Shut-off Valve (XFV)

To fully isolate refrigerant filter drier; an additional shut-off valve can be incorporated in the liquid line.

Alternative Condenser Material

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

- For Copper Fins specify (FC)
- For Precoated Aluminum Fins, specify (FAP)
- For Aluminum Fins with Aeris Coat Protection, specify (FAA)
- 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 (FC)
- For Precoated Aluminum Fins, specify (FAP)
- For Aluminum Fins with Aeris Coat Protection, specify (FAA)
- For Copper Fins with Aeris Coat Protection, specify (FCA)

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.

Double Skin Insulation (DSI)

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

External Overload Protection (EOP)

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

Factory Installed

Microprocessor Based Control (MCP)

The controller consists of modules with on board display and user interface terminals. The controller has compact dimensions and can manage package unit with cooling / heating circuits. The controller has the following features.

- Built in anti recycle timer to prevent compressor short cycling.
- Auto, lead/lag of the compressor.
- Common alarm available through the dry contact.
- Remote start/stop of the unit.
- Cooling and heating functions are available.

Remote Terminal:

It is sophisticated graphic LCD for the panel mounting, installation on the unit, or remote wall mounting, for the complete control of the unit. This terminal has an excellent feature for servicing and setting up the unit.



SKM Packaged Airconditioning Units APMR Series - R410A

ENGINEERING SPECIFICATIONS - 60 Hz

Model	APMR	61060	61075	61090	61100	62125	62140	62160	
Cooling Capacity (1)	MBh	61.1	75.9	94.5	106.7	122.7	142.4	162.1	
	kW	17.9	22.2	27.7	31.3	36.0	41.7	47.5	
Cooling Capacity (2)	MBh	55.2	68.7	85.6	96.2	110.8	129.2	147.0	
	kW	16.2	20.1	25.1	28.2	32.5	37.9	43.1	
Compressor	Type	-	Hermetic Scroll						
	Quantity	-	1	1	1	1	2	2	2
	Oil Charge	US Gal	0.41	0.41	0.41	0.79	0.83	0.83	0.83
		Liter	1.57	1.57	1.57	3	3.14	3.14	3.14
Condenser Coil	Type	-	Waffle louver fins and Hi-X tubes						
	Face Area	ft ²	19.4	19.4	26.7	26.7	40.0	40.0	40.0
		m ²	1.8	1.8	2.5	2.5	3.7	3.7	3.7
Condenser Fan	Type	-	Propeller Direct Drive						
	Code / Quantity	-	560/1	560/1	560/2	560/2	560/2	560/2	628/2
	Air Flow Rate	cfm	4740	4740	8400	8400	8400	8400	11640
		l/s	2237	2237	3964	3964	3964	3964	5493
Condenser Motor	Type	-	Totally Enclosed Air Over, Class-F insulation, 6-pole, IP55 Protected						
	Size / Quantity	kW	0.37/1	0.37/1	0.37/2	0.37/2	0.37/2	0.37/2	0.45/2
Evaporator Coil	Type	-	Plain-Tubes						
	Face Area	ft ²	4.6	6.4	7.5	7.5	9.7	9.7	12.5
		m ²	0.4	0.6	0.7	0.7	0.9	0.9	1.2
Evaporator Fan	Type	-	Centrifugal DIDW Belt Drive						
	Code / Quantity	-	N10-S	N10-S	N12-S	N12-S	N15-S	N15-S	N12-D
	Air Flow Rate	cfm	2000	2400	3000	3000	4000	4000	5700
		l/s	944	1133	1416	1416	1888	1888	2690
Evaporator Motor	Type	-	Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.						
	Size	kW	0.55	0.75	1.1	1.1	1.1	1.1	2.2
Refrigerant (R - 410A) Operating Charge	lbs	9.5	9.5	12.1	12.7	11.5	13.4	21.4	
	kg	4.3	4.3	5.5	5.8	5.2	6.1	9.7	
Number of Refrigerant Circuits	-	1	1	1	1	2	2	2	
Unit Operating Weight	lbs	619	684	768	835	1201	1242	1326	
	kg	281	310	348	379	545	563	601	

Table 2

Notes:

- 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.
- 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.
- Capacity is gross capacity which does not include the effect of evaporator fan motor heat.

SKM Packaged Airconditioning Units APMR Series - R410A



ENGINEERING SPECIFICATIONS - 60 Hz

Model	APMR	62180	62200	62250	62270	62300	62380	
Cooling Capacity (1)	MBh	186.4	203.8	248.2	267.9	310.6	381.8	
	kW	54.6	59.7	72.7	78.5	91.0	111.9	
Cooling Capacity (2)	MBh	167.9	183.7	224.6	241.8	280.5	346.0	
	kW	49.2	53.8	65.8	70.9	82.2	101.4	
Compressor	Type	-	Hermetic Scroll					
	Quantity	-	2	2	2	2	2	2
	Oil Charge	US Gal	0.83	1.59	1.74	1.74	1.74	3.54
		Liter	3.14	6	6.6	6.6	6.6	13.4
Condenser Coil	Type	-	Waffle louver fins and Hi-X tubes					
	Face Area	ft ²	40.0	40.0	54.7	54.7	54.7	53.3
		m ²	3.7	3.7	5.1	5.1	5.1	5.0
	Condenser Fan	Type	-	Propeller Direct Drive				
Code / Quantity		-	628/2	723/2	729/2	729/2	823/2	823/2
Air Flow Rate		cfm	11640	16680	18740	18740	24140	23620
		l/s	5493	7872	8844	8844	11393	11147
Condenser Motor	Type	-	Totally enclosed air over, Class-F insulation, 6-pole, IP55 Protected					
	Size / Quantity	kW	0.45/2	1.1/2	1.5/2	1.5/2	1.5/2	1.5/2
Evaporator Coil	Type	-	Plain-Tubes					
	Face Area	ft ²	12.5	16.0	21.7	21.7	21.7	21.7
		m ²	1.2	1.5	2.0	2.0	2.0	2.0
Evaporator Fan	Type	-	Centrifugal DIDW Belt Drive					
	Code / Qty.	-	N12-D	N12-D	N15-D	N15-D	N15-D	N15-D
	Air Flow Rate	cfm	5700	6600	8000	8000	8000	10000
		l/s	2690	3115	3776	3776	3776	4719
Evaporator Motor	Type	-	Totally enclosed fan cooled, Class-F insulation, 4-pole, IP55 Protected.					
	Size	kW	2.2	2.2	2.2	2.2	2.2	4
Refrigerant (R - 410A) Operating Charge	lbs	22.5	22.3	30.5	30.5	32.6	46.2	
	kg	10.2	10.1	13.8	13.8	14.8	21.0	
Number of Refrigerant Circuits	-	2	2	2	2	2	2	
Unit Operating Weight	lbs	1353	1655	1872	1872	1958	2227	
	kg	614	751	849	849	888	1010	

Table 3

Notes:

- 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.
- 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.
- Capacity is gross capacity which does not include the effect of evaporator fan motor heat.



SKM Packaged Airconditioning Units APMR Series - R410A

GROSS CAPACITY RATINGS - 60 Hz

Model APMR	AFR		Condenser Entering Air Temperature																							
	cfm l/s (BPF)	EWB		95°F (35°C)						105°F (41°C)						115°F (46°C)						125°F (52°C)				
		°F	°C	Total Capacity		Sensible Capacity		PI	Total Capacity		Sensible Capacity		PI	Total Capacity		Sensible Capacity		PI	Total Capacity		Sensible Capacity		PI			
				MBh	KW	MBh	KW	KW	MBh	KW	MBh	KW	KW	MBh	KW	MBh	KW	KW	MBh	KW	MBh	KW	KW			
61060	1260	62	16.7	51.80	15.20	41.50	12.20	4.10	49.30	14.50	40.40	11.80	4.70	46.60	13.70	39.20	11.50	5.30	44.00	12.90	38.00	11.10	5.90			
	595	67	19.4	56.20	16.50	35.10	10.30	4.20	53.60	15.70	34.10	10.00	4.80	50.90	14.90	33.00	9.70	5.40	48.20	14.10	31.90	9.30	6.00			
	0.17	72	22.2	60.30	17.70	28.40	8.30	4.20	57.70	16.90	27.40	8.00	4.80	54.90	16.10	26.40	7.70	5.40	52.10	15.30	25.40	7.50	6.00			
	2000	62	16.7	56.10	16.40	52.10	15.30	4.20	53.40	15.60	51.00	14.90	4.80	50.40	14.80	49.80	14.60	5.40	47.50	13.90	47.50	13.90	6.00			
	944	67	19.4	61.10	17.90	42.90	12.60	4.20	58.20	17.10	41.90	12.30	4.80	55.20	16.20	40.80	11.90	5.40	52.10	15.30	39.60	11.60	6.00			
	0.22	72	22.2	65.70	19.30	33.50	9.80	4.30	62.70	18.40	32.50	9.50	4.90	59.60	17.50	31.50	9.20	5.50	56.40	16.50	30.40	8.90	6.00			
	2521	62	16.7	57.90	17.00	57.90	17.00	4.20	55.10	16.10	55.10	16.10	4.80	52.00	15.20	52.00	15.20	5.40	48.90	14.30	48.90	14.30	6.00			
	1190	67	19.4	63.10	18.50	47.80	14.00	4.30	60.10	17.60	46.70	13.70	4.80	57.00	16.70	45.60	13.40	5.50	53.70	15.70	44.50	13.00	6.00			
	0.26	72	22.2	68.00	19.90	36.60	10.70	4.30	64.80	19.00	35.60	10.40	4.90	61.60	18.10	34.60	10.10	5.50	-	-	-	-	-			
61075	1769	62	16.7	66.30	19.40	55.40	16.20	5.40	63.00	18.50	54.00	15.80	6.10	59.70	17.50	52.50	15.40	6.90	56.40	16.50	51.10	15.00	7.50			
	835	67	19.4	71.90	21.10	46.50	13.60	5.50	68.60	20.10	45.20	13.20	6.20	65.30	19.10	43.80	12.80	7.00	61.90	18.10	42.50	12.50	7.60			
	0.17	72	22.2	77.30	22.70	37.20	10.90	5.60	73.90	21.70	36.00	10.50	6.30	70.40	20.60	34.80	10.20	7.00	66.80	19.60	33.50	9.80	7.70			
	2400	62	16.7	69.70	20.40	64.60	18.90	5.50	66.30	19.40	63.10	18.50	6.20	62.80	18.40	61.70	18.10	6.90	59.30	17.40	59.30	17.40	7.60			
	1133	67	19.4	75.90	22.20	53.30	15.60	5.60	72.30	21.20	51.90	15.20	6.30	68.70	20.10	50.60	14.80	7.00	65.00	19.00	49.20	14.40	7.70			
	0.2	72	22.2	81.70	23.90	41.60	12.20	5.70	78.00	22.90	40.30	11.80	6.40	74.20	21.80	39.10	11.50	7.10	72.20	21.20	38.50	11.30	7.40			
	3538	62	16.7	73.50	21.50	73.50	21.50	5.60	69.80	20.50	69.80	20.50	6.30	66.00	19.40	66.00	19.40	7.00	62.20	18.20	62.20	18.20	7.60			
	1670	67	19.4	80.10	23.50	64.10	18.80	5.70	76.20	22.30	62.80	18.40	6.40	72.30	21.20	61.40	18.00	7.10	68.20	20.00	59.90	17.60	7.70			
	0.26	72	22.2	86.30	25.30	48.50	14.20	5.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
61090	2064	62	16.7	81.30	23.80	66.40	19.50	6.20	77.50	22.70	64.70	19.00	7.00	73.40	21.50	62.90	18.40	7.70	69.30	20.30	61.10	17.90	8.50			
	974	67	19.4	88.30	25.90	56.00	16.40	6.30	84.40	24.70	54.40	15.90	7.00	80.20	23.50	52.70	15.50	7.80	76.00	22.30	51.10	15.00	8.60			
	0.17	72	22.2	95.00	27.80	45.10	13.20	6.40	90.90	26.60	43.60	12.80	7.10	86.60	25.40	42.10	12.30	7.90	82.20	24.10	40.60	11.90	8.60			
	3000	62	16.7	86.80	25.40	80.00	23.40	6.30	82.60	24.20	78.30	22.90	7.00	78.20	22.90	76.50	22.40	7.80	73.80	21.60	73.80	21.60	8.50			
	1416	67	19.4	94.50	27.70	66.00	19.40	6.40	90.10	26.40	64.40	18.90	7.10	85.60	25.10	62.70	18.40	7.90	81.00	23.70	61.00	17.90	8.60			
	0.21	72	22.2	101.80	29.80	51.60	15.10	6.40	97.20	28.50	50.10	14.70	7.10	92.60	27.10	48.60	14.20	7.90	87.70	25.70	47.00	13.80	8.70			
	4128	62	16.7	90.70	26.60	90.70	26.60	6.30	86.30	25.30	86.30	25.30	7.00	81.60	23.90	81.60	23.90	7.80	76.90	22.50	76.90	22.50	8.60			
	1948	67	19.4	98.90	29.00	76.70	22.50	6.40	94.30	27.60	75.10	22.00	7.10	89.40	26.20	73.40	21.50	7.90	84.40	24.70	71.60	21.00	8.60			
	0.26	72	22.2	106.70	31.30	58.50	17.10	6.40	101.80	29.80	56.90	16.70	7.20	-	-	-	-	-	-	-	-	-	-			
61100	2064	62	16.7	90.00	26.40	73.20	21.40	7.00	85.90	25.20	71.30	20.90	7.90	81.40	23.80	69.20	20.30	9.00	76.80	22.50	67.10	19.70	9.90			
	974	67	19.4	98.00	28.70	62.00	18.20	7.20	93.60	27.40	60.20	17.60	8.10	88.90	26.00	58.20	17.10	9.10	84.10	24.60	56.20	16.50	10.10			
	0.09	72	22.2	105.60	31.00	50.30	14.70	7.30	101.00	29.60	48.50	14.20	8.30	96.00	28.10	46.70	13.70	9.30	91.00	26.70	44.90	13.10	10.20			
	3000	62	16.7	97.70	28.60	89.40	26.20	7.20	93.00	27.30	87.40	25.60	8.10	87.90	25.80	85.20	25.00	9.10	82.70	24.20	82.70	24.20	10.10			
	1416	67	19.4	106.70	31.30	74.10	21.70	7.30	101.70	29.80	72.20	21.20	8.30	96.20	28.20	70.10	20.60	9.30	90.80	26.60	68.10	20.00	10.20			
	0.12	72	22.2	115.20	33.80	58.30	17.10	7.50	109.80	32.20	56.40	16.50	8.50	104.10	30.50	54.50	16.00	9.50	-	-	-	-	-			
	4128	62	16.7	103.10	30.20	103.10	30.20	7.30	97.90	28.70	97.90	28.70	8.20	92.30	27.10	92.30	27.10	9.20	86.80	25.40	86.80	25.40	10.10			
	1948	67	19.4	112.80	33.10	87.00	25.50	7.50	107.20	31.40	84.90	24.90	8.40	101.20	29.70	82.80	24.30	9.40	95.40	28.00	80.80	23.70	10.30			
	0.14	72	22.2	121.90	35.70	66.60	19.50	7.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
62125	2674	62	16.7	105.30	30.90	86.00	25.20	8.40	100.20	29.40	83.70	24.50	9.60	94.70	27.70	81.30	23.80	10.80	89.20	26.10	78.90	23.10	12.00			
	1262	67	19.4	114.30	33.50	72.50	21.20	8.50	108.90	31.90	70.30	20.60	9.70	103.40	30.30	68.10	20.00	11.00	97.70	28.60	65.90	19.30	12.10			
	0.17	72	22.2	122.80	36.00	58.30	17.10	8.60	117.30	34.40	56.30	16.50	9.80	111.60	32.70	54.30	15.90	11.10	105.70	31.00	52.30	15.30	12.20			
	4000	62	16.7	112.80	33.10	105.10	30.80	8.50	107.20	31.40	102.80	30.10	9.70	101.20	29.70	100.40	29.40	10.90	95.20	27.90	95.20	27.90	12.10			
	1888	67	19.4	122.70	36.00	86.60	25.40	8.60	116.80	34.20	84.40	24.70	9.80	110.80	32.50	82.10	24.10	11.00	104.50	30.60	79.90	23.40	12.20			
	0.22	72	22.2	132.10	38.70	67.50	19.80	8.80	126.00	36.90	65.40	19.20	9.90	119.70	35.10	63.40	18.60	11.10	113.20	33.20	61.30	18.00	12.20			
	5347	62	16.7	117.30	34.40	117.30	34.40	8.60	111.30	32.60	111.30	32.60	9.70	105.10	30.80	105.10	30.80	11.00	98.80	29.00	98.80	29.00	12.10			
	2523	67	19.4	127.80	37.50	99.30	29.10	8.70	121.60	35.60	97.10	28.40	9.90	115.10	33.70	94.80	27.80	11.10	108.40	31.80	92.50	27.10	12.20			
	0.26	72	22.2	137.80	40.40	75.60	22.10	8.80	131.20	38.50	73.50	21.60	10.00	-	-	-	-	-	-	-	-	-	-			
62140	2674	62	16.7	117.80	34.50	95.40	28.00	9.90	112.10	32.90	92.70	27.20	11.10	106.10	31.10	90.00	26.40	12.30	100.20	29.40	87.30	25.60	13.40			
	1262	67	19.4	127.80	37.50	80.70	23.60	10.00	122.00	35.80	78.20	22.90	11.20	115.90	34.00	75.70	22.20	12.40	109.90	32.20	73.30	21.50	13.50			
	0.09	72	22.2	137.40	40.30	65.30	19.10	10.20	131.30	38.50	63.00	18.50	11.40	125.10	36.70	60.70	17.80	12.50	118.70	34.80	58.40	17.10	13.70			
	4000	62	16.7	128.20	37.60	118.00	34.60	10.00	121.80	35.70	115.30	33.80	11.20	115.30	33.80	112.60	33.00	12.40	108.70	31.90	108.70	31.90	13.50			
	1888	67	19.4	139.60	40.90	97.60	28.60	10.20	133.00	39.00	95.10	27.90	11.40	126.20	37.00	92.50	27.10	12.60	119.10	34.90	89.90	26.30	13.70			
	0.12	72	22.2	150.30	44.00	76.50	22.40	10.30	143.40	42.00	74.10	21.70	11.50	136.30	40.00	71.70	21.00	12.70	-	-	-	-	-			
	5347	62	16.7	134.30	39.40	134.30	39.40	10.10	127.50	37.40	127.50	37.40	11.30	120.50	35.30	120.50	35.30	12.50	113.50	33.30	113.50	33.30	13.60			
	2523	67	19.4	146.40	42.90	112.80	33.10	10.30	139.30	40.80	110.20	32.30	11.50	132.0												

SKM Packaged Airconditioning Units APMR Series - R410A



GROSS CAPACITY RATINGS - 60 Hz

Model	AFR cfm /s (BPF)	EWB °F °C		Condenser Entering Air Temperature																			
				95°F (35°C)					105°F (41°C)					115°F (46°C)					125°F (52°C)				
				Total Capacity		Sensible Capacity		PI	Total Capacity		Sensible Capacity		PI	Total Capacity		Sensible Capacity		PI	Total Capacity		Sensible Capacity		PI
				MBh	kW	MBh	kW	kW	MBh	kW	MBh	kW	kW	MBh	kW	MBh	kW	kW	MBh	kW	MBh	kW	kW
62180	3438	62	16.7	154.50	45.30	124.00	36.40	13.40	146.70	43.00	120.40	35.30	14.90	138.70	40.60	116.70	34.20	16.40	130.90	38.40	113.20	33.20	17.90
	1622	67	19.4	167.40	49.10	105.00	30.80	13.60	159.50	46.80	101.70	29.80	15.10	151.50	44.40	98.40	28.80	16.60	143.30	42.00	95.00	27.90	18.00
	0.09	72	22.2	179.80	52.70	85.20	25.00	13.80	171.70	50.30	82.10	24.10	15.30	163.40	47.90	79.00	23.20	16.80	154.70	45.30	75.90	22.20	18.20
	5700	62	16.7	171.30	50.20	162.10	47.50	13.60	162.50	47.60	158.40	46.40	15.10	153.50	45.00	153.50	45.00	16.60	144.50	42.30	144.50	42.30	18.00
	2690	67	19.4	186.40	54.60	133.40	39.10	13.80	177.30	52.00	130.00	38.10	15.40	167.90	49.20	126.40	37.10	16.80	158.10	46.30	122.80	36.00	18.20
	0.13	72	22.2	200.60	58.80	103.80	30.40	14.00	191.10	56.00	100.60	29.50	15.60	-	-	-	-	-	-	-	-	-	-
	6875	62	16.7	176.20	51.70	176.20	51.70	13.70	167.10	49.00	167.10	49.00	15.20	157.80	46.20	157.80	46.20	16.70	148.30	43.50	148.30	43.50	18.10
	3244	67	19.4	192.00	56.30	146.40	42.90	13.90	182.40	53.50	142.90	41.90	15.40	172.60	50.60	139.40	40.80	16.90	162.20	47.50	135.70	39.80	18.30
	0.14	72	22.2	206.80	60.60	112.10	32.90	14.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62200	4400	62	16.7	174.00	51.00	141.90	41.60	14.40	165.90	48.60	138.30	40.50	16.30	157.00	46.00	134.40	39.40	18.40	148.20	43.40	130.50	38.20	20.30
	2076	67	19.4	189.30	55.50	119.80	35.10	14.70	180.60	52.90	116.30	34.10	16.70	171.30	50.20	112.60	33.00	18.70	162.10	47.50	108.90	31.90	20.50
	0.17	72	22.2	203.70	59.70	96.60	28.30	15.10	194.60	57.00	93.30	27.30	17.00	184.90	54.20	89.80	26.30	19.00	175.30	51.40	86.50	25.40	20.80
	6600	62	16.7	187.00	54.80	173.70	50.90	14.70	177.80	52.10	169.90	49.80	16.60	167.90	49.20	165.90	48.60	18.60	158.20	46.40	158.20	46.40	20.50
	3115	67	19.4	203.80	59.70	143.30	42.00	15.10	194.00	56.90	139.60	40.90	17.00	183.70	53.80	135.80	39.80	19.00	173.50	50.90	132.10	38.70	20.80
	0.22	72	22.2	219.70	64.40	111.80	32.80	15.40	209.30	61.30	108.40	31.80	17.40	198.40	58.20	104.90	30.70	19.30	188.00	55.10	101.50	29.70	21.00
	8800	62	16.7	194.60	57.00	194.60	57.00	14.90	184.80	54.20	184.80	54.20	16.80	174.30	51.10	174.30	51.10	18.80	164.10	48.10	164.10	48.10	20.60
	4153	67	19.4	212.40	62.30	164.10	48.10	15.30	201.90	59.20	160.40	47.00	17.20	190.90	55.90	156.50	45.90	19.20	180.10	52.80	152.70	44.80	20.90
	0.26	72	22.2	229.10	67.20	125.10	36.70	15.70	218.00	63.90	121.60	35.60	17.60	-	-	-	-	-	-	-	-	-	-
62250	5958	62	16.7	216.80	63.50	183.70	53.90	17.00	206.90	60.60	179.40	52.60	19.00	196.20	57.50	174.80	51.20	21.20	185.60	54.40	170.20	49.90	23.20
	2812	67	19.4	235.90	69.10	153.90	45.10	17.50	225.30	66.00	149.70	43.90	19.50	214.10	62.70	145.40	42.60	21.60	203.00	59.50	141.10	41.40	23.60
	0.17	72	22.2	253.90	74.40	122.90	36.00	17.90	242.70	71.10	119.00	34.90	19.90	230.90	67.70	114.90	33.70	22.10	219.50	64.30	110.90	32.50	24.00
	8000	62	16.7	227.80	66.80	213.50	62.60	17.30	217.00	63.60	209.10	61.30	19.30	205.50	60.20	204.30	59.90	21.40	194.10	56.90	194.10	56.90	23.40
	3775	67	19.4	248.20	72.80	175.90	51.60	17.70	236.70	69.40	171.60	50.30	19.80	224.60	65.80	167.10	49.00	21.90	212.70	62.30	162.80	47.70	23.80
	0.2	72	22.2	267.50	78.40	137.10	40.20	18.20	255.30	74.80	133.00	39.00	20.30	242.60	71.10	128.90	37.80	22.40	-	-	-	-	-
	11917	62	16.7	240.30	70.40	240.30	70.40	17.60	228.40	67.00	228.40	67.00	19.60	216.00	63.30	216.00	63.30	21.70	203.80	59.70	203.80	59.70	23.60
	5624	67	19.4	262.30	76.90	213.30	62.50	18.10	249.50	73.10	208.80	61.20	20.10	236.30	69.20	204.20	59.90	22.20	223.50	65.50	199.80	58.60	24.10
	0.26	72	22.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62270	5958	62	16.7	233.90	68.50	191.40	56.10	19.50	222.80	65.30	186.40	54.60	21.90	211.10	61.90	181.20	53.10	24.40	199.50	58.50	176.20	51.60	26.60
	2812	67	19.4	253.90	74.40	161.20	47.20	20.00	242.20	71.00	156.50	45.90	22.40	229.90	67.40	151.60	44.40	24.90	217.90	63.90	146.80	43.00	27.00
	0.17	72	22.2	272.80	80.00	129.60	38.00	20.60	260.50	76.30	125.20	36.70	23.00	247.60	72.60	120.70	35.40	25.40	235.20	68.90	116.30	34.10	27.40
	8000	62	16.7	246.40	72.20	221.30	64.90	19.80	234.30	68.70	216.20	63.40	22.20	221.70	65.00	211.00	61.80	24.70	209.20	61.30	205.80	60.30	26.80
	3775	67	19.4	267.90	78.50	183.30	53.70	20.40	255.10	74.80	178.50	52.30	22.80	241.80	70.90	173.50	50.90	25.20	228.90	67.10	168.70	49.40	27.20
	0.2	72	22.2	288.10	84.40	144.00	42.20	21.00	274.60	80.50	139.40	40.90	23.40	260.70	76.40	134.80	39.50	25.70	247.30	72.50	130.40	38.20	27.60
	11917	62	16.7	260.60	76.40	260.60	76.40	20.20	247.40	72.50	247.40	72.50	22.60	233.60	68.50	233.60	68.50	25.00	220.20	64.50	220.20	64.50	27.10
	5624	67	19.4	283.80	83.20	220.80	64.70	20.90	269.70	79.10	215.90	63.30	23.20	255.20	74.80	210.80	61.80	25.50	241.10	70.70	205.90	60.30	27.50
	0.26	72	22.2	305.60	89.60	168.00	49.20	21.50	290.70	85.20	163.30	47.90	23.80	-	-	-	-	-	-	-	-	-	-
62300	5958	62	16.7	267.70	78.50	215.00	63.00	22.40	255.30	74.80	209.20	61.30	25.10	242.10	71.00	203.10	59.50	28.00	229.10	67.10	197.20	57.80	30.60
	2812	67	19.4	290.40	85.10	182.10	53.40	23.00	277.20	81.30	176.60	51.80	25.80	263.40	77.20	170.80	50.10	28.60	249.90	73.20	165.30	48.40	31.10
	0.09	72	22.2	311.80	91.40	147.70	43.30	23.60	297.90	87.30	142.50	41.80	26.40	283.50	83.10	137.10	40.20	29.10	276.40	81.00	134.50	39.40	30.40
	8000	62	16.7	285.70	83.80	250.60	73.50	22.90	271.90	79.70	244.50	71.70	25.60	257.30	75.40	238.30	69.80	28.40	243.10	71.30	232.30	68.10	30.90
	3775	67	19.4	310.60	91.00	208.80	61.20	23.60	295.80	86.70	202.90	59.50	26.30	280.50	82.20	197.00	57.70	29.10	273.00	80.00	194.20	56.90	30.30
	0.11	72	22.2	333.90	97.90	165.30	48.50	24.20	318.40	93.30	159.90	46.90	27.00	302.40	88.60	154.40	45.20	29.70	294.70	86.40	151.70	44.50	30.90
	11917	62	16.7	305.70	89.60	305.70	89.60	23.40	290.20	85.10	290.20	85.10	26.20	274.10	80.30	274.10	80.30	28.90	266.20	78.00	266.20	78.00	30.10
	5624	67	19.4	333.00	97.60	253.80	74.40	24.20	316.30	92.70	247.70	72.60	26.90	299.30	87.70	241.60	70.80	29.60	291.00	85.30	238.70	70.00	30.80
	0.14	72	22.2	358.60	105.10	194.40	57.00	24.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62380	5958	62	16.7	-	-	-	-	-	298.80	87.57	230.00	67.41	31.10	284.20	83.29	222.90	65.33	34.60	269.50	78.99	215.80	63.25	37.90
	2812	67	19.4	337.80	99.00	203.00	59.50	28.50	323.50	94.81	196.60	57.62	31.80	308.20	90.33	189.80	55.63	35.30	293.00	85.87	183.20	53.69	38.50
	0.09	72	22.2	362.10	106.13	167.40	49.06	29.10	347.00	101.70	161.40	47.30	32.50	331.10	97.04	155.10	45.46	36.00	315.30	92.41	149.00	43.67	39.10
	10000	62	16.7	351.80	103.11	306.10	89.71	28.80	335.30	98.27	298.90	87.60	32.20	317.80	93.14	291.40	85.40	35.60	300.60	88.10	284.10	83.26	38.70
	4719	67	19.4	381.80	111.90	254.90	74.71	29.70	364.30	106.77	248.10	72.71	33.00	346.00	101.41	241.00	70.63	36.40	328.10	96.16	234.30	68.67	39.40
	0.13	72	22.2	410.10	120.19	202.00	59.20	30.40	391.60	114.77	195.50	57.30	33.80	372.50	109.17	188.90	55.36	37.10	354.00	103.75	182.60	53.52	40.10
	11917	62	16.7</																				

SKM Packaged Airconditioning Units APMR Series - R410A

FAN PERFORMANCE - 60 Hz

APMR	Air Flow Rate		Internal Static Pressure		External Static Pressure in.wg (Pa)														RPM
					0.2 (50)		0.4 (100)		0.5 (125)		0.6 (150)		0.8 (200)		1.0 (250)		1.25 (312)		Range
	cfm	l/s	in.wg	Pa	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	60 Hz
61060	1260	595	0.22	54	600	0.12	729	0.16	789	0.18	846	0.21	952	0.26	1050	0.31	1162	0.38	805 to 1039
	2000	944	0.53	131.39	812	0.36	900	0.42	943	0.45	985	0.48	1068	0.55	1147	0.62	1242	0.71	
	2521	1190	0.85	211.58	985	0.69	1056	0.76	1091	0.79	1126	0.83	1195	0.91	1261	0.99	1343	1.09	
61075	1769	835	0.22	54.02	640	0.22	742	0.26	792	0.29	840	0.32	935	0.38	1024	0.44	1130	0.51	799 to 1031
	2400	1133	0.38	95.76	797	0.48	875	0.54	913	0.57	951	0.6	1025	0.67	1098	0.74	1186	0.84	
	3538	1670	0.85	211.51	1117	1.42	1170	1.51	1196	1.55	1223	1.6	1275	1.69	1327	1.78	1391	1.9	
61090	2064	974	0.22	54.03	517	0.21	621	0.28	670	0.31	719	0.35	810	0.43	894	0.51	992	0.62	677 to 844
	3000	1416	0.44	109.95	665	0.54	738	0.62	774	0.67	810	0.71	881	0.81	950	0.91	1033	1.04	
	4128	1948	0.85	211.55	871	1.3	924	1.41	951	1.47	977	1.53	1030	1.64	1082	1.77	1147	1.93	
61100	2064	974	0.26	64	538	0.22	641	0.29	690	0.33	737	0.36	827	0.44	911	0.53	1007	0.64	677 to 844
	3000	1416	0.53	131.22	696	0.57	769	0.66	805	0.71	840	0.75	910	0.85	979	0.95	1061	1.09	
	4128	1948	1.02	255.08	918	1.4	971	1.51	997	1.57	1023	1.63	1076	1.75	1128	1.88	1192	2.04	
62125	2674	1262	0.22	54.04	433	0.25	521	0.33	563	0.38	603	0.43	679	0.53	749	0.64	830	0.78	578 to 721
	4000	1888	0.47	116.56	566	0.67	628	0.78	658	0.84	688	0.9	747	1.03	804	1.16	873	1.34	
	5347	2523	0.85	211.53	722	1.5	769	1.64	793	1.71	816	1.78	861	1.94	906	2.09	962	2.3	
62140	2674	1262	0.26	64.02	451	0.26	538	0.35	579	0.4	619	0.45	694	0.55	763	0.66	843	0.8	646 to 805
	4000	1888	0.56	139.24	594	0.72	655	0.83	685	0.89	715	0.96	773	1.09	829	1.22	897	1.4	
	5347	2523	1.02	255.07	763	1.62	810	1.77	833	1.84	856	1.92	901	2.07	945	2.24	1000	2.45	
62160	3438	1622	0.19	47.03	0	0	642	0.45	699	0.52	753	0.59	854	0.75	945	0.91	1048	1.13	681 to 849
	5700	2690	0.51	126.87	716	1.1	796	1.28	835	1.38	874	1.47	950	1.68	1024	1.89	1113	2.17	
	6875	3244	0.75	188.02	838	1.84	904	2.05	937	2.16	970	2.28	1035	2.51	1099	2.75	1177	3.06	
62180	3438	1622	0.23	57.01	0	0	665	0.48	721	0.55	774	0.62	873	0.78	962	0.94	1063	1.16	754 to 941
	5700	2690	0.62	155.4	762	1.2	841	1.39	880	1.49	918	1.59	993	1.8	1065	2.02	1152	2.31	
	6875	3244	0.93	231.56	896	2.03	962	2.25	995	2.36	1027	2.48	1091	2.72	1154	2.97	1231	3.29	
62200	4400	2076	0.19	47.02	0	0	638	0.63	689	0.7	738	0.78	832	0.95	921	1.13	1023	1.37	681 to 849
	6600	3115	0.41	103	711	1.38	781	1.57	816	1.67	851	1.77	919	1.98	987	2.2	1071	2.49	
	8800	4153	0.75	188.02	912	3.09	965	3.33	0	0	0	0	0	0	0	0	0	0	
62250	5958	2812	0.19	47.02	0	0	536	0.8	578	0.9	619	1	696	1.23	769	1.47	854	1.79	582 to 725
	8000	3775	0.33	82.15	548	1.29	614	1.51	647	1.63	679	1.75	742	2.01	803	2.29	877	2.65	
	11917	5624	0.75	188.03	767	3.91	812	4.22	835	4.38	857	4.54	901	4.86	0	0	0	0	
62270	5958	2812	0.19	47.02	0	0	536	0.8	578	0.9	619	1	696	1.23	769	1.47	854	1.79	582 to 725
	8000	3775	0.33	82.15	548	1.29	614	1.51	647	1.63	679	1.75	742	2.01	803	2.29	877	2.65	
	11917	5624	0.75	188.03	767	3.91	812	4.22	835	4.38	857	4.54	901	4.86	944	5.2	988	5.56	
62300	5958	2812	0.23	56.99	0	0	553	0.84	594	0.94	635	1.05	711	1.28	783	1.52	867	1.84	582 to 725
	8000	3775	0.4	100.04	572	1.37	638	1.6	670	1.72	702	1.84	764	2.11	825	2.39	898	2.76	
	11917	5624	0.93	231.57	807	4.18	851	4.5	874	4.659	896	4.826	940	5.169	983	5.526	1026	5.894	
62380	5958	2812	0.23	56.99	0	0	553	0.84	594	0.94	635	1.05	711	1.28	783	1.52	867	1.84	681 to 849
	10000	4719	0.64	159.43	689	2.53	742	2.81	768	2.95	794	3.09	845	3.4	896	3.71	958	4.13	
	11917	5624	0.93	231.57	807	4.18	851	4.5	874	4.659	896	4.826	940	5.169	983	5.526	1026	5.894	

Table 6

Areas shaded in blue indicate factory setting of rpm.

Areas shaded in grey indicate operating range using the standard motor. Shift to larger motor size outside this area.

Internal static pressure is based on pressure drops through evaporator coil and fan casing.

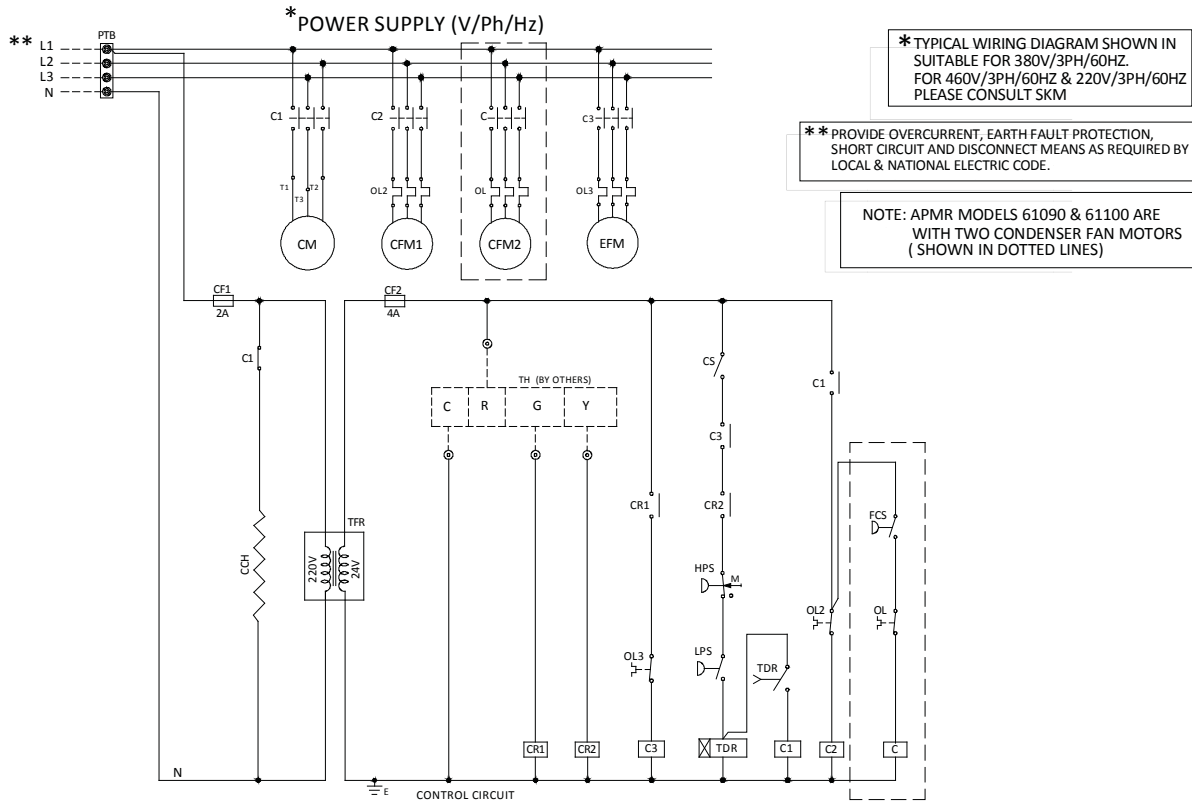
The shown rpm range is with standard pulleys combination.

SKM Packaged Airconditioning Units APMR Series - R410A



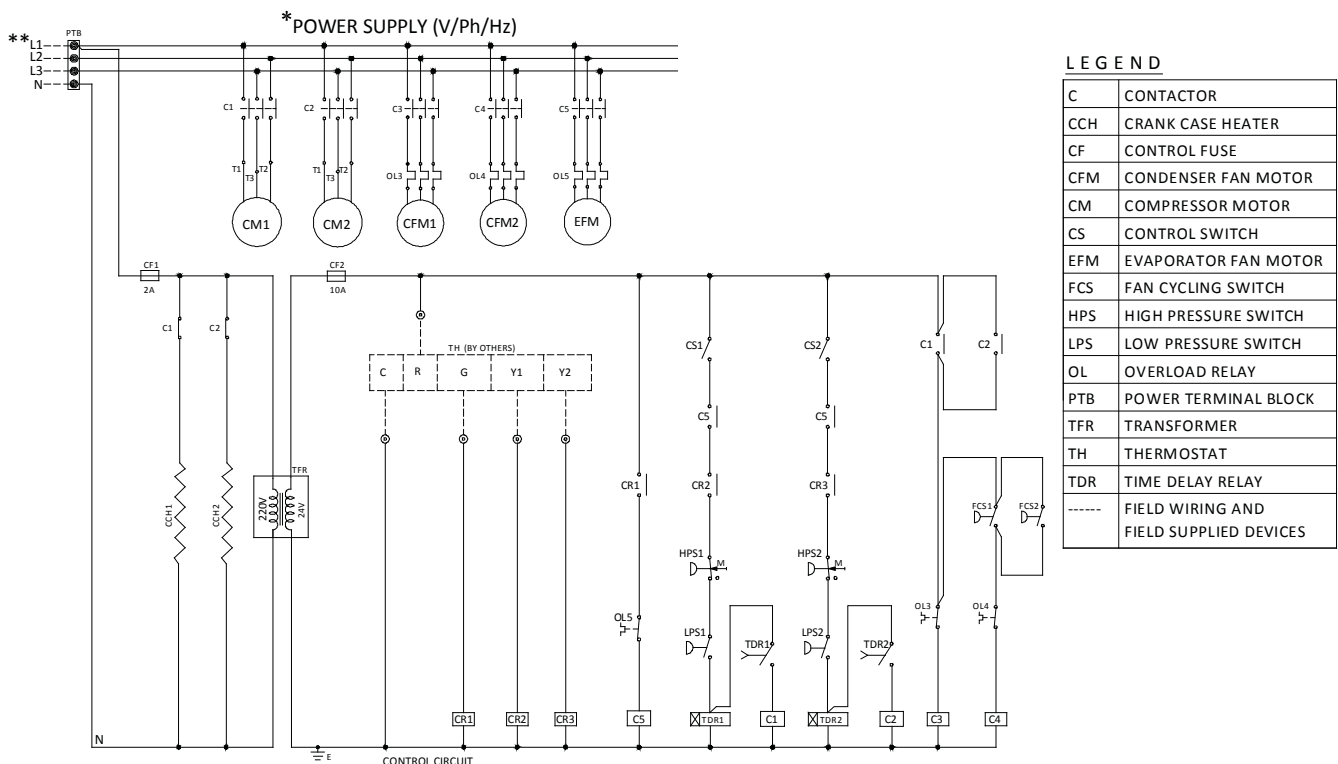
Typical Wiring Diagram

APMR Models: 61060, 61075, 61090 & 61100



Typical Wiring Diagram

APMR Models: 62125, 62140, 62160, 62180, 62200, 62250, 62270, 62300, 62380



SKM Packaged Airconditioning Units APMR Series - R410A

ELECTRICAL DATA

POWER SUPPLY : 380V / 3Ph / 60Hz

Model AMPR	Unit Characteristic		Compressor				Condenser Fan Motor			Evaporator Fan Motor	
	MFA	MCA	Quantity	MCC	RLA	LRA	Quantity	FLA	LRA	FLA	LRA
					Each	Each		Each	Each	Each	Each
61060	32	19	1	16	12	81	1	0.8	4.0	1.6	6.0
61075	40	22	1	19	14	95	1	0.8	4.0	1.9	7.5
61090	50	29	1	22	18	110	2	0.8	4.0	2.6	10.3
61100	50	31	1	26	20	124	2	0.8	4.0	2.6	10.3
62125	50	33	2	16	12	81	2	0.8	4.0	2.6	10.3
62140	50	35	2	20	13	96	2	0.8	4.0	2.6	10.3
62160	63	42	2	19	15	95	2	0.9	4.5	4.9	22.8
62180	80	49	2	22	18	110	2	0.9	4.5	4.9	22.8
62200	80	57	2	26	20	124	2	2.4	11.0	4.9	22.8
62250	100	65	2	30	23	160	2	3.2	16.0	4.9	22.8
62270	100	70	2	35	25	160	2	3.2	16.0	4.9	22.8
62300	125	82	2	37	29	168	2	5	23.0	4.9	22.8
62380	160	101	2	51	36	204	2	5	23.0	8.4	44.0

Table 7

POWER SUPPLY : 460V / 3Ph / 60Hz

Model AMPR	Unit Characteristic		Compressor				Condenser Fan Motor			Evaporator Fan Motor	
	MFA	MCA	Quantity	MCC	RLA	LRA	Quantity	FLA	LRA	FLA	LRA
					Each	Each		Each	Each	Each	Each
61060	25	16	1	15	9	70	1	0.8	5.0	1.6	7.0
61075	32	18	1	19	11	87	1	0.8	5.0	1.7	8.7
61090	40	22	1	19	13	100	2	0.8	5.0	2.3	12.0
61100	40	26	1	20	16	98	2	0.8	5.0	2.3	12.0
62125	40	26	2	15	9	70	2	0.8	5.0	2.3	12.0
62140	40	28	2	15	10	82	2	0.8	5.0	2.3	12.0
62160	50	33	2	19	11	87	2	0.9	6.0	4.5	26.3
62180	50	38	2	19	13	100	2	0.9	6.0	4.5	26.3
62200	63	47	2	20	16	98	2	2.4	13.0	4.5	26.3
62250	80	53	2	23	18	142	2	3.2	18.0	4.5	26.3
62270	80	58	2	29	20	142	2	3.2	18.0	4.5	26.3
62300	100	68	2	30	23	147	2	5.0	24.0	4.5	26.3
62380	125	87	2	39	30	197	2	5.0	24.0	7.8	51.0

Table 8

POWER SUPPLY : 220V / 3Ph / 60Hz

Model AMPR	Unit Characteristic		Compressor				Condenser Fan Motor			Evaporator Fan Motor	
	MFA	MCA	Quantity	MCC	RLA	LRA	Quantity	FLA	LRA	FLA	LRA
					Each	Each		Each	Each	Each	Each
61060	50	30	1	27	18	123	1	2.5	10.0	2.8	10.4
61075	63	35	1	36	22	160	1	2.5	10.0	3.4	13.0
61090	80	48	1	39	29	190	2	2.5	10.0	4.5	17.8
61100	100	52	1	43	32	203	2	2.5	10.0	4.5	17.8
62125	80	52	2	27	18	123	2	2.5	10.0	4.5	17.8
62140	80	59	2	30	21	170	2	2.5	10.0	4.5	17.8
62160	100	75	2	35	25	190	2	4.0	17.0	8.3	39.5
62180	125	84	2	39	29	190	2	4.0	17.0	8.3	39.5
62200	125	94	2	43	32	203	2	6.0	28.0	8.3	39.5
62250	160	110	2	46	38	267	2	7.0	32.0	8.3	39.5
62270	160	117	2	61	41	267	2	7.0	32.0	8.3	39.5
62300	200	140	2	64	47	304	2	12.0	50.0	8.3	39.5
62380	250	176	2	75	60	351	2	12.0	50.0	14.7	76.2

Table 9

Voltage imbalance between phases to be <2%

Legend

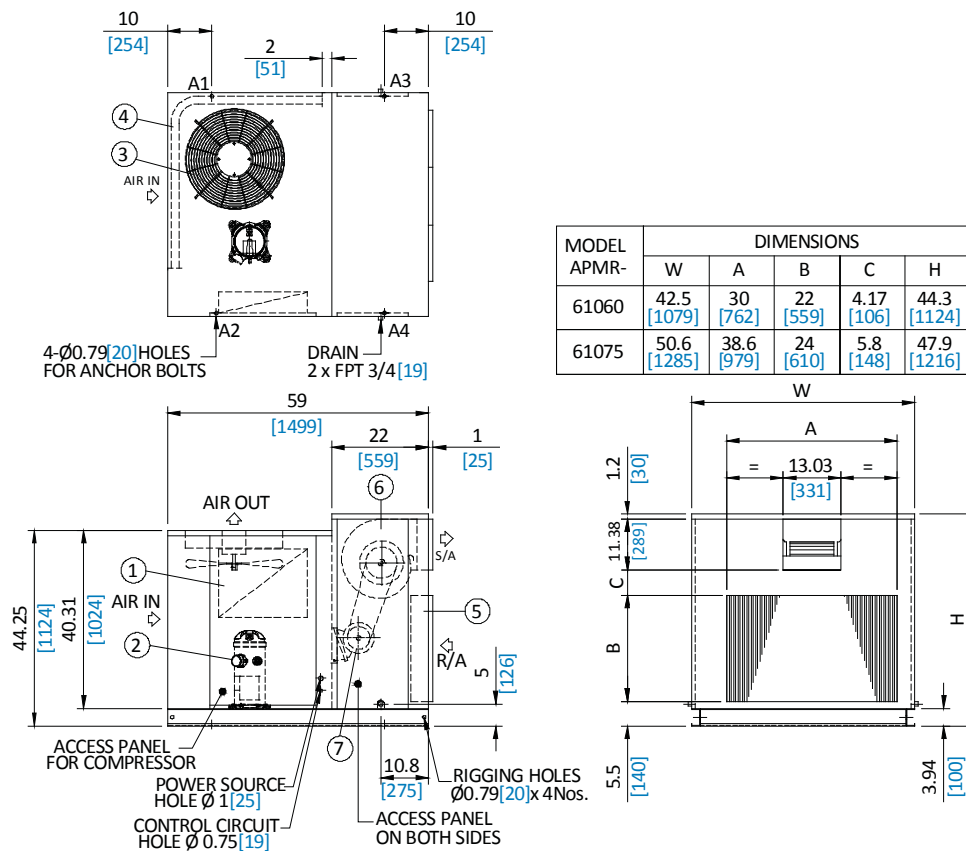
- MCC** Maximum Continuous Current corresponding to the cutout amps of internal motor protector.
- MCA** Minimum Circuit Amps for wire sizing
- MFA** Maximum Fuse Amps for Fuse sizing
- RLA** Rated Load Amps
- FLA** Full Load Amps
- LRA** Locked Rotor Amps

SKM Packaged Airconditioning Units APMR Series - R410A

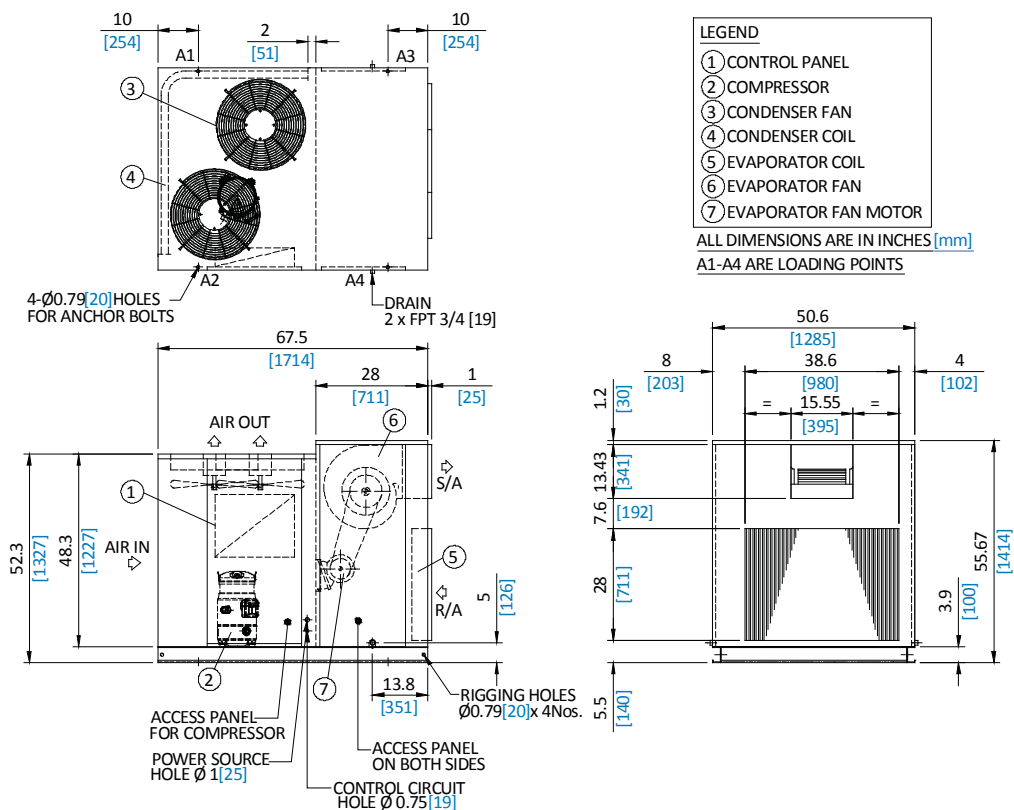


Dimensional Data

APMR Models: 61060 & 61075



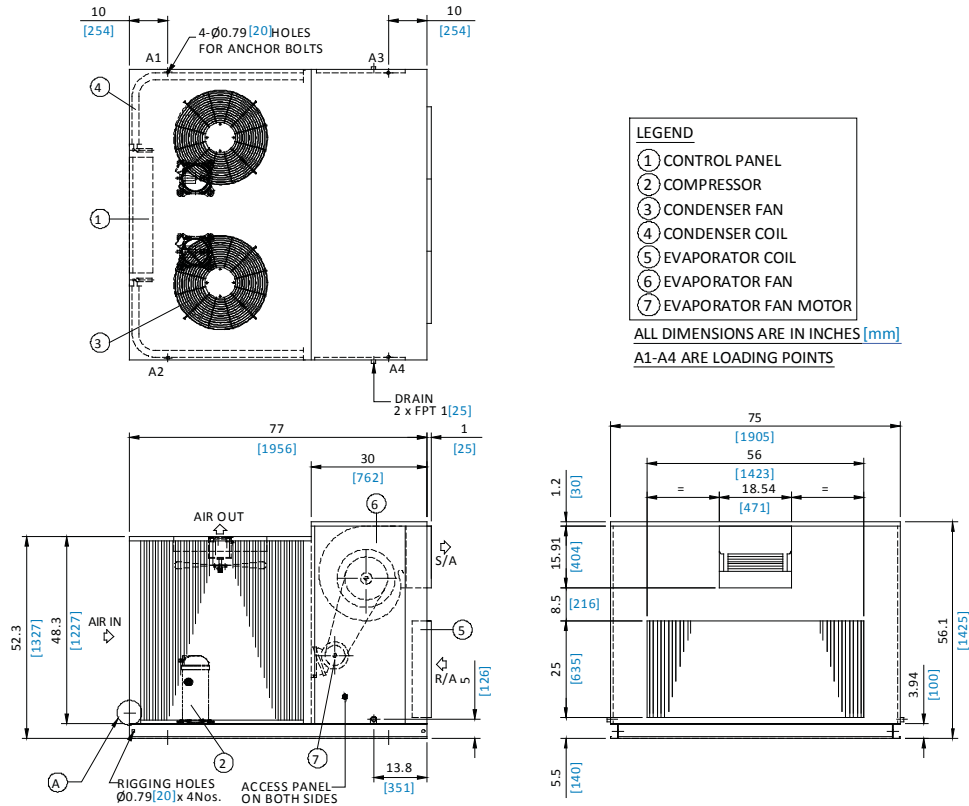
APMR Models: 61090 & 61100



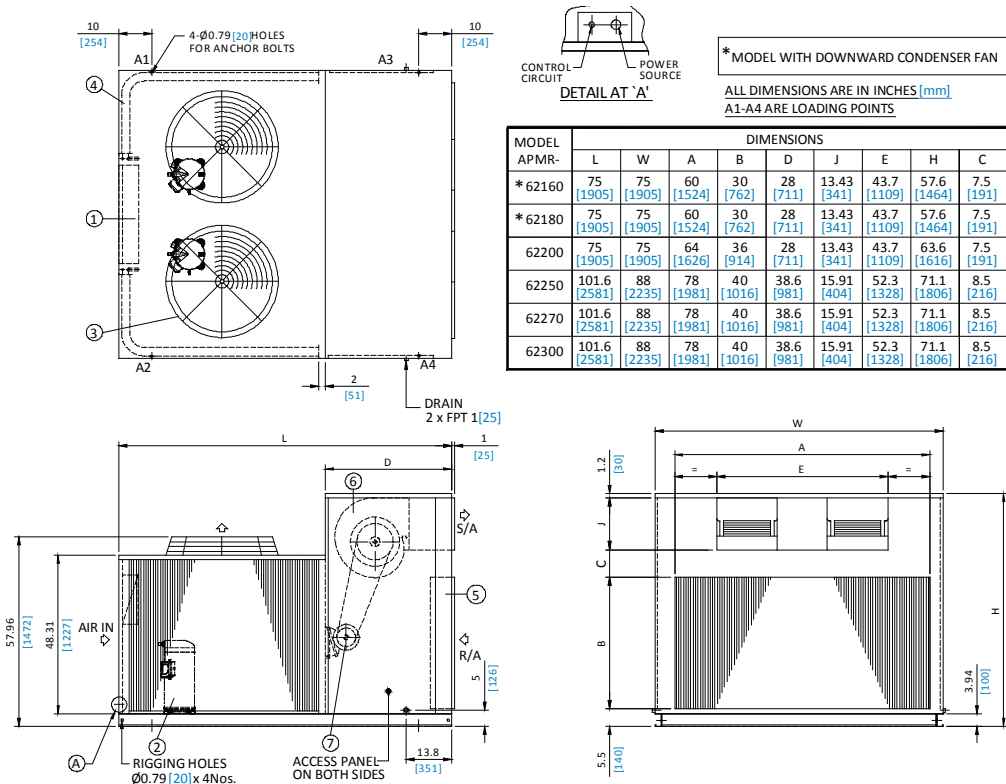
SKM Packaged Airconditioning Units APMR Series - R410A

Dimensional Data

APMR Models: 62125 & 62140



APMR Models: 62160 to 62300

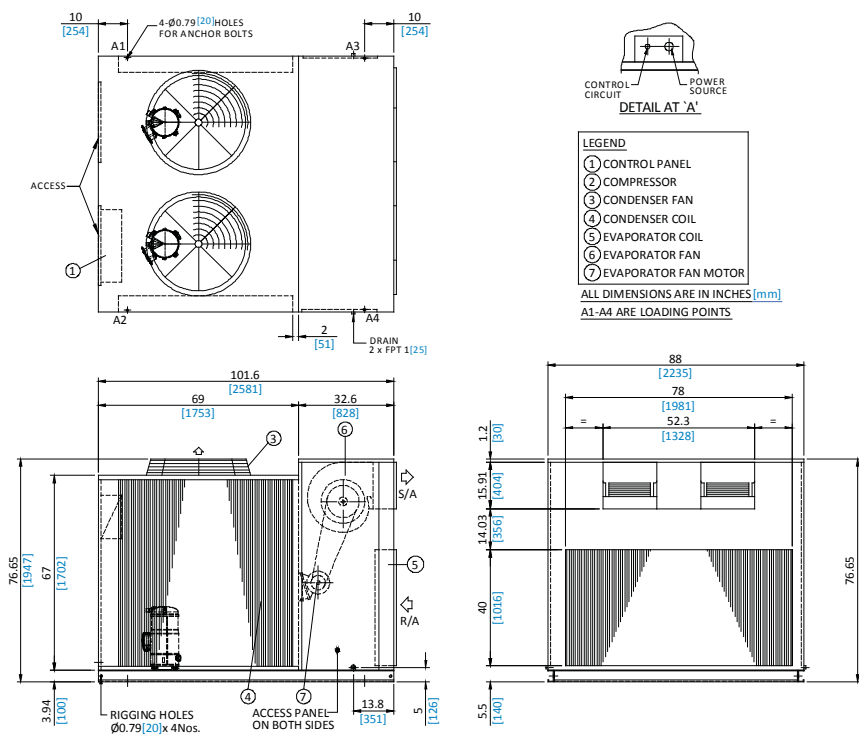


SKM Packaged Airconditioning Units APMR Series - R410A



Dimensional Data

APMR Models: 62380



Loading Points

APMR	UNIT	LOADING POINTS				TOTAL WEIGHT
		A1	A2	A3	A4	
61060	lb.	157	169	143	150	619
	Kg.	71	77	65	68	281
61075	lb.	168	180	164	170	683
	Kg.	76	82	74	77	310
61090	lb.	195	201	187	184	767
	Kg.	88	91	85	83	348
61100	lb.	205	231	200	200	836
	Kg.	93	105	90	91	379
62125	lb.	314	315	284	289	1202
	Kg.	142	143	129	131	545
62140	lb.	325	327	292	296	1241
	Kg.	147	148	133	134	563
62160	lb.	340	342	319	326	1327
	Kg.	154	155	145	148	602
62180	lb.	340	343	333	339	1354
	Kg.	154	155	151	154	614
62200	lb.	429	432	394	400	1655
	Kg.	195	196	179	182	751
62250	lb.	481	483	450	457	1871
	Kg.	218	219	204	207	849
62270	lb.	481	483	450	457	1871
	Kg.	218	219	204	207	849
62300	lb.	497	500	477	483	1958
	Kg.	226	227	216	219	888
62380	lb.	621	497	571	537	2226
	Kg.	282	226	259	243	1010

Table 10

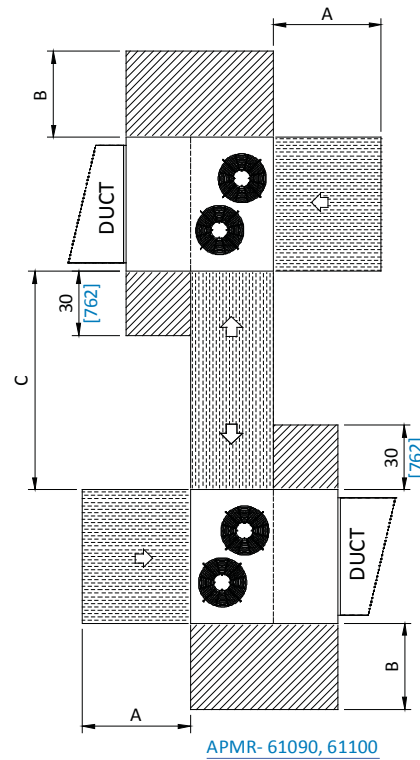
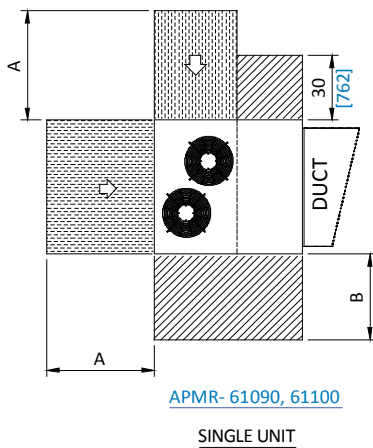
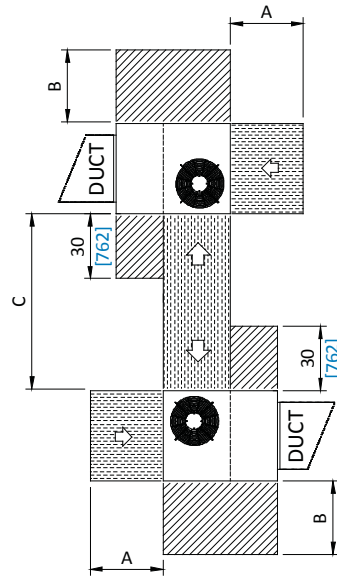
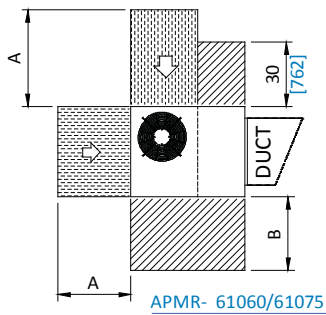


SKM Packaged Airconditioning Units APMR Series - R410A

Recommended Clearances

MODEL	A	B	C
APMR- 61060	44 [1118]	34 [864]	72 [1829]
APMR- 61075		42 [1067]	
APMR- 61090, 61100	52 [1321]		88 [2235]

ALL DIMENSIONS ARE IN INCHES[mm]



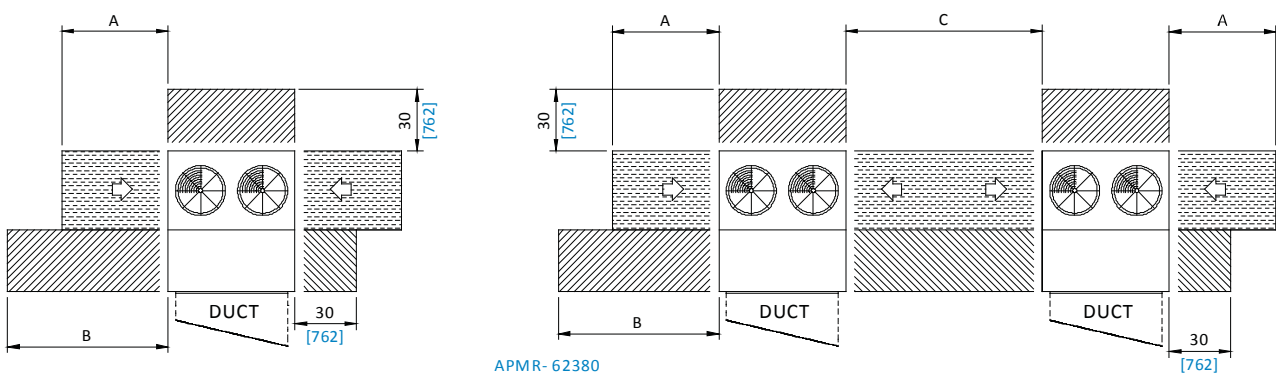
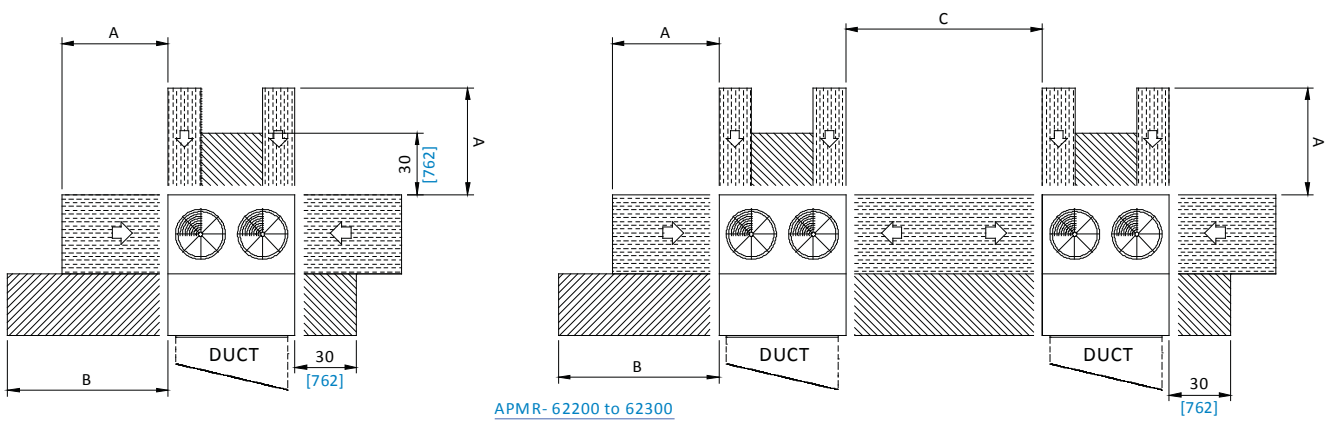
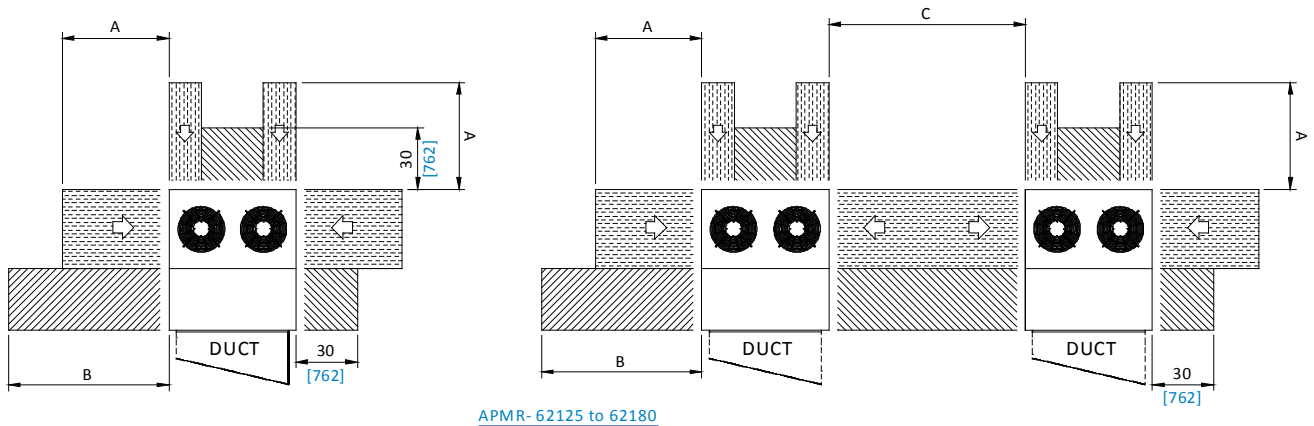
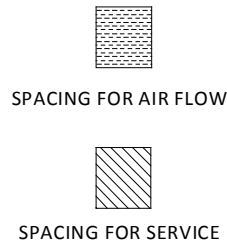
SKM Packaged Airconditioning Units APMR Series - R410A



Recommended Clearances

MODEL	A	B	C
APMR- 62125 /62140	52 [1321]	60 [1524]	88 [2438]
APMR- 62160/62180		64 [1626]	
APMR- 62200		68 [1727]	
APMR- 62250/62270/ 62300		82 [2083]	
APMR- 62380	68 [1727]		120 [3048]

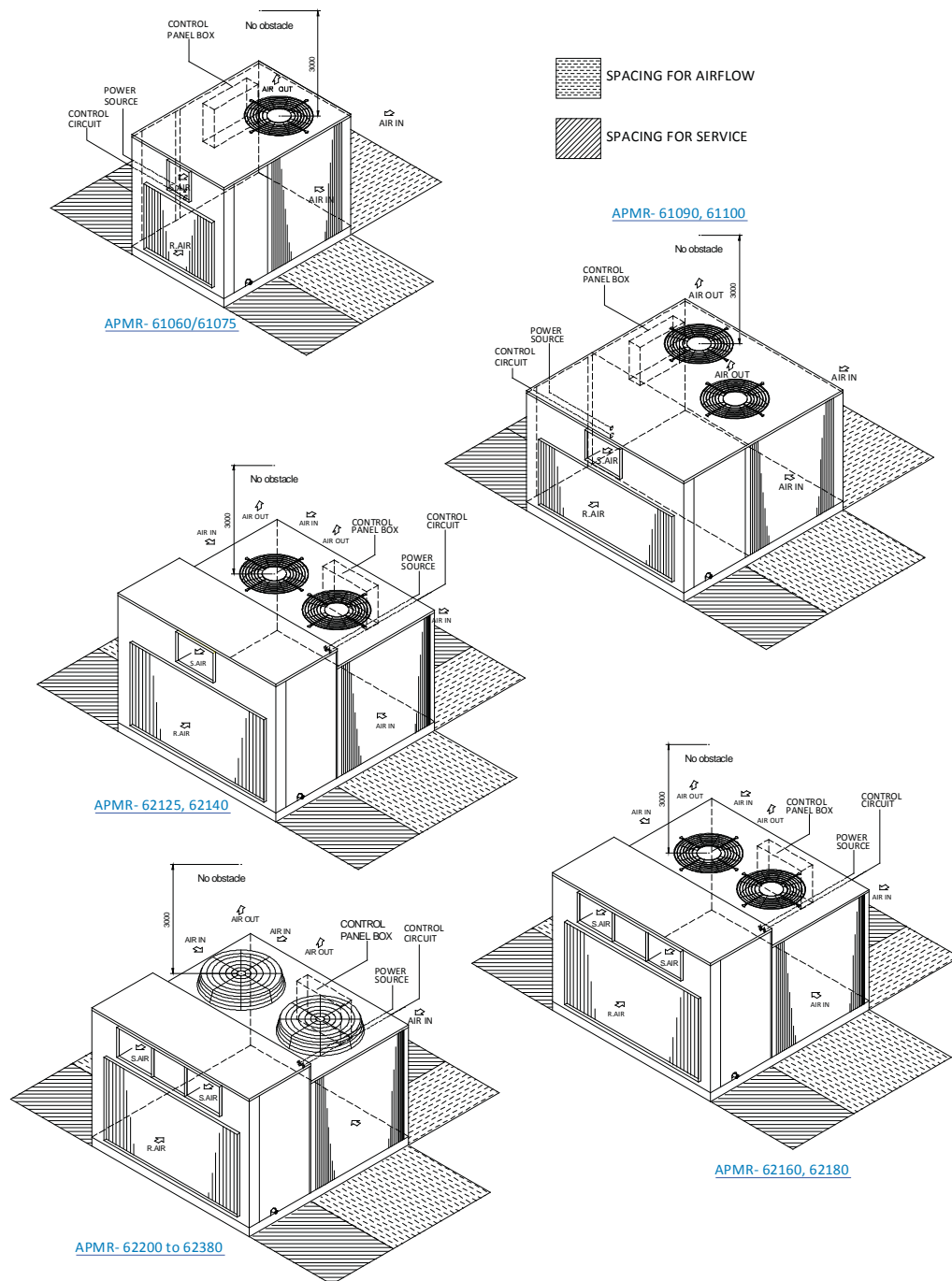
DIMENSIONS ARE IN INCHES [mm]



SKM Packaged Airconditioning Units APMR Series - R410A

Installation and Commissioning

- Install the unit in such a location which is flat and strong enough to support its weight.
- Provide a trap of over 2" (50mm) in the drain piping for water seal.
- 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.



GUIDE SPECIFICATIONS

GENERAL

Packaged Air Conditioners 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 (52°C) ambient temperature without failure & shall be rated in accordance with AHRI-340/360 and AHRI- 210/240 standards. Capacity as per attached schedule.

COMPRESSOR(S)

Compressor shall be hermetically sealed, compact high efficiency and low noise scroll type. These compressors shall be refrigerant gas cooled and 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 cross fins with maximum 12 fpi (2.1mm) spacing. These coils shall be tested against leakage by high air pressure under water, cleaned & dehydrated at the factory.

CONDENSER FAN(S) & MOTOR(S)

Condenser Fans shall be direct driven propeller type discharging air vertically upward, equipped with statically & dynamically balanced aluminum alloy blades, inherent corrosion resistant shaft & PVC coated steel wire fan guard. Condenser fan motor(s) shall be Totally Enclosed Air Over (TEAO), 6 poles with class-F insulation, minimum IP55 protection & wired to unit control panel.

EVAPORATOR COIL

Evaporator coil shall be constructed of seamless copper tubes 3/8" OD mechanically bonded to aluminum (or copper) cross-wave fins with maximum 12fpi (2.1mm) spacing. Coil consists of headers of seamless copper tubing, thermostatic expansion valve(s) & multi-circuited distributor(s). These coils shall be tested against leakage by high air pressure under water, cleaned & dehydrated at the factory. Coil shall conform to AHRI-410.

EVAPORATOR FAN(S) & MOTOR

Fans of evaporator shall be forward curved, double inlet double width (DIDW), centrifugal type, statically & dynamically balanced, mounted on a single heavy duty 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.

REFRIGERANT PIPING

Refrigerant circuit piping shall be fabricated from ACR grade copper including shut-off valve, filter drier & thermostatic expansion valve. Suction line shall be insulated with ½" (12 mm) wall thickness enclosed cell pipe insulation with maximum k factor 0.28 Btu.in/ft² h^of (0.040 W / m °k).

CASING

Casing shall be made of hot dip galvanized (zinc coated), phosphatized steel sheets which are then electrostatically polyester powder coated to provide an extremely tough, scratch resistance & excellent anti-corrosive protection. Casing shall pass 1000 hours in 5% salt spray testing at 95°F (35°C) & 95% relative humidity as per ASTM B117. Evaporator section shall be sealed with vinyl gaskets & completely insulated faced with black glass tissue (BGT) heavy density, fire retardant, permanent odorless fiberglass insulation of minimum 1" (25 mm) thickness and 32 kg/m³ density having maximum k factor 0.23 Btu.in/ft² h^of. (0.033 W / m °k). Unit casing shall be provided with access panels for easy service and maintenance of all unit parts.

FILTER SECTION

Flat Filter Section incorporating 1" (25mm) or 2" (50mm) thick filter having an average arrestance efficiency of 54% as per ASHRAE Standard 52.1 or equivalent can be provided, if desired.

CONTROL PANEL

The panel shall be factory wired and conforms to IP54 requirements. Control Panel shall contain individual electrical components, contactors, overload relays, transformer, anti-recycling time delay relay, control circuit disconnect switch, power & control circuit terminal blocks & High / low pressure switches shall be provided for protection.