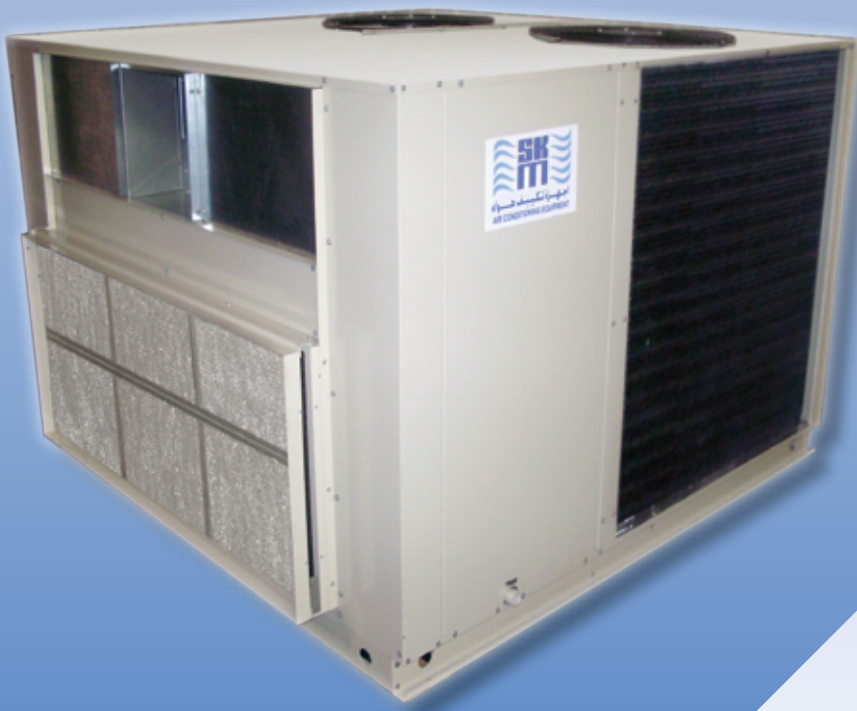


R-22
50HZ

PACL Series

Packaged Air Conditioners



Range 4 TR to 27.5 TR
(14 kW to 97 kW)



اجهزة تكييف هواء
AIR CONDITIONING EQUIPMENT

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SKM Packaged Airconditioning Units PACL Series - R-22

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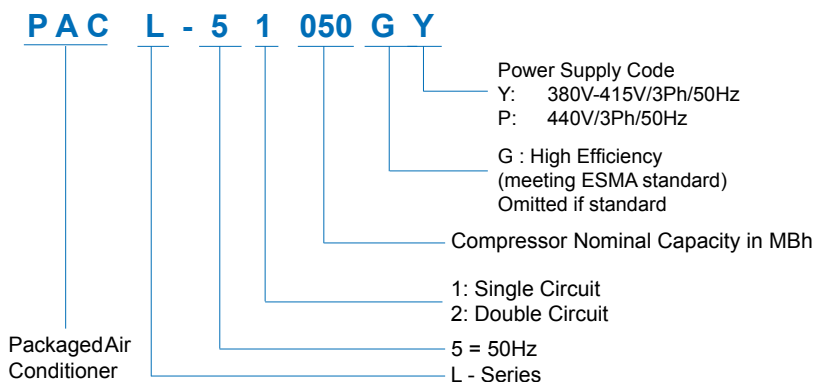
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Legend

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

New SKM **PACL** 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.

PACL series is also designed to perform as per ESMA regulation to achieve high efficiency levels in Gulf countries.

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

SKM **PACL** Series are available in 16 different sizes from 4 to 27.5 TR (14 to 97 kW) in 50 Hz at nominal AHRI conditions. PAC-L units are designed, rated and manufactured in accordance with AHRI 210/240 and 340/360 standards.

The **PACL** series units from SKM are completely assembled, leak tested, vacuumed, internally wired and fully charged with R-22 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 works and cost.

SKM **PACL** series packaged air conditioners are designed to operate in a wide ambient temperature range between 50°F (10°C) to 125.6°F (52°C). Two independent refrigeration circuits are provide where two compressors are used.

The **PACL** series are tested and operated satisfactorily at 125°F (51.7°C) ambient temp. with more than 2 hours continuously running without tripping or over heating.

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 Packaged Airconditioning Units

PACL Series - R-22

General Features

The **PACL** 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 **PACL** series models combine high efficiency condenser and cooling coil, evaporator blower and heavy duty motor in addition to premium safety and operational controls.

The complete **PACL** 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 **PACL** 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 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.
- Electronic control board for unit operation.
- Typically, much heavier gauge tubing and thicker fins for ruggedness and long life.

Main Component Features

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

Compressors

Compressors used in **PACL** packaged unit series are hermetically sealed, compact scroll with the following features:

- High Efficiency.
- Quiet operation, Low Sound levels.
- Better debris handling.
- Self compensating of wear (“wears-in” vs. “wears-out”).
- 70% fewer moving parts than comparably sized reciprocating compressors
- Internal motor protection / Advanced scroll temperature protection.
- Suction gas motor cooling.
- Suction screen.
- Disc type check valve.
- Centrifugal oil pumps with filter and magnet.
- Brazed fittings or Rotalock options.

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 air pressure 450psig (3100 kPa) 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.

Evaporator Coils

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 air pressure of 300 psig (2068 kPa) under water. Coils conform to AHRI-410.

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 **PACL** 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”

SKM Packaged Airconditioning Units PACL Series - R-22

thick fiber glass insulation with extremely tough and durable black composite surface. The insulation cum sound liner meets the fire requirements of NFPA90A & 90B and is secured with mechanical fasteners in addition to water resistant adhesive.

Control Panel

The **PACL** 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 **PACL** 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.

Optional Features

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

Voltage Monitoring Module (VMM)

To prevent unit operation in the event of phase burn-out, phase reversal, and under voltage/over voltage on the incoming line voltage.

Voltage Monitoring Module as per DEWA (DVM)

Under voltage relay as per DEWA regulations. This option is available for Dubai, UAE only.

High & Low Pressure Gauges (SDG1)

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

2" (50mm) Flat Filter Section (FFS)

For heavy filtration need a section can be provided without or with aluminium cleanable filter (FSIP2).

Liquid Line Sight Glass (RSG)

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

Electric Heating* (HTR1)

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 PACL	Heater (kW)	STAGES
51050	4.5	1
51060		
51070		
51085	9	
51095		
52110		
52120	18	2
52145		
52160		
52180		
52205	24	2
52225		
52240		
52260		
52290		
52330		

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)

(1 or 2 stages as per model) for wall mounting and for cooling/heating operation.

Circuit Breaker for Compressor (CBC)

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

Shut-off Valve (SFV)

Shut-off valves are available as an option for models **PAC-L** 51050 - 51095 (Shut-Off Valves are not standard in these models).

SKM Packaged Airconditioning Units PACL Series - R-22

Extra Shut-off Valve (XFV)

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

Pressure Relief Valve (PRV)

To protect the unit from being over-pressurized.

Rotalock Valves on compressors (RVC)

For additional facilitation of maintenance of unit.

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 (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)

Condenser Coil Guard (CGP)

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

Double Skin Insulation (DSI)

For Evaporator section with Foam board insulation.

External Overload Protection (EOP)

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

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

UV Lamps (UVL)

Economizer for Unitary Package units* (ECRU)

Note:

* Not available for ESMA approved models.

SKM Packaged Airconditioning Units PACL Series - R-22

ENGINEERING SPECIFICATIONS - 50 Hz

Model PACL		51050	51060	51070	51085	51095	52110	52120	52145		
Cooling Capacity (1)	MBh	50.9	60.9	73.2	85.5	98.7	111.8	124.0	147.4		
	kW	14.9	17.8	21.4	25.0	28.9	32.8	36.3	43.2		
Cooling Capacity (2)	MBh	46.9	56.1	67.3	78.8	91.2	103.1	114.3	135.7		
	kW	13.8	16.4	19.7	23.1	26.7	30.2	33.5	39.8		
Cooling Capacity (3)	MBh	46.2	55.2	66.2	77.6	89.8	101.6	112.6	133.6		
	kW	13.5	16.2	19.4	22.7	26.3	29.8	33.0	39.2		
Capacity Steps	%	100-0	100-0	100-0	100-0	100-50-0	100-50-0	100-50-0	100-50-0		
Compressor	Type	Hermetic Scroll									
	Qty.	1	1	1	1	1	2	2	2		
Condenser	Coil	Type	Hi-X 3/8" tubes								
		Face Area	ft ²	19.4	26.7	26.7	26.7	26.7	26.7	40.0	40.0
			m ²	1.8	2.5	2.5	2.5	2.5	2.5	3.7	3.7
	Fan	Type	Propeller Direct Drive								
		Code/Qty	550 / 1	550 / 2	550 / 2	550 / 2	550 / 2	550 / 2	630 / 2	630 / 2	
		Air Flow	cfm	4200	7600	7600	7000	7000	7000	9600	9600
			l/s	1982	3587	3587	3303	3303	3303	4530	4530
	Motor	Type	Totally Enclosed Air Over, Class-F insulation, 4 pole or 6 pole, IP54 protected								
		Size / Qty.	kW / #	0.275 / 1	0.275 / 2	0.275 / 2	0.275 / 2	0.275 / 2	0.275 / 2	0.357 / 2	0.357 / 2
	Evaporator	Coil	Type	Hi-X 3/8 Tubes							
Face Area			ft ²	4.6	4.6	6.4	6.4	8.7	9.7	9.7	12.5
			m ²	0.4	0.4	0.6	0.6	0.8	0.9	0.9	1.2
Fan		Type	Centrifugal DIDW Belt Drive								
		Code	10/10	10/10	10/10	12/12	12/12	12/12	12/12	15/15	
		Blower Qty.	1	1	1	1	1	1	1	1	
		Air Flow	cfm	1670	2000	2400	2880	3220	4000	4000	5000
l/s			788	944	1133	1359	1520	1888	1888	2360	
Motor		Type	Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.								
		Size	kW	0.55	0.55	0.75	1.10	1.10	1.50	1.50	2.20
Refrigerant Operating Charge (R-22)	lbs	6.8	8.1	8.7	13.7	15.4	15.6	21.3	22.4		
	kg	3.1	3.7	3.9	6.2	7.0	7.1	9.7	10.2		
Operating Weight Approximate	lbs	648	725	743	867	941	970	1153	1221		
	kg	294	329	337	393	427	440	523	554		

Table 2

Notes:

- (1) Evaporator entering air conditions of 80°F/67°F (26.7°C/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°F/67°F (26.7°C/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 115°F(46°C) dry bulb.
- (3) Evaporator entering air conditions of 80°F/67°F (26.7°C/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 118.4°F(48°C) dry bulb.

Capacity for all conditions are gross capacity which does not include the effect of evaporator fan motor heat.

SKM Packaged Airconditioning Units PACL Series - R-22

ENGINEERING SPECIFICATIONS - 50 Hz

Model PACL		52160	52180	52205	52225	52240	52260	52290	52330		
Cooling Capacity (1)	MBh	154.8	181.5	206.8	228.2	244.3	265.0	293.4	333.4		
	kW	45.4	53.2	60.6	66.9	71.6	77.7	86.0	97.7		
Cooling Capacity (2)	MBh	142.6	166.1	188.7	209.8	222.8	242.3	267.4	302.8		
	kW	41.8	48.7	55.3	61.5	65.3	71.0	78.4	88.7		
Cooling Capacity (3)	MBh	140.4	162.8	185.1	206.6	218.7	238.4	262.7	297.7		
	kW	41.1	47.7	54.3	60.6	64.1	69.9	77.0	87.2		
Capacity Steps	%	100-50-0	100-50-0	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	2	2		
Condenser	Coil	Type	Hi-X 3/8" tubes								
		Face Area	ft ²	40.0	40.0	48.0	48.0	54.7	54.7	53.3	53.3
			m ²	3.7	3.7	4.5	4.5	5.1	5.1	5.0	5.0
		Fan	Type	Propeller Direct Drive							
	Code/Qty		723 / 2	723 / 2	729 / 2	729 / 2	823 / 2	823 / 2	823 / 2	823 / 2	
	Air Flow		cfm	13960	13960	15540	15540	19780	19640	19120	19120
			l/s	6588	6588	7334	7334	9335	9269	9023	9023
	Motor	Type	Totally Enclosed Air Over, Class-F insulation, 4 pole or 6 pole, IP54 protected								
		Size / Qty.	kW / #	0.75 / 2	0.75 / 2	1.1 / 2	1.1 / 2	1.1 / 2	1.1 / 2	1.1 / 2	1.1 / 2
	Evaporator	Coil	Type	Hi-X 3/8 Tubes							
Face Area			ft ²	13.3	13.3	15.6	15.6	19.5	19.5	21.7	21.7
			m ²	1.2	1.2	1.5	1.5	1.8	1.8	2.0	2.0
Fan		Type	Centrifugal DIDW Belt Drive								
		Code	12/12 R2	12/12 R2	12/12 R2	12/12 R2	15/15 R2	15/15 R2	15/15 R2	15/15 R2	
		Blower Qty.	2	2	2	2	2	2	2	2	
		Air Flow	cfm	6000	6000	7000	7000	8000	8000	9100	10500
			l/s	2832	2832	3304	3304	3776	3776	4295	4956
Motor		Type	Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.								
		Size	kW	2.2	2.2	3.0	3.0	3.0	3.0	3.0	4.0
Refrigerant Operating Charge (R-22)	lbs	22.9	25.9	29.6	29.6	33.4	33.4	45.6	45.6		
	kg	10.4	11.7	13.4	13.4	15.1	15.1	20.7	20.7		
Operating Weight Approximate	lbs	1342	1501	1640	1640	1897	1902	2062	2076		
	kg	609	681	744	744	860	863	935	942		

Table 3

Notes:

- (1) Evaporator entering air conditions of 80°F/67°F (26.7°C/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°F/67°F (26.7°C/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 115°F(46°C) dry bulb.
- (3) Evaporator entering air conditions of 80°F/67°F (26.7°C/19.5°C) dry bulb/wet bulb and condenser entering air temperature of 118.4°F(48°C) dry bulb.

Capacity for all conditions are gross capacity which does not include the effect of evaporator fan motor heat.

SKM Packaged Airconditioning Units PACL Series - R-22

ENGINEERING SPECIFICATIONS - 50 Hz (ESMA APPROVED)

Model PACL G		51050 G	51060 G	51070 G	51085G	51095G	52110G	52120G	52145G		
Cooling Capacity (1)	MBh	44.6	54.8	63.8	74.1	83.8	96.4	107.3	127.2		
	kW	13.0	16.0	18.7	21.7	24.6	28.5	30.6	36.2		
	EER	8.2	8.2	8.2	8.2	8.2	8.1	8.1	8.3		
Capacity Steps	%	100-0	100-0	100-0	100-0	100-50-0	100-50-0	100-50-0	100-50-0		
Compressor	Type	Hermetic Scroll									
	Qty.	1	1	1	1	1	2	2	2		
Condenser	Coil	Type	Hi-X 3/8" tubes								
		Face Area	ft ²	19.4	26.7	26.7	26.7	26.7	53.3	40.0	40.0
			m ²	1.8	2.5	2.5	2.5	2.5	4.9	3.7	3.7
		Fan	Type	Propeller Direct Drive							
	Code/Qty		550 / 1	550 / 2	550 / 2	550 / 2	550 / 2	630 / 2	630 / 2	630 / 2	
	Air Flow		cfm	4180	7520	8260	7980	7880	9880	10500	10500
			l/s	1973	3549	3899	3767	3719	4663	4956	4956
	Motor	Type	Totally Enclosed Air Over, Class-F insulation, 4 pole or 6 pole, IP54 protected								
		Size / Qty.	kW / #	0.275 / 1	0.275 / 2	0.275 / 2	0.275 / 2	0.275 / 2	0.357 / 2	0.357 / 2	0.357 / 2
	Evaporator	Coil	Type	Hi-X 3/8 Tubes							
Face Area			ft ²	4.6	4.6	6.4	6.4	8.7	9.7	9.7	12.5
			m ²	0.4	0.4	0.6	0.6	0.8	0.9	0.9	1.2
Fan		Type	Centrifugal DIDW Belt Drive								
		Code	10/10	10/10	10/10	12/12	12/12	12/12	12/12	15/15	
		Blower Qty.	1	1	1	1	1	1	1	1	
		Air Flow	cfm	1670	2000	2400	2880	3220	4000	4000	5000
l/s			788	944	1133	1359	1520	1888	1888	2360	
Motor		Type	Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.								
		Size	kW	0.55	0.55	0.75	1.10	1.10	1.50	1.50	1.50
Refrigerant Operating Charge (R-22)	lbs	22.3	18.6	20.5	26.9	23.0	50.7	41.5	44.7		
	kg	10.1	8.4	9.3	12.2	10.5	23.0	18.8	20.3		
Operating Weight Approximate	lbs	735	805	830	900	965	1000	1185	1350		
	kg	334	364	375	408	437	453	537	567		

Table 4

Notes:

- 1) Evaporator entering air conditions of 84.2°F/66.2°F (29.0°C/19.0°C) dry bulb/wet bulb and condenser entering air temperature *of 114.8°F(46°C) dry bulb, (Net Capacity).

SKM Packaged Airconditioning Units PACL Series - R-22

ENGINEERING SPECIFICATIONS - 50 Hz (ESMA APPROVED)

Model PACL G		52160 G	52180 G	52205 G	52225 G	52240 G	52260 G	52290 G	52330 G		
Cooling Capacity (1)	MBh	133.4	148.2	175.2	197.9	204.0	227.0	239.7	273.6		
	kW	39.1	43.4	51.3	58.0	59.78	66.5	70.2	80.1		
	EER	8.1	8.1	8.1	8.0	8.0	8.0	7.8	7.7		
Capacity Steps	%	100-50-0	100-50-0	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	2	2		
Condenser	Coil	Type	Hi-X 3/8" tubes								
		Face Area	ft ²	54.7	54.7	54.7	54.7	54.7	54.7	53.3	53.3
			m ²	5.1	5.1	5.1	5.1	5.1	5.1	4.9	4.9
	Fan	Type	Propeller Direct Drive								
		Code/Qty	710 / 2	710 / 2	823 / 2	823 / 2	823 / 2	823 / 2	823 / 2	829 / 2	
		Air Flow	cfm	16520	16520	19540	19540	19540	19540	19480	22920
			l/s	7797	7797	9223	9223	9223	9223	9195	10818
	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	1.1 / 2	1.1 / 2	1.1 / 2	1.1 / 2	1.1 / 2	1.5 / 2
	Evaporator	Coil	Type	Hi-X 3/8 Tubes							
Face Area			ft ²	15.6	15.6	21.7	21.7	21.7	26.0	26.0	26.0
			m ²	1.4	1.4	2.0	2.0	2.0	2.4	2.4	2.4
Fan		Type	Centrifugal DIDW Belt Drive								
		Code	12/12 R2	12/12 R2	12/12 R2	12/12 R2	15/15 R2	15/15 R2	15/15 R2	15/15 R2	
		Blower Qty.	2	2	2	2	2	2	2	2	
		Air Flow	cfm	6000	6000	7000	7000	8000	8000	9100	10500
l/s			2832	2832	3304	3304	3776	3776	4295	4956	
Motor		Type	Totally Enclosed Fan Cooled, Class-F insulation, 4-pole, IP55 Protected.								
		Size	kW	2.2	2.2	3.0	3.0	2.2	2.2	3.0	4.0
Refrigerant Operating Charge (R-22)	lbs	45.0	45.2	64.8	66.4	67.0	71.1	71.9	71.9		
	kg	20.4	20.5	29.4	30.1	30.4	32.3	32.6	32.6		
Operating Weight Approximate	lbs	1380	1535	1911	1911	1911	2441	2441	2451		
	kg	625	697	867	867	867	1110	1110	1114		

Table 5

Notes:

- 1) Evaporator entering air conditions of 84.2°F/66.2°F (29.0°C/19.0°C) dry bulb/wet bulb and condenser entering air temperature *of 114.8°F(46°C) dry bulb, (Net Capacity).

SKM Packaged Airconditioning Units PACL Series - R-22

FAN PERFORMANCE WITH 1" FILTER

Model PACL	AirFlowRate		Internal Static Pressure		External Static Pressure - in.wg (Pa)														RPM Range 50 Hz
					0.2(50)		0.4(100)		0.5(125)		0.6(150)		0.8(200)		1(250)		1.25(313)		
	cfm	l/s	in.wg	Pa	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	
51050	1260	595	0.24	59.69	606	0.12	726	0.16	784	0.18	841	0.21	-	-	-	-	-	-	770 to 993
	1670	788	0.41	101	723	0.24	819	0.29	865	0.31	910	0.34	999	0.4	1085	0.46	1192	0.55	
	2521	1190	0.96	239.22	1017	0.73	1085	0.81	1118	0.84	1150	0.88	1213	0.96	1275	1.04	1350	1.14	
51060	1260	595	0.24	59.69	606	0.12	726	0.16	784	0.18	841	0.21	-	-	-	-	-	-	809 to 1043
	2000	944	0.59	147.23	833	0.38	916	0.44	956	0.47	995	0.51	1071	0.57	1145	0.64	1237	0.73	
	2521	1190	0.96	239.22	1017	0.73	1085	0.81	1118	0.84	1150	0.88	1213	0.96	1275	1.04	1350	1.14	
51070	1769	835	0.24	59.71	646	0.22	747	0.27	794	0.3	839	0.32	926	0.38	1011	0.44	1114	0.52	
	2400	1133	0.43	106.01	803	0.48	883	0.55	922	0.58	959	0.62	1031	0.69	1099	0.77	1181	0.86	
	3538	1670	0.96	239.14	1130	1.43	1184	1.53	1212	1.58	1239	1.63	1293	1.73	1345	1.84	1409	1.97	
51085	1769	835	0.24	59.71	-	-	643	0.23	690	0.26	735	0.29	823	0.36	908	0.44	-	-	739 to 922
	2880	1359	0.62	155.41	764	0.6	835	0.69	868	0.73	901	0.78	964	0.87	1025	0.96	1098	1.08	
	3538	1670	0.96	239.14	913	1.06	973	1.17	1001	1.23	1029	1.28	1084	1.39	1136	1.5	1200	1.64	
51095	2387	1126	0.24	59.71	-	-	665	0.37	707	0.4	746	0.44	822	0.52	894	0.6	979	0.7	695 to 866
	3220	1520	0.42	104.78	713	0.63	784	0.73	818	0.78	851	0.83	915	0.93	976	1.03	1048	1.16	
	4774	2253	0.96	239.15	1006	1.9	1055	2.05	1080	2.12	1104	2.2	1152	2.34	1198	2.49	1255	2.68	
52110	2674	1262	0.24	59.73	-	-	681	0.45	721	0.49	759	0.53	831	0.62	899	0.7	980	0.81	793 to 989
	4000	1888	0.52	130.04	816	1.07	875	1.18	904	1.25	933	1.31	989	1.43	1043	1.56	1108	1.71	
	5347	2523	0.96	239.16	1062	2.45	1106	2.6	1128	2.68	1150	2.76	1194	2.92	1237	3.09	1290	3.3	
52120	2674	1262	0.24	59.73	-	-	681	0.45	721	0.49	759	0.53	831	0.62	899	0.7	980	0.81	793 to 989
	4000	1888	0.52	130.04	816	1.07	875	1.18	904	1.25	933	1.31	989	1.43	1043	1.56	1108	1.71	
	5347	2523	0.96	239.16	1062	2.45	1106	2.6	1128	2.68	1150	2.76	1194	2.92	1237	3.09	1290	3.3	
52145	3438	1622	0.24	59.73	481	0.4	556	0.5	591	0.55	624	0.6	686	0.71	745	0.83	816	0.98	622 to 775
	5000	2360	0.49	122.56	632	1.07	689	1.21	716	1.28	743	1.35	793	1.49	842	1.64	899	1.83	
	6875	3244	0.96	239.18	838	2.66	881	2.84	901	2.93	922	3.03	962	3.22	1001	3.41	1048	3.65	
52160	3667	1730	0.21	62.72	-	-	662	0.5	711	0.57	758	0.64	849	0.78	937	0.95	1044	1.19	793 to 989
	6000	2831	0.56	140.61	787	1.32	861	1.52	897	1.62	931	1.72	997	1.93	1061	2.13	1137	2.39	
	7333	3460	0.87	215.63	938	2.32	1000	2.56	1030	2.69	1060	2.81	1117	3.06	1173	3.3	1239	3.61	
52180	3667	1730	0.25	62.7	-	-	682	0.53	730	0.6	777	0.66	867	0.81	954	0.98	1061	1.23	793 to 989
	6000	2831	0.68	168.31	829	1.43	901	1.63	935	1.73	968	1.84	1033	2.04	1095	2.25	1170	2.51	
	7333	3460	1.04	259.16	992	2.53	1053	2.78	1082	2.9	1110	3.02	1166	3.27	1220	3.52	1285	3.83	
52205	4278	2019	0.25	62.7	-	-	692	0.67	737	0.74	781	0.81	864	0.97	943	1.13	1038	1.36	796 to 989
	7000	3303	0.68	168.31	863	1.9	930	2.14	962	2.26	993	2.37	1054	2.61	1113	2.84	1183	3.14	
	8556	4038	1.04	259.22	1035	3.38	1091	3.67	1118	3.81	1145	3.95	1197	4.24	1248	4.53	1309	4.89	
52225	4278	2019	0.25	62.7	-	-	692	0.67	737	0.74	781	0.81	864	0.97	943	1.13	1038	1.36	796 to 989
	7000	3303	0.68	168.31	863	1.9	930	2.14	962	2.26	993	2.37	1054	2.61	1113	2.84	1183	3.14	
	8556	4038	1.04	259.22	1035	3.38	1091	3.67	1118	3.81	1145	3.95	1197	4.24	1248	4.53	1309	4.89	
52240	5363	2531	0.25	62.7	484	0.56	570	0.75	609	0.84	648	0.94	721	1.16	792	1.41	878	1.75	624 to 778
	8000	3775	0.55	137.75	642	1.55	707	1.81	737	1.94	767	2.07	823	2.34	878	2.62	943	2.99	
	10725	5061	1.04	259.19	832	3.56	882	3.89	907	4.06	930	4.23	976	4.57	1021	4.92	1074	5.38	
52260	5363	2531	0.25	62.7	484	0.56	570	0.75	609	0.84	648	0.94	721	1.16	792	1.41	878	1.75	624 to 778
	8000	3775	0.55	137.75	642	1.55	707	1.81	737	1.94	767	2.07	823	2.34	878	2.62	943	2.99	
	10725	5061	1.04	259.19	832	3.56	882	3.89	907	4.06	930	4.23	976	4.57	1021	4.92	-	-	
52290	5958	2812	0.25	62.69	493	0.67	576	0.87	614	0.97	650	1.07	720	1.3	786	1.54	866	1.87	700 to 872
	9100	4294	0.58	144.92	672	2.02	733	2.3	762	2.44	790	2.58	843	2.88	895	3.18	956	3.57	
	11917	5624	1.04	259.2	856	4.36	904	4.71	927	4.9	-	-	-	-	-	-	-	-	
52330	5958	2812	0.25	62.69	493	0.67	576	0.87	614	0.97	650	1.07	720	1.3	786	1.54	866	1.87	750 to 935
	10500	4955	0.79	197.64	762	3.03	816	3.34	842	3.51	867	3.67	916	4	963	4.34	1019	4.77	
	11917	5624	1.04	259.2	856	4.36	904	4.71	927	4.9	-	-	-	-	-	-	-	-	

Table 13

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 Packaged Airconditioning Units PACL Series - R-22

FAN PERFORMANCE WITH 1" FILTER (ESMA APPROVED)

Model PACL-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)		1.0(250)		1.2(300)	
	cfm	l/s	in.wg	Pa	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
51050 G	1260	595	0.2	51.02	0	0	706	0.15	764	0.18	821	0.2	-	-	-	-	-	-
	1670	788	0.3	75.18	670	0.21	770	0.26	817	0.29	863	0.31	953	0.37	1041	0.43	1126	0.5
	2521	1190	0.69	171.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51060 G	1260	595	0.28	69.66	631	0.13	750	0.17	807	0.19	864	0.22	-	-	-	-	-	-
	2000	944	0.69	173.09	877	0.41	957	0.48	996	0.51	1034	0.54	1110	0.6	-	-	-	-
	2521	1190	1.14	282.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51070 G	1769	835	0.28	69.69	667	0.23	766	0.28	812	0.31	857	0.34	944	0.39	1028	0.45	1110	0.52
	2400	1133	0.5	124.31	833	0.5	912	0.57	949	0.61	986	0.65	1056	0.72	-	-	-	-
	3538	1670	1.13	282.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51085 G	1769	835	0.28	69.69	-	-	662	0.24	708	0.27	753	0.31	840	0.38	925	0.46	-	-
	2880	1359	0.73	182.79	803	0.65	872	0.74	904	0.78	936	0.83	998	0.92	1057	1.01	1115	1.11
	3538	1670	1.13	282.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51095 G	2387	1126	0.28	69.69	-	-	682	0.38	723	0.42	762	0.46	837	0.53	907	0.61	976	0.7
	3220	1520	0.49	122.85	739	0.67	809	0.77	842	0.82	875	0.87	937	0.97	997	1.07	1054	1.17
	4774	2253	1.13	282.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52110 G	2674	1262	0.28	69.71	614	0.38	697	0.47	736	0.51	774	0.55	845	0.63	913	0.72	977	0.8
	4000	1888	0.61	152.71	843	1.12	901	1.24	930	1.3	959	1.36	1014	1.49	1067	1.61	-	-
	5347	2523	1.13	282.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52120 G	2674	1262	0.28	69.71	614	0.38	697	0.47	736	0.51	774	0.55	845	0.63	913	0.72	977	0.8
	4000	1888	0.61	152.71	843	1.12	901	1.24	930	1.3	959	1.36	1014	1.49	1067	1.61	-	-
	5347	2523	1.13	282.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52145 G	3438	1622	0.28	69.71	497	0.42	570	0.52	604	0.57	637	0.63	698	0.74	757	0.85	813	0.98
	5000	2360	0.58	143.87	657	1.13	712	1.27	739	1.34	765	1.41	814	1.56	-	-	-	-
	6875	3244	1.13	282.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52160 G	3667	1730	0.2	50.47	-	-	658	0.5	707	0.56	754	0.63	845	0.78	933	0.94	1019	1.13
	6000	2831	0.48	120.66	756	1.24	832	1.44	868	1.54	904	1.64	971	1.84	1036	2.05	1098	2.25
	7333	3460	0.75	186.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52180 G	3667	1730	0.2	50.47	-	-	658	0.5	707	0.56	754	0.63	845	0.78	933	0.94	1019	1.13
	6000	2831	0.48	120.66	756	1.24	832	1.44	868	1.54	904	1.64	971	1.84	1036	2.05	1098	2.25
	7333	3460	0.75	186.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52205 G	4278	2019	0.17	43.2	-	-	655	0.61	702	0.68	747	0.76	832	0.91	912	1.07	990	1.24
	7000	3303	0.34	83.82	744	1.52	814	1.74	849	1.86	883	1.97	949	2.21	1012	2.45	1072	2.68
	8556	4038	0.51	126.89	882	2.65	940	2.92	969	3.05	998	-	-	-	-	-	-	-
52225 G	4278	2019	0.17	43.2	-	-	655	0.61	702	0.68	747	0.76	832	0.91	912	1.07	990	1.24
	7000	3303	0.34	83.82	744	1.52	814	1.74	849	1.86	883	1.97	949	2.21	1012	2.45	1072	2.68
	8556	4038	0.51	126.89	882	2.65	940	2.92	969	3.05	998	-	-	-	-	-	-	-
52240 G	5363	2531	0.22	53.64	468	0.53	555	0.71	595	0.81	634	0.91	708	1.12	779	1.36	849	1.63
	8000	3775	0.44	110	604	1.42	671	1.66	703	1.79	734	1.92	792	2.19	848	2.46	901	2.75
	10725	5061	0.83	206.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52260 G	5363	2531	0.18	44.45	450	0.5	540	0.68	581	0.77	620	0.87	695	1.08	766	1.32	836	1.58
	8000	3775	0.31	76.35	555	1.26	626	1.5	660	1.62	692	1.75	753	2.01	810	2.28	865	2.56
	10725	5061	0.56	139.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52290 G	5958	2812	0.2	48.88	469	0.62	554	0.81	593	0.91	630	1.01	701	1.23	768	1.47	833	1.73
	9100	4294	0.4	98.42	612	1.77	676	2.04	707	2.18	737	2.32	793	2.6	847	2.9	898	3.2
	11917	5624	0.7	175.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52330 G	5958	2812	0.2	48.88	469	0.62	554	0.81	593	0.91	630	1.01	701	1.23	768	1.47	833	1.73
	10500	4955	0.53	133.15	689	2.63	746	2.94	774	3.09	801	3.25	852	3.57	902	3.9	949	4.24
	11917	5624	0.7	175.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.

Table 14

SKM Packaged Airconditioning Units PACL Series - R-22

ELECTRICAL DATA

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

Model PACL	Unit Characteristic			Compressor			Condenser Fan Motor			Evaporator Fan Motor	
	MFA	MCA	ICF	QTY	RLA	LRA	QTY	FLA	LRA	FLA	LRA
51050	25	13	67	1	8	62	1	1.1	3.3	1.5	5.7
51060	32	16	80	1	10	74	2	1.1	3.3	1.5	5.7
51070	32	19	107	1	12	101	2	1.1	3.3	1.9	7.9
51085	40	25	102	1	16	95	2	1.1	3.3	2.6	12.0
51095	50	26	118	1	17	111	2	1.1	3.3	2.6	12.0
52110	40	28	84	1 + 1	10 + 10	66 + 66	2	1.1	3.3	3.5	18.3
52120	40	29	94	1 + 1	10 + 10	74 + 74	2	1.5	4.5	3.5	18.3
52145	50	35	124	1 + 1	12 + 12	101 + 101	2	1.5	4.5	4.9	25.0
52160	50	36	126	1 + 1	12 + 12	101 + 101	2	1.9	5.8	4.9	25.0
52180	63	45	124	1 + 1	16 + 16	95 + 95	2	1.9	5.8	4.9	25.0
52205	80	50	148	1 + 1	17 + 17	111 + 111	2	2.8	11	6.3	34.0
52225	80	55	157	1 + 1	19 + 19	118 + 118	2	2.8	11	6.3	34.0
52240	80	55	157	1 + 1	19 + 19	118 + 118	2	2.8	11	6.3	34.0
52260	100	62	160	1 + 1	22 + 22	118 + 118	2	2.8	11	6.3	34.0
52290	100	68	185	1 + 1	25 + 25	140 + 140	2	2.8	11	6.3	34.0
52330	125	81	226	1 + 1	30 + 30	174 + 174	2	2.8	11	8.2	43.5

Table 15

Power Supply: 440V/3Ph/50Hz

Model PACL	Unit Characteristic			Compressor			Condenser Fan Motor			Evaporator Fan Motor	
	MFA	MCA	ICF	QTY	RLA	LRA	QTY	FLA	LRA	FLA	LRA
51050	25	12	67	1	8	62	1	1.1	3.3	1.3	5.2
51060	32	16	80	1	10	74	2	1.1	3.3	1.3	5.2
51070	32	19	107	1	12	101	2	1.1	3.3	1.7	7.2
51085	50	25	102	1	16	95	2	1.1	3.3	2.4	10.9
51095	50	26	118	1	17	111	2	1.1	3.3	2.4	10.9
52110	40	28	84	1 + 1	10 + 10	66 + 66	2	1.1	3.3	3.1	16.6
52120	40	29	93	1 + 1	10 + 10	74 + 74	2	1.5	4.5	3.1	16.6
52145	50	35	124	1 + 1	12 + 12	101 + 101	2	1.5	4.5	4.5	23.0
52160	50	35	125	1 + 1	12 + 12	101 + 101	2	1.9	5.8	4.5	23.0
52180	63	44	123	1 + 1	16 + 16	95 + 95	2	1.9	5.8	4.5	23.0
52205	80	50	147	1 + 1	17 + 17	111 + 111	2	3.1	9.9	5.7	30.8
52225	80	55	156	1 + 1	19 + 19	118 + 118	2	3.1	9.9	5.7	30.8
52240	80	55	156	1 + 1	19 + 19	118 + 118	2	3.1	9.9	5.7	30.8
52260	100	62	159	1 + 1	22 + 22	118 + 118	2	3.1	9.9	5.7	30.8
52290	100	68	184	1 + 1	25 + 25	140 + 140	2	3.1	9.9	5.7	30.8
52330	125	81	225	1 + 1	30 + 30	174 + 174	2	3.1	9.9	7.5	39.8

Table 16

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.

ICF Maximum Instantaneous Current Flow

Note :

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

RLA Rated Load Amps. (at worst operating condition)

LRA Locked Rotor Amps

FLA Full Load Amps

SKM Packaged Airconditioning Units PACL Series - R-22

ELECTRICAL DATA (ESMA APPROVED)

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

Model PACL	Unit Characteristic			Compressor			Condenser Fan Motor			Evaporator Fan Motor	
	MFA	MCA	ICF	QTY	RLA	LRA	QTY	FLA	LRA	FLA	LRA
51050 G	25	13	67	1	8	62	1	1.1	3.3	1.5	5.7
51060 G	32	16	80	1	10	74	2	1.1	3.3	1.5	5.7
51070 G	32	19	107	1	12	101	2	1.1	3.3	1.9	7.9
51085 G	40	25	102	1	16	95	2	1.1	3.3	2.6	12.0
51095 G	50	26	118	1	17	111	2	1.1	3.3	2.6	12.0
52110 G	40	29	86	1 + 1	10 + 10	66 + 66	2	1.5	4.5	3.5	18.3
52120 G	40	29	94	1 + 1	10 + 10	74 + 74	2	1.5	4.5	3.5	18.3
52145 G	50	34	123	1 + 1	12 + 12	101 + 101	2	1.5	4.5	3.5	18.3
52160 G	50	35	123	1 + 1	12 + 12	101 + 101	2	1.3	4.0	4.9	25.0
52180 G	63	44	121	1 + 1	16 + 16	95 + 95	2	1.3	4.0	4.9	25.0
52205 G	80	50	148	1 + 1	17 + 17	111 + 111	2	2.8	11.0	6.3	34.0
52225 G	80	55	157	1 + 1	19 + 19	118 + 118	2	2.8	11.0	6.3	34.0
52240 G	80	53	156	1 + 1	19 + 19	118 + 118	2	2.8	11.0	4.9	25.0
52260 G	100	60	159	1 + 1	22 + 22	118 + 118	2	2.8	11.0	4.9	25.0
52290 G	100	68	185	1 + 1	25 + 25	140 + 140	2	2.8	11.0	6.3	34.0
52330 G	125	83	232	1 + 1	30 + 30	174 + 174	2	3.5	16.0	8.2	43.5

Table 17

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.

ICF Maximum Instantaneous Current Flow

RLA Rated Load Amps. (at worst operating condition)

LRA Locked Rotor Amps

FLA Full Load Amps

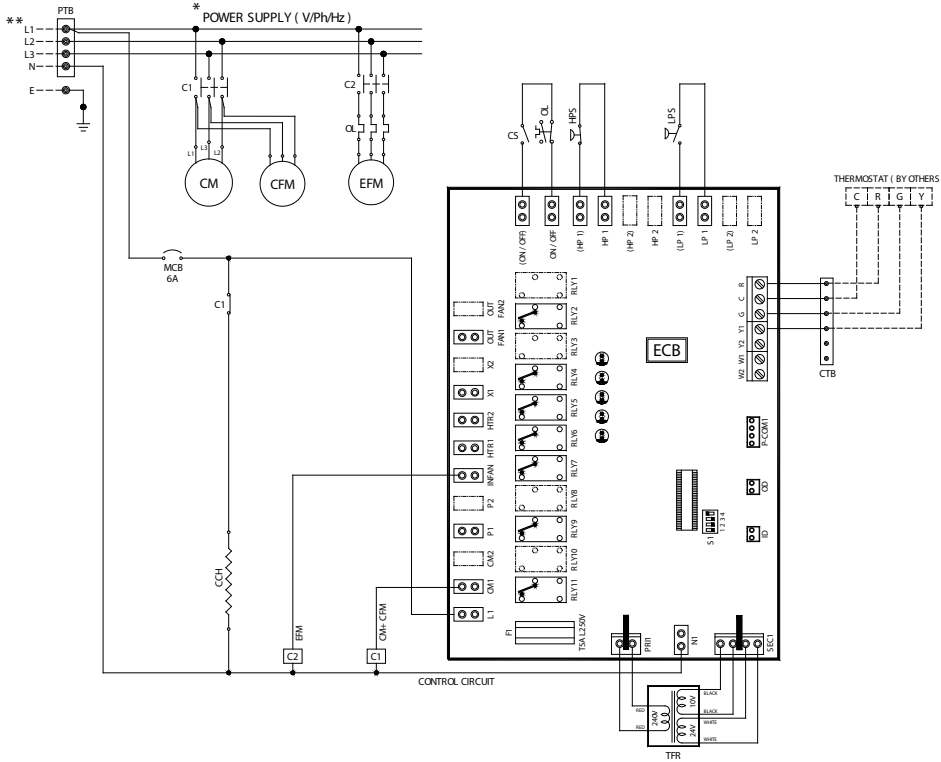
Note :

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

SKM Packaged Airconditioning Units PACL Series - R-22

Typical Wiring Diagram

PACL Models: 51050



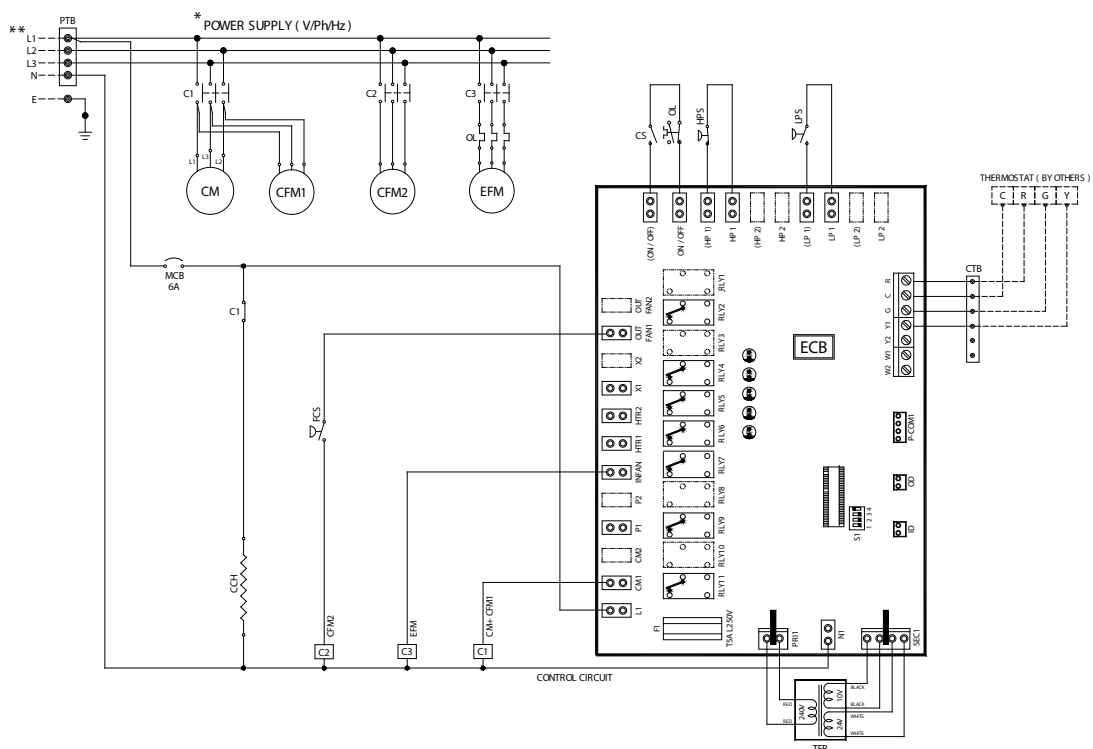
LEGEND

Symbol	Description
---	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

* TYPICAL WIRING DIAGRAM SHOWN IS SUITABLE FOR 380~ 415V/3Ph/50Hz ONLY. FOR 440V/3Ph/50Hz, PLEASE CONSULT SKM.

** PROVIDE OVERCURRENT, EARTH FAULT PROTECTION, SHORT CIRCUIT AND DISCONNECT MEANS AS REQUIRED BY LOCAL & NATIONAL ELECTRIC CODE. (BY OTHERS)

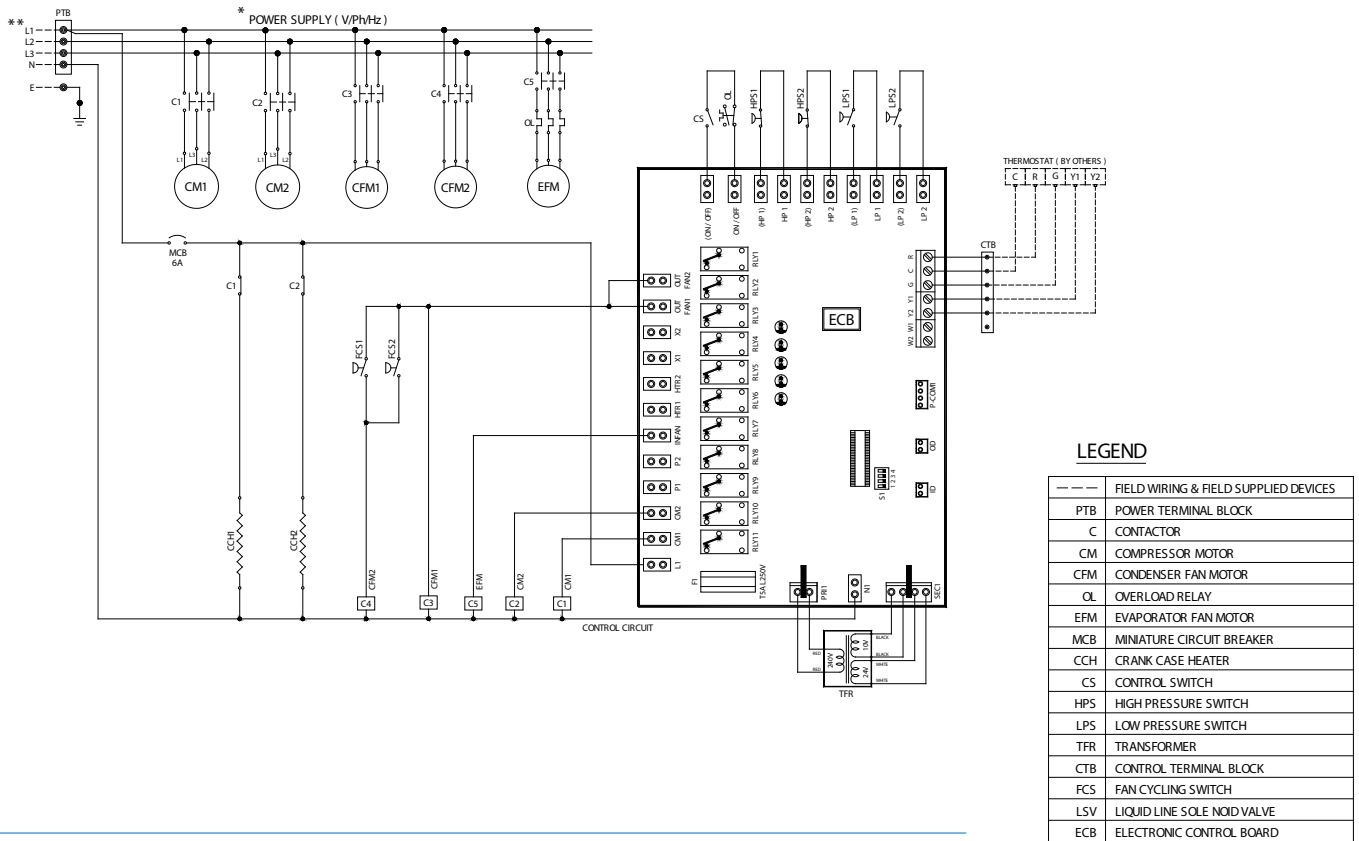
PACL Models: 51060, 51070, 51085 & 51095



SKM Packaged Airconditioning Units PACL Series - R-22

Typical Wiring Diagram

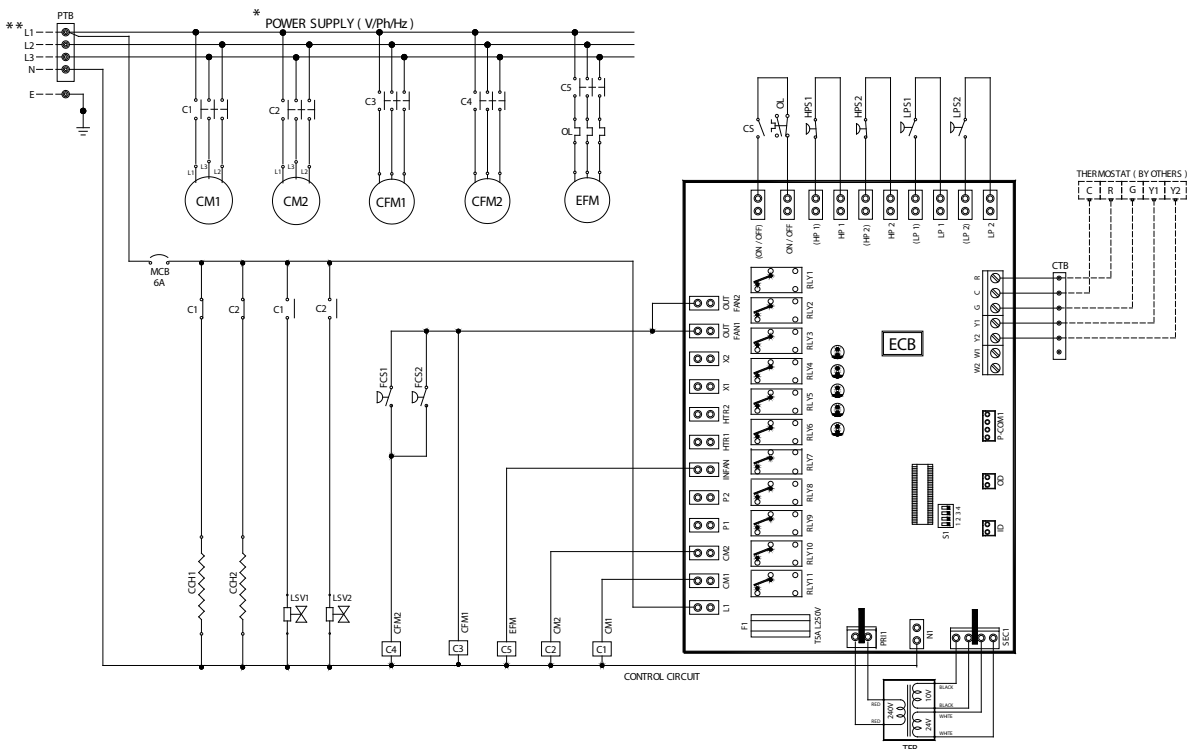
PACL Models: 52110, 52120, 52145, 52160, 52180, 52205, 52225, 52240, 52260



PACL Models: 52290, 52330

* TYPICAL WIRING DIAGRAM SHOWN IS SUITABLE FOR 380-415V/3PH/50HZ ONLY. FOR 440V/3PH/50HZ, PLEASE CONSULT SKM.

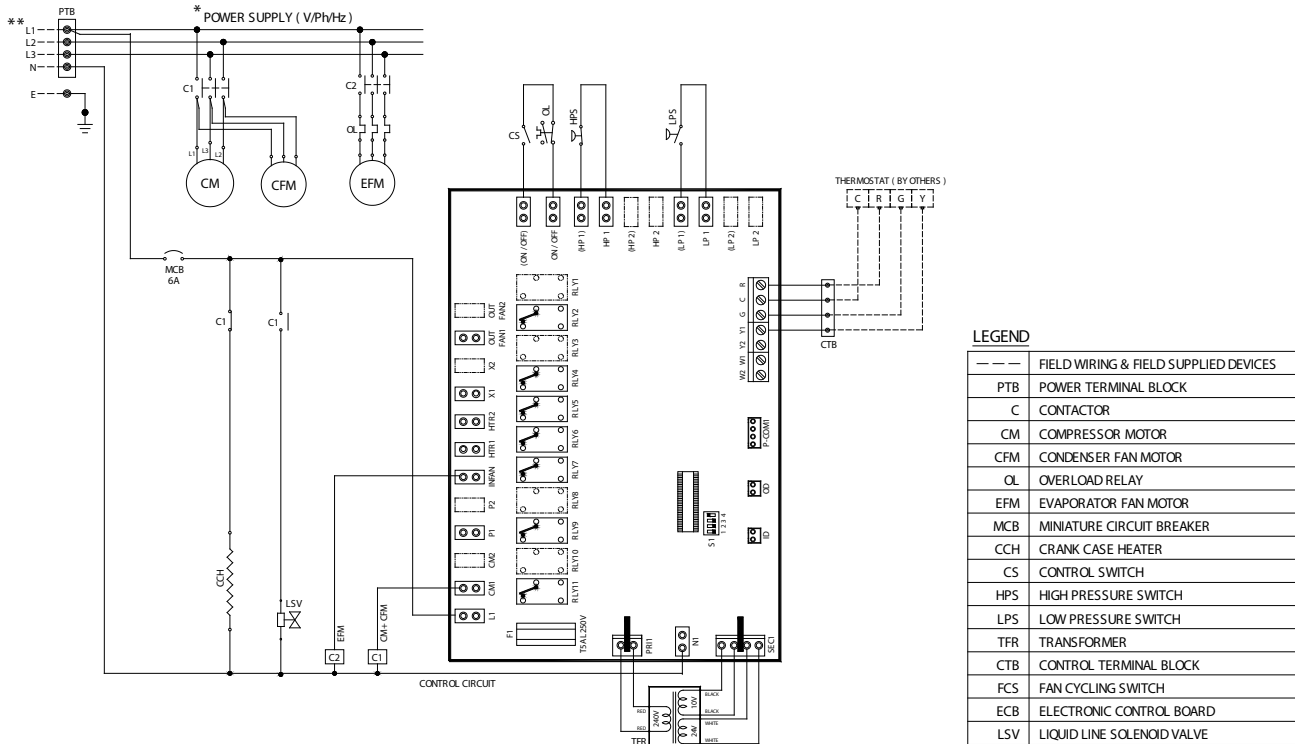
** PROVIDE OVERCURRENT, EARTH FAULT PROTECTION, SHORT CIRCUIT AND DISCONNECT MEANS AS REQUIRED BY LOCAL & NATIONAL ELECTRIC CODE. (BY OTHERS)



SKM Packaged Airconditioning Units PACL Series - R-22

Typical Wiring Diagram (ESMA APPROVED)

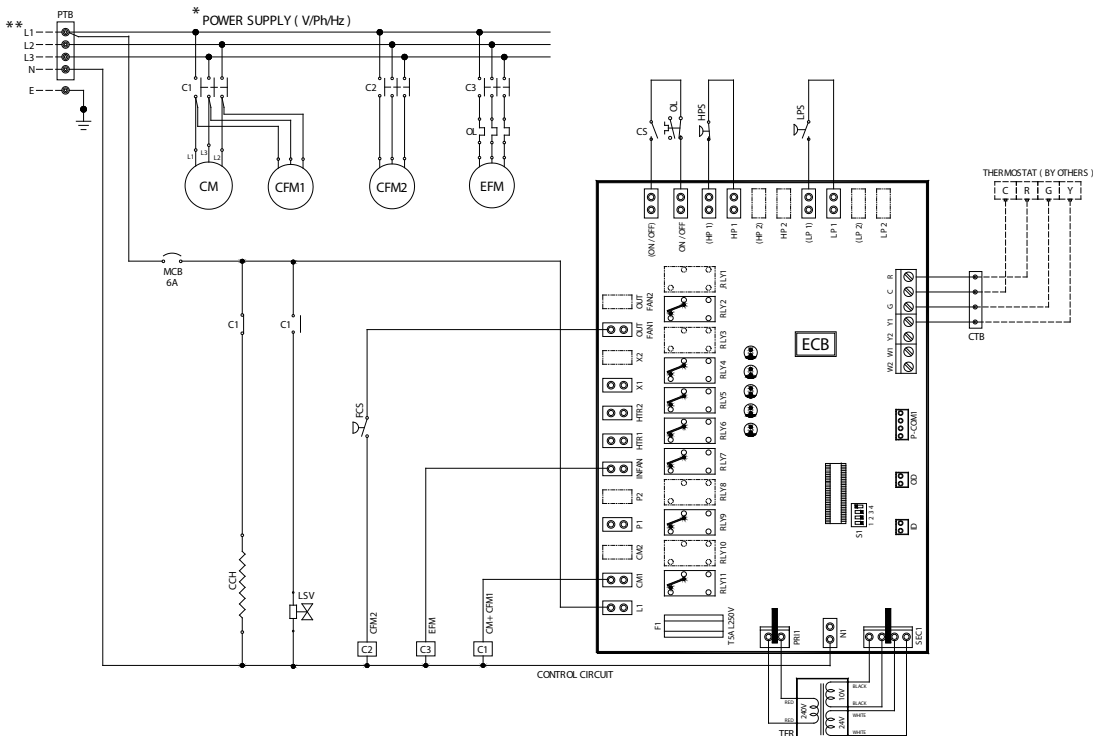
PACL Models: 51050 G



* TYPICAL WIRING DIAGRAM SHOWN IS SUITABLE FOR 380-415V/3PH/50Hz ONLY. FOR 440V/3PH/50Hz, PLEASE CONSULT SKM.

** PROVIDE OVERCURRENT, EARTH FAULT PROTECTION, SHORT CIRCUIT AND DISCONNECT MEANS AS REQUIRED BY LOCAL & NATIONAL ELECTRIC CODE. (BY OTHERS)

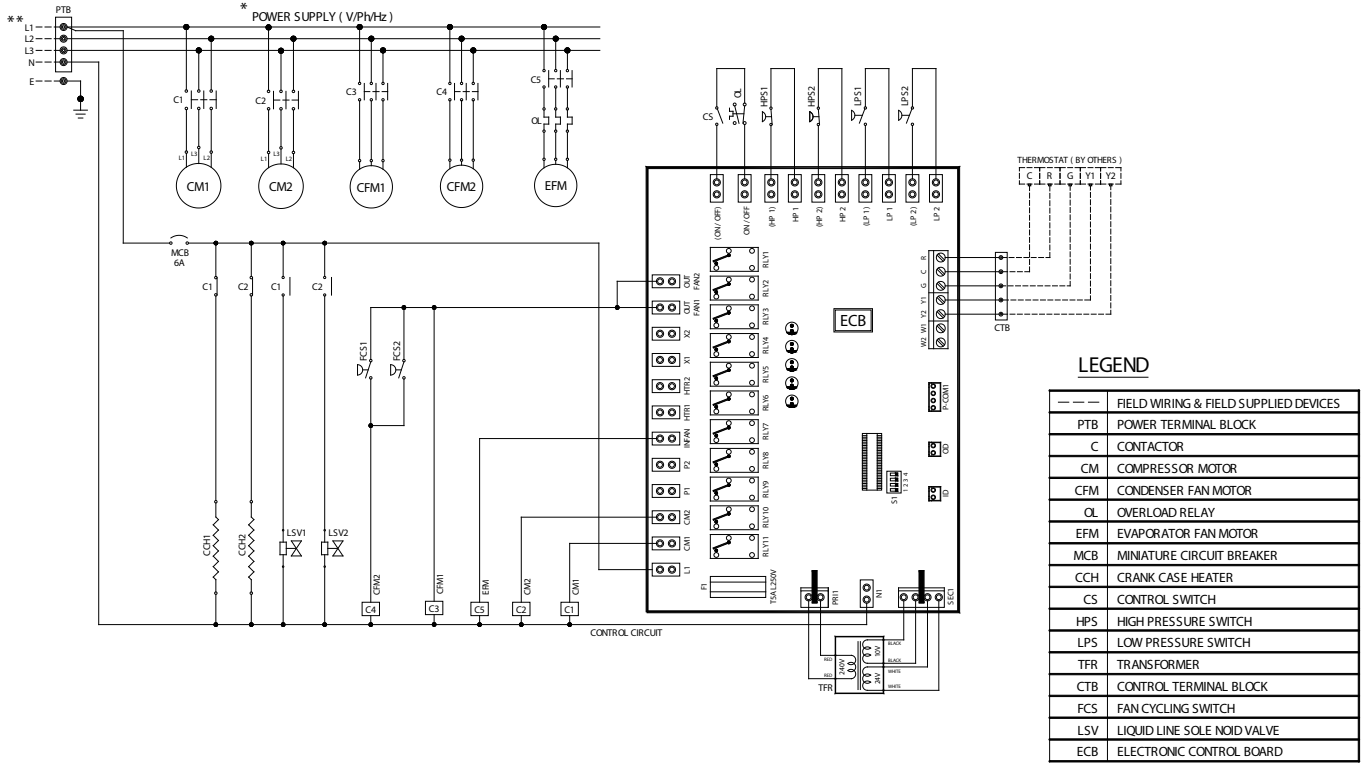
PACL Models: 51060 G, 51070 G, 51085 G & 51095 G



SKM Packaged Airconditioning Units PACL Series - R-22

Typical Wiring Diagram (ESMA APPROVED)

PACL Models: 52110 G To 52330 G



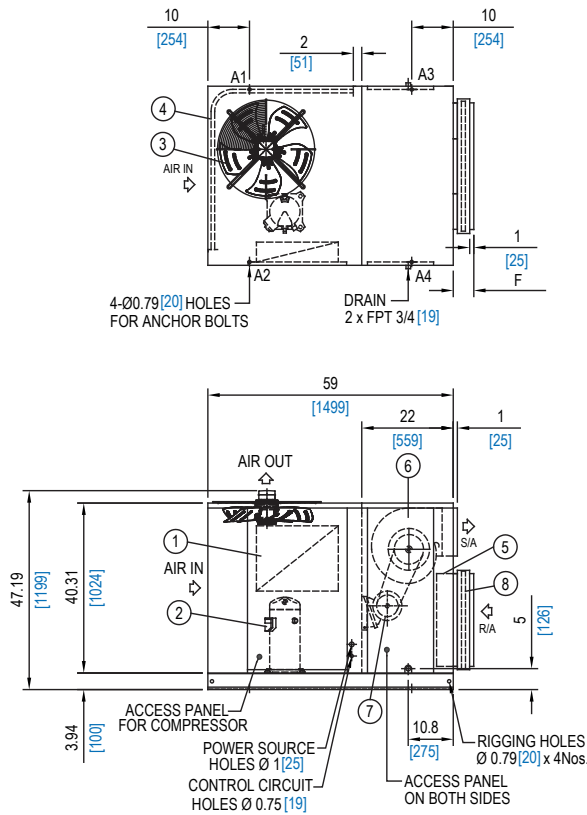
* TYPICAL WIRING DIAGRAM SHOWN IS SUITABLE FOR 380~415V/3Ph/50Hz ONLY. FOR 440V/3Ph/50Hz, PLEASE CONSULT SKM.

** PROVIDE OVERCURRENT, EARTH FAULT PROTECTION, SHORT CIRCUIT AND DISCONNECT MEANS AS REQUIRED BY LOCAL & NATIONAL ELECTRIC CODE. (BY OTHERS)

SKM Packaged Airconditioning Units PACL Series - R-22

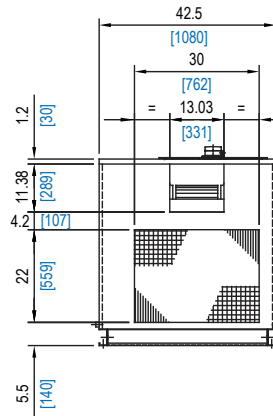
Dimensional Data

PACL Models - 51050

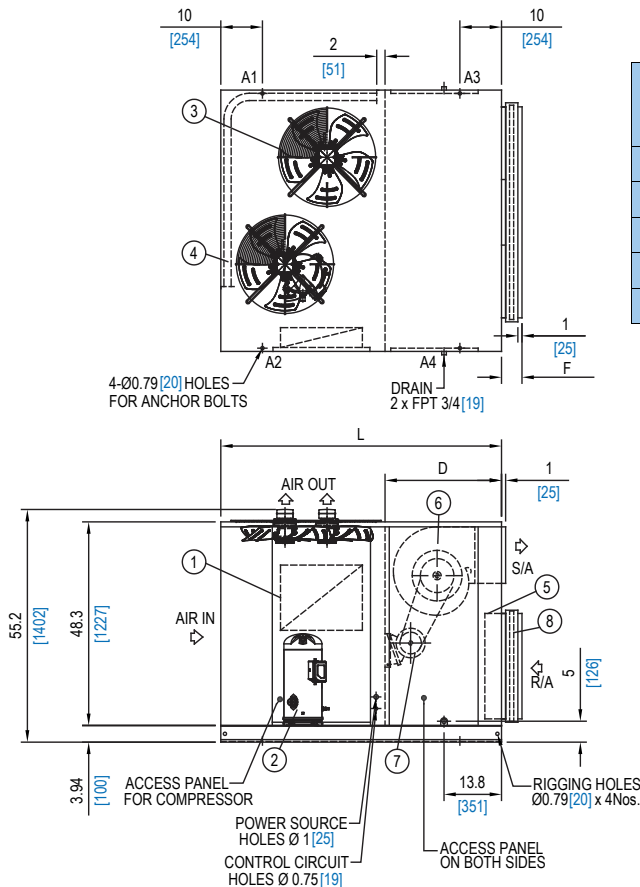


- LEGEND**
- ① CONTROL PANEL
 - ② COMPRESSOR
 - ③ CONDENSER FAN
 - ④ CONDENSER COIL
 - ⑤ EVAPORATOR COIL
 - ⑥ EVAPORATOR FAN
 - ⑦ EVAPORATOR FAN MOTOR
 - ⑧ 1" THICK FLAT FILTER

ALL DIMENSIONS ARE IN INCHES [MM]
 F=3.94 [100] FOR 1" FLAT FILTER (STANDARD)
 F=4.93 [125] FOR 2" FLAT FILTER (OPTIONAL)



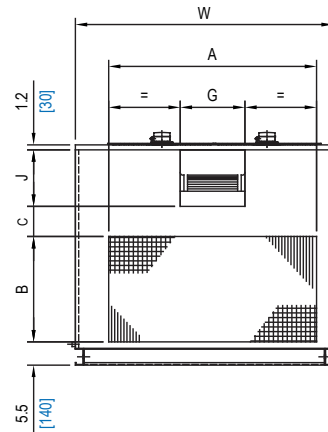
PACL Models - 51060, 51070, 51085, 51095 & 52110



Model PACL	DIMENSIONS							
	L	W	A	B	C	D	J	G
51060	61.5 [1285]	50.6 [1285]	30 [762]	22 [559]	12.17 [309]	22 [559]	11.38 [289]	13.03 [331]
51070	[1562]	50.6 [1285]	38.6 [979]	24 [610]	10.2 [259]	22 [559]	11.38 [289]	13.03 [331]
51085	67.5 [1714]	50.6 [1285]	38.6 [979]	24 [610]	8.15 [207]	28 [711]	13.43 [341]	15.55 [395]
51095		62 [1575]	50 [1270]	25 [635]	7.13 [181]	28 [711]	13.43 [341]	15.55 [395]
*52110		68 [1727]	56 [1422]	25 [635]	7.13 [181]	28 [711]	13.43 [341]	15.55 [395]

*MODEL WITH 2 COMPRESSOR

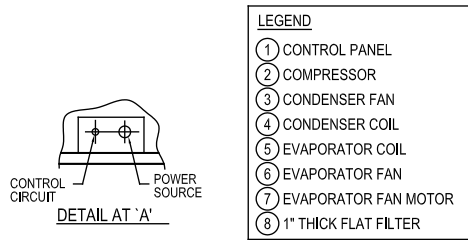
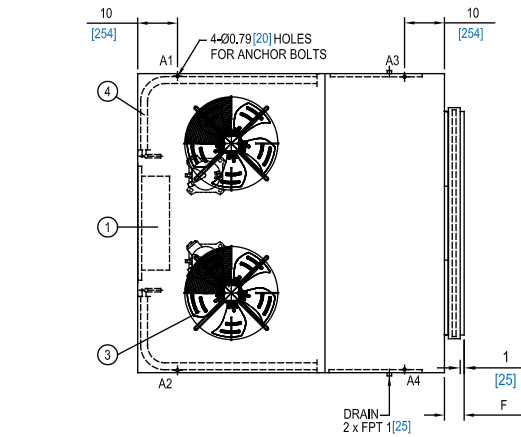
ALL DIMENSIONS ARE IN INCHES [MM]



SKM Packaged Airconditioning Units PACL Series - R-22

Dimensional Data

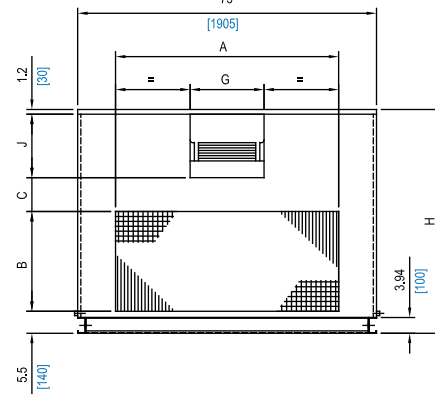
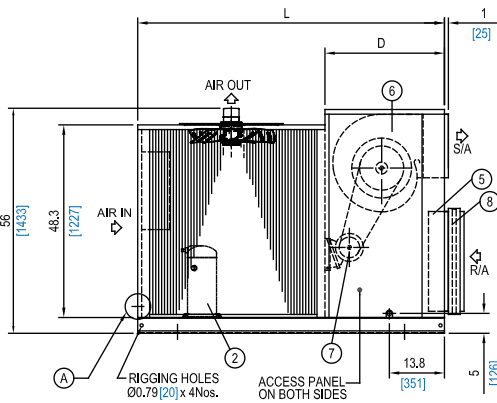
PACL Models - 52120 & 52145



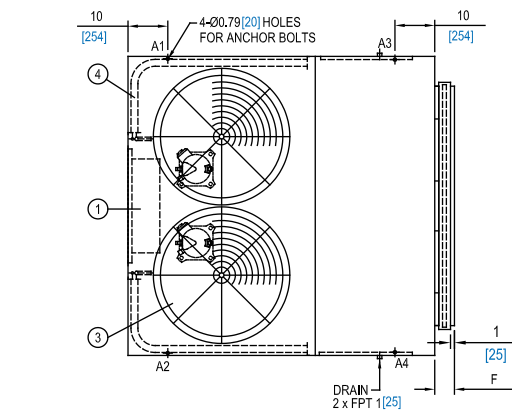
ALL DIMENSIONS ARE IN INCHES[MM]
F=3.94 [100] FOR 1\"/>

Model PACL	DIMENSIONS							
	L	A	B	C	D	J	G	H
52120	75	56	25	7.1	28	13.43	15.55	52.3
	[1905]	[1422]	[635]	[181]	[711]	[341]	[395]	[1327]
52145	77	60	30	8.5	30	15.91	18.54	61.2
	[1956]	[1524]	[762]	[217]	[762]	[404]	[471]	[1554]

ALL DIMENSIONS ARE IN INCHES[MM]

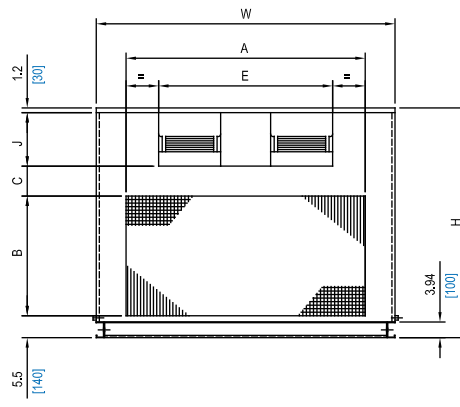
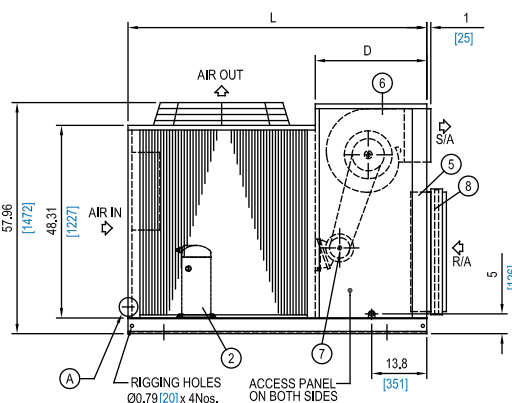


PACL Models - 52160, 52180, 52205, 52240 & 52260



Model PACL	DIMENSIONS								
	L	W	A	B	D	J	E	H	C
52160	75	75	60	32	28	13.43	43.7	59.6	7.5
	[1905]	[1905]	[1524]	[813]	[711]	[341]	[1109]	[1515]	[191]
52180	75	75	60	32	28	13.43	43.7	59.6	7.5
	[1905]	[1905]	[1524]	[813]	[711]	[341]	[1109]	[1515]	[191]
52205	85	80	70	32	28	13.43	43.7	59.6	7.5
	[2159]	[2032]	[1778]	[813]	[711]	[341]	[1109]	[1515]	[191]
52225	85	80	70	32	28	13.43	43.7	59.6	7.5
	[2159]	[2032]	[1778]	[813]	[711]	[341]	[1109]	[1515]	[191]
52240	101.6	88	78	36	38.6	15.91	52.3	67.1	8.5
	[2581]	[2235]	[1981]	[914]	[981]	[404]	[1328]	[1705]	[216]
52260	101.6	88	78	36	38.6	15.91	52.3	67.1	8.5
	[2581]	[2235]	[1981]	[914]	[981]	[404]	[1328]	[1705]	[216]

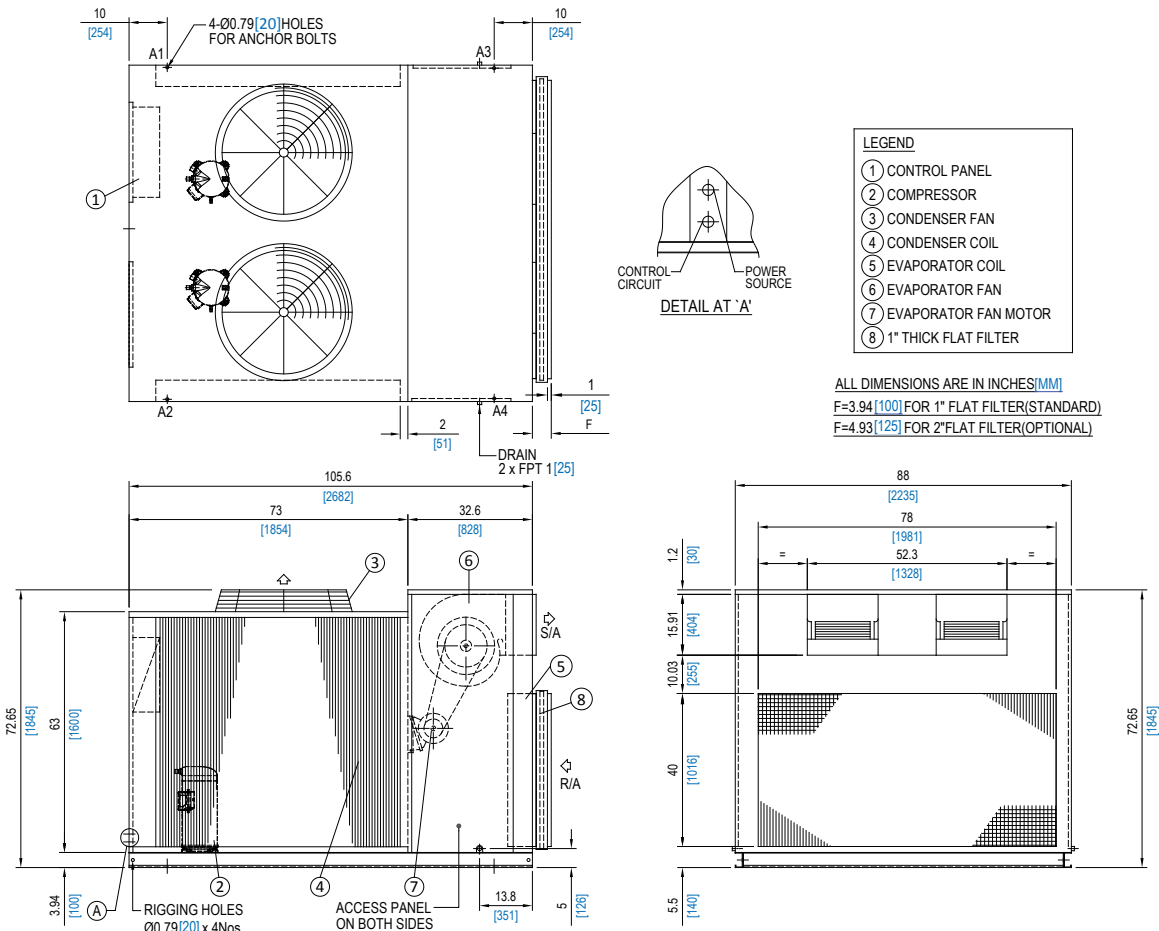
ALL DIMENSIONS ARE IN INCHES[MM]



SKM Packaged Airconditioning Units PACL Series - R-22

Dimensional Data

PACL Models - 52290-52330



Loading Points & Weights

MODEL PACL	LOAD AT EACH POINT Lbs (Kgs)				TOTAL WEIGHT
	A1	A2	A3	A4	
51050	154 [70]	185 [84]	153 [69]	156 [71]	648 [294]
51060	172 [78]	203 [92]	174 [79]	176 [80]	725 [329]
51070	182 [83]	225 [102]	171 [78]	165 [75]	743 [337]
51085	213 [97]	266 [121]	196 [89]	192 [87]	867 [393]
51095	248 [112]	274 [124]	214 [97]	205 [93]	941 [427]
52110	245 [111]	274 [124]	229 [104]	222 [101]	970 [440]
52120	318 [144]	315 [143]	267 [121]	253 [115]	1153 [523]
52145	354 [161]	348 [158]	267 [121]	252 [114]	1221 [554]

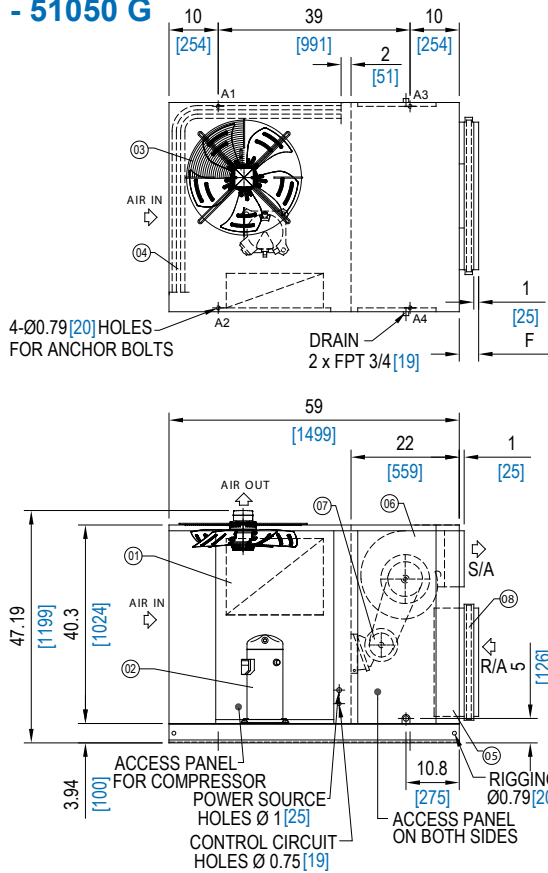
MODEL PACL	LOAD AT EACH POINT Lbs (Kgs)				TOTAL WEIGHT
	A1	A2	A3	A4	
52160	395 [179]	387 [176]	287 [130]	273 [124]	1342 [609]
52180	395 [179]	387 [176]	287 [130]	273 [124]	1342 [609]
52205	460 [209]	455 [206]	368 [167]	357 [162]	1640 [744]
52225	460 [209]	455 [206]	368 [167]	357 [162]	1640 [744]
52240	532 [241]	523 [237]	429 [195]	413 [187]	1897 [860]
52260	533 [242]	525 [238]	430 [195]	414 [188]	1902 [863]
52290	578 [262]	569 [258]	466 [211]	449 [204]	2062 [935]
52330	582 [264]	573 [260]	469 [213]	452 [204]	2076 [941]

Table 18

SKM Packaged Airconditioning Units PACL Series - R-22

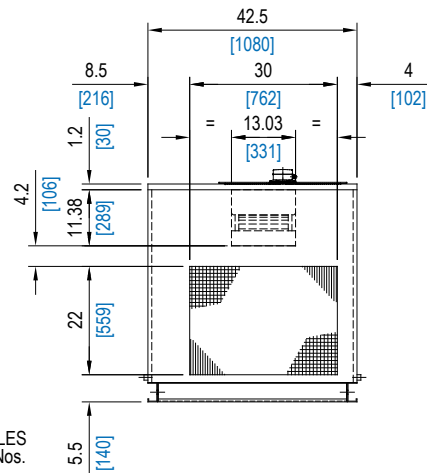
Dimensional Data (ESMA APPROVED)

PACL Models - 51050 G

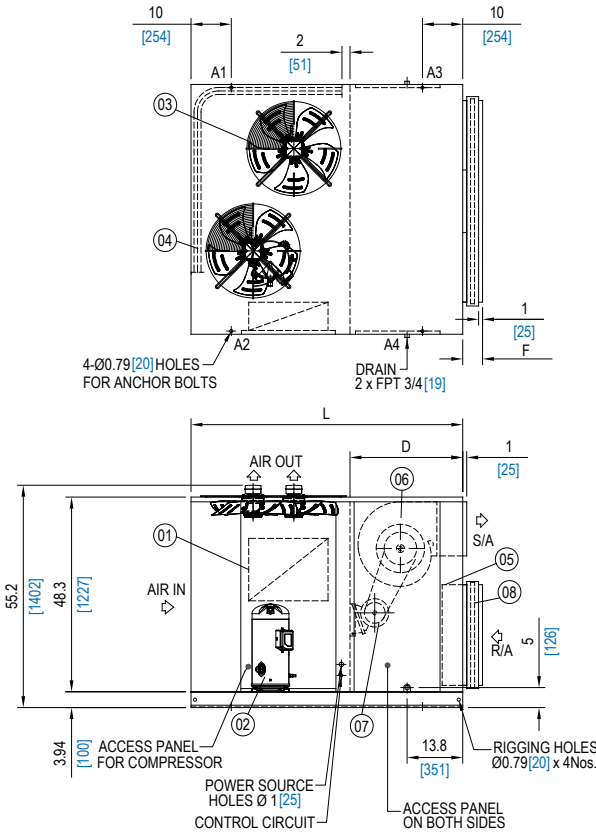


- LEGEND**
- ① CONTROL PANEL
 - ② COMPRESSOR
 - ③ CONDENSER FAN
 - ④ CONDENSER COIL
 - ⑤ EVAPORATOR COIL
 - ⑥ EVAPORATOR FAN
 - ⑦ EVAPORATOR FAN MOTOR
 - ⑧ 1" THICK FLAT FILTER

ALL DIMENSIONS ARE IN INCHES [MM]
 F=3.94 [100] FOR 1" FLAT FILTER (STANDARD)
 F=4.93 [125] FOR 2" FLAT FILTER (OPTIONAL)



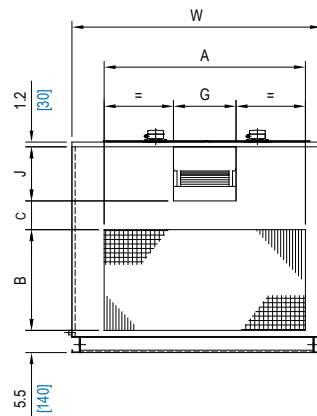
PACL Models - 51060 G, 51070 G, 51085 G, 51095 G & 52110* G



Model PACL	DIMENSIONS							
	L	W	A	B	C	D	J	G
51060 G	61.5 [1562]	50.6 [1285]	30 [762]	22 [559]	12.17 [309]	22 [559]	11.38 [289]	13.03 [331]
51070 G		50.6 [1285]	38.6 [979]	24 [610]	10.2 [259]	22 [559]	11.38 [289]	13.03 [331]
51085 G		50.6 [1285]	38.6 [979]	24 [610]	8.13 [207]	28 [711]	13.43 [341]	15.55 [395]
51095 G	67.5 [1714]	62 [1575]	50 [1270]	25 [635]	7.10 [181]	28 [711]	13.43 [341]	15.55 [395]
52110* G		68 [1727]	56 [1422]	25 [635]	7.13 [181]	28 [711]	13.43 [341]	15.55 [395]

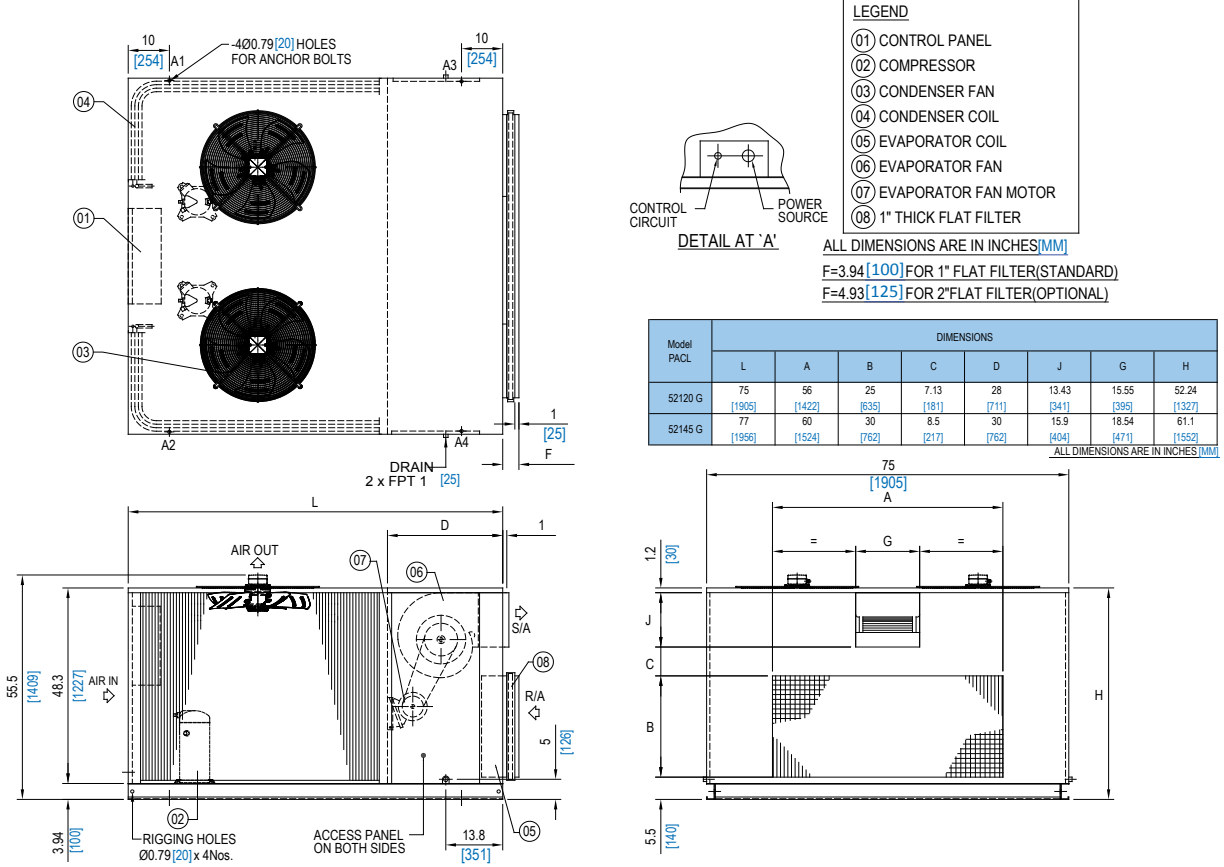
*MODEL WITH TWO COMPRESSOR

ALL DIMENSIONS ARE IN INCHES [MM]

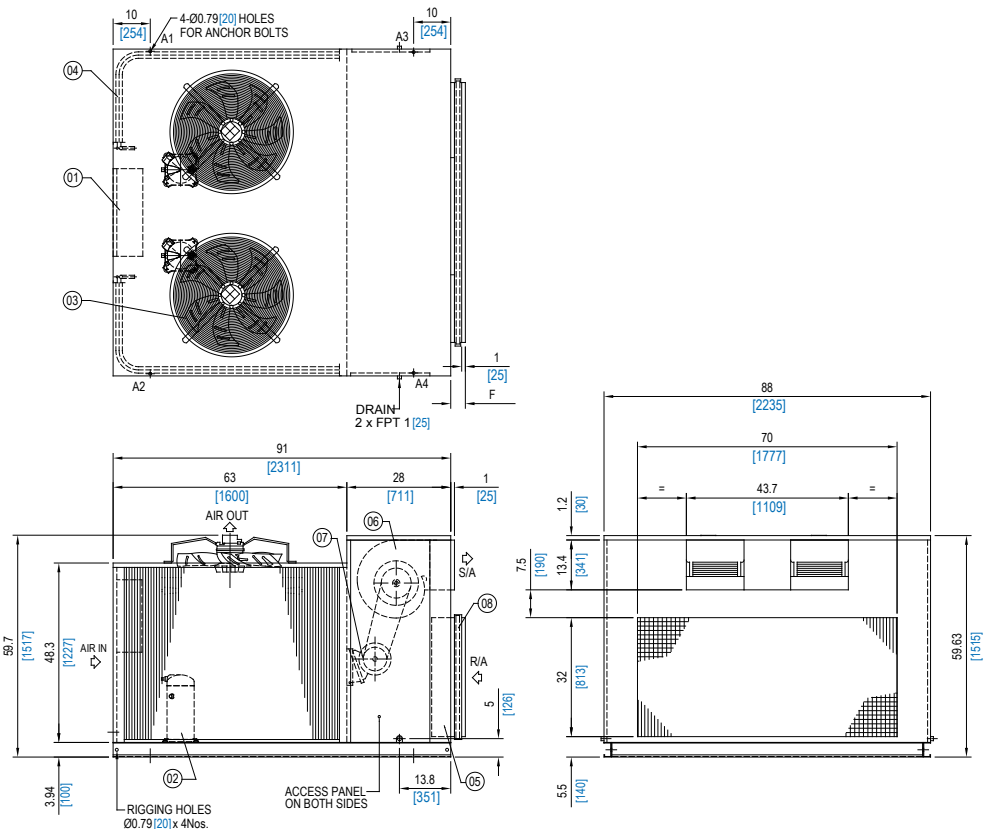


SKM Packaged Airconditioning Units PACL Series - R-22

Dimensional Data (ESMA APPROVED) PACL Models - 52120 G & 52145 G



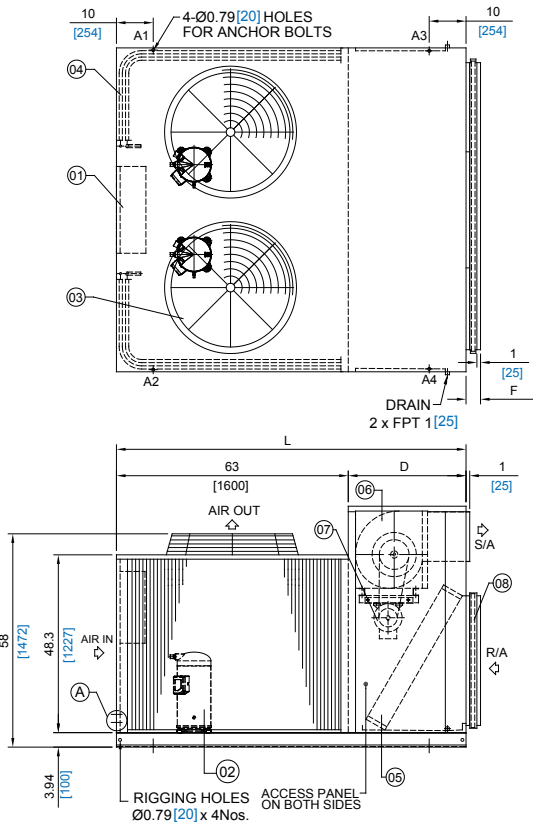
PACL Models - 52160 G & 52180 G



SKM Packaged Airconditioning Units PACL Series - R-22

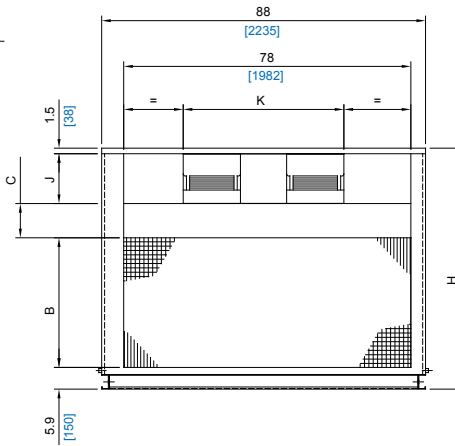
Dimensional Data (ESMA APPROVED)

PACL Models - 52205 G, 52225 G, 52240 G & 52260 G

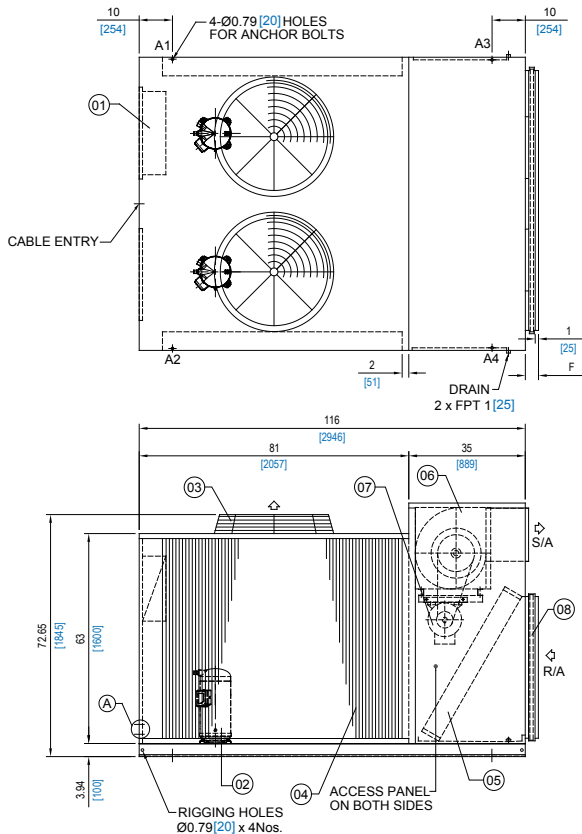


Model PACL-G	DIMENSIONS						
	L	D	B	C	J	K	H
52205 G	95 [2413]	32 [813]	35.2 [894]	9.3 [236]	13.5 [344]	43.7 [1109]	65.47 [1663]
52225 G	95 [2413]	32 [813]	35.2 [894]	9.3 [236]	13.5 [344]	43.7 [1109]	65.47 [1663]
52240 G	98 [2489]	35 [889]	35.2 [894]	10.3 [261]	16 [407]	52.3 [1328]	68.93 [1751]
52260 G	98 [2489]	35 [889]	42.1 [1070]	10.52 [267]	16 [407]	52.3 [1328]	76.11 [1933]

ALL DIMENSIONS ARE IN INCHES [MM]

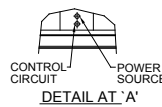


PACL Models - 52290 G - 52330 G



LEGEND

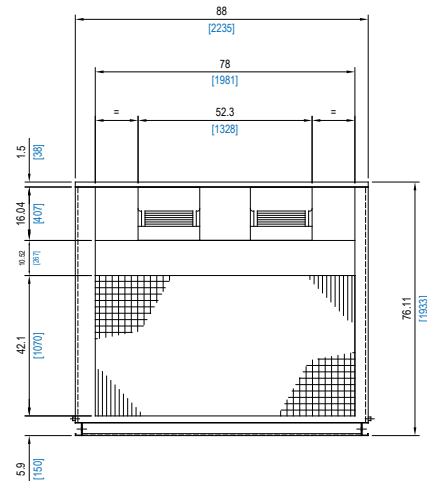
- ① CONTROL PANEL
- ② COMPRESSOR
- ③ CONDENSER FAN
- ④ CONDENSER COIL
- ⑤ EVAPORATOR COIL
- ⑥ EVAPORATOR FAN
- ⑦ EVAPORATOR FAN MOTOR
- ⑧ 1" THICK FLAT FILTER



ALL DIMENSIONS ARE IN INCHES [MM]

F=3.94 [100] FOR 1" FLAT FILTER (STANDARD)

F=4.93 [125] FOR 2" FLAT FILTER (OPTIONAL)



SKM Packaged Airconditioning Units PACL Series - R-22

Loading Points & Weights

MODEL PACL-G	LOAD AT EACH POINT Lbs (Kgs)				TOTAL WEIGHT
	A1	A2	A3	A4	
51050 G	190 [86]	200 [91]	180 [82]	165 [75]	735 [334]
51060 G	210 [95]	210 [95]	200 [90]	185 [84]	805 [364]
51070 G	220 [100]	235 [106]	200 [90]	175 [79]	830 [375]
51085 G	220 [100]	275 [125]	205 [93]	200 [90]	900 [408]
51095 G	255 [115]	280 [127]	220 [100]	210 [95]	965 [437]
52110 G	250 [113]	280 [127]	240 [109]	230 [104]	1000 [453]
52120 G	325 [147]	330 [150]	275 [125]	255 [115]	1185 [537]
52145 G	360 [163]	355 [161]	275 [125]	260 [118]	1350 [567]

Table 19

MODEL PACL-G	LOAD AT EACH POINT Lbs (Kgs)				TOTAL WEIGHT
	A1	A2	A3	A4	
52160 G	400 [181]	400 [181]	295 [134]	285 [129]	1380 [625]
52180 G	450 [204]	440 [200]	330 [150]	315 [143]	1535 [697]
52205 G	535 [243]	535 [243]	428 [194]	413 [187]	1911 [867]
52225 G	535 [243]	535 [243]	428 [194]	413 [187]	1911 [867]
52240 G	535 [243]	535 [243]	428 [194]	413 [187]	1911 [867]
52260 G	622 [283]	590 [268]	624 [284]	605 [275]	2441 [1110]
52290 G	622 [283]	590 [268]	624 [284]	605 [275]	2441 [1110]
52330 G	627 [285]	595 [270]	624 [284]	605 [275]	2451 [1114]

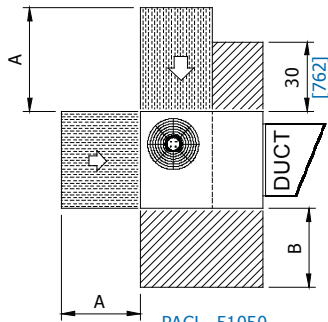
Table 20

SKM Packaged Airconditioning Units PACL Series - R-22

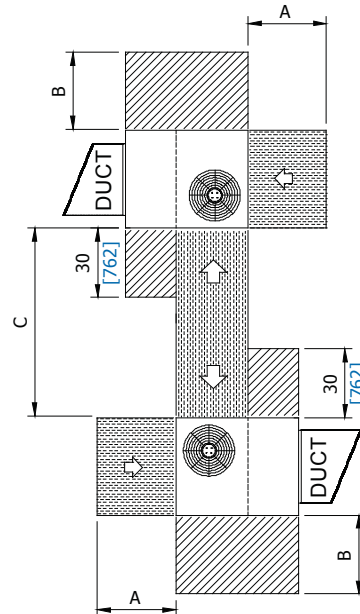
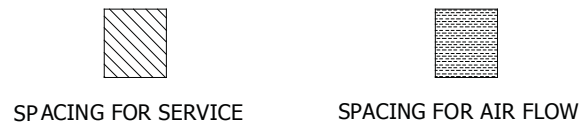
Recommended Clearances

MODEL PACL	A	B	C
51050	44 [1118]	34 [864]	72 [1829]
51060			88 [2235]
51070		42 [1069]	
51085	52 [1321]	54 [1372]	
51095		60 [1524]	
52110			

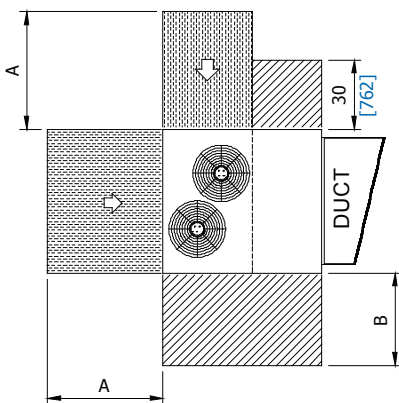
ALL DIMENSIONS ARE IN INCHES [MM]



PACL- 51050

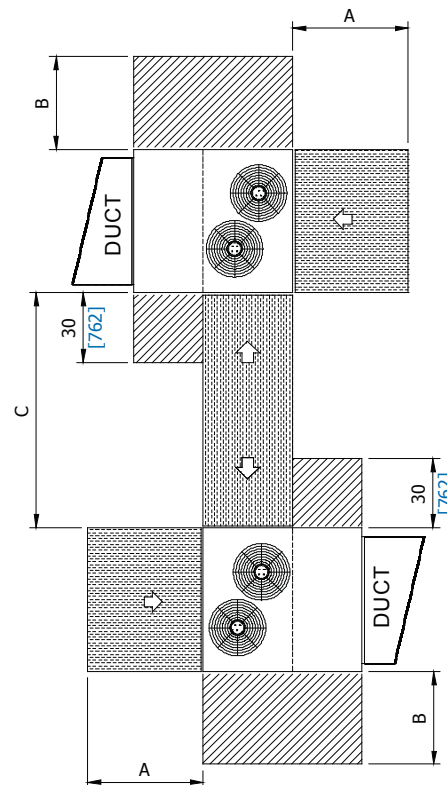


PACL- 51050



PACL- 51060 to 52110

SINGLE UNIT



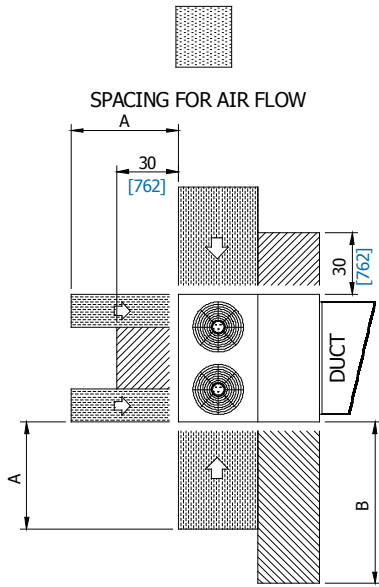
PACL- 51060 to 52110

MULTIPLE UNIT

SKM Packaged Airconditioning Units PACL Series - R-22

Recommended Clearances

UNIT CLEARANCE

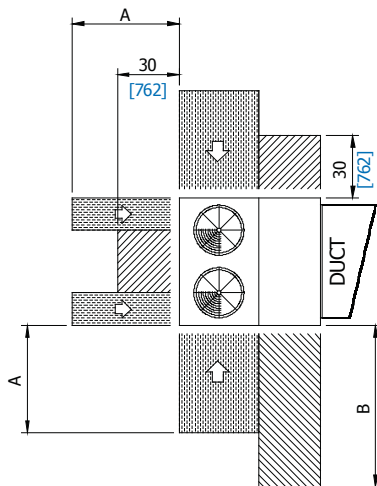


PACL- 52120 & 52145

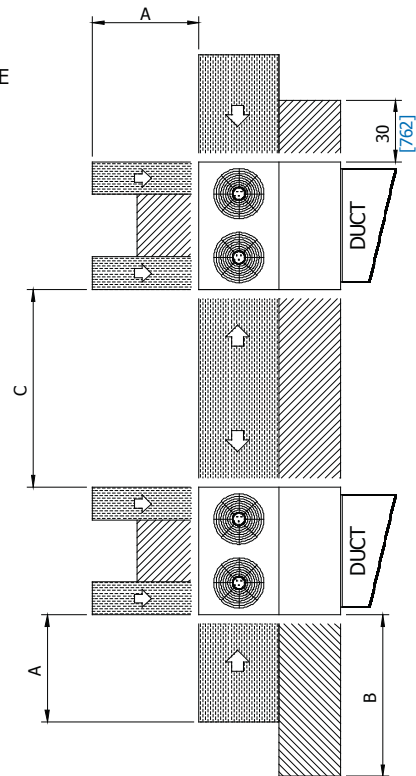
MODEL PACL	A	B	C
52120	52 [1321]	60 [1524]	88 [2438]
52145		64 [1626]	
52160		74 [1880]	
52180		82 [2083]	
52205			
52225			
52240			
52260			
52290			
52330			

DIMENSIONS ARE IN INCHES [MM]

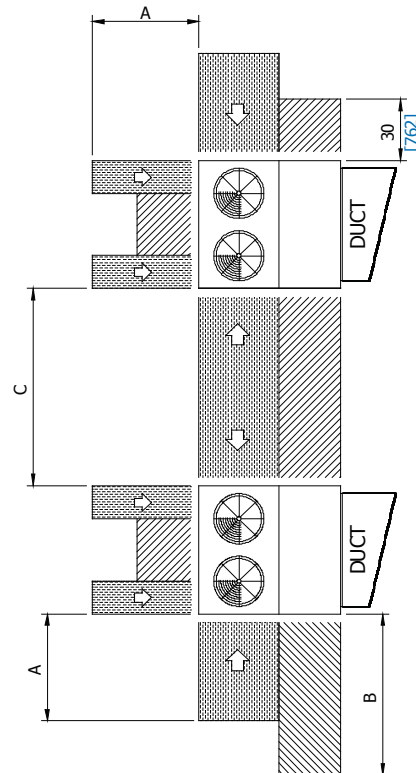
Table 14



PACL- 52160 to 52260
SINGLE UNIT



PACL- 52120 & 52145



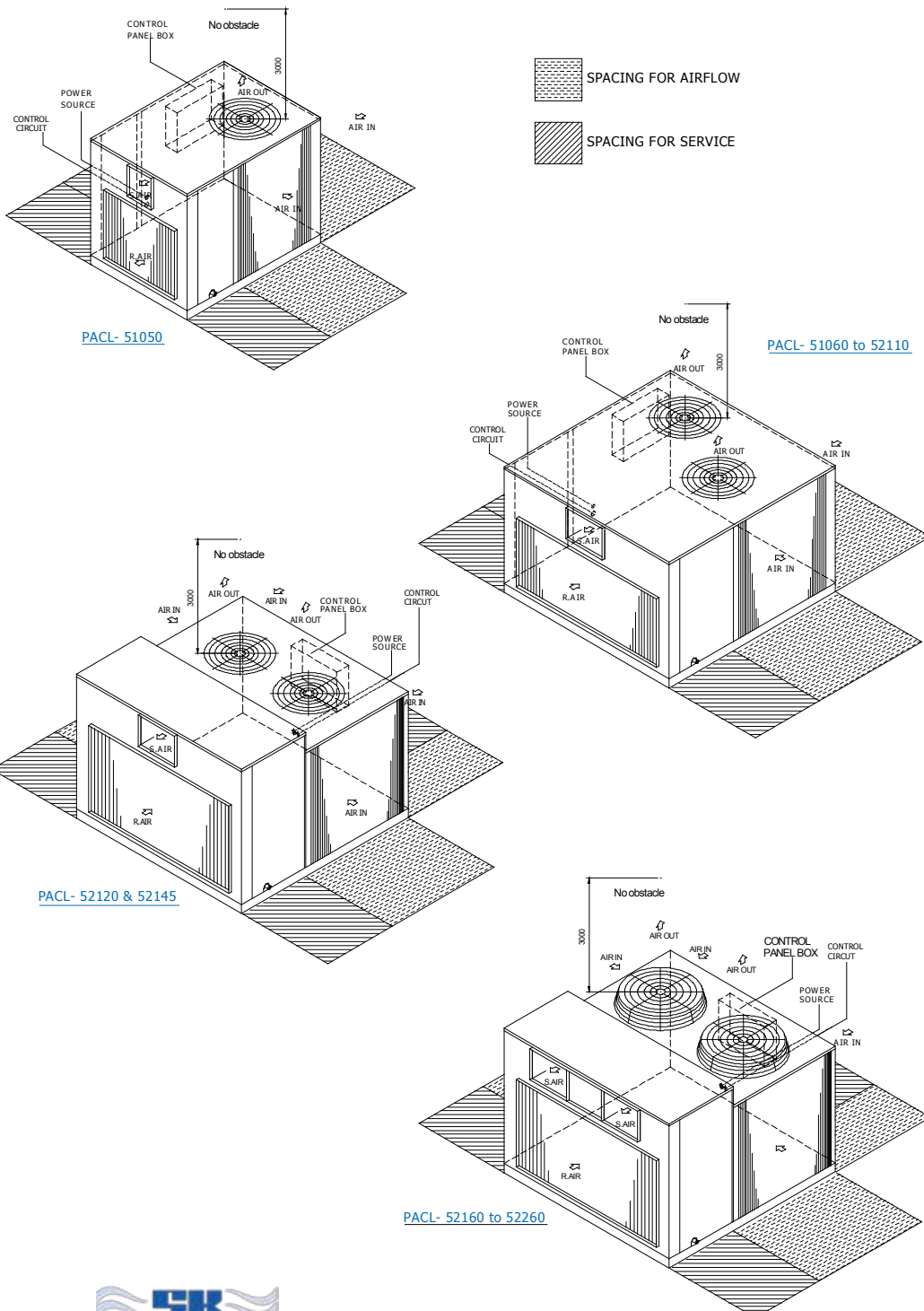
PACL- 52160 to 52260
MULTIPLE UNIT

SKM Packaged Airconditioning Units PACL Series - R-22

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.
- Connect supply and return ducts as shown.
- 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.

INSTALLATION & COMMISSIONING



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 R22, 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 125.6 °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 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 cross fins. These coils shall be tested against leakage by air pressure of 450 psig (3100 kPa) 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), 4 pole or 6 pole with class-F insulation, minimum IP-54 protection & wired to unit control panel.

EVAPORATOR COIL

Evaporator coil shall be constructed of seamless copper tubes 3/8" OD mechanically bonded to aluminum (copper) 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 air pressure of 300 psig (2068 kPa) under water, cleaned & dehydrated at the factory. Coil shall conform to AHRI-410.

EVAPORATOR FAN(S) & MOTOR

Fans of evaporators 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

The refrigerant circuit piping shall be fabricated from ACR grade copper piping, with 1 & 2 independent refrigerant circuits, each liquid line shall include shut-off valve (model wise), filter drier & thermostatic expansion valve. Suction line shall be insulated with 1/2" (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) thick is provided as standard and 2" (50mm) thick filter having an average arrestance efficiency of 54% as per ASHRAE Standard 52.1 or equivalent can be provided as an option.

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.

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