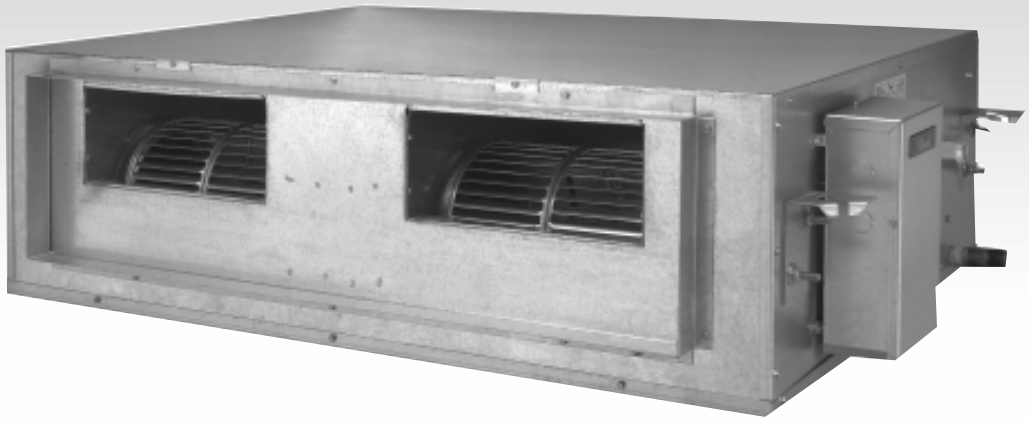
Cooline
AIR CONDITIONERS
from Zamil



Concealed Fan Coil Units

DR18/KR018 thru DR60/KR060
1.5 TR thru 5 TR
5 kW thru 17.5 kW

R-407c

P. O. Box 14440, Dammam 31424, K.S.A., Tel.: +966 3 847 3333, Fax: +966 3 847 1904, *Customer Services* TOLL FREE: 800 304 1000 (K.S.A. Only)
A member of Zamil Industrial Investment Company (a joint stock company) C.R. 2050004215

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CONTINUING RESEARCH RESULTS IN STEADY IMPROVEMENTS.
THEREFORE, THESE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL DECODING

INDOOR UNIT

1 & 2 BASIC (SERIES)	3 & 4 COOLING CAPACITY (x 1000 BTUH)	5 ELECTRICAL SUPPLY (V-Ph-Hz)	6 REFRIGERATION SYSTEM	7 ACCESSORIES	8 FIN	9 COIL CONNECTION	10 FILTER	11 OPTION
DR : DUCTED SPLIT FAN COIL UNIT **(R-407c)**	**18** **24** **30** **36** **48** **60**	**B** : 220/240-1-50	**C** : COOL ONLY	**N** : STANDARD	**A** : ALUMINUM FINS **B** : COATED ALUMINUM FINS **C** : COPPER FINS	**R** : RH SIDE (FACING AIR DISCHARGE)	**N** : NONE **A** : ALUMINUM	**N** : STANDARD UNIT

OUTDOOR UNIT

1 & 2 BASIC	3, 4 & 5 NOMINAL COOLING CAPACITY (MBH)	6 ELECTRICAL SUPPLY (V-Ph-Hz)	7 REFRIGERATION CIRCUIT	8 COMPRESSOR TYPE	9 MODE	10 CONDENSER MOTOR	11 CONDENSER COIL	12 ACCESSORIES	13 OPTIONS
KR COOLINE CONDENSING UNIT	**018** **024** **030** **036** **048** **060**	**B** : 220/240-1-50* **L** : 380/415-3-50** (4 WIRE)	**S** : SINGLE	**R** : R-407c COMPRESSOR	**C** : COOL ONLY	**N** : STANDARD	**A** : ALUMINUM FIN **B** : COATED ALUMINUM FIN **C** : COPPER FIN	**N** : STANDARD UNIT **F** : STANDARD UNIT WITH FILTER DRIER & SIGHT GLASS	**N** : STANDARD UNIT

NOTES: * – Applicable for KR018 - KR036 models only.
** – Applicable for KR030 - KR060 models only.

STANDARD SPECIFICATIONS

A. ENVIRONMENTAL FRIENDLY UNITS

These are environment friendly units that use refrigerant R-407c, which has ZERO OZONE DEPLETION POTENTIAL (ODP = 0) and therefore conform to the Montreal protocol regulation. Polyolester lubricants are used with R-407c.

B. UNIT CONSTRUCTION

These ducted indoor fan coil unit consists of a coil, motor/blower assembly, aluminum filters and a drain pan securely mounted on heavy gauge galvanized steel housing. Steel sheet panels are zinc coated and galvanized by the hot dip process of lock forming quality conforming to ASTM 653 commercial weight G-90.

This unit is designed for those concealed overhead installations which require supply ductwork. A 1.5" duct collar is provided into the front panel for supply air duct connection. Return air is from the rear side.

Access to the blower assembly is provided through the removable bottom panel from where the complete fan/motor deck can be removed for servicing. The panels are insulated with 5/16" thick polyethylene acoustic and thermal insulation. 1/2" thick washable type aluminum filter is provided.

C. BLOWER ASSEMBLY

The direct drive blower motor assembly is easily accessible for complete servicing after removal of fan deck from the unit. The blower wheels are large in diameter and are of the forward curved design. Constructed of steel, they are statically and dynamically balanced for quiet and smooth performance.

D. MOTORS

Motors are permanent split capacitor type with three speed tapped windings. The bearings are of sleeve type.

E. COIL

All cooling coils are of enhanced fin and tube type, constructed of enhanced copper tubes and mechanically bonded to aluminum fins. As an option corrugated copper fins or coated aluminum fins may be provided. Tube support sheets are galvanized steel and formed to provide structural strength.

Coils are provided with the orifice type refrigerant metering device on all models. This provides for ease of serviceability. Unlike capillaries there is no need for de-brazing/brazing required for site replacements of the orifice pistons. Accurately sized pistons can be easily fitted for non-standard applications (e.g. high rise buildings). Also this metering device eliminates the need for check valves in reverse cycle heat pump applications.

F. DRAIN PAN

The condensate drain pan is fabricated of 18 gauge galvanized steel. The drain pan is powder coat painted and the outer surface is thermally insulated. As water never touches the metal pan the possibility of corrosion is eliminated.

OUTDOOR UNIT FEATURES

A. GENERAL

The side discharge condensing units incorporate the latest innovative technology to provide quiet & reliable performance. The rounded corners & wrap around coil not only adds to the aesthetic appeal, it also gives optimum heat transfer efficiency. The access panel provides access to the compressor and to the electrical control box. Removal of the front panel gives access to fan motor & coil.

These condensing units can be combined with a wide variety of evaporator coils and blower packages to provide quiet and dependable comfort.

B. UNIT ENCLOSURE

All panels are of heavy gauge (G-90) galvanized steel sheet and completely weatherized for outdoor installation. Steel sheet panels are zinc coated and galvanized by the hot dip process of lock-forming quality conforming to ASTM A 653 commercial weight G-90, followed by baked on electrostatic polyester dry powder coat.

C. COMPRESSOR

Compressors are provided with all the standard controls necessary for proper and safe operation. These compressors have a self-regulating crankcase heater, improved internal pressure relief valve which provides high-pressure protection to the refrigerant system and vibration isolators for quiet and efficient operation.

D. AIR COOLED CONDENSER

1) The condenser coils are of the enhanced fin and tube type constructed of enhanced copper tubes and mechanically bonded to aluminum fins. As an option, coated aluminum fins or corrugated copper fins may be provided. Tube support sheets are of galvanized steel, formed to provide structural strength. Tubes are circuited to ensure minimum pressure drop and maximum heat transfer. Each coil is completely dehydrated, charged and sealed at the factory upon completion of pressure tests.
2) The fans are propeller type and direct-driven, front discharge & provided with fan guards.
3) Units are equipped with totally enclosed condenser fan motors for reliability and dependable performance for many years. Inherent thermal protection is automatic rest type.

E. SERVICE VALVES

Both suction and liquid service valves are brass, back seating type with flare connections. Valves are externally located so refrigerant tube connections can be made quickly and easily. Each valve has a gauge pressure port for ease of checking refrigerant operation pressures.

PHYSICAL DATA

MODEL	INDOOR UNIT	DR 18	DR 24	DR 30	DR 36	DR 48	DR 60
	OUTDOOR UNIT	KR 018	KR 024	KR 030	KR 036	KR 048	KR 060
PERFORMANCE							
Cooling capacity at high fan speed, BTUH/kW		17000/4.98	24000/6.44	28500/8.75	37500/10.4	48000/14	55000/16.7
Total unit power input, kW/EER		1.92/8.9	2.9/8.3	3.3/8.6	4.1/9.1	5.2/9.2	6.1/9
Evaporator airflow, CFM (high/medium/low)		700/650/550	850/730/590	1050/900/750	1200/1050/900	1650/1500/1300	1800/1650/1500
Sound pressure level, dBA (high/medium/low)		36/35/34	44/43/41	44/43/41	46/44/40	38/35/33	42/39/36
Minimum circuit ampacity, Amps (Indoor/Outdoor unit)		1.5/15.6	3.6/21.2	3.6/22.7	3.6/13.5	5.5/15.7	5.5/15.7
Maximum fuse size, Amps (Indoor/Outdoor)		15/25	15/35	15/35	15/20	15/25	15/25
INDOOR UNIT							
Power supply (V-Ph-Hz)		220/240-1-50					
Blower size, mm & quantity		146 x 240 (2)	180 x 240 (2)	180 x 240 (2)	180 x 240 (2)	200 x 216 (2)	200 x 216 (2)
Blower motor	Watts - RPM (high speed)	140 - 1350	280 - 1025	300 - 1320	400 - 1390	500 - 1245	579 - 1330
	FLA	1.2	2.9	2.9	2.9	4.4	4.4
Evaporator coil	Face area, ft^2	2.2	3	3	3	4.4	4.4
	Tube dia, inch	3/8	3/8	3/8	3/8	3/8	3/8
	No. of rows/FPI	3/14	3/14	3/14	4/14	4/14	4/14
Suction - Liquid line, inch		5/8 - 3/8	3/4 - 3/8	3/4 - 3/8	3/4 - 3/8	3/4 -1/2	3/4 -1/2
Return air filter (1/2" thick) size, inch & quantity		8 x 16.5 (2)	9.5 x18.5 (2)	9.5 x18.5 (2)	9.5 x 18.5 (2)	11 x 22.75 (2)	11 x 22.75 (2)
Weight, Kg.		40	52	52	55	65	65
OUTDOOR UNIT							
Power supply (V-Ph-Hz)		220/240-1-50			380/415-3-50		
Compressor (hermetic type), RLA/LRA		12.1/59	15.7/85	16.9/85.8	8.2/50	10/65.5	10/74
Condenser airflow, CFM		1400	1400	1900	1900	3600	3600
Condenser Fan motor	HP - RPM (qty.)	1/10 - 875	1/4 - 900	1/4 - 900	1/4 - 900 (2)	1/4 - 900 (2)	1/4 - 900 (2)
	FLA (each)	0.5	1.6	1.6	1.6	1.6	1.6
Condenser coil	Face area, ft^2	5.6	6.5	6.5	10.5	10.5	10.5
	Tube dia, inch	3/8	3/8	3/8	3/8	3/8	3/8
	No. of rows/FPI	2/16	3/16	3/16	2/16	2/16	2/16
Refrigerant (R-407c) charge, oz.		67	152	120	157	171	166
Suction - Liquid line, inch		5/8 - 3/8	3/4 - 3/8	3/4 - 3/8	7/8 - 3/8	7/8 - 3/8	7/8 - 3/8
Dimensions, mm (depth x width x height)		800 x 325 x 685	965 x 390 x 726	965 x 390 x 726	965 x 390 x 1158	965 x 390 x 1158	965 x 390 x 1158
Weight, Kg.		66	97	103	119	122	130

NOTE: 1. Cooling capacities & power input data @ 80^0F (26.7^0C) DB/67^0F (19.4^0C) WB indoor & 95^0F (35^0C) ambient temperatures.

2. Sound pressure level @ 9 feet distance and 0.15 ESP.

3. Pipe sizes are for runs up to 25 feet (7.6 meters) to indoor unit.

COOLING CAPACITIES

CONDENSER ENTERING AIR TEMP. (^{0}F)		MODEL NUMBER (INDOOR UNIT/OUTDOOR UNIT)																	
		DR18/KR018			DR24/KR024			DR30/KR030			DR36/KR036			DR48/KR048			DR60/KR060		
		EVAPORATOR AIRFLOW, CFM																	
		650			800			1050			1200			1600			1800		
		EVAPORATOR ENTERING AIR, WBE (^{0}F)																	
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
85	TC	16.4	18.1	19.8	22.1	24.6	27.2	28.5	31.4	34.5	35.0	38.4	42.4	44.8	49.2	54.0	53.1	58.1	63.8
	SC	15.2	13.5	10.1	20.6	17.9	13.9	26.5	22.1	17.6	32.6	25.3	21.6	41.7	34.8	27.4	49.3	42.2	32.8
	kW	1.84	1.92	1.98	2.58	2.70	2.81	2.98	3.10	3.22	3.59	3.80	3.98	4.81	5.00	5.22	5.70	5.99	6.25
95	TC	15.7	17.0	18.7	21.3	24.0	27.1	26.1	28.5	31.3	34.4	37.2	40.6	44.1	48.0	52.3	50.4	55.0	60.4
	SC	14.8	13.2	10.1	20.0	16.7	13.8	25.5	21.2	17.3	33.2	25.2	22.7	42.4	34.4	28.5	48.3	41.0	31.9
	kW	1.92	2.02	2.12	2.90	3.03	3.21	3.30	3.50	3.71	4.10	4.30	4.50	5.31	5.57	5.88	6.30	6.60	6.85
105	TC	14.8	16.0	17.3	19.8	22.1	24.6	24.0	26.4	29.4	32.4	35.1	38.2	40.5	44.5	48.5	47.4	51.7	56.1
	SC	14.1	12.9	9.3	18.8	16.5	13.3	22.5	20.1	15.9	30.8	24.1	20.9	38.5	32.7	26.2	45.3	40.0	31.1
	kW	2.20	2.30	2.40	3.25	3.41	3.57	3.78	4.00	4.24	4.50	4.80	5.10	5.98	6.30	6.60	7.02	7.40	7.78
115	TC	13.6	14.7	16.1	18.1	20.4	22.8	22.2	24.2	26.6	29.8	32.8	36.0	37.8	41.5	45.2	43.0	47.0	51.6
	SC	13.1	12.5	8.9	17.4	16.3	13.1	21.7	19.0	15.2	28.5	23.0	19.8	35.2	31.4	24.9	41.2	38.1	28.3
	kW	2.45	2.56	2.67	3.68	3.85	4.05	4.23	4.50	4.79	4.90	5.30	5.72	6.33	6.68	6.98	7.70	8.16	8.60

LEGEND:

TC – Total Capacity (1000 Btuh) Gross

SC – Sensible Heat Capacity (1000 Btuh)

kW – Total unit power input

DBE – Dry Bulb Temp. (^{0}F) of Air Entering Coil at 80^{0}F.

WBE – Wet Bulb Temp. (^{0}F) of Air Entering Coil

MULTIPLIERS FOR LOWER CFM

% of rated airflow	100%	95%	90%	85%	80%	75%
TC	1	0.98	0.96	0.93	0.91	0.89
SC	1	0.965	0.93	0.90	0.87	0.845
kW	1	0.992	0.985	0.97	0.965	0.96

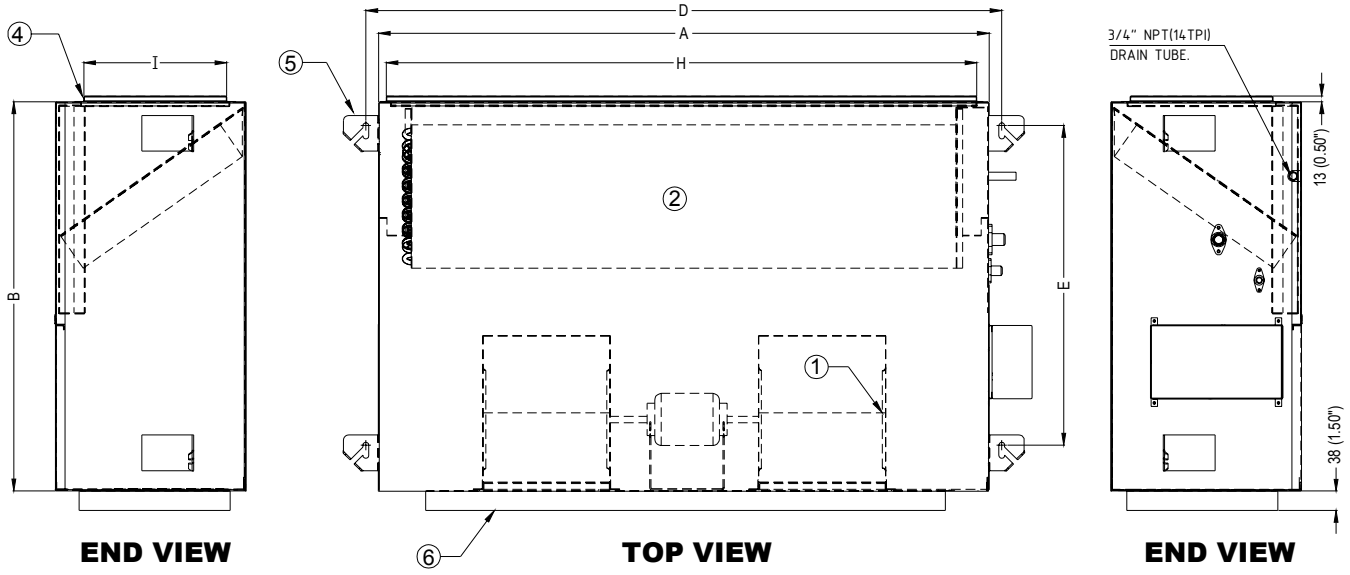
FAN PERFORMANCE DATA

MODEL NUMBER	BLOWER MOTOR SPEED	CFM @ EXTERNAL STATIC PRESSURE (Inches of water)								
		0.0	**0.05**	**0.1**	**0.15**	**0.2**	**0.25**	**0.3**	**0.4**	**0.5**
DR 18	HIGH	700	653	618	580	541	490	439	338	168
	MEDIUM	625	594	562	523	484	434	383	285	138
	LOW	579	547	515	474	433	338	242	227	133
DR 24	HIGH	867	858	850	812	774	736	698	608	497
	MEDIUM	733	711	690	671	652	613	575	497	398
	LOW	590	560	545	525	505	480	455	395	305
DR 30	HIGH	1050	1020	983	942	901	862	824	705	586
	MEDIUM	867	858	850	812	774	736	698	608	497
	LOW	733	711	690	671	652	613	575	497	398
DR 36	HIGH	1200	1172	1132	1088	1044	1001	958	844	710
	MEDIUM	1130	1110	1090	1027	965	928	876	753	628
	LOW	1037	995	954	915	876	836	797	683	560
DR 48	HIGH	1650	1625	1577	1525	1472	1413	1354	1223	1084
	MEDIUM	1518	1475	1432	1386	1339	1279	1218	1108	970
	LOW	1304	1266	1228	1188	1147	1101	1055	943	828
DR 60	HIGH	1800	1758	1692	1622	1552	1503	1454	1296	1188
	MEDIUM	1673	1625	1577	1525	1472	1413	1354	1223	1084
	LOW	1518	1475	1432	1386	1339	1279	1218	1108	970

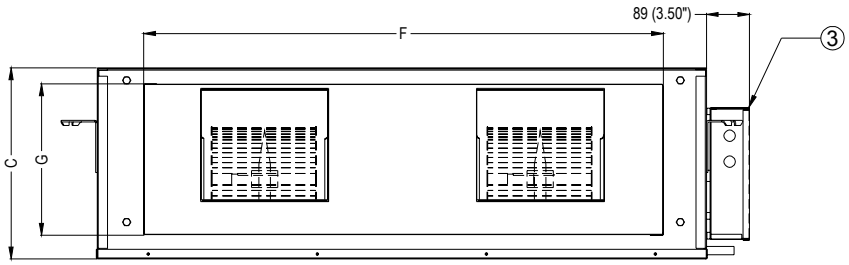
NOTE: Values include losses for dry coil and filters.

DIMENSIONS - INDOOR UNITS

DR18 - DR60



END VIEW **TOP VIEW** **END VIEW**



FRONT VIEW

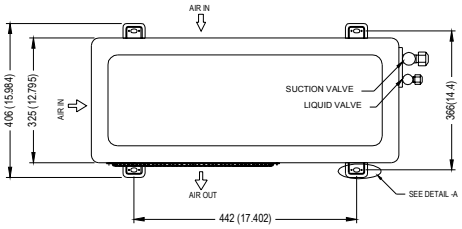
NOTE: All dimensions are in mm (dimensions in brackets are in inches).

MODEL	DIMENSIONS								
	A	B	C	D	E	F	G	H	I
DR 18	904 (35.6)	610 (24)	244 (9.6)	960 (37.8)	521 (20.5)	769 (30.3)	183 (7.2)	841 (33.1)	206 (8.1)
DR 24	1011 (39.8)	762 (30)	318 (12.5)	1067 (42)	640 (25.2)	858 (33.8)	241 (9.5)	945 (37.2)	259 (10.2)
DR 30	1011 (39.8)	762 (30)	318 (12.5)	1067 (42)	640 (25.2)	858 (33.8)	241 (9.5)	945 (37.2)	259 (10.2)
DR 36	1011 (39.8)	762 (30)	318 (12.5)	1067 (42)	640 (25.2)	858 (33.8)	241 (9.5)	945 (37.2)	259 (10.2)
DR 48	1194 (47)	762 (30)	368 (14.5)	1245 (49)	625 (24.6)	894 (35.2)	266 (10.5)	1155 (45.5)	292 (11.5)
DR 60	1194 (47)	762 (30)	368 (14.5)	1245 (49)	625 (24.6)	894 (35.2)	266 (10.5)	1155 (45.5)	292 (11.5)

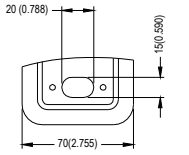
1. Blower & motor assembly
2. Evaporator coil
3. Control box
4. Filter rack
5. Unit mounting brackets (4 Nos.)
6. Duct connection

DIMENSIONS - OUTDOOR UNITS

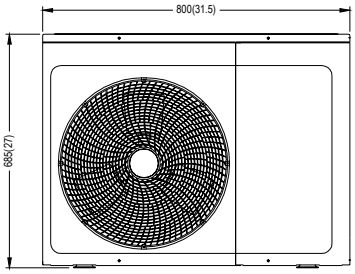
KR018



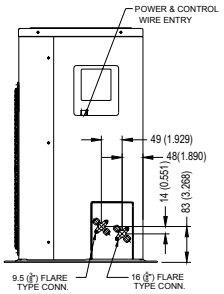
TOP VIEW



DETAIL - A
(TYPICAL AT FOUR PLACES)

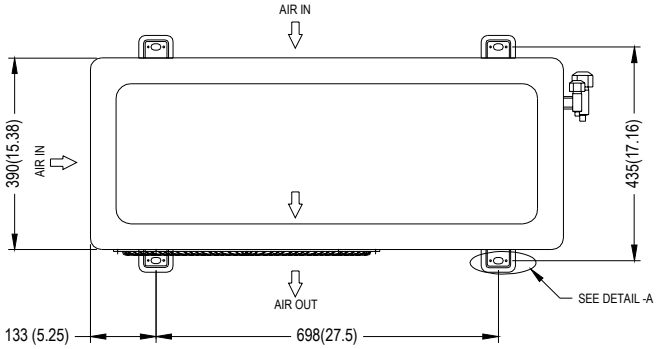


FRONT VIEW

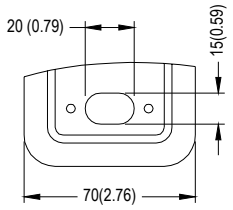


END VIEW

KR024 & KR030



TOP VIEW



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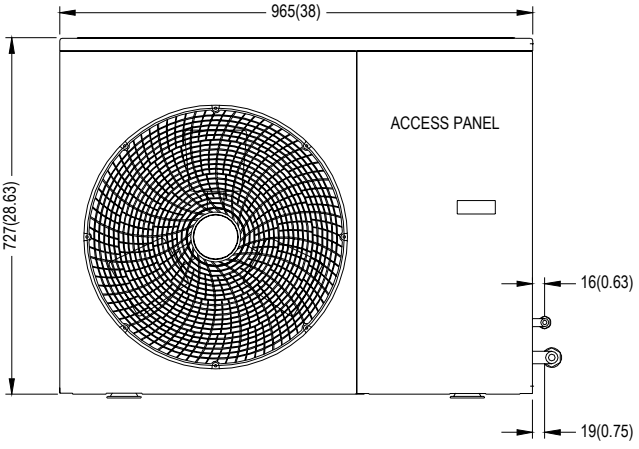

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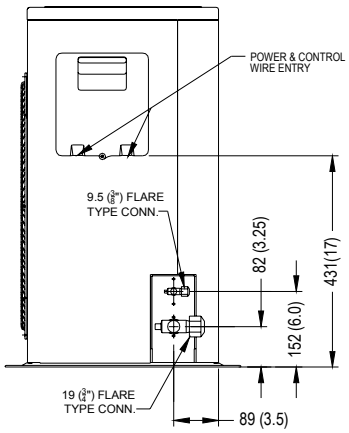
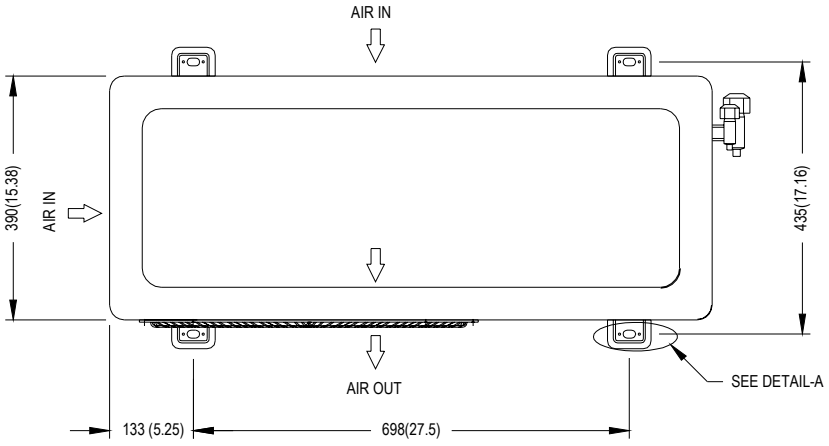


END VIEW

NOTE: All dimensions are in mm (dimensions in brackets are in inches).

DIMENSIONS - OUTDOOR UNITS

KR036, KR048 & KR060



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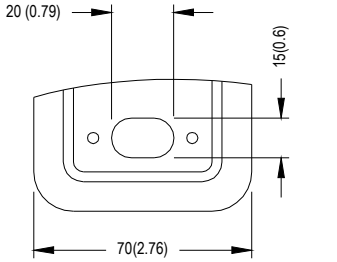

DETAIL - A
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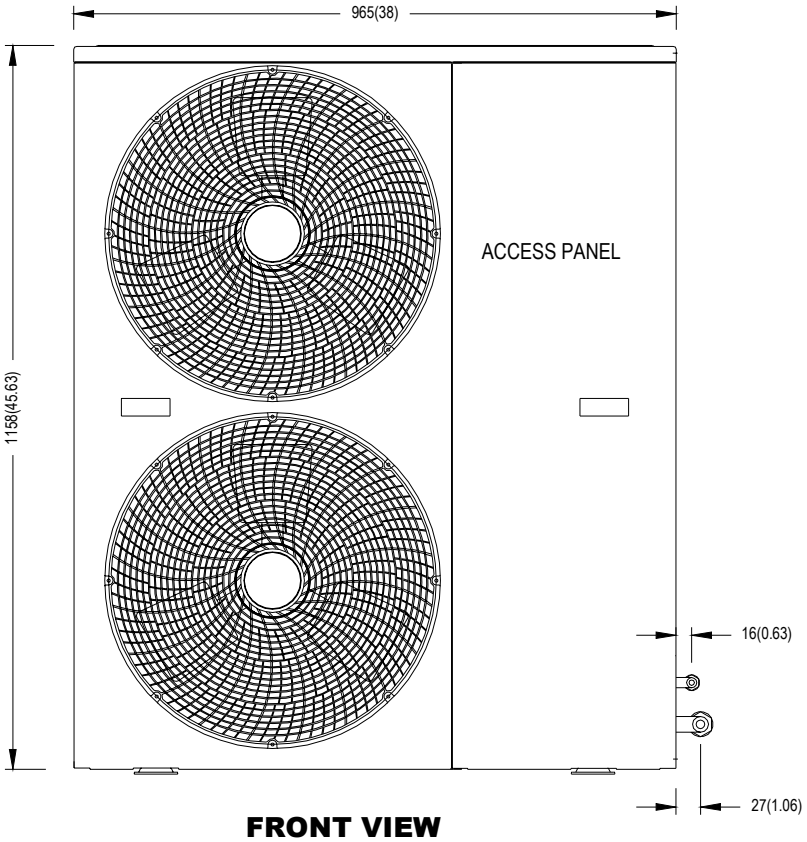

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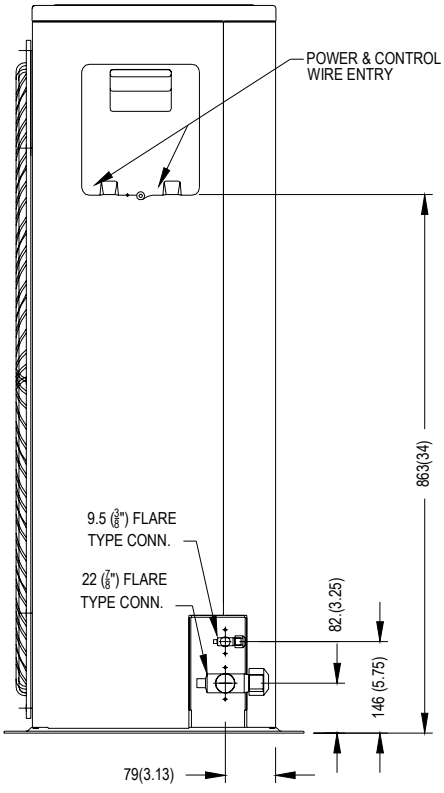

END VIEW

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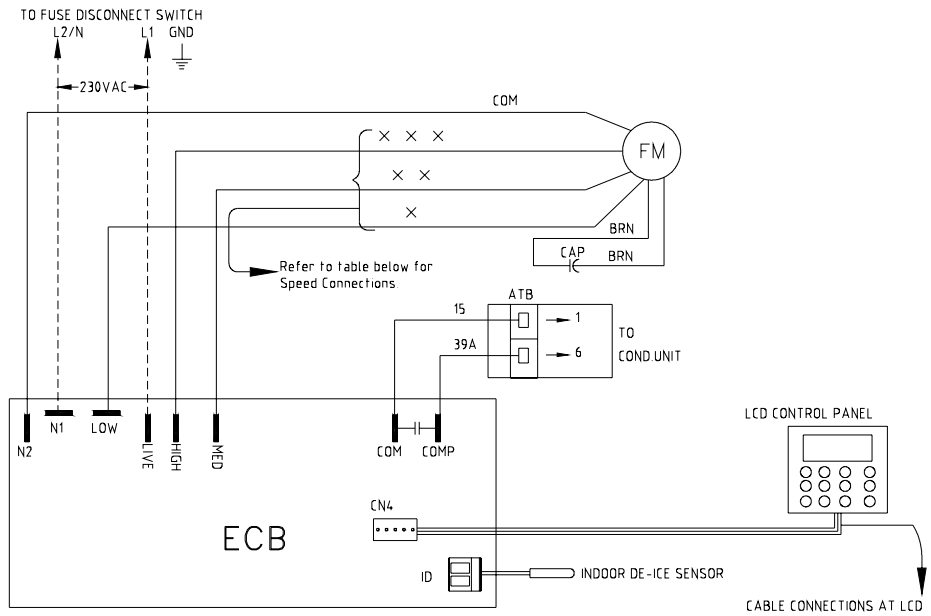
TYPICAL SCHEMATIC WIRING DIAGRAM

COOL MODELS



LEGEND	
ATB	AUXILIARY TERMINAL BLOCK
CAP	CAPACITOR
COMP	COMPRESSOR
COM	COMMON
ECB	ELECTRONIC CONTROL BOARD
FL	FUSE LINK
FM	FAN MOTOR
GND	LUG GROUND
HF	HIGH FAN
L1	LINE 1
L2	LINE 2 OR NEUTRAL
LF	LOW FAN
MF	MEDIUM FAN
– – –	FIELD WIRING
———	FACTORY WIRING

NOTES

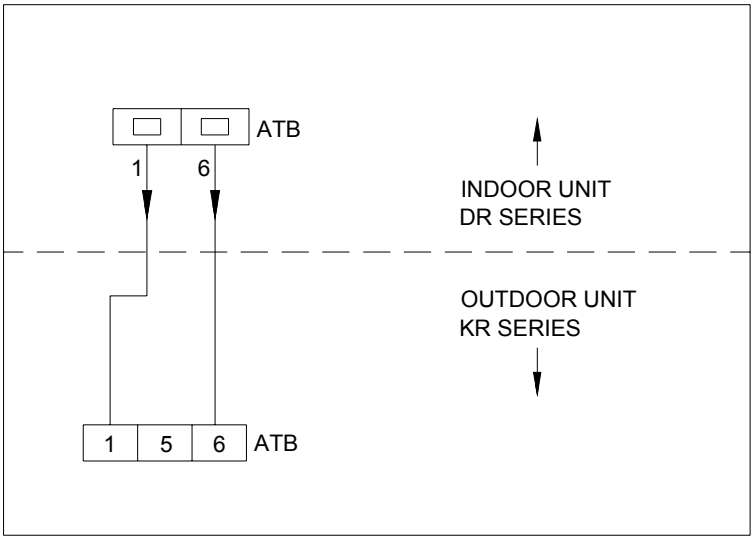
1. POWER SUPPLY, REFER TO UNIT NAMEPLATE.
2. USE COPPER CONDUCTOR WIRES ONLY.
3. MOTORS ARE THERMALLY PROTECTED.
4. REFER TO INTERCONNECTING WIRING DIAGRAM BEFORE INSTALLATION
5. DO NOT ROUTE ATB1(5) FROM CONDENSING UNIT

FM SPEED CONNECTIONS

SPEED	HI	MED - HI	MED	MED - LOW	LOW	LOWEST	COM	APPLICABLE FREQUENCY IN HERTZ
WIRE COLOR	BLK	VIO	BLU	ORN	RED	GRY	YEL	
MODEL								
DR 18	× × ×	××	×	—	—	—	—	50
DR 24	—	—	—	× × ×	× ×	×		50
DR 30	—	—	× × ×	× ×	×	—	—	50
DR 36	× × ×	—	× ×	×	—	—	—	50
DR 48	—	× × ×	× ×	×	—	—	—	50
DR 60	× × ×	× ×	—	×	—	—	—	50

INTERCONNECTING DETAILS BETWEEN INDOOR & OUTDOOR UNIT

NOTE: Route wires according to diagram below & ignore all other terminal connection on outdoor unit.



INSTALLATION - INDOOR UNIT

The complete shipment should be inspected for damage. Any damage, visible or concealed, should be reported immediately to the delivery man or driver and noted on the shipping invoice.

Place unit in position and make sure that unit is level. This is important to assure proper drainage and operation. Slots provided in the mounting brackets should be used for installing the units.

Be sure that foreign material is not allowed to fall into or collect in the drain pan. Special care must be taken to prevent paint, plaster, insulation or other foreign material from being deposited on the motor or blower wheels.

ELECTRICAL

Please ensure power supply (V-Ph-Hz) to the unit is as per unit nameplate requirements.

Caution: Operation of the unit on improper power supply will result in damage to the unit.

Warning: Before installation or servicing, always TURN OFF all power to the unit. There may be more than one disconnect switch. Ensure all of them are turned off.

Ground & Power wires

Connect power wires as per wiring diagram. Connect ground wire to the ground lug inside the control box.

Control wiring between outdoor & indoor units

Use 16 gauge color-coded wire between the indoor and outdoor units (control wiring). Then match the auxiliary terminal block (ATB) numbers (indoor and outdoor units) to interconnect the two units.

Note:
1. Field wiring to comply with local Safety and Fire codes.
2. Use copper wires of proper rating for all field wiring.
3. Install adequate branch disconnect switch as per NEC size requirements to handle unit starting current. Locate disconnect switch within sight and readily accessible from the unit.

MAINTENANCE

COIL: Coil may be cleaned by removing case and brushing between fins with a stiff wire brush. Brushing should be followed by cleaning with vacuum cleaner. The coil may also be cleaned by using a high pressure air, if compressed air source is available. It should be pointed out that if air filters are used and periodically cleaned, the coils will not be clogged up prematurely.

DRAIN PIPE: Drain pipe should be checked before summer operation of unit is begun. If it is clogged, steps should be taken to clear the debris so that condensate will flow out easily. A standard pipe cleaner for 1/2" ID pipe may be used. Periodic checks of the drain pipe should be taken during summer operation, as there is a possibility of it becoming clogged with dirt.

FILTER CLEANING: Remove access panel, slide filter out of filter rack, and clean as follows:
Tap filter on solid surface to dislodge heavy particles. Wash under stream of hot water. If filter has been put to exceptional service, a mild solution of Sal-Soda, Tri-Sodium Phosphate or any other commercial solvent can be used. Set filter on end with slots in frame down, which allows it to drain. Filters should dry thoroughly before reuse.

REPLACEMENT PARTS: When writing for replacement parts, refer to model number and serial number on the name plate of the unit.

INSTALLATION & START-UP INSTRUCTIONS - OUTDOOR UNIT

SAFETY CONSIDERATIONS

Improper installation, service, maintenance or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Check with your nearest Cooline dealer/sales office for information or assistance.

Warning: Before installation or servicing the system, always turn off main power supply. Electrical shock can cause personal injury or death.

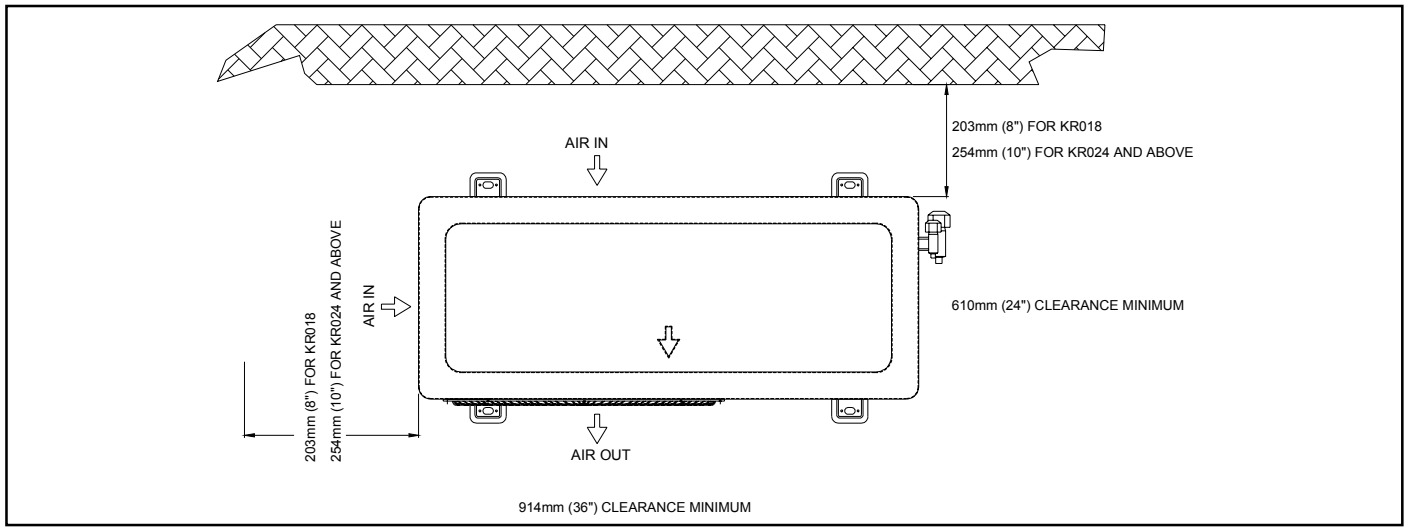
INSTALLATION

STEP-1:
Check equipment and job site

Unpack unit and move to final location taking care not to damage the unit. Remove screws holding the unit to wooden pallet and remove wooden pallet.

STEP- 2:
Location of unit

Place the unit with minimum clearance as shown in figure below to enable space for installation, service and optimum performance of the unit. Be sure that the discharge air from the condenser is not restricted. Double the clearance when multiple units are installed at one location. Units may be installed using mounting pads on the floor, concrete slabs, steel frames with adequate strength.



STEP-3:
Piping connections

Outdoor units should be connected to indoor units using field-supplied piping of refrigerant grade and correct size. The liquid and suction line diameters can be determined from the physical data table. For piping requirements beyond 25 ft (7.62 m), obtain information from your nearest Cooline dealer/sales office.

If either refrigerant piping or indoor coil is exposed to atmospheric conditions, it must be dehydrated to 500 microns to eliminate moisture contamination in the system.

It is advisable to size piping according to recommended ASHRAE methods. Install piping according to refrigeration standard practice. Run refrigerant pipes as directly as possible, avoiding unnecessary turns and bends. Install refrigerant pipes carefully to prevent damaging the suction pipe insulation and vibration transmission to the structure.

Outdoor unit connected to factory matched indoor unit

Outdoor unit contains correct system refrigerant charge for operation with matched indoor unit as given on cooling capacity table and when connected with up to 25 ft (7.62 m) of field-supplied piping. Check refrigerant charge for maximum efficiency.

ELECTRICAL

STEP 1: INSTALLATION

A) Please ensure power supply to the unit is as per unit nameplate (Volts/Ph/Hz) requirements.

Caution: Operation of the unit on improper power supply will result in damage to the unit.

Note: Use copper wires of proper rating for all field wiring.

Warning: Before servicing or installation of the unit, always TURN OFF all power to the unit. There may be more than one disconnect switch. Ensure all of them are turned off. Electrical shock can cause personal injury or death.

B) Ground & power wires

Connect power wires to terminal block per wiring diagram.
Connect ground wire to the ground lug inside the control box.

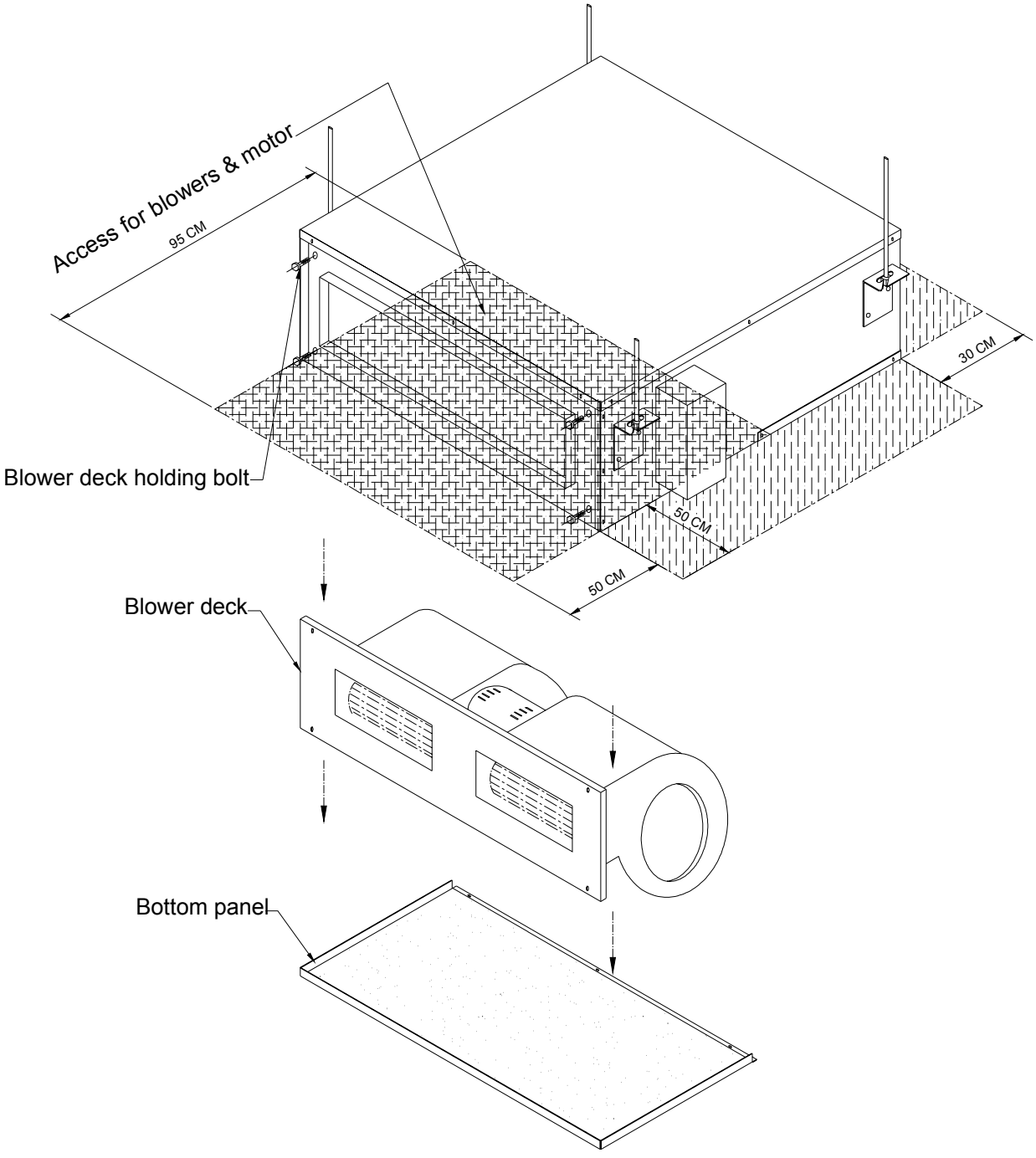
C) Control wiring between outdoor & indoor unit

Use 16 gauge color-coded wire between the indoor and outdoor units (control wiring).

STEP 2: START-UP

1) Energize crankcase heater for a minimum of 12 hours prior to the system start-up. To energize crankcase heater only, set thermostat to "off" position and close electrical disconnect switch to the outdoor unit.
2) Fully open liquid/suction service valves.
3) Close electrical disconnect switch to energize the system.
4) Set room thermostat to desired temperature.

SERVICING INSTRUCTIONS



NOTE:

1) Required indoor unit access clearances are shown as hatched area.
2) Free sevice access should be available from the bottom of the unit for removing & servicing the blower/motor deck.
3) Servicing instructions:
   a) Remove the bottom panel.
   b) Support the blower deck while unscrewing the 4 blower deck holding bolts and bring down the blower deck.

Zamil Air Conditioners

Cooline from Zamil

Classic Zamil Air Conditioners

Zamil CoolCare

GeoClima

clima tech

KESSLER clima tech

MEAC Middle East Air Conditioners Co. Ltd.

OEM Original Equipment Manufacturers

FU-C14-06/05

Cooline AIR CONDITIONERS from Zamil

In 1989, Zamil Air Conditioners introduced its international brand - Cooline, to the expanding world market. The brand gained rapid recognition and success and became Cooline Air Conditioners, a separate business unit, just a few years later. Today, Cooline supplies air conditioners to more than 55 countries worldwide, with major markets in GCC, The Middle East, Europe, Australia, USA and North Africa.

In additional to providing consumer products such as Room Air Conditioners (RAC and Mini Splits), Cooline Air Conditioners provides an array of Central Air Conditioners for residential, commercial and industrial use, including: concealed units up to 5 tons, ducted splits up to 30 tons, packaged units up to 70 tons, single and double skin air handling unit up to 130,000 CFM and water chillers up to 500 tons cooling capacity.

The manufacturer of Cooline Air Conditioners, Zamil, is the first company from the Middle East to receive Eurovent, a capacity/peformance certification that has become mandatory in Europe and is fast becoming a standard requirment in all regions. With the addition of the Air Conditioning Technology Center (ATC), a facility that is ITS (Intertek Testing Services) built and certified, Cooline Air Conditioners is the only Middle East brand capable of guaranteeing product performance in compliance with local and international standards. It's no surprise that in 2003, Cooline received the Best GCC brand of the Decade Award.

AHAM Association of home appliance manufacturers

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