



THERMOPLUS
AIR INC.

WE MAKE INDOOR AIR BETTER

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We make indoor air better

For more than twenty years we have provided our customers with quality, innovative, high performance products carefully engineered for better indoor air. Our unique product lines offer heating, cooling, dehumidification, filtration and energy recovery solutions for commercial, residential and industrial applications.

QUALITY

Our products are built to last. The design, components, construction details and finish of each unit are chosen with care to ensure optimum performance over a long service life, as well as good looks. Particular attention is paid to ease of installation, serviceability and low maintenance in every model.

INNOVATION

We apply our many years of engineering expertise together with the latest technologies to design distinctive, energy efficient systems that provide better indoor air. (Some examples are described below). Our skilled technical team also provides custom designed solutions to meet specific project requirements (see page 12-13).



PORTABLE SPOT COOLER (see page 19)

- Indoor portable packaged unit
- Heavy duty performance
- Provide instant spot cooling precisely where it is required
- Great for rentals



WATER-SOURCE HEAT PUMPS OR A/C (see page 8)

- Indoor packaged closed loop system
- Up to 60 ton capacity
- Special arrangements available
- Separate compressor compartment



ICE RINK DEFOGGER® (see page 21)

- Engineered specifically for arena humidity control
- Built-in demand defrost system
- High airflow
- Contributes to space heating



CONSOLE WATER-COOLED A/C OR HEAT PUMP (see page 11)

- Floor mounted, no ducting required
- Low air, extra quiet operation

AIR CONDITIONING WITH FREE HOT WATER (see page 15)

- Indoor or outdoor packaged system
- Designed to supply A/C and hot water when needed



Note : The units shipped out of factory meet the requirements of CSA and UL Standards for safety and bear Certification or Listing Marks from recognized Certification Organizations (CSA and/or ITS)

KAC WATER-COOLED AIR CONDITIONERS

KHP WATER-SOURCE HEAT PUMPS *(closed loop)*



QUALITY CONSTRUCTION

The heavy-duty, self-contained packaged systems for commercial, industrial and residential applications offer high Energy Efficiency Ratios (EER), as they operate at constant condensing temperatures (KAC) or fixed water flow (KHP). Units are completely assembled, piped, wired, charged and factory tested.

ENCLOSURE

Frame, panels, removable access panels, and top panel are constructed of heavy gauge satin-coated steel. Base panel is constructed of heavy gauge satin-coated steel with welded steel channel supports for maximum rigidity. Removable panels allow easy access to internal parts within each section. Electrical control panel is in a separate compartment.

PAINT AND FINISH

Painting is performed with a powder coat process to assure positive adherence with a high-impact finish. Prior to painting, all metal parts are pretreated to remove oil and dirt and rinsed. All units have a standard white paint finish.

COMPRESSOR

High efficiency, suction cooled hermetic type, mounted outside the air stream in an insulated compartment to reduce airborne noise. Internal spring and external rubber isolation provide vibration-free operation. *(*Model 096 and larger are twin compressor design providing single or two stage cooling.)*

BLOWER MOTOR ASSEMBLY

Blowers are double inlet type with centrifugal forward curved wheel, statically and dynamically balanced. Blower wheels (models 007 to 060) are driven by multi-speed, permanent split capacitor motors, permanently lubricated, mounted on the blower casing on resilient mounts to prevent vibration. Blower wheels (models 070 to 140) are belt driven with adjustable pitch pulleys.

COILS

Coils are constructed of die-formed, collared, self-spacing aluminum plate fins and 3/8" O.D. seamless drawn copper tubes staggered in the direction of the airflow and mechanically bonded for maximum heat transfer efficiency. Coils are leak tested at 400 psig.

COAXIAL CONDENSER

Tube-in-tube type water-cooled condenser with convoluted inner tube to enhance surface area for efficient heat transfer. The inner tube (refrigeration circuit) is made of copper material for a maximum operation at 450 psig. The exterior tube (hydraulic circuit) is made of steel.

REFRIGERANT CIRCUIT

All units are completely factory piped, tested, dehydrated and charged with R22 refrigerant.

DRAIN PAN

Constructed of galvanized steel to help prevent corrosion. Unique feature: Pan is external to the unit (horizontal models) or accessible (vertical models) therefore allowing for ease of removability and cleaning.



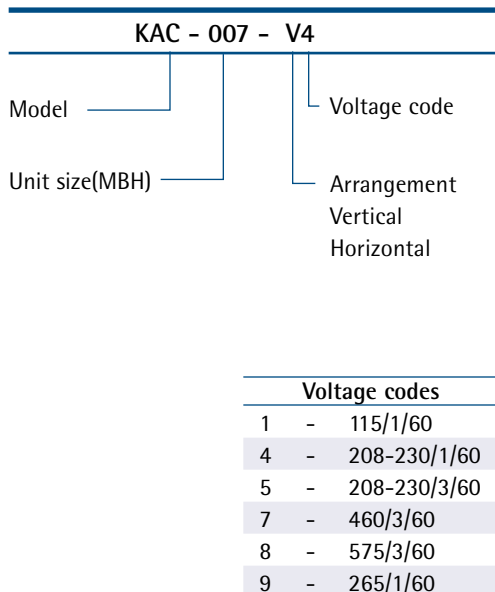
WATER-SOURCE HEAT PUMP SYSTEMS *(closed loop)*

HOW DOES IT WORK?

A series of combination heating and cooling heat pump units are located throughout the building. The units are served by a common loop of uninsulated piping through which water at 60°F to 90°F is continuously circulated. When the units are in the cooling mode, heat is transferred from the conditioned space to the water loop.

When they are in the heating mode, heat is transferred from the water loop to the conditioned space. Because the water is recirculating, the recovered heat can, either be transferred to other parts of the building for immediate use or stored in the heat storage tank to be

recycled at night to meet building requirements throughout the nighttime hours. The system does not wastefully exhaust excess heat into the atmosphere as other systems do, but continues to recycle the recovered energy within the building throughout the day, thus lowering energy costs substantially. This recovered heat may be generated by a variety of sources including people, lights, appliances, computers, solar heat gains through the windows, etc.



Model	Horizontal Dimensions (in.)			Vertical Dimensions (in.)			Net Weight lb
	W	H	D	W	H	D	
KAC/KHP 007	34	11.75	23	22	36.5	22	130
009	34	11.75	23	22	36.5	22	130
012	34	11.75	23	22	36.5	22	130
015	34	17.75	27	22	40.5	22	175
018	34	17.75	27	22	40.5	22	175
024	38	17.75	27	22	40.5	22	175
030	38	17.75	27	22	46.5	22	195
036	39	21.75	30	25.75	46.5	25.75	230
048	43	21.75	30	25.75	52.5	28	250
060	48	21.75	36	30	56.5	28	320
070	48	21.75	36	30	56.5	28	350
096	60	21.25	44	31.5	66.5	29	650
108	62	25.25	44	38.5	66.5	32	660
120	70	25.25	44	42.5	66.5	32	710
140	70	25.25	44	42.5	66.5	32	720

KAC
WATER-COOLED
AIR CONDITIONERS

KHP
WATER-SOURCE HEAT
PUMPS *(closed loop)*



- Indoor packaged units
- For use in commercial and residential applications (office buildings, manufacturing plants, schools, hotels, computer rooms, multi-residential complexes)
- Vertical units with front return and top discharge are suitable for duct connections or for use with optional free air discharge plenum (2 axis adjustable louvered grill)
- Horizontal units with front return and back discharge are suitable for duct connections, complete with hanger rails and rubber isolation for suspension
- Compressor compartment separated from air stream

QUALITY FEATURES

- Factory installed water regulating valve (KAC) adjusted to provide a pressure regulated water flow thus keeping constant condensing pressure in the system
- Factory installed reversing valve (KHP)
- Satin-coated steel casing with powder paint finish
- 3 available fan motor tap speeds (models 007 thru 060)
- Adjustable motor pulley (models 070 thru 140)
- 24V external terminal strip for thermostat connection
- Refrigerant high and low pressure cut-out switches
- Capillary tube refrigerant controlling device
- Access ports on high and low sides
- Freezestat on heat pump models
- Easy to remove drain pan
- Easy access to all components through large removable panels
- Voltages available:
 - 208-230/1/60
 - 208-230, 460, 575/3/60

OPERATING RANGE

- Entering Air
 - 70°F thru 85°F DB
 - 61°F thru 73°F WB
- Entering Water A/C mode
 - 40°F thru 85°F
 - Heat Pump mode 60°F thru 80°F
- External Static Pressure
 - Direct Drive 0" thru 0.3"
 - Belt Driven 0" thru 1.0"

OPTIONS AVAILABLE

- Back discharge for vertical units (factory ordered)
- Side discharge for horizontal units (field convertible)
- Heresite coated coils
- Copper or HyPoxy® coated fin coils
- Plenum for vertical models
- Water regulating valve kit for heat pump
- Cupronickel or double vented condenser
- Rubber or braided stainless steel flexible hose kits
- Larger motor for higher ESP applications
- Thermostatic expansion valve
- 300 psi operating condition on waterside
- Sound attenuation package
- 265/1/60

WITH WATER REGULATING VALVE

Model	Cooling ¹ Total		Sensible	EER	Nominal	usgpm ²	Unit amps (60 Hz)			
	Btu/h	Btu/h					208-230/1	208-230/3	460/3	575/3
KAC										
007	7,200	5,600	10.6		350	0.7	3.6*			
009	9,730	6,800	15.0		350	0.8	4.3*			
012	13,320	9,080	14.6		415	0.8	6.6*			
015	15,960	10,580	16.0		475	1.0	6.3			
018	20,940	14,450	13.6		650	1.2	9.1	6.6		
024	24,060	16,430	13.4		825	1.4	11.2	7.7		
030	30,240	21,350	13.1		1005	2.0	13.0	9.2	4.5	
036	36,410	25,230	14.3		1160	2.3	15.4	10.2	5.3	
048	50,890	33,950	14.3		1500	4.0	25.2	17.5	8.1	6.3
060	61,150	41,160	15.1		1825	4.4	26.0	19.0	9.4	7.2
070	73,250	49,730	15.7		2200	5.1	36.5	21.4	10.5	8.3
096	99,750	66,630	13.6		3200	7.8		28.8	13.2	11.2
108	115,130	80,590	13.7		3800	7.4		31.4	15.6	12.6
120	126,940	88,220	15.5		4100	9.0		33.6	16.7	12.3
140	144,950	99,870	15.2		4600	10.4		38.4	19.3	14.5

- 1. At 80°F DB, 67°F WB
- 2. At 60°F entering water
- * also available at 115/1/60

WITHOUT WATER REGULATING VALVE

Model	Heating (KHP only) ¹		Total Cooling ²		Nominal	usgpm ²	Unit amps (60 Hz)			
	Btu/h	COP	Btu/h	EER			208-230/1	208-230/3	460/3	575/3
KAC/KHP										
007	9,200	3.8	7,200	10.6	350	1.9	3.6*			
009	11,440	4.3	9,320	13.0	350	2.4	4.3*			
012	15,000	4.2	13,090	13.7	415	3.2	6.6*			
015	19,410	4.4	15,420	14.2	475	3.8	6.3			
018	21,640	4.0	19,670	12.3	650	5.3	9.1	6.6		
024	28,140	4.1	23,480	12.5	825	6.0	11.2	7.7		
030	34,830	4.1	29,160	12.1	1005	7.5	13.0	9.2	4.5	
036	41,891	4.2	34,640	12.6	1160	9.3	15.4	10.2	5.3	
048	55,400	4.1	48,490	12.6	1500	12.3	25.2	17.5	8.1	6.3
060	67,000	4.3	59,350	13.8	1825	16.0	26.0	19.0	9.4	7.2
070	81,520	4.3	68,930	13.8	2200	18.0	36.5	21.4	10.5	8.3
096	111,440	4.0	94,870	12.1	3200	24.6		28.8	13.2	11.2
108	119,290	3.8	110,370	12.3	3800	28.4		31.4	15.6	12.6
120	140,370	4.1	119,900	13.3	4100	32.6		33.6	16.7	12.3
140	166,120	4.3	138,080	13.4	4600	40.8		38.4	19.3	14.5

- 1. Air on at 70°F
- 2. At 80°F DB, 67°F WB
- 3. At 85°F entering water (cooling mode) 70°F (heating mode)
- * also available at 115/1/60
- Contact factory for out-of-range applications

KAC LARGE WATER-COOLED AIR CONDITIONERS

KHP LARGE WATER SOURCE HEAT PUMPS *(closed loop)*

- Indoor packaged units
- For use in commercial and industrial applications (manufacturing plants, office buildings, schools, hotels)
- Vertical units with front return and top discharge
- Compressor compartment separated from airflow



QUALITY FEATURES

- 2 independent refrigeration circuits
- Belt driven twin blower with adjustable pulleys
- Satin-coated steel casing with grey powder paint finish
- 2 separate shell and tube condensers (cleanable) coax condenser standard on models 160, 180, 240
- 2 separate water regulating valves (KAC)/reversing valves (KHP) factory installed
- Single inlet for water supply
- 24V external terminal strip for thermostat connection
- Refrigerant high and low pressure cut-out switches
- Access ports on high and low sides
- Freezestat on heat pump models
- Stainless steel drain pan
- Threaded water connections
- Easy access to all components through large removable panels on three sides of unit
- Voltages available:
208-230, 460, 575/3/60

OPERATING RANGE

- Entering Air 70°F thru 85°F DB
61°F thru 73°F WB
- Entering Water A/C mode
40°F thru 90°F
Heat Pump mode 60°F thru 80°F
- External Static Pressure 0" thru 1.5"

OPTIONS AVAILABLE

- Copper or HyPoxy® coated fin coils
- Heresite or Thermoguard coated coils
- Condenser: cupronickel shell and tube, regular or double vented coaxial
- Combinations of motor/blower to suit wide range of external static pressures
- Different airflow arrangements
- 300 psi operating condition on waterside

Model	Cooling ¹		Heating		Nominal	usgpm		Unit amps (60 Hz)			Motor
	Total	EER	Total	COP		With	W/out ²	208-230/3	460/3	575/3	
	Btu/h		Btu/h		cfm	Water Valve	Water Valve				hp
KAC KHP 160	160,767	12.9	173,130	3.8	5,100	16	40	46.6	23.3	18.7	2
KAC KHP 180	182,380	11.0	197,810	4.1	6,000	22	45	56.6	25.8	20.5	3
KAC KHP 200	205,600	14.1	215,280	4.2	6,400	24	48	56.6	25.8	20.5	3
KAC KHP 220	226,000	12.5	258,311	4.4	7,200	26	54	69.8	31.2	24.7	5
KAC KHP 240	243,230	11.1	283,900	4.0	8,000	29	60	77.0	34.1	27.2	5
KAC KHP 300	301,330	12.3	346,700	3.5	10,000	44	75	124.0	55.6	44.6	7.5
KAC KHP 360	357,200	12.2	402,200	3.4	12,000	54	90	143.6	64.8	51.9	7.5
KAC KHP 420	421,000	14.5	481,000	4.6	14,000	48	105	152.4	68.1	54.7	10
KAC KHP 480	484,960	11.0	552,100	3.4	16,000	56	120	193.8	86.1	69.2	10
KAC KHP 600	631,260	11.0	692,200	3.6	20,000	62	150	247.2	111.2	89.2	15
KAC KHP 720	736,800	12.7	810,000	3.9	24,000	108	180	298.8	135.4	108.4	20

1. At 80°F DB, 67°F WB

2. At 85°F entering water (cooling mode) 70°F (heating mode)

Model	Vertical Dimensions (in.)			Net Weight
	W	H	D	
KAC/KHP 160	82	58 1/4	38	1600
180	82	64 1/4	38	1800
200	82	64 1/4	38	1800
220	82	70 1/4	38	2000
240	82	70 1/4	38	2000
300	86	87 1/4	44	2200
360	86	87 1/4	44	2500
420	112	79 1/4	48	3200
480	112	94 1/4	48	3800
600	112	97 1/4	50	4400
600 LOW	140	94	60	4400
720	140	94	60	5100

KACS SPLIT WATER-COOLED CONDENSING UNITS

- Indoor compact condensing unit to connect to duct coils in ventilation system or with a DX evaporator-blower unit
- For commercial and residential applications (office buildings, manufacturing plants, schools, hotels, residences, multi-residential complexes)
- Offers high Energy Efficiency Ratios (EERs). Operates at low condensing temperatures



QUALITY FEATURES

- High efficiency, suction cooled hermetic type compressor with built-in temperature and over-current protection
- Coaxial type condenser
- Sweat-type refrigerant connections
- High and low pressure controls, contactor and access valves
- Water regulating valve
- Satin-coated steel casing with powder paint finish
- Front access electrical service panel
- Voltages available:
208-230/1/60
208-230, 460, 575/3/60

OPERATING RANGE

- Entering Air
70°F thru 85°F DB
61°F thru 73°F WB
- Water in temperature
40°F thru 85°F

OPTIONS AVAILABLE

- Cupronickel or double vented condenser
- 300 psi operating condition on waterside
- Sound attenuation package
- 265/1/60

Model	Cooling ¹ Capacity	Unit amps (60 Hz)				Dimensions (in.)			Net Weight
		208-230/1	208-230/3	460/3	575/3	W	H	D	
KACS	Btu/h								lb
012	13,530	5.8				22	19	22	100
015	16,480	5.5				22	19	22	125
024	23,950	10.4				22	19	22	125
030	29,960	12.8				22	19	22	135
036	37,440	14.5	8.9			22	19	22	155
048	48,720	21.5	13.3	6.6	5.3	25.75	21	25.75	215
060	68,340	30.5	18.0	9.0	7.0	25.75	21	25.75	220
096	98,500		24	10.8	9.4	31.5	27.25	29	320
108	110,000		26.6	13.2	10.8	38.5	27.25	32	425
120	115,690		27	13.4	10.0	42.5	27.25	32	460
140	136,680		36	18.0	10.6	42.5	27.25	32	480

1. At 80°F DB, 67°F WB; entering water at 60°F and 110°F condensing

KCAC CONSOLE WATER-COOLED AIR CONDITIONERS

KCHP CONSOLE WATER SOURCE HEAT PUMPS *(closed loop)*

- Indoor packaged floor mounted console units
- No ducting required
- Ideal for commercial and residential applications (hotels, offices, schools, restaurants, churches, condominiums)

QUALITY FEATURES

- Factory installed water regulating valve (KCAC) adjusted to provide a pressure regulated water flow thus keeping constant condensing pressure in the system
- Factory installed reversing valve (KCHP)
- Low air velocity for extra quiet operation

- Embossed powder paint finish on satin-coated steel casing
- Front air intake, top air discharge through extruded grilles
- Digital ambient thermostat built into unit
- Switch selectable 2-speed fan motors
- Low noise rotary compressors for quiet operation
- Easy installation and service
- Voltages available:
115/1/60 (models 007 to 015)
208-230/1/60 (all models)

OPERATING RANGE

- Entering Air
70°F thru 85°F DB
61°F thru 73°F WB
- Entering Water
A/C mode 40°F thru 85°F
Heat Pump mode 60°F thru 80°F

OPTIONS AVAILABLE

- Electric heat
- 300 psi operating condition on waterside
- Sound attenuation package



Model	Cooling ¹		Heating		Nominal	usgpm		Unit amps		Dimension			Net Weight
	Btu/h	EER	Btu/h	COP		cfm	With Water Valve	W/out ² Water Valve	115/1	208-203/1	W	H	
KCAC KCHP 007	7,000	12.4	9,420	4.9	300	0.5	1.5	7.3	3.6	49	24	11	130
KCAC KCHP 009	9,400	12.2	12,650	4.8	400	0.5	2.0	9.2	4.6	49	24	11	140
KCAC KCHP 012	12,000	12.3	17,310	5.2	500	1.0	3.0	11.9	5.9	49	24	11	160
KCAC KCHP 015	15,000	12.2	22,775	5.4	550	2.1	4.0	15.3	7.6	49	24	11	185
KCAC KCHP 019	19,600	13.0	28,640	5.5	600	2.9	5.0	n/a	10.0	49	24	11	210

1. At 60°F entering water

Our engineering expertise together with our skilled technical team can provide custom designed solutions to meet specific project requirements



AIR HANDLERS

Rugged and weatherproof rooftop or indoor construction is available for commercial and industrial applications. The modular design offers a large selection of coils, filters and airflow arrangements to meet any job requirements.



WE MAKE INDOOR AIR BETTER

The engineer for this 225-unit multiple building condominium complex selected the low silhouette Blower Coil Units (BCU) with quiet operation for each condominium. This choice provided space saving advantages for the builder and quiet operation for the owners. The BCUs are connected to outdoor condensing units.



CHILLERS

The multi-stage chiller seen here is being assembled in our factory for a process plant that requires carefully controlled water temperature. When in operation the customer will benefit from significant cost savings.



COILS

Free standing, duct mounted or custom designed coils to meet heating, cooling and dehumidification requirements of contractors or original equipment manufacturers.

THE HARVARD UNIVERSITY ARENA

A healthy mind in a healthy body. This is what the Harvard University sought when they installed the Thermoplus Ice Rink DEFOGGER® in their arena, over the ice skating rink, to maintain low humidity over the ice during hockey games for good quality skating and spectator's pleasure.



BOMBARDIER

The 20 Portable Spot Coolers (PSC) at Bombardier provide instant spot cooling precisely where it is required. An extendable flexible duct is used to direct comfortable cool air anywhere inside the aircraft, allowing technicians to work more productively and safely. In this case, the PSC is used to cool the interior of a wing assembly during the welding process.

Unique Applications and Custom Designs

BCU BLOWER COIL UNITS

- Indoor Blower Coil units for cooling (DX or chilled water), heating (hot water), or heat recovery (heat reclaim)
- For use in commercial and residential applications (office buildings, manufacturing plants, schools, hotels, multi-residential complexes)
- Removable throwaway filters
- Voltages available:
208-230/1/60 (models 012 to 060)
208-230, 460, 575/3/60 (models 085 to 120)

Model	Dimensions (in.)			Net Weight lb
	W	H	D	
BCU				
012	26	12	22	80
016	26	12	22	85
020	31.5	14.5	29	115
024	31.5	18	29	115
030	31.5	18	29	130
036	32.5	22	29	150
042	34.5	22	31.5	170
048	34.5	22	31.5	235
060	43.5	22	31.5	375
085	57.5	22	36	390
100	57.5	26	40	400
120	57.5	32	40	450

QUALITY FEATURES

- Supplied with control transformer 24 volts, blower motor contactor (and overload relay on belt-driven units)
- Controls located in control box inside the unit
- Sweat-type coil connections
- Satin-coated steel casing with powder paint finish
- Cabinets are thermally and acoustically insulated
- Three-speed (tap) direct drive blower motor: (models 012 to 060)
- Adjustable motor pulley (models 085 to 120)

OPERATING RANGE

- Entering Air
80°F DB, 67°F WB
- Entering Chilled Water
45°F Hot Water
140°F thru 180°F
- External Static Pressure
0" thru 0.5" (models 012 to 060)
0" thru 1.2" (models 085 to 120)

OPTIONS AVAILABLE

- Top or bottom air discharge arrangement
- Dual coil arrangement
- Heat reclaim coils
- Copper or HyPoxy® coated fin coils



Model	Nominal cfm	DX ¹ R-22 Capacity 45°F	Chilled Water ¹ Entering Water at 45°F			Hot Water ² Entering Water		
			usgpm	4 rows	6 rows	usgpm	140°F	180°F
BCU								
012	400	13,710	2.5	12,180	15,000	1.5	13,170	20,870
016	500	17,020	3.0	16,010	19,375	2.0	17,200	27,270
020	650	22,340	3.5	20,150	24,450	3.0	22,840	36,280
024	800	28,540	4.0	25,460	30,540	3.5	28,990	45,950
030	1000	32,040	5.0	30,310	36,710	4.0	33,540	53,180
036	1200	40,120	5.5	36,170	43,430	4.0	39,900	63,310
042	1400	45,190	8.0	42,810	52,240	6.0	46,660	74,190
048	1600	48,200	10.5	48,120	59,370	8.0	51,810	82,450
060	2000	62,970	11.0	60,310	73,590	10.0	67,830	107,650
085	2800	92,540	12.0	85,070	101,400	10.0	91,770	145,490
100	3600	112,200	14.5	100,000	120,540	12.0	114,150	181,040
120	4000	129,650	18.0	121,250	145,150	12.0	128,190	203,400

1. At 80°F DB, 67°F WB
2. At 70°F DB

WWA WATERWISE A/C® AIR CONDITIONING WATER HEATING SYSTEMS

- Indoor or outdoor packaged units
- For use in commercial and industrial applications (manufacturing plants, laundry rooms, kitchens)
- Fail safe operation with controls designed to supply air conditioning and hot water when you need it
- Field adjustable airflow configurations

OPERATING RANGE

- Entering Water
40°F thru 120°F
- Entering Air
55°F thru 95°F
- External Static Pressure
.5" thru 1.0"

OPTIONS AVAILABLE

- Outdoor condenser for year-round air-conditioning
- Hot gas partial reheat for superior dehumidification
- Variety of auxiliary heating coils
- Stainless steel cabinet
- CFC-free R-407C refrigerant
- Cupronickel coaxial condenser



QUALITY FEATURES

- Vented copper double shell hot water heat exchanger
- Meets the requirements for potable water
- Satin-coated steel casing with powder paint finish
- Built-in water heating controls and circulating pump(s)
- HyPoxy® coated fin coils
- Heavy duty enclosure
- Adjustable motor pulley
- User friendly
- Voltages available:
208-230, 460, 575/3/60

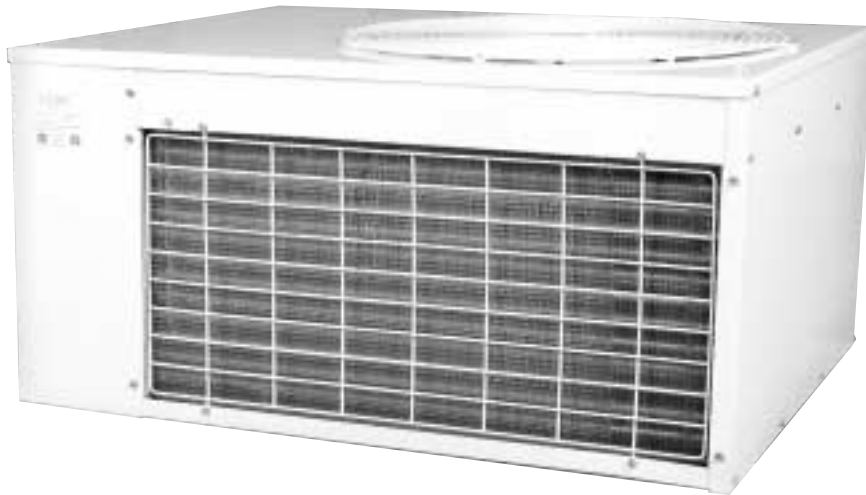


Model	Total	Cooling Sensible		Heating			Nominal	Dimensions (in.)				Net Weight	
		Btu/h	EER ¹	Btu/h	COP ¹	usgpm		cfm	W	H	D	Out/cond.	Condenser
042	41,651	29,304	16.10	49,337	5.59	12	1040	42	25	42	18	150	680
066	66,360	46,128	16.43	78,555	5.70	19	1600	56	25	42	18	220	880
088	87,492	61,610	15.72	104,460	5.50	25	2160	60	30	48	20	260	1040
116	115,606	81,739	15.52	138,301	5.44	38	2880	78	30	54	20	350	1350

1. At 80°F entering water and 89°F leaving water temperature

2A-CD AIR-COOLED CONDENSING UNITS

- Outdoor units for use in commercial and residential applications
- Energy efficient dual speed condenser fan
- Dual venturi providing optimum airflow and minimal noise transmission



QUALITY FEATURES

- High Energy Efficiency Ratios (EER)
- Satin-coated steel casing with powder paint finish
- Compressor compartment thermally and acoustically insulated
- Low ambient switch prevents compressor operation at low ambient temperatures
- Dual coil design
- Sweat-type coil connections
- Separate electrical compartment
- Service valves
- Voltages available:
208-230/1/60
208-230/3/60 (models 042 to 060)

OPERATING RANGE

- Entering Air
70°F thru 100°F

OPTIONS AVAILABLE

- Copper or HyPoxy[®] coated fin coils

Model	Nominal Capacity		Unit amps (60 Hz)		Connections (in.) O.D.		System ¹ Refrigerant Charge (oz)	Dimensions (in.)			Net Weight lb
	Btu/h	EER	208-230/1	208-230/3	Liquid	Suction		W	H	D	
2A-CD 020	19,700	11.4	10.8		3/8	1/2	52	28 1/4	18	36 1/8	200
024	24,300	10.8	13.6		3/8	5/8	52	28 1/4	18	36 1/8	210
030	30,900	10.7	16.5		1/2	5/8	74	28 1/4	18	36 1/8	215
036	35,300	10.0	18.8		1/2	5/8	92	28 1/4	18	36 1/8	235
042	42,200	10.1	24.8		5/8	7/8	102	28 1/4	24	36 1/8	275
048	47,800	9.6	28.8	19.1	5/8	7/8	120	28 1/4	24	36 1/8	290
060	60,700	9.6	36.6	23.7	5/8	7/8	146	28 1/4	28	36 1/8	330

1. Add 0.66 oz per foot of liquid line (models 020 to 036)
Add 1.2 oz per foot of liquid line (models 042 to 060)

KWCU AIR-COOLED CONDENSING UNITS

KWLCU LOW SILHOUETTE AIR-COOLED CONDENSING UNITS

- Indoor split condensing units
- Designed for "thru-the-wall" installations in commercial and residential applications (multi-story buildings, hotels, condominiums and high-rise apartments)
- Reduced installation costs vs roof or ground installations
- Attractive front grille
- Design criteria of low airflow with complete acoustic insulation allows for quiet operation

QUALITY FEATURES

- Easy access brass shut off valves with sweat connections and access valves for line vacuuming
- Satin-coated steel casing with powder paint finish
- Knockouts in cabinet on top and back for refrigerant lines
- Access hole for gauge hoses (allows accurate refrigerant pressure readings with service panel in place)
- Factory installed filter-drier
- Sloped base pan to drain water from unit
- Easily removable motor / blower assembly with built-in thermal overload protection
- High efficiency compressor with built-in temperature and over-current protection
- Compressor winding used as crankcase heater for cold ambient conditions

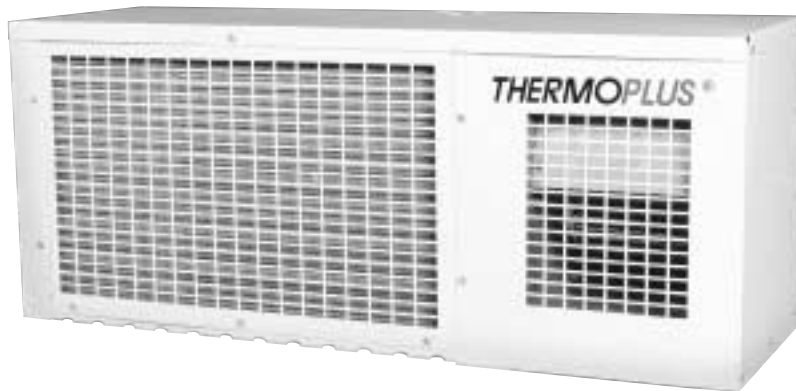
- Refrigerant high and low pressure cut-out switches
- Low ambient switch prevents compressor operation at low ambient temperatures
- Unique blower placement avoids outdoor air short cycling
- Voltages available:
208-230/1/60

OPERATING RANGE

- Entering Air
70°F thru 95°F

OPTIONS AVAILABLE

- Copper or HyPoxy® coated fin coils



Model KWCU	Cooling ¹ Capacity Btu/h	Unit amps (60 Hz)	Connections (in.) O.D.		Dimensions (in.) KWCU			Dimensions (in.) KWLCU			Net Weight lb
			Liquid	Suction	W	H	D	W	H	D	
KWLCU		208-230/1									
012	12,300	8.8	3/8	5/8	26	32	15	34	16.5	14	150
019	18,680	12.0	3/8	5/8	26	32	15	38	16.5	14	160
024	23,300	14.5	3/8	5/8	26	32	15	46	18	18	170
030	27,040	18.5	3/8	5/8	26	32	15	46	18	18	180

1. At 80°F DB, 67°F WB; ambient at 95°F and 130°F condensing

CD OUTDOOR AIR-COOLED CONDENSERS

- For use in commercial and residential applications
- Dual venturi providing optimum airflow and minimal noise transmission



QUALITY FEATURES

- Upward fan discharge dissipates sound away from ground level
- Fans are statically and dynamically balanced for vibration free operation
- 850 rpm motors
- Two separate coils
- Long life thermally protected motors with permanently lubricated sealed bearings
- Satin-coated steel casing with powder paint finish
- Sweat-type coil connections
- Voltages available:
208-230/1/60

OPERATING RANGE

- Entering Air
-40°F thru 100°F

OPTIONS AVAILABLE

- Copper or HyPoxy[®] coated fin coils
- Fluid cooler applications
- 3 phase motors

Model	Total Heat Rejection Btu/h ¹ (R-22)		Connections (in.) O.D.		Unit amps (60 Hz) 208-230/1		Dimensions (in.)			Net Weight
	20°F TD	30°F TD	Hot Gas	Liquid	1075 rpm	850 rpm	W	H	D	lb
CD 029*	26,000	39,000	5/8	1/2	1.9	1.8	28	26.5	36	150
038*	32,140	48,210	5/8	1/2	1.9	1.8	28	26.5	36	160
046	46,180	69,270	7/8	5/8	2.9	1.8	28	26.5	36	170
051	55,328	82,990	7/8	5/8	2.9	1.8	28	37.5	36	175
064	61,020	91,530	7/8	5/8	2.9	2.4	32	37.5	36	215
069	66,580	99,870	7/8	5/8	2.9	2.4	32	42.5	45	240
080	80,100**	120,150**	1 1/8	7/8	2.9	n/a	32	42.5	45	275
084	89,020**	133,530**	1 1/8	7/8	2.9	n/a	32	42.5	45	290

1. At 90°F Ambient
*208-230/1/60 only
**1075 rpm motor

PSC PORTABLE SPOT COOLERS

- Indoor packaged portable units, provide instant spot cooling precisely where it is required. Simply roll it in.
- Provides cool air for specific areas in computer rooms, rentals, equipment protection, construction, warehousing, aircraft service, offices

QUALITY FEATURES

- Condensate storage tank with automatic unit shut-off when full (models 009 to 024)
- Condensate pump kit (models 036 to 060)
- Switch selectable, ventilation or cooling mode
- Heavy duty rubber wheels
- 8 ft electrical cord
- Satin-coated steel casing with powder paint finish
- Thermally protected motors
- Refrigerant high and low pressure cut-out switches
- Thermostatic expansion valve
- Low ambient switch prevents compressor operation at low ambient temperatures
- Compressor short cycle protection
- Panel mounted sight glass
- Supply flexible duct included (24" long)
- Voltages available:
115, 208-230/1/60

OPERATING RANGE

- Entering Air
60°F thru 100°F
- Relative Humidity
40% thru 70%

OPTIONS AVAILABLE

- Water-cooled condenser
- Condensate pump kit (models 009 to 024)
- Ducted condenser exhaust
- 3 phase units (models 036 to 060)



Model	Cooling ¹	Evap	Cond.	Unit amps (60 Hz)		Max. ESP in. wg	Dimensions (in.)			Net Weight lb
	Btu/h	cfm	cfm	115/1	208-230/1		L	H ²	P	
009	9,500	250	600	9.2	4.6	0.2	20	40	30.5	190
012	11,900	350	800	10.6	5.3	0.2	20	40	30.5	200
014	13,500	450	900	13.2	7.4	0.2	20	40	30.5	220
018	18,100	525	1200	20.3	9.4	0.2	20	40	30.5	250
024	22,100	700	1400	n/a	11.8	0.2	23	40	35	275
036	36,900	1050	3400	n/a	17.2	1.0	29	38	50	350
048	48,000	1400	3300	n/a	21.8	1.0	29	38	50	400
060	60,000	1750	3200	n/a	28.3	1.0	29	38	50	450

1. At 90°F DB, 78°F WB
2. Add 5" for wheels

PDS PORTABLE DEHUMIDIFIER



- Indoor packaged, durable, high performance portable dehumidifier
- For use in commercial and residential applications (storage rooms, rentals, boiler and machine rooms, construction sites, basements, schools, quick drying)
- Refrigerant high and low pressure cut-out switches
- Thermostatic expansion valve
- Compressor short cycle protection
- To be plugged on a 15-amp individual circuit
- Voltage available: 115/1/60

QUALITY FEATURES

- Factory installed condensate pump
- Factory installed humidistat
- Heavy duty rubber casters
- Satin-coated steel casing with powder paint finish
- 7 ft electrical cord
- Compressor running light
- Panel-mounted sight glass
- Direct drive, thermally protected fan motor

OPERATING RANGE

- Entering Air
60°F thru 100°F
- Relative Humidity
40% thru 70%

Model	Moisture ¹ Removal	Nominal	Unit amps (60 Hz)	Dimensions (in.)			Net Weight
PDS	lb/h	cfm	115/1	W	H ²	D	lb
100	7.2	400	11.3	20	25.5	25	172

1. At 90°F and 70% RH
2. Add 5" for wheels

CAD DEHUMIDIFIER/ AIR CLEANER



- Indoor packaged dehumidifier/air cleaner
- Ideal for institutional and residential air treatment and dehumidification
- Most effective air cleaning and treatment system. It incorporates "state-of-the art" HEPA (High Efficiency Particulate Air) technology
 - Heavy duty self-contained dehumidifier with deep cleaning of circulated air
 - For air-conditioning central system installation, the unit will dehumidify and reheat the bypassed portion of the circulated air

QUALITY FEATURES

- Factory supplied humidistat
- Motor speed selector switch
- HEPA filter
- Satin-coated steel casing with powder paint finish
- Thermally protected motors
- Refrigerant high and low pressure cut-out switches
- Compressor short cycling protection
- Thermostatic expansion valve
- Panel-mounted sight glass
- Voltage available: 115, 208-230/1/60

OPERATING RANGE

- Entering Air
60°F thru 100°F
- Relative Humidity
40% thru 70%

Model	Moisture ¹ Removal	Nominal	Unit amps (60 Hz)		Dimensions (in.)			Net Weight
CAD	lb/h	cfm	115/1	208-230/1	W	H	D	lb
450	7.2	400	11.3	5.64	7.25	25.75	20.12	190

1. At 90°F and 70% RH

IRD ICE RINK DEFOGGER®

- Indoor packaged dehumidifier specifically designed for arenas (skating, hockey, curling)
- Engineered for high airflow with design techniques to maintain optimal airflow through the dehumidification coil and maximize moisture removal
- True sub-cooling circuit to improve system efficiency
- Contributes to space heating
- Units are factory assembled, wired, charged & tested.



QUALITY FEATURES

- Airflow separated from all refrigeration components, inhibits corrosion
- Suction line heat exchanger to protect the compressor from liquid slugging during the defrost cycle
- Continuous fan operation to prevent humidity build-up on off cycle
- Satin-coated steel casing with powder paint finish
- Demand defrost system
- Stainless steel heated drain pan with large 1-1/4" MPT drain connection
- External high & low pressure service access valves and sight glass
- Innovative design for short defrost cycles giving more operational time
- Hot gas defrost, quick, efficient, to minimize compressor cycling
- Integral anchoring rails included in the casing
- Easy access for service while unit in operation
- Voltages available:
208-230/1/60
208-230, 460, 575/3/60

OPERATING RANGE

- Entering air
30°F thru 80°F DB
- Relative Humidity
50% thru 100%

OPTIONS AVAILABLE

- Air supply diffuser
- HyPoxo® coated fin coils

Guidelines for unit selection Application	Number of units		
	IRD 050	IRD 075	IRD 100
Curling-up to 4 rinks	1		
Curling-more than 4 rinks	2		
Skating-with no spectators	1		
Skating-up to 500 spectators (1 side of rink)	2		
Skating-500 to 1000 spectators (2 sides of rink)	3	Or 2	
Skating-1000 to 1500 spectators (4 sides)	4	Or 3	
Multiple ice surfaces			X

Model	Nominal cfm	Moisture Removal lb/hr	Unit amps (60 Hz)				Dimensions (in.)			Net Weight lb
			208-230/1	208-230/3	460/3	575/3	W	H	D	
IRD 050	4500	22.4	46.8	27.8	13.2	10.4	60	37.5	48	820
IRD 075	5500	29.9		39.1	20.3	15.9	60	37.5	48	895
IRD 100	7000	35.9		45.4	20.5	16.4	75.5	55	56.5	1070
IRD 150	10000	55.0		81.8	37.4	29.9	75.5	55	56.5	1400

1. At air on 60°F DB and 70% RH

SDA PACKAGE DEHUMIDIFIERS



- Indoor packaged dehumidification units with optional air or water-cooled air conditioning for light commercial and residential dehumidification applications (greenhouses, restaurants, warehouses, storage facilities, motels, condos)

- Reheat from compressor hot gas allows year-round dehumidification without overcooling the space
- Controls both humidity and temperature
- Low profile, ideal for installations in false ceilings

QUALITY FEATURES

- Scroll compressor (except model 016) for reliability and efficiency
- HyPoxy® coated fin coils
- Satin-coated steel casing with powder paint finish
- Thermostatic expansion valve
- Refrigerant high and low pressure cut-out switches
- Compressor short cycle protection
- Anti-freeze protection
- Direct drive, thermally protected fan motor
- Air-cooled A/C model has only two refrigerant lines to install to outdoor air-cooled condenser
- Voltages available:
208-230/1/60
208-230/3/60

OPERATING RANGE

- Entering Air
70°F thru 100°F
- Relative Humidity
40% thru 70%

OPTIONS AVAILABLE

- Full reheat for contribution to space heating
- Full cooling mode, air-cooled A/C with remote condenser or packaged water-cooled A/C, no refrigerant piping to install
- Top air discharge
- 460, 575/3/60

Model	Moisture ¹ Removal	cfm ²	Sensible ¹ Cooling	Unit amps (60 Hz)		Dimensions (in.)			Net Weight
				208-230/1	208-230/3	W	H	D	
SDA	lb/h	cfm ²	Btu/h	208-230/1	208-230/3	W	H	D	lb
016	4.1	400	8,360	8.0		27	18	38	120
024	8.9	485	14,440	14.6	9.5	27	18	38	175
030	11.2	600	18,010	16.5	11.9	27	18	38	195
036	13.2	745	22,040	19.4	13.4	30	22	39	230
042	15.3	850	25,430	24.6	17.2	30	22	43	240
048	19.5	960	30,840	29.0	18.3	30	22	43	250
060	25.8	1230	39,630	27.9	24.8	36	22	48	320

1. At air on 72°F and 60% RH.
2. External Static Pressure at 0.5 in WG

KWHC HEATING/ COOLING AIR HANDLERS

- Indoor packaged air handlers with optional air conditioning by adding evaporator coil and connecting to a condensing unit
- For use in commercial and residential applications (multi-office buildings, condominiums)
- Designed for installation in conjunction with a hot water tank or self-standing heating application
- The unit converts a gas water heater into a highly efficient space heating forced air system (+ cooling option with optional DX cooling coil and remote condensing unit)
- Compact unit for installation in a closet, above the hot water heater, with right or left return air duct connection

QUALITY FEATURES

- Design criteria of airflow with complete acoustic insulation allows for quiet operation and high static pressure applications
- Meets the requirements for potable water
- Built-in circulating pump, air purge, drain valve and water check valve
- Filter rack and throwaway filter
- Easily removable motor/blower assembly with built-in thermal overload protection
- Easy access to all internal components through one access panel
- Door switch prevents accidental unit operation while servicing
- Knockouts in cabinet on front and both sides for water, drain and refrigerant lines
- Satin-coated steel casing with powder paint finish
- Voltage available: 115/1/60

OPERATING RANGE

- 1.5 thru 3 tons cooling
- Entering water 130° F thru 180°F

OPTIONS AVAILABLE

- Slide-in DX cooling coil for air conditioning
- Remote condensing unit



Model	Cooling ¹		Heating ²				Unit amps (60 Hz)	Dimensions (in.)			Net Weight lb
	Nominal Capacity	Cfm at 0.3 in wg ESP	Capacity Entering Water		Cfm at 0.3 in wg ESP	usgpm		W	H	D	
KWHC	Btu/h	wg ESP	140°F	180°F	wg ESP	usgpm	115/1				
015	15,000	515	23,800	37,700	500	3	3.8	22	27.2	22	95
019	18,000	630	27,600	44,000	650	3	3.8	22	27.2	22	100
024	24,000	790	34,900	55,700	850	3	5.5	22	27.2	22	105
030	30,000	910	38,100	60,500	930	3	5.5	22	27.2	22	110
036	36,000	1160	50,600	80,100	1140	3	5.5	24	29.2	24	120

1. Based on heating and cooling coil (wet) with blower on high speed
 2. Based on heating and cooling coil (dry) with blower at medium speed

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WE MAKE INDOOR AIR BETTER

For more than twenty years we have provided our customers with quality, innovative, high performance products carefully engineered for better indoor air. Our unique product lines offer heating, cooling, dehumidification, filtration and energy recovery solutions for commercial, residential and industrial applications.

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