

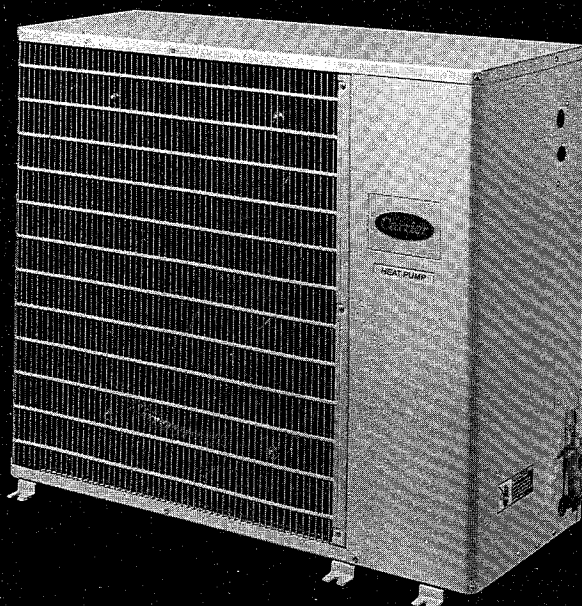


Product Data

38HD (60Hz) Air Conditioner

Sizes 018 thru 060

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Model 38HD Energy-Efficient Air Conditioner incorporates innovative technology to provide quiet, reliable summer cooling performance. Built into these units are the features most desired by homeowners today, including SEER ratings of up to 10.0 when used with components as designated by manufacturer. All models are listed with U.L., CSA, ARI, and CEC.

FEATURES/BENEFITS

Electrical Range—Units are offered in 208/230-volts single and three phase. A 460-volt three-phase unit is also available.

Wide Range of Sizes—Available in six nominal sizes from 018 thru 060 to meet the needs for residential and light commercial applications.

Weather-Armor® II Cabinet—Steel is protected with a heavy coating commonly called "galvanizing," then coated with a layer of zinc phosphate to which a coat of modified polyester powder coating is applied and baked-on. This provides each unit with a hard, smooth finish that will last for many years.

All screws on cabinet exterior are coated for a long-lasting, rust-resistant, quality appearance.

Totally Enclosed Fan Motor—Means greater reliability under rain conditions, dependable performance for many years. Permanent-split-capacitor-type motors provide more economical operation.

Unit Design—Copper tube, enhanced aluminum fin coil is designed for optimum heat transfer. Horizontal air discharge carries sound and hot condenser air away from adjacent patio areas and foliage. The new heat pump style drain pan allows for easy removal of water, dirt and leaves.

Application Versatility—The 38HD can be combined with a wide variety of evaporator coils and blower packages to provide quiet, dependable comfort. Unit can be installed on a roof or at ground level.

External Service Valves—Both service valves are brass, back seating type with sweat connections. Valves are externally located so refrigerant tube connections can be made quickly

and easily. Each valve has a service port for ease of checking operating refrigerant pressures.

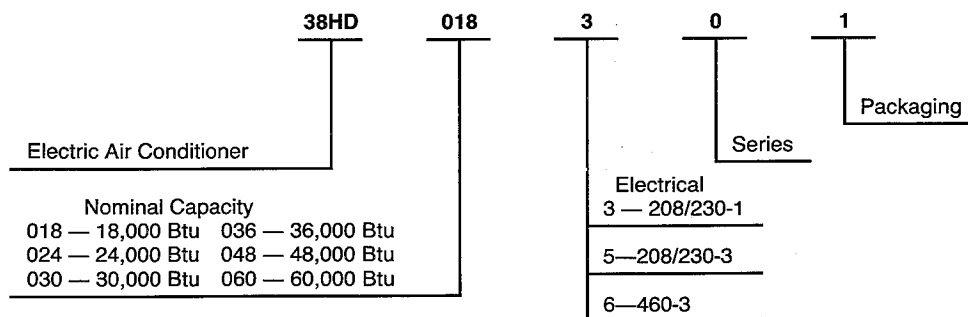
Easy Serviceability—One access panel provides access to electrical control box and compressor. Removal of top gives access to fan motor and coil.

Compressor Protection—Each compressor is protected with internal temperature- and current-sensitive

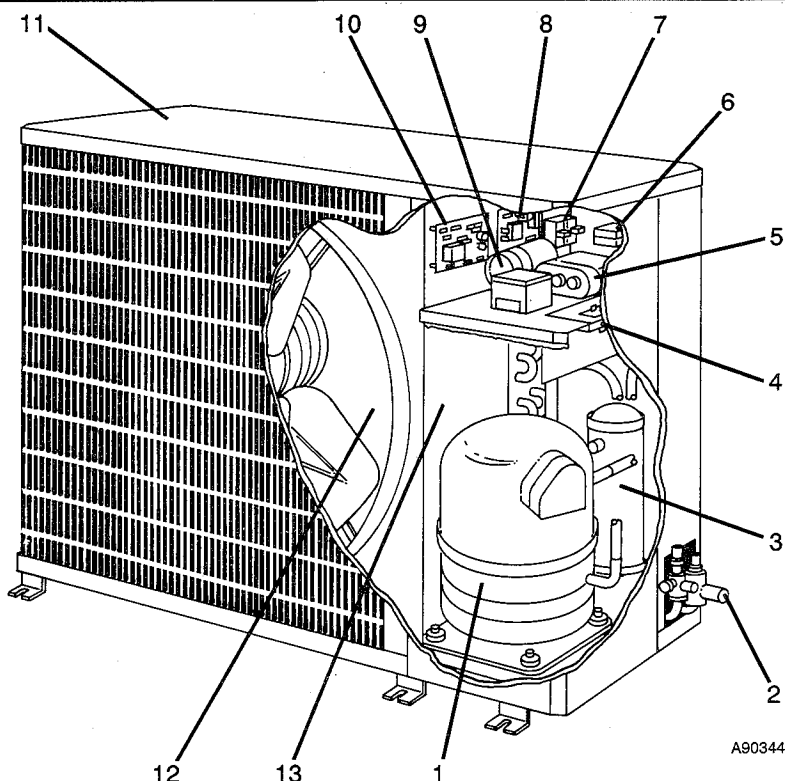
overloads. An internal pressure relief valve provides high-pressure protection to the refrigerant system. For improved serviceability each compressor is equipped with a compressor terminal plug.

Standard Features—Includes high- and low-pressure switches, crankcase heater, hard start gear, lockout feature, field installed filter drier, and field installed liquid-tube solenoid.

Model number nomenclature



The data in this publication is displayed for all series, however every series may not be available from manufacturer.



- | | |
|---|--|
| <ul style="list-style-type: none"> ① High-Efficiency Compressor ② Discharge and Suction Pressure Gage Ports ③ Accumulator ④ Low-Voltage Terminal Block ⑤ Run Capacitor ⑥ High-Voltage Terminal Block ⑦ Contactor | <ul style="list-style-type: none"> ⑧ Lock Out ⑨ Start Capacitor and Relay ⑩ Time Guard® II (Optional) ⑪ Polyester Powder Paint ⑫ Fan Orifice ⑬ Acoustic Lining |
|---|--|

Physical data

MODEL 38HD	018	024	030	036	048	060
REFRIGERANT Control	22 Chatliff Piston (Bypass Type)					
Charge (lb)	1.5	1.5	1.5	2.0	2.0	2.0
CONDENSER FAN Air Discharge Air Qty (cfm)	Propeller Type, Direct Drive Horizontal 17203900					
CONDENSER COIL Face Area (sq ft) — Rows	Copper Tube, Aluminum Plate Fin 6.1—1.56.1—26.1—312.3—2					
VALVE CONNECT. (in. ID) Vapor Liquid	5/8	5/8	3/4	3/4	7/8	
REFRIG TUBES* (in. OD) Vapor Liquid	5/8	5/8	3/4	3/4	1-1/8	

NOTE: See unit Installation Instructions for proper installation.

*Tube sizes are for runs up to 50 ft.

For tube set over 50 ft, consult Long-Line Application Guideline.

AccuRater piston chart

Unit Size	Piston* Identification No.
018-30	52
024-30	61
030-30	70
036-30	73
048-31	86
060-30	88

*Piston listed is for any approved non-capillary tube coil combination.
Piston is shipped with outdoor unit and must be installed in approved indoor coil.



CERTIFICATION APPLIES ONLY WHEN THE COMPLETE SYSTEM IS LISTED WITH ARI.

Accessories

ORDERING NUMBER	DESCRIPTION	ORDERING NUMBER	DESCRIPTION
38TG900521	Motormaster® Controller*† 230 Volt	38TG900041	TXV Kits (RPB)—Size 036
38HD900531	Motormaster® Controller*† 460 Volt (Sizes 036,048,060)	38TG900051	TXV Kits (RPB)—Sizes 060-048
38HD900081	Fan Motor Kit (Sizes 018, 024, 030)†	38TG900081	TXV Kits (Hard Shutoff)—Size 018
38HD900101	Fan Motor Kit (Sizes 036-060) 230 Volt	38TG900091	TXV Kits (Hard Shutoff)—Size 024
38HD900091	Fan Motor Kit (Sizes 036-060) 460 Volt	38TG900101	TXV Kits (Hard Shutoff)—Size 030
38TG900561	Winter Start Kit†	38TG900111	TXV Kits (Hard Shutoff)—Size 036
38TG900551	Evaporator Freeze Thermostat Kit†	38TG900121	TXV Kits (Hard Shutoff)—Size 048
38HD900021	Time Guard® II	38TG900131	TXV Kits (Hard Shutoff)—Size 060
N/A	Start Assist-PTC Type	Standard	Low-Pressure Switch
Standard	Start Assist-Cap/Relay	Standard	High-Pressure Switch
Standard	Crankcase Heater	Standard	Filter Drier
38TG900011	TXV Kits (RPB)—Size 018	38TG900541	Liquid Solenoid Valve 618, 024, 030)‡
38TG900021	TXV Kits (RPB)—Size 024	38HD900031	Stacking Kit (018, 024, 030)
38TG900031	TXV Kits (RPB)—Size 030	39HD900041	Stacking Kit (036-048)

*Low-ambient motor also required on single phase units.

†Consult low-ambient installation instruction for application.

‡Do not use with 40YA Coils.

N/A = Not applicable in this application.

THERMOSTAT/SUBBASE PKG	DESCRIPTION
HH07AT174	Honeywell—Automatic changeover; One-stage heat/One-stage cool—°F
HH07AT184	Honeywell—Manual changeover; One-stage heat/One-stage cool—°F
HH07AT164	Honeywell—Automatic changeover; One-stage heat/One-stage cool—°C
HH07AT191	Honeywell—Manual changeover; One-stage heat/One-stage cool—°C
HH93AZ176	Subbase for Auto Thermostat

Accessory Description and Usage

1. Motormaster—Low-Ambient Operation Kit

This solid state head pressure controller is a fan speed control device activated by a temperature sensor. It is specifically designed to control outdoor fan motor speed in response to saturated condensing temperature. For outdoor air temperatures between 55 and 0 F (12.8 and -17.8 C), it maintains condensing temperature at 100 F $\pm$ 10 F (37.8 $\pm$ 5 C). For single-phase units a ball bearing fan motor is also required.

SUGGESTED USE: Cooling operation at outdoor temperatures below 55 F (12.8 C).

All commercial installations.

2. Ball Bearing Fan Motor

A fan motor with ball bearings which permits speed reduction while maintaining bearing lubrication.

SUGGESTED USE: Required on all units where Low Ambient Operation Kit (Item 1) has been added.

3. Winter Start Control

A SPST delay relay which bypasses the low-pressure switch for approximately 3 minutes to permit start up for cooling operation under low load conditions.

SUGGESTED USE: All air conditioners which have low-pressure switch and where Low Ambient Operation Kit (Item 1) has been added.

4. Evaporator Freeze Thermostat

A SPST temperature actuated switch which stops unit operation when evaporator reaches freeze-up conditions.

SUGGESTED USE: All units where Low Ambient Operation Kit (Item 1) has been added.

5. Thermostatic Expansion Valve (TXV) Kits

A modulating flow control valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator. Kit includes valve, adapter tubes, and external equalizer tube. Both hard shut-off and RPB type valves are available.

SUGGESTED USE: For improved system performance in cooling mode for certain combinations of indoor and outdoor units (Refer to ARI Unitary Directory).

6. Stacking Kit

Rails necessary to allow stacking of equally sized units or smaller units stacked on larger units. (Not to be used with Snow Rack/Ice Stand accessories.)

SUGGESTED USE: In apartment or condominium applications.

7. Time Guard II — Compressor Short Cycle Protector

Solid state timing device which prevents compressor rapid recycling. Control provides an approximate 5-minute delay after power to the compressor has been interrupted for any reason, including normal room thermostat cycling.

SUGGESTED USE: Installations in areas where power interruptions are frequent.

Where user is likely to "play" with the room thermostat.

All commercial installations.

Installations where interconnecting tube length exceeds 50-ft.

High-rise applications.

8. Liquid Solenoid Valve

An electrically operated shut-off valve to be installed at the outdoor unit and which stops and starts refrigerant liquid flow in response to compressor operation. Maintains a column of refrigerant liquid ready for action at next compressor operation cycle. **NOTE:** Compressor start assist — Capacitor/Relay must be used also.

SUGGESTED USE: For improved system performance in air conditioners for certain combinations of indoor and outdoor units. (Refer to ARI Unitary Directory.)

In certain long-line applications. (Refer to Long-Line Application Guideline.)

UNIT	ELECTRICAL CHARACTERISTICS	A		B		C		D		E		F		G		H		J		K		L		H		SHIPPING WGT.	
		(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)	LBS.	KG.
38H0018	0	25 1/8"	638.2	36 15/16"	938.2	14 9/16"	369.9	16"	406.4	23 7/16"	595.3	17 3/16"	438.6	17 1/2"	444.5	20 1/8"	511.2	13"	330.2	8 5/8"	188.3	11 1/4"	285.8	5/8"	15.88	148	67.1
38H0024	0	25 1/8"	638.2	36 15/16"	938.2	14 9/16"	369.9	16"	406.4	23 7/16"	595.3	17 3/16"	438.6	17 1/2"	444.5	20 1/8"	511.2	13"	330.2	8 5/8"	188.3	11 1/4"	285.8	5/8"	15.88	160	72.6
38H0030	0	25 1/8"	638.2	36 15/16"	938.2	14 9/16"	369.9	16"	406.4	23 7/16"	595.3	17 3/16"	438.6	17 1/2"	444.5	20 1/8"	511.2	13"	330.2	8 5/8"	188.3	11 1/4"	285.8	5/8"	15.88	171	77.6
38H0036	1	25 1/8"	638.2	36 15/16"	938.2	14 9/16"	369.9	16"	406.4	23 7/16"	595.3	17 3/16"	438.6	17 1/2"	444.5	20 1/8"	511.2	13"	330.2	8 5/8"	188.3	11 1/4"	285.8	5/8"	15.88	171	77.6
38H0036	0	25 1/8"	638.2	36 15/16"	938.2	14 9/16"	369.9	16"	406.4	23 7/16"	595.3	17 3/16"	438.6	17 1/2"	444.5	20 1/8"	511.2	13"	330.2	8 5/8"	188.3	11 1/4"	285.8	5/8"	15.88	171	77.6
38H0036	1	25 1/8"	638.2	36 15/16"	938.2	14 9/16"	369.9	16"	406.4	23 7/16"	595.3	17 3/16"	438.6	17 1/2"	444.5	20 1/8"	511.2	13"	330.2	8 5/8"	188.3	11 1/4"	285.8	5/8"	15.88	171	77.6
38H0048	1	37 3/16"	944.6	44 9/16"	1131.9	17 1/16"	433.4	18 7/16"	468.3	30 1/2"	774.7	19 5/8"	498.5	28 5/8"	725.2	32 3/16"	817.6	13 7/8"	352.4	8 1/4"	209.5	16"	406.4	3/4"	19.05	240	108.9
38H0048	0	37 3/16"	944.6	44 9/16"	1131.9	17 1/16"	433.4	18 7/16"	468.3	30 1/2"	774.7	19 5/8"	498.5	28 5/8"	725.2	32 3/16"	817.6	13 7/8"	352.4	8 1/4"	209.5	16"	406.4	3/4"	19.05	244	110.7

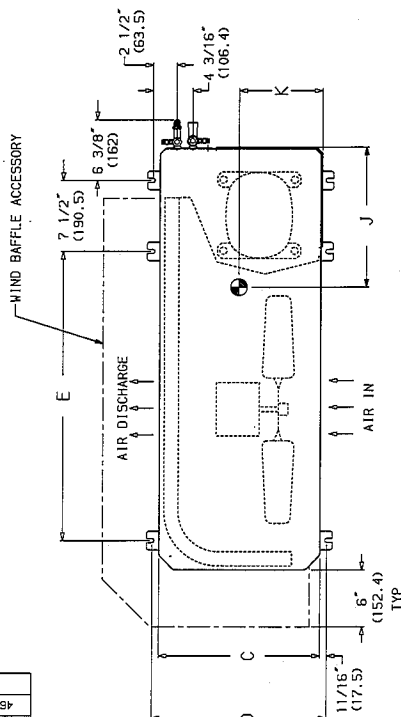
X=YES
0=NO

208/230-1-60	450-3-60
208/230-3-60	

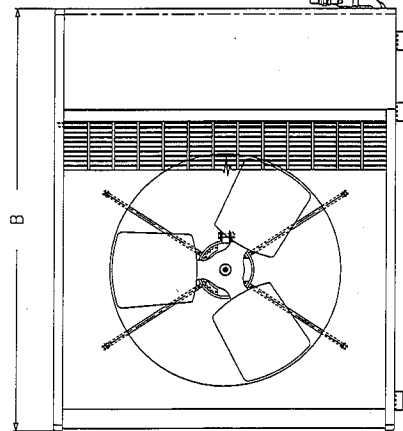
MINIMUM MOUNTING PAD DIMENSIONS					
UNIT SIZE		SUPPORT FEET		ICE STAND	
(IN.)	(MM)	(IN.)	(MM)	(IN.)	(MM)
018, 024, 030	468.3	23" X 42"	584.2 X 1066.8	26" X 42"	660.4 X 1066.8
036, 048, 060	914.4	24" X 50"	609.6 X 1270	28" X 50"	711.2 X 1270.0

NOTES:

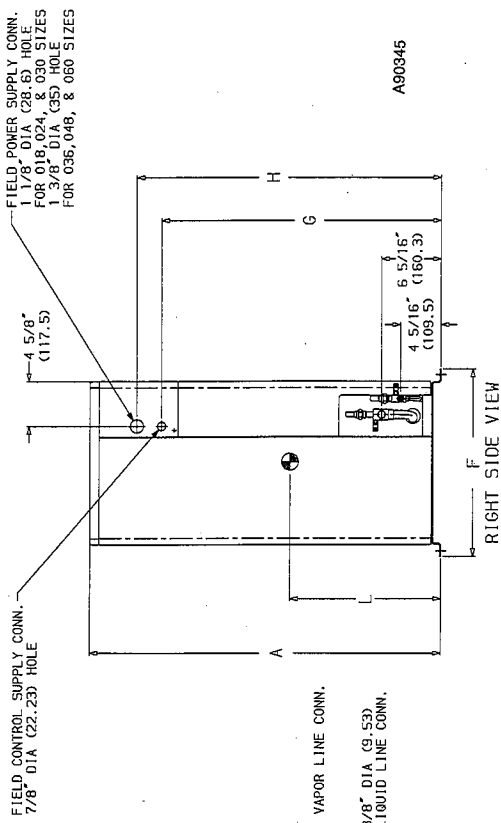
- REQUIRED CLEARANCES: WITH COIL FACING WALL, ALLOW 6" MINIMUM CLEARANCE ON COIL SIDE AND COIL END, AND 3 FEET MINIMUM CLEARANCE ON COMPRESSOR END AND FAN SIDE. WITH FAN FACING WALL, ALLOW 8" MINIMUM CLEARANCE ON FAN SIDE AND COIL END, AND 3 FEET MINIMUM CLEARANCE ON COMPRESSOR END AND COIL SIDE. WITH MULTI UNIT APPLICATION, ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INLET OF ANOTHER.
- MINIMUM OUTDOOR OPERATING AMBIENT IS 55°F (12.8°C) (UNLESS LOW AMBIENT CONTROL IS USED), MAXIMUM IS 125°F (51.7°C).
- DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS.
- CENTER OF GRAVITY
- SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

Electrical data

OUTDOOR UNIT 38HD	V/PH	OPER VOLTS*		COMPR		FAN	MCA	MIN WIRE	MAX LENGTH	MAX FUSE† OR HACR TYPE
		Max	Min	LRA	RLA	FLA		SIZE	(Ft.)‡	CKT BKR AMPS
018-300	208/230-1			52.0	9.2	0.7	11.3	14	75	20
024-300	208/230-1			60.0	11.2	0.7	14.5	14	65	25
030-300	208/230-1	253	187	65.0	13.8	0.7	18.0	14	50	30
036-300	208/230-1			82.0	16.5	1.45	22.0	12	65	35
036-500	208/230-3			67.5	10.5	1.45	15.0	14	75	20
036-600	460-3	506	414	33.8	5.0	0.8	7.0	14	300	15
048-310	208/230-1			118.0	25.5	1.45	33.0	10	70	50
048-510	208/230-3	253	187	84.0	15.9	1.45	22.0	12	80	35
048-610	460-3	506	414	42.0	7.8	0.8	11.0	14	200	15
060-300	208/230-1			135.0	30.7	1.45	40.0	8	90	60
060-500	208/230-3	253	187	105.0	19.6	1.45	26.0	10	105	45
060-600	460-3	506	414	55.0	10.4	0.8	14.0	14	150	20

FLA —Full Load Amps

HACR—Heating, Air Conditioning, Refrigeration

LRA —Locked Rotor Amps

MCA —Minimum Circuit Amps

RLA —Rated Load Amps

*Permissible limits of the voltage range at which unit will operate satisfactorily. Operation outside these limits may result in unit failure.

NOTE: Copper wire must be used from service disconnect to unit. If other than uncoated (non-plated), 75 degree C ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10AWG) is used, consult applicable tables of the National Electric Code (ANSI/NFPA 70).

All motors/compressors contain internal overload protection.

‡Length shown is as measured one way along wire path between unit and service panel for a maximum 2% voltage drop.

†Time-delay fuse.

Performance data

OUTDOOR MODEL	INDOOR SECTION	INDOOR AIR CFM	TOT CAP BTUH	SEAS EFF SEER	SEER/ LSV	SOUND RATING (BELS)
38HD018-30	28RC/RU018	600	18,200	8.60	9.10	6.8
	28RC/RU024	600	18,600	8.90	9.50	6.8
	28RDS/RNS/RH018	600	18,000	8.70	9.20	6.8
	28RDS/RNS019	600	18,600	8.90	9.50	6.8
	28RDS/RNS/RH024	600	18,600	8.90	9.50	6.8
	28RDS/RNS025	600	19,200	9.00	9.60	6.8
	28SL024	600	18,600	8.70	9.20	6.8
	28RM024	600	18,800	8.90	9.50	6.8
	40DQ018	600	17,000	7.70	8.50	6.8
	40DQ024	600	18,600	8.70	9.20	6.8
	40YR018	600	18,600	8.90	9.50	6.8
	40YR024	600	19,000	9.00	9.60	6.8
	40YA018	600	19,000	10.00	—	6.8
	40YA024	600	19,200	10.00	—	6.8
	40RC018	600	18,800	8.90	9.50	6.8
	40RC024	600	19,000	8.90	9.50	6.8
	40LT024	600	19,000	8.90	9.50	6.8
38HD024-30	28RC/RU024	800	23,000	8.60	9.30	6.8
	28RC30, RC/RU130	800	23,000	8.70	9.50	6.8
	28RDS/RNS/RH024	800	23,000	8.60	9.30	6.8
	28RDS/RNS/RH030, RDS/RNS130	800	24,000	9.00	9.80	6.8
	28RDS/RNS025	800	23,400	8.70	9.50	6.8
	28RM024	800	22,800	8.60	9.30	6.8
	28SL024	800	22,800	8.60	9.30	6.8
	40DQ024	800	22,600	8.50	9.10	6.8
	40DQ030	800	23,600	8.50	9.10	6.8
	40YR024	800	23,600	8.70	9.50	6.8
	40YR030	800	24,200	8.90	9.60	6.8
	40YA024	800	24,000	9.60	—	6.8
	40YA030	800	24,200	9.80	—	6.8
	40LT024	800	23,000	8.60	9.10	6.8
	40RC024	800	23,600	8.70	9.30	6.8
	40RC030	800	24,000	8.90	9.50	6.8
38HD030-30	28RC30, RC/RU130	1000	28,200	9.30	9.80	6.8
	28RC/RU036, RC136	1000	28,200	9.30	9.80	6.8
	28RDS/RNS/RH030, RDS/RNS130	1000	29,600	9.60	10.10	6.8
	28RDS/RNS/RH036, RDS136	1000	29,200	9.50	10.00	6.8
	28RDS/RNS142	1000	29,400	9.50	10.20	6.8
	28RDS/RNS143	1000	30,400	9.70	10.10	6.8
	28RDS/RNS24201	1000	30,000	9.60	10.20	6.8
	28RDS/RNS04301	1000	30,400	10.00	9.80	6.8
	28RM036	1000	28,000	9.20	9.80	6.8
	28SL030	1000	27,800	9.20	9.80	6.8
	28SL036	1000	28,600	9.30	9.80	6.8
	40RC030	1000	28,400	9.10	9.60	6.8
	40YR030	1000	28,600	9.30	9.80	6.8
	40YR036	1000	28,800	9.30	9.80	6.8
	40YA030	1000	29,400	10.00	—	6.8
	40YA036	1000	30,400	10.10	—	6.8
	40QD030	1000	28,000	9.00	9.50	6.8
	40LT036	1000	29,000	9.20	9.70	6.8
38HD036-30	28RC/RU03601, RC13601	1200	35,400	9.50	10.00	7.2
	28RC/RU142, RH012	1200	35,000	9.60	10.00	7.2
	28RC/RU24201	1200	36,200	10.00	10.20	7.2
	28RDS/RNS036, RDS136	1200	35,200	10.00	10.20	7.2
	28RDS/RNS142	1200	35,000	9.60	10.00	7.2
	28RDS/RNS143	1200	37,000	10.00	10.40	7.2
	28RDS/RNS04301	1200	37,000	10.00	10.50	7.2
	28RDS/RNS24201	1200	36,600	10.00	10.50	7.2
	28SL036	1200	37,400	10.00	10.50	7.2
	28SL042	1200	37,400	10.00	10.50	7.2
	40YR042	1200	35,800	9.40	9.60	7.2
	40YA036	1200	37,000	10.00	—	7.2
	40YA042	1200	38,000	10.50	—	7.2
	40LT036	1200	35,000	9.70	10.00	7.2
	40QB043	1200	36,600	9.50	10.00	7.2
	ETL TEST	1200	39,190	9.97	—	7.2

See notes bottom pg. 8

Performance data contd

OUTDOOR MODEL	INDOOR SECTION	INDOOR AIR CFM	TOT CAP BTUH	SEAS EFF SEER	SEER/ LSV	SOUND RATING (BELS)
38HD048-31	28RC248	1600	45,000	9.20	9.70	7.4
	28RC/RU148	1600	44,500	9.10	9.60	7.4
	28RC/RU057	1600	46,000	9.30	9.80	7.4
	28RDS/RNS148	1600	44,500	9.20	9.70	7.4
	28RDS049	1600	46,000	9.50	10.00	7.4
	28RDS/RNS248	1600	45,500	9.40	10.00	7.4
	28RDS/RNS057	1600	46,000	9.50	10.00	7.4
	28RDS/RNS061	1600	47,500	9.70	10.10	7.4
	28RM048	1600	44,500	9.10	9.60	7.4
	28SL049	1600	44,500	9.00	9.50	7.4
	28SL061	1600	46,000	9.20	9.70	7.4
	40YR048	1600	45,000	9.20	9.70	7.2
	40YR060	1600	46,500	9.20	9.70	7.2
	40YA048	1600	47,000	10.00	—	7.2
	40YA060	1600	48,000	10.10	—	7.2
	40LT048	1600	44,500	9.30	9.80	7.2
	40LT060	1600	46,000	9.50	10.00	7.2
38HD060-30	28RC/RU057	2000	56,000	8.90	9.30	7.4
	28RDS/RNS061	2000	58,000	9.50	10.00	7.4
	28RDS/RNS057	2000	55,500	9.30	9.70	7.4
	28SL061	2000	56,000	9.30	9.70	7.4
	40YR060	2000	56,000	9.00	9.50	7.4
	40YA060	2000	59,000	10.00	—	7.4
	40LT060	2000	55,000	9.20	9.70	7.4
	40QB063	2000	57,500	9.10	9.50	7.4
	ETL TEST	2000	57,430	9.40	—	7.4

*Tested Combination

- NOTES:**
1. Ratings are net values reflecting the effects of circulating fan motor heat. Supplemental electric heat is not included.
 2. Tested outdoor/indoor combinations have been tested in accordance with DOE test procedures for central air conditioners. Ratings for other combinations are determined under DOE computer simulation procedures.
 3. Determine actual cfm values obtainable for your system by referring to fan performance data in fan coil or furnace coil literature.

Detailed cooling capacities*

EVAPORATOR		CONDENSER ENTERING AIR TEMPERATURES F														
AIR		85			95			105			115			125		
CFM	E W B	Capacity MBtuh†		Total System	Capacity MBtuh†		Total System	Capacity MBtuh†		Total System	Capacity MBtuh†		Total System	Capacity MBtuh†		Total System
		Total	Sens‡	Kw**	Total	Sens‡	Kw**	Total	Sens‡	Kw**	Total	Sens‡	Kw**	Total	Sens‡	Kw**
38HD018-30 Outdoor Section With 28RD019 Indoor Section																
525	72	20.9	10.2	1.95	20.0	9.89	2.06	19.0	9.55	2.18	17.9	9.15	2.29			
	67	19.3	13.0	1.90	18.2	12.6	2.00	17.1	12.1	2.10	16.0	11.7	2.20			
	62	17.3	15.5	1.84	16.4	15.0	1.93	15.3	14.5	2.02	14.3	13.9	2.12			
	57	16.5	16.5	1.81	15.7	15.7	1.90	14.9	14.9	2.00	14.0	14.0	2.11			
600	72	21.2	10.5	1.99	20.4	10.3	2.11	19.3	9.95	2.22	18.2	9.58	2.33			
	67	19.7	13.7	1.94	18.6	13.3	2.04	17.5	12.9	2.15	16.3	12.5	2.25			
	62	17.8	16.5	1.89	16.8	16.0	1.97	15.7	15.4	2.07	14.7	14.7	2.17			
	57	17.2	17.2	1.86	16.4	16.4	1.96	15.6	15.6	2.06	14.7	14.7	2.17			
675	72	21.3	10.8	2.02	20.6	10.7	2.14	19.4	10.3	2.25	18.3	9.94	2.37			
	67	19.9	14.4	1.98	18.9	14.1	2.08	17.7	13.7	2.19	16.5	13.2	2.29			
	62	18.2	17.5	1.93	17.1	16.8	2.02	16.1	16.1	2.12	15.2	15.2	2.22			
	57	17.8	17.8	1.92	16.9	16.9	2.01	16.1	16.1	2.11	15.2	15.2	2.22			

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
28RC/RU	018	0.98	0.97	28RDS/RNS/RH	024	1.00	1.00
	024	1.00	1.00		025	1.03	1.01
28RDS/RNS	018	0.97	0.98	28SL	024	1.00	0.98
	019	1.00	1.00		024	1.01	1.009

38HD024-30 Outdoor Section With 23RDRN030 Indoor Section

700	72	27.0	13.4	2.52	25.9	13.1	2.67	24.5	12.6	2.83	23.0	12.1	2.98			
	67	25.0	17.4	2.45	23.6	16.8	2.58	22.1	16.2	2.71	20.7	15.7	2.85			
	62	22.7	20.9	2.37	21.4	20.2	2.49	20.1	19.5	2.61	18.8	18.7	2.74			
	57	21.9	21.9	2.34	20.9	20.9	2.46	19.8	19.8	2.60	18.8	18.8	2.74			
800	72	27.3	13.9	2.56	26.2	13.7	2.73	24.9	13.3	2.88	23.4	12.8	3.03			
	67	25.4	18.4	2.50	24.0	17.9	2.64	22.5	17.4	2.78	21.0	16.8	2.91			
	62	23.2	22.3	2.43	21.9	21.5	2.55	20.6	20.6	2.68	19.5	19.5	2.82			
	57	22.8	22.8	2.41	21.7	21.7	2.54	20.6	20.6	2.68	19.5	19.5	2.82			
900	72	27.3	14.3	2.61	26.5	14.2	2.78	25.0	13.8	2.93	23.5	13.3	3.08			
	67	25.6	19.3	2.55	24.3	18.9	2.69	22.8	18.4	2.83	21.3	17.8	2.97			
	62	23.7	23.5	2.49	22.4	22.4	2.62	21.2	21.2	2.75	20.1	20.1	2.90			
	57	23.6	23.6	2.48	22.4	22.4	2.62	21.2	21.2	2.75	20.0	20.0	2.90			

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
28RC/RU	024	0.96	0.96	28RD/RN	025	0.98	0.97
28RC30, RC/RU	130	0.96	0.97	28RM	024	0.95	0.96
28RDS/RNS/RH	024	0.96	0.96	28SL	024	0.95	0.96
28RDS/RNS/ RH030, RDS/RNS	130	1.00	1.00				

See notes bottom pg. 11

Detailed cooling capacities* contd

EVAPORATOR		CONDENSER ENTERING AIR TEMPERATURES F														
AIR		85			95			105			115			125		
CFM	E W B	Capacity MBtuht		Total System Kw**	Capacity MBtuht		Total System Kw**	Capacity MBtuht		Total System Kw**	Capacity MBtuht		Total System Kw**	Capacity MBtuht		Total System Kw**
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†	
38HD030-30 Outdoor Section With 28RD043 Indoor Section																
875	72	34.0	16.8	3.04	32.7	16.4	3.24	31.0	15.8	3.44	29.1	15.2	3.64			
	67	31.6	21.7	2.96	29.9	21.1	3.14	28.0	20.4	3.31	26.3	19.7	3.47			
	62	28.5	26.1	2.85	26.9	25.3	3.00	25.3	24.4	3.16	23.7	23.4	3.32			
	57	27.3	27.3	2.80	26.0	26.0	2.96	24.8	24.8	3.13	23.5	23.5	3.30			
1000	72	34.8	17.6	3.12	33.1	17.1	3.32	31.4	16.6	3.52	29.6	16.0	3.71			
	67	32.1	22.9	3.02	30.4	22.4	3.20	28.5	21.7	3.38	26.7	21.0	3.55			
	62	29.2	27.9	2.92	27.5	26.9	3.08	25.9	25.8	3.24	24.4	24.4	3.41			
	57	28.4	28.4	2.90	27.1	27.1	3.06	25.8	25.8	3.24	24.4	24.4	3.41			
1125	72	35.0	18.1	3.18	33.4	17.7	3.38	31.8	17.3	3.58	29.9	16.8	3.78			
	67	32.5	24.0	3.08	30.7	23.5	3.26	28.9	23.1	3.45	27.0	22.3	3.62			
	62	29.7	29.2	2.98	28.0	28.0	3.16	26.6	26.6	3.33	25.1	25.1	3.51			
	57	29.4	29.4	2.98	28.0	28.0	3.16	26.6	26.6	3.33	25.2	25.2	3.51			

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
28RC30/ RC/RU	130	0.93	0.96	28RDS/RNS	142	0.97	0.98
28RC/RU036, RC	136	0.93	0.96		143	1.00	1.00
28RDS/RNS/ RH030, RDS/RNS	130	0.97	0.99		24201	0.99	0.99
28RDS/RNS/ RH036, RDS	136	0.96	0.98		04301	1.00	1.00
				28RM	036	0.92	0.95
				28SL	030	0.91	0.95
					036	0.94	0.96

38HD036-30 Outdoor Section With 28RD043 Indoor Section

1050	72	41.1	20.0	3.54	39.6	19.5	3.80	37.4	18.8	4.04	35.0	18.0	4.28			
	67	38.3	25.6	3.46	36.2	24.9	3.69	33.8	24.0	3.91	31.4	23.0	4.12			
	62	34.7	30.8	3.37	32.5	29.7	3.57	30.3	28.6	3.77	28.0	27.3	3.96			
	57	32.6	32.6	3.30	30.9	30.9	3.51	29.2	29.2	3.72	27.5	27.5	3.93			
1200	72	41.3	20.4	3.61	40.2	20.3	3.88	38.1	19.6	4.12	35.6	18.9	4.36			
	67	39.1	27.0	3.55	37.0	26.4	3.78	34.6	25.6	4.00	32.0	24.6	4.21			
	62	35.6	32.9	3.46	33.3	31.7	3.66	31.0	30.4	3.86	28.7	28.7	4.06			
	57	34.1	34.1	3.41	32.3	32.3	3.62	30.5	30.5	3.84	28.7	28.7	4.06			
1350	72	41.4	20.8	3.67	40.5	20.9	3.94	38.5	20.4	4.20	36.1	19.7	4.45			
	67	29.7	28.4	3.62	37.6	27.9	3.86	35.1	27.1	4.09	32.4	26.1	4.29			
	62	36.3	34.8	3.53	33.9	33.4	3.74	31.6	31.6	3.94	29.7	29.7	4.16			
	57	35.3	35.3	3.51	33.5	33.5	3.73	31.6	31.6	3.94	29.7	29.7	4.16			

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
28RC/RU03601, RC13601		0.96	0.95	28RDS/RNS	142	0.95	0.96
28RC/RU142, RH	042	0.95	0.96		143	1.00	1.00
28RC/RU	24201	0.98	1.00		04301	1.00	1.00
28RDS/ RNS036, RDS	136	0.95	1.00		24201	0.99	1.00
				28SL	036	1.01	1.00
					042	1.01	1.00

See notes bottom pg. 11

Detailed cooling capacities* contd

EVAPORATOR		CONDENSER ENTERING AIR TEMPERATURES F														
AIR		85			95			105			115			125		
CFM	E W B	Capacity MBtuh†		Total System Kw**	Capacity MBtuh†		Total System Kw**	Capacity MBtuh†		Total System Kw**	Capacity MBtuh†		Total System Kw**	Capacity MBtuh†		Total System Kw**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
38HD048-31 Outdoor Section With 28RD049 Indoor Section																
1400	72	51.4	25.1	4.75	49.3	24.5	5.05	46.8	23.6	5.34	43.9	22.6	5.60			
	67	47.6	32.1	4.62	45.1	31.2	4.88	42.4	30.2	5.14	39.4	29.0	5.35			
	62	43.4	38.8	4.48	40.7	37.5	4.71	38.0	36.1	4.92	35.3	34.5	5.12			
	57	40.9	40.9	4.38	38.9	38.9	4.62	36.8	36.8	4.86	34.7	34.7	5.08			
1600	72	52.0	26.0	4.85	50.0	25.5	5.16	47.5	24.7	5.45	44.6	23.8	5.72			
	67	48.5	33.9	4.73	46.0	33.1	5.00	43.2	32.2	5.26	40.1	31.0	5.48			
	62	44.3	41.4	4.60	41.6	39.9	4.83	38.8	38.2	5.04	36.1	36.1	5.25			
	57	42.6	42.6	4.53	40.5	40.5	4.78	38.3	38.3	5.02	36.1	36.1	5.25			
1800	72	52.1	26.6	4.93	50.6	26.4	5.26	48.1	25.7	5.55	45.1	24.8	5.83			
	67	49.2	35.6	4.83	46.6	34.9	5.10	43.8	34.1	5.36	40.7	32.9	5.59			
	62	45.0	43.4	4.69	42.3	41.9	4.94	39.6	39.6	5.16	37.2	37.2	5.40			
	57	44.1	44.1	4.67	41.9	41.9	4.92	39.6	39.6	5.16	37.2	37.2	5.40			

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
28RC	248	0.99	0.97	28RDS/RNS	248	0.99	0.99
28RC/RU	148	0.97	0.96		057	1.00	1.00
	057	1.00	0.98		061	1.03	1.02
28RDS/RNS	148	0.97	0.97	28RM	048	0.97	0.96
28RDS	049	1.00	1.00	28SL	049	0.97	0.95
					061	1.00	0.97

38HD060-30 Outdoor Section With 28RDRN061 Indoor Section

1750	72	64.4	31.8	5.94	62.0	31.1	6.36	59.1	30.1	6.77	55.7	29.0	7.15							
	67	60.1	41.2	5.80	57.0	40.1	6.18	53.6	38.7	6.52	50.3	37.4	6.83							
	62	54.5	49.6	5.61	51.4	48.0	5.93	48.5	46.4	6.23	45.3	44.6	6.52							
	57	51.9	51.9	5.50	49.6	49.6	5.84	47.2	47.2	6.17	44.8	44.8	6.49							
2000	72	65.1	32.8	6.06	62.8	32.3	6.49	59.9	31.5	6.91	56.4	30.3	7.28							
	67	61.0	43.5	5.93	58.0	42.5	6.30	54.6	41.3	6.67	51.1	40.0	6.98							
	62	55.7	52.9	5.75	52.5	51.1	6.08	49.4	49.1	6.39	46.4	46.4	6.70							
	57	54.0	54.0	5.69	51.6	51.6	6.03	49.1	49.1	6.37	46.5	46.5	6.70							
2250	72	66.3	34.3	6.21	63.4	33.5	6.61	60.5	32.8	7.04	56.8	31.5	7.39							
	67	61.5	45.5	6.03	58.6	44.7	6.42	55.3	43.8	6.81	51.7	42.4	7.12							
	62	56.6	55.6	5.89	53.5	53.3	6.22	50.6	50.6	6.56	47.8	47.8	6.89							
	57	55.8	55.8	5.86	53.2	53.2	6.21	50.6	50.6	6.56	47.9	47.9	6.89							

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
28RC/RU	057	0.97	0.94	28SL	061	0.97	0.98
28RDS/RNS	061	1.00	1.00				
	057	0.96	0.98				

*Detailed cooling capacities are based on indoor and outdoor unit at the same elevation and connected by 25 ft (7.62m) of tubing. If other than 25 ft (7.62m) of tubing is used and/or indoor unit is located above outdoor unit, a slight variation in capacity may occur.

†Total and sensible capacities are net capacities. Blower motor heat has been subtracted.

‡Sensible capacities shown are based on 80 F (27 C) entering air at the indoor coil. For sensible capacities at other than 80 F (27 C), deduct 835 Btuh (245 kw) per 1000 cfm (480 L/S) of indoor coil air for each degree below 80 F (27 C), or add 835 Btuh (235 Kw) per 1000 cfm (480 L/S) of indoor coil air per degree above 80 F (27 C). When the required data falls between the published data, interpolation may be performed.

**System kw is total of indoor and outdoor unit Kilowatts.

Condenser only ratings

SST (F)		AIR TEMPERATURE ENTERING CONDENSER (F)							
		55	65	75	85	95	105	115	125
38HD018-30									
30	TCG	18.9	17.5	16.0	14.6	13.2	11.9	10.6	9.57
	SDT	79.8	88.2	97.0	106.	116.	125.	135.	145.
	KW	1.34	1.40	1.46	1.52	1.58	1.63	1.68	1.74
35	TCG	21.0	19.6	18.1	16.6	15.2	13.8	12.5	11.2
	SDT	82.3	90.4	98.9	108.	117.	126.	136.	145.
	KW	1.40	1.46	1.53	1.59	1.66	1.72	1.78	1.85
40	TCG	23.2	21.8	20.3	18.7	17.2	15.7	14.3	13.0
	SDT	85.0	92.9	101.	110.	119.	128.	137.	146.
	KW	1.45	1.52	1.60	1.67	1.74	1.81	1.88	1.96
45	TCG	25.6	24.1	22.5	20.9	19.3	17.8	16.3	14.9
	SDT	88.0	95.6	104.	112.	121.	129.	139.	148.
	KW	1.51	1.59	1.67	1.75	1.82	1.90	1.98	2.07
50	TCG	28.0	26.5	24.8	23.2	21.6	19.9	18.4	16.8
	SDT	91.1	98.6	106.	115.	123.	132.	140.	149.
	KW	1.57	1.65	1.74	1.82	1.91	2.00	2.09	2.18
55	TCG	30.5	29.0	27.3	25.6	23.9	22.2	20.5	18.9
	SDT	94.4	102.	109.	117.	126.	134.	143.	152.
	KW	1.63	1.72	1.81	1.90	2.00	2.10	2.19	2.30
38HD024-30									
30	TCG	24.8	22.9	21.0	19.1	17.4	15.7	14.1	12.6
	SDT	79.9	89.0	98.2	107.	117.	126.	136.	146.
	KW	1.69	1.77	1.86	1.93	2.01	2.08	2.14	2.21
35	TCG	27.6	25.6	23.6	21.7	19.8	18.0	16.3	14.6
	SDT	82.0	91.0	100.	109.	118.	128.	137.	147.
	KW	1.76	1.85	1.95	2.03	2.12	2.20	2.27	2.35
40	TCG	30.5	28.4	26.4	24.3	22.3	20.4	18.6	16.8
	SDT	84.4	93.3	102.	111.	120.	129.	139.	148.
	KW	1.83	1.93	2.04	2.14	2.23	2.32	2.41	2.50
45	TCG	33.6	31.3	29.3	27.1	25.0	22.9	21.0	19.1
	SDT	86.8	96.3	104.	113.	122.	131.	140.	150.
	KW	1.90	2.02	2.13	2.24	2.34	2.45	2.55	2.65
50	TCG	36.9	34.6	32.3	30.0	27.8	25.6	23.5	21.5
	SDT	89.5	98.2	107.	116.	125.	134.	143.	152.
	KW	1.98	2.10	2.23	2.35	2.46	2.58	2.69	2.80
55	TCG	40.3	37.9	35.5	33.1	30.7	28.4	26.2	24.0
	SDT	92.3	101.	110.	118.	127.	136.	145.	154.
	KW	2.06	2.19	2.33	2.46	2.58	2.71	2.83	2.96
38HD030-30									
30	TCG	31.1	29.0	26.9	24.8	22.8	20.8	18.9	17.1
	SDT	84.1	93.0	102.	111.	120.	129.	139.	148.
	KW	1.98	2.10	2.22	2.33	2.42	2.51	2.59	2.67
35	TCG	34.4	32.2	29.9	27.7	25.6	23.5	21.4	19.5
	SDT	86.5	95.4	104.	113.	122.	131.	140.	150.
	KW	2.06	2.20	2.32	2.45	2.56	2.66	2.76	2.85
40	TCG	37.9	35.5	33.1	30.8	28.5	26.3	24.1	22.0
	SDT	89.3	98.0	107.	116.	125.	134.	143.	152.
	KW	2.15	2.29	2.43	2.57	2.70	2.81	2.93	3.03
45	TCG	41.6	39.0	36.5	34.0	31.6	29.3	26.9	24.7
	SDT	92.1	101.	110.	118.	127.	136.	145.	154.
	KW	2.24	2.39	2.55	2.69	2.83	2.97	3.10	3.22
50	TCG	45.4	42.7	40.1	37.5	34.9	32.3	29.8	27.4
	SDT	95.1	104.	112.	121.	130.	139.	147.	156.
	KW	2.33	2.50	2.66	2.82	2.98	3.12	3.27	3.41
55	TCG	49.4	46.6	43.8	41.0	38.3	35.6	32.9	30.3
	SDT	98.3	107.	115.	124.	133.	141.	150.	159.
	KW	2.43	2.61	2.79	2.96	3.13	3.29	3.45	3.60
38HD036-30									
30	TCG	38.9	35.6	32.3	29.0	25.8	22.7	19.7	16.9
	SDT	75.9	85.4	95.2	105.	115.	125.	135.	145.
	KW	2.32	2.49	2.66	2.82	2.95	3.07	3.15	3.19
35	TCG	43.6	40.2	36.7	33.2	29.8	26.5	23.2	20.1
	SDT	77.3	86.4	95.8	105.	115.	125.	135.	145.
	KW	2.39	2.57	2.75	2.92	3.08	3.22	3.34	3.41
40	TCG	48.4	44.9	41.3	37.7	34.1	30.5	27.0	23.6
	SDT	79.1	88.0	96.9	106.	116.	125.	135.	145.
	KW	2.47	2.66	2.85	3.03	3.21	3.37	3.51	3.62
45	TCG	53.5	49.8	46.0	42.2	38.5	34.8	31.1	27.5
	SDT	81.3	89.8	98.6	108.	117.	126.	136.	145.
	KW	2.56	2.76	2.95	3.15	3.34	3.52	3.68	3.83
50	TCG	58.9	54.9	51.0	47.0	43.1	39.2	35.3	31.5
	SDT	83.6	92.0	101.	109.	118.	127.	137.	146.
	KW	2.66	2.86	3.07	3.27	3.47	3.67	3.85	4.01
55	TCG	64.5	60.4	56.2	52.0	47.9	43.8	39.7	35.7
	SDT	86.1	94.3	103.	111.	120.	129.	138.	147.
	KW	2.76	2.97	3.18	3.40	3.62	3.82	4.02	4.20

Condenser only ratings contd

SST (F)		AIR TEMPERATURE ENTERING CONDENSER (F)							
		55	65	75	85	95	105	115	125
38HD048-31									
30	TCG	47.9	44.5	41.1	37.5	33.8	30.0	26.1	22.1
	SDT	80.1	89.0	98.1	107.	116.	126.	135.	145.
	KW	3.13	3.32	3.50	3.66	3.78	3.87	3.89	3.84
35	TCG	53.0	49.5	45.9	42.2	38.4	34.5	30.5	26.4
	SDT	82.3	91.1	99.9	109.	118.	127.	136.	146.
	KW	3.25	3.46	3.66	3.84	3.99	4.11	4.17	4.18
40	TCG	58.4	54.7	50.9	47.0	43.1	39.1	35.0	30.8
	SDT	84.7	93.3	102.	111.	120.	129.	138.	147.
	KW	3.38	3.61	3.83	4.03	4.20	4.35	4.45	4.50
45	TCG	64.0	60.2	56.2	52.1	48.0	43.8	39.6	35.3
	SDT	87.2	95.8	104.	113.	122.	131.	139.	148.
	KW	3.52	3.76	4.00	4.22	4.42	4.59	4.72	4.81
50	TCG	69.9	65.9	61.7	57.5	53.2	48.8	44.3	39.9
	SDT	89.9	98.4	107.	116.	124.	133.	141.	150.
	KW	3.67	3.92	4.17	4.41	4.64	4.83	4.99	5.12
55	TCG	76.2	71.9	67.5	63.0	58.5	53.9	49.3	44.6
	SDT	92.9	101.	110.	118.	127.	135.	144.	152.
	KW	3.82	4.09	4.36	4.62	4.86	5.08	5.27	5.42
38HD060-30									
30	TCG	59.1	55.3	51.6	47.9	44.2	40.3	36.4	32.3
	SDT	82.6	91.4	100.	109.	119.	128.	137.	146.
	KW	3.80	4.09	4.36	4.61	4.81	4.97	5.07	5.09
35	TCG	65.2	61.2	57.2	53.3	49.3	45.4	41.3	37.1
	SDT	85.0	93.7	103.	112.	121.	130.	139.	148.
	KW	3.93	4.25	4.55	4.82	5.07	5.27	5.41	5.49
40	TCG	71.7	67.4	63.1	58.9	54.8	50.6	46.4	42.1
	SDT	87.7	96.2	105.	114.	123.	132.	141.	150.
	KW	4.06	4.41	4.74	5.04	5.32	5.56	5.75	5.88
45	TCG	78.5	73.9	69.4	64.9	60.5	56.1	51.7	47.2
	SDT	90.5	98.9	107.	116.	125.	134.	143.	152.
	KW	4.20	4.57	4.93	5.26	5.57	5.85	6.08	6.26
50	TCG	85.7	80.8	76.0	71.2	66.5	61.8	57.1	52.4
	SDT	93.5	102.	110.	119.	128.	136.	145.	154.
	KW	4.34	4.74	5.12	5.49	5.83	6.14	6.42	6.64
55	TCG	93.3	88.0	82.9	77.8	72.8	67.8	62.8	57.9
	SDT	96.7	105.	113.	122.	130.	139.	147.	156.
	KW	4.48	4.91	5.32	5.72	6.09	6.44	6.75	7.02

LEGEND

TCG—Gross Cooling Capacity

SDT—Saturated Temperature Leaving Compressor

KW —Total Power

SST—Saturated Temperature Entering Compressor

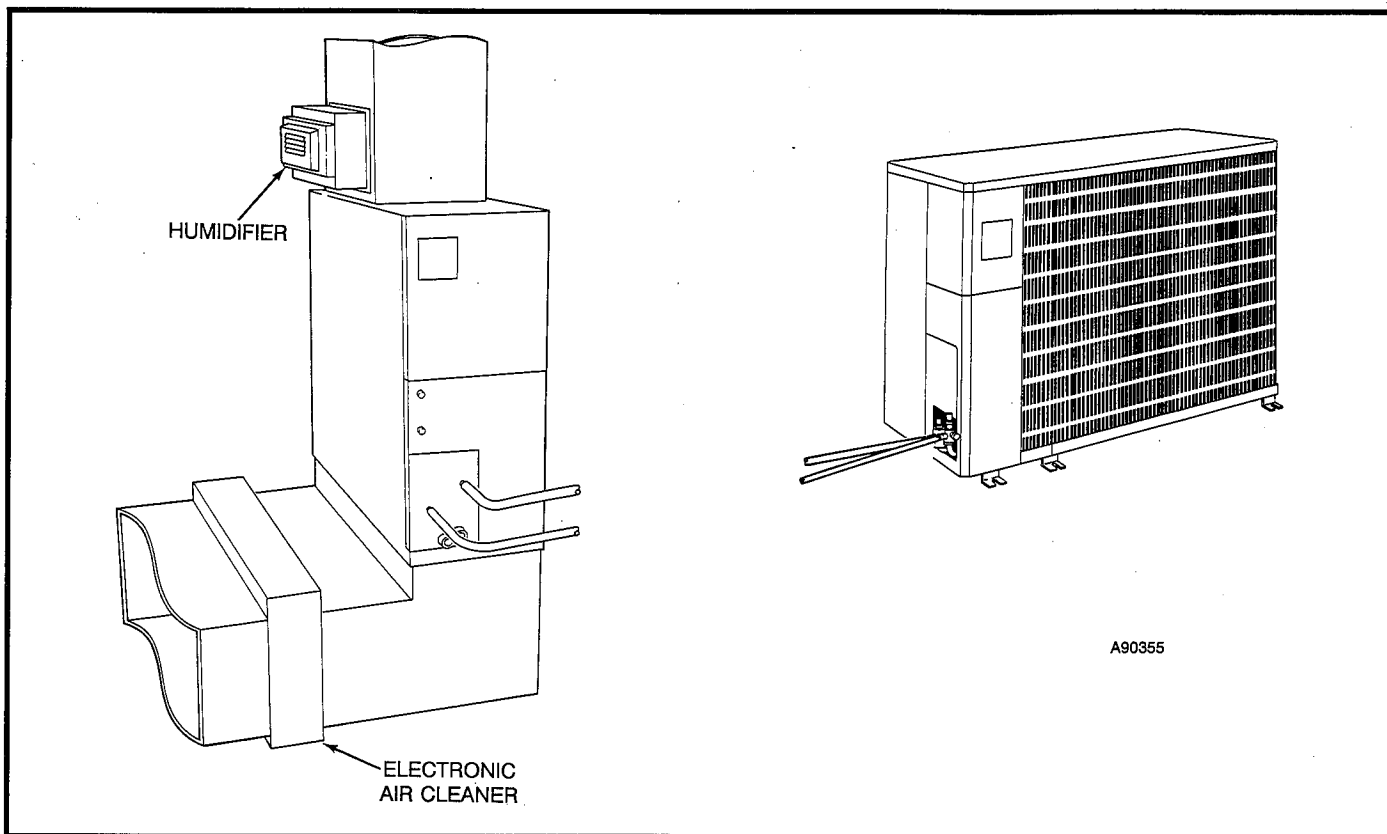
1000 BTU/HR

F

KW

F

Matched system



System Design

1. Intended for outdoor installation with free air inlet and outlet. See certified drawing for clearances.
2. Minimum outdoor operating air temperature without low ambient operation accessory is 55 F (12.8 C).
3. Maximum outdoor operating air temperature is 125 F (51.7 C).
4. For reliable operation, unit should be level in all horizontal planes.
5. Maximum elevation of indoor coil above or below base of outdoor unit is: indoor coil above = 50 ft. Indoor coil below = 150 ft. (See items 6 and 7 following.)
6. For interconnecting refrigerant tube lengths greater than 50 ft, consult Long-Line Application Guideline available from equipment distributor.
7. Not more than 36 in. of refrigerant tube should be buried in the ground. If necessary to bury tubes under a sidewalk, provide a minimum 6-in. vertical rise to the valve connections at the unit.
8. Use only copper wire for electric connection at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
9. Mixmatches of indoor coil capacity more than one size larger than outdoor unit capacity may result in inadequate indoor comfort.