

OBSOLETE & DISCARD 6/4/74
SUPERSEDED BY 38GR-2P 5-74

38GR

Air-Cooled — Hermetic
Cooling 24,000 to 60,000 Btuh
Includes Combination Ratings with
28 Series Coils; 40 Series Fan Coils

Carrier

Continental Condensing Units . . .

The attractive • quiet • economical • reliable way to air condition your home . . .



Carrier Continental's Round Shape and handsome metallic green color fit pleasantly into your landscape — blend easily with shrubs and flowers. Coils and fans are painted black to disappear behind the light tracery of the protective grilles. Warm discharge air won't shrivel shrubs or annoy neighbors — it's tossed harmlessly skyward.

Uses Less Power — At low fan speed the fan motor uses less electricity for extra economy. Also the round Continental exposes more of its extra large capacity coil to the outside air. This means your unit doesn't have to work as hard . . . runs cooler, quieter and uses the least electricity.

Keeps Sound Level Low — Round also means the compressor is surrounded by coils and control box to hold in operating sounds. The compressor is further enclosed by a special sound-deadening shield for still quieter operation. Add an automatic two-speed plastic fan that runs on low speed most of the time . . . and the total sound level is so low you'll have to stand close to hear your Continental at all.

Continental's Advanced Solid-State Control System provides ultra-sensitive current and temperature protection and watches over all other critical safety controls. Ensures the ultimate in reliability. You can depend on a Carrier Continental for lasting indoor comfort.

Features that make Continental the best money can buy . . .

1 Ultra-Quiet Operation means more flexibility of unit location. A large sound-deadening plastic fan blows heat upward, away from shrubs and neighbors. The compressor is enclosed by an acoustical shield that muffles operating sound. Place the unit anywhere.

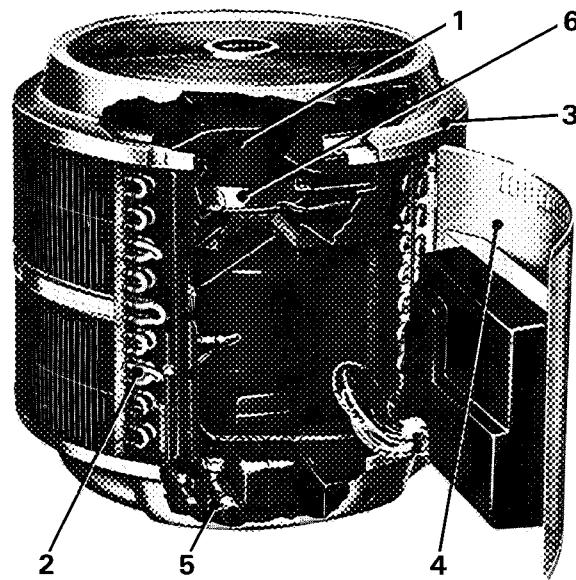
2 More Cooling Capacity for every watt of power provided by a large surface condenser coil. More coil surface also lowers unit operating temperatures for increased reliability.

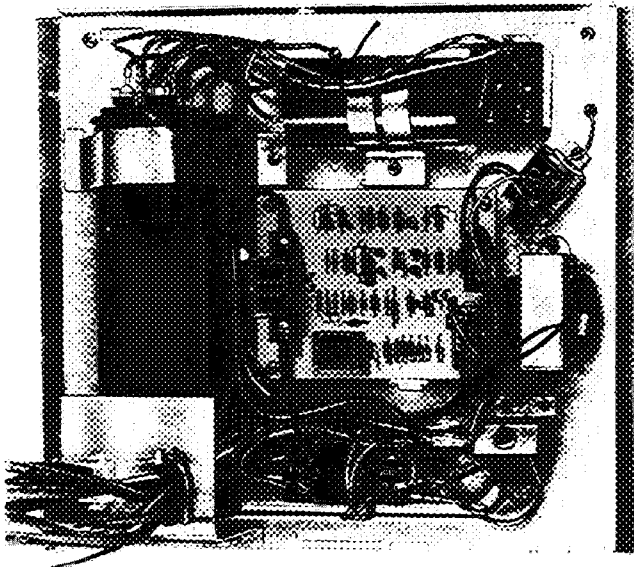
3 Weather Armor Cabinet and stainless steel hardware stand off the rigors of weather. Units keep their attractive appearance for years.

4 Large Swing-Open Service Door holds control box and can be easily opened or removed. Provides your serviceman with quick, complete access to piping and components . . . and he can completely check unit operation with door open.

5 Easy to Service — Infrequent service time is held to a minimum with plug-in wiring connections that speed up component removal and replacement . . . gets your unit cooling fast. Long-wearing *external* brass service valves prevent corrosion and permit easy checking of refrigerant pressures. *Self-locating* fan and motor position themselves in unit for top cooling performance.

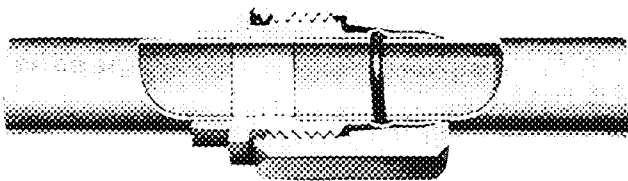
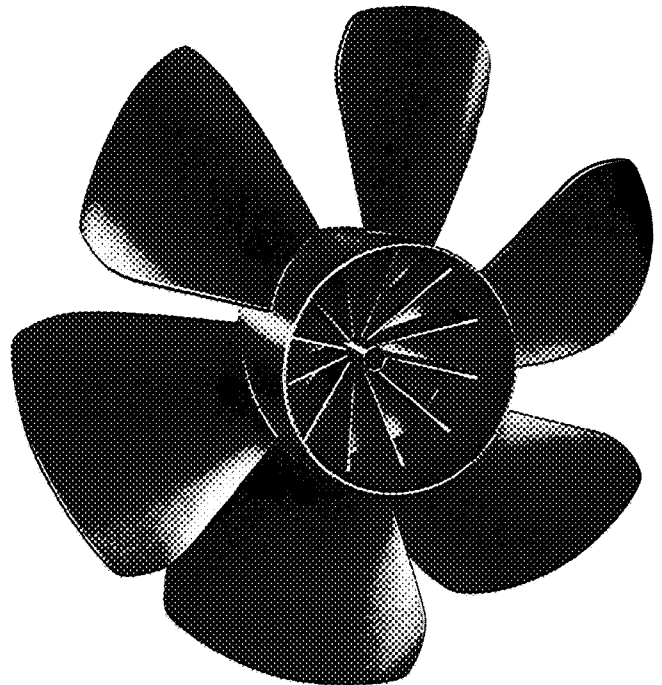
6 Automatic Two-Speed Fan Motor cruises at low speed most of the time for extra-quiet economy. *Shifts into high speed* at outdoor temperatures over 90 F for top unit cooling power even in desert heat.





Solid-State Control System — A current and temperature protective system that shuts down unit before compressor can be harmed — works like a computer to protect compressor from short, harmful ON-OFF cycles. Should something abnormal occur, the whole control system can be removed and replaced as a single component.

Large Fan Center Hub protects motor from the weather and internal hub vanes move air across motor for cool operation and longer life.



Leaktight Connections to indoor coil ensured with *Carrier Compatible Fittings*. They protect refrigerant charge and are located on the outside of unit for fast connections. Installer needs only a wrench to connect refrigerant piping. Saves time and money.

ACCESSORIES

→ **32 Series Motormaster® Head Pressure Control** (Solid State) modulates fan motor speed to maintain proper condensing temperature at low outdoor temperatures. Special field-installed fan motor is required for all but 460-volt units. Fan motor is Carrier no. HC38VE851 for all units except 005,006 which require motor HC40VL701.

Indoor Fan Relay (24 v) — Use if fan relay is not furnished in fan-coil unit or furnace. Single-pole, double-throw contacts operate two-speed furnace fan motor.

Thermostat with Subbase (24 v) — Continuous or automatic fan operation; two low-voltage, heating/cooling models.

Tubing Packages are available in 10-, 18-, 25-, 35-, and 50-ft lengths for 38GR002 thru 005 condensing units. Packages have 3/4-in. suction lines and 3/8-in. liquid lines. Suction lines are insulated with 3/8-in. foamed plastic closed-cell insulation. $K = .28 \text{ Btu/(hr) (sq ft) (F)/inch}$. Field-supplied tubing should be used with the 38GR006.

PHYSICAL DATA

CONDENSING UNIT		38GR					
		002	003	004	045	005	006
OPERATING WT (lb)		151	170	182	194	234	260
REFRIGERANT*		22					
CONDENSER FAN		Propeller-Type, Direct Drive					
Air Discharge		Vertical					
Air Qty (cfm)	High	2800	2800	3100	3100	3700	3700
	Low	2300	2300	2600	2600	3200	3200
Motor Rpm	High	1050	1050	1050	1050	1070	1070
(60-Hz)	Low	850	850	850	850	870	870
CONDENSER COIL		15 6 Fin/in.					
Face Area Outer Coil		8.76	8.76	8.76	8.76	10.5	10.5
(sq ft) Inner Coil		3.24	5.67	8.10	8.10	9.71	9.71
Rows		2					
DIMENSIONS (ft.-in.)							
Diameter	A	2-5 $\frac{1}{4}$					
Height	C	2-4	2-4	2-4	2-4	2-8	2-8
Mounting Slots†	D	1-10 $\frac{1}{2}$					
CONNECTIONS (in.)							
Suction (ODF)		$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{8}$
Liquid (ODF)		$\frac{3}{8}$					

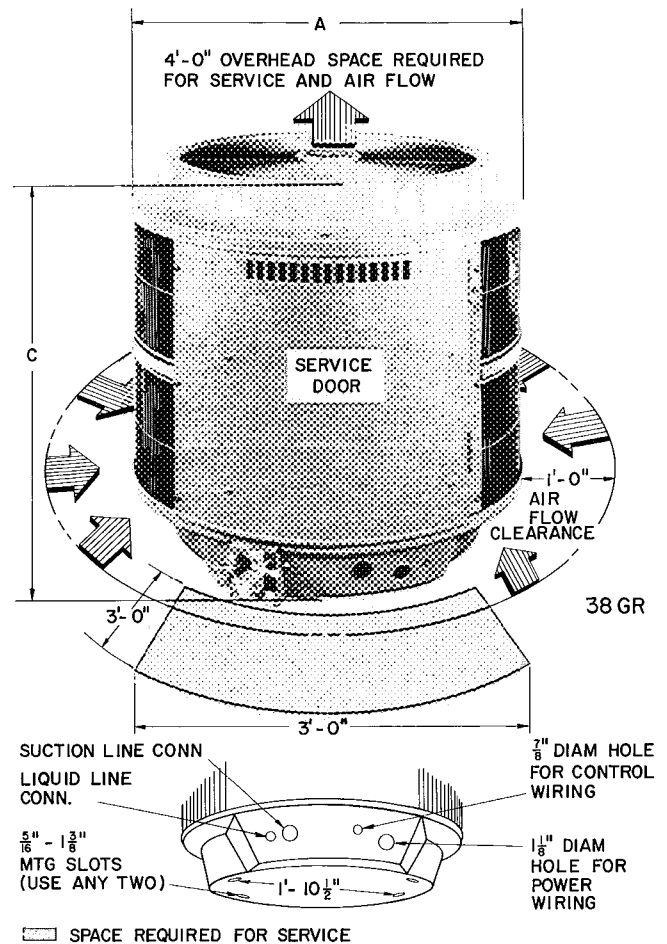
*38GR units contain correct operating charge for complete system when connected to Carrier approved evaporators that are the same size as (or one size larger than) condensing unit, with Carrier accessory tubing. Charge adjustment may be required on other systems. See Installation, Start-Up and Service Instructions for details.

†Use any two mounting slots to bolt unit down.

NOTE

For Physical Data and Dimensions of 28 Series Coils and 40 Series Fan Coils, see 28 or 40 Series Product Data Digest.

DIMENSIONS



SELECTION PROCEDURE (With Example)

System Selection

I Determine cooling load requirements.

Given	
Total Cooling Load	33,500 Btuh
Sensible Heat Load	22,000 Btuh
Indoor Air Quantity	1100 cfm
Evap Air Temp — Ent Wet-Bulb (ewb)	67 F
Evap Air Temp — Ent Dry-Bulb (edb)	77 F
Temp Air Ent Condenser	95 F

II Select a cooling system from Combination Ratings tables which will meet cooling requirements. (For complete indoor unit data see 28 or 40 Series Product Data Digests.)

Enter Cooling Capacities tables at 1125 cfm, 67 F wet-bulb temp air entering evaporator and 95 F dry-bulb temp air entering condenser. Select a 38GR003/28AE003 system which has a TC of 34,000 Btuh and SHC of 25,000 Btuh with 3.7 kw power input. Bypass factor for 28AE003 at 1,000 cfm is .23. Correct SHC for 77 F db temp air entering evaporator. Refer to Note 5 under Performance Data.

Bypass Factor		Correction Factor
.20	From Table	2.59
.30	From Table	2.27
.23	By Interpolation	2.49

Correction calculation: $2.49 \times 1,125 = 2,800$ Btuh
Correction SHC: $25,000 - 2,800 = 22,200$ Btuh

III Determine static pressure loss across selected cooling coil or static pressure available from selected fan coil.

From 28 Series Product Data Digest find static pressure loss for 28AE003 at 1,000 cfm wet-coil pressure loss is .25 in wg; dry-coil loss is .18 in wg.

Condensing Unit Selection

I Determine cooling load requirements.

Given	
Cooling Load	31,000 Btuh
Saturated Suction Temperature	40 F
Temp Air Entering Condenser	95 F

II Select a condensing unit from Condensing Unit table which will meet cooling requirements.

Enter Condensing Unit Capacities table at 40 F saturated suction temp and 95 F temp air entering condenser. Select a 38GR003 which has a cooling capacity of 31,400 Btuh with 122 F saturated condensing temp and compressor motor power input of 3.6 kw.

PERFORMANCE DATA

INDEX

CONDENSING UNIT	COIL	ARI	ARI	TABLE
FAN COIL	CFM	TC	NO.	
38GR002	28AF002	900	26	1
	28SE002	900	26	2
	40VU002	940	26	3
	40CLO02	860	24	4
	40HH002	900	24	5
	28GH002	900	26	6
	28AF003	1,012	27	7
	40VU003	975	26	8
	28AE003	1,012	27	9
	28SE003	1,012	27	10
	40HH003	975	26	11
	28GH003	1,012	27	12
	40CLO03	975	26	13
	28AE004	1,050	28	14
	40VU004	1,012	27	15
	40HH004	1,012	27	16
38GR003	28GH004	1,050	28	17
	28AF003	1,125	32	18
	40VU003	1,160	31	19
	28AE003	1,125	32	20
	28SE003	1,125	32	21
	40CLO03	1,060	31	22
	40HH003	1,160	31	23
	28GH003	1,125	32	24
	28AF004	1,235	33	25
	28AE004	1,235	33	26
	40VU004	1,200	32	27
	40CLO04	1,200	32	28
	40HH004	1,200	32	29
	28GH004	1,235	33	30
	28AF005	1,270	34	31
	40VU005	1,235	33	32
38GR004	40HH005	1,235	33	33
	28GH005	1,270	34	34
	28AF004	1,270	37	35
	28AE004	1,270	37	36
	40VU004	1,350	36	37
	40CLO04	1,240	36	38
	40HH004	1,350	36	39
	28GH004	1,270	37	40
	28AF005	1,465	39	41

CONDENSING UNIT	COIL	ARI	ARI	TABLE
FAN COIL	CFM	TC	NO.	
38GR004	28AE005	1,465	39	35
	40VU005	1,425	38	36
	40HH005	1,425	38	37
	28GH005	1,465	39	38
	28AE006	1,500	40	39
	40VU006	1,465	39	40
	40HH006	1,465	39	41
	28GH006	1,500	40	42
	28AF005	1,610	43	43
	28AE005	1,610	43	44
38GR045	40VU005	1,500	41	45
	40HH005	1,540	41	46
	28GH005	1,610	43	47
	28AE006	1,690	44	48
	40VU006	1,570	42	49
	40HH006	1,610	41	50
	28GH006	1,690	44	51
	28AF005	1,800	49	52
	28AE005	1,800	49	53
	40VU005	1,725	48	54
38GR005	40HH005	1,800	48	55
	28GH005	1,800	49	56
	28AE006	1,920	51	57
	40VU006	1,875	50	58
	40HH006	1,875	50	59
	28GH006	1,920	51	60
	28AE006	2,130	60	61
	40VU006	2,210	59	62
	40HH006	2,250	60	63
	28GH006	2,250	60	64
38GR006	40JAG06	2,250	60	65
	40BAC09	2,320	61	66
	28CB008	2,320	62	67
	40RR008	2,360	63	68

TC — Total Capacity

- 5 SHC is based on 80 F db temp of air entering evap coil
Below 80 F db subtract (corr factor x cfm) from SHC
Above 80 F db, add (corr factor x cfm) to SHC

NOTES

- Combination ratings are based on evaporators and condensing units at the same elevation and connected by 25 ft of tubing (Tubing diameter same as Carrier accessory 25-ft tubing package except 38GR006 which requires 1-1/8-in suction line and 3/8-in liquid line) If other than 25 ft of tubing is used and/or evaporator is installed above condensing unit, a slight capacity variation may occur For max allowable vertical separation of condensing unit and evaporator, see Application Data section for Refrigerant Line Data table
- Systems will operate at desert conditions (125 F air entering condenser, 80 F edb, 60 F ewb, 500 cfm/ton).
- Gross capacities shown do not include a deduction for evaporator fan motor heat
- Direct interpolation is permissible Do not extrapolate

BYPASS FACTOR	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
	Correction Factor					
.10	97	1 95	2 92	3 89	4 86	Use formula shown below.
.20	86	1 73	2 59	3 46	4 32	
.30	76	1 51	2 27	3 03	3 78	

Interpolation is permissible

$$\text{Correction Factor} = 1.08 \times (1 - \text{BF}) \times (\text{db} - 80)$$

- 6 Formulas

$$t_{\text{ldb}} = t_{\text{edb}} - \frac{\text{sensible heat capacity (Btuh)}}{1.08 \times \text{cfm}}$$

$$t_{\text{lwb}} = \text{wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{\text{lwb}})$$

$$h_{\text{lwb}} = h_{\text{ewb}} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

$$\text{where } h_{\text{ewb}} = \text{enthalpy of air entering evaporator coil}$$

PERFORMANCE DATA (cont)

COMBINATION RATINGS

LEGEND

- BF — Bypass Factor
- Ewb — Entering Wet-Bulb
- KW — Compr Motor Power Input
- SHC — Sensible Heat Capacity (1000 Btuh)
- TC — Total Capacity (1000 Btuh)

38GR002/28AF002										
Temp (F)	Air Ent Cond	Evap Air — Cfm/BF								
		675/.19			900/.23			1125/.26		
		Evap Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	28	26	24	29	27	25	29	28	26
	SHC	14	17	21	15	20	24	16	21	26
	KW	2.6	2.5	2.4	2.6	2.6	2.5	2.6	2.6	2.5
95	TC	27	25	22	28	26	24	28	26	24
	SHC	13	17	20	15	19	23	16	21	24
	KW	2.8	2.7	2.6	2.8	2.8	2.7	2.9	2.8	2.7
100	TC	26	24	22	27	25	23	28	26	24
	SHC	13	17	20	15	19	23	16	21	24
	KW	2.9	2.8	2.7	2.9	2.9	2.8	3.0	2.9	2.8
105	TC	26	24	21	27	25	22	27	25	23
	SHC	13	16	19	15	19	22	16	21	23
	KW	3.0	2.9	2.8	3.0	3.0	2.8	3.1	3.0	2.9
115	TC	24	22	19	26	23	21	26	24	22
	SHC	13	16	20	14	19	21	16	21	22
	KW	3.2	3.0	2.9	3.2	3.1	3.0	3.3	3.1	3.1

2 38GR002/28SE002 or 40VU002											
Temp (F) Air Ent Cond			Evap Air — Cfm/BF								
			675/.19			900/.23			1125/.26		
			Evap Air — Ewb (F)								
			72	67	62	72	67	62	72	67	62
80	TC	SHC	28	26	24	28	27	25	28	28	26
	SHC	KW	14	17	21	15	19	24	16	21	25
	KW		2.6	2.5	2.4	2.6	2.6	2.5	2.6	2.6	2.5
95	TC	SHC	27	25	23	28	26	24	28	27	24
	SHC	KW	13	17	20	15	19	23	16	21	24
	KW		2.8	2.7	2.6	2.8	2.8	2.7	2.9	2.8	2.7
100	TC	SHC	26	24	22	27	25	23	28	26	24
	SHC	KW	13	17	20	15	19	23	16	22	24
	KW		2.9	2.8	2.7	2.9	2.9	2.8	3.0	2.9	2.8
105	TC	SHC	26	24	21	27	25	22	27	25	23
	SHC	KW	13	17	19	15	19	22	16	22	23
	KW		3.0	2.9	2.8	3.0	2.9	2.8	3.1	3.0	2.9
115	TC	SHC	25	22	19	26	23	21	26	24	22
	SHC	KW	13	16	19	14	19	21	16	21	22
	KW		3.2	3.0	2.9	3.2	3.1	3.0	3.3	3.1	3.1

38GR002/40CL002											
Temp (F) Air Ent Cond			Evap Air — Cfm/BF								
			675/.16			900/.20			1125/.23		
			Evap Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62	
80	TC	28	26	24	29	27	25	29	28	26	
	SHC	14	17	21	15	20	24	16	22	25	
	KW	2.6	2.5	2.4	2.6	2.6	2.5	2.6	2.6	2.5	
95	TC	27	25	23	28	26	24	28	27	24	
	SHC	13	17	20	15	19	23	16	22	24	
	KW	2.8	2.7	2.6	2.9	2.8	2.7	2.9	2.8	2.7	
100	TC	26	24	22	27	25	23	28	26	24	
	SHC	13	17	20	15	19	23	16	22	24	
	KW	2.9	2.8	2.7	3.0	2.9	2.8	3.0	2.9	2.8	
105	TC	26	24	21	27	25	22	27	25	23	
	SHC	13	17	20	15	19	22	16	22	23	
	KW	3.0	2.9	2.8	3.1	2.9	2.8	3.1	3.0	2.9	
115	TC	25	22	19	26	23	21	26	24	22	
	SHC	13	16	19	14	19	21	16	21	22	
	KW	3.2	3.0	2.9	3.2	3.1	3.0	3.3	3.1	3.1	

38GR002/40HH002											
Temp (F)	Air Ent	Cond	Evap Air – Cfm/BF								
			675/.15			900/.19			1125/.22		
			Evap Air – Ewb (F)								
			72	67	62	72	67	62	72	67	62
80	TC		28	27	25	29	28	26	29	28	27
	SHC		14	18	21	15	20	25	17	22	26
	KW		2.6	2.6	2.5	2.7	2.6	2.5	2.7	2.6	2.6
95	TC		27	25	23	28	27	24	29	27	25
	SHC		14	17	21	15	20	24	17	22	25
	KW		2.8	2.8	2.7	2.9	2.8	2.7	2.9	2.8	2.8
100	TC		27	25	22	28	26	24	28	27	25
	SHC		14	17	20	15	20	23	17	22	25
	KW		2.9	2.8	2.7	3.0	2.9	2.8	3.0	2.9	2.8
105	TC		26	24	22	27	25	23	28	26	24
	SHC		13	17	20	15	20	23	17	22	24
	KW		3.0	2.9	2.8	3.1	3.0	2.9	3.1	3.0	2.9
115	TC		25	22	20	26	24	21	27	24	23
	SHC		13	16	19	15	19	21	16	22	23
	KW		3.2	3.1	2.9	3.3	3.1	3.0	3.3	3.2	3.1

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38GR002/28GH002

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		675/.16			900/.20			1125/.23		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	30	27	24	31	29	26	33	30	27
	SHC	15	18	21	16	21	24	18	23	27
	KW	2.7	2.6	2.4	2.7	2.6	2.5	2.8	2.7	2.6
95	TC	28	25	23	29	26	24	30	28	25
	SHC	14	17	20	16	20	23	17	23	25
	KW	2.9	2.7	2.6	2.9	2.8	2.7	3.0	2.9	2.7
100	TC	27	24	22	28	26	23	29	27	24
	SHC	14	17	20	15	20	23	17	22	24
	KW	2.9	2.8	2.7	3.0	2.9	2.7	3.1	2.9	2.8
105	TC	26	24	21	28	25	23	28	26	23
	SHC	13	16	19	15	19	22	17	22	23
	KW	3.0	2.9	2.7	3.1	2.9	2.8	3.1	3.0	2.9
115	TC	25	22	20	26	23	21	27	24	22
	SHC	13	16	19	14	19	21	16	21	22
	KW	3.2	3.0	2.9	3.2	3.1	2.9	3.3	3.1	3.0

38GR002/28AF003 or 40VU003											
Temp (F)	Air Ent	Cond	Evap Air — Cfm/BF								
			850/.19			1125/.23			1400/.26		
			Evap Air — Ewb (F)								
			72	67	62	72	67	62	72	67	62
80	TC	30	28	26	31	29	27	31	29	28	
	SHC	15	20	24	17	22	27	18	24	28	
	KW	2.6	2.6	2.5	2.7	2.6	2.5	2.7	2.6	2.6	
95	TC	28	26	24	29	27	25	30	28	26	
	SHC	15	19	23	17	22	25	18	24	26	
	KW	2.9	2.8	2.7	2.9	2.8	2.7	2.9	2.9	2.8	
100	TC	28	25	23	29	26	24	29	27	26	
	SHC	15	19	22	16	22	24	18	24	26	
	KW	3.0	2.9	2.8	3.0	2.9	2.8	3.0	2.9	2.9	
105	TC	27	25	22	28	26	24	29	26	25	
	SHC	14	19	22	16	22	24	18	24	25	
	KW	3.1	3.0	2.8	3.1	3.0	2.9	3.1	3.0	3.0	
115	TC	25	23	20	26	24	22	27	24	23	
	SHC	14	18	20	16	21	22	18	23	23	
	KW	3.3	3.1	3.0	3.3	3.2	3.1	3.3	3.2	3.2	

38GR002/28AE003											
Temp (F)	Air Ent	Cond	Evap Air — Cfm/BF								
			850/.19			1125/.23			1400/.26		
			Evap Air — Ewb (F)								
			72	67	62	72	67	62	72	67	62
80	TC	32	30	27	34	31	28	35	32	29	
	SHC	16	21	24	19	24	28	21	27	29	
	KW	2.8	2.7	2.6	2.9	2.7	2.6	2.9	2.8	2.7	
95	TC	30	28	25	32	29	26	33	30	28	
	SHC	16	20	23	18	23	26	20	26	28	
	KW	3.0	2.9	2.7	3.1	2.9	2.8	3.1	3.0	2.9	
100	TC	29	27	24	31	28	26	32	29	27	
	SHC	15	19	23	17	23	26	19	25	27	
	KW	3.1	2.9	2.8	3.1	3.0	2.9	3.2	3.0	2.9	
105	TC	29	26	24	30	27	25	31	28	26	
	SHC	15	19	22	17	22	25	19	25	26	
	KW	3.1	3.0	2.9	3.2	3.1	2.9	3.3	3.1	3.0	
115	TC	27	24	22	28	25	23	28	26	25	
	SHC	14	18	22	16	21	23	18	24	25	
	KW	3.3	3.1	3.0	3.4	3.2	3.1	3.4	3.3	3.2	

COMBINATION RATINGS

PERFORMANCE DATA (cont)

8 38GR002/28SE003										
Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		850/.19			1125/.23			1400/.26		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	30	28	26	31	29	27	31	29	28
	SHC	15	20	24	17	22	27	18	24	28
	KW	2.6	2.6	2.5	2.7	2.6	2.5	2.7	2.6	2.6
95	TC	28	26	24	29	27	25	30	28	26
	SHC	15	19	23	17	22	25	18	24	26
	KW	2.9	2.8	2.7	2.9	2.8	2.7	2.9	2.9	2.8
100	TC	28	25	23	29	26	24	29	27	26
	SHC	15	19	22	16	22	24	18	24	26
	KW	3.0	2.9	2.8	3.0	2.9	2.8	3.0	2.9	2.9
105	TC	27	25	22	28	26	24	29	26	25
	SHC	14	19	22	16	22	24	18	24	25
	KW	3.1	3.0	2.8	3.1	3.0	2.9	3.1	3.0	3.0
115	TC	25	23	20	26	24	22	27	24	23
	SHC	14	18	20	16	21	22	18	23	23
	KW	3.3	3.1	3.0	3.3	3.2	3.1	3.3	3.2	3.2

9 38GR002/40HH003										
Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		850/.15			1125/.19			1400/.22		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	31	29	26	32	30	28	32	30	29
	SHC	16	20	25	17	23	27	19	25	29
	KW	2.7	2.6	2.5	2.7	2.7	2.6	2.7	2.7	2.6
95	TC	29	27	24	30	28	26	31	29	27
	SHC	16	20	24	17	23	26	19	25	26
	KW	2.9	2.8	2.7	3.0	2.9	2.8	3.0	2.9	2.8
100	TC	28	26	24	30	27	25	30	28	27
	SHC	15	20	23	17	23	25	19	25	27
	KW	3.0	2.9	2.8	3.1	3.0	2.9	3.1	3.0	2.9
105	TC	28	25	23	29	26	25	29	27	26
	SHC	15	19	23	17	22	25	19	25	26
	KW	3.1	3.0	2.9	3.2	3.1	3.0	3.2	3.1	3.0
115	TC	26	23	21	27	24	23	27	25	24
	SHC	15	19	21	16	22	23	18	24	24
	KW	3.3	3.2	3.1	3.4	3.2	3.2	3.4	3.3	3.2

10 38GR002/28GH003											
Temp (F) Air Ent Cond			Evap Air - Cfm/BF								
			850/.16			1125/.20			1400/.23		
			Evap Air - Ewb (F)								
			72	67	62	72	67	62	72	67	62
80	TC		32	29	26	33	30	28	34	31	29
	SHC		16	20	24	18	24	28	20	27	29
	KW		2.8	2.6	2.5	2.8	2.7	2.6	2.9	2.7	2.6
95	TC		30	27	25	31	28	26	32	29	27
	SHC		15	20	23	18	23	26	20	26	27
	KW		3.0	2.8	2.7	3.0	2.9	2.8	3.1	2.9	2.8
100	TC		29	26	24	30	27	25	31	28	26
	SHC		15	19	23	17	22	25	19	25	26
	KW		3.0	2.9	2.8	3.1	3.0	2.8	3.1	3.0	2.9
105	TC		28	25	23	29	26	24	30	27	26
	SHC		15	19	22	17	22	24	19	25	26
	KW		3.1	3.0	2.8	3.2	3.0	2.9	3.2	3.1	3.0
115	TC		26	24	21	27	25	23	28	25	24
	SHC		14	18	21	16	21	23	18	24	24
	KW		3.3	3.1	3.0	3.4	3.2	3.1	3.4	3.2	3.2

38GR002/40CL003										
Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		850/.16			1125/.20			1400/.23		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	29	28	26	30	29	27	30	29	28
	SHC	15	19	24	17	22	26	18	25	28
	KW	2.6	2.6	2.5	2.7	2.6	2.5	2.7	2.6	2.6
95	TC	28	26	24	29	27	25	30	28	26
	SHC	15	19	23	17	22	25	18	25	26
	KW	2.9	2.8	2.7	2.9	2.8	2.7	3.0	2.9	2.8
100	TC	28	25	23	29	27	25	29	27	26
	SHC	15	19	22	16	22	25	18	25	26
	KW	3.0	2.9	2.8	3.0	2.9	2.8	3.0	3.0	2.9
105	TC	27	25	22	28	26	24	29	27	25
	SHC	15	19	22	16	22	24	18	24	25
	KW	3.1	3.0	2.8	3.1	3.0	2.9	3.1	3.0	3.0
115	TC	25	23	21	26	24	22	27	25	24
	SHC	14	18	21	16	21	22	18	24	24
	KW	3.3	3.1	3.0	3.3	3.2	3.1	3.3	3.2	3.2

12 38GR002/28AE004 or 40VU004										
Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1000/.19			1350/.23			1700/.26		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	34	31	28	35	32	30	36	33	31
	SHC	18	23	27	21	27	30	23	30	31
	KW	2.9	2.7	2.6	2.9	2.8	2.7	3.0	2.8	2.8
95	TC	32	29	26	33	30	28	34	31	29
	SHC	17	22	26	20	26	28	22	29	29
	KW	3.0	2.9	2.8	3.1	3.0	2.9	3.2	3.0	3.0
100	TC	31	28	25	32	29	27	33	30	29
	SHC	17	21	25	19	25	27	22	28	29
	KW	3.1	3.0	2.9	3.2	3.1	3.0	3.2	3.1	3.0
105	TC	30	27	25	31	28	27	31	29	28
	SHC	16	21	25	19	25	27	21	28	28
	KW	3.2	3.1	2.9	3.3	3.1	3.1	3.3	3.2	3.1
115	TC	28	25	23	28	26	25	29	26	26
	SHC	16	20	23	18	24	25	21	26	26
	KW	3.4	3.2	3.1	3.4	3.3	3.2	3.5	3.3	3.3

13 38GR002/40HH004										
Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1000/.13			1350/.17			1700/.20		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	35	32	29	36	33	31	37	34	33
	SHC	18	23	28	21	27	31	24	31	33
	KW	2.9	2.8	2.7	3.0	2.8	2.7	3.0	2.9	2.8
95	TC	32	30	27	34	31	29	35	32	31
	SHC	18	23	27	20	27	29	23	30	31
	KW	3.1	3.0	2.8	3.2	3.0	2.9	3.2	3.1	3.0
100	TC	31	29	27	33	30	28	33	31	30
	SHC	17	22	26	20	26	28	22	29	30
	KW	3.2	3.0	2.9	3.2	3.1	3.0	3.3	3.2	3.1
105	TC	30	28	26	32	29	27	32	30	29
	SHC	17	22	25	20	26	27	22	29	29
	KW	3.3	3.1	3.0	3.3	3.2	3.1	3.4	3.2	3.2
115	TC	28	26	24	29	27	26	30	28	27
	SHC	16	21	24	19	25	26	21	27	27
	KW	3.4	3.3	3.2	3.5	3.3	3.3	3.5	3.4	3.4

14 38GR002/28GH004										
Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1000/.15			1350/.19			1700/.22		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	34	31	28	36	33	30	37	33	32
	SHC	18	23	27	21	27	30	24	31	32
	KW	2.9	2.7	2.6	2.9	2.8	2.7	3.0	2.8	2.8
95	TC	32	29	26	33	30	28	34	31	30
	SHC	17	22	26	20	27	28	23	30	30
	KW	3.1	2.9	2.8	3.1	3.0	2.9	3.2	3.0	3.0
100	TC	31	28	26	32	29	28	33	30	29
	SHC	17	22	25	20	26	28	22	29	29
	KW	3.1	3.0	2.9	3.2	3.1	3.0	3.3	3.1	3.1
105	TC	30	27	25	31	28	27	32	29	28
	SHC	17	22	25	19	26	27	22	28	28
	KW	3.2	3.1	3.0	3.3	3.2	3.1	3.3	3.2	3.1
115	TC	28	26	23	29	26	25	30	27	27
	SHC	16	21	23	19	25	25	21	27	27
	KW	3.4	3.2	3.1	3.5	3.3	3.2	3.5	3.3	3.3

PERFORMANCE DATA (cont)

COMBINATION RATINGS

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38GR003/28AE003

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		850/.19			1125/.23			1400/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	37	34	31	39	36	33	41	37	34
	SHC	18	23	26	21	26	30	23	29	33
	KW	3.5	3.4	3.2	3.6	3.5	3.3	3.7	3.5	3.4
95	TC	35	32	29	37	34	31	38	35	31
	SHC	17	22	25	20	25	29	22	28	31
	KW	3.8	3.6	3.4	3.9	3.7	3.5	4.0	3.8	3.6
100	TC	34	31	28	36	33	30	37	34	31
	SHC	17	21	25	19	25	29	21	28	31
	KW	3.9	3.7	3.5	4.0	3.8	3.6	4.1	3.9	3.7
105	TC	33	30	27	35	32	29	36	33	30
	SHC	17	21	24	19	24	28	21	27	30
	KW	4.0	3.8	3.6	4.1	3.9	3.7	4.2	4.0	3.8
115	TC	31	28	26	33	30	27	34	31	28
	SHC	16	20	24	18	23	27	20	26	28
	KW	4.2	3.9	3.7	4.3	4.1	3.8	4.4	4.1	3.9

17 38GR003/28SE003										
Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		850/.19			1125/.23			1400/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	35	33	30	36	34	32	36	35	32
	SHC	17	22	26	19	24	30	20	27	32
	KW	3.3	3.2	3.1	3.4	3.3	3.2	3.4	3.4	3.2
95	TC	34	31	28	35	33	30	36	34	31
	SHC	17	21	25	18	24	29	20	27	31
	KW	3.6	3.5	3.4	3.7	3.6	3.5	3.7	3.6	3.5
100	TC	33	30	27	34	32	29	35	33	30
	SHC	17	21	25	18	24	28	20	27	30
	KW	3.7	3.6	3.5	3.8	3.7	3.6	3.9	3.8	3.6
105	TC	32	30	26	34	31	28	34	32	29
	SHC	16	21	24	18	24	28	20	27	29
	KW	3.9	3.7	3.6	3.9	3.8	3.7	4.0	3.9	3.7
115	TC	31	28	25	32	29	26	33	30	28
	SHC	16	20	23	18	23	26	20	26	28
	KW	4.1	4.0	3.8	4.2	4.0	3.9	4.3	4.1	4.0

18 38GR003/40CL003										
Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		850/.16			1125/.20			1400/.23		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	35	32	30	36	34	32	35	35	32
	SHC	17	22	26	19	24	30	20	27	32
	KW	3.4	3.3	3.2	3.5	3.4	3.3	3.4	3.4	3.3
95	TC	33	31	28	34	32	30	35	33	31
	SHC	17	21	25	18	24	29	20	27	31
	KW	3.7	3.6	3.4	3.7	3.6	3.5	3.8	3.7	3.5
100	TC	33	30	28	34	32	29	35	33	30
	SHC	17	21	25	18	24	29	20	27	30
	KW	3.8	3.7	3.5	3.9	3.7	3.6	3.9	3.8	3.6
105	TC	32	30	27	33	31	28	34	32	30
	SHC	17	21	25	18	24	28	20	27	30
	KW	3.9	3.8	3.6	4.0	3.9	3.7	4.1	3.9	3.8
115	TC	31	28	25	32	29	26	33	30	28
	SHC	16	20	24	18	24	26	20	27	28
	KW	4.2	4.0	3.8	4.3	4.1	3.9	4.3	4.1	4.0

19 38GR003/40HH003										
Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		850/.15			1125/.19			1400/.22		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	36	34	31	37	35	33	37	36	34
	SHC	18	23	27	19	25	31	21	27	33
	KW	3.4	3.3	3.2	3.5	3.4	3.3	3.5	3.4	3.3
95	TC	35	32	29	36	34	31	37	34	32
	SHC	17	22	26	19	25	30	21	27	32
	KW	3.7	3.6	3.4	3.7	3.6	3.5	3.8	3.7	3.6
100	TC	34	31	28	35	33	30	36	33	31
	SHC	17	22	26	19	25	29	21	27	31
	KW	3.8	3.7	3.5	3.9	3.8	3.6	3.9	3.8	3.7
105	TC	33	31	27	35	32	29	35	33	31
	SHC	17	21	25	19	25	29	21	27	31
	KW	4.0	3.8	3.6	4.0	3.9	3.7	4.1	3.9	3.8
115	TC	31	28	25	33	30	27	34	31	29
	SHC	16	21	24	19	24	27	20	27	29
	KW	4.2	4.0	3.8	4.3	4.1	3.9	4.4	4.2	4.0

20 38GR003/28GH003										
Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		850/.16			1125/.20			1400/.23		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	36	33	30	38	35	31	39	36	32
	SHC	18	22	26	20	25	30	22	29	32
	KW	3.5	3.3	3.1	3.6	3.4	3.3	3.6	3.5	3.3
95	TC	34	31	28	36	33	30	37	34	30
	SHC	17	21	25	19	25	29	21	28	30
	KW	3.8	3.6	3.4	3.8	3.6	3.5	3.9	3.7	3.5
100	TC	33	30	27	35	32	29	36	33	30
	SHC	17	21	25	19	24	28	21	28	30
	KW	3.8	3.7	3.5	3.9	3.7	3.5	4.0	3.8	3.6
105	TC	32	30	27	34	31	28	36	32	29
	SHC	16	21	24	19	24	28	21	27	29
	KW	3.9	3.7	3.5	4.0	3.8	3.6	4.1	3.9	3.7
115	TC	30	28	25	32	29	26	33	30	28
	SHC	16	20	24	18	23	26	20	26	28
	KW	4.1	3.9	3.7	4.2	4.0	3.8	4.3	4.1	3.9

21 38GR003/28AF004										
Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1000/.19			1350/.23			1700/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	37	35	32	38	36	33	39	37	35
	SHC	19	24	29	21	26	33	23	31	35
	KW	3.5	3.3	3.2	3.5	3.4	3.3	3.5	3.4	3.3
95	TC	35	33	30	36	34	31	38	35	33
	SHC	18	23	28	20	27	31	23	31	33
	KW	3.7	3.6	3.5	3.8	3.7	3.5	3.9	3.7	3.6
100	TC	34	32	29	36	33	30	37	34	32
	SHC	18	23	27	20	27	30	22	30	32
	KW	3.9	3.7	3.6	3.9	3.8	3.7	4.0	3.8	3.7
105	TC	34	31	28	35	32	30	36	33	31
	SHC	18	23	27	20	27	30	22	30	31
	KW	4.0	3.8	3.7	4.1	3.9	3.8	4.1	4.0	3.9
115	TC	32	29	25	33	30	26	34	30	29
	SHC	17	22	25	20	26	28	22	29	29
	KW	4.2	4.1	3.9	4.3	4.1	4.0	4.4	4.2	4.1

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38GR003/28AE004 or 40VU004

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1000/.19			1350/.23			1700/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	39	35	32	41	37	34	42	38	35
	SHC	20	24	29	22	29	33	25	33	35
	KW	3.6	3.4	3.3	3.7	3.5	3.4	3.8	3.6	3.4
95	TC	37	33	30	38	35	32	40	36	33
	SHC	19	24	28	22	28	32	24	31	33
	KW	3.8	3.7	3.5	4.0	3.8	3.6	4.0	3.8	3.7
100	TC	36	32	29	37	34	31	38	35	33
	SHC	18	23	28	21	27	31	24	31	33
	KW	3.9	3.7	3.6	4.1	3.8	3.7	4.1	3.9	3.8
105	TC	34	31	28	36	33	30	37	34	32
	SHC	18	23	27	21	27	30	23	30	32
	KW	4.0	3.8	3.6	4.2	3.9	3.8	4.2	4.0	3.9
115	TC	32	29	27	34	31	29	35	31	30
	SHC	17	22	26	20	26	29	22	29	30
	KW	4.3	4.0	3.8	4.4	4.1	4.0	4.5	4.2	4.1

COMBINATION RATINGS

PERFORMANCE DATA (cont)

38GR003/40HH004											
Temp (F)	Air Ent	Cond	Evap Air - Cfm/BF								
			1000/.13			1350/.17			1700/.20		
			Evap Air - Ewb (F)								
			72	67	62	72	67	62	72	67	62
80	TC	40	37	33	42	39	35	44	40	37	
	SHC	20	25	30	23	30	35	26	33	37	
	KW	3.7	3.5	3.3	3.8	3.6	3.5	3.9	3.7	3.5	
95	TC	38	34	31	40	36	33	41	37	35	
	SHC	20	24	29	22	29	33	25	33	35	
	KW	3.9	3.7	3.6	4.0	3.8	3.7	4.1	3.9	3.8	
100	TC	37	33	30	38	35	32	40	36	34	
	SHC	19	24	29	22	28	32	25	32	34	
	KW	4.0	3.8	3.6	4.1	3.9	3.8	4.2	4.0	3.9	
105	TC	36	32	30	37	34	31	38	35	33	
	SHC	19	24	28	22	28	31	24	31	33	
	KW	4.1	3.9	3.7	4.2	4.0	3.9	4.3	4.1	4.0	
115	TC	33	30	28	35	32	30	36	33	31	
	SHC	18	23	27	21	27	30	23	30	31	
	KW	4.3	4.1	3.9	4.5	4.2	4.1	4.5	4.3	4.2	

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38GR003/28GH004

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1000/.15			1350/.19			1700/.22		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	39	36	32	41	38	34	43	39	36
	SHC	20	25	30	23	29	34	25	34	36
	KW	3.6	3.4	3.3	3.7	3.6	3.4	3.8	3.6	3.5
95	TC	37	34	30	39	35	32	40	36	34
	SHC	19	24	29	22	29	32	25	32	34
	KW	3.9	3.7	3.5	4.0	3.8	3.6	4.1	3.9	3.7
100	TC	36	33	30	38	34	31	39	35	33
	SHC	19	24	28	22	28	31	24	32	33
	KW	4.0	3.8	3.6	4.1	3.9	3.7	4.2	4.0	3.8
105	TC	35	32	29	36	33	30	37	34	32
	SHC	18	23	28	21	28	30	24	31	32
	KW	4.1	3.9	3.7	4.2	4.0	3.8	4.3	4.1	3.9
115	TC	33	30	27	34	31	29	35	32	30
	SHC	18	23	27	20	27	29	23	30	30
	KW	4.3	4.1	3.8	4.4	4.2	4.0	4.5	4.2	4.1

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38GR003/28AE005 or 40VU005											
Temp (F) Air Ent Cond		Evap Air – Cfm/BF									
		1350/.19			1800/.23			2250/.26			
		Evap Air – Ewb (F)									
		72	67	62	72	67	62	72	67	62	
80	TC	41	39	35	44	40	37	45	41	39	
	SHC	24	29	35	26	34	37	29	38	39	
	KW	3.7	3.6	3.4	3.9	3.7	3.5	3.9	3.8	3.7	
95	TC	39	36	33	41	37	35	42	38	37	
	SHC	23	28	33	25	33	35	28	37	37	
	KW	4.0	3.8	3.7	4.1	3.9	3.8	4.2	4.0	3.9	
100	TC	38	35	32	39	36	35	40	37	36	
	SHC	22	28	32	25	32	35	28	36	36	
	KW	4.1	3.9	3.8	4.2	4.0	3.9	4.3	4.1	4.0	
105	TC	36	34	31	38	35	34	39	36	35	
	SHC	22	27	31	24	32	34	27	35	35	
	KW	4.2	4.0	3.9	4.3	4.1	4.0	4.4	4.2	4.1	
115	TC	34	32	30	35	33	32	36	33	33	
	SHC	21	26	30	23	31	32	27	33	33	
	KW	4.4	4.2	4.1	4.5	4.3	4.2	4.6	4.3	4.4	

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38GR003/40HH005

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1350/.15			1800/.19			2250/.22		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	42	38	34	43	39	36	44	40	38
	SHC	22	28	33	25	33	36	28	36	38
	KW	3.8	3.6	3.4	3.9	3.7	3.5	3.9	3.7	3.6
95	TC	39	36	32	40	37	34	41	38	36
	SHC	21	27	31	24	31	34	27	35	36
	KW	4.0	3.8	3.6	4.1	3.9	3.7	4.2	4.0	3.8
100	TC	38	35	31	39	36	33	40	37	35
	SHC	21	27	31	24	31	33	26	34	35
	KW	4.1	3.9	3.7	4.2	4.0	3.8	4.3	4.1	4.0
105	TC	37	34	31	38	35	33	39	36	34
	SHC	20	26	30	23	30	33	26	34	34
	KW	4.2	4.0	3.8	4.3	4.1	3.9	4.4	4.2	4.1
115	TC	34	31	29	36	32	31	36	33	33
	SHC	19	26	29	22	29	31	25	32	33
	KW	4.4	4.2	4.0	4.5	4.3	4.2	4.6	4.4	4.3

38GR003/28GH005											
Temp (F) Air Ent Cond		Evap Air – Cfm/BF									
		1350/.16			1800/.20			2250/.23			
		Evap Air – Ewb (F)									
		72	67	62	72	67	62	72	67	62	
80	TC	41	37	34	43	39	36	44	40	38	
	SHC	23	28	33	26	33	36	29	37	38	
	KW	3.7	3.5	3.4	3.9	3.7	3.5	3.9	3.7	3.6	
95	TC	39	35	32	40	37	34	41	38	36	
	SHC	22	28	31	25	32	34	28	36	36	
	KW	4.0	3.8	3.6	4.1	3.9	3.7	4.1	3.9	3.8	
100	TC	38	34	31	39	36	33	40	36	35	
	SHC	21	27	31	25	32	33	27	35	35	
	KW	4.1	3.9	3.7	4.2	4.0	3.8	4.3	4.0	3.9	
105	TC	36	33	30	38	34	32	39	35	34	
	SHC	21	27	30	24	31	32	27	34	34	
	KW	4.2	4.0	3.8	4.3	4.1	3.9	4.4	4.1	4.0	
115	TC	34	31	29	35	32	31	36	33	32	
	SHC	20	26	29	23	30	31	26	32	32	
	KW	4.4	4.2	4.0	4.5	4.3	4.1	4.6	4.3	4.3	

38GR004/28AF004											
Temp (F) Air Ent Cond		Evap Air - Cfm/BF									
		1000/.19			1350/.23			1700/.26			
		Evap Air - Ewb (F)									
		72	67	62	72	67	62	72	67	62	
80	TC	41	38	35	42	40	37	41	40	38	
	SHC	20	25	31	22	29	35	23	32	38	
	KW	4.2	4.1	3.9	4.2	4.2	4.0	4.2	4.2	4.1	
95	TC	39	36	33	41	38	35	41	39	36	
	SHC	20	25	30	22	29	34	24	32	36	
	KW	4.6	4.4	4.2	4.7	4.5	4.3	4.7	4.5	4.4	
100	TC	39	35	32	40	37	34	41	38	35	
	SHC	19	25	29	22	29	33	24	32	35	
	KW	4.7	4.5	4.3	4.8	4.6	4.4	4.8	4.7	4.5	
105	TC	38	34	31	39	36	33	40	37	35	
	SHC	19	24	29	22	29	33	24	32	35	
	KW	4.9	4.7	4.5	5.0	4.8	4.6	5.0	4.8	4.7	
115	TC	36	32	29	38	34	31	38	35	33	
	SHC	19	23	28	21	28	31	24	31	33	
	KW	5.1	4.9	4.7	5.3	5.0	4.8	5.3	5.1	4.9	

38GR004/2

PERFORMANCE DATA (cont)

COMBINATION RATINGS

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38GR004/40HH004

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1000/.13			1350/.17			1700/.20		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	44	40	37	46	42	39	48	44	40
	SHC	22	27	32	25	31	37	27	35	40
	KW	4.4	4.2	4.0	4.5	4.3	4.1	4.6	4.4	4.2
95	TC	41	38	34	43	40	36	45	41	38
	SHC	21	26	30	24	30	35	26	34	38
	KW	4.7	4.5	4.3	4.8	4.6	4.4	4.9	4.7	4.5
100	TC	40	37	33	42	38	35	43	40	37
	SHC	20	25	30	23	30	35	26	33	37
	KW	4.8	4.6	4.4	5.0	4.7	4.5	5.0	4.8	4.6
105	TC	39	36	32	41	37	34	42	38	36
	SHC	20	25	29	23	29	34	25	33	36
	KW	4.9	4.7	4.5	5.3	4.8	4.6	5.2	4.9	4.7
115	TC	37	34	31	38	35	32	40	36	34
	SHC	19	24	29	22	28	32	24	32	34
	KW	5.2	4.9	4.7	5.3	5.0	4.8	5.4	5.1	5.0

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38GR004/28GH004

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1000/.15			1350/.19			1700/.22		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	43	39	35	45	41	38	47	43	39
	SHC	21	26	31	24	31	36	27	35	39
	KW	4.4	4.1	3.9	4.5	4.3	4.1	4.6	4.4	4.1
95	TC	40	37	33	42	39	35	44	40	37
	SHC	20	25	30	23	29	35	26	34	37
	KW	4.6	4.4	4.2	4.8	4.6	4.3	4.9	4.6	4.4
100	TC	39	36	32	41	38	34	43	39	36
	SHC	20	25	30	23	29	34	25	33	36
	KW	4.8	4.5	4.3	4.9	4.7	4.4	5.0	4.8	4.5
105	TC	38	35	31	40	37	33	41	38	35
	SHC	20	24	29	22	29	33	25	33	35
	KW	4.9	4.6	4.4	5.0	4.8	4.5	5.1	4.9	4.7
115	TC	36	33	30	38	34	31	39	35	33
	SHC	19	24	28	22	28	31	24	32	33
	KW	5.1	4.8	4.6	5.3	5.0	4.7	5.3	5.1	4.9

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38GR004/28AF005

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1350/.19			1800/.23			2250/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	44	42	39	45	43	40	45	43	41
	SHC	23	30	36	25	34	40	27	37	41
	KW	4.4	4.3	4.1	4.4	4.3	4.2	4.4	4.3	4.3
95	TC	43	39	36	44	41	38	44	42	40
	SHC	23	30	35	25	34	38	28	38	40
	KW	4.8	4.6	4.4	4.8	4.7	4.6	4.8	4.7	4.6
100	TC	42	38	35	43	40	37	44	40	39
	SHC	22	29	34	25	34	37	28	38	39
	KW	4.9	4.7	4.6	5.0	4.8	4.7	5.0	4.9	4.8
105	TC	41	37	34	42	39	36	43	39	38
	SHC	22	29	34	25	34	36	28	37	38
	KW	5.1	4.9	4.7	5.1	5.0	4.8	5.2	5.0	4.9
115	TC	38	34	32	39	36	34	40	36	36
	SHC	22	28	32	25	33	34	28	36	36
	KW	5.4	5.1	4.9	5.5	5.2	5.1	5.5	5.3	5.2

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38GR004/28AE005 or 40VU005

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1350/.19			1800/.23			2250/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	46	42	39	48	44	41	49	45	43
	SHC	24	31	37	26	36	41	31	40	43
	KW	4.5	4.3	4.1	4.6	4.5	4.3	4.7	4.5	4.4
95	TC	43	40	36	45	41	38	46	42	40
	SHC	23	30	35	26	35	38	30	39	40
	KW	4.8	4.6	4.4	4.9	4.7	4.5	5.0	4.8	4.7
100	TC	42	39	35	44	40	37	45	41	39
	SHC	23	29	34	26	34	37	29	38	39
	KW	5.0	4.7	4.5	5.1	4.8	4.7	5.1	4.9	4.8
105	TC	41	37	34	42	39	36	43	39	38
	SHC	22	29	34	25	34	36	29	37	38
	KW	5.1	4.8	4.6	5.2	4.9	4.8	5.3	5.0	4.9
115	TC	38	35	32	39	36	35	40	37	36
	SHC	21	28	32	24	33	35	28	36	36
	KW	5.3	5.0	4.8	5.4	5.2	5.0	5.5	5.2	5.2

36 38GR004/40HH005											
Temp (F) Air Ent Cond		Evap Air – Cfm/BF									
		1350/.15			1800/.19			2250/.22			
		Evap Air – Ewb (F)									
		72	67	62	72	67	62	72	67	62	
80	TC	45	42	38	48	44	40	49	45	42	
	SHC	23	30	35	26	35	39	29	38	42	
	KW	4.5	4.3	4.1	4.6	4.4	4.2	4.7	4.5	4.3	
95	TC	43	39	36	45	41	38	46	42	39	
	SHC	22	29	34	25	33	38	28	37	39	
	KW	4.8	4.6	4.4	4.9	4.7	4.5	5.0	4.8	4.6	
100	TC	42	38	35	43	40	37	44	41	38	
	SHC	22	28	33	25	33	37	28	37	38	
	KW	4.9	4.7	4.5	5.0	4.8	4.6	5.1	4.9	4.7	
105	TC	40	37	34	42	38	36	43	39	37	
	SHC	22	28	32	24	32	36	27	36	37	
	KW	5.0	4.8	4.6	5.2	4.9	4.7	5.2	5.0	4.9	
115	TC	38	35	32	39	36	34	40	37	36	
	SHC	21	27	31	24	31	34	26	35	36	
	KW	5.3	5.0	4.8	5.4	5.1	4.9	5.5	5.2	5.1	

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38GR004/28GH005

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1350/.16			1800/.20			2250/.23		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	45	41	37	47	43	39	49	45	41
	SHC	24	30	35	28	35	39	31	40	41
	KW	4.5	4.3	4.1	4.6	4.4	4.2	4.7	4.5	4.3
95	TC	43	39	35	44	41	37	45	42	39
	SHC	23	29	34	26	34	37	29	38	39
	KW	4.8	4.6	4.4	4.9	4.7	4.5	5.0	4.8	4.6
100	TC	41	38	34	43	39	36	44	40	38
	SHC	23	29	33	26	34	36	29	37	38
	KW	4.9	4.7	4.4	5.0	4.8	4.6	5.1	4.9	4.7
105	TC	40	37	33	42	38	35	43	39	37
	SHC	22	28	33	25	33	35	29	37	37
	KW	5.0	4.8	4.5	5.1	4.9	4.7	5.2	5.0	4.8
115	TC	38	34	31	39	36	33	40	37	35
	SHC	21	28	31	24	32	33	28	35	35
	KW	5.3	5.0	4.7	5.4	5.1	4.9	5.5	5.2	5.1

COMBINATION RATINGS

38GR004/28GH006											
Temp (F) Air Ent Cond		Evap Air - Cfm/BF									
		1700/.16			2250/.19			2800/.22			
		Evap Air - Ewb (F)									
		72	67	62	72	67	62	72	67	62	
80	TC	47	44	41	50	46	44	50	46	46	
	SHC	28	35	41	31	40	44	34	44	46	
	KW	4.6	4.5	4.3	4.8	4.6	4.4	4.8	4.6	4.5	
95	TC	45	42	39	47	43	41	47	43	43	
	SHC	26	34	39	30	39	41	33	42	43	
	KW	5.0	4.8	4.6	5.0	4.8	4.7	5.1	4.9	4.8	
100	TC	44	40	38	45	42	40	45	42	42	
	SHC	26	33	38	29	38	40	33	41	42	
	KW	5.1	4.9	4.7	5.2	4.9	4.9	5.2	5.0	5.0	
105	TC	42	39	37	44	40	39	44	41	41	
	SHC	25	33	37	29	38	39	32	40	41	
	KW	5.2	5.0	4.8	5.3	5.1	5.0	5.3	5.1	5.1	
115	TC	40	37	35	40	37	37	41	39	39	
	SHC	24	32	35	28	36	37	31	39	39	
	KW	5.4	5.2	5.0	5.5	5.3	5.2	5.6	5.4	5.4	

38GR045/28AF005										
Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1350/.19			1800/.23			2250/.26		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	49	46	42	53	48	44	51	49	45
	SHC	25	32	39	27	37	44	30	40	45
	KW	4.9	4.8	4.6	4.9	4.8	4.7	5.0	4.9	4.7
95	TC	47	43	39	48	45	41	49	46	43
	SHC	24	31	37	27	36	41	30	40	43
	KW	5.2	5.1	4.9	5.3	5.2	5.0	5.4	5.2	5.1
100	TC	46	42	38	48	44	40	48	45	43
	SHC	24	31	37	27	36	40	30	40	43
	KW	5.4	5.2	5.0	5.5	5.3	5.1	5.5	5.3	5.2
105	TC	45	41	37	47	43	39	48	44	42
	SHC	24	31	36	27	36	39	30	40	42
	KW	5.6	5.3	5.1	5.6	5.4	5.3	5.7	5.5	5.4
115	TC	43	39	34	45	40	37	46	41	39
	SHC	23	30	34	26	35	37	29	39	39
	KW	5.9	5.6	5.4	6.0	5.7	5.6	6.1	5.8	5.7

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38GR045/28AE005 or 40VU005

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1350/.19			1800/.23			2250/.26		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	50	46	42	52	48	44	54	49	45
	SHC	26	32	38	29	37	44	32	42	45
	KW	5.1	4.9	4.7	5.3	5.0	4.8	5.3	5.1	4.9
95	TC	47	43	39	49	45	41	51	46	43
	SHC	25	31	37	28	36	41	31	41	43
	KW	5.4	5.1	4.9	5.5	5.3	5.0	5.6	5.4	5.2
100	TC	46	42	38	48	44	40	49	45	42
	SHC	24	31	36	27	36	40	31	40	42
	KW	5.5	5.3	5.0	5.7	5.4	5.1	5.8	5.5	5.3
105	TC	45	41	37	46	43	39	48	43	41
	SHC	24	30	36	27	35	39	30	40	41
	KW	5.7	5.4	5.1	5.8	5.5	5.3	5.9	5.6	5.4
115	TC	43	39	35	44	40	37	45	41	39
	SHC	23	29	35	26	34	37	29	38	39
	KW	5.9	5.6	5.3	6.1	5.8	5.5	6.2	5.8	5.7

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38GR045/40HH005

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1350/.15			1800/.19			2250/.22		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	49	45	41	51	47	43	53	48	45
	SHC	25	32	37	28	36	42	31	40	45
	KW	5.1	4.8	4.6	5.2	5.0	4.7	5.3	5.0	4.8
95	TC	47	42	39	49	45	41	50	46	43
	SHC	24	30	36	27	35	40	30	39	43
	KW	5.3	5.1	4.8	5.5	5.2	5.0	5.6	5.3	5.1
100	TC	45	41	38	48	43	40	49	45	41
	SHC	23	30	35	27	35	39	29	39	41
	KW	5.5	5.2	5.0	5.6	5.4	5.1	5.7	5.4	5.2
105	TC	44	40	37	46	42	39	47	43	40
	SHC	23	29	35	26	34	38	29	38	40
	KW	5.6	5.3	5.1	5.8	5.5	5.2	5.9	5.6	5.4
115	TC	42	38	35	44	40	37	45	41	38
	SHC	22	29	33	25	33	37	28	37	38
	KW	5.9	5.6	5.3	6.1	5.7	5.5	6.1	5.8	5.6

PERFORMANCE DATA (cont)

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38GR045/28GH005

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1350/.16			1800/.20			2250/.23		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	49	44	40	51	47	42	53	48	44
	SHC	25	31	37	29	37	41	32	42	44
	KW	5.0	4.8	4.6	5.2	4.9	4.6	5.3	5.0	4.8
95	TC	46	42	39	48	44	40	50	46	42
	SHC	24	31	36	28	36	40	31	40	42
	KW	5.3	5.1	4.8	5.5	5.2	4.9	5.6	5.3	5.1
100	TC	45	41	38	47	43	39	49	44	41
	SHC	24	30	35	26	35	39	31	40	41
	KW	5.5	5.2	4.9	5.6	5.3	5.1	5.7	5.4	5.2
105	TC	44	40	36	46	42	38	47	43	40
	SHC	24	30	35	27	35	38	30	39	40
	KW	5.6	5.3	5.1	5.7	5.5	5.2	5.9	5.6	5.3
115	TC	42	38	34	43	39	36	45	41	38
	SHC	23	29	33	26	34	36	29	38	38
	KW	5.9	5.6	5.3	6.0	5.7	5.5	6.1	5.8	5.6

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38GR045/28AE006 or 40VU006

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1700/.19			2250/.23			2800/.26		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	52	49	45	55	50	47	56	51	49
	SHC	28	37	43	32	43	47	36	47	49
	KW	5.3	5.1	4.8	5.4	5.2	5.0	5.5	5.2	5.1
95	TC	50	46	42	52	47	45	53	48	46
	SHC	27	36	42	31	41	45	36	45	46
	KW	5.6	5.3	5.1	5.7	5.4	5.3	5.8	5.5	5.4
100	TC	48	44	41	50	46	44	51	47	45
	SHC	27	35	41	31	40	44	35	45	45
	KW	5.7	5.4	5.2	5.9	5.5	5.4	5.9	5.6	5.5
105	TC	47	43	40	49	45	43	50	45	44
	SHC	27	35	40	30	40	43	34	44	44
	KW	5.9	5.6	5.3	6.0	5.7	5.5	6.1	5.7	5.7
115	TC	45	41	38	46	42	40	47	43	42
	SHC	26	34	38	30	39	40	33	42	42
	KW	6.1	5.8	5.6	6.3	5.9	5.8	6.3	6.0	6.0

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38GR045/40HH006

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1700/.14			2250/.18			2800/.21		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	54	49	45	55	50	48	56	52	50
	SHC	29	38	45	33	43	48	37	48	50
	KW	5.4	5.1	4.9	5.5	5.3	5.1	5.6	5.3	5.2
95	TC	50	46	43	52	48	46	53	49	47
	SHC	28	36	43	32	42	46	36	47	47
	KW	5.7	5.4	5.2	5.8	5.5	5.4	5.9	5.6	5.5
100	TC	49	45	42	51	46	44	52	47	46
	SHC	28	36	42	31	42	44	35	46	46
	KW	5.9	5.5	5.3	6.0	5.7	5.5	6.0	5.7	5.7
105	TC	48	44	41	49	45	43	50	46	45
	SHC	27	35	41	31	41	43	35	45	45
	KW	6.0	5.7	5.5	6.1	5.8	5.7	6.2	5.9	5.8
115	TC	45	41	39	47	42	41	47	43	43
	SHC	26	34	39	30	39	41	34	43	43
	KW	6.3	5.9	5.7	6.4	6.0	6.0	6.5	6.1	6.1

PERFORMANCE DATA (cont)

COMBINATION RATINGS

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38GR005/28AF005

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1350/.19			1800/.23			2250/.26		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	54	51	47	56	54	49	58	55	50
	SHC	27	34	41	30	39	47	32	43	50
	KW	4.8	4.7	4.5	4.9	4.8	4.6	5.0	4.8	4.7
95	TC	52	48	43	54	50	46	56	52	48
	SHC	26	33	39	29	38	45	32	43	48
	KW	5.4	5.2	5.0	5.4	5.3	5.1	5.5	5.3	5.2
100	TC	51	46	42	53	49	44	54	50	46
	SHC	26	33	39	29	38	44	32	43	46
	KW	5.6	5.4	5.1	5.7	5.5	5.2	5.7	5.5	5.4
105	TC	49	45	40	52	47	43	53	49	45
	SHC	25	32	38	29	37	43	32	42	45
	KW	5.8	5.5	5.3	5.9	5.7	5.4	5.9	5.7	5.6
115	TC	46	41	37	48	43	40	49	45	42
	SHC	24	31	36	28	36	40	31	41	42
	KW	6.2	5.9	5.6	6.3	6.0	5.8	6.4	6.1	6.0

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38GR005/28AE005 or 40VU005

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1350/.19			1800/.23			2250/.26		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	58	52	48	61	55	50	63	57	51
	SHC	28	35	41	32	41	48	36	46	51
	KW	5.1	4.8	4.6	5.2	5.0	4.7	5.3	5.0	4.8
95	TC	54	49	44	56	51	47	58	53	48
	SHC	27	34	40	31	39	46	34	44	48
	KW	5.5	5.3	5.0	5.6	5.4	5.1	5.7	5.5	5.3
100	TC	52	48	43	54	50	45	56	51	47
	SHC	27	33	39	30	39	45	33	43	47
	KW	5.7	5.4	5.2	5.8	5.5	5.3	5.9	5.7	5.4
105	TC	51	46	42	53	48	44	55	50	46
	SHC	26	33	38	29	38	44	33	43	46
	KW	5.9	5.6	5.3	6.0	5.7	5.5	6.1	5.9	5.6
115	TC	48	43	39	50	45	41	51	46	44
	SHC	25	31	37	28	37	41	32	42	44
	KW	6.2	5.9	5.6	6.4	6.0	5.8	6.5	6.3	5.9

38GR005/40HH005										
Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1350/.15			1800/.19			2250/.22		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	56	51	47	60	55	50	62	57	51
	SHC	28	35	40	32	40	46	35	45	50
	KW	5.0	4.8	4.6	5.2	5.0	4.7	5.2	5.0	4.8
95	TC	53	48	43	56	51	46	58	52	48
	SHC	27	33	38	30	38	44	34	42	48
	KW	5.5	5.2	5.0	5.6	5.4	5.1	5.7	5.4	5.2
100	TC	52	47	42	54	49	45	56	51	47
	SHC	26	33	38	30	38	44	33	42	47
	KW	5.6	5.4	5.1	5.8	5.5	5.3	5.9	5.6	5.4
105	TC	50	46	41	53	48	44	54	49	45
	SHC	26	32	37	29	37	43	32	41	45
	KW	5.8	5.5	5.3	6.0	5.7	5.4	6.1	5.8	5.6
115	TC	47	43	39	49	45	41	51	46	43
	SHC	25	31	36	28	36	41	31	40	43
	KW	6.2	5.9	5.6	6.3	6.0	5.8	6.4	6.1	5.9

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38GR005/28GH005

Temp (F)

Air Ent

Cond

1350/.16

1800/.20

2250/.23

Evap Air - Cfm/BF

Evap Air - Ewb (F)

72

67

62

72

67

62

72

67

62

80

TC

56

51

46

60

54

49

62

56

50

SHC

28

35

40

32

40

47

35

46

50

KW

5.0

4.8

4.6

5.2

4.9

4.7

5.2

5.0

4.7

95

TC

53

48

43

55

50

46

58

52

47

SHC

27

33

39

31

39

45

34

44

47

KW

5.4

5.2

4.9

5.6

5.4

5.1

5.7

5.4

5.2

100

TC

51

46

42

54

49

45

56

51

46

SHC

26

33

39

30

39

44

34

44

46

KW

5.6

5.4

5.1

5.8

5.5

5.3

5.9

5.6

5.4

105

TC

50

45

41

52

48

43

54

49

45

SHC

26

32

38

30

38

43

33

43

45

KW

5.8

5.5

5.2

6.0

5.7

5.4

6.1

5.8

5.5

115

TC

47

42

38

49

45

40

51

46

43

SHC

25

31

37

29

37

40

32

41

43

KW

6.2

5.9

5.5

6.3

6.0

5.7

6.4

6.1

5.9

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38GR005/28AE006 or 40VU006

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1700/.19			2250/.23			2800/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	62	57	51	65	59	54	67	61	56
	SHC	32	40	47	36	46	54	40	52	56
	KW	5.3	5.1	4.9	5.5	5.2	5.0	5.5	5.3	5.1
95	TC	58	53	48	60	55	50	62	56	53
	SHC	30	38	45	34	45	50	38	50	53
	KW	5.8	5.5	5.3	5.9	5.7	5.4	6.0	5.7	5.6
100	TC	56	51	46	58	53	49	60	54	51
	SHC	30	38	44	34	44	49	38	49	51
	KW	6.0	5.7	5.4	6.1	5.8	5.6	6.2	5.9	5.7
105	TC	54	49	45	56	51	47	58	52	50
	SHC	29	37	43	33	43	47	37	48	50
	KW	6.1	5.8	5.6	6.3	6.0	5.7	6.4	6.0	5.9
115	TC	51	46	42	52	47	45	54	48	47
	SHC	28	36	42	32	42	45	36	46	47
	KW	6.5	6.2	5.9	6.6	6.3	6.1	6.7	6.4	6.3

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38GR005/40HH006

Temp (F) Air Ent Cond		Evap Air - Cfm/BF								
		1700/.14			2250/.18			2800/.21		
		Evap Air - Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	63	58	53	65	60	57	67	62	59
	SHC	33	41	50	37	46	57	41	54	59
	KW	5.3	5.1	4.9	5.5	5.2	5.0	5.5	5.3	5.2
95	TC	58	53	50	60	55	52	62	57	55
	SHC	31	40	48	35	46	52	39	52	55
	KW	5.8	5.6	5.3	5.9	5.7	5.5	6.0	5.8	5.6
100	TC	57	52	48	59	53	51	60	55	54
	SHC	31	39	47	35	45	51	39	51	54
	KW	6.0	5.7	5.5	6.1	5.8	5.6	6.2	5.9	5.8
105	TC	55	50	47	57	52	50	58	53	52
	SHC	30	38	46	34	45	50	38	50	52
	KW	6.2	5.9	5.6	6.3	6.0	5.8	6.4	6.1	6.0
115	TC	51	47	44	53	48	47	54	50	49
	SHC	28	37	44	32	43	47	37	48	49
	KW	6.6	6.2	6.0	6.7	6.3	6.2	6.8	6.5	6.4

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38GR005/28GH006

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1700/.16			2250/.19			2800/.22		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	62	56	51	64	59	54	66	60	56
	SHC	32	41	48	36	47	54	40	52	56
	KW	5.2	5.0	4.8	5.4	5.1	4.9	5.4	5.2	5.0
95	TC	57	52	48	60	54	50	61	55	53
	SHC	31	39	46	35	45	50	39	49	53
	KW	5.7	5.4	5.2	5.8	5.5	5.3	5.9	5.6	5.5
100	TC	56	51	46	58	53	49	59	53	51
	SHC	30	38	45	34	44	49	38	49	51
	KW	5.9	5.6	5.4	6.0	5.7	5.5	6.1	5.8	5.7
105	TC	54	49	45	56	51	46	58	52	50
	SHC	30	38	44	34	43	48	38	48	50
	KW	6.1	5.8	5.5	6.2	5.9	5.7	6.3	6.0	5.9
115	TC	51	46	42	52	47	45	54	48	47
	SHC	28	36	42	32	42	48	36	46	47
	KW	6.4	6.1	5.8	6.5	6.2	6.1	6.6	6.3	6.2

COMBINATION RATINGS

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38GR006/40HH006

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1700/.14			2250/.18			2800/.21		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	74	68	61	77	71	64	79	73	67
	SHC	36	45	53	41	52	61	45	58	67
	KW	7.5	7.1	6.7	7.7	7.3	6.9	7.9	7.5	7.1
95	TC	69	63	57	71	66	60	74	68	63
	SHC	35	43	51	39	50	59	43	56	63
	KW	8.1	7.6	7.2	8.2	7.8	7.4	8.4	8.0	7.6
100	TC	67	61	55	69	64	58	71	65	61
	SHC	34	42	50	38	49	57	42	55	61
	KW	8.3	7.8	7.4	8.5	8.0	7.6	8.7	8.2	7.8
105	TC	65	59	54	66	61	56	68	63	59
	SHC	33	42	50	37	48	56	41	54	59
	KW	8.5	8.0	7.6	8.7	8.2	7.8	8.9	8.4	8.1
115	TC	60	55	50	62	57	53	63	58	55
	SHC	31	40	47	36	46	53	39	53	55
	KW	9.0	8.5	8.0	9.2	8.7	8.2	9.4	8.9	8.5

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38GR006/28GH006

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1700/.16			2250/.19			2800/.22		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	71	65	59	75	68	62	77	71	64
	SHC	35	44	51	40	50	59	44	56	63
	KW	7.3	6.9	6.6	7.6	7.2	6.8	7.1	7.3	6.9
95	TC	66	60	55	70	64	58	71	65	60
	SHC	34	42	49	38	48	57	42	54	60
	KW	7.8	7.4	7.0	8.1	7.7	7.2	8.2	7.8	7.4
100	TC	64	59	53	67	61	56	69	63	58
	SHC	33	41	48	37	47	55	41	53	58
	KW	8.1	7.6	7.2	8.3	7.9	7.4	8.5	8.0	7.6
105	TC	62	57	52	65	59	54	66	60	57
	SHC	32	40	47	36	46	54	40	52	57
	KW	8.3	7.8	7.4	8.6	8.1	7.7	8.6	8.2	7.9
115	TC	58	53	49	60	55	51	61	56	53
	SHC	31	39	46	35	45	51	38	49	53
	KW	8.8	8.3	7.8	9.0	8.5	8.1	9.2	8.6	8.3

58 38GR006/40JA006										
Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		1700/.12			2250/.16			2800/.18		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	72	66	60	75	69	63	78	71	66
	SHC	36	45	53	40	52	61	45	58	66
	KW	7.4	7.0	6.7	7.6	7.2	6.9	7.8	7.4	7.0
95	TC	67	61	56	70	65	59	72	66	62
	SHC	34	43	52	39	50	59	43	56	62
	KW	7.9	7.5	7.1	8.2	7.7	7.4	8.3	7.9	7.5
100	TC	65	60	55	68	62	58	70	64	60
	SHC	34	42	51	38	49	58	42	54	60
	KW	8.2	7.7	7.3	8.4	7.9	7.6	8.6	8.1	7.8
105	TC	63	58	53	66	60	56	67	61	58
	SHC	33	42	50	37	48	56	42	54	58
	KW	8.4	7.9	7.5	8.6	8.1	7.8	8.8	8.3	8.0
115	TC	59	54	49	61	56	52	62	57	55
	SHC	31	40	48	36	47	52	40	52	55
	KW	8.8	8.3	7.9	9.1	8.6	8.2	9.3	8.7	8.5

PERFORMANCE DATA (cont)

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38GR006/40BA009

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		2875/.13			3825/.16			4775/.19		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	81	74	69	83	77	74	84	78	77
	SHC	46	60	69	53	70	74	59	76	77
	KW	8.2	7.7	7.4	8.3	7.9	7.7	8.4	8.0	7.9
95	TC	75	69	65	77	71	69	78	72	72
	SHC	44	57	65	51	67	69	57	72	72
	KW	8.7	8.2	7.9	8.9	8.4	8.3	9.0	8.5	8.5
100	TC	72	66	63	74	68	67	74	69	70
	SHC	43	58	63	50	65	67	56	69	70
	KW	8.9	8.4	8.2	9.1	8.6	8.5	9.2	8.8	8.8
105	TC	69	64	61	71	66	65	71	67	67
	SHC	42	56	61	49	64	65	55	67	67
	KW	9.2	8.7	8.4	9.4	8.9	8.8	9.5	9.0	9.0
115	TC	63	59	57	64	60	60	65	62	62
	SHC	40	53	57	47	60	60	53	62	62
	KW	9.6	9.1	8.9	9.8	9.3	9.3	9.9	9.5	9.6

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38GR006/28CB008

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		2525/.15			3375/.19			4225/.22		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	81	74	68	83	77	72	85	78	75
	SHC	43	56	68	50	66	72	56	74	75
	KW	8.0	7.5	7.2	8.2	7.8	7.4	8.4	7.9	7.7
95	TC	75	69	63	77	71	67	79	72	71
	SHC	41	54	63	48	64	67	54	70	71
	KW	8.6	8.1	7.7	8.8	8.3	8.0	8.9	8.3	8.3
100	TC	72	66	61	74	68	65	76	69	69
	SHC	41	53	61	47	62	65	53	68	69
	KW	8.8	8.3	7.9	9.0	8.5	8.2	9.2	8.6	8.5
105	TC	69	64	60	71	66	63	73	67	66
	SHC	40	52	60	46	61	63	52	67	66
	KW	9.0	8.5	8.1	9.2	8.7	8.5	9.4	8.8	8.8
115	TC	63	59	56	65	60	59	66	62	62
	SHC	38	50	56	44	59	59	50	62	62
	KW	9.4	8.9	8.6	9.7	9.1	9.0	9.9	9.3	9.3

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38GR006/40RR008

Temp (F) Air Ent Cond		Evap Air – Cfm/BF								
		2525/.19			3375/.23			4225/.26		
		Evap Air – Ewb (F)								
		72	67	62	72	67	62	72	67	62
80	TC	79	71	65	81	74	70	83	76	74
	SHC	43	55	65	50	64	70	56	72	74
	KW	7.7	7.2	6.9	7.9	7.4	7.2	8.0	7.6	7.4
95	TC	73	67	62	75	69	66	76	71	69
	SHC	41	54	62	48	62	66	53	69	69
	KW	8.2	7.7	7.4	8.1	7.9	7.7	8.5	8.1	7.9
100	TC	71	64	60	73	67	64	74	68	67
	SHC	40	53	60	47	61	64	52	67	67
	KW	8.4	8.0	7.6	8.6	8.2	7.9	8.7	8.3	8.2
105	TC	68	62	58	70	64	62	71	66	65
	SHC	39	52	58	46	60	62	51	65	65
	KW	8.7	8.2	7.9	8.9	8.4	8.2	9.0	8.5	8.4
115	TC	63	58	55	65	60	58	65	61	61
	SHC	38	50	55	44	57	56	49	61	61
	KW	9.1	8.6	8.3	9.3	8.8	8.7	9.4	8.9	8.9

LEGEND

BF – Bypass Factor
 Ewb – Entering Wet-Bulb
 KW – Compressor Motor Power Input
 SHC – Sensible Heat Capacity (1000 Btu/h)
 TC – Total Capacity (1000 Btu/h)

PERFORMANCE DATA (Cont)
CONDENSING UNIT CAPACITIES

UNIT	SST (F)	TEMP AIR ENTERING COND (F)																	
		80			90			95			100			105			115		
		Cap.	SCT	Kw	Cap.	SCT	Kw	Cap.	SCT	Kw	Cap.	SCT	Kw	Cap.	SCT	Kw	Cap.	SCT	Kw
38GR002	30	22.8	101	2.4	20.8	111	2.4	19.9	115	2.5	18.7	120	2.5	17.8	125	2.5	15.7	135	2.6
	35	25.7	102	2.5	23.6	112	2.6	22.6	117	2.6	21.5	122	2.7	20.4	126	2.7	18.2	136	2.8
	40	28.7	103	2.6	26.4	113	2.7	25.3	118	2.8	24.2	123	2.8	23.1	128	2.9	20.8	137	3.0
	45	31.8	105	2.8	29.4	115	2.9	28.3	119	2.9	27.1	125	3.0	25.8	129	3.1	23.4	138	3.2
	50	35.0	106	2.9	32.5	116	3.0	31.2	120	3.1	29.9	126	3.2	28.7	131	3.2	26.0	140	3.3
38GR003	30	28.0	104	3.0	25.9	114	3.1	24.8	117	3.2	23.7	123	3.2	22.6	127	3.3	20.3	136	3.3
	35	31.5	106	3.2	29.1	115	3.3	28.1	120	3.4	26.7	125	3.4	25.7	130	3.5	23.1	139	3.6
	40	35.0	107	3.4	32.5	117	3.5	31.4	122	3.6	30.0	126	3.7	28.7	131	3.7	26.1	140	3.8
	45	38.5	109	3.6	36.0	120	3.8	34.7	124	3.8	33.4	129	3.9	31.9	133	4.0	29.0	142	4.1
	50	42.1	111	3.8	39.5	122	4.0	38.1	126	4.1	36.4	130	4.1	35.1	135	4.2	32.1	145	4.4
38GR004	30	33.1	102	3.8	30.4	112	3.9	29.4	114	4.0	28.1	120	4.0	26.8	124	4.1	24.3	135	4.1
	35	36.6	103	4.0	33.9	113	4.1	33.0	115	4.2	31.7	121	4.3	30.3	125	4.3	27.6	136	4.4
	40	40.5	104	4.3	37.8	114	4.4	37.0	117	4.6	35.6	122	4.5	34.2	127	4.6	31.1	137	4.7
	45	44.4	105	4.5	41.7	116	4.7	40.8	118	4.7	39.3	123	4.8	37.8	128	4.9	35.0	138	5.0
	50	48.1	106	4.7	45.6	118	4.9	45.0	120	5.0	43.4	125	5.1	41.8	130	5.2	38.3	139	5.3
38GR045	30	37.3	102	4.4	34.6	112	4.5	33.8	115	4.5	32.5	121	4.5	31.1	126	4.6	28.3	136	4.7
	35	41.1	104	4.6	38.5	114	4.7	37.9	117	4.7	36.5	123	4.8	35.0	127	4.9	31.9	137	5.0
	40	45.4	106	4.8	42.5	116	5.0	42.1	119	5.0	40.6	124	5.1	38.8	128	5.2	36.0	139	5.4
	45	49.6	107	5.1	46.6	117	5.3	46.4	120	5.3	44.9	125	5.4	43.2	130	5.5	40.0	140	5.7
	50	53.9	108	5.5	51.1	119	5.6	50.6	121	5.7	49.3	127	5.8	47.6	132	5.9	44.5	142	6.1
38GR005	30	46.2	103	4.4	42.4	113	4.6	41.1	116	4.7	39.2	121	4.8	37.3	125	4.9	33.5	135	5.0
	35	51.7	106	4.7	47.4	115	4.9	46.0	118	5.0	44.0	123	5.1	41.9	128	5.2	37.8	137	5.4
	40	57.0	107	5.0	52.7	117	5.2	51.2	119	5.3	48.9	124	5.4	46.7	129	5.5	42.3	138	5.7
	45	62.8	109	5.2	57.9	118	5.5	56.7	122	5.6	54.3	126	5.7	51.9	131	5.9	47.1	139	6.1
	50	68.8	111	5.5	63.7	121	5.9	62.2	123	5.9	59.6	127	6.1	57.1	132	6.2	52.1	141	6.5
38GR006	30	56.1	110	6.2	51.6	119	6.4	50.4	122	6.4	48.2	126	6.5	46.0	131	6.6	42.0	140	6.8
	35	62.2	112	6.6	57.4	122	6.8	56.4	124	6.9	54.0	129	7.0	51.7	133	7.1	47.2	143	7.3
	40	68.7	115	7.0	63.4	124	7.3	62.5	126	7.3	60.0	131	7.5	57.4	136	7.6	52.1	144	7.8
	45	74.9	117	7.5	69.4	126	7.8	68.7	128	7.8	66.1	133	8.0	63.3	138	8.1	57.6	147	8.4
	50	81.6	120	8.0	75.6	129	8.3	74.8	130	8.3	71.8	135	8.5	68.7	140	8.7	62.5	148	8.9

Cap. — Capacity (1000 Btuh)

Kw — Compr Motor Power Input

SCT — Saturated Cond Temp

SST — Saturated Suction Temp shown corresponds to the pressure at the compressor. Actual suction temp is higher due to superheat

NOTES:

1. Interpolation is permissible. Do not extrapolate.
2. Use 15 F subcooling when selecting thermal expansion valve.



These units rated and listed in accordance with latest ARI Standard 210 and UL Standard 303 when used in combination with components specified by manufacturer.

MINIMUM OUTDOOR OPERATING TEMP
(38GR Condensing Units)

WITHOUT ACCESSORY 32 MOTORMASTER®	WITH ACCESSORY 32 MOTORMASTER*
45 F	-20 F

*Requires winter start provisions that consist of installing a liquid line low-pressure switch (Carrier Part No. HK02AB026) at the liquid line service valve, and electrically jumpering out the low-pressure switch. A freeze-up thermostat must be added to the evaporator coil (Carrier Part No. 50BB900001).

ELECTRICAL DATA

ELECTRICAL DATA (60-Hz)

UNIT	VOLTS/ PH	NDSV	COMPR FLA	FAN FLA	WSA
38GR002	230/1	240	14.8	1.0	19.5
38GR003	230/1	240	19.2	1.1	25.1
	200/3	208	13.0	1.1	17.3
	230/3	220-240	11.5	1.1	15.5
38GR004	230/1	240	22.9	1.3	29.9
	200/3	208	14.0	1.3	18.8
	230/3	220-240	12.6	1.3	17.0
	460/3	440-480	6.5	0.7	8.8
38GR045	230/1	240	26.9	1.3	34.9
	200/3	208	14.0	1.3	18.8
	230/3	220-240	12.4	1.3	16.8
	460/3	440-480	6.2	0.7	8.5
38GR005	230/1	240	30.4	2.0	40.0
	200/3	208	18.6	2.0	25.2
	230/3	220-240	16.1	2.0	22.1
	460/3	440-480	8.3	1.2	11.6
38GR006	230/1	240	39.0	2.0	50.7
	200/3	208	23.0	2.0	30.7
	230/3	220-240	20.5	2.0	27.6
	460/3	440-480	10.3	1.2	14.1

FLA — Full Load Amps

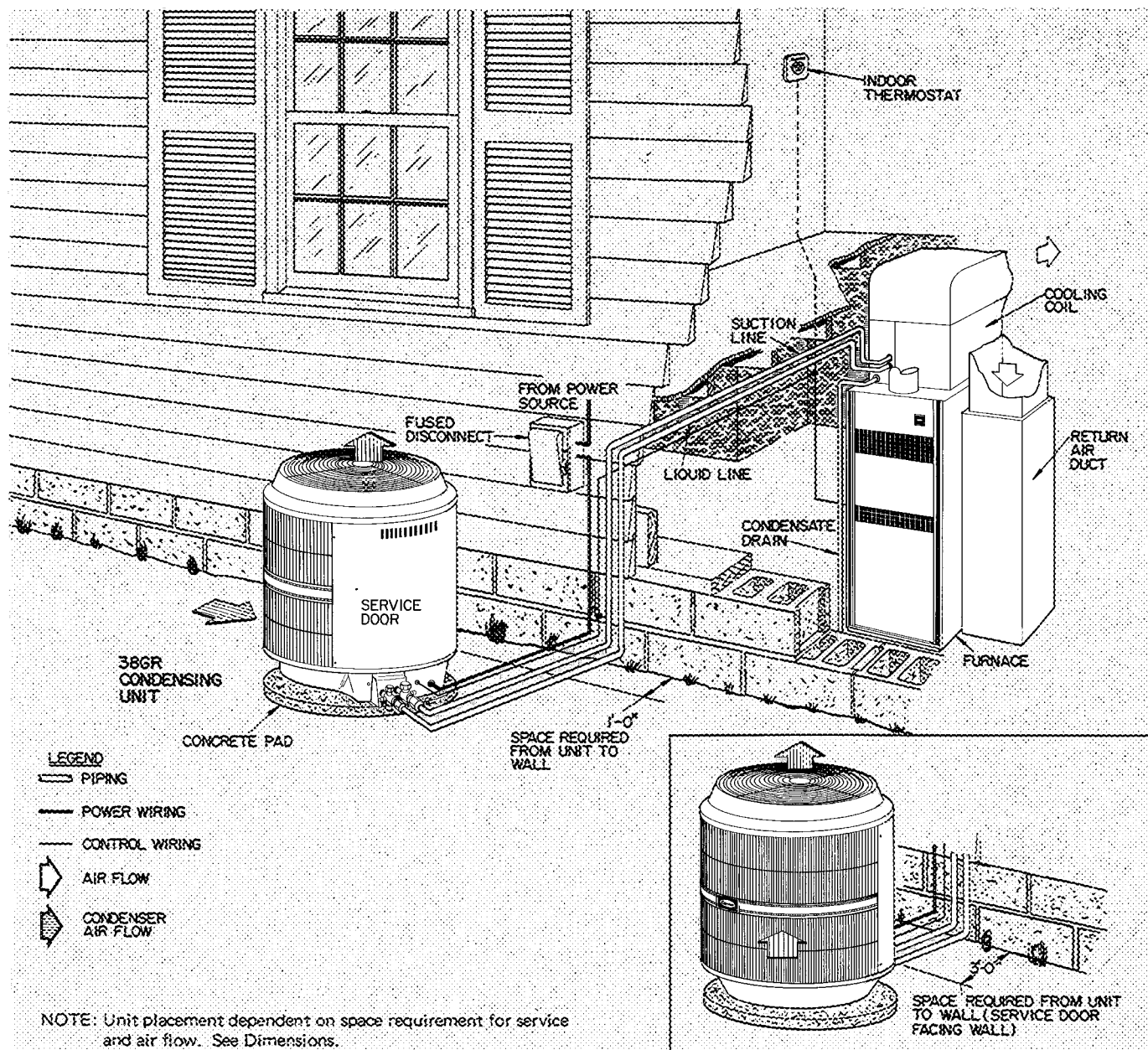
NDSV — Nominal Distribution System Voltage (Application Range)

WSA — Wire Sizing Amps

NOTES:

- Control circuit voltage on all units is 24 volts
- Line-voltage terminal block suitable for copper or aluminum wire connections. Low-voltage aluminum field wiring may be splice connected to copper pigtailed from unit with approved copper to aluminum splice connectors.
- Motors and controls will operate satisfactorily 10% above and 10% below unit voltage.

TYPICAL PIPING AND WIRING



CONTROLS (And Protective Devices)

Crankcase Heater keeps oil free of refrigerant to ensure proper compressor lubrication.

High-Pressure Switch* protects unit from excessive condensing pressures. Shuts compressor off as discharge pressure rises above setting.

Low-Pressure Switch* prevents loss of refrigerant charge — provides evaporator coil freeze-up protection. Shuts compressor off if suction pressure drops below setting.

Suction Line Accumulator prevents compressor damage from liquid refrigerant. (Not included on 38GR002,003)

Filter-Drier traps moisture and dirt that could contaminate refrigerant system.

Liquid Line Sight Glass lets serviceman tell at a glance if unit has correct refrigerant charge.

Internal Thermostat* protects compressor from excessive temperatures.

Inherent Fan Motor Protection from abnormal current and temperatures.

Low-Voltage Transformer provides enough 24-v power for complete cooling system.

Outdoor Fan Thermostat switches fan to high speed when outdoor temp reaches 90 F.

*Safety controls are monitored by *Solid-State Control System* which limits compressor starts at 4- to 6-minute intervals depending on reason for shutdown.

APPLICATION

38GR units are recommended for use with Carrier evaporators; however, they can be matched with other manufacturers' evaporators. Install each unit in accordance with the following special requirements.

38GR Condensing Units Connected to Carrier Approved Evaporators with Carrier Accessory Tubing — System refrigerant charge is correct when evaporator is the same size, or one size larger than condensing unit. Check system refrigerant charge on other systems. See Installation, Start-Up and Service Instructions for details.

38GR Condensing Unit Connected to Non-Carrier Evaporators — Check refrigerant charge when the 38GR is added to a system in

which other than a Carrier approved evaporator is being used or where the evaporator has been previously installed. Field-supplied refrigerant piping must be in accordance with Field-Supplied Piping Data table. Where evaporator is below condensing unit, reduce liquid line size one diameter (min 1/4-in. OD).

Unit Location — Normal installation does not require sound treatment. Vertical discharge may reduce directional sound problems normally associated with horizontal discharge. Locate unit where it will not disturb neighbors. On occasion, local conditions or building construction may be such that special consideration should be given to reducing sound level.

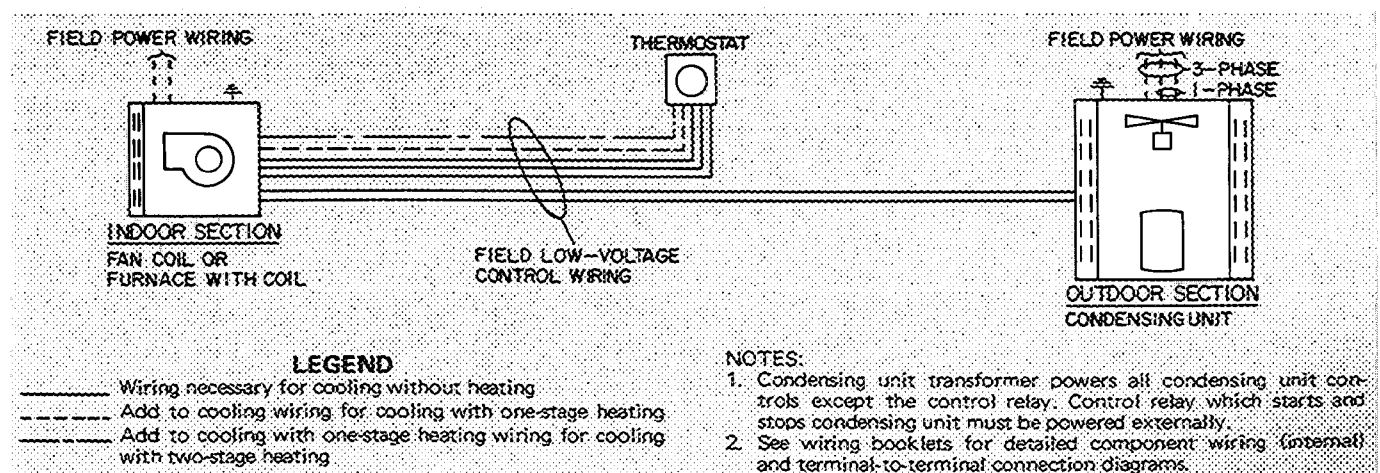
FIELD-SUPPLIED PIPING DATA

COND UNIT	REFRIG CONTROL	MAX COND UNIT HT (ft)		REFRIGERANT LINE LENGTH (ft)									
		Above Evap	Below Evap	25		50		75		100		150	
				Suct	Liq	Suct	Liq	Suct	Liq	Suct	Liq	Suct	Liq
38GR002	TXV	90	90										
	Cap. Tube	70	50										
38GR003	TXV	90	90										
	Cap. Tube	70	50										
38GR004	TXV	90	90										
	Cap. Tube	70	50										
38GR045	TXV	90	90										
	Cap. Tube	70	50										
38GR005	TXV	90	90										
	Cap. Tube	70	50										
38GR006	TXV	90	90										
	Cap. Tube	70	50										

Cap. Tube — Capillary Tube

TXV — Thermal Expansion Valve

TYPICAL SYSTEM WIRING REQUIREMENT



GUIDE SPECIFICATIONS

Furnish and Install where indicated on plans an air-cooled condensing unit. The unit shall contain sufficient refrigerant (R-22) charge for complete system and be equipped with refrigerant line fittings which permit mechanical or sweat connections. Fittings shall be located on exterior of unit.

Total Cooling Capacity shall be _____ Btuh or greater with an evaporator air quantity of _____ cfm and entering wet-bulb temp of _____ F coincident with _____ F dry-bulb temp of air entering condenser. Total sensible heat capacity shall be _____ Btuh or greater with _____ F room dry-bulb temp.

Saturated suction temperature at the compressor shall be _____ F. Saturated condensing temperature shall not exceed _____ F.

Compressor shall be of the welded hermetic-type with internal vibration isolation and be covered with a shield to muffle operating sound. Compressor motor power input shall not exceed _____ kw at specified operating conditions.

Condenser Coil shall be of circular construction. Tubes shall be nonferrous with mechanically bonded aluminum plate fins. Plastic condenser fan shall be propeller-type, direct driven, and arranged for vertical air discharge. Fan hub shall be designed to protect motor shaft, bearings and windings, and shall have internal air vanes to cool

motor during operation. Automatic two-speed fan motor shall be factory lubricated, inherently protected and resiliently mounted. Fan motor shall automatically switch to high speed at 90 F outdoor temperature. Fan and motor shall be self-locating in relation to fan orifice.

Controls shall be factory wired and located in a readily accessible location on unit swing-out service door. Compressor motor shall have both thermal and current-sensitive overload devices. Solid-state compressor protection control system shall prevent short cycling on safety devices or power interruption by limiting compressor starts at 4- to 6-minute intervals depending on reason for shutdown. Other protective devices shall include crankcase heater, high- and low-pressure safety switches, suction line accumulator, filter-drier and liquid line sight glass. A 24-volt control circuit transformer shall be factory installed in unit. Plug-in wiring connections to control shall be provided.

Dimensions — The entire assembly shall have a width of not more than _____ in., a depth of not more than _____ in., and an overall height of not more than _____ inches.

Accessories shall include (Solid-State Head Pressure Control), (Indoor Fan Relay), (Thermostat with Subbase), (Tubing Package).

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

CARRIER AIR CONDITIONING COMPANY • SYRACUSE, NEW YORK