Supplemental Instructions

Models:

W30AYD W36AYD W42AYD W48AYD W60AYD W72AYD

This model provides a unique dehumidification circuit for periods of low outdoor ambient temperature and high indoor humidity conditions.

Refer to Specification Sheet S3642 for the standard features of the base units and this manual for electrical data.

Dehumidification Circuit

The dehumidification circuit incorporates an independent heat exchanger coil in the supply air stream. This coil reheats the supply air after it passes over the cooling coil without requiring the electric resistance heater to be used for reheat purposes. This results in very high mechanical dehumidification capability from the air conditioner on demand without using electric resistance reheat.

The dehumidification refrigerant reheat circuit is controlled by a dehumidification valve directing the refrigerant gas to the normal condenser during periods when standard air conditioning is required. During periods of high indoor humidity, a humidistat senses the need for mechanical dehumidification. It then energizes both the compressor circuit and the dehumidification valve, thus directing the hot refrigerant discharge gas into a separate desuperheating condenser circuit, which reheats the conditioned air before it is delivered to the room. The refrigerant gas is then routed from the desuperheating condenser to the system condenser for further heat transfer. When the humidistat is satisfied, the system automatically switches off. The result is separate humidity control at minimum operating cost.

Dehumidification Sequence of Operation

Dehumidification is controlled through the thermostat (if capable) or through a separate humidistat. On a call for dehumidification mode of operation, the compressor and dehumidification valve of the unit are energized through circuit R - D to provide dehumidification. Dehumidification will continue until the humidistat is satisfied.

A cooling call takes precedence over a dehumidification call as long as the cooling call is present. A heating call takes precedence over a dehumidification call as long as the heating call is present.

Refer to the table on page 12 for a full list of outputs that can be expected for different input combinations.

Balanced Climate™ Mode

It is recommended to enable Balanced Climate mode and utilize a 2-stage thermostat to enhance the dehumidification performance and comfort. To activate this mode, the jumper between Y1 and Y2 on the low voltage terminal strip needs to be removed and the unconnected purple wire laying in the cable duct needs to be pulled out and placed on the terminal block so that it connects to the yellow wire from the outdoor temperature switch. Refer to the unit wiring diagram for clarity.

NOTE: *In units with dehumidification, never have both the Balanced Climate jumper in place and the outdoor temperature switch connected at the same time!*

Bard SINCE 1914 Climate Control Solutions

Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
www.bardhvac.com

Manual: 7960-947
Supersedes: ***NEW***
Date: 6-29-23

This mode will allow the indoor blower to run at a reduced airflow on the first stage of cooling. A 2-stage thermostat connected to Y2 will then allow the airflow to return to normal rated speed if the call for dehumidification or cooling is not satisfied within the allotted time frame specified by the thermostat. See latest revision of unit installation instructions 2100-787 or 2100-789 for more information regarding the Balanced Climate operation.

Electronic Expansion Valve

Operation

This model employs an electronic expansion valve (EEV) which meters the refrigerant to the evaporator. The EEV is made of a stepper motor that is controlled with a step output from the controller. The valve is capable of 480 steps which drives a needle valve that in turn regulates the flow of refrigerant. The EEV allows for tighter control and better capacity management in varying operating conditions than a standard TXV. The EEV system consists of the electronic valve and stator, control board, relay, suction temperature sensor and suction pressure transducer. The pressure transducer and temperature sensor monitor the suction line to provide real time data to the control board so that a real time superheat can be calculated. This then determines the EEV position. The controller is sent to maintain around 13° superheat. The relay is used to activate the EEV system's controller anytime that the compressor is energized.

WARNING/AVERTISSEMENT

- Exposure to high pressure refrigerant hazard.
- This unit is equipped with an electronic expansion valve. In order to fully recover refrigerant or evacuate the system during repairs, be sure to use service tool 2151-021 to manually open the electronic expansion valve or be sure to recover and evacuate from all service ports; suction, liquid, and discharge.
- Failure to do so could result in eye injuries and/or refrigerant burns.

- Exposition à un risque de réfrigérant à haute pression.
- Cet appareil est équipé d'un détendeur électronique. Afini de récupérer complètement le réfrigérant ou d'évacuer le système pendant les réparations, assurez-vous d'utiliser l'outil de service 2151-021 pour ouvrir manuellement le détendeur électronique ou assurrez-vous de récupérer et d'évacuer de tous les ports de service: aspiration, liquide et refoulement.
- Ne pas le faire pourrait entraîner des blessures auz yeux et / ou des brûlures de réfrigérant.

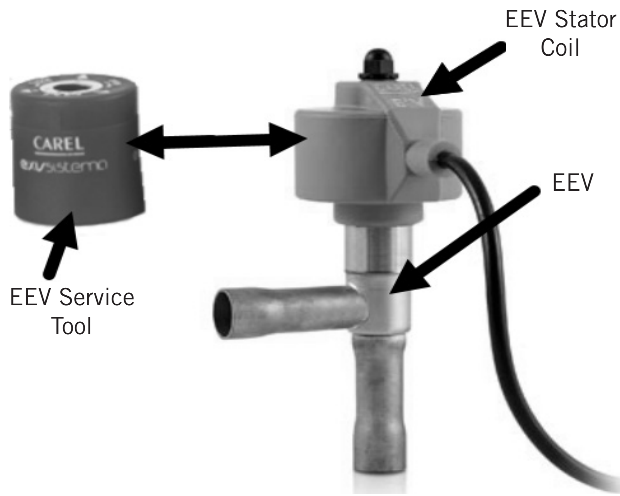
7961-953

EEV Instructions for Vacuuming, Reclaiming and Charging Unit

The electronic expansion valve moves to a closed position when there is no call to control. In order to pull a complete vacuum, fully reclaim the system or charge the unit, connections to all service ports—suction, liquid and discharge—need to be utilized or the valve needs to be manually opened first. The valve can be opened manually using the magnetic EEV service tool (Bard Part # 2151-021) shown in Figure 1. To do this, remove the EEV stator coil (red color with retaining nut on top), slide the magnetic tool over the shaft where the stator was removed and turn in a clockwise direction to open the valve to the full open position (directional arrows are provided on the tool).

Reapply the EEV stator coil and retaining nut once complete. Upon powering the unit back up, the control board will automatically drive the EEV back to the fully shut position. Once the compressor starts, the control board will again modulate the EEV position to control the system superheat.

FIGURE 1
Electronic Expansion Valve (EEV) and Service Tool



Troubleshooting the Electronic Expansion Valve

The control board has two status LEDs.

- The green LED should be lit anytime that the board has power and the control is functioning.
- The red LED is to show that an alarm is present.

See Table 1 for a guide to know where to start troubleshooting the EEV. Refer to the appropriate unit replacement parts manual for any parts that are needed.

Control Board

Check that the controller is getting 24VAC signal (GO 24VAC Hot and G 24VAC common). Reference unit wiring diagram for proper connections. If 24V is present but the green LED is not lit, replace the controller. If the green LED is now lit but the superheat is still not being maintained, troubleshoot the relay to check that the DI is connected to G; refer to **Relay in EEV Control Box** on page 3.

Electronic Expansion Valve

Check to see if valve can be moved by manually moving the stepper motor using the EEV service tool shown in Figure 1 (Bard Part # 2151-021). If valve still does not control, check the transducer and thermistor sensors as described on page 4. If sensors are good, replace the valve.

TABLE 1
Electronic Expansion Valve Troubleshooting

Problem	Probable Cause	Troubleshoot
The green LED is not lit.	Controller not receiving 24VAC signal.	Control Board
The green LED is lit, but superheat is not being maintained.	The relay is not closing the controller's DI connection to ground.	Relay
The red LED is flashing and EEV is not controlling superheat properly (13° superheat). One of the following is likely the fault:		
1. Low superheat is detected and the controller is taking steps to protect the system by closing the valve.	Stator is broken or connected incorrectly.	Stator
	Valve is stuck open.	EEV Valve
2. Suction temperature sensor error.	Poor connection of sensor or faulty sensor.	Thermistor
3. Suction pressure transducer error.	Pressure transducer wiring incorrect or faulty transducer.	Transducer
The red LED is on steady.	The operating parameters have been damaged.	Replace Control Board

Relay in EEV Control Box

Contacts NO to DI and COM to G must be closed for EEV control to start controlling superheat. Check that the relay is getting 24VAC. Reference unit wiring diagram for proper connections. If 24V is present, measure the resistance between COM and NO; it should be 0 ohms when the relay is getting 24V. If the resistance is out of range, replace the relay.

Stator Coil

Disconnect the stator from the valve and the control and measure the resistance of the windings using an electrical tester. The resistance of both windings should be around 40 ohms +/– 10%. The four wire sets that will have resistance between them are: White and red, green and red, yellow and purple, blue and purple. If the resistance falls outside these values, replace the stator.

Transducer Sensor

1. Check that there is 5VDC Nominal between the red and black wires going to the transducer.
2. Check the signal voltage between the blue and black wires (0.5-4.5VDC Actual). The following formula and Figure 2 can be used to determine if the transducer's voltage to pressure ratio is within range. Replace transducer if out of range.
3. Check to ensure wires are correctly connected as follows:

   Blue wire = pin 1 of controller plug to pin C on transducer plug

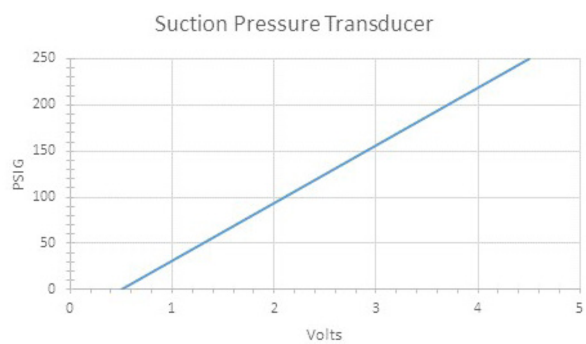
   Red wire = pin 2 of controller plug to pin B on transducer plug

   Black wire = pin 3 of controller plug to pin A on transducer plug
4. Check continuity of all three wires from transducer plug to controller plug. Replace wires if poor connection in any wire.

Formula for Tech:

(Measured Pressure x .016) + .5 =
Expected Transducer Signal Voltage (see Figure 2)

FIGURE 2
Voltage to Pressure: Suction Pressure Transducer



Thermistor Sensor

1. Make a visual check for broken wire insulation, broken wires or cracked epoxy material.
2. Disconnect 10k ohm NTC thermistor from the EEV control box.
3. Use an ohmmeter to measure the resistance between the two connectors. Also use ohmmeter to check for short or open.
4. Compare the resistance reading to Table 2. Use sensor ambient temperature. (Tolerance of part is ±10 %.)
5. If sensor is out of tolerance, shorted, open or reads very low ohms, it should be replaced.

TABLE 2
10K Ohm NTC Sensor: Temperature/Resistance

Temperature		Resistance
F	C	Ω
-40	-40	188,500
-38.2	-39	178,500
-36.4	-38	169,000
-34.6	-37	160,200
-32.8	-36	151,900
-31	-35	144,100
-29.2	-34	136,700
-27.4	-33	129,800
-25.6	-32	123,300
-23.8	-31	117,100
-22	-30	111,300
-20.2	-29	105,700
-18.4	-28	100,500
-16.6	-27	95,520
-14.8	-26	90,840
-13	-25	86,430
-11.2	-24	82,260
-9.4	-23	78,330
-7.6	-22	74,610
-5.8	-21	71,100
-4	-20	67,770
-2.2	-19	64,570
-0.4	-18	61,540
1.4	-17	58,680
3.2	-16	55,970
5	-15	53,410
6.8	-14	50,980
8.6	-13	48,680
10.4	-12	46,500
12.2	-11	44,430
14	-10	42,470
15.8	-9	40,570
17.6	-8	38,770
19.4	-7	37,060
21.2	-6	35,440
23	-5	33,900
24.8	-4	32,440
26.6	-3	31,050

Temperature		Resistance
F	C	Ω
28.4	-2	29,730
30.2	-1	28,480
32	0	27,280
33.8	1	26,130
35.6	2	25,030
37.4	3	23,990
39.2	4	23,000
41	5	22,050
42.8	6	21,150
44.6	7	20,300
46.4	8	19,480
48.2	9	18,700
50	10	17,960
51.8	11	17,240
53.6	12	16,560
55.4	13	15,900
57.2	14	15,280
59	15	14,690
60.8	16	14,120
62.6	17	13,580
64.4	18	13,060
66.2	19	12,560
68	20	12,090
69.8	21	11,630
71.6	22	11,200
73.4	23	10,780
75.2	24	10,380
77	25	10,000
78.8	26	9,630
80.6	27	9,280
82.4	28	8,940
84.2	29	8,620
86	30	8,310
87.8	31	8,010
89.6	32	7,730
91.4	33	7,450
93.2	34	7,190
95	35	6,940

Temperature		Resistance
F	C	Ω
96.8	36	6,700
98.6	37	6,470
100.4	38	6,250
102.2	39	6,030
104	40	5,830
105.8	41	5,630
107.6	42	5,440
109.4	43	5,260
111.2	44	5,080
113	45	4,910
114.8	46	4,750
116.6	47	4,590
118.4	48	4,440
120.2	49	4,300
122	50	4,160
123.8	51	4,030
125.6	52	3,900
127.4	53	3,770
129.2	54	3,650
131	55	3,540
132.8	56	3,430
134.6	57	3,320
136.4	58	3,220
138.2	59	3,120
140	60	3,020
141.8	61	2,930
143.6	62	2,840
145.4	63	2,750
147.2	64	2,670
149	65	2,590
150.8	66	2,510
152.6	67	2,440
154.4	68	2,360
156.2	69	2,300
158	70	2,230
159.8	71	2,160
161.6	72	2,100
163.4	73	2,040

Temperature		Resistance
F	C	Ω
165.2	74	1,980
167	75	1,920
168.8	76	1,870
170.6	77	1,820
172.4	78	1,770
174.2	79	1,920
176	80	1,670
177.8	81	1,620
179.6	82	1,580
181.4	83	1,530
183.2	84	1,490
185	85	1,450
186.8	86	1,441
188.6	87	1,370
190.4	88	1,340
192.2	89	1,300
194	90	1,270
195.8	91	1,230
197.6	92	1,200
199.4	93	1,170
201.2	94	1,140
203	95	1,110
204.8	96	1,080
206.6	97	1,050
208.4	98	1,020
210.2	99	1,000
212	100	970

W30AYD Cooling and Dehumidification Application Data[1]

DB/WB[2]	OD Temp.	65°F[3]		70°F		75°F		80°F		85°F		90°F		95°F		100°F		105°F	
	Mode	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum
75/62.5 (50% RH)	Total Cooling Btuh	32,100	14,400	31,200	12,100	30,600	10,100	29,300	7,500	28,500	5,200	27,600	2,900	26,700	500	25,900		25,000	
	Sensible Btuh	22,500	5,400	22,000	3,700	21,500	2,300	21,100	300	20,700	(1,400)	20,300	(3,000)	20,000	(4,700)	19,700	(6,400)	19,400	(8,000)
	S/T	0.701	0.375	0.705	0.306	0.703	0.228	0.720	0.040	0.726	0	0.736	0	0.749	0	0.761	0	0.776	0
	Latent Btuh	9,600	9,000	9,200	8,400	9,100	7,800	8,200	7,200	7,800	6,600	7,300	5,900	6,700	5,200	6,200	4,500	5,600	3,800
	Lbs. H2O/hr.	9.1	8.5	8.7	7.9	8.6	7.4	7.7	6.8	7.4	6.2	6.9	5.6	6.3	4.9	5.8	4.2	5.3	3.6
	Supply Air DB	52.5	67.9	52.9	70.2	53.3	72.4	53.7	74.6	54.0	76.8	54.4	79.0	54.8	81.1	55.1	83.3	55.4	85.5
	Supply Air WB	50.8	55.9	51.2	57.0	51.2	57.9	51.9	59.2	52.2	60.3	52.6	61.3	52.9	62.4	53.2	63.4	53.5	64.5
	Suction PSIG[4]	121	115	123	117	125	119	125	121	127	123	128	126	129	128	131	130	132	133
	Discharge PSIG[4]	271	228	291	243	311	257	335	272	358	288	382	304	408	320	434	336	462	353
75/64.1 (55% RH)	Total Cooling Btuh	32,900	15,400	32,000	13,100	31,100	10,900	30,200	8,500	29,300	6,200	28,400	3,900	27,600	1,500	26,700		25,900	
	Sensible Btuh	22,100	4,700	21,600	3,000	21,100	1,300	20,700	(400)	20,300	(2,100)	19,900	(3,800)	19,600	(5,400)	19,300	(7,100)	19,000	(8,700)
	S/T	0.672	0.31	0.675	0.23	0.678	0.12	0.685	0	0.693	0	0.701	0	0.710	0	0.723	0	0.734	0
	Latent Btuh	10,800	10,700	10,400	10,100	10,000	9,600	9,500	8,900	9,000	8,300	8,500	7,700	8,000	6,900	7,400	6,300	6,900	5,500
	Lbs. H2O/hr.	10.2	10.1	9.8	9.5	9.4	9.1	9.0	8.4	8.5	7.8	8.0	7.3	7.5	6.5	7.0	5.9	6.5	5.2
	Supply Air DB	53.9	68.9	54.3	71.1	54.6	73.3	55.0	75.5	55.4	77.7	55.8	79.9	56.1	82.1	56.5	84.3	56.8	86.4
	Supply Air WB	52.3	57.0	52.6	58.1	53.0	59.2	53.3	60.3	53.7	61.4	54.0	62.4	54.4	63.5	54.7	64.5	55.0	65.6
	Suction PSIG[4]	125	118	126	120	127	122	129	124	130	127	131	129	133	131	134	134	136	136
	Discharge PSIG[4]	273	231	293	245	314	260	337	275	360	290	384	306	410	322	436	339	463	356
75/65.5 (60% RH)	Total Cooling Btuh	33,800	16,400	32,900	14,200	32,300	12,200	31,100	9,600	30,200	7,200	29,300	4,900	28,400	2,500	27,600	200	26,700	
	Sensible Btuh	21,600	3,900	21,100	2,200	20,700	800	20,200	(1,100)	19,900	(2,800)	19,500	(4,500)	19,200	(6,200)	18,900	(7,800)	18,600	(9,500)
	S/T	0.639	0.238	0.641	0.155	0.641	0.066	0.650	0	0.659	0	0.666	0	0.676	0	0.685	0	0.697	0
	Latent Btuh	12,200	12,500	11,800	12,000	11,600	11,400	10,900	10,700	10,300	10,000	9,800	9,400	9,200	8,700	8,700	8,000	8,100	7,300
	Lbs. H2O/hr.	11.5	11.8	11.1	11.3	10.9	10.8	10.3	10.1	9.7	9.4	9.2	8.9	8.7	8.2	8.2	7.5	7.6	6.9
	Supply Air DB	55.2	69.8	55.6	72.1	56.0	74.3	56.4	76.5	56.8	78.7	57.1	80.9	57.5	83.1	57.8	85.2	58.2	87.4
	Supply Air WB	53.7	58.1	54.1	59.2	54.0	60.0	54.8	61.4	55.1	62.5	55.5	63.5	55.8	64.6	56.1	65.6	56.4	66.7
	Suction PSIG4	129	121	130	123	132	125	132	128	134	130	135	132	136	135	138	137	139	140
	Discharge PSIG4	274	233	295	248	314	262	338	277	362	293	386	309	411	325	438	341	465	358
75/66.7 (65% RH)	Total Cooling Btuh	34,600	17,400	33,700	15,200	33,200	13,200	31,900	10,600	31,000	8,200	30,100	5,900	29,300	3,600	28,400	1,200	27,600	
	Sensible Btuh	21,200	3,200	20,700	1,500	20,300	-	19,800	(1,900)	19,400	(3,600)	19,100	(5,200)	18,700	(6,900)	18,400	(8,600)	18,200	(10,200)
	S/T	0.613	0.18	0.614	0.10	0.611	0.00	0.621	0	0.626	0	0.635	0	0.638	0	0.648	0	0.659	0
	Latent Btuh	13,400	14,200	13,000	13,700	12,900	13,200	12,100	12,500	11,600	11,800	11,000	11,100	10,600	10,500	10,000	9,800	9,400	9,000
	Lbs. H2O/hr.	12.6	13.4	12.3	12.9	12.2	12.5	11.4	11.8	10.9	11.1	10.4	10.5	10.0	9.9	9.4	9.2	8.9	8.5
	Supply Air DB	56.6	70.8	57.0	73.0	57.4	75.2	57.8	77.4	58.1	79.6	58.5	81.8	58.8	84.0	59.2	86.2	59.5	88.3
	Supply Air WB	55.2	59.1	55.5	60.3	55.5	61.1	56.2	62.5	56.6	63.5	56.9	64.6	57.2	65.7	57.6	66.7	57.9	67.7
	Suction PSIG[4]	132	125	133	127	135	129	136	131	137	133	139	136	140	138	142	140	143	143
	Discharge PSIG[4]	276	236	297	250	316	265	340	280	364	295	388	311	413	327	440	344	467	361
75/68 (70% RH)	Total Cooling Btuh	35,500	18,400	34,600	16,200	34,000	14,200	32,800	11,600	31,900	9,300	31,000	6,900	30,100	4,600	29,300	2,200	28,400	
	Sensible Btuh	20,800	2,500	20,300	800	19,800	(700)	19,400	(2,600)	19,000	(4,300)	18,600	(6,000)	18,300	(7,600)	18,000	(9,300)	17,700	(10,900)
	S/T	0.586	0.136	0.587	0.049	0.582	0	0.591	0	0.596	0	0.600	0	0.608	0	0.614	0	0.623	0
	Latent Btuh	14,700	15,900	14,300	15,400	14,200	14,900	13,400	14,200	12,900	13,600	12,400	12,900	11,800	12,200	11,300	11,500	10,700	10,700
	Lbs. H2O/hr.	13.9	15.0	13.5	14.5	13.4	14.1	12.6	13.4	12.2	12.8	11.7	12.2	11.1	11.5	10.7	10.8	10.1	10.1
	Supply Air DB	58.0	71.7	58.4	74.0	58.7	76.2	59.1	78.4	59.5	80.6	59.9	82.8	60.2	85.0	60.6	87.1	60.9	89.3
	Supply Air WB	56.6	60.2	57.0	61.3	56.9	62.2	57.7	63.5	58.0	64.6	58.4	65.7	58.7	66.8	59.0	67.8	59.3	68.8
	Suction PSIG[4]	136	128	137	130	139	132	139	134	141	137	142	139	144	141	145	144	147	146
	Discharge PSIG[4]	278	238	298	252	318	267	342	282	365	298	390	314	415	330	441	346	469	363
80/68.3 (55% RH)	Total Cooling Btuh	35,200	18,400	34,300	16,100	33,800	14,100	32,500	11,500	31,600	9,200	30,700	6,800	29,900	4,500	29,000	2,100	28,200	
	Sensible Btuh	18,500	5,400	18,000	3,700	17,600	2,300	17,100	300	16,700	(1,400)	16,400	(3,000)	16,000	(4,700)	15,700	(6,400)	15,500	(8,000)
	S/T	0.526	0.29	0.525	0.23	0.521	0.16	0.526	0.03	0.528	0	0.534	0	0.535	0	0.541	0	0.550	0.00
	Latent Btuh	16,700	13,000	16,300	12,400	16,200	11,800	15,400	11,200	14,900	10,600	14,300	9,800	13,900	9,200	13,300	8,500	12,700	7,700
	Lbs. H2O/hr.	15.8	12.3	15.4	11.7	15.3	11.1	14.5	10.6	14.1	10.0	13.5	9.2	13.1	8.7	12.5	8.0	12.0	7.3
	Supply Air DB	57.3	72.4	57.7	74.6	58.0	76.9	58.5	79.1	58.8	81.3	59.2	83.5	59.5	85.6	59.9	87.8	60.2	89.9
	Supply Air WB	56.7	60.4	57.0	61.5	57.0	62.4	57.7	63.7	58.1	64.8	58.4	65.9	58.7	66.9	59.1	68.0	59.4	69.0
	Suction PSIG[4]	135	130	136	132	138	134	138	136	140	138	141	141	143	143	144	145	146	148
	Discharge PSIG[4]	279	239	299	254	319	268	343	284	366	299	390	315	416	331	442	348	469	365

1 Values listed are with ventilation package disabled
2 Return air temperature °F @ Default airflow (950 CFM) for AC tests and Balanced Climate airflow (705 CFM) for dehumidification tests
3 Below 50°F, unit requires a factory or field installed low ambient control.
4 Suction pressure +/- 4 psi, Discharge pressure +/- 10 psi

W36AYD Cooling and Dehumidification Application Data[1]

DB/WB[2]	OD Temp.	65°F[3]		70°F		75°F		80°F		85°F		90°F		95°F		100°F		105°F	
	Mode	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum
75/62.5 (50% RH)	Total Cooling Btuh	39,800	18,700	38,700	16,200	37,500	13,700	36,500	11,100	35,300	8,500	34,200	5,900	33,000	3,200	31,800	400	30,600	
	Sensible Btuh	29,200	7,100	28,700	5,300	28,200	3,500	27,700	1,600	27,200	(300)	26,600	(2,200)	26,100	(4,200)	25,500	(6,100)	25,000	(8,100)
	S/T	0.734	0.380	0.742	0.327	0.752	0.255	0.759	0.144	0.771	0	0.778	0	0.791	0	0.802	0	0.817	0
	Latent Btuh	10,600	11,600	10,000	10,900	9,300	10,200	8,800	9,500	8,100	8,800	7,600	8,100	6,900	7,400	6,300	6,500	5,600	5,700
	Lbs. H20/hr.	10.0	10.9	9.4	10.3	8.8	9.6	8.3	9.0	7.6	8.3	7.2	7.6	6.5	7.0	5.9	6.1	5.3	5.4
	Supply Air DB	52.0	67.0	52.4	69.0	52.8	71.1	53.3	73.2	53.7	75.4	54.1	77.5	54.4	79.7	54.8	81.9	55.1	84.1
	Supply Air WB	50.5	55.1	51.0	56.1	51.3	57.0	51.7	58.1	52.1	59.2	52.4	60.2	52.8	61.3	53.1	62.5	53.4	63.6
	Suction PSIG[4]	125	119	127	120	128	120	130	122	131	123	133	124	134	126	135	128	137	130
	Discharge PSIG[4]	287	239	307	254	329	269	351	284	376	300	401	317	427	334	455	352	484	371
75/64.1 (55% RH)	Total Cooling Btuh	40,900	19,800	39,800	17,400	38,600	14,900	37,500	12,300	36,300	9,700	35,200	7,100	34,000	4,400	32,800	1,600	31,700	
	Sensible Btuh	27,500	6,200	27,000	4,400	26,500	2,500	26,000	700	25,500	(1,200)	25,000	(3,200)	24,500	(5,100)	23,900	(7,000)	23,300	(9,000)
	S/T	0.672	0.31	0.678	0.25	0.687	0.17	0.693	0.06	0.702	0	0.710	0	0.721	0	0.729	0	0.735	0
	Latent Btuh	13,400	13,600	12,800	13,000	12,100	12,400	11,500	11,600	10,800	10,900	10,200	10,300	9,500	9,500	8,900	8,600	8,400	7,800
	Lbs. H20/hr.	12.6	12.8	12.1	12.3	11.4	11.7	10.8	10.9	10.2	10.3	9.6	9.7	9.0	9.0	8.4	8.1	7.9	7.4
	Supply Air DB	53.2	68.0	53.6	70.1	54.1	72.2	54.5	74.3	54.9	76.4	55.3	78.6	55.6	80.7	56.0	83.0	56.4	85.2
	Supply Air WB	51.9	56.2	52.3	57.2	52.7	58.2	53.1	59.2	53.5	60.3	53.8	61.3	54.2	62.4	54.5	63.5	54.8	64.7
	Suction PSIG[4]	128	122	130	123	131	124	133	125	134	126	136	127	137	129	138	131	140	133
	Discharge PSIG[4]	288	242	309	256	330	271	353	287	377	303	402	320	429	337	457	355	485	373
75/65.5 (60% RH)	Total Cooling Btuh	41,900	21,000	40,800	18,600	39,500	16,100	38,500	13,500	37,400	10,900	36,200	8,300	35,000	5,600	33,900	2,800	32,700	
	Sensible Btuh	25,900	5,300	25,400	3,500	24,900	1,700	24,400	(300)	23,900	(2,100)	23,400	(4,100)	22,800	(6,000)	22,300	(7,900)	21,700	(9,900)
	S/T	0.618	0.252	0.623	0.188	0.630	0.106	0.634	0	0.639	0	0.646	0	0.651	0	0.658	0	0.664	0
	Latent Btuh	16,000	15,700	15,400	15,100	14,600	14,400	14,100	13,800	13,500	13,000	12,800	12,400	12,200	11,600	11,600	10,700	11,000	9,900
	Lbs. H20/hr.	15.1	14.8	14.5	14.2	13.8	13.6	13.3	13.0	12.7	12.3	12.1	11.7	11.5	10.9	10.9	10.1	10.4	9.3
	Supply Air DB	54.4	69.1	54.9	71.1	55.2	73.2	55.7	75.3	56.1	77.4	56.5	79.6	56.9	81.8	57.2	84.0	57.6	86.2
	Supply Air WB	53.3	57.3	53.7	58.3	54.0	59.2	54.5	60.3	54.8	61.3	55.2	62.4	55.5	63.5	55.9	64.6	56.2	65.8
	Suction PSIG[4]	131	125	133	126	134	126	136	128	137	129	138	130	140	132	141	134	143	136
	Discharge PSIG[4]	290	245	310	259	332	274	355	290	379	306	404	322	431	340	458	358	487	376
75/66.7 (65% RH)	Total Cooling Btuh	42,900	22,200	41,800	19,800	40,600	17,300	39,500	14,700	38,400	12,100	37,200	9,500	36,100	6,800	34,900	4,000	33,700	1,200
	Sensible Btuh	24,200	4,400	23,800	2,600	23,300	700	22,800	(1,200)	22,200	(3,100)	21,700	(5,000)	21,200	(6,900)	20,600	(8,800)	20,100	(10,800)
	S/T	0.564	0.20	0.569	0.13	0.574	0.04	0.577	0	0.578	0	0.583	0	0.587	0	0.590	0	0.596	0
	Latent Btuh	18,700	17,800	18,000	17,200	17,300	16,600	16,700	15,900	16,200	15,200	15,500	14,500	14,900	13,700	14,300	12,800	13,600	12,000
	Lbs. H20/hr.	17.6	16.8	17.0	16.2	16.3	15.7	15.8	15.0	15.3	14.3	14.6	13.7	14.1	12.9	13.5	12.1	12.8	11.3
	Supply Air DB	55.7	70.1	56.1	72.2	56.5	74.2	56.9	76.3	57.3	78.5	57.7	80.6	58.1	82.8	58.4	85.0	58.8	87.3
	Supply Air WB	54.7	58.4	55.1	59.4	55.4	60.3	55.8	61.4	56.2	62.4	56.6	63.5	56.9	64.6	57.2	65.7	57.5	66.9
	Suction PSIG[4]	134	128	136	129	137	129	139	131	140	132	141	133	143	135	144	137	146	139
	Discharge PSIG[4]	292	247	312	262	334	277	356	292	380	308	406	325	432	342	460	360	489	379
75/68 (70% RH)	Total Cooling Btuh	43,900	23,400	42,800	21,000	41,600	18,500	40,600	15,900	39,400	13,300	38,300	10,600	37,100	7,900	35,900	5,200	34,700	2,400
	Sensible Btuh	22,600	3,500	22,100	1,700	21,700	(200)	21,100	(2,100)	20,600	(4,000)	20,100	(5,900)	19,500	(7,800)	19,000	(9,700)	18,400	(11,700)
	S/T	0.515	0.150	0.516	0.081	0.522	0	0.520	0	0.523	0	0.525	0	0.526	0	0.529	0	0.530	0
	Latent Btuh	21,300	19,900	20,700	19,300	19,900	18,700	19,500	18,000	18,800	17,300	18,200	16,500	17,600	15,700	16,900	14,900	16,300	14,100
	Lbs. H20/hr.	20.1	18.8	19.5	18.2	18.8	17.6	18.4	17.0	17.7	16.3	17.2	15.6	16.6	14.8	15.9	14.1	15.4	13.3
	Supply Air DB	56.9	71.1	57.3	73.2	57.7	75.2	58.1	77.4	58.5	79.5	58.9	81.7	59.3	83.9	59.7	86.1	60.0	88.3
	Supply Air WB	56.0	59.5	56.4	60.4	56.7	61.4	57.2	62.5	57.6	63.5	57.9	64.6	58.3	65.7	58.6	66.8	58.9	68.0
	Suction PSIG[4]	137	131	139	132	140	132	142	134	143	135	144	136	146	138	147	140	149	142
	Discharge PSIG[4]	293	250	314	264	335	279	358	295	382	311	407	328	434	345	462	363	490	382
80/68.3 (55% RH)	Total Cooling Btuh	44,300	24,700	43,200	22,200	42,000	19,700	41,000	17,200	39,800	14,600	38,700	11,900	37,500	9,200	36,300	6,500	35,100	3,700
	Sensible Btuh	28,800	7,600	28,300	5,800	27,800	3,900	27,300	2,000	26,800	100	26,200	(1,800)	25,700	(3,700)	25,200	(5,700)	24,600	(7,600)
	S/T	0.650	0.31	0.655	0.26	0.662	0.20	0.666	0.12	0.673	0.01	0.677	0	0.685	0	0.694	0	0.701	0
	Latent Btuh	15,500	17,100	14,900	16,400	14,200	15,800	13,700	15,200	13,000	14,500	12,500	13,700	11,800	12,900	11,100	12,200	10,500	11,300
	Lbs. H20/hr.	14.6	16.1	14.1	15.5	13.4	14.9	12.9	14.3	12.3	13.7	11.8	12.9	11.1	12.2	10.5	11.5	9.9	10.7
	Supply Air DB	57.6	72.1	58.0	74.2	58.4	76.2	58.9	78.4	59.3	80.5	59.6	82.6	60.0	84.8	60.4	87.0	60.7	89.3
	Supply Air WB	56.4	59.5	56.8	60.5	57.1	61.4	57.5	62.5	57.9	63.5	58.3	64.6	58.6	65.7	58.9	66.8	59.2	68.0
	Suction PSIG[4]	138	133	140	134	141	134	143	136	144	137	145	139	147	140	148	142	150	144
	Discharge PSIG[4]	293	250	313	265	335	280	357	295	381	311	407	328	433	345	461	363	490	382

[1] Values listed are with ventilation package disabled
[2] Return air temperature °F @ Default airflow (1150 CFM) for AC tests and Balanced Climate airflow (790 CFM) for dehumidification tests
[3] Below 50°F, unit requires a factory or field installed low ambient control.
[4] Suction pressure +/- 4 psi, Discharge pressure +/- 10 psi

W42AYD Cooling and Dehumidification Application Data[1]

DB/WB[2]	OD Temp.	65°F[3]		70°F		75°F		80°F		85°F		90°F		95°F		100°F		105°F	
	Mode	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum
75/62.5 (50% RH)	Total Cooling Btuh	45,900	22,500	44,500	19,700	43,200	16,800	41,800	14,000	40,600	11,000	39,300	8,000	38,100	4,900	36,900	1,700	35,700	
	Sensible Btuh	33,300	9,200	32,600	7,000	32,100	4,900	31,500	2,500	30,900	300	30,300	(2,000)	29,800	(4,300)	29,300	(6,600)	28,800	(9,000)
	S/T	0.725	0.409	0.733	0.355	0.743	0.292	0.754	0.179	0.761	0.027	0.771	0	0.782	0	0.794	0	0.807	0
	Latent Btuh	12,600	13,300	11,900	12,700	11,100	11,900	10,300	11,500	9,700	10,700	9,000	10,000	8,300	9,200	7,600	8,300	6,900	7,500
	Lbs. H20/hr.	11.9	12.5	11.2	12.0	10.5	11.2	9.7	10.8	9.2	10.1	8.5	9.4	7.8	8.7	7.2	7.8	6.5	7.1
	Supply Air DB	52.6	66.1	53.0	68.3	53.3	70.4	53.8	72.6	54.2	74.8	54.5	76.9	54.9	79.1	55.3	81.4	55.6	83.6
	Supply Air WB	50.8	54.9	51.2	55.9	51.6	56.8	51.9	58.0	52.3	59.0	52.6	60.1	52.9	61.1	53.3	62.1	53.6	63.2
	Suction PSIG[4]	119	108	120	109	121	110	122	112	123	114	125	116	126	118	127	121	129	124
	Discharge PSIG[4]	274	243	295	260	315	273	339	292	362	307	384	322	407	335	431	348	455	360
75/64.1 (55% RH)	Total Cooling Btuh	47,200	24,000	45,800	21,200	44,500	18,300	43,200	15,400	41,900	12,400	40,600	9,400	39,400	6,300	38,200	3,200	37,000	
	Sensible Btuh	31,500	8,200	30,900	6,000	30,300	3,800	29,700	1,500	29,100	(700)	28,600	(3,000)	28,000	(5,300)	27,500	(7,600)	27,000	(10,000)
	S/T	0.667	0.34	0.675	0.28	0.681	0.21	0.688	0.10	0.695	0	0.704	0	0.711	0	0.720	0	0.730	0
	Latent Btuh	15,700	15,800	14,900	15,200	14,200	14,500	13,500	13,900	12,800	13,100	12,000	12,400	11,400	11,600	10,700	10,800	10,000	10,000
	Lbs. H20/hr.	14.8	14.9	14.1	14.3	13.4	13.7	12.7	13.1	12.1	12.4	11.3	11.7	10.8	10.9	10.1	10.2	9.4	9.4
	Supply Air DB	53.8	67.1	54.2	69.2	54.6	71.4	54.9	73.5	55.3	75.7	55.7	77.9	56.1	80.1	56.4	82.3	56.8	84.5
	Supply Air WB	52.2	56.0	52.6	57.0	53.0	58.0	53.3	59.0	53.7	60.1	54.0	61.1	54.3	62.2	54.6	63.2	54.9	64.3
	Suction PSIG[4]	122	111	123	112	124	113	125	115	126	117	128	119	129	122	130	124	132	128
	Discharge PSIG[4]	275	246	297	263	319	280	341	295	363	310	386	325	409	338	433	351	456	363
75/65.5 (60% RH)	Total Cooling Btuh	48,500	25,400	47,100	22,600	45,800	19,700	44,500	16,900	43,200	13,900	41,900	10,900	40,700	7,800	39,500	4,600	38,400	1,400
	Sensible Btuh	29,700	7,200	29,100	5,000	28,500	2,900	27,900	500	27,400	(1,700)	26,800	(4,000)	26,300	(6,300)	25,700	(8,600)	25,200	(11,000)
	S/T	0.612	0.283	0.618	0.221	0.622	0.147	0.627	0.030	0.634	0	0.640	0	0.646	0	0.651	0	0.656	0
	Latent Btuh	18,800	18,200	18,000	17,600	17,300	16,800	16,600	16,400	15,800	15,600	15,100	14,900	14,400	14,100	13,800	13,200	13,200	12,400
	Lbs. H20/hr.	17.7	17.2	17.0	16.6	16.3	15.8	15.7	15.5	14.9	14.7	14.2	14.1	13.6	13.3	13.0	12.5	12.5	11.7
	Supply Air DB	54.9	68.0	55.3	70.2	55.6	72.3	56.1	74.5	56.5	76.7	56.9	78.8	57.2	81.0	57.6	83.3	58.0	85.5
	Supply Air WB	53.6	57.0	54.0	58.1	54.3	59.0	54.7	60.1	55.0	61.1	55.4	62.2	55.7	63.2	56.0	64.3	56.3	65.3
	Suction PSIG[4]	125	114	126	115	127	117	128	118	129	120	131	122	132	125	134	128	135	131
	Discharge PSIG[4]	277	249	298	266	318	279	342	298	365	313	387	328	411	341	434	354	458	366
75/66.7 (65% RH)	Total Cooling Btuh	49,800	26,800	48,400	24,000	47,100	21,100	45,800	18,300	44,500	15,300	43,300	12,300	42,000	9,200	40,800	6,100	39,700	2,800
	Sensible Btuh	28,000	6,200	27,300	4,000	26,800	1,900	26,200	(500)	25,600	(2,700)	25,000	(5,000)	24,500	(7,300)	24,000	(9,600)	23,500	(12,000)
	S/T	0.562	0.23	0.564	0.17	0.569	0.09	0.572	0	0.575	0	0.577	0	0.583	0	0.588	0	0.592	0
	Latent Btuh	21,800	20,600	21,100	20,000	20,300	19,200	19,600	18,800	18,900	18,000	18,300	17,300	17,500	16,500	16,800	15,700	16,200	14,800
	Lbs. H20/hr.	20.6	19.4	19.9	18.9	19.2	18.1	18.5	17.7	17.8	17.0	17.3	16.3	16.5	15.6	15.8	14.8	15.3	14.0
	Supply Air DB	56.1	69.0	56.5	71.1	56.8	73.3	57.3	75.4	57.7	77.6	58.0	79.8	58.4	82.0	58.8	84.2	59.1	86.4
	Supply Air WB	55.0	58.1	55.3	59.1	55.7	60.0	56.1	61.2	56.4	62.2	56.8	63.2	57.1	64.3	57.4	65.3	57.7	66.4
	Suction PSIG[4]	128	118	129	119	130	120	131	121	133	123	134	126	135	128	137	131	138	134
	Discharge PSIG[4]	279	252	300	269	320	282	344	301	366	316	389	331	412	344	436	357	459	369
75/68 (70% RH)	Total Cooling Btuh	51,100	28,300	49,800	25,500	48,500	22,500	47,100	19,700	45,800	16,800	44,600	13,700	43,400	10,600	42,200	7,500	41,000	4,300
	Sensible Btuh	26,200	5,200	25,600	3,000	25,000	900	24,400	(1,500)	23,800	(3,700)	23,300	(6,000)	22,700	(8,300)	22,200	(10,600)	21,700	(13,000)
	S/T	0.513	0.184	0.514	0.118	0.515	0.040	0.518	0	0.520	0	0.522	0	0.523	0	0.526	0	0.529	0
	Latent Btuh	24,900	23,100	24,200	22,500	23,500	21,600	22,700	21,200	22,000	20,500	21,300	19,700	20,700	18,900	20,000	18,100	19,300	17,300
	Lbs. H20/hr.	23.5	21.8	22.8	21.2	22.2	20.4	21.4	20.0	20.8	19.3	20.1	18.6	19.5	17.8	18.9	17.1	18.2	16.3
	Supply Air DB	57.3	69.9	57.7	72.1	58.0	74.2	58.5	76.4	58.8	78.6	59.2	80.8	59.6	83.0	59.9	85.2	60.3	87.4
	Supply Air WB	56.4	59.2	56.7	60.2	57.1	61.1	57.5	62.2	57.8	63.3	58.1	64.3	58.5	65.4	58.8	66.4	59.1	67.5
	Suction PSIG[4]	131	121	132	122	133	123	134	125	136	127	137	129	138	131	140	134	141	137
	Discharge PSIG[4]	280	255	302	272	322	285	345	304	368	319	391	334	414	347	437	360	461	372
80/68.3 (55% RH)	Total Cooling Btuh	51,700	29,200	50,300	26,400	49,000	23,400	47,600	20,600	46,400	17,700	45,100	14,600	43,900	11,500	42,700	8,400	41,500	5,200
	Sensible Btuh	32,900	9,900	32,200	7,700	31,700	5,600	31,100	3,200	30,500	1,000	29,900	(1,300)	29,400	(3,600)	28,900	(5,900)	28,400	(8,300)
	S/T	0.636	0.34	0.640	0.29	0.647	0.24	0.653	0.16	0.657	0.06	0.663	0	0.670	0	0.677	0	0.684	0
	Latent Btuh	18,800	19,300	18,100	18,700	17,300	17,800	16,500	17,400	15,900	16,700	15,200	15,900	14,500	15,100	13,800	14,300	13,100	13,500
	Lbs. H20/hr.	17.7	18.2	17.1	17.6	16.3	16.8	15.6	16.4	15.0	15.8	14.3	15.0	13.7	14.2	13.0	13.5	12.4	12.7
	Supply Air DB	58.0	70.4	58.4	72.5	58.7	74.6	59.2	76.8	59.6	79.0	60.0	81.2	60.4	83.4	60.7	85.6	61.1	87.8
	Supply Air WB	56.3	59.2	56.7	60.2	57.0	61.2	57.4	62.3	57.7	63.3	58.1	64.4	58.4	65.4	58.7	66.4	59.0	67.5
	Suction PSIG[4]	131	121	132	122	133	123	135	125	136	127	137	129	139	132	140	135	141	138
	Discharge PSIG[4]	280	255	302	273	322	285	346	305	368	320	391	334	414	348	437	360	461	373

[1] Values listed are with ventilation package disabled
[2] Return air temperature °F @ Default airflow (1350 CFM) for AC tests and Balanced Climate airflow (950 CFM) for dehumidification tests
[3] Below 50°F, unit requires a factory or field installed low ambient control.
[4] Suction pressure +/- 4 psi, Discharge pressure +/- 10 psi

W48AYD Cooling and Dehumidification Application Data[1]

DB/WB[2]	OD Temp.	65°F[3]		70°F		75°F		80°F		85°F		90°F		95°F		100°F		105°F	
	Mode	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum
75/62.5 (50% RH)	Total Cooling Btuh	53,100	26,400	52,100	23,400	50,800	20,000	49,600	17,000	48,000	13,600	46,200	10,100	44,200	6,500	42,100	2,800	39,700	
	Sensible Btuh	39,800	11,100	39,300	8,700	39,200	6,300	38,200	3,900	37,500	1,400	36,700	(1,100)	35,900	(3,600)	35,000	(6,100)	34,000	(8,700)
	S/T	0.750	0.420	0.754	0.372	0.772	0.315	0.770	0.229	0.781	0.103	0.794	0	0.812	0	0.831	0	0.856	0
	Latent Btuh	13,300	15,300	12,800	14,700	11,600	13,700	11,400	13,100	10,500	12,200	9,500	11,200	8,300	10,100	7,100	8,900	5,700	7,700
	Lbs. H20/hr.	12.5	14.4	12.1	13.9	10.9	12.9	10.8	12.4	9.9	11.5	9.0	10.6	7.8	9.5	6.7	8.4	5.4	7.3
	Supply Air DB	51.5	65.9	51.7	67.9	52.0	69.8	52.3	71.9	52.7	73.9	53.2	76.0	53.8	78.0	54.4	80.1	55.1	82.2
	Supply Air WB	50.4	54.8	50.7	55.7	50.9	56.7	51.3	57.7	51.7	58.7	52.2	59.8	52.6	60.8	53.1	61.9	53.7	63.0
	Suction PSIG[4]	127	117	129	118	130	119	132	121	134	123	135	125	136	127	136	130	137	133
	Discharge PSIG[4]	287	237	307	254	328	269	349	288	373	304	397	320	424	336	451	351	480	366
75/64.1 (55% RH)	Total Cooling Btuh	54,400	28,000	53,400	25,000	52,200	21,800	50,800	18,600	49,300	15,200	47,500	11,700	45,500	8,100	43,300	4,400	41,000	600
	Sensible Btuh	37,500	9,700	37,000	7,400	36,500	5,000	35,900	2,600	35,200	100	34,400	(2,400)	33,600	(4,900)	32,600	(7,400)	31,600	(10,000)
	S/T	0.689	0.35	0.693	0.30	0.699	0.23	0.707	0.14	0.714	0.01	0.724	0	0.738	0	0.753	0	0.771	0
	Latent Btuh	16,900	18,300	16,400	17,600	15,700	16,800	14,900	16,000	14,100	15,100	13,100	14,100	11,900	13,000	10,700	11,800	9,400	10,600
	Lbs. H20/hr.	15.9	17.3	15.5	16.6	14.8	15.8	14.1	15.1	13.3	14.2	12.4	13.3	11.2	12.3	10.1	11.1	8.9	10.0
	Supply Air DB	52.9	67.0	53.1	68.9	53.4	70.9	53.7	73.0	54.2	75.0	54.6	77.0	55.2	79.1	55.8	81.2	56.5	83.3
	Supply Air WB	51.9	55.9	52.2	56.8	52.5	57.8	52.9	58.8	53.2	59.8	53.7	60.9	54.1	61.9	54.7	63.0	55.2	64.1
	Suction PSIG[4]	130	120	132	121	134	122	135	124	137	126	138	128	139	130	139	133	140	136
	Discharge PSIG[4]	289	239	308	257	329	274	351	291	374	307	399	323	425	338	452	354	481	368
75/65.5 (60% RH)	Total Cooling Btuh	55,600	29,600	54,700	26,500	53,300	23,200	52,100	20,100	50,500	16,800	48,800	13,300	46,800	9,700	44,600	6,000	42,300	2,200
	Sensible Btuh	35,200	8,400	34,700	6,100	34,500	3,700	33,600	1,300	32,900	(1,200)	32,100	(3,700)	31,200	(6,200)	30,300	(8,700)	29,300	(11,300)
	S/T	0.633	0.284	0.634	0.230	0.647	0.159	0.645	0.065	0.651	0	0.658	0	0.667	0	0.679	0	0.693	0
	Latent Btuh	20,400	21,200	20,000	20,400	18,800	19,500	18,500	18,800	17,600	18,000	16,700	17,000	15,600	15,900	14,300	14,700	13,000	13,500
	Lbs. H20/hr.	19.2	20.0	18.9	19.2	17.7	18.4	17.5	17.7	16.6	17.0	15.8	16.0	14.7	15.0	13.5	13.9	12.3	12.7
	Supply Air DB	54.3	68.0	54.5	70.0	54.8	72.0	55.2	74.0	55.6	76.1	56.1	78.1	56.6	80.2	57.2	82.2	57.9	84.3
	Supply Air WB	53.4	57.0	53.7	57.9	53.9	58.9	54.4	59.9	54.8	60.9	55.2	62.0	55.7	63.0	56.2	64.1	56.7	65.2
	Suction PSIG[4]	133	123	135	124	137	125	138	127	140	129	141	131	142	134	142	136	143	139
	Discharge PSIG[4]	290	242	309	259	331	274	352	293	375	309	400	325	426	341	454	356	483	371
75/66.7 (65% RH)	Total Cooling Btuh	56,900	31,200	56,000	28,100	54,600	24,800	53,400	21,700	51,800	18,400	50,100	14,900	48,100	11,300	45,900	7,600	43,500	3,800
	Sensible Btuh	32,800	7,100	32,400	4,800	32,200	2,400	31,200	(100)	30,500	(2,500)	29,800	(5,000)	28,900	(7,500)	28,000	(10,000)	27,000	(12,600)
	S/T	0.576	0.23	0.579	0.17	0.590	0.10	0.584	0	0.589	0	0.595	0	0.601	0	0.610	0	0.621	0
	Latent Btuh	24,100	24,100	23,600	23,300	22,400	22,400	22,200	21,800	21,300	20,900	20,300	19,900	19,200	18,800	17,900	17,600	16,500	16,400
	Lbs. H20/hr.	22.7	22.7	22.3	22.0	21.1	21.1	20.9	20.6	20.1	19.7	19.2	18.8	18.1	17.7	16.9	16.6	15.6	15.5
	Supply Air DB	55.8	69.1	56.0	71.1	56.2	73.0	56.6	75.1	57.0	77.1	57.5	79.2	58.0	81.2	58.6	83.3	59.3	85.4
	Supply Air WB	54.9	58.0	55.2	59.0	55.4	60.0	55.9	61.0	56.3	62.0	56.7	63.0	57.2	64.1	57.7	65.2	58.2	66.3
	Suction PSIG[4]	136	126	138	127	140	129	141	130	143	132	144	134	145	137	145	139	146	142
	Discharge PSIG[4]	291	244	311	262	332	276	353	296	377	312	402	328	428	343	455	359	484	373
75/68 (70% RH)	Total Cooling Btuh	58,200	32,800	57,200	29,700	55,900	26,400	54,700	23,300	53,100	20,000	51,300	16,500	49,400	12,900	47,200	9,200	44,800	5,300
	Sensible Btuh	30,500	5,800	30,100	3,400	29,900	1,100	28,900	(1,400)	28,200	(3,800)	27,400	(6,300)	26,600	(8,800)	25,700	(11,300)	24,700	(13,900)
	S/T	0.524	0.177	0.526	0.114	0.535	0.042	0.528	0	0.531	0	0.534	0	0.538	0	0.544	0	0.551	0
	Latent Btuh	27,700	27,000	27,100	26,300	26,000	25,300	25,800	24,700	24,900	23,800	23,900	22,800	22,800	21,700	21,500	20,500	20,100	19,200
	Lbs. H20/hr.	26.1	25.5	25.6	24.8	24.5	23.9	24.3	23.3	23.5	22.5	22.5	21.5	21.5	20.5	20.3	19.3	19.0	18.1
	Supply Air DB	57.2	70.2	57.4	72.1	57.6	74.1	58.0	76.2	58.4	78.2	58.9	80.2	59.4	82.3	60.1	84.4	60.7	86.5
	Supply Air WB	56.5	59.1	56.7	60.1	57.0	61.1	57.4	62.1	57.8	63.1	58.2	64.1	58.7	65.2	59.2	66.3	59.7	67.4
	Suction PSIG[4]	139	130	141	131	143	132	144	134	146	136	147	138	148	140	148	143	149	146
	Discharge PSIG[4]	293	247	312	264	333	279	355	298	378	314	403	330	429	346	457	361	485	376
80/68.3 (55% RH)	Total Cooling Btuh	58,200	33,300	57,300	30,200	55,900	26,900	54,700	23,800	53,100	20,500	51,400	17,000	49,400	13,400	47,200	9,700	44,800	5,800
	Sensible Btuh	37,900	11,200	37,500	8,800	37,300	6,500	36,300	4,000	35,600	1,600	34,900	(900)	34,000	(3,400)	33,100	(5,900)	32,100	(8,500)
	S/T	0.651	0.34	0.654	0.29	0.667	0.24	0.664	0.17	0.670	0.08	0.679	0	0.688	0	0.701	0	0.717	0
	Latent Btuh	20,300	22,100	19,800	21,400	18,600	20,400	18,400	19,800	17,500	18,900	16,500	17,900	15,400	16,800	14,100	15,600	12,700	14,300
	Lbs. H20/hr.	19.2	20.8	18.7	20.2	17.5	19.2	17.4	18.7	16.5	17.8	15.6	16.9	14.5	15.8	13.3	14.7	12.0	13.5
	Supply Air DB	57.5	70.5	57.7	72.5	58.0	74.4	58.3	76.5	58.8	78.5	59.2	80.6	59.8	82.7	60.4	84.7	61.1	86.8
	Supply Air WB	56.5	59.1	56.8	60.1	57.0	61.1	57.4	62.1	57.8	63.1	58.3	64.1	58.7	65.2	59.2	66.3	59.8	67.4
	Suction PSIG[4]	139	130	142	131	143	133	145	134	146	136	147	138	148	141	149	143	149	146
	Discharge PSIG[4]	288	241	307	258	329	272	350	292	373	308	398	324	424	340	452	355	481	370

1 Values listed are with ventilation package disabled
2 Return air temperature °F @ Default airflow (1550 CFM) for AC tests and Balanced Climate airflow (1090 CFM) for dehumidification tests
3 Below 50°F, unit requires a factory or field installed low ambient control.
4 Suction pressure +/- 4 psi, Discharge pressure +/- 10 psi

W60AYD Cooling and Dehumidification Application Data[1]

DB/WB[2]	OD Temp.	65°F[3]		70°F		75°F		80°F		85°F		90°F		95°F		100°F		105°F	
	Mode	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum
75/62.5 (50% RH)	Total Cooling Btuh	65,400	31,900	63,800	28,500	62,100	24,700	60,500	21,600	58,800	18,000	57,000	14,300	55,200	10,500	53,300	6,600	51,400	2,600
	Sensible Btuh	47,600	13,600	46,900	11,200	46,200	8,700	45,400	6,400	44,700	3,800	43,900	1,300	43,100	(1,300)	42,300	(4,000)	41,500	(6,700)
	S/T	0.728	0.426	0.735	0.393	0.744	0.352	0.750	0.296	0.760	0.211	0.770	0.091	0.781	0	0.794	0	0.807	0
	Latent Btuh	17,800	18,300	16,900	17,300	15,900	16,000	15,100	15,200	14,100	14,200	13,100	13,000	12,100	11,800	11,000	10,600	9,900	9,300
	Lbs. H20/hr.	16.8	17.3	15.9	16.3	15.0	15.1	14.2	14.3	13.3	13.4	12.4	12.3	11.4	11.1	10.4	10.0	9.3	8.8
	Supply Air DB	50.3	65.2	50.7	66.9	51.0	68.7	51.4	70.4	51.8	72.3	52.2	74.1	52.6	76.1	53.0	78.0	53.4	80.0
	Supply Air WB	49.4	54.2	49.7	55.1	50.0	56.0	50.4	57.0	50.8	58.0	51.2	58.9	51.5	59.9	51.9	60.9	52.3	61.9
	Suction PSIG[4]	126	118	127	119	127	120	128	122	130	123	131	124	132	125	133	127	135	128
	Discharge PSIG[4]	296	278	316	291	339	305	359	318	382	333	405	348	430	364	455	381	481	398
75/64.1 (55% RH)	Total Cooling Btuh	66,800	33,600	65,200	30,300	63,600	26,800	61,900	23,300	60,200	19,700	58,400	16,000	56,600	12,200	54,700	8,300	52,800	4,400
	Sensible Btuh	45,000	12,000	44,300	9,600	43,500	7,200	42,800	4,700	42,000	2,200	41,200	(300)	40,400	(3,000)	39,600	(5,600)	38,800	(8,400)
	S/T	0.674	0.36	0.679	0.32	0.684	0.27	0.691	0.20	0.698	0.11	0.705	0	0.714	0	0.724	0	0.735	0
	Latent Btuh	21,800	21,600	20,900	20,700	20,100	19,600	19,100	18,600	18,200	17,500	17,200	16,300	16,200	15,200	15,100	13,900	14,000	12,800
	Lbs. H20/hr.	20.6	20.4	19.7	19.5	19.0	18.5	18.0	17.5	17.2	16.5	16.2	15.4	15.3	14.3	14.2	13.1	13.2	12.1
	Supply Air DB	51.7	66.3	52.0	68.1	52.4	69.8	52.8	71.6	53.1	73.4	53.5	75.3	53.9	77.2	54.3	79.2	54.7	81.2
	Supply Air WB	50.9	55.3	51.2	56.3	51.5	57.2	51.9	58.1	52.3	59.1	52.6	60.1	53.0	61.0	53.4	62.0	53.8	63.1
	Suction PSIG[4]	129	121	130	122	131	124	132	125	133	126	134	127	135	129	137	130	138	132
	Discharge PSIG[4]	298	282	318	295	340	308	362	322	384	337	408	352	432	368	458	385	484	402
75/65.5 (60% RH)	Total Cooling Btuh	68,200	35,300	66,600	32,000	65,000	28,100	63,300	25,000	61,600	21,400	59,800	17,700	58,000	13,900	56,100	10,100	54,200	6,100
	Sensible Btuh	42,300	10,300	41,600	8,000	40,900	5,400	40,100	3,100	39,400	600	38,600	(2,000)	37,800	(4,600)	37,000	(7,300)	36,100	(10,000)
	S/T	0.620	0.292	0.625	0.250	0.629	0.192	0.633	0.124	0.640	0.028	0.645	0	0.652	0	0.660	0	0.666	0
	Latent Btuh	25,900	25,000	25,000	24,000	24,100	22,700	23,200	21,900	22,200	20,800	21,200	19,700	20,200	18,500	19,100	17,400	18,100	16,100
	Lbs. H20/hr.	24.4	23.6	23.6	22.6	22.7	21.4	21.9	20.7	20.9	19.6	20.0	18.6	19.1	17.5	18.0	16.4	17.1	15.2
	Supply Air DB	53.0	67.5	53.4	69.2	53.7	71.0	54.1	72.8	54.5	74.6	54.9	76.5	55.3	78.4	55.7	80.3	56.1	82.3
	Supply Air WB	52.3	56.5	52.7	57.4	52.9	58.3	53.4	59.3	53.7	60.2	54.1	61.2	54.5	62.2	54.9	63.2	55.3	64.2
	Suction PSIG[4]	132	125	133	126	134	127	135	128	136	129	137	131	139	132	140	133	141	135
	Discharge PSIG[4]	301	286	321	299	344	313	364	326	387	341	410	356	435	372	460	389	486	406
75/66.7 (65% RH)	Total Cooling Btuh	69,600	37,100	68,000	33,700	66,400	29,900	64,700	26,800	63,000	23,100	61,200	19,400	59,400	15,700	57,600	11,800	55,600	7,800
	Sensible Btuh	39,700	8,700	38,900	6,400	38,200	3,800	37,500	1,500	36,700	(1,000)	35,900	(3,600)	35,100	(6,200)	34,300	(8,900)	33,500	(11,600)
	S/T	0.570	0.23	0.572	0.19	0.575	0.13	0.580	0.06	0.583	0	0.587	0	0.591	0	0.595	0	0.603	0
	Latent Btuh	29,900	28,400	29,100	27,300	28,200	26,100	27,200	25,300	26,300	24,100	25,300	23,000	24,300	21,900	23,300	20,700	22,100	19,400
	Lbs. H20/hr.	28.2	26.8	27.5	25.8	26.6	24.6	25.7	23.9	24.8	22.7	23.9	21.7	22.9	20.7	22.0	19.5	20.8	18.3
	Supply Air DB	54.4	68.7	54.7	70.4	55.1	72.2	55.5	73.9	55.9	75.7	56.2	77.6	56.6	79.5	57.1	81.5	57.5	83.5
	Supply Air WB	53.8	57.6	54.1	58.5	54.4	59.4	54.8	60.4	55.2	61.4	55.5	62.3	55.9	63.3	56.3	64.3	56.7	65.3
	Suction PSIG[4]	136	128	137	129	138	130	139	131	140	133	141	134	142	135	143	137	145	138
	Discharge PSIG[4]	303	290	324	303	347	317	367	330	389	345	413	360	437	376	463	393	489	410
75/68 (70% RH)	Total Cooling Btuh	71,000	38,800	69,400	35,500	67,800	31,600	66,100	28,500	64,400	24,900	62,700	21,200	60,800	17,400	59,000	13,500	57,100	9,600
	Sensible Btuh	37,000	7,100	36,300	4,700	35,600	2,200	34,800	(100)	34,000	(2,600)	33,300	(5,200)	32,500	(7,800)	31,600	(10,500)	30,800	(13,200)
	S/T	0.521	0.183	0.523	0.132	0.525	0.070	0.526	0	0.528	0	0.531	0	0.535	0	0.536	0	0.539	0
	Latent Btuh	34,000	31,700	33,100	30,800	32,200	29,400	31,300	28,600	30,400	27,500	29,400	26,400	28,300	25,200	27,400	24,000	26,300	22,800
	Lbs. H20/hr.	32.1	29.9	31.2	29.1	30.4	27.7	29.5	27.0	28.7	25.9	27.7	24.9	26.7	23.8	25.8	22.6	24.8	21.5
	Supply Air DB	55.8	69.8	56.1	71.5	56.5	73.3	56.8	75.1	57.2	76.9	57.6	78.8	58.0	80.7	58.4	82.7	58.8	84.6
	Supply Air WB	55.2	58.7	55.6	59.6	55.8	60.6	56.3	61.5	56.6	62.5	57.0	63.5	57.4	64.4	57.8	65.4	58.2	66.5
	Suction PSIG[4]	139	131	140	132	141	134	142	135	143	136	144	137	146	139	147	140	148	142
	Discharge PSIG[4]	306	294	326	307	349	321	369	334	392	349	416	364	440	380	465	397	491	414
80/68.3 (55% RH)	Total Cooling Btuh	71,400	39,200	69,900	35,900	68,200	32,000	66,600	28,900	64,800	25,300	63,100	21,600	61,300	17,800	59,400	14,000	57,500	10,000
	Sensible Btuh	45,800	13,600	45,100	11,200	44,400	8,700	43,600	6,400	42,800	3,800	42,000	1,300	41,200	(1,300)	40,400	(4,000)	39,600	(6,700)
	S/T	0.641	0.35	0.645	0.31	0.651	0.27	0.655	0.22	0.660	0.15	0.666	0.06	0.672	0	0.680	0	0.689	0
	Latent Btuh	25,600	25,600	24,800	24,700	23,800	23,300	23,000	22,500	22,000	21,500	21,100	20,300	20,100	19,100	19,000	18,000	17,900	16,700
	Lbs. H20/hr.	24.2	24.2	23.4	23.3	22.5	22.0	21.7	21.2	20.8	20.3	19.9	19.2	19.0	18.0	17.9	17.0	16.9	15.8
	Supply Air DB	56.1	70.2	56.5	71.9	56.8	73.7	57.2	75.5	57.6	77.3	58.0	79.2	58.4	81.1	58.8	83.1	59.2	85.1
	Supply Air WB	55.4	58.9	55.7	59.9	56.0	60.8	56.4	61.7	56.8	62.7	57.2	63.7	57.5	64.7	57.9	65.7	58.3	66.7
	Suction PSIG[4]	140	132	141	133	142	134	143	135	144	137	145	138	146	139	148	141	149	142
	Discharge PSIG[4]	305	295	325	308	348	322	368	336	391	350	415	366	439	381	464	398	490	415

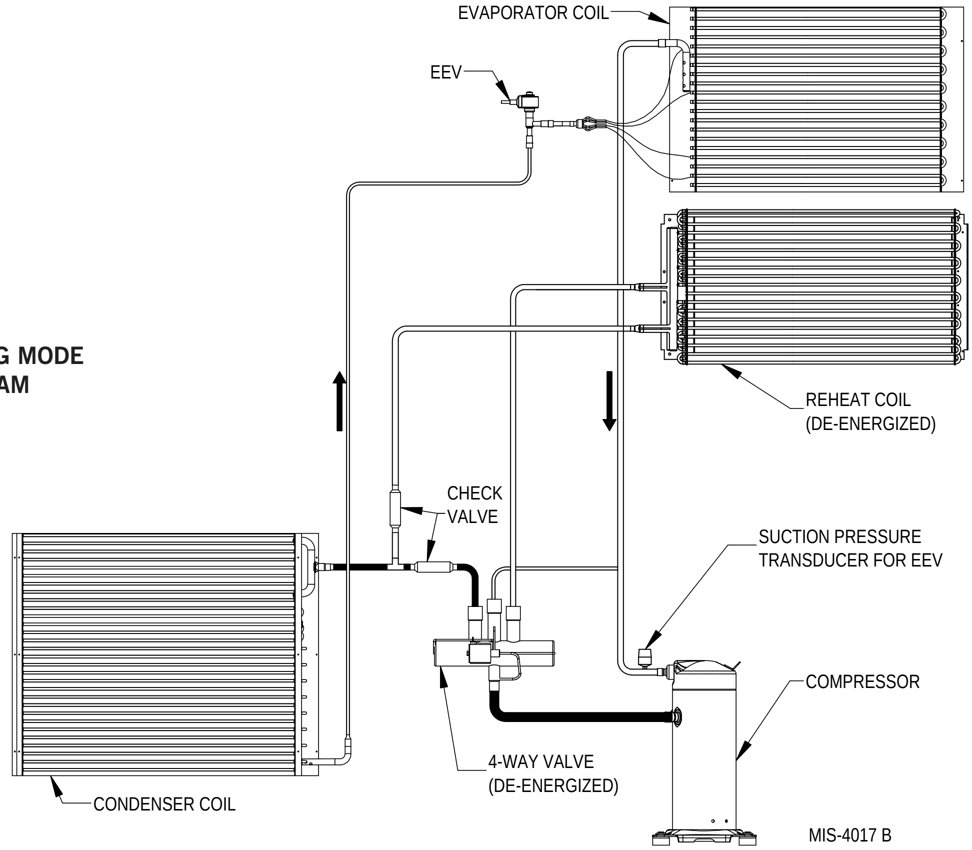
1 Values listed are with ventilation package disabled
2 Return air temperature °F @ Default airflow (1750 CFM) for AC tests and Balanced Climate airflow (1180 CFM) for dehumidification tests
3 Below 50°F, unit requires a factory or field installed low ambient control.
4 Suction pressure +/- 4 psi, Discharge pressure +/- 10 psi

W72AYD Cooling and Dehumidification Application Data[1]

DB/WB[2]	OD Temp.	65°F[3]		70°F		75°F		80°F		85°F		90°F		95°F		100°F		105°F	
	Mode	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum	A/C	Dehum
75/62.5 (50% RH)	Total Cooling Btuh	79,000	38,500	77,000	35,000	75,200	31,700	73,100	27,700	71,000	23,800	69,000	19,800	67,000	15,700	64,900	11,400	62,800	6,900
	Sensible Btuh	55,100	15,100	54,100	12,400	53,200	9,800	52,200	6,900	51,200	4,100	50,300	1,200	49,400	(1,700)	48,500	(4,700)	47,700	(7,700)
	S/T	0.697	0.392	0.703	0.354	0.707	0.309	0.714	0.249	0.721	0.172	0.729	0.061	0.737	0	0.747	0	0.760	0
	Latent Btuh	23,900	23,400	22,900	22,600	22,000	21,900	20,900	20,800	19,800	19,700	18,700	18,600	17,600	17,400	16,400	16,100	15,100	14,600
	Lbs. H20/hr.	22.5	22.1	21.6	21.3	20.8	20.7	19.7	19.6	18.7	18.6	17.6	17.5	16.6	16.4	15.5	15.2	14.2	13.8
	Supply Air DB	48.5	64.9	48.9	66.7	49.4	68.3	49.8	70.3	50.3	72.2	50.7	74.2	51.1	76.1	51.6	78.1	52.0	80.2
	Supply Air WB	47.6	53.1	48.1	54.0	48.5	54.9	48.9	56.0	49.4	57.0	49.8	58.0	50.2	59.0	50.6	60.0	50.9	61.1
	Suction PSIG[4]	117	109	119	111	120	112	121	113	122	115	124	116	125	117	126	119	127	120
	Discharge PSIG[4]	301	300	321	313	342	326	365	341	389	356	413	372	439	389	466	406	494	425
75/64.1 (55% RH)	Total Cooling Btuh	80,800	40,600	78,900	37,200	76,900	33,600	74,900	29,800	72,900	26,000	70,900	21,900	68,800	17,800	66,700	13,500	64,600	9,000
	Sensible Btuh	52,200	13,200	51,200	10,600	50,200	7,800	49,200	5,100	48,300	2,300	47,400	(600)	46,500	(3,500)	45,600	(6,500)	44,700	(9,500)
	S/T	0.646	0.33	0.649	0.28	0.653	0.23	0.657	0.17	0.663	0.09	0.669	0	0.676	0	0.684	0	0.692	0
	Latent Btuh	28,600	27,400	27,700	26,600	26,700	25,800	25,700	24,700	24,600	23,700	23,500	22,500	22,300	21,300	21,100	20,000	19,900	18,500
	Lbs. H20/hr.	27.0	25.8	26.1	25.1	25.2	24.3	24.2	23.3	23.2	22.4	22.2	21.2	21.0	20.1	19.9	18.9	18.8	17.5
	Supply Air DB	49.9	66.2	50.4	67.9	50.8	69.7	51.3	71.6	51.7	73.5	52.1	75.4	52.6	77.3	53.0	79.4	53.4	81.4
	Supply Air WB	49.1	54.2	49.6	55.1	50.0	56.1	50.4	57.0	50.9	58.0	51.3	59.0	51.7	60.1	52.1	61.1	52.4	62.2
	Suction PSIG[4]	120	112	122	114	123	115	124	116	125	118	127	119	128	120	129	122	130	123
	Discharge PSIG[4]	304	305	324	317	346	331	368	345	392	361	416	377	442	394	469	411	497	430
75/65.5 (60% RH)	Total Cooling Btuh	82,700	42,700	80,700	39,300	78,900	36,000	76,700	32,000	74,700	28,100	72,700	24,100	70,600	19,900	68,600	15,600	66,500	11,200
	Sensible Btuh	49,300	11,400	48,200	8,700	47,300	6,200	46,300	3,300	45,400	400	44,400	(2,400)	43,500	(5,400)	42,700	(8,300)	41,800	(11,300)
	S/T	0.596	0.267	0.597	0.221	0.599	0.172	0.604	0.103	0.608	0.014	0.611	0	0.616	0	0.622	0	0.629	0
	Latent Btuh	33,400	31,300	32,500	30,600	31,600	29,800	30,400	28,700	29,300	27,700	28,300	26,500	27,100	25,300	25,900	23,900	24,700	22,500
	Lbs. H20/hr.	31.5	29.5	30.7	28.9	29.8	28.1	28.7	27.1	27.6	26.1	26.7	25.0	25.6	23.9	24.4	22.5	23.3	21.2
	Supply Air DB	51.3	67.4	51.8	69.2	52.2	70.8	52.7	72.8	53.1	74.7	53.6	76.6	54.0	78.6	54.4	80.6	54.8	82.6
	Supply Air WB	50.6	55.2	51.1	56.2	51.5	57.1	51.9	58.1	52.3	59.1	52.8	60.1	53.2	61.2	53.5	62.2	53.9	63.3
	Suction PSIG[4]	124	115	125	117	126	118	127	119	129	121	130	122	131	123	132	125	133	126
	Discharge PSIG[4]	307	309	327	322	349	335	371	350	395	365	420	381	445	398	472	416	500	434
75/66.7 (65% RH)	Total Cooling Btuh	84,500	44,800	82,600	41,400	80,700	38,100	78,600	34,100	76,600	30,200	74,500	26,200	72,500	22,000	70,400	17,700	68,300	13,300
	Sensible Btuh	46,300	9,600	45,300	6,900	44,400	4,400	43,400	1,400	42,400	(1,400)	41,500	(4,300)	40,600	(7,200)	39,700	(10,100)	38,900	(13,200)
	S/T	0.548	0.21	0.548	0.17	0.550	0.12	0.552	0.04	0.554	0	0.557	0	0.560	0	0.564	0	0.570	0
	Latent Btuh	38,200	35,200	37,300	34,500	36,300	33,700	35,200	32,700	34,200	31,600	33,000	30,500	31,900	29,200	30,700	27,800	29,400	26,500
	Lbs. H20/hr.	36.0	33.2	35.2	32.5	34.2	31.8	33.2	30.8	32.3	29.8	31.1	28.8	30.1	27.5	29.0	26.2	27.7	25.0
	Supply Air DB	52.7	68.6	53.2	70.4	53.6	72.0	54.1	74.0	54.5	75.9	55.0	77.8	55.4	79.8	55.8	81.8	56.2	83.9
	Supply Air WB	52.1	56.3	52.5	57.3	53.0	58.2	53.4	59.2	53.8	60.2	54.2	61.2	54.6	62.2	55.0	63.3	55.4	64.3
	Suction PSIG[4]	127	118	128	120	129	121	131	122	132	123	133	125	134	126	135	128	136	129
	Discharge PSIG[4]	310	314	331	327	352	340	375	355	398	370	423	386	448	403	475	421	503	439
75/68 (70% RH)	Total Cooling Btuh	86,400	47,000	84,400	43,500	82,600	40,200	80,400	36,200	78,400	32,300	76,400	28,300	74,300	24,200	72,200	19,900	70,100	15,400
	Sensible Btuh	43,400	7,800	42,400	5,100	41,500	2,500	40,400	(400)	39,500	(3,200)	38,600	(6,100)	37,700	(9,000)	36,800	(12,000)	36,000	(15,000)
	S/T	0.502	0.166	0.502	0.117	0.502	0.062	0.502	0	0.504	0	0.505	0	0.507	0	0.510	0	0.514	0
	Latent Btuh	43,000	39,200	42,000	38,400	41,100	37,700	40,000	36,600	38,900	35,500	37,800	34,400	36,600	33,200	35,400	31,900	34,100	30,400
	Lbs. H20/hr.	40.6	37.0	39.6	36.2	38.8	35.6	37.7	34.5	36.7	33.5	35.7	32.5	34.5	31.3	33.4	30.1	32.2	28.7
	Supply Air DB	54.2	69.8	54.6	71.6	55.1	73.3	55.5	75.3	56.0	77.2	56.4	79.1	56.8	81.0	57.2	83.0	57.6	85.1
	Supply Air WB	53.6	57.4	54.0	58.4	54.5	59.2	54.9	60.3	55.3	61.3	55.7	62.3	56.1	63.3	56.5	64.4	56.9	65.4
	Suction PSIG[4]	130	121	131	123	132	124	134	125	135	126	136	128	137	129	138	131	140	132
	Discharge PSIG[4]	313	319	334	332	355	344	378	360	401	375	426	391	452	408	478	425	506	444
80/68.3 (55% RH)	Total Cooling Btuh	86,500	46,800	84,600	43,300	82,700	40,000	80,600	36,000	78,600	32,100	76,500	28,100	74,500	23,900	72,400	19,600	70,300	15,200
	Sensible Btuh	53,200	14,300	52,200	11,700	51,300	9,100	50,300	6,200	49,300	3,300	48,400	500	47,500	(2,400)	46,700	(5,400)	45,800	(8,400)
	S/T	0.615	0.31	0.617	0.27	0.620	0.23	0.624	0.17	0.627	0.10	0.633	0.02	0.638	0	0.645	0	0.651	0
	Latent Btuh	33,300	32,500	32,400	31,600	31,400	30,900	30,300	29,800	29,300	28,800	28,100	27,600	27,000	26,300	25,700	25,000	24,500	23,600
	Lbs. H20/hr.	31.4	30.7	30.6	29.8	29.6	29.2	28.6	28.1	27.6	27.2	26.5	26.0	25.5	24.8	24.2	23.6	23.1	22.3
	Supply Air DB	54.3	70.4	54.8	72.2	55.3	73.8	55.7	75.8	56.2	77.7	56.6	79.6	57.0	81.6	57.4	83.6	57.8	85.6
	Supply Air WB	53.5	57.6	54.0	58.6	54.4	59.5	54.8	60.5	55.3	61.5	55.7	62.5	56.1	63.6	56.5	64.6	56.8	65.6
	Suction PSIG[4]	131	122	132	123	133	124	135	126	136	127	137	128	138	130	139	131	140	133
	Discharge PSIG[4]	314	321	334	334	356	346	378	362	402	377	426	393	452	410	479	427	507	446

[1] Values listed are with ventilation package disabled
[2] Return air temperature °F @ Default airflow (1900 CFM) for AC tests and Balanced Climate airflow (1330 CFM) for dehumidification tests
[3] Below 50°F, unit requires a factory or field installed low ambient control.
[4] Suction pressure +/- 4 psi, Discharge pressure +/- 10 psi

AIR CONDITIONING MODE CIRCUIT DIAGRAM



DEHUMIDIFICATION MODE CIRCUIT DIAGRAM

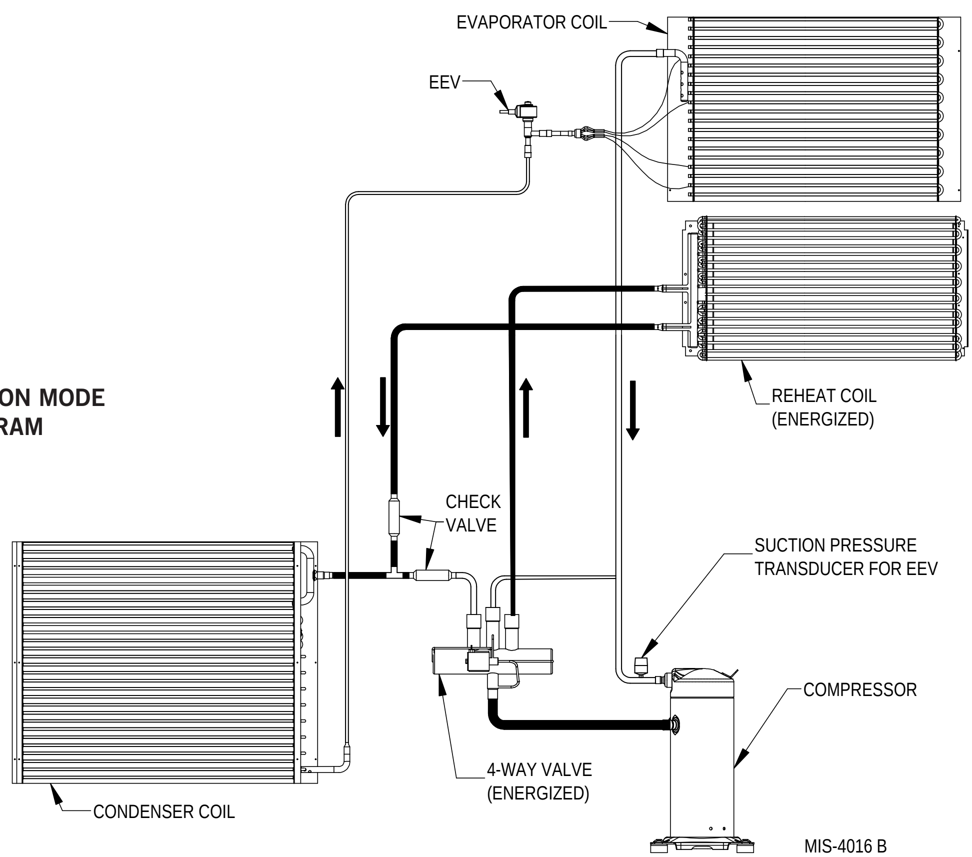


TABLE 3
Dehumidification Relay Logic Board

Energize on Unit Terminal Strip	Mode	Occupied/ Unoccupied	Inputs to the Board				Outputs from the Board	
			Y	W2	A1	D	TWV	YO
Y1, G	Cooling	Unoccupied	X					X
Y1, G, A	Cooling	Occupied	X		X			X
Y1, G, A, D	Cooling w/Dehum ①	Occupied	X		X	X		X
Y1, G, D	Cooling w/Dehum ①	Unoccupied	X			X		X
G, B/W1	1st Stage Electric Heat	Unoccupied		X				
G, B/W1, A	1st Stage Electric Heat	Occupied		X	X			
G, B/W1, A, D	1st Stage Electric Heat w/Dehum ②	Occupied		X	X			
G, B/W1, D	1st Stage Electric Heat w/Dehum ②	Unoccupied		X				
G, B/W1, W2	2nd Stage Electric Heat	Unoccupied		X				
G, B/W1, W2, A	2nd Stage Electric Heat	Occupied		X	X			
G, B/W1, W2, A, D	2nd Stage Electric Heat and Dehum ②	Occupied		X	X			
G, B/W1, W2, D	2nd Stage Electric Heat and Dehum ②	Unoccupied		X				
D	Dehum	Unoccupied				X	X ③	X ③
D, A	Dehum	Occupied			X	X	X	X

① Cooling takes precedence over dehumidification. A cooling call cancels dehumidification.

② The dehumidification input “D” is not received by the board because of an isolation relay that is energized by the call for heating (B/W1). Thus, the heating call (B/W1) always takes precedence over dehumidification.

③ The relay logic board has a jumper (J1) on it to choose between “any-time dehumidification” and “occupied dehumidification”. The factory default is P1-P2. With the jumper in the P1-P2 position, dehumidification is available any time there is a “D” input to the relay logic board. With the jumper in the P2-P3 position, dehumidification is available when there is an occupancy signal to the “A1” terminal, “D” would also need to be energized to dehumidify.

Refer to sequence of operation. In most cases cooling and heating modes take priority over dehumidification.

TABLE 4A
Electrical Specifications – Dehumidification Models

Model	Rated Volts & Phase	No. Field Power Circuits	Single Circuit		Dual Circuit			
			① Minimum Circuit Ampacity	② Maximum External Fuse or Circuit Breaker	① Minimum Circuit Ampacity		② Maximum External Fuse or Circuit Breaker	
					Circuit A	Circuit B	Circuit A	Circuit B
W30AYDA0Z A05 A10	230/208-1	1 1 1	23 31 57	30 35 60				
W30AYDB0Z B05 B09	230/208-3	1 1 1	17 20 32	20 20 35				
W30AYDC0Z C05 C09	460-3	1 1 1	8 10 16	15 15 20				
W36AYDA0Z A05 A10	230/208-1	1 1 1	27 32 58	35 35 60				
W36AYDB0Z B05 B09	230/208-3	1 1 1	19 21 33	25 25 35				
W36AYDC0Z C05 C09	460-3	1 1 1	11 11 17	15 15 20				

① These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electrical code (latest version), Article 310 for power conductor sizing. ***CAUTION:*** *When more than one field power circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three (3) current carrying conductors are in a raceway.*

② Maximum size of the time delay fuse or circuit breaker for protection of field wiring conductors.

NOTE: *The Maximum Overcurrent Protection (MOCP) value listed is the maximum value as per UL 60335 calculations for MOCP (branch-circuit conductor sizes in this chart are based on this MOCP). The actual factory-installed overcurrent protective device (circuit breaker) in this model may be lower than the maximum UL 60335 allowable MOCP value, but still above the UL 60335 minimum calculated value or Minimum Circuit Ampacity (MCA) listed.*

IMPORTANT: *While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes.*

TABLE 4B
Electrical Specifications – Dehumidification Models

Model	Rated Volts & Phase	No. Field Power Circuits	Single Circuit		Dual Circuit			
			① Minimum Circuit Ampacity	② Maximum External Fuse or Circuit Breaker	① Minimum Circuit Ampacity		② Maximum External Fuse or Circuit Breaker	
					Circuit A	Circuit B	Circuit A	Circuit B
W42AYDA00, A0Z	230/208-1	1	31	40				
A05		1	32	40				
A10		1	58	60				
A15		1 or 2	84	90	58	26	60	30
W42AYDB00, B0Z	230/208-3	1	23	30				
B05		1	23	30				
B09		1	33	35				
W42AYDC00, C0Z	460-3	1	11	15				
C05		1	11	15				
C09		1	17	20				
W48AYDA00, A0Z	230/208-1	1	35	45				
A05		1	35	45				
A10		1	59	60				
A15		1 or 2	85	90	59	26	60	30
W48AYDB00, B0Z	230/208-3	1	25	30				
B05		1	25	30				
B09		1	34	35				
W48AYDC00, C0Z	460-3	1	12	15				
C05		1	12	15				
C09		1	17	20				
W60AYDA00, A0Z	230/208-1	1	41	50				
A05		1	41	50				
A10		1	59	60				
A15		1 or 2	85	90	59	26	60	30
W60AYDB00, B0Z	230/208-3	1	28	35				
B09		1	34	35				
B15		1	53	60				
W60AYDC00, C0Z	460-3	1	14	20				
C09		1	18	20				
C15		1	27	30				
W72AYDA00, A0Z	230/208-1	1	57	60				
A05		1	57	60				
A10		1 or 2	61	70	57	52	60	60
A15		1 or 2	87	90	57	52	60	60
W72AYDB00, B0Z	230/208-3	1	39	45				
B09		1	39	45				
B15		1	54	60				
W72AYDC00, C0Z	460-3	1	19	25				
C09		1	19	25				
C15		1	27	30				

① These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electrical code (latest version), Article 310 for power conductor sizing. ***CAUTION:*** *When more than one field power circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three (3) current carrying conductors are in a raceway.*

② Maximum size of the time delay fuse or circuit breaker for protection of field wiring conductors.

NOTE: *The Maximum Overcurrent Protection (MOCP) value listed is the maximum value as per UL 60335 calculations for MOCP (branch-circuit conductor sizes in this chart are based on this MOCP). The actual factory-installed overcurrent protective device (circuit breaker) in this model may be lower than the maximum UL 60335 allowable MOCP value, but still above the UL 60335 minimum calculated value or Minimum Circuit Ampacity (MCA) listed.*

IMPORTANT: *While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes.*