



DHB SERIES

Magic Aire Fan Coil Unit – Sizes 04 through 10

Installation, Operation and Maintenance Manual

The **Magic Aire® Fan Coil Unit** is designed for use in any air distribution system. It is easily adaptable to most types of existing or new forced-air heating systems, or it can be installed in an independent air cooling system.

Pay particular attention to the following words:

NOTE—intended to clarify or make installation easier.

CAUTION—given to prevent equipment damage.

WARNING—to alert installer that personal injury and/or equipment damage may result if installation procedure is not properly followed.

GENERAL

Immediately inspect each unit for damage upon receipt. File any damage claims with the freight carrier. Protect stored units from damage. Do not stack more than two high.

Use these instructions in conjunction with other appropriate instructions, including but not limited to those instructions supplied with the outdoor unit (if applicable). Installation must comply with all applicable local codes.

EXISTING DUCT WORK

The previously installed air distribution system for heating requires close inspection to determine its suitability for cooling. In general, heating systems designed for outside temperatures of zero degrees or lower will need no alteration when used for cooling. However, in southern sections of the country, the existing heating duct work may have to be modified to provide better air distribution and insulation for cooling.

DUCT INSULATION AND VAPOR PROOFING

Properly installed heating supply ducts should already have adequate insulation against excessive heat loss. This same insulation should therefore be satisfactory in the summer to protect against heat gain. However, depending on the specific installation, it may be desirable to add to the insulation.

All externally insulated duct work must have an adequate vapor seal for summer operation. This is particularly important where the duct is exposed to highly humid conditions in such places as attic, vented crawl spaces, unconditioned basements, and utility rooms. The vapor seal prevents condensation of moisture in the insulating material and subsequent loss of its insulating value.

NOTE: Consult a qualified insulation contractor to insure your system is properly insulated.

INSTALLATION

1. Remove all packing and foreign material from unit.
2. Check blower wheel for free rotation.
3. REMOVE 2ea RED SHIPPING SCREWS (See Figure 1).

Figure 1
Blower Shipping
Screws



4. Check copper lines, coil etc for internal or hidden damage. Maintain caps and plugs until ready for connection to system.

5. In an attic installation where unit is resting on the attic floor, a suitable isolation pad or other vibration isolation should be provided to minimize equipment sound transmission to the living area.
6. The fan coil requires service clearances as indicated in Figure 4. Units are approved for 0" (zero inches) of clearance. Units are designed for horizontal airflow discharge only.
7. Units may be installed with access panel on top – refer to section "TOP ACCESS".
8. Install condensate drain. See section "CONDENSATE DRAIN".
9. Attach discharge and return ductwork. See section "Placing Unit in Ductwork."
10. Connect refrigerant liquid and suction piping to unit (DX coil). **NOTE:** Size and install per condensing unit manufacturer's recommendations.
11. Connect chilled water supply and return piping to unit (Chilled Water coil).
CAUTION: Protect cabinet and internal piping by wrapping each pipe with a wet cloth while brazing.
12. **WARNING:** Disconnect and Lock Out all incoming power sources before connecting to electrical service.
13. Attach L1 and L2 to power leads, power terminal block or power switch as shown on wiring diagram on unit front panel. Refer to nameplate for FLA, MCA and MOPD. Units with field installed electric heater accessory may be equipped with fan relay.

TOP ACCESS

To change the cabinet to top access, remove the four screws in the coil panel on both the coil connection side and the opposite side. Slide the coil and drain pan out of the unit cabinet. Turn the unit cabinet over and re-insert the coil and drain pan. Re-install the coil stub-out panel and the panel on the opposite side.

SUSPENDING THE UNIT FROM A STRUCTURE

WARNING: Insure that supporting structure is adequate for the loads being applied. Consult structural design professional if required.

The unit may be supported from the floor or it may be suspended.

All suspension hardware is to be field provided and installed. DO NOT attempt to hang unit from the top.

Before installing any unit, the installer must determine that the weight of the unit can be safely supported by the floor joists, rafters, ceiling, etc. Care should be taken to insure that suspension rods and other hardware be located so as to not block the access doors, interfere with the electrical, mechanical, or drain functions of the units.

Unit may be suspended using all-thread rod in two ways:

1. Use knockouts in top and bottom panel to route all-thread all the way through unit. Use hex nut and fender washer under bottom panel to support unit.
2. Support unit on two lengths of unistrut that span front to back or side to side. Support unistrut using all-thread rod or other means.

PLACING UNIT IN DUCTWORK

1. Use flexible duct connectors to supply and return connections to minimize sound transmission from unit to ductwork.
2. When the connecting return air duct is smaller than the coil inlet opening, construct the transition piece so that the vertical and horizontal dimensions of the transition piece do not increase more than one inch for every seven inches of length of the transition piece.
3. Provide at least three feet of straight duct work preceding the coil inlet.
4. Install unit so that the entering chilled water is on the leaving air side of the coil (Chilled Water coil). Refrigerant coils are supplied in the proper orientation. **NOTE:** If reversed, capacity will be reduced.
5. Install unit so that it pitches slightly $-(1/8$ inch) – toward the condensate drain opening that is to be used.

SOUND PERFORMANCE

The sound level can be reduced by use of flexible connections in the duct system near the outlet of the Fan-Coil Unit.

CONDENSATE DRAIN

Provide condensate drain piping material and size per local code requirements. Provide P-trap with minimum seal of 4.0 inches. Insure that P-trap is installed below the drain elevation to allow pan to drain fully. Pitch drain piping downward with minimum slope of $1/8"$ per foot, or minimum required by code.

NOTE: Failure to provide proper condensate drain trap may lead to condensate overflow and property damage and to unacceptable IAQ conditions. Auxiliary drain pan is recommended to prevent property damage in the event of blocked drainage system piping.

WARNING-AUXILIARY DRAIN PAN

RECOMMENDED: Many municipalities have adopted building codes that require the use of auxiliary drain pans. Magic Aire holds that this practice represents the standard for professional installation whether or not such codes exist in a specific municipality or territory. As such, water damages that would have been prevented had an auxiliary pan been deployed will not be considered for compensation. This position is taken regardless of whether the source of the moisture was speci-

fied as a potential failure mode in the applicable building code or not. A freeze burst, cracked drain pan, failed weld, or corrosion induced leak are some of the potential failure modes that are mitigated when an auxiliary pan is properly installed. Professional installers recognize the value of protecting customer assets against foreseeable events. Customers who choose to avoid the cost of common protective measures waive their right to seek damages when those foreseeable events occur. If the Fan-Coil is located above a living space or where damage may result from condensate overflow, install a watertight pan of corrosion-resistant metal beneath the unit to catch over-flow which may result from clogged drains or from other reasons. Provide proper drain piping for this auxiliary pan. Consult local codes for additional precautions before installation.

INSTALLATION OF CHILLED WATER LINES (with Chilled Water Coils)

1. If the Fan Coil Unit is located where the coil is subject to freezing during winter months, protect the coil from freezing. The coil can be protected by:

- A. Use of glycol cooling fluid, and/or
- B. Circulation of warm air over the coil.

CAUTION: Draining the system may not protect the coil from freezing. However, the system must be drained when glycol has not been added, for minimal protection.

- 2. Whenever glycol is added for the heating season, the system may have to be flushed prior to the start of the next cooling season because of capacity loss due to glycol.
- 3. Insulate chilled water piping with good quality insulation material with vapor barrier that is continuous up to the unit casing.

INSTALLATION OF REFRIGERANT LINES

Size and install refrigerant lines in accordance with the condensing unit manufacturer's instructions.

REFRIGERANT PIPING AT THE UNIT: Install TXV sensing bulb 7 diameters downstream from the manifold on a horizontal section of the suction line in the 3-o'clock or 9-o'clock position. Insulate the sensing bulb thoroughly so that it receives a good temperature signal from the gas in the suction line. For 7/8" O.D. and larger suction lines, use 4-o'clock or 8-o'clock position. Alternately, the sensing bulb may be located on a descending vertical section of the suction line.

NOTE: Units with coil "less TXV" are shipped with 3/8" Chatleff male refrigerant distributor and with nut and liquid line stubout (3/8" copper tube). On a "less TXV" coil **THERE IS NO PISTON METERING DEVICE PRESENT** except with the R-22 "orifice" option. The customer may size, select and field install a piston to provide metering without a TXV. For best results, use of the factory TXV is recommended. Field installable TXV is available as an accessory.

FIELD INSTALLED TXV (Fig 3): Install TXV by threading on to the distributor. Remove piston from distributor, if present. Make sure Teflon gasket (ref Fig. 2) is present and in good condition, at the distributor and on the TXV. Connect equalizer line to schrader valve connection at the coil.

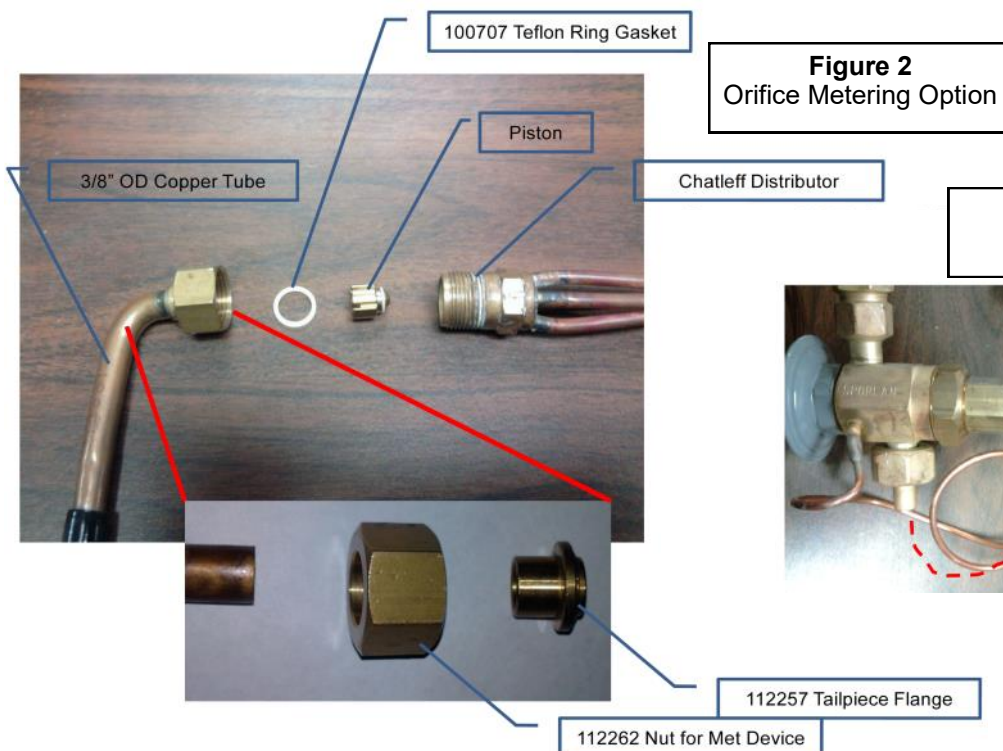


Figure 2
Orifice Metering Option

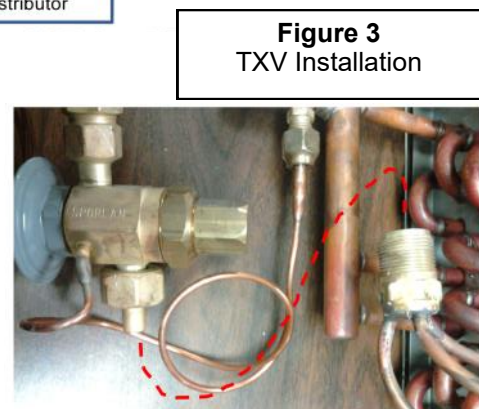


Figure 3
TXV Installation

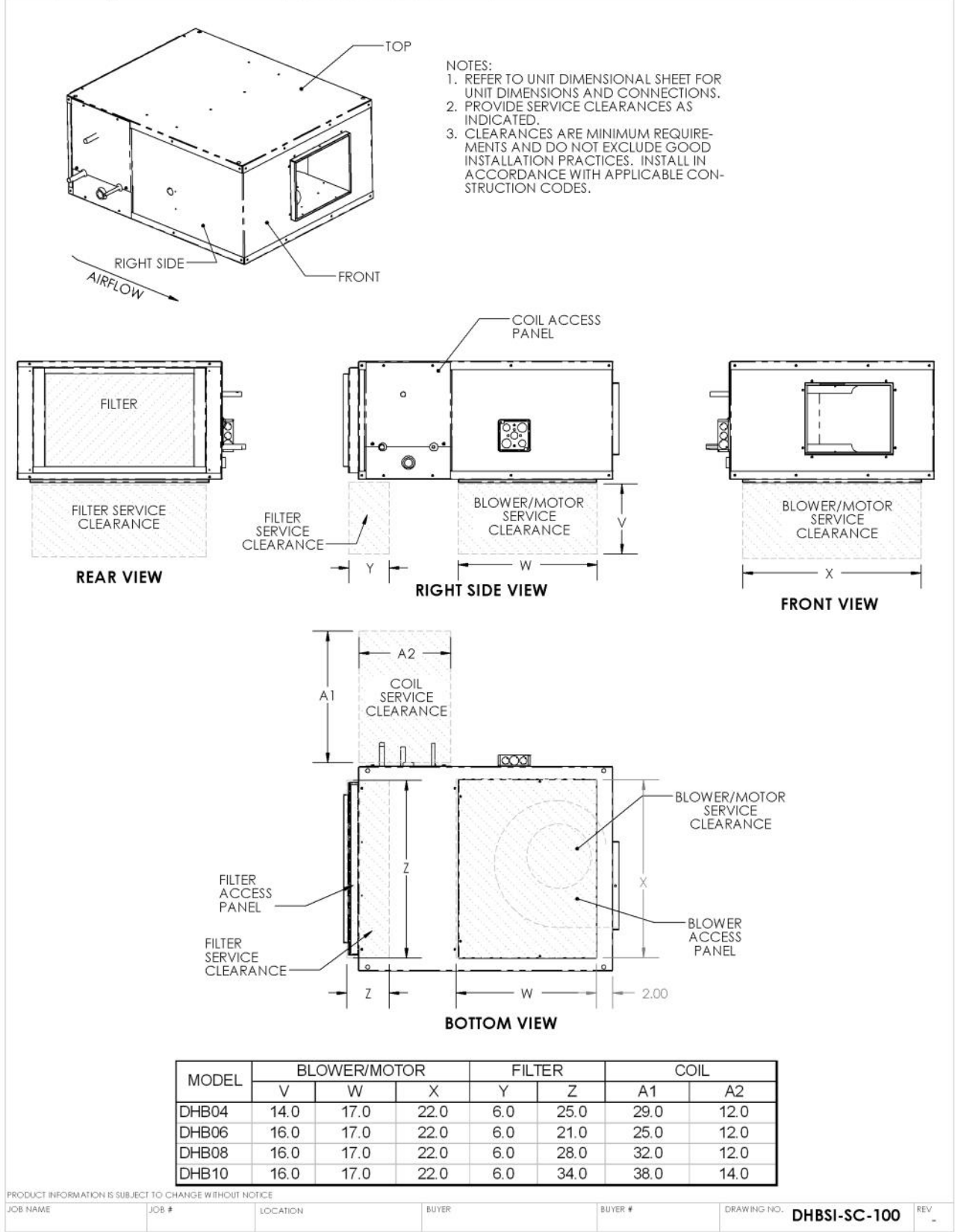


Figure 4

Service Clearances

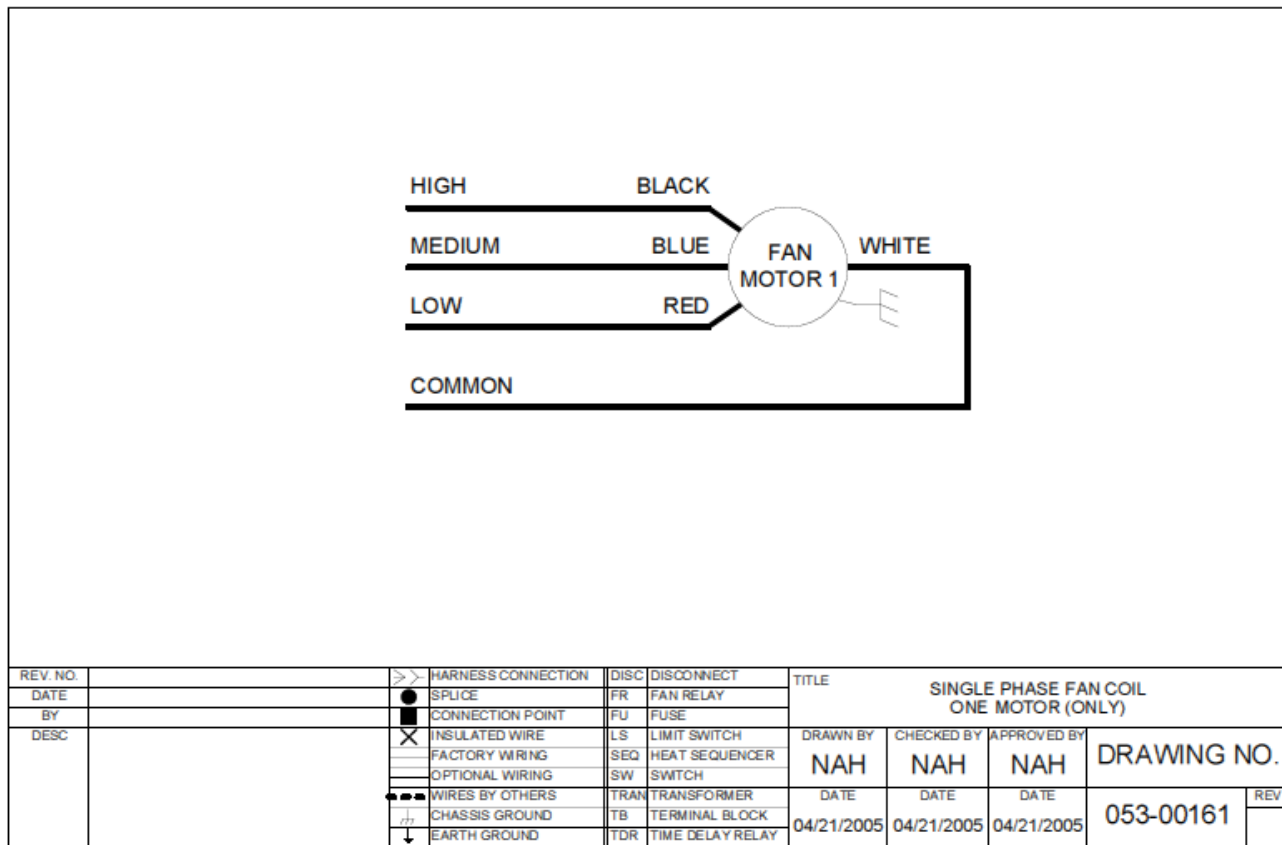


Figure 5
PSC Motor Option
Unit Wiring

ELECTRICAL CONNECTIONS

PSC MOTOR: NOTE: PSC motor option DOES NOT provide fan relay or low voltage fan circuit.

Figure 5 illustrates the internal wiring for the unit.

The utility box (4x4 junction box or "j-box only") is mounted on the coil connection side of the unit. All leads pass through a strain relief where they enter the utility box.

Wiring within the cabinet has been positively located and supported so that it does not pass over sharp metal edges or come in contact with moving parts. After servicing, properly position electrical leads in their original supports.

DH Series Electrical Data					
PSC Motor (J-box only - no fan relay)					
Model	PSC Motor			MCA	MOPD
	Voltage	HP	FLA		
DHB04	115V/1ph	1/10	2.1	2.6	15
	208-230V/1ph	1/10	.9	1.1	
	277V/1ph	1/6	.9	1.1	
DHB06	115V/1ph	1/6	3.7	4.6	15
	208-230V/1ph		1.2	1.5	
	277V/1ph		.9	1.1	
DHB08	115V/1ph	1/4	4.1	5.1	15
	208-230V/1ph		1.6	2.0	
	277V/1ph		2.0	2.5	
DHB12	115V/1ph	1/3	6.9	8.6	15
	208-230V/1ph		2.2	2.8	
	277V/1ph		2.4	3.0	

Notes:

1. MCA= Minimum Circuit Ampacity
2. MOPD= Maximum Overcurrent Protective Device, in amps.
3. FLA = Full Load Amps
4. HP = Motor nominal horsepower
5. All motors are 60Hz
6. Use minimum wire size #14 AWG 75C wire at unit
7. PSC option includes 3-speed motor with wires terminated in J-Box. No control circuit is provided.



2. At around 1050rpm, as SP increases, CFM decreases rapidly down to zero at 1200rpm.

How to select the fan speed:

1. Use the airflow tables to locate the desired operating point.
2. Identify the corresponding tap number from the table.
3. Move Violet wire (504) to the matching connection on terminal block TB2.

How to integrate with 24V thermostat: Connect R, C and G connections on terminal block TB1 to matching connections on thermostat. Energizing the G connection will start the fan.



Figure 7
Access Panels Removed
(ECM-VE Motor option shown)

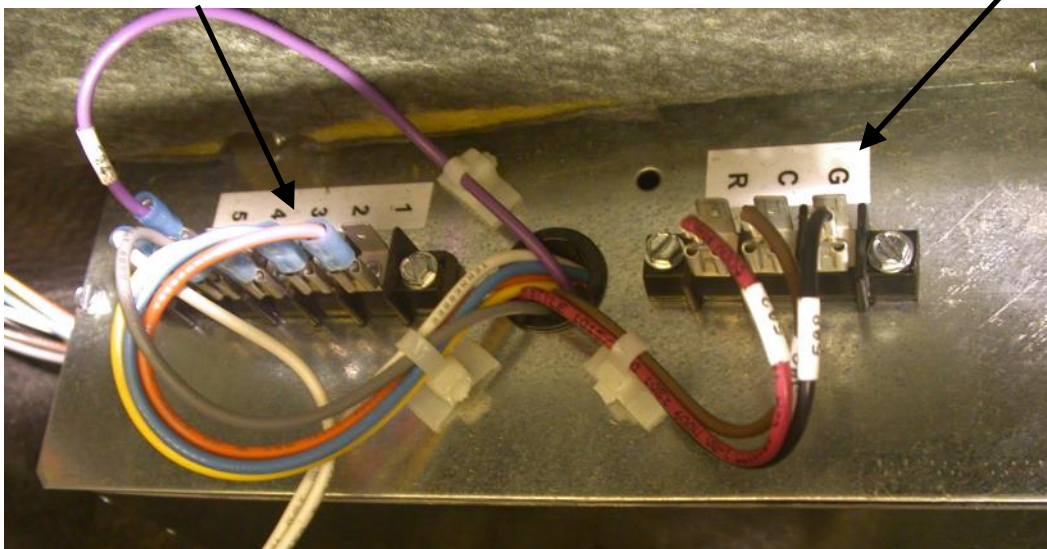


Figure 8
ECM-VE Motor-Connection Detail

Figure 9
ECM-VE Motor Option-
Control Box Connections

Terminal Block "TB2"

Terminal Block "TB1"



Airflow Table-ECM-VE Motor

DHB04 4 Row Hydronic / DX

Program Number: DHB04XW4*- (Hydronic); DHB04XD4*- (DX)

Speed	0.000			0.100			0.200			0.300			0.400		
	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	592	316	27	596	269	27	659	138	23	780	133	26			
2	654	352	35	668	312	35	726	244	35	809	229	38	894	289	53
3	804	443	59	775	401	59	862	389	64	896	372	64	950	348	69
4	1030	573	114	1049	536	115	1067	506	116	1064	478	112	1094	476	117
5	1173	648	161	1175	610	160	1175	576	156	1177	540	149	1178	531	146

Speed	0.500			0.600			0.700		
	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1									
2									
3	543	319	72						
4	1135	469	123	1162	431	118	1176	375	109
5	1179	521	143	1180	453	130	1186	389	117

DHB04 6 Row Hydronic

Program Number: DHB04XW6*-

Speed	0.000			0.100			0.200			0.300			0.400		
	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	594	309	24	612	255	22	683	210	24						
2	664	349	33	694	317	34	752	286	35						
3	820	433	59	850	415	62	881	405	62	923	375	65	978	340	69
4	1032	555	113	1049	525	115	1082	510	117	1123	498	123	1123	487	123
5	1169	633	164	1171	597	161	1173	566	154	1177	552	149	1180	537	144

Speed	0.500			0.600			0.700		
	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1									
2									
3	1045	310	73						
4	1152	461	124	1169	414	116			
5	1182	471	126	1186	416	119	1193	361	92

LEGEND

	=	NOT RECOMMENDED FOR DX OR ELECTRIC HEAT
	=	NOT RECOMMENDED FOR WATER OR DX

ESP	External Static Pressure
DX	Refrigerant Direct Expansion
in w.c.	Pressure in inches of water column
RPM	Fan speed, revolutions per minute
SCFM	Standard CFM (at sea level and 70°F)

Notes:

1. Reduce available ESP by 0.10 in w.g. for use with 2-row hot water coil accessory.
2. Power and current performance will vary with site power conditions.
3. Use airflow to interpolate between ESP points to obtain approximate RPM, Watts and Amps. Do not extrapolate.

Airflow Table-ECM-VE Motor

DHB06 4 Row DX

Program Number: DHB06XD4*-

	ESP (in w.c.)														
	0.000			0.100			0.200			0.300			0.400		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	642	410	42	567	454	132	686	376	75	780	326	50	855	288	55
2	830	627	111	732	665	251	867	599	160	953	551	117	992	522	121
3	926	665	125	817	704	276	924	642	182	998	598	138	1038	570	143
4	1036	763	190	914	803	354	1029	748	251	1103	707	199	1132	675	198
5	1133	857	249	1000	892	409	1099	817	290	1152	753	225	1159	699	216

	ESP (in w.c.)								
	0.500			0.600			0.700		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	930	220	58	1020	166	64	1110	111	69
2	1032	498	126	1103	417	125	1174	335	124
3	1072	541	144	1119	489	146	1165	437	147
4	1150	637	191	1164	541	170	1178	445	149
5	1162	648	205	1173	549	183	1183	449	160

DHB06 4 Row Hydronic

Program Number: DHB06XW4*-

	ESP (in w.c.)														
	0.000			0.100			0.200			0.300			0.400		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	548	302	8	484	348	73	595	264	33	379	130	8			
2	642	410	42	567	454	132	686	376	75	780	326	50	855	288	55
3	830	627	111	732	665	251	867	599	160	953	551	117	992	522	121
4	926	665	125	817	704	276	924	642	182	998	598	138	1038	570	143
5	1133	857	249	1000	892	409	1099	817	290	1152	753	225	1159	699	216

	ESP (in w.c.)								
	0.500			0.600			0.700		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1									
2	930	220	58	1020	166	64	1110	111	69
3	1032	498	126	1103	417	125	1174	335	124
4	1072	541	144	1119	489	146	1165	437	147
5	1162	648	205	1173	549	183	1183	449	160

DHB06 6 Row Hydronic

Program Number: DHB06XW6*-

	ESP (in w.c.)														
	0.080			0.100			0.200			0.300			0.400		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	569	305	11	584	297	14	658	260	18						
2	919	603	115	926	597	116	960	566	117	999	537	121	1043	507	127
3	966	643	133	973	637	136	1008	609	141	1047	576	144	1086	541	147
4	1028	694	164	1034	687	166	1065	656	170	1078	603	161	1086	541	147
5	1090	744	195	1095	737	197	1121	704	199	1140	664	196	1152	616	187

ESP (in w.c.)			
0.500			
Speed	RPM	SCFM	WATTS
1			
2	1077	475	128
3	1116	514	148
4	1116	514	148
5	1162	569	176

LEGEND

	=	NOT RECOMMENDED FOR DX OR ELECTRIC HEAT
	=	NOT RECOMMENDED FOR WATER OR DX

ESP	External Static Pressure
DX	Refrigerant Direct Expansion
in w.c.	Pressure in inches of water column
RPM	Fan speed, revolutions per minute
SCFM	Standard CFM (at sea level and 70°F)

Notes:

1. Reduce available ESP by 0.10 in w.g. for use with 2-row hot water coil accessory.
2. Power and current performance will vary with site power conditions.
3. Use airflow to interpolate between ESP points to obtain approximate RPM, Watts and Amps. Do not extrapolate.

Airflow Table-ECM-VE Motor

DHB08 4 Row DX

Program Number: DHB08XD4*-

ESP (in w.c.)															
0.000			0.100			0.200			0.300			0.400			
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	585	517	40	592	429	35	646	328	32	723	261	36	812	230	43
2	687	616	62	747	590	71	794	547	74	853	525	82	899	469	83
3	749	673	81	808	648	89	852	610	93	902	590	101	943	547	103
4	936	850	156	974	823	164	1007	791	165	1050	765	174	1082	733	177
5	1073	984	240	1112	957	246	1128	927	246	1143	876	234	1149	823	225

	ESP (in w.c.)								
	0.500			0.600			0.700		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1									
2	947	425	82	1009	395	94	1068	345	96
3	984	530	105	1037	469	113	1083	421	114
4	1107	708	179	1147	679	183	1162	610	171
5	1161	765	211	1172	702	192	1173	626	176

DHB08 4 Row Hydronic

Program Number: DHB08XW4*-

ESP (in w.c.)															
0.000			0.100			0.200			0.300			0.400			
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	571	501	34	578	382	34	589	200	20						
2	687	616	62	747	590	71	794	547	74	853	525	82	899	469	83
3	749	673	81	808	648	89	852	610	93	902	590	101	943	547	103
4	936	850	156	974	823	164	1007	791	165	1050	765	174	1082	733	177
5	1073	984	240	1112	957	246	1128	927	246	1143	876	234	1149	823	225

	ESP (in w.c.)								
	0.500			0.600			0.700		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1									
2	947	425	82	1009	395	94	1068	345	96
3	984	530	105	1037	469	113	1083	421	114
4	1107	708	179	1147	679	183	1162	610	171
5	1161	765	211	1172	702	192	1173	626	176

DHB08 6 Row Hydronic

Program Number: DHB08XW6*-

ESP (in w.c.)															
Speed	0.000			0.100			0.200			0.300			0.400		
	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	588	472	40	608	378	34	665	310	35	743	248	41	826	212	43
2	808	669	89	848	625	92	884	605	95	934	599	102	972	524	105
3	898	751	128	932	711	131	942	685	136	1013	672	141	1049	623	146
4	987	832	167	1015	797	169	1058	777	177	1092	745	179	1125	721	187
5	1121	966	250	1138	919	246	1145	874	237	1153	822	224	1158	764	209

ESP (in w.c.)						
0.500			0.600			
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1						
2	1025	497	112	1078	441	114
3	1088	591	149	1121	530	144
4	1150	684	185	1164	619	173
5	1167	701	198	1170	635	182

LEGEND

	=	NOT RECOMMENDED FOR DX OR ELECTRIC HEAT
	=	NOT RECOMMENDED FOR WATER OR DX

ESP	External Static Pressure
DX	Refrigerant Direct Expansion
in w.c.	Pressure in inches of water column
RPM	Fan speed, revolutions per minute
SCFM	Standard CFM (at sea level and 70°F)

Notes:

1. Reduce available ESP by 0.10 in w.g. for use with 2-row hot water coil accessory.
2. Power and current performance will vary with site power conditions.
3. Use airflow to interpolate between ESP points to obtain approximate RPM, Watts and Amps. Do not extrapolate.

Airflow Table-ECM-VE Motor

DHB10 4 Row Hydronic

Program Number: DHB10XW4*-

ESP (in w.c.)															
0.000				0.100			0.200			0.300			0.400		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	568	665	57	577	562	47	592	414	42	645	270	39	369	167	28
2	595	701	65	625	638	67	655	545	65	716	510	73	773	442	77
3	669	799	97	711	768	103	751	728	109	797	690	116	844	636	122
4	812	982	179	842	950	187	880	921	192	910	886	196	945	848	202
5	1025	1256	357	1047	1226	361	1072	1203	366	1074	1171	370	1109	1139	367

	ESP (in w.c.)								
	0.500			0.600			0.700		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	409	148	32	488	120	34			
2	838	438	84	940	350	88	945	209	59
3	888	627	128	934	550	133	990	505	144
4	979	810	207	1016	760	211	1057	713	220
5	1122	1074	362	1134	1016	347	1140	954	329

DHB10 6 Row Hydronic

Program Number: DHB10XW6*-

ESP (in w.c.)															
0.000				0.100			0.200			0.300			0.400		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	587	598	53	595	499	46	650	448	51	703	375	54	763	341	60
2	676	698	81	711	653	85	760	625	92	802	574	96	851	542	105
3	785	833	132	821	790	1	857	767	145	893	729	147	928	686	151
4	941	1012	252	992	994	253	1015	969	260	1043	940	263	1067	905	267
5	1126	1236	409	1136	1190	397	1139	1143	384	1144	1093	365	1147	1042	351

	ESP (in w.c.)								
	0.500			0.600			0.700		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	828	287	64						
2	891	483	108	931	434	111	985	401	118
3	970	653	159	1003	612	163	1044	581	172
4	1095	878	273	1125	828	274	1140	775	266
5	1154	967	333	1160	896	313	1164	821	293

DHB10 4 Row DX

Program Number: DHB10XD4*-

ESP (in w.c.)															
0.000				0.100			0.200			0.300			0.400		
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	762	796	129	803	765	135	839	715	139	878	653	147	918	604	152
2	816	847	154	858	826	161	889	784	165	923	725	173	958	677	179
3	913	973	222	947	946	228	975	912	234	1007	864	241	1039	818	248
4	1009	1099	290	1035	1065	295	1061	1039	302	1090	1003	309	1120	959	317
5	1083	1181	368	1109	1153	373	1133	1125	379	1159	1092	387	1186	1054	393

ESP (in w.c.)						
0.500			0.600			
Speed	RPM	SCFM	WATTS	RPM	SCFM	WATTS
1	959	563	159	1000	517	166
2	998	634	186	1037	595	194
3	1072	771	255	1106	731	263
4	1145	907	323	1174	866	331
5	1210	991	399	1235	957	405

LEGEND

	=	NOT RECOMMENDED FOR DX OR ELECTRIC HEAT
	=	NOT RECOMMENDED FOR WATER OR DX

ESP	External Static Pressure
DX	Refrigerant Direct Expansion
in w.c.	Pressure in inches of water column
RPM	Fan speed, revolutions per minute
SCFM	Standard CFM (at sea level and 70°F)

Notes:

1. Reduce available ESP by 0.10 in w.g. for use with 2-row hot water coil accessory.
2. Power and current performance will vary with site power conditions.
3. Use airflow to interpolate between ESP points to obtain approximate RPM, Watts and Amps. Do not extrapolate.



DHB SERIES

Magic Aire Fan Coil Unit – Sizes 04 through 10

Hot Water Coil Accessory – Installation Procedure:

1. Orient hot water coil accessory module so that connections are on the desired side.
2. If desired: Route upper air vent tube through available hole next to the upper coil connection. One tube is shorter and so may require the installer to may extend the air vent using field-supplied and installed tubing. Bend air vent tubing gently. Air removal for the hot water system must be provided in the system by the customer regardless of the use of the vents at the DH hot water coil accessory.
3. Remove the front face side screws from the DH unit as indicated on Fig 10.
4. Slide accessory over the discharge end of the DH unit and make sure that the DH unit is in contact with the “shelf” in the accessory cabinet as shown on Fig 11. The two long flanges will slip over the outside of the DH unit.
5. Use self-drilling screws (#8 x ½” long) through the clearance holes on the accessory long flanges and into the DH cabinet. Install a screw in each hole.
6. Seal the joint with HVAC seal tape.
7. Install field hot water piping to the hot water coil connections.
8. Make sure to support the DHB unit as indicated in the installation manual, and use an additional cross support for the accessory hot water coil. Alternately, support the accessory hot water coil on long supports (in the direction of airflow) that are also used for the DHB unit.
9. Place unit into service.



Fig 10
Remove indicated screws
from front face sides

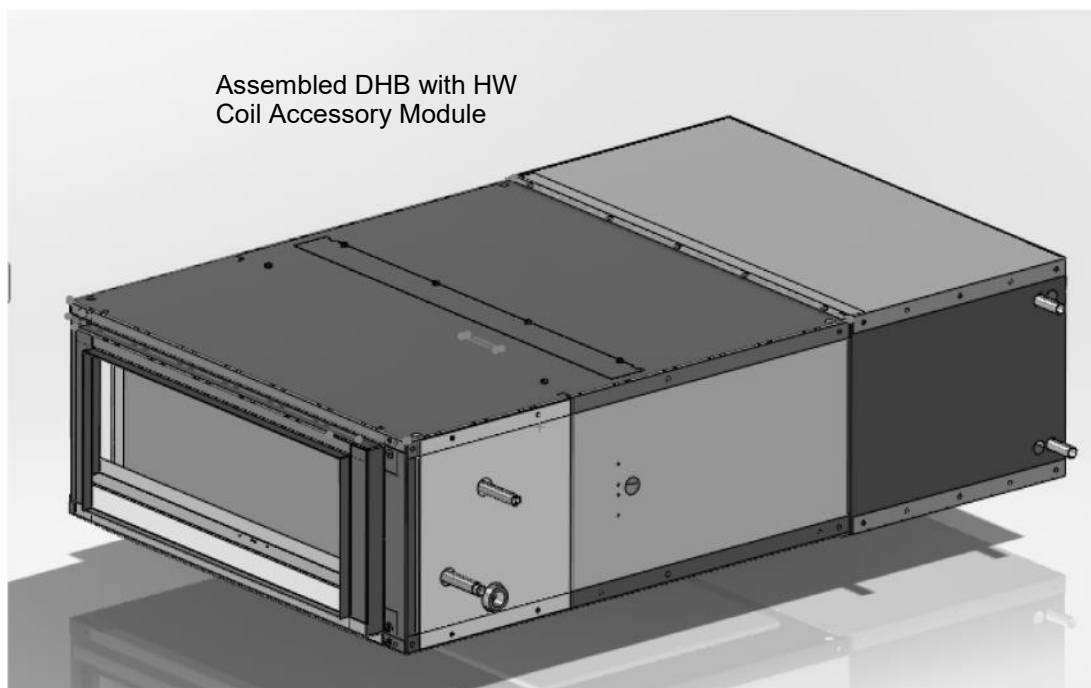
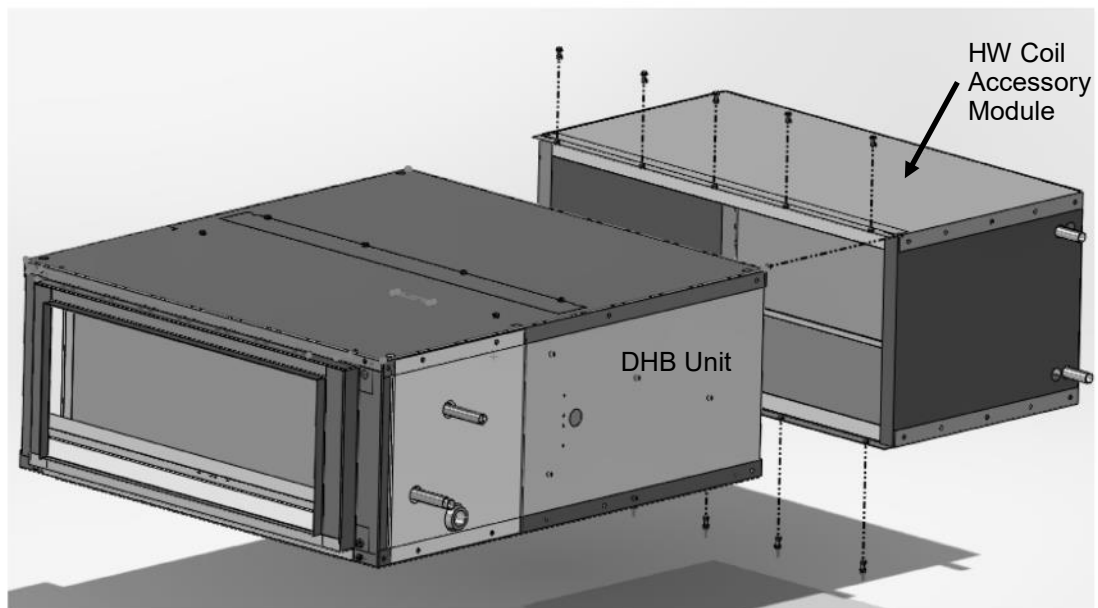
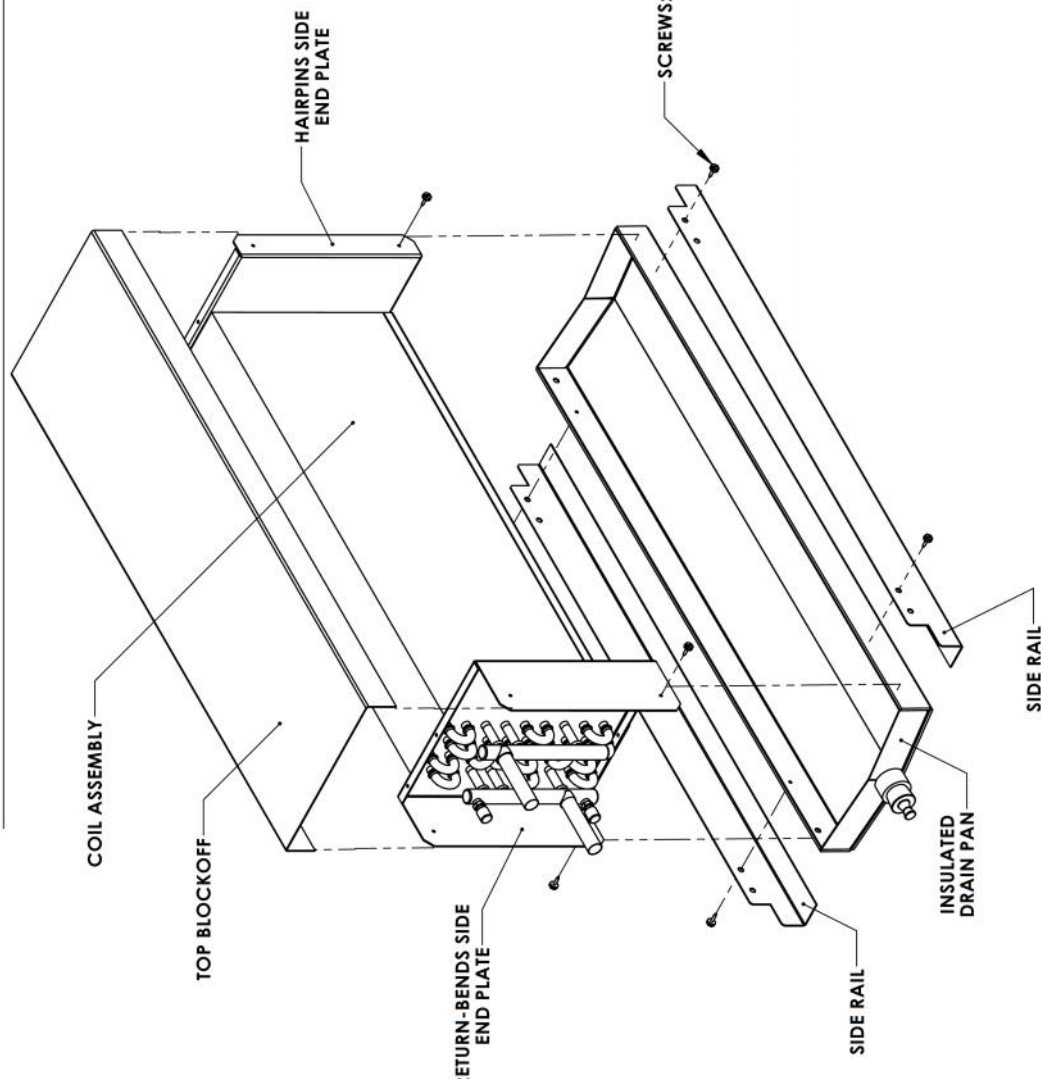
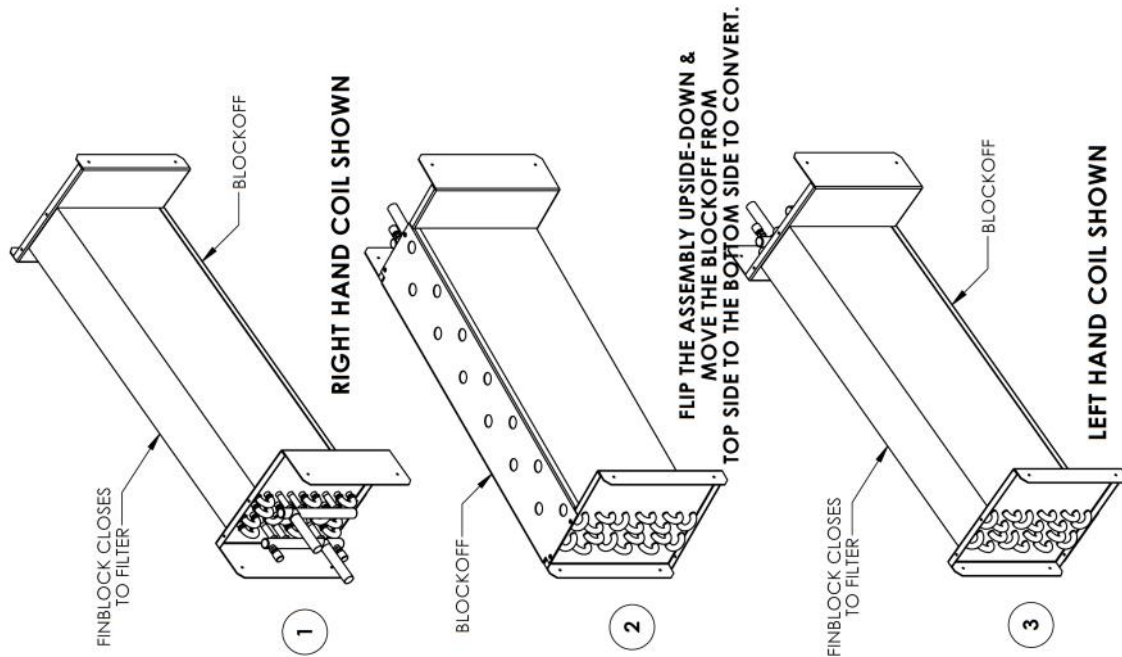


Fig 11
DHB Hot water accessory
installation

RIGHT HAND COIL SUB-ASSEMBLY SHOWN

STEPS TO CONVERT WATER COIL ASSEMBLY OPTIONS FROM RIGHT-HAND TO LEFT-HAND OR VICE-VERSA



STEPS TO CREATE COIL SUB-ASSEMBLY:

1. INSULATE THE DRAIN PAN.
2. ALIGN HOLES OF SIDE-RAILS WITH DRAIN PAN AND ATTACH AS SHOWN.
3. ALIGN HOLES OF END PLATES WITH DRAIN PAN AND ATTACH AS SHOWN.
4. COVER THE COIL ASSEMBLY WITH TOP BLOCKOFF AS SHOWN.

DHB Sizes 04-10 (minor rev B)
Double Sloped Drain Pan—
Hand of Connection Change
Instructions
3/5/2015



AIR HANDLERS AND FAN COILS

Warranty Registration and Start-up Report

Warranty Registration Form: Complete and submit this form within ten (10) days of start-up to comply with the terms of the Magic Aire warranty. Form must be completed to clearly indicate startup for each unit being registered.

Mail form(s) to Magic Aire
Warranty Department
501 Galveston St.
Wichita Falls, TX, 76301 or
Email techsupport@MagicAire.com

Job Name		City	
Sales Order #		Unit Tag	
Model Number		Serial Number	
Installer		Quantity of Units	

STARTUP REPORT			
Group	Checklist Item	Yes	No
Electrical/Operational	Have red shipping screws been removed from blower discharge?		
	Does electrical service correspond to unit nameplate?		
	-Nameplate Supply Voltage/Phase	Voltage:	
		Phase:	
	-Nameplate Rated FLA motor current (Amps).	Actual Motor Current:	
	Does all field wiring conform to unit wiring diagram?		
	Is field-provided freeze protection present? (for DX and hydronic coils)		
	Is fan wheel turning the correct direction?		
	Are mixing box dampers operating properly?		
Is the filter clean?			
Structural	Is unit properly supported?		
	Is unit installed level (necessary for proper condensate drainage)?		
	Is properly sized condensate trap present?		
	Is the condensate disposal system operating correctly?		
	Is auxiliary external condensate drain pan installed as recommended by IOM and Int'l Mech'l Code? (not required for valid warranty)		
DX Systems	Is expansion valve bulb properly installed and insulated?		
	Is Heat Pump Bypass Kit (HPK) present if required?		
	Has the DX system been charged with refrigerant according to the condensing unit manufacturer's instructions?		
Piping Check	Is unit piping correct and insulated to prevent condensation?		
	Are the control valve packages piped correctly?		
	Are Valve packages properly insulated?		
	Are there any leaks detected?		
	-interior to unit?		
	-at unit piping connections?		
	-at valve packages or other piping modified in the installation?		