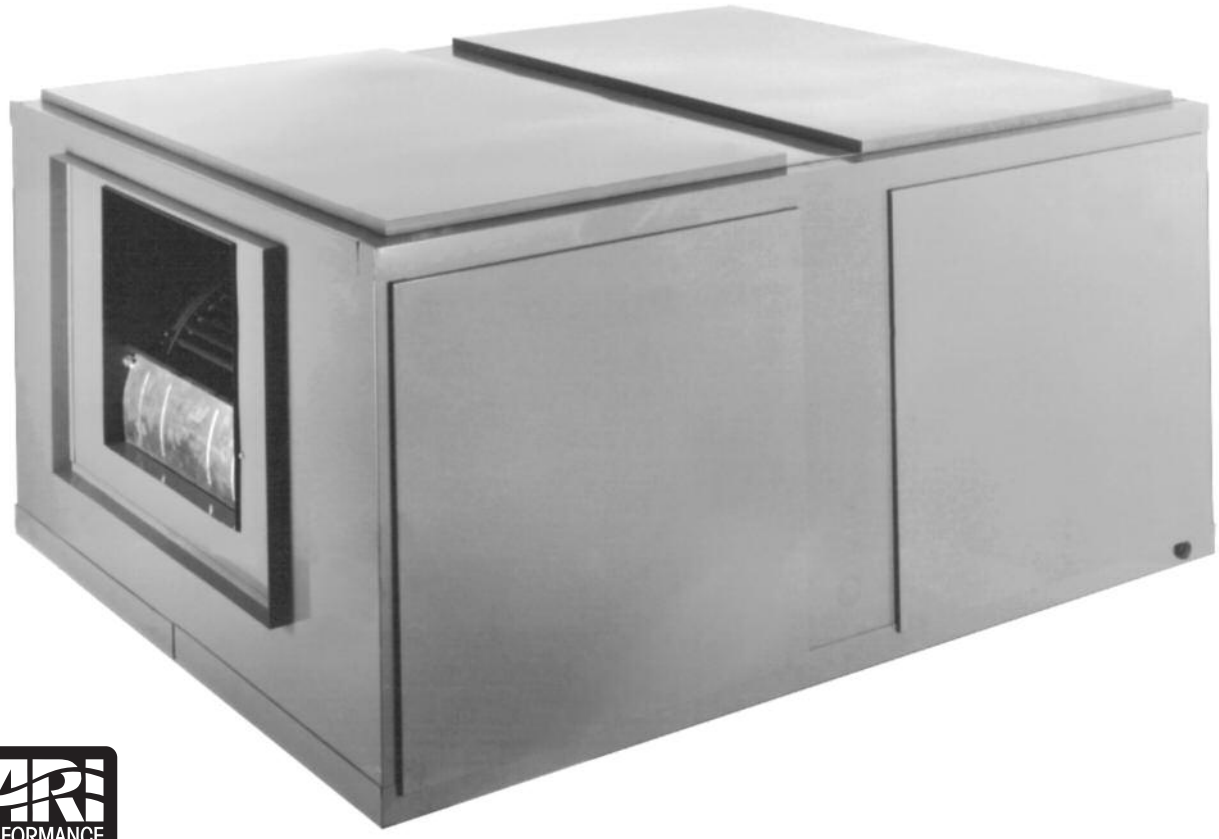
INSTALLATION INSTRUCTIONS

RHGL COMMERCIAL AIR HANDLERS
NOMINAL 7.5 THROUGH 20 TON AIR CONDITIONING
R-410A MODELS



ARI PERFORMANCE CERTIFIED ™
ARI Standard 340/360
Unitary Large HP
Certification applies only when the complete system is listed with ARI.
www.aridirectory.org

ARI PERFORMANCE CERTIFIED ™
ARI Standard 340/360
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c UL us LISTED

UL listing and CSA certification on some models is in process.
Contact your distributor for available models.

Accredited by the RvA
ABS Quality Evaluations, Inc. Management System Certification
ANAB ACCREDITED
ISO 9001:2000
Certificate Number: 30164

⚠ Recognize this symbol as an indication of Important Safety Information!

DO NOT DESTROY
PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

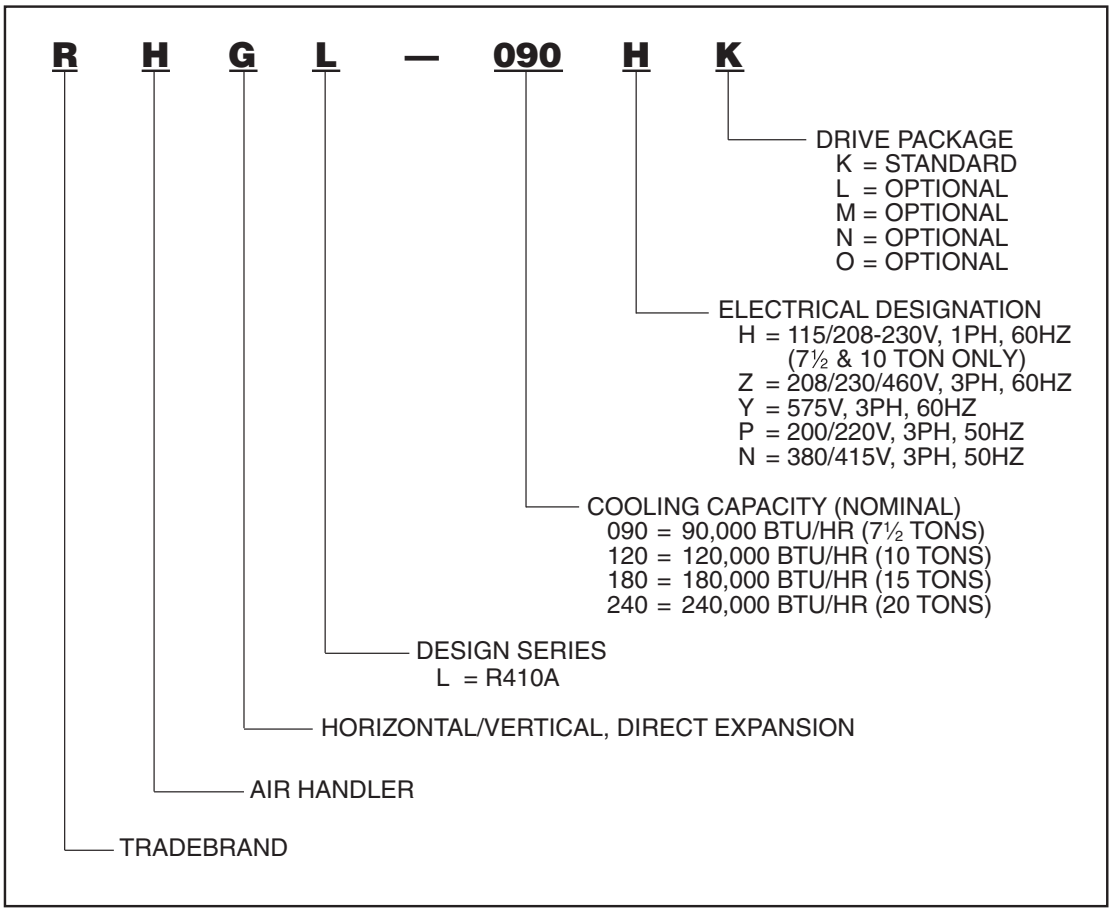
⚠ WARNING

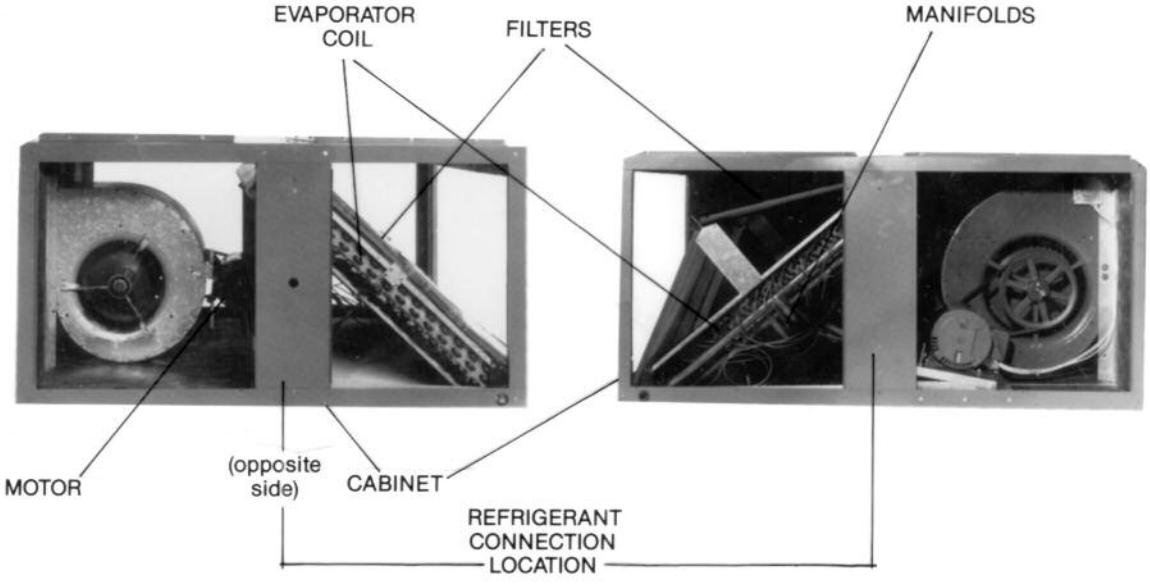
THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED, LICENSED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS UNIT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING INSTALLATION OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE POSSIBLY RESULTING IN FIRE, ELECTRICAL SHOCK, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

92-102775-01-01
SUPERSEDES 92-102775-01-00

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7.5-10 nominal tons unit
with side panel removed for coil connetions & air filter access.

15-20 nominal tons unit
with side panel removed for blower and air filter access.

INTRODUCTION

Recognize this symbol as an indication of Important Safety Information!

⚠ WARNING

PROPOSITION 65: THIS APPLIANCE CONTAINS FIBERGLASS INSULATION. RESPIRABLE PARTICLES OF FIBERGLASS ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

⚠ WARNING

THE MANUFACTURER'S WARRANTY DOES NOT COVER ANY DAMAGE OR DEFECT TO THE AIR HANDLER CAUSED BY THE ATTACHMENT OR USE OF ANY COMPONENTS, ACCESSORIES OR DEVICES (OTHER THAN THOSE AUTHORIZED BY THE MANUFACTURER) INTO, ONTO OR IN CONJUNCTION WITH THE AIR HANDLER. YOU SHOULD BE AWARE THAT THE USE OF UNAUTHORIZED COMPONENTS, ACCESSORIES OR DEVICES MAY ADVERSELY AFFECT THE OPERATION OF THE AIR HANDLER AND MAY ALSO ENDANGER LIFE AND PROPERTY. THE MANUFACTURER DISCLAIMS ANY RESPONSIBILITY FOR SUCH LOSS OR INJURY RESULTING FROM THE USE OF SUCH UNAUTHORIZED COMPONENTS, ACCESSORIES OR DEVICES.

This booklet contains the installation and operating instructions for your air handler. There are a few precautions that should be taken to derive maximum satisfaction from it. Improper installation can result in unsatisfactory operation or dangerous conditions.

Read this booklet and any instructions packaged with separate equipment required to make up the system prior to installation. Give this booklet to the owner and explain its provisions. The owner should retain this booklet for future reference.

CHECKING PRODUCT RECEIVED

Upon receiving the unit, inspect it for any damage from shipment. Claims for damage, either shipping or concealed, should be filed immediately with the shipping company. Check the unit model number and electrical characteristics to determine if they are correct.

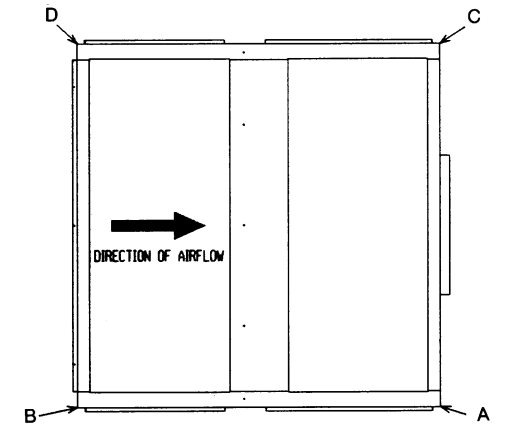
STANDARD UNIT FEATURES

HORIZONTAL OR VERTICAL—All models are designed for either application and can be installed in either position as supplied from the factory.

MANIFOLD—All models are furnished with dual circuit manifolds for dual condensing unit application. The circuitry is so arranged to provide full face coil operation from each unit. Fittings are provided with each unit for single condensing unit application. The fittings may be installed for either right or left hand tubing connections.

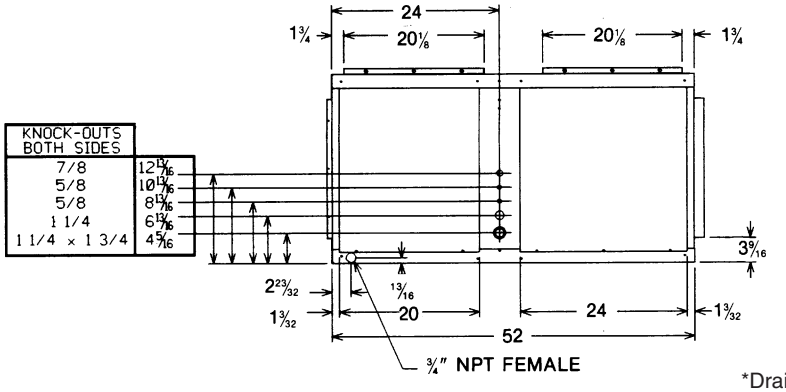
DRAIN PAN (not visible)—The zinc coated steel drain pan is designed to trap condensate in either vertical or horizontal installations. All pans are insulated with fiberglass insulation between the bottom of the pan and the unit and may be connected for either right or left hand drains. If unit is to be installed over a finished ceiling and in an unconditioned space, it is recommended an auxiliary drain pan be placed under the entire unit.

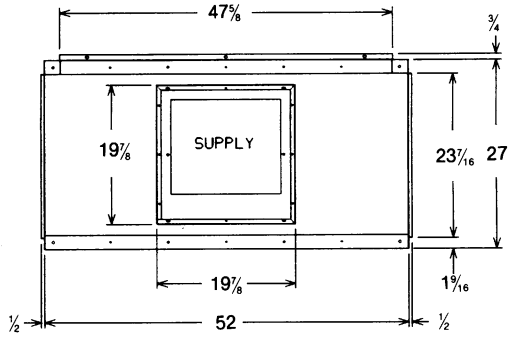
UNIT DIMENSIONS
7.5 AND 10 NOMINAL TONS



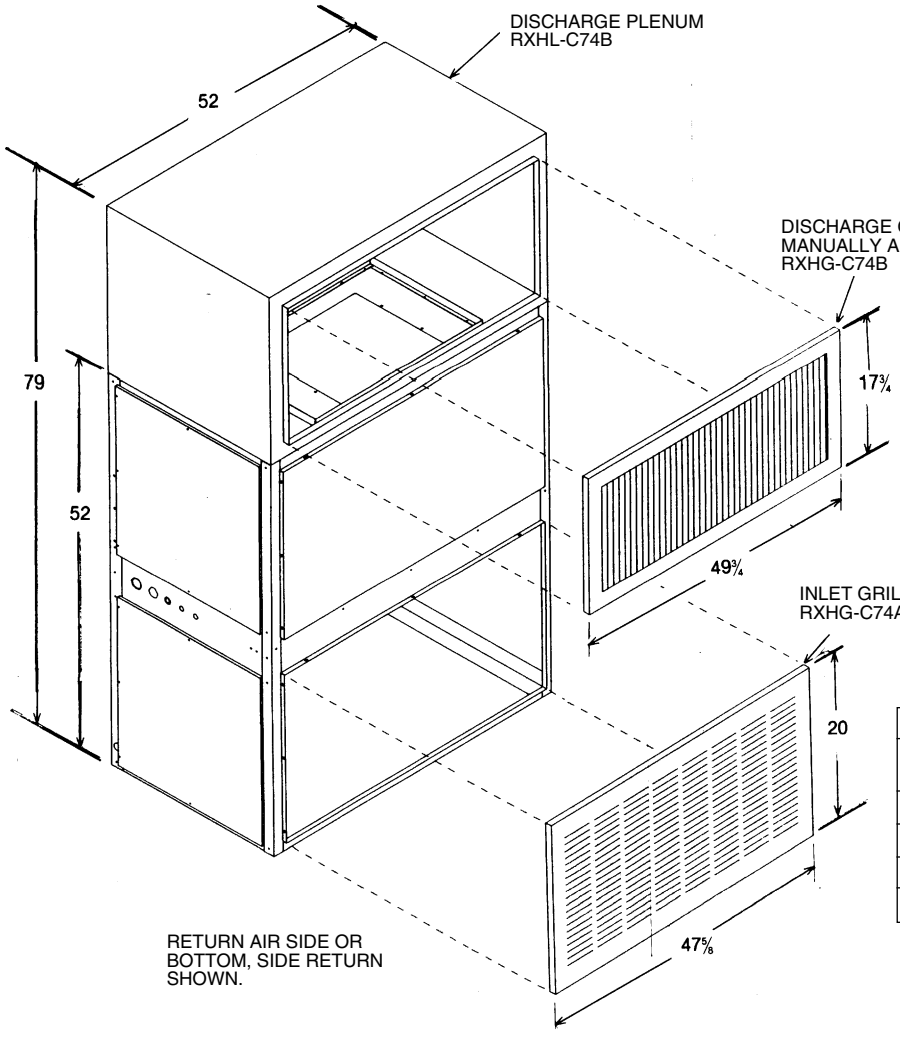
RETURN AIR OPENINGS = 47⅞ WIDTH x 19⅞ HEIGHT

MODEL	CORNER WEIGHTS A	B	C	D	TOTAL WEIGHT
7½ TON	88	78	87	77	330
10 TON	93	82	92	80	347





*Drain connections are provided on both sides of the drain pan. The drain can be connected to either side of the drain pan, but not both. The drain must be trapped.

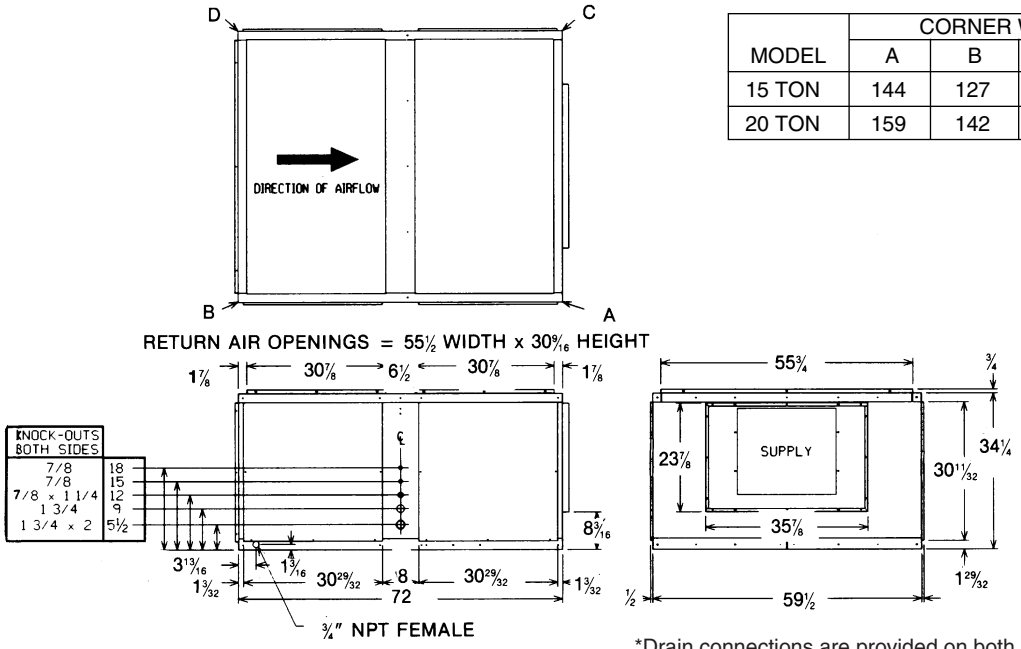


UNIT SHOWN IN VERTICAL POSITION WITH OPTIONAL INLET GRILLE AND OPTIONAL DISCHARGE PLENUM AND DISCHARGE GRILLE

MODEL	REFRIGERANT STUB SIZES DUAL LIQUID	DUAL SUCTION	SINGLE LIQUID	SINGLE SUCTION
090	½, ½	⅞, ⅞	½	1⅛
120	½, ½	⅞, ⅞	⅝	1⅜
180	½, ½	1⅛, 1⅛	⅝	1⅝
240	⅝, ⅝	1⅜, 1⅜	⅞	1⅝

UNIT DIMENSIONS
15 AND 20 NOMINAL TONS

MODEL	CORNER WEIGHTS				TOTAL WEIGHT
	A	B	C	D	
15 TON	144	127	117	105	495
20 TON	159	142	129	115	545

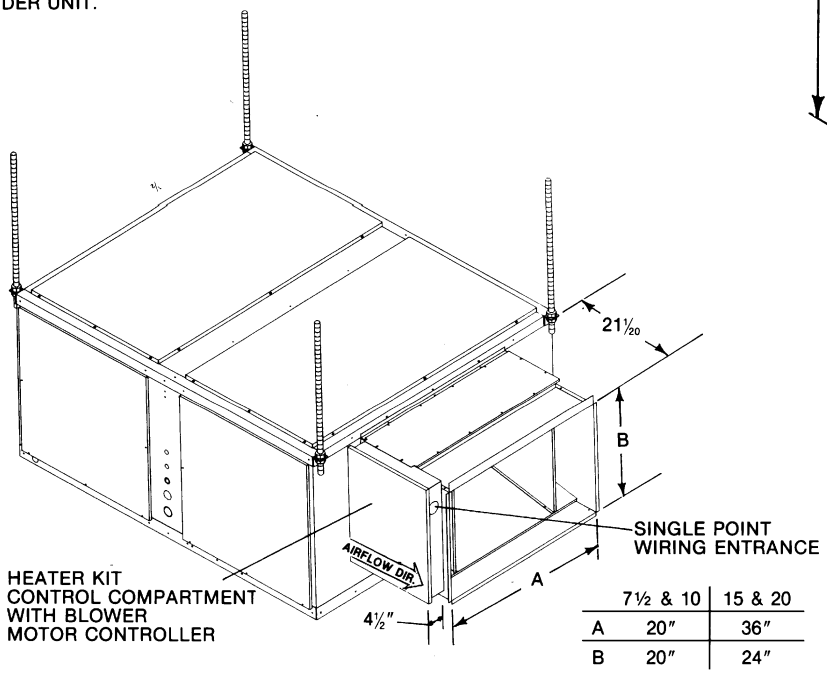


*Drain connections are provided on both sides of the drain pan. The drain can be connected to either side of the drain pan, but not both. The drain must be trapped.

7½, 10, 15 AND 20 TON

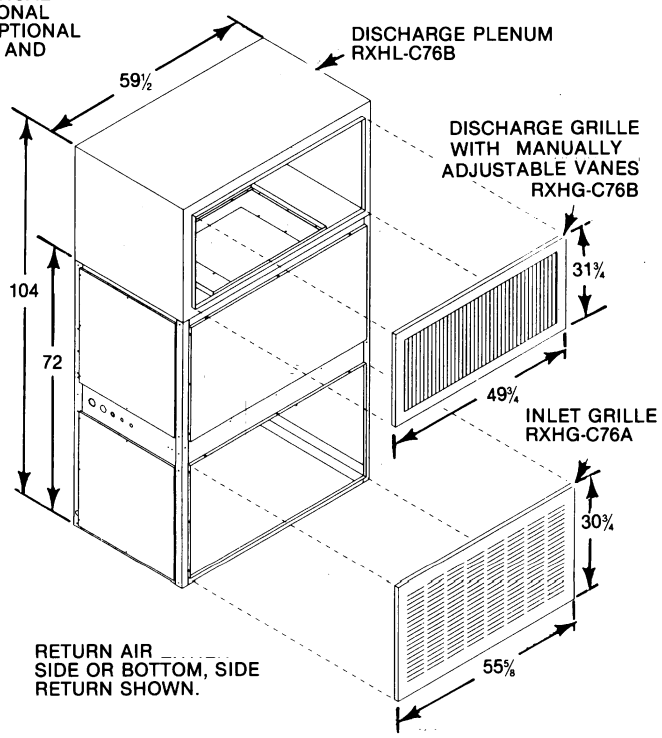
FOUR HEAVY GAUGE ANGLES ARE FURNISHED (SHIPPED LOOSE) FOR SUSPENDING UNITS FROM ALL FOUR CORNERS. MINIMUM OF ½" SUPPORT RODS ARE RECOMMENDED. IF ALL-THREAD IS USED, IT IS ALSO RECOMMENDED THAT TWO NUTS AND TWO LOCKWASHERS BE TIGHTENED SECURELY AGAINST THE SUSPENSION ANGLES.

WHEN UNITS ARE SUSPENDED AS ILLUSTRATED, HOT WATER OR STEAM COILS, MIXING BOX AND DISCHARGE AIR PLENUM CANNOT BE MOUNTED. AN ALTERNATE SUSPENSION METHOD SUCH AS ANGLES OR CHANNELS (FIELD SUPPLIED) SHOULD BE LOCATED UNDER UNIT.



	7½ & 10	15 & 20
A	20"	36"
B	20"	24"

UNIT SHOWN IN VERTICAL POSITION WITH OPTIONAL INLET GRILLE AND OPTIONAL DISCHARGE PLENUM AND DISCHARGE GRILLE



OPTIONAL ELECTRIC HEATER KIT SHOWN INSTALLED IN HORIZONTAL POSITION AND CONNECTED DIRECTLY TO THE AIR HANDLER. THE HEATER KIT MAY ALSO BE INSTALLED WITH THE AIR HANDLER SET IN THE VERTICAL POSITION. IN EITHER POSITION THE HEATER KIT CONTROL COMPARTMENT MUST BE ON THE LEFT SIDE FACING THE AIR DISCHARGE OPENING

NOTE: DISCHARGE PLENUM AND GRILLE CANNOT BE USED WITH ELECTRIC HEATER KIT

PHYSICAL DATA TABLE

		MODEL NO. RHGL-			
Cooling Size		090	120	180	240
Nominal Size (tons)		7.5	10	15	20
Nominal CFM @ Rated E.S.P.		3000 @ .25”	4000 @ .30”	6000 @ .35”	8000 @ .40”
MOTOR HORSEPOWER	Standard— 3450 RPM 1 phase 1750 RPM 3 phase	 1 HP 1 HP	 2 HP 1½ HP	 2 HP	 5 HP
	Optional— 1750 RPM 3 phase	 1½ HP, 2 HP	 2 HP, 3 HP	 3 HP, 5 HP	 7½ HP
Blower Size—diameter x width		12 x 12	12 x 12	18 x 15	18 x 18
Blower Shaft Diameter		¾	¾	1	1
Blower Sheave Diameter (Std.)		10	10	12	12
Motor Sheave Size Adjustment (Std.)	3450 RPM 1 phase 1750 RPM 3 phase	1.9-2.9 3.4-4.4	2.4-3.2 4.4-5.0	 3.1-4.1	 4.3-5.5
Belt Type & Size Std.		A-53	A-53	B-52	B-52
Coil Face Area (sq. ft.)		10.2	10.2	16.5	16.5
Coil Tube Dia.		⅝	⅝	⅝	⅝
Coil, Rows Deep-Fins Per Inch		3/15	4/15	3/13	4/15
T.X. Valve Refrigerant Control		(2) BBIZE-3-GA	(2) CBBIZE-5-GA	(2) BBIZE-6-GA	(2) BBIZE-8-GA
Filter Size (std.)* No. Req’d		(4) 16 x 25 x 1	(4) 16 x 25 x 1	(6) 20 x 25 x 1	(6) 20 x 25 x 1
CABINET: Finish		 Powder Paint	 Powder Paint	 Powder Paint	 Powder Paint
Sheet Metal		Galvanized	Galvanized	Galvanized	Galvanized
Gauge; Top		18	18	18	18
Sides		16	16	16	16
Bottom		18	18	18	18
Doors and Covers		20 min.	20 min.	20 min.	20 min.
UNIT WEIGHTS: Operating		 330	 347	 495	 545
Shipping		350	367	530	580
OPTIONAL ACCESSORIES WEIGHTS: Hot Water Coils		 200	 200	 200	 200
Steam Heating Coils		200	200	200	200
Inlet Grille		9	62	9	12
Discharge Plenum		38	38	38	62
Discharge Grille		15	15	15	23

*Unit will accept 2” filters.

DRIVE PACKAGE DATA

NOMINAL TONS	3 PH DRIVE	SHEAVE SELECTIONS*		MOTOR	APPROXIMATE BLOWER RPM @ MOTOR SHEAVE TURNS OPEN						
		MOTOR	BLOWER	HP / PH	0	1	2	3	4	5	6
7.5	K	3.4-4.4	9.75	1 / 3	790	760	730	700	665	630	
	L	4.2-5.2	9.75	1 1/2 / 3	925	895	860	825	790	750	
	M	5.2-6.2	9.75	1 1/2 / 3	1125	1090	1055	1020	985	945	
	N◇	5.7-6.7	9.75	2 / 3	1195	1165	1130	1100	1065	1030	
10	K	4.0-5.0	9.75	1 1/2 / 3	885	855	825	795	760	730	
	L	4.6-5.6	9.75	2 / 3	995	960	930	895	860	825	
	M	5.2-6.2	9.75	3 / 3	1100	1060	1020	985	945	905	
	N◊	4.7-5.7	8.75	3 / 3	1225	1190	1150	1110	1070	1030	
	O□	5.7-6.7	8.75	3 / 3	1280	1250	1220	1185	1150	1115	
15	K	3.1-4.1	11.4	2 / 3	645	620	590	565	535	510	480
	L	3.7-4.7	11.4	3 / 3	730	705	680	655	630	600	570
	M	3.7-4.7	9.4	5 / 3	870	840	810	780	750	715	680
	N#	4.8-6.0	10.4	5 / 3	985	960	935	910	885	860	835
20	K	4.3-5.5	11.4	5 / 3	850	825	800	775	745	715	685
	L	4.3-5.5	10.4	7.5 / 3	995	925	895	865	835	805	780
	M	4.3-5.5	9.4	7.5 / 3	1030	995	960	925	890	855	815
NOMINAL TONS	**1 PH DRIVE**	**SHEAVE SELECTIONS***		**MOTOR**	**APPROXIMATE BLOWER RPM @ MOTOR SHEAVE TURNS OPEN**						
		MOTOR	**BLOWER**	**HP / PH**	0	1	2	3	4	5	6
7½	K	1.9-2.9	9.75	1 / 1	1025	965	900	830	760	695	
10	K	1.9-2.9	8.75	2 / 1	1140	1070	995	920	845	770	

*Actual pitch diameter in inches. Minimum and maximum pitch diameter shown for adjustable motor sheave.
◇ Field supplied (Motor Sheave: Browning IVP75, Blower Sheave: Browning AZ100, Belt: A-50, Motor: 2 HP, 4 Pole, 3)
◊ Field Supplied (Motor Sheave: Browning IVP75, Blower Sheave: Browning AZ80, Belt: A-50)
□ Field Supplied (Motor Sheave: Browning IVP75, Blower Sheave: Browning AZ90, Belt: A-54)
Field Supplied (Motor Sheave: Browning IVP65, Blower Sheave: Browning BK110, Belt: B-50)

INDOOR BLOWER PERFORMANCE 7.5 TON (DRY COIL)

090 Z

DRIVE PKG	STD CFM	E.S.P. INCHES OF WATER																																	
		.1		.2		.3		.4		.5		.6		.7		.8		.9		1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
K	1800											645	420	670	460	690	500	725	560	825	630	860	670	890	700	925	740	965	760	990	805	1020	840	1050	895	1080	925	1110	985	1115	1010
	2000									645	405	675	470	690	515	730	555	800	645	835	695	865	730	900	770	930	810	975	840	1000	870	1030	915	1060	980	1090	1015	1125	1070	1120	1080
	2200									670	490	680	540	720	580	785	640	810	715	840	765	870	820	910	870	950	880	980	920	1010	975	1040	1025	1070	1080	1105	1125	1100	1140	1130	1210
L	2400							650	510	690	570	720	610	770	670	800	755	830	805	860	870	895	925	930	970	970	985	995	1030	1030	1080	1055	1160	1080	1200	1120	1270	1125	1265	1140	1350
	2600					635	545	675	620	715	665	750	720	780	795	810	865	850	930	885	990	915	1045	960	1060	985	1105	1010	1155	1040	1230	1065	1290	1110	1345	1115	1350	1135	1445	1160	1510
M	2800			630	595	665	665	705	720	740	775	775	850	800	920	830	985	865	1060	905	1130	975	1140	975	1190	1000	1250	1030	1320	1060	1400	1090	1450	1095	1455	1120	1530	1150	1615	1180	1700
N	3000	630	660	660	730	695	775	730	840	770	920	800	995	830	1060	860	1145	890	1220	935	1230	965	1285	995	1345	1020	1405	1050	1505	1080	1560	1110	1640	1115	1650	1140	1740	1170	1815	1195	1885
	3200	660	810	695	860	725	920	765	1000	795	1070	825	1140	855	1225	890	1315	920	1370	960	1385	985	1445	1015	1530	1040	1620	1070	1685	1085	1695	1115	1780	1135	1875						
	3400	690	940	725	1000	760	1090	790	1155	820	1225	850	1325	885	1410	915	1460	950	1485	980	1570	1010	1660	1030	1680	1045	1745	1075	1830												
	3600	720	1120	750	1185	790	1250	820	1315	850	1430	885	1520	915	1590	945	1605	975	1695																						

K = IVP50, AZ100, 1 HP
L = IVP60, AZ100, 1½ HP
M = IVP68, AZ100, 1½ HP
N = [IVP75, AZ100, Belt A-50, 2 HP] Field Supplied

090 HK

DRIVE PKG	STD CFM	E.S.P. INCHES OF WATER																																	
		.1		.2		.3		.4		.5		.6		.7		.8		.9		1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
		RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W
K	2200											700 5	720	745 4.3	780	790 3.7	850	820 3.2	910	860 2.7	970	885 2.3	1020	920 1.8	1080	945 1.3	1165														
	2400											720 4.7	800	760 4.1	870	805 3.5	935	840 3	1010	870 2.5	1065	895 2.1	1120	930 1.6	1195	955 1.1	1285														
	2600									695 5	810	730 4.5	880	780 3.8	975	820 3.2	1045	860 2.7	1115	890 2.3	1175	920 1.8	1240																		
	2800									730 4.5	945	765 4	1020	810 3.4	1105	835 3	1170	870 2.5	1245																						
	3000							725 4.6	1015	755 4.1	1090	795 3.5	1175	830 3	1260																										
	3200					710 4.7	1090	750 4.1	1175	790 3.6	1260																												
	3400			710 4.7	1180	750 4.1	1290																														
	3600	710 4.6	1280																																		

K = IVP34, AZ100, 1 HP 1
NOTE: T.O. = Turns Open

NOTES:
1. Standard Air @ .075 Lbs./Ft.³
2. Operation below heavy lines require optional L drive.
3. Motor efficiency = .85
4. BHP = $\frac{\text{Watts x Motor Efficiency}}{746}$
5. Code:
BHP = Brake Horsepower
RPM = Blower Speed

INDOOR BLOWER PERFORMANCE 10 TON (DRY COIL)

120 Z

DRIVE PKG	STD CFM	E.S.P. INCHES OF WATER																																	
		.1		.2		.3		.4		.5		.6		.7		.8		.9		1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
K / L / M / N / O	3000							730	880	755	940	790	1005	825	1065	855	1130	885	1190	920	1290	955	1380	980	1425	1010	1500	1035	1620	1065	1690	1100	1750	1110	1800	1140	1880	1160	1920	1185	1980
	3200					730	950	750	1005	785	1080	815	1150	850	1225	880	1285	910	1390	950	1470	975	1540	1010	1620	1030	1740	1065	1820	1095	1880	1095	1890	1125	1985	1155	2045	1175	2090	1190	2160
	3400					745	1090	780	1160	810	1240	845	1320	875	1390	910	1500	945	1590	970	1650	995	1725	1025	1860	1055	1940	1055	1900	1080	1975	1110	2095	1140	2185	1165	2245	1180	2270	1200	2315
	3600			745	1175	780	1250	810	1340	845	1435	875	1510	905	1620	945	1715	960	1780	990	1855	1020	1995	1050	2080	1080	2160	1080	2165	1105	2225	1135	2325	1155	2400	1175	2460	1195	2510	1220	2575
	3800	745	1265	780	1350	810	1455	840	1550	875	1630	905	1740	940	1840	955	1905	990	2050	1025	2145	1045	2225	1075	2315	1075	2270	1100	2390	1130	2495	1150	2590	1170	2650	1190	2710	1220	2770	1265	2895
	4000	780	1465	810	1575	850	1690	880	1780	910	1880	940	2010	970	2110	990	2180	1020	2300	1050	2400	1075	2490	1075	2445	1100	2570	1130	2690	1145	2785	1170	2855	1185	2920	1215	2985	1260	3090	1275	3165
	4200	825	1750	855	1840	885	1925	920	2060	940	2160	965	2260	995	2365	1025	2470	1050	2560	1080	2680	1080	2685	1100	2795	1130	2890	1150	3000	1165	3080	1190	3145								
	4400	845	1925	905	2100	925	2195	950	2320	970	2430	995	2550	1030	2650	1050	2755	1055	2760	1085	2855	1100	2985	1130	3115																
	4600	915	2225	930	2375	955	2495	980	2620	1010	2750	1030	2840	1035	2950	1055	2960	1080	3070																						
	4800	930	2555	960	2680	985	2810	1015	2940	1035	3040	1035	3045	1055	3180																										
	5000	960	2870	990	3010	1020	3135																																		

K = IVP56, AZ100, 1½ HP
L = IVP62, AZ100, 2 HP
M = IVP68, AZ100, 3 HP
N = [IVP65, AZ80, 3 HP] Field Supplied
O = [IVP75, AZ90, 3 HP] Field Supplied

120 HK

DRIVE PKG	STD CFM	E.S.P. INCHES OF WATER																																	
		.1		.2		.3		.4		.5		.6		.7		.8		.9		1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
		RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W	RPM T.O.	W
K	3000							775 5	1065	810 4.6	1125	845 4.1	1180	880 3.7	1250	905 3.3	1310	930 3	1370	960 2.3	1455	990 2.1	1490	1020 1.7	1550	1050 1.2	1610	1090 .8	1700	1110 .5	1780	1135 .1	1850								
	3200					775 5	1180	810 4.6	1240	840 4.2	1300	870 3.8	1365	900 3.4	1435	925 3	1500	960 2.5	1565	985 2.1	1625	1020 1.7	1700	1050 1.3	1775	1080 1	1825	1110 .5	1930	1130 .1	2020								
	3400			775 5	1300	810 4.6	1360	835 4.2	1430	870 3.8	1500	900 3.4	1570	925 3	1640	955 2.5	1700	980 2.1	1775	1015 1.7	1855	1040 1.3	1930	1070 1	1990	1110 .6	2095	1125 .2	2200								
	3600	700 5	1430	810 4.5	1500	840 4.1	1575	880 3.7	1655	900 3.3	1715	920 3	1775	955 2.5	1860	975 2.1	1935	1010 1.7	2010	1040 1.3	2085	1070 1	2150	1095 .5	2275												
	3800	810 4.5	1645	835 4.1	1720	880 3.6	1800	900 3.2	1875	930 2.8	1950	950 2.4	2030	985 2	2110	1010 1.6	2190	1040 1.2	2265	1065 1	2320																
	4000	840 4	1880	880 3.5	1965	905 3.1	2050	930 2.7	2130	960 2.2	2215	990 1.8	2295																								
	4200	880 3.4	2130	905 3	2220	940 2.5	2320																														
	4400																																				
	4600																																				
	4800																																				

K = IVP34, AZ90, 2 HP 1
NOTE: T.O. = Turns Open

NOTES:
1. Standard Air @ .075 Lbs./Ft.³
2. Operation below heavy lines require optional L drive.
3. Motor efficiency = .85
4. BHP = $\frac{\text{Watts x Motor Efficiency}}{746}$

5. Code:
BHP = Brake Horsepower
RPM = Blower Speed

INDOOR BLOWER PERFORMANCE 15 & 20 TON (DRY COIL)

180Z

DRIVE PKG	STD CFM	E.S.P. INCHES OF WATER																																					
		.1		.2		.3		.4		.5		.6		.7		.8		.9		1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
K	4000							480	950	510	1020	540	1090	565	1165	595	1250	620	1320	645	1400	665	1575	690	1740	710	1860	730	1960	735	2220	765	2155	800	2255	820	2340	835	2435	850	2600
	4400							505	1090	530	1175	560	1250	585	1325	610	1385	635	1485	655	1650	680	1770	700	1945	725	2035	735	2100	755	2225	785	2340	810	2430	825	2525	840	2645	855	2750
	4800					495	1185	520	1275	550	1355	575	1440	595	1520	620	1600	645	1700	665	1880	690	2015	710	2170	730	2290	745	2350	775	2470	795	2575	815	2690	830	2790	845	2895	860	3100
L	5200			490	1300	515	1385	545	1485	565	1550	590	1660	615	1760	635	1850	660	2050	685	2170	705	2320	725	2460	740	2540	770	2655	790	2770	810	2890	825	3000	840	3120	855	3265	870	3365
	5600	490	1420	515	1505	540	1620	560	1700	590	1820	610	1905	635	2080	660	2240	680	2365	700	2510	720	2665	740	2740	765	2860	785	2985	805	3105	820	3225	835	3350	850	3490	870	3690	900	3750
	6000	510	1640	530	1750	560	1860	590	1950	610	2165	630	2270	660	2450	675	2570	695	2725	720	2905	740	2975	765	3100	780	3220	800	3355	815	3480	835	3620	850	3755	865	3850	895	3885	910	4035
M-N	6400	530	1900	555	1980	590	2255	610	2370	630	2470	655	2660	675	2800	695	2965	720	3180	735	3255	760	3360	775	3485	800	3630	820	3750	830	3890	850	4035	865	4130	890	4150	905	4270	920	4440
	6800	570	2370	590	2455	610	2575	625	2670	655	2870	675	3030	700	3055	720	3175	740	3350	760	3485	780	3620	800	3750	815	3880	830	4020	845	4160	865	4320	890	4430	905	4595	920	4755	935	4935
	7200	590	2685	610	2800	630	2945	650	3100	680	3195	700	3310	720	3450	745	3610	720	3745	780	3910	800	4040	820	4230	830	4345	845	4470	865	4630	890	4790	905	4985	920	5150				

K = IVP44, BK120, 2 HP
L = IVP50, BK120, 3 HP
M = IVP50, BK100, 5 HP
N = [IVP65, BK110, 5 HP] Field Supplied

240Z

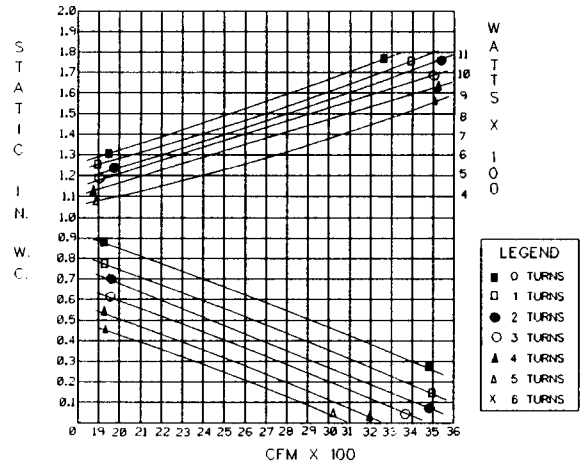
DRIVE PKG	STD CFM	E.S.P. INCHES OF WATER																																					
		.1		.2		.3		.4		.5		.6		.7		.8		.9		1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
K	6000																	695	2295	715	2525	740	2675	755	2820	780	2975	800	2950	820	3100	840	3180	865	3380	875	3475	890	3590	910	3690
	6500															695	2560	710	2745	730	2850	755	3000	775	3165	805	3270	825	3365	845	3495	865	3700	880	3800	895	3930	910	4030	930	4125
	7000													695	2865	710	2990	730	3130	755	3285	775	3450	790	3530	825	3710	845	3865	865	4020	875	4915	895	4270	910	4360	930	4530	950	4625
L	7500											695	3190	720	3350	735	3490	760	3675	780	3800	805	4000	830	4080	850	4245	865	4370	880	4520	895	4620	910	4785	930	4920	950	5090	965	5340
	8000							685	3430	700	3560	725	3720	740	3875	760	4060	785	4240	815	4355	835	4545	850	4635	870	4775	880	4915	900	5055	915	5200	935	5360	955	5550	965	5810	980	5985
	8500					690	3805	715	4000	730	4155	750	4325	770	4500	790	4700	820	4795	840	4925	850	5065	870	5215	890	5365	905	5495	920	5645	935	5775	950	6120	970	6310	980	6480	1000	6645
M	9000	685	4070	700	4240	720	4440	735	4615	760	4790	780	4995	815	5165	830	5300	850	5435	865	5570	880	5720	895	5860	910	6060	925	6170	940	6370	955	6660	975	6860	990	7040	1010	7240	1025	7500
	9500	700	4730	720	4940	785	5325	800	5500	820	5670	835	5790	850	5920	865	6060	880	6210	895	6370	905	6530	925	6700	940	6850	950	7140	965	7335	985	7520								
	10000	805	6080	815	6145	830	6470	840	6615	860	6720	870	6890	885	7040	900	7220	915	7430	925	7600	990	7600																		

K = IVP60, BK120, 5 HP
L = 2VP60, 2BK110, 7½ HP
M = 2VP60, 2BK100, 7½ HP

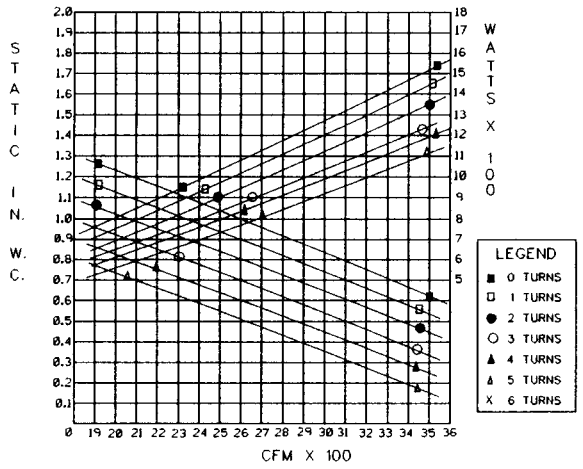
NOTES:
1. Standard Air @ .075 Lbs./Ft.^{3}
2. Operation below heavy lines require optional L drive.
3. Motor efficiency = .85
4. BHP = $\frac{\text{Watts x Motor Efficiency}}{746}$

5. Code:
BHP = Brake Horsepower
RPM = Blower Speed

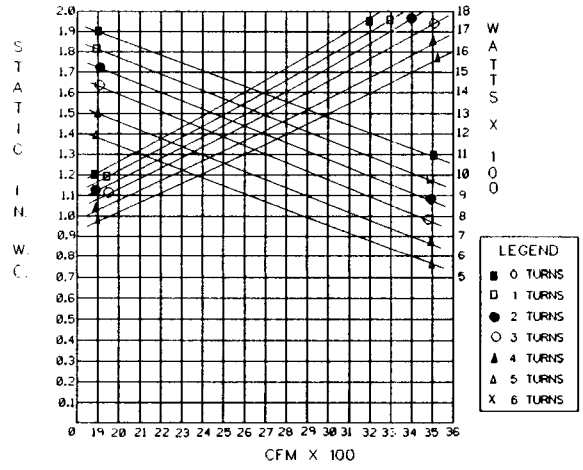
7½TON
K DRIVE (WET COIL)



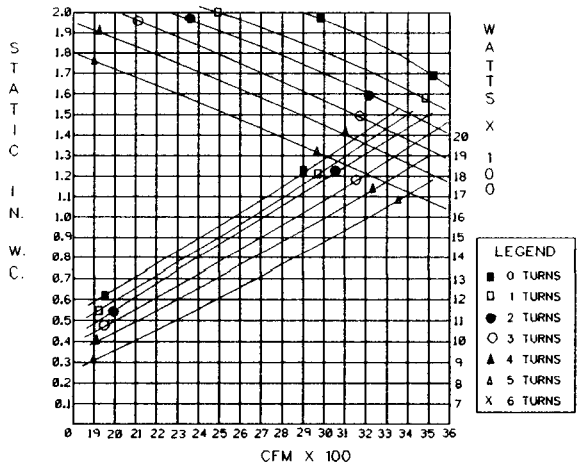
7½TON
L DRIVE (WET COIL)



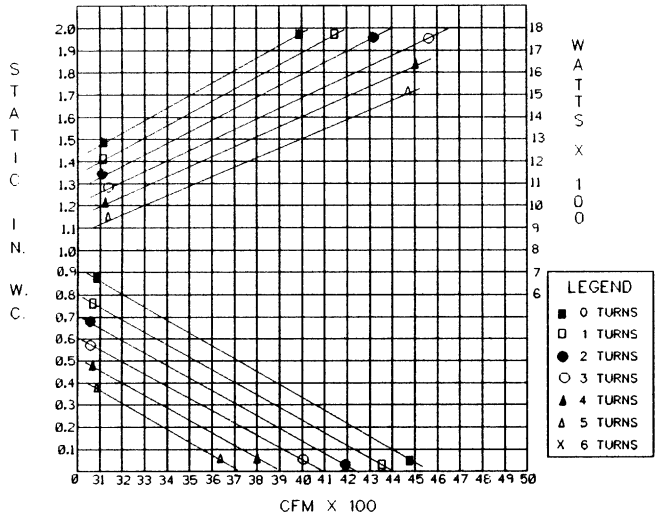
7½TON
M DRIVE (WET COIL)



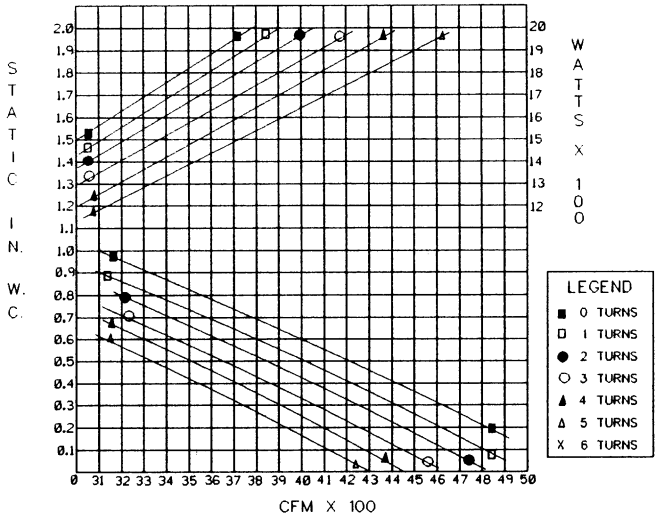
7½TON
N DRIVE (WET COIL)



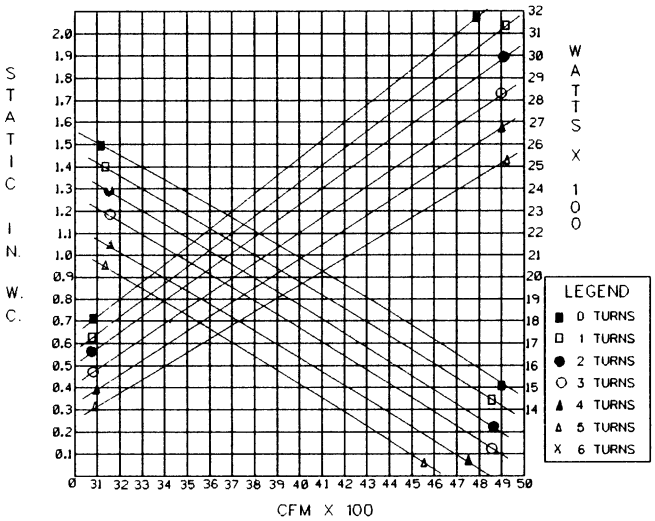
10 TON
K DRIVE (WET COIL)



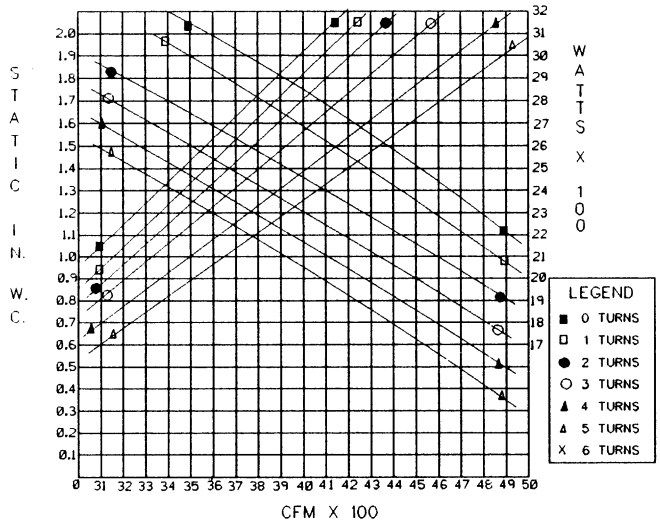
10 TON
L DRIVE (WET COIL)



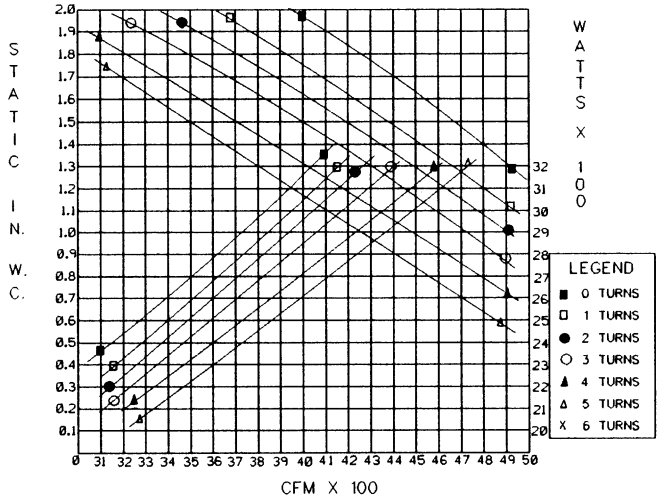
10 TON
M DRIVE (WET COIL)



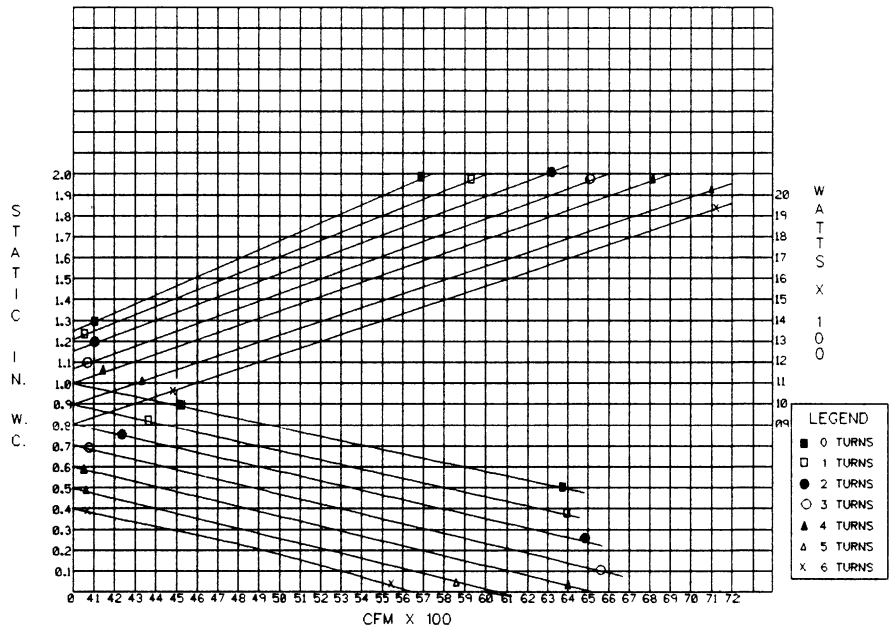
10 TON
N DRIVE (WET COIL)



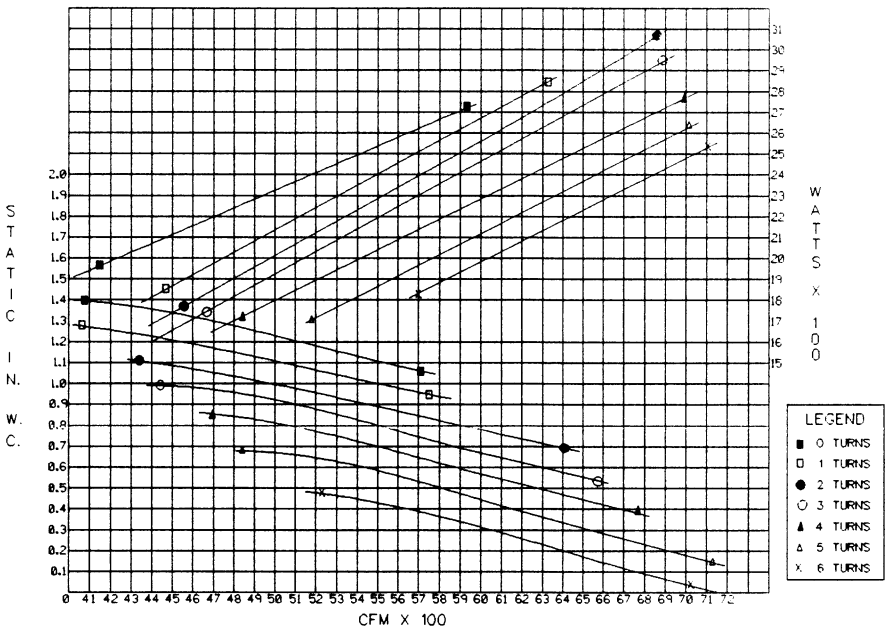
10 TON
O DRIVE (WET COIL)



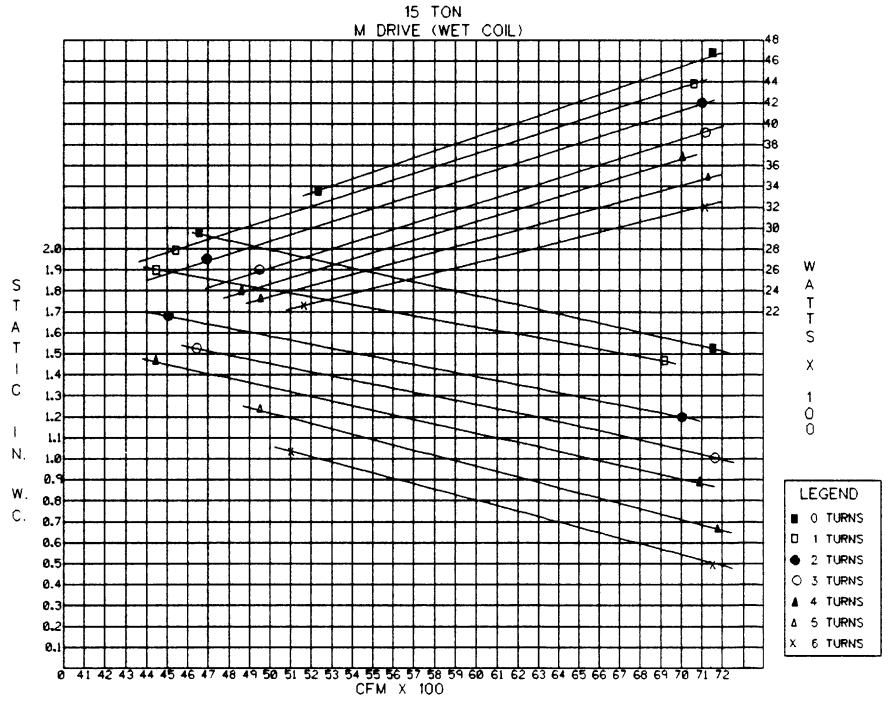
15 TON
K DRIVE (WET COIL)



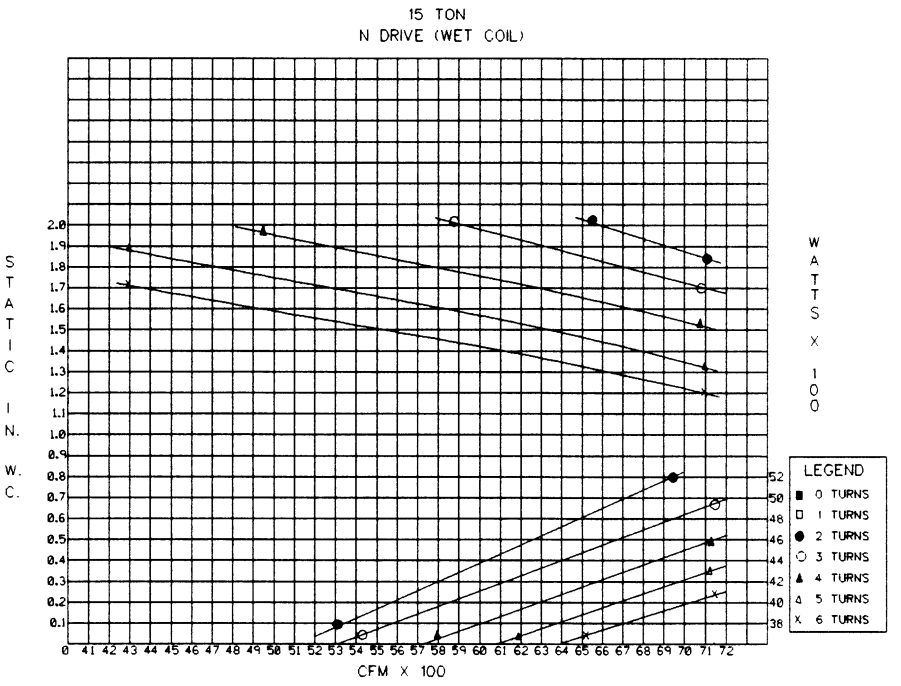
15 TON
L DRIVE (WET COIL)



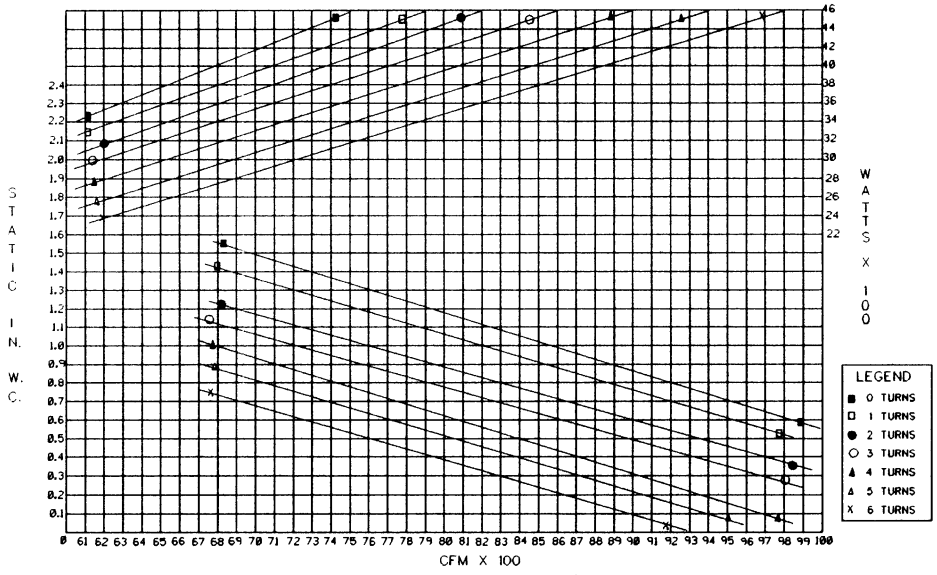
15 TON
M DRIVE (WET COIL)



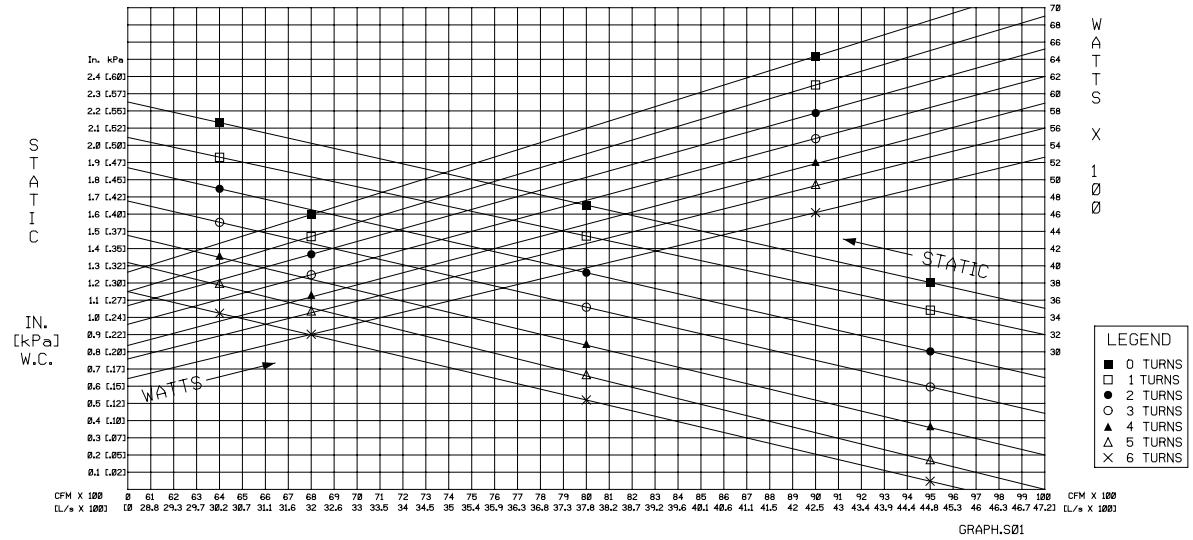
15 TON
N DRIVE (WET COIL)



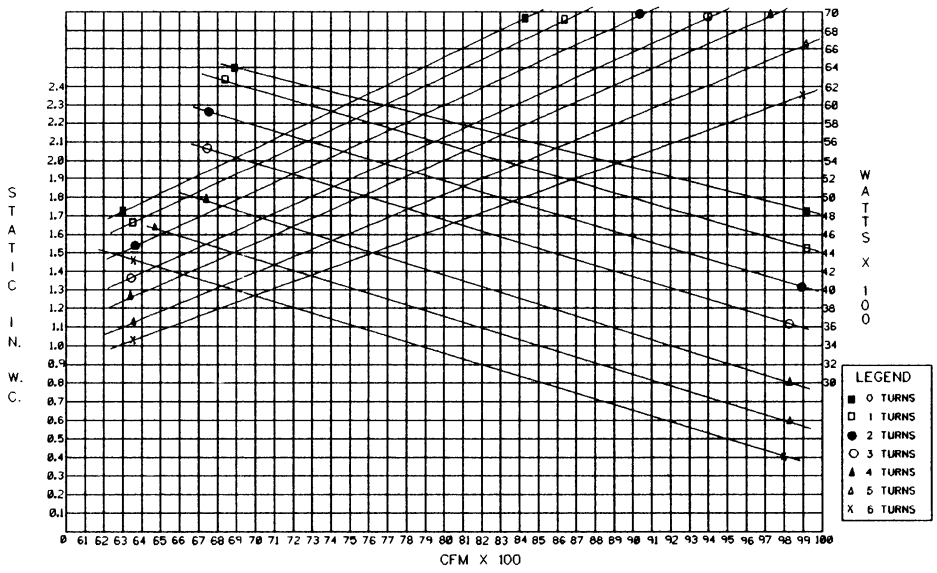
20 TON
K DRIVE (WET COIL)



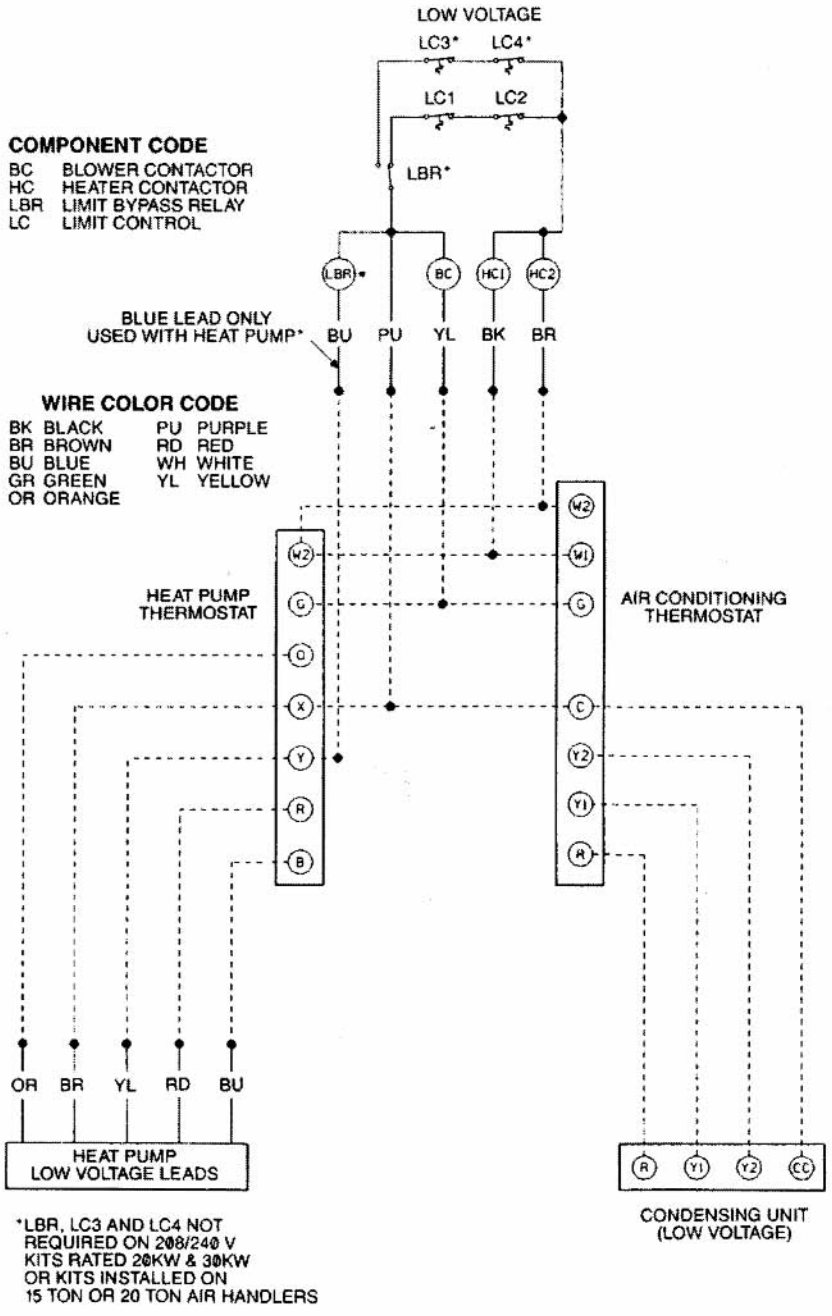
20Ø TON
L DRIVE
(WET COIL)



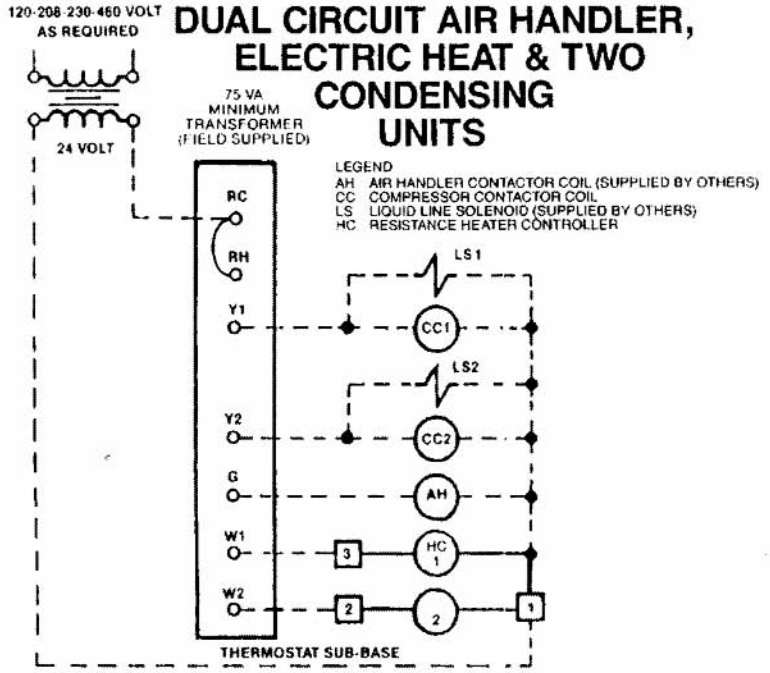
20 TON
M DRIVE (WET COIL)



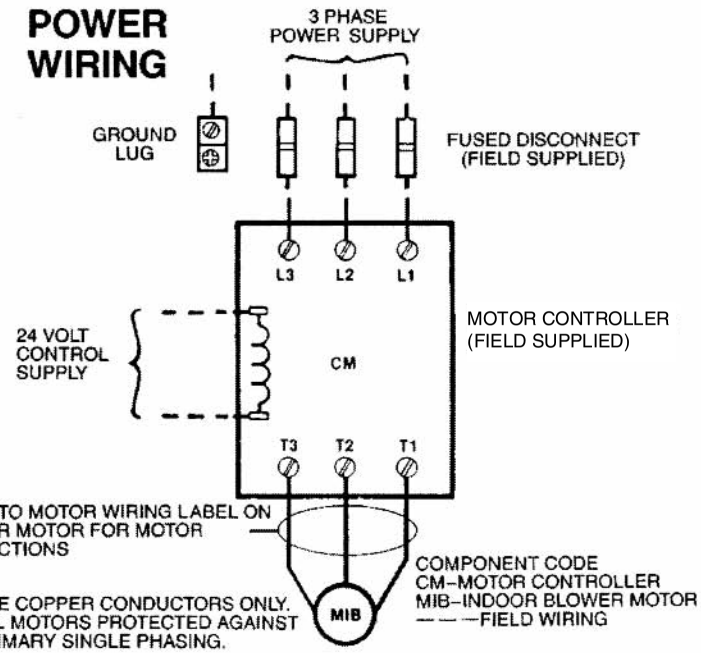
OPTIONAL HEATER KIT



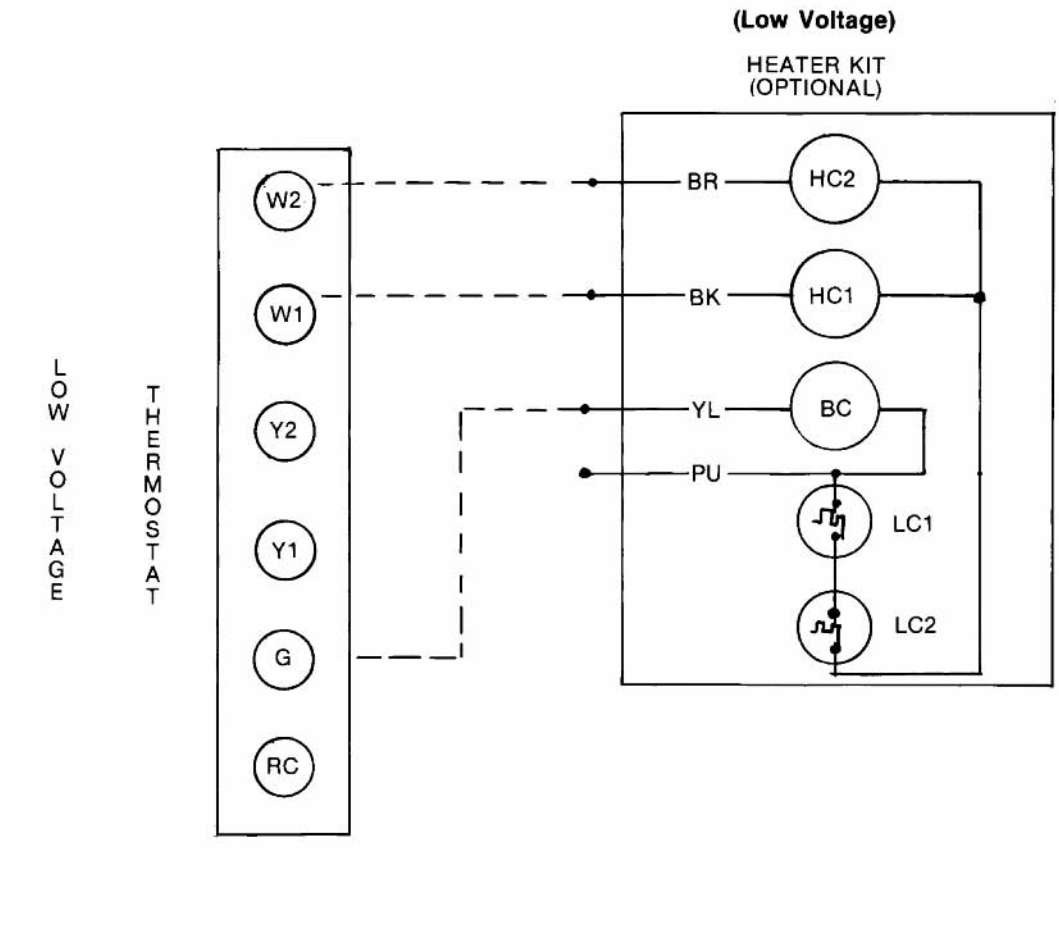
TYPICAL WIRING CONNECTIONS WITH DUAL CIRCUIT AIR HANDLER, ELECTRIC HEAT & TWO CONDENSING UNITS



POWER WIRING



TYPICAL LOW VOLTAGE CONNECTIONS



BRANCH CIRCUIT CONDUCTOR DATA (HIGH VOLTAGE)

Air Handler Motor Horsepower, Volts, Ø	Rating Plate Amps	Motor LRA	Minimum Circuit Ampacity	Recommended Minimum Cu Wire Size/Max Run in Feet	Max Fuse or Breakers
1, 208/230, 3 ø 1, 460, 3 ø 1, 575, 3 ø 1, 115/230, 1 ø	4.0/3.6 1.8 1.4 16/8	23.9/21.6 10.8 8.4 96/48	15 15 15 20/15	#14/240 #14/400 #14/425 #12/120/#14/180	15 15 15 20/15
1½, 208/230, 3 ø 1½, 460, 3 ø 1½, 575, 3 ø	5.7/5.2 2.6 2.1	34.5/31.2 15.6 12.6	15 15 15	#14/230 #14/300 #14/325	15 15 15
2, 208/230, 3 2, 460, 3 ø 2, 575, 3 ø 2, 115/230, 1 ø	7.5/6/8 3.4 2.7 24/12	45.1/40.8 20.4 16.2 144/72	15 15 15 30/15	#14/165 #14/275 #14/300 #10/140 #14/120	15 15 15 30/15
3, 208/230, 3 ø 3, 460, 3 ø 3, 575, 3 ø	10.6/9.6 4.8 3.9	64.1/58 26.8 23.4	15 15 15	#14/135 #14/230 #14/240	15 15 15
5, 208/230, 3 ø 5, 460, 3 ø 5, 575, 3 ø	16.7/15.2 7.6 6.1	100.6/91 45.6 36.6	21/19 15 15	#10/240 #12/150 #14/185 #14/220	25/20 15 15
7½, 208/230, 3 ø 7½, 460, 3 ø 7½, 575, 3 ø	24.2/22.0 11.0 9.0	146/132 66 54	30/28 15 15	#10/150 #14/135 #14/150	30/30 15 15

FIELD INSTALLED MIXING BOX ACCESSORY
71/2 AND 10 ACCESSORY MODEL RXHM-BC74H
15 AND 20 ACCESSORY MODEL RXHM-BC76H

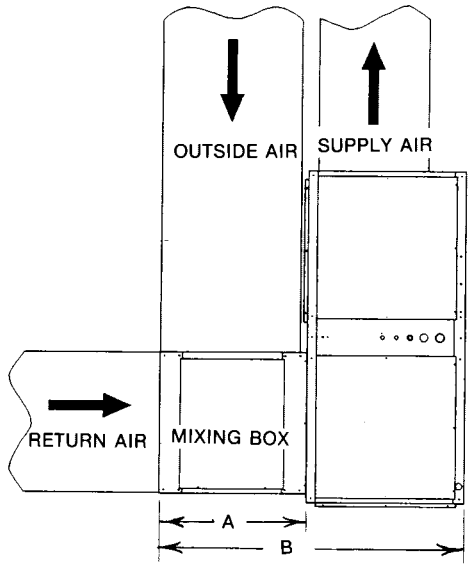
COOLING SEASON—Thermostat set at "Cool" and "Fan Auto," outside air damper goes to "minimum fresh air" position when cooling thermostat closes, energizing mechanical cooling. When cooling thermostat is satisfied, mechanical cooling is de-energized, and outside air damper closes.

INTERMEDIATE SEASON—Same as for cooling season, except that cooling thermostat closes, starting indoor blower motor, the enthalpy control, mounted on outside air, determines if "free" cooling or mechanical cooling should be utilized. If outside air conditions are suitable for cooling, the mechanical cooling remains off and the mixed air controller modulates the damper motor to assume the proper damper position to maintain mixed air setting. If outside conditions are not suitable for cooling, then the dampers go to "minimum fresh air" position and mechanical cooling is energized.

HEATING SEASON—Damper always stays at "minimum fresh air" position while fan motor is operating. Outside air damper closes when blower motor is off. "Minimum fresh air" position must not allow mixed air temperatures to air handler below 50°F. during heating seasons.

CAUTION: Because of the possibility of freeze damage, it is not recommended that hot water or steam coils be used with the mixing box accessory, unless provision is made to shut-off the outside air duct 100% during freezing conditions.

Another possible system enhancement would be to install an air proving switch in the air handler supply duct wired in series with the compressor contactor coil (24V) which would lock out the compressor in the event of air flow failure.



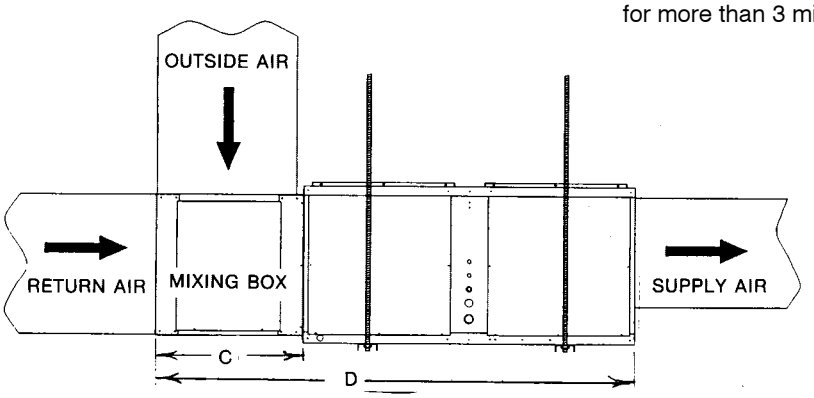
VERTICAL APPLICATION

	A	B
7½ and 10	27	54
15 and 20	32	67

HORIZONTAL APPLICATION

	C	D
7½ and 10	27	79
15 and 20	32	104

NOTE:
The bottom of the air handler should be sloped in two planes that pitch the condensate to the drain connection. The drain pan shall not leave puddles larger than 2 inches in diameter and 1/8 inch deep for more than 3 minutes.



INSPECTION

The complete unit should be examined thoroughly upon receipt, for either hidden or apparent damage, and if necessary, a claim should be entered at once against the last carrier. It is the responsibility of the consignee to file such a claim since the unit is shipped F.O.B. Factory.

LOCATION

The location of the unit must be determined with the following factors in mind: available electric power, plumbing facilities and ample space for arranging the refrigeration equipment, and conforming with proper duct design. In addition, provision should also be made for accessibility to service parts and for complete removal and replacement of any replaceable part.

INSTALLATION

The construction of the building must be substantial enough to support the unit. Set the air handler on a suitable foundation so that the weight is evenly distributed. After locating the unit, shim up the side opposite the drain to allow the water to drain from the pan.

If return air duct is not used, applicable installation codes may limit this cabinet to single story buildings only.

See example of both vertical and horizontal mounting.

The units may also be suspended from the ceiling.

Supply conduit to equipment must terminate at junction box located in the unit.

NOTE: When installed in horizontal position, drain end must be 1/2" lower than leaving air end.

REFRIGERANT PIPING

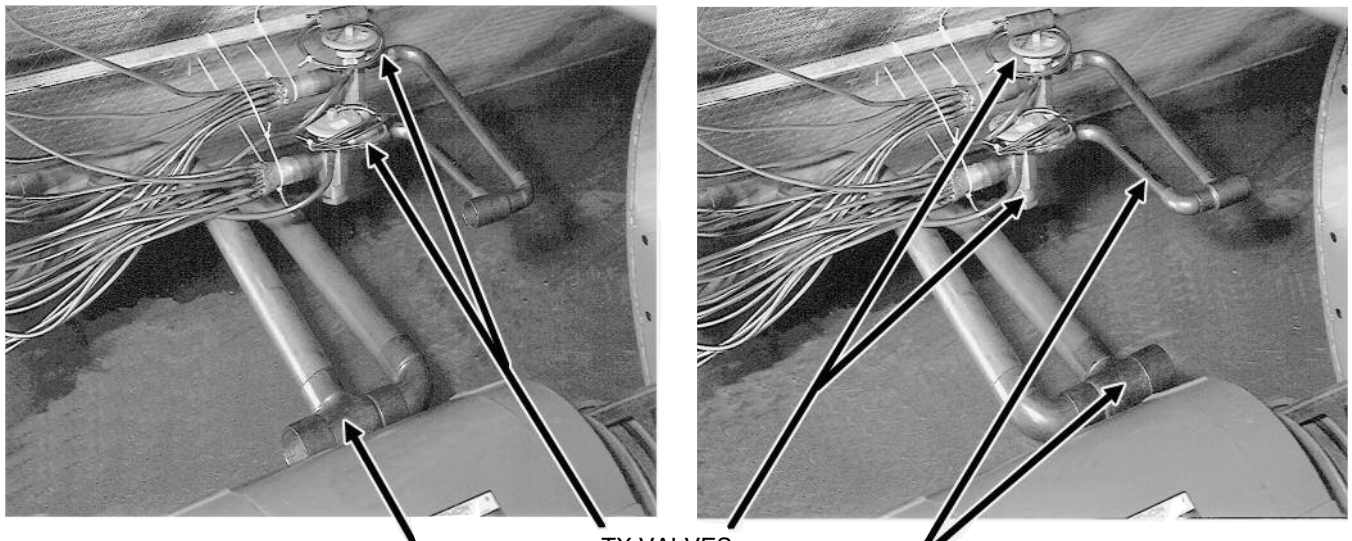
The following will be of help in accomplishing a successful installation.

1. Size liquid line for no more than 50 PSIG pressure drop.
2. Size suction lines for no more than 2° F loss which corresponds to approximately 5 PSIG pressure drop.
3. When evaporator is installed below condensing unit, do not exceed the recommended suction line O.D. This will insure adequate velocities for proper oil return.
4. Install (optional field installed) sight glass in liquid line.
5. Pitch all horizontal suction lines downward in the direction of flow.
6. When making up refrigerant piping, take every precaution to prevent dirt and moisture from entering the piping.
7. Locate the condensing unit and evaporator(s) as close together as possible to minimize piping runs.

NOTE: Refer to suction and liquid line pressure drop charts found in condensing unit literature.

PIPING SIZES 7.5-10 TONS (INCHES)			
EQUIV. LENGTH TO EVAP. (FT.)	LIQUID LINE O.D.	SUCTION LINE O.D.	
	7.5-10	7.5	10
0-50	⅝	1⅛	1⅜
51-100	⅝	1⅜	1⅜
101-150	⅝	1⅝	1⅝

PIPING SIZES 15-20 TONS (INCHES)				
EQUIV. LENGTH TO EVAP. (FT.)	LIQUID LINE O.D.		SUCTION LINE O.D.	
	15	20	15	20
0-50	¾	⅞	1⅜	1⅝
51-100	¾	⅞	1⅝	2⅛
101-150	¾	⅞	2⅛	2⅛

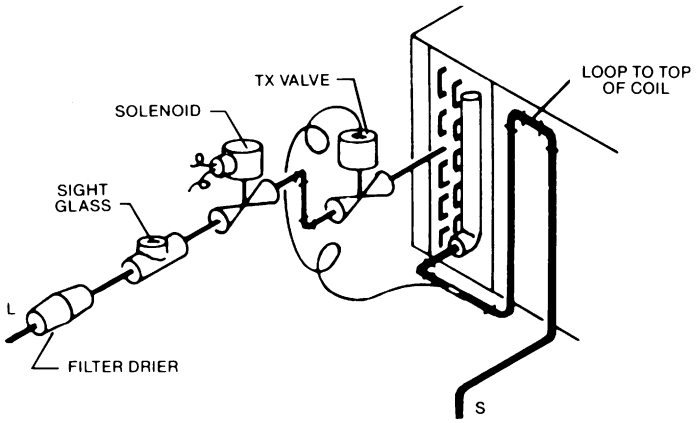


**RHGL-
7½-20 TON
[26-70 kW]**

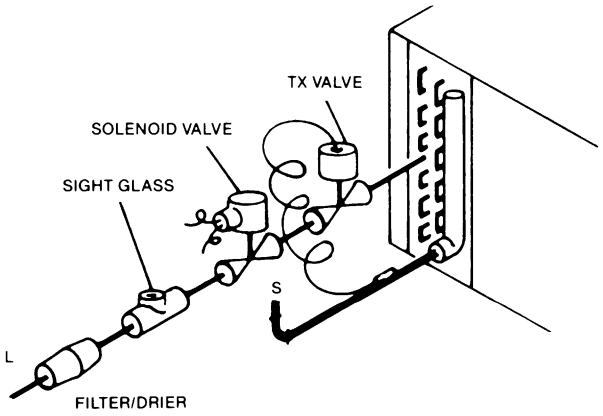
**RHGL-
7½-20 TON
[26-70 kW]**

TYPICAL PIPING RECOMMENDATIONS

COIL ABOVE CONDENSING UNIT



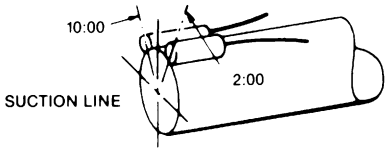
COIL BELOW CONDENSING UNIT



NOTE: PIPING ACCESSORIES SHOWN SHOULD BE MOUNTED AS CLOSE TO AIR HANDLING UNIT AS POSSIBLE.

INSTALLATION OF THE FEELER BULB OF THE EXPANSION VALVE

7.5 - 20 TON UNITS HAVE TWO (2) TX VALVES. THE FEELER BULB OF EACH VALVE SHOULD BE SECURED TO ITS CORRESPONDING SUCTION LINE INSIDE THE UNIT BETWEEN THE EQUALIZED TUBE AND THE TEE FITTING.



TYPICAL EXPANSION VALVE BULB LOCATIONS

HORIZONTAL UNITS:
LOCATE BULB BETWEEN TEN O'CLOCK AND TWO O'CLOCK ON A STRAIGHT RUN OF LINE NEAR THE EVAPORATOR.

VERTICAL UNITS:
IF THE BULB IS ATTACHED TO THE SUCTION LINE INSIDE THE UNIT, LOCATE IT BETWEEN EIGHT O'CLOCK AND TEN O'CLOCK (BACK SIDE) NEAR THE FIELD CONNECTION. ALWAYS SECURE THE BULB ON A CLEAN, SMOOTH SECTION OF PIPING AND INSULATE IT FROM THE SURROUNDING AMBIENT.

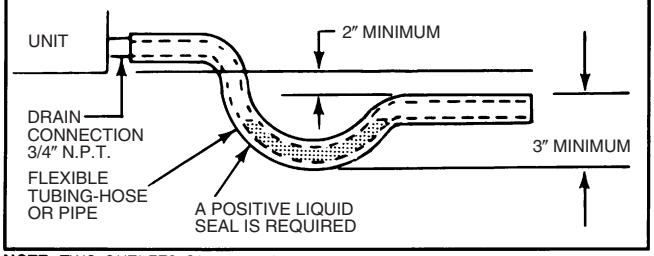
CONDENSATE DRAIN PIPING

- Two drain couplings are provided on all models. Select either one for condensate outlet and plug the other.
- Consult local codes or ordinances for specific requirements regarding condensate drain.
- Condensate drain is open to atmosphere and must be trapped. Trap must be at least 3 inches deep and made of flexible material or fabricated to prevent freeze-up.
- If air handler is installed in a non-conditioned space, it is recommended an auxiliary drain pan be fabricated and installed under entire unit.
- Pitch the drain line at least 1/4 inch per foot away from the drain pan.
- Do not reduce the drain line size from the connection size provided on the unit.
- Do not connect the drain line to a closed sewer line.

IMPORTANT

CONDENSATE DRAIN

INSTALL CONDENSATE DRAIN TRAP AS SHOWN BELOW. USE DRAIN CONNECTION SIZE OR LARGER. DO NOT OPERATE UNIT WITHOUT TRAP. UNIT MUST BE SLIGHTLY INCLINED TOWARD DRAIN.



NOTE: TWO OUTLETS ON ALL MODELS.

MOTOR MOUNTING

One of the most critical aspects of an air handler installation is the mounting of the motor, motor sheave, fan pulley and the belts, and the adjustment of these items.

The motor base for the air handlers is raised or lowered by means of the adjusting hex nuts.

MOTOR SHEAVE AND FAN PULLEY MOUNTING AND ADJUSTMENT

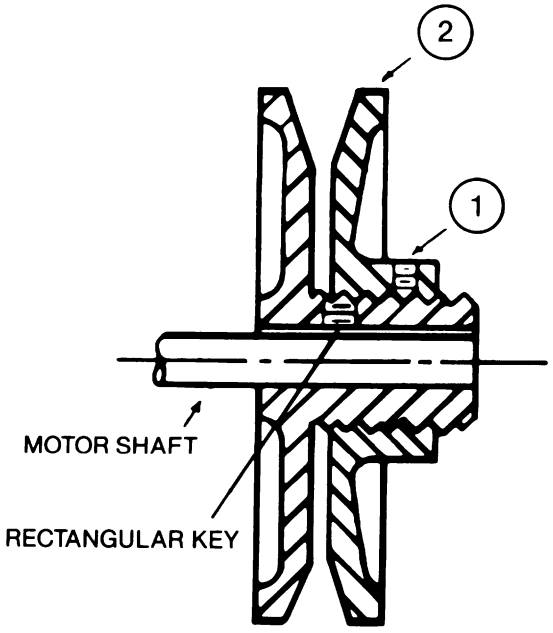
The adjustable pitch sheave which is mounted on the motor shaft controls the fan speed. To adjust the fan speed refer to figure at right, proceed as follows:

a. Loosen the set screw, item 1.

b. Rotate the adjustable sheave, item 2, to the desired position.

c. Lock the adjustable sheave in place by tightening the set screw, item 1.

NOTE: The adjustable sheave is not to be used to adjust belt tension.



WARNING

BEFORE MAKING FAN ADJUSTMENTS, BE SURE THE MAIN ELECTRICAL DISCONNECT SWITCH IS IN THE "OFF" POSITION TO PREVENT POSSIBLE INJURY DUE TO ACCIDENTAL OPERATION OF THE MOTOR.

FAN BELT ALIGNMENT AND ADJUSTMENT

Place belt on the groove of the fan pulley and motor sheave to obtain the approximate alignment and belt tension. Remove the belt and align the fan pulley and motor sheave using a straight edge. When the pulley and sheave are properly aligned, re-install belt. Do not force or pry the belt onto the pulley and sheave. With the belt in place, adjust so that all the slack is on one side of the drive. The belt should have from 3/4" to 1" of slack at 3 lbs. pressure. Adjust the belt to this tension, by raising or lowering the swing base via the adjusting rods and nuts.

PRE-START CHECK LIST

1. Leak test entire system.
2. Check motor mounting to make sure all nuts are tight.
3. Check motor sheave and fan pulley to make sure they are in proper alignment and set screws are tight.
4. Check belt tension—belts should be fairly tight for the initial "start-up".
5. Check bearing—collar set screws on fan shaft to make sure they are tight.
6. Ball type bearings are factory lubricated and do not require additional grease before starting.
7. Rotate blower shaft by hand to be sure it is free.
8. Check motor and fan rotation.
9. Check all screws, bolts, set screws and piping connections for tightness.
10. Check drain.
11. Insure that filters are in place.
12. Insure all manual valves are open.
13. Be sure that electrical controls and motors are properly wired and fused in accordance with applicable codes.
14. Check wheel position in scrolls. See Figure 1 a and b.

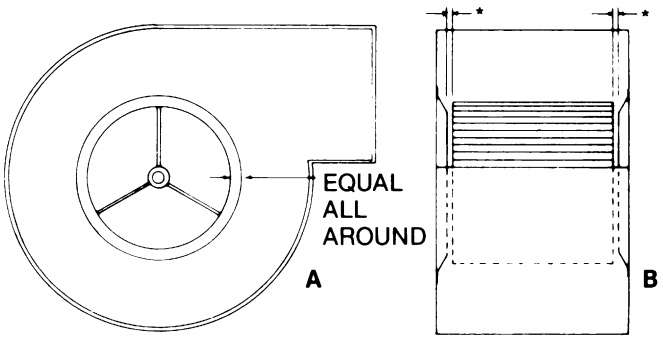


FIGURE 1 * EQUAL

OPERATING INSTRUCTIONS

1. Start fan motor—immediately observe noise level and secure fan motor if unusual sound is heard. Check bearings in particular for proper noise level and temperature. Be sure fans do not rub on scrolls.
2. Check fan RPM and adjust as necessary.
3. Check for motor overloading.
4. Check for proper CFM delivery.
5. Check all necessary items and controls for proper operation.
6. Insure that condensate is being properly discharged from drain pan.

PERIODIC SERVICE AND MAINTENANCE

1. Filters—Dirty filters reduce air flow and, in turn, the capacity of the unit. Therefore, when dirty, replace or clean, depending on the type.
2. Coils—Dirt should not be permitted to build up on the fins of the coils. An air stream or water jet can be used to remove dirt and lint.
3. Check all moving parts for wear and alignment every six (6) months.
4. Check bearing-collar set screws on fan shaft to make sure they are still tight. Do this at least every six months. THIS IS VERY IMPORTANT.

⚠ WARNING

BEFORE PERFORMING PERIODIC SERVICE AND MAINTENANCE, BE SURE THE MAIN ELECTRICAL DISCONNECT SWITCH IS IN THE "OFF" POSITION TO PREVENT POSSIBLE INJURY DUE TO ACCIDENTAL OPERATION OF THE MOTOR.

LUBRICATION

GREASING BALL BEARINGS—MOTORS

All ball bearing motors are prelubricated and do not require the addition of grease at time of installation. However, periodic cleaning out and renewal of grease in ball bearings is necessary. Please note that extreme care must be exercised to prevent foreign matter from entering the bearing.