

Commercial Air Handler



**7.5 & 10 TON MODEL
[26 & 35 kW]**

**15 & 20 TON MODEL
[53 & 70 kW]**



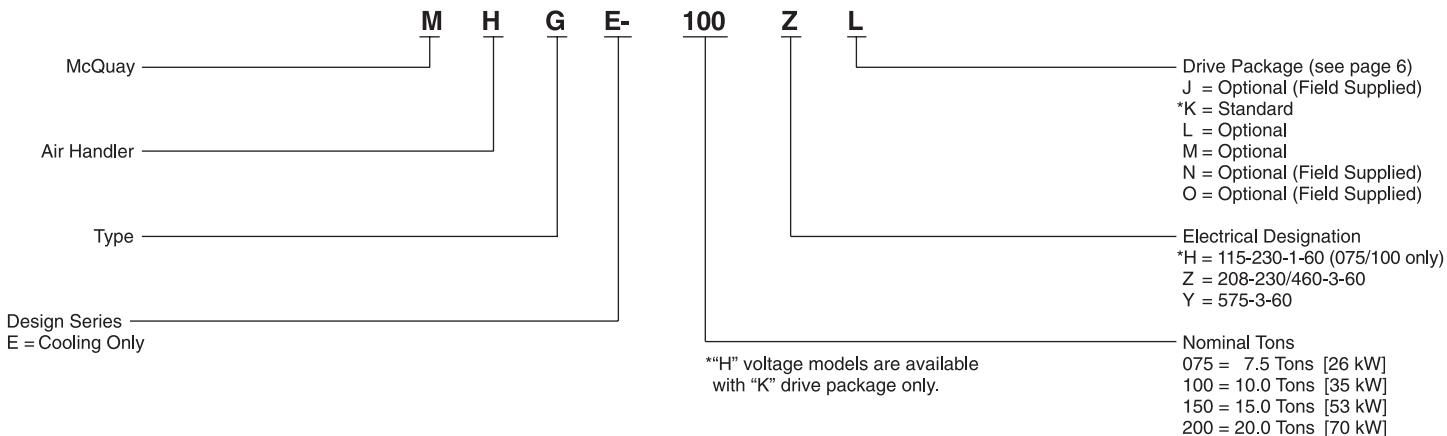
**7.5 THROUGH 20 NOMINAL TON UNITS
[26 THROUGH 70 kW]
MHGE-075, 100, 150, 200**



TABLE OF CONTENTS

Standard Unit Features.....	2	Component Air Resistance	11
Component Location	3	Blower Performance Curves	11-14
Unit Dimensions	4	Evaporator Performance Data	15 & 16
Physical Data Table	5	Electrical Data Table.....	17
Drive Package Data.....	6	Typical Wiring Connections	18
Performance Data—Dual Straight Cool Condensing Units with Air Handler.....	7	Accessories	18-23
Indoor Blower Performance Data	8-10	Piping	24
		Guide Specifications	25
		Limited Warranty	25

MODEL NUMBER IDENTIFICATION



UNIT FEATURES

CABINET—Powder coat painted. Matching discharge plenums and decorative supply and return air grilles are available for use when units are to be installed within conditioned space.

MOTOR—Inherently protected motors are mounted inside of insulated cabinet to reduce motor noise and provide a neat looking installation. A choice of motor horsepower and drive combinations are available to allow you to meet specified CFM at various static pressures up to 2" [.498 kPa] external static pressure. Motors and mounts in 15 ton [53 kW] and 20 ton [70 kW] units may be relocated in field to opposite side of blower scroll for accessibility.

LOW PROFILE—Allows for horizontal installation in most standard drop ceiling applications, and the movement of units through most standard doorways for addition or replacement work.

THERMAL EXPANSION VALVES—Standard all models.

FILTERS—One inch [25 mm] throwaway filters are standard, but filter racks are designed to accept either one inch [25 mm] or two inch [51 mm] filters.

EVAPORATOR COIL—Two circuit, interlaced row split coils are constructed with copper tubes and aluminum fins mechanically bonded to the tubes for maximum heat transfer capabilities. All coil assemblies are leak tested up to 450 PSIG [3100 kPa] internal pressure prior to installation into units.

REFRIGERANT CONNECTIONS—Field piping connections are made through a fixed post between two side access panels on either side of the unit. Allows flexibility to meet most field conditions as well as full accessibility after the installation is complete. Units may be used with two straight cool condensing units or single circuit manifolded in the field using the copper fittings shipped with each unit. The MHGF Air Handler has not been tested, rated or certified to operate with dual remote heat pumps.

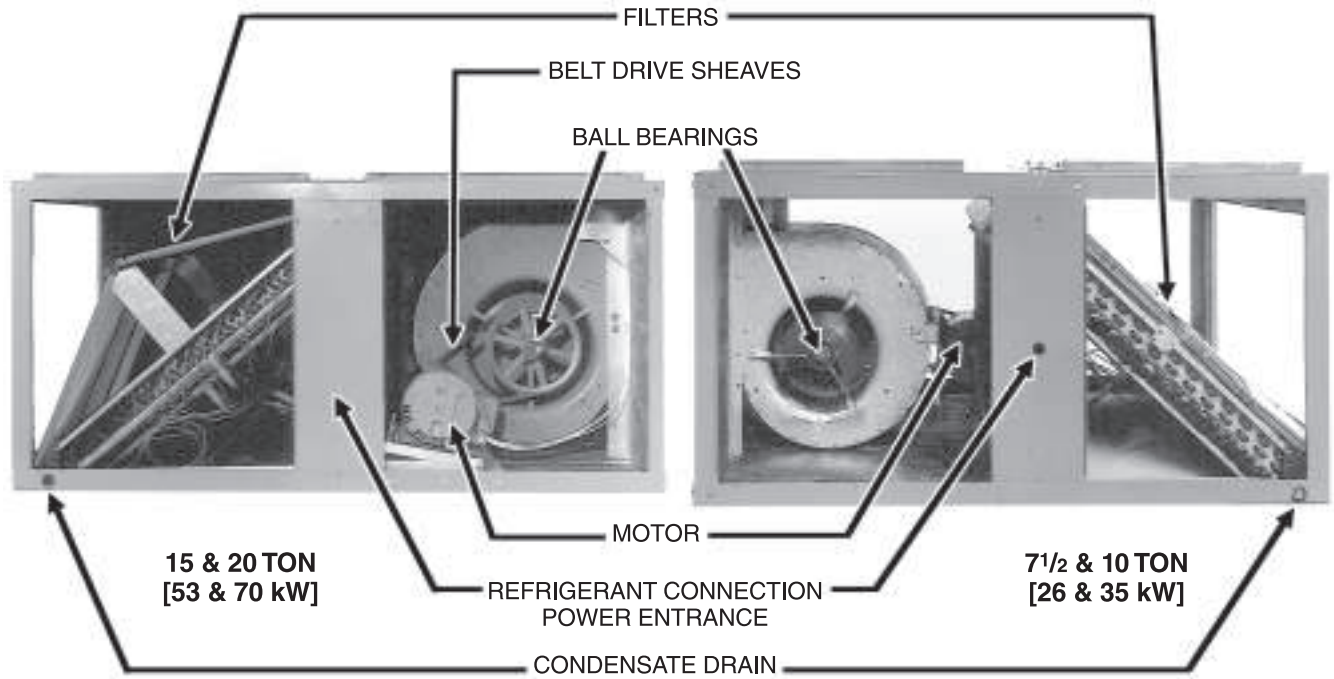
DRAIN PAN—The galvanized steel drain pan is designed to trap condensate in either vertical or horizontal installations. Condensate drain connections are located on both sides of the unit allowing complete flexibility to meet most field conditions.

SERVICE ACCESS—Two removable panels on top and each side of the unit are easily removed for access to motors, blowers, sheaves, and filters.

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

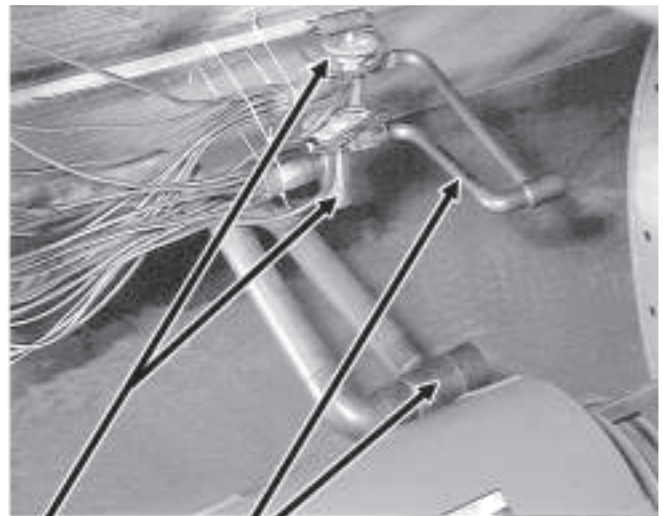
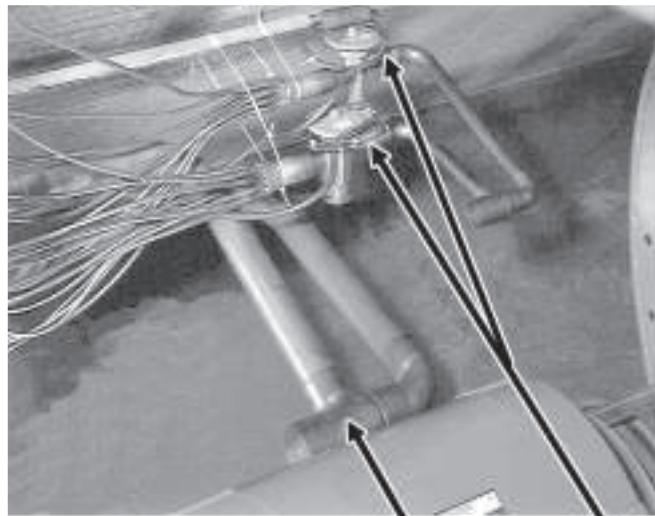
TESTING—All units are run tested at the factory prior to shipment. Units are shipped with a holding charge of nitrogen.

COMPONENT LOCATION



15 ton [53 kW] & 20 ton [70 kW] unit with side panel removed for blower and air filter access.

7 1/2 ton [26 kW] & 10 ton [35 kW] unit with side panel removed for coil connections and air filter access.

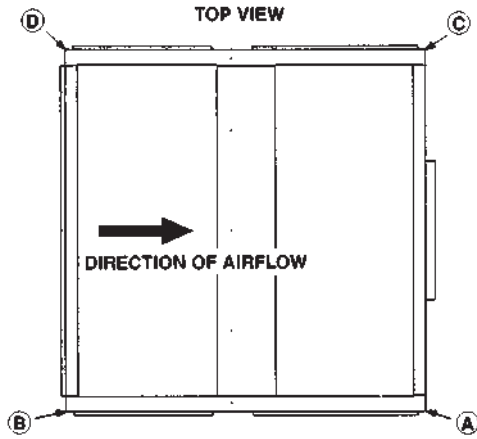


**MHGE-
7 1/2-20 TON
[26-70 kW]**

TX VALVES
SINGLE CIRCUIT MANIFOLD
REFRIGERANT CONNECTION
EITHER SIDE

**MHGE-
7 1/2-20 TON
[26-70 kW]**

UNIT DIMENSIONS

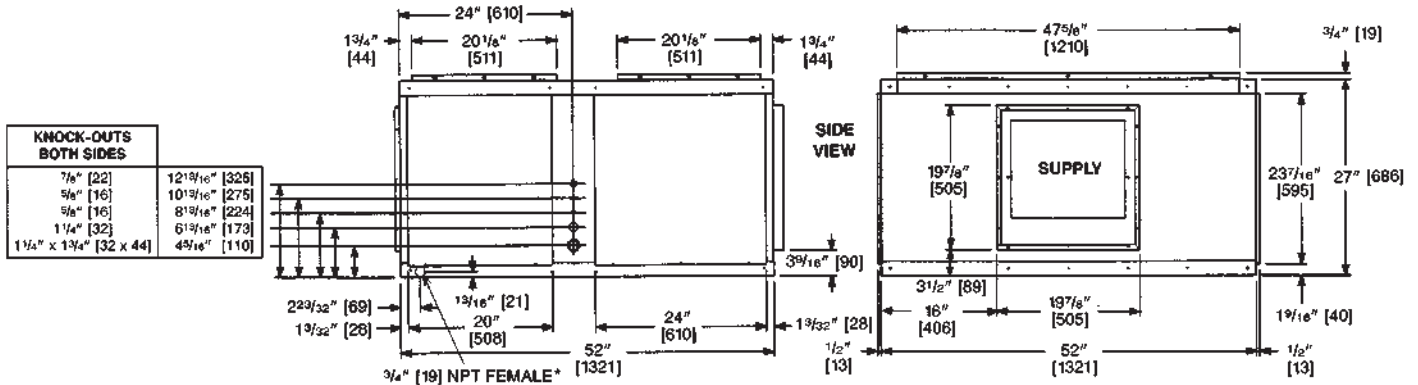


RETURN AIR OPENINGS = 47³/₈" [1203] WIDTH x 19⁷/₈" [505] HEIGHT

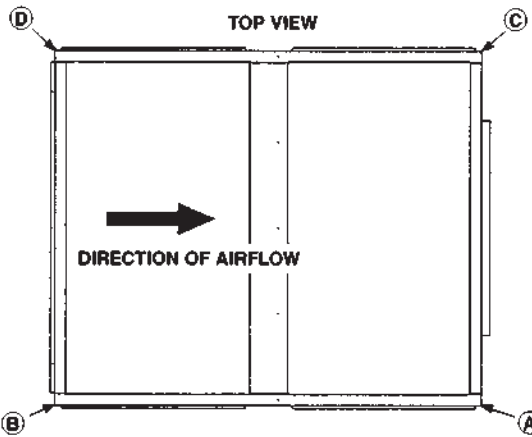
7 1/2 AND 10 NOMINAL TONS [26 AND 35 kW]

MODEL	REFRIGERANT STUB SIZES, IN. [mm]			
	DUAL LIQ.	DUAL SUC.	SINGLE LIQ.	SINGLE SUC.
075	1/2, 1/2 [13, 13]	7/8, 7/8 [22, 22]	1/2 [13]	1 1/8 [29]
100	1/2, 1/2 [13, 13]	7/8, 7/8 [22, 22]	5/8 [16]	1 3/8 [35]

MODEL	CORNER WEIGHTS, LBS. [kg]				TOTAL WEIGHT
	A	B	C	D	
075	88 [40]	78 [35]	87 [39]	77 [35]	330 [150]
100	93 [42]	82 [37]	92 [42]	80 [36]	347 [157]



*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.

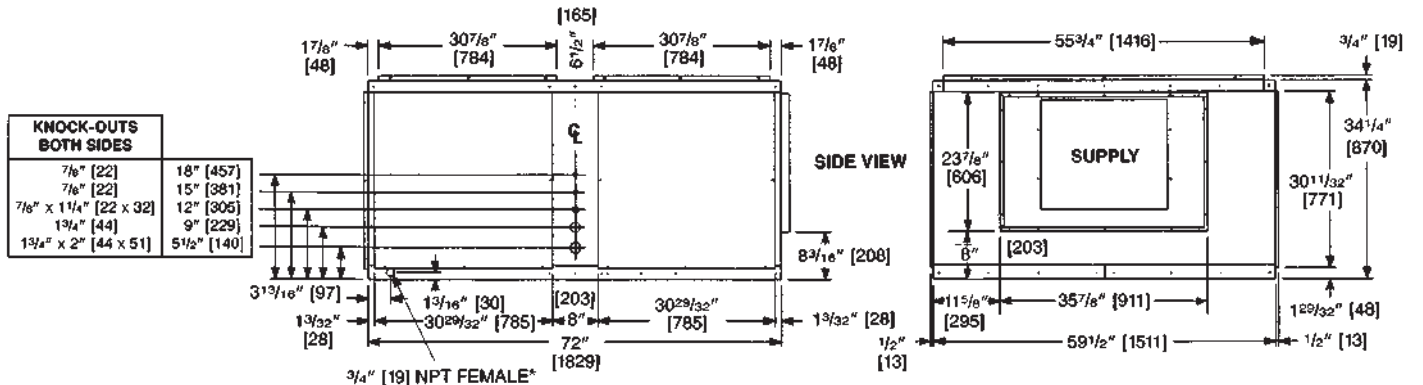


RETURN AIR OPENINGS = 55 1/2" [1410] WIDTH x 30 9/16" [776] HEIGHT

15 AND 20 NOMINAL TONS [53 & 70 kW]

MODEL	REFRIGERANT STUB SIZES, IN. [mm]			
	DUAL LIQ.	DUAL SUC.	SINGLE LIQ.	SINGLE SUC.
150	1/2, 1/2 [13, 13]	1 1/8, 1 1/8 [29, 29]	5/8 [16]	1 5/8 [41]
200	5/8, 5/8 [16, 16]	1 3/8, 1 3/8 [35, 35]	7/8 [22]	1 5/8 [41]

MODEL	CORNER WEIGHTS, LBS. [kg]				TOTAL WEIGHT
	A	B	C	D	
150	144 [65]	127 [58]	117 [53]	105 [48]	495 [225]
200	159 [72]	142 [64]	129 [59]	115 [52]	545 [247]



*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.

PHYSICAL DATA TABLE

ITEM		MODEL NO. MHGE-			
		075	100	150	200
Nominal Size tons [kW]		7.5 [26]	10 [35]	15 [53]	20 [70]
Nominal CFM [L/s] @ Rated E.S.P., in. [kPa] of water		3000 @ .25 [1416 @ .062]	4000 @ .30 [1888 @ .075]	6000 @ .35 [2832 @ .087]	8000 @ .40 [3776 @ .099]
MOTOR	Standard— 3450 RPM [W] 1 Ø 1725 RPM [W] 3 Ø	1 HP [766] 1 HP [766]	2 HP [1491] 1½ HP [1119]	— 2 HP [1491]	— 5 HP [3729]
	Optional— 1725 RPM [W] 3 Ø	½ HP, 2 HP [1119, 1491]	2 HP, 3 HP [1491, 2237]	3 HP, 5 HP [2237, 3729]	7½ HP [5593]
Blower Size—diameter & width, in. [mm]		12 x 12 [305 x 305]	12 x 12 [305 x 305]	18 x 15 [457 x 381]	18 x 18 [457 x 457]
Blower Shaft Size (diameter) in. [mm]		¾ [19]	¾ [19]	1 [25]	1 [25]
Motor Sheave Size 3450 RPM 1 Ø Adjustment (std.) in. [mm] 1725 RPM 3		1.9-2.9 [48-74] 3.4-4.4 [86-112]	2.4-3.2 [61-81] 4.0-5.0 [102-127]	— 3.1-4.1 [79-104]	— 4.3-5.5 [109-140]
Coil Face Area, sq. feet [m²]		10.2 [.95]	10.2 [.95]	16.5 [1.53]	16.5 [1.53]
Coil Tube Diameter in. [mm]		¾ [10]	¾ [10]	¾ [10]	¾ [10]
Coil, Rows Deep—Fins Per Inch [mm]		3/15 [.59]	4/15 [.59]	3/13 [.51]	4/15 [.59]
Refrigerant Control—Thermal Expansion Valves (Quantity)		ANE4HCA (2)	ANE5HCA (2)	Y703-BIVE-GA (2)	Y818-XVE-GA (2)
Filter Size, in. [mm] (Number Required) Disposable*		16 x 25 x 1 (4) [406 x 635 x 25]	16 x 25 x 1 (4) [406 x 635 x 25]	20 x 25 x 1 (6) [508 x 635 x 25]	20 x 25 x 1 (6) [508 x 635 x 25]
CABINET:					
Finish		Powder Paint	Powder Paint	Powder Paint	Powder Paint
Sheet Metal		Galvanized	Galvanized	Galvanized	Galvanized
Gauge (nominal)					
Top		18	18	18	18
Sides		16	16	16	16
Bottom		18	18	16	16
Doors and Covers		20 min.	20 min.	20 min.	20 min.
UNIT WEIGHTS:					
Operating (lbs.) [kg]		330 [150]	347 [157]	495 [225]	545 [247]
Shipping (lbs.) [kg]		350 [159]	367 [166]	530 [240]	580 [263]
PACKAGED DIMENSIONS:					
(H x W x L) [mm]		31½" x 56" x 57¼" [800 x 1422 x 1454]	31½" x 56" x 57¼" [800 x 1422 x 1454]	39" x 63" x 76½" [991 x 1600 x 1943]	39" x 63" x 76½" [991 x 1600 x 1943]

*Unit will accept 2" [51 mm] filters.

NOTE: If a factory accessory heater kit is not used, a field supplied fan contactor is required and should have a 24 volt coil with contacts rated to handle the evaporator motor FLA at desired voltage. A factory supplied 30 Amp 3 Pole (Part #42-17810-83) or 30 Amp 2 Pole (Part #42-17759-03) contactor may be purchased from the Parts Department.

[] Designates Metric Conversions

DRIVE PACKAGE DATA

NOMINAL TONS [kW]	DRIVE PACKAGE	BELT	SHEAVE SELECTIONS*, IN. [mm]			MOTOR	APPROX. BLOWER RPM @ MOTOR SHEAVE TURNS OPEN							
			MOTOR/BORE	BLOWER	HP [W]/PHASE	0	1	2	2.5	3	4	5	6	
7.5 [26]	K	4L530	3.4-4.4-5/8	[86-112-16]	9.75 [248]	1 [746]/30	790	760	730	715	700	665	630	—
	K	4L480	1.9-2.9	[48-74]	9.75 [248]	1 [746]/10	1025	965	900	—	830	760	695	—
	L	4L530	4.2-5.2-5/8	[107-132-16]	9.75 [248]	1.5 [1119]/30	925	895	860	845	825	790	750	—
	M	4L550	5.2-6.2-5/8	[132-157-16]	9.75 [248]	1.5 [1119]/30	1125	1090	1055	—	1020	985	945	—
	◇N	4L550	5.7-6.7-7/8	[145-170-22]	9.75 [248]	2 [1491]/30	1195	1165	1130	—	1100	1065	1030	—
10 [35]	J+	4L530	3.4-4.4	[86-112]	9.75 [248]	1.5 [1119]/30	790	760	725	—	690	660	630	—
	K	4L530	4.0-5.0-5/8	[102-127-16]	9.75 [248]	1.5 [1119]/30	885	855	825	—	795	760	730	—
	K	4L480	1.9-2.9	[48-74]	8.75 [222]	2 [1491]/10	1140	1070	995	—	920	845	770	—
	L	4L540	4.6-5.6-7/8	[117-142-22]	9.75 [248]	2 [1491]/30	995	960	930	—	895	860	825	—
	M	4L550	5.2-6.2-7/8	[132-157-22]	9.75 [248]	3 [2237]/30	1125	1090	1055	—	1020	985	945	—
	△N	4L530	4.7-5.7-7/8	[119-145-22]	7.75 [197]	3 [2237]/30	1225	1190	1150	—	1110	1070	1030	—
	□O	4L540	5.7-6.7-7/8	[145-170-22]	8.75 [222]	3 [2237]/30	1280	1250	1220	—	1185	1150	1115	—
15 [53]	K	BP-52	3.1-4.1-7/8	[79-104-22]	11.4 [290]	2 [1491]/30	645	620	590	—	565	535	510	480
	L	BP-52	3.7-4.7-7/8	[94-119-22]	11.4 [290]	3 [2237]/30	730	705	680	—	655	630	600	570
	M	BP-45	3.7-4.7-11/8	[94-119-29]	9.4 [239]	5 [3729]/30	870	840	810	—	780	750	715	680
	#N	BP-50	4.8-6.0-11/8	[122-152-29]	10.4 [264]	5 [3729]/30	985	960	935	—	910	885	860	835
20 [70]	K	BP-50	4.3-5.5-11/8	[109-140-29]	11.4 [290]	5 [3729]/30	850	825	800	—	775	745	715	685
	L	BP-48(2)	4.3-5.5-13/8	[109-140-35]	10.4 [264]	7.5 [5593]/30	955	925	895	—	865	835	805	780
	M	BP-47(2)	4.3-5.5-13/8	[109-140-35]	9.4 [239]	7.5 [5593]/30	1030	995	960	—	925	890	855	815

*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, Motor: 2HP [1491 W], 4 Pole, 30). △ Field Supplied (Motor Sheave: Browning IVP65, Blower Sheave: Browning AZ80). □ Field Supplied (Motor Sheave: Browning IVP75, Blower Sheave: Browning AZ90). # Field Supplied (Motor Sheave: Browning IVP65, Blower Sheave: Browning BK110). + Field Supplied (Motor Sheave: Browning IVP50, Blower Sheave: Browning AZ100). Factory sheave settings are shown in bold print. The K, L, and M drives are available from the factory. The J, N, and O drives are not available from the factory and these sheaves and belts must be field supplied. A motor change is not required. The field supplied sheaves and belts are standard shelf items that are readily available from local equipment supply houses. The chart above gives the necessary specifications for these field supplied sheaves and belts.

[] Designates Metric Conversions

PERFORMANCE DATA @ ARI STANDARD CONDITIONS—COOLING

Dual Straight Cool Condensing Unit with Air Handler

MODEL NUMBERS		80°F [26.5°C] DB/67°F [19.5°C] WB INDOOR AIR 95°F [35°C] DB OUTDOOR AIR				SOUND RATING	INDOOR CFM [L/s]
OUTDOOR UNIT 2-RAKB-	INDOOR COIL AND/OR AIR HANDLER	NET TOTAL CAPACITY BTU/H [kW]	NET SENSIBLE BTU/H [kW]	NET LATENT BTU/H [kW]	EER		
036CA	MHGE-075Z ①	70,000 [20.51]	55,300 [16.21]	14,700 [4.30]	9.50	8.2	2,400 [1135]
036DA	MHGE-075Z	70,000 [20.51]	55,300 [16.21]	14,700 [4.30]	9.50	8.2	2,400 [1135]
036JA	MHGE-075H	70,000 [20.51]	55,000 [16.12]	15,000 [4.39]	9.50	8.2	2,400 [1135]
042CA	MHGE-075Z ①	79,000 [23.15]	61,000 [17.88]	18,000 [5.27]	9.20	8.4	2,600 [1225]
	MHGE-100Z	82,000 [24.03]	66,500 [19.49]	15,500 [4.54]	9.00	8.4	3,000 [1415]
042DA	MHGE-075Z	79,000 [23.15]	61,000 [17.88]	18,000 [5.27]	9.20	8.4	2,600 [1225]
	MHGE-100Z	82,000 [24.03]	66,500 [19.49]	15,500 [4.54]	9.00	8.4	3,000 [1415]
048CA	MHGE-075Z ①	87,000 [25.50]	67,900 [19.90]	19,100 [5.60]	9.65	8.6	3,000 [1415]
	MHGE-100Z	88,000 [25.79]	69,300 [20.31]	18,700 [5.48]	9.10	8.6	3,200 [1510]
048DA	MHGE-075Z	87,000 [25.50]	67,900 [19.90]	19,100 [5.60]	9.65	8.6	3,000 [1415]
	MHGE-100Z	88,000 [25.79]	69,300 [20.31]	18,700 [5.48]	9.10	8.6	3,200 [1510]

① Highest sales volume tested combination required by DOE test procedures.

PERFORMANCE DATA @ ARI STANDARD CONDITIONS—COOLING

MODEL NUMBERS		80°F [26.5°C] DB/67°F [19.5°C] WB INDOOR AIR 95°F [35°C] DB OUTDOOR AIR				SOUND RATING	INDOOR CFM [L/s]
OUTDOOR UNIT 2-RAND-	INDOOR COIL AND/OR AIR HANDLER	NET TOTAL CAPACITY BTU/H [kW]	NET SENSIBLE BTU/H [kW]	NET LATENT BTU/H [kW]	EER		
036JA	MHGE-075H	69,000 [20.10]	56,000 [16.35]	13,000 [3.75]	11.45	8.2	2,400 [1135]
042JA	MHGE-075H	78,000 [22.80]	63,500 [18.60]	14,500 [4.20]	11.60	8.6	2,800 [1320]
	MHGE-100H	82,000 [24.00]	67,800 [19.80]	14,200 [4.20]	11.90	8.6	3,000 [1415]
048JA	MHGE-075H	88,000 [25.80]	69,500 [20.40]	18,500 [5.40]	11.70	8.8	3,000 [1415]
	MHGE-100H	92,000 [27.00]	74,000 [21.60]	18,000 [5.40]	11.80	8.8	3,200 [1510]
060JA	MHGE-100H	114,000 [33.30]	89,000 [26.10]	25,000 [7.20]	11.35	8.8	3,800 [1795]

[] Designates Metric Conversions

INDOOR BLOWER PERFORMANCE (DRY COIL) MHGE-075 Z/Y

E.S.P.—INCHES OF WATER [kPa]

DRIVE PKG	STD CFM	E.S.P.—INCHES OF WATER [kPa]																			
		.1 [0.02]	.2 [0.05]	.3 [0.07]	.4 [0.10]	.5 [0.12]	.6 [0.15]	.7 [0.17]	.8 [0.20]	.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
	1800 [850 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	2000 [944 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	2200 [1038 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K	2400 [1133 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
L	2600 [1227 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
M	2800 [1321 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N	3000 [1416 L/s]	630	660	695	730	765	800	835	870	905	940	975	1010	1045	1080	1115	1150	1185	1220	1255	1290
	3200 [1510 L/s]	660	695	730	765	800	835	870	905	940	975	1010	1045	1080	1115	1150	1185	1220	1255	1290	1325
	3400 [1605 L/s]	690	725	760	795	830	865	900	935	970	1005	1040	1075	1110	1145	1180	1215	1250	1285	1320	1355
	3600 [1699 L/s]	720	755	790	825	860	895	930	965	1000	1035	1070	1105	1140	1175	1210	1245	1280	1315	1350	1385

K = IVP50, AZ100, 1 HP [766 W] L = IVP60, AZ100, 1 1/2 HP [1119 W] M = IVP68, AZ100, 2 HP [1491 W] HP N = IVP75, AZ100, 2 HP [1491 W] [Field Supplied]

NOTE: Bold lines separate K, L, M and N drives respectively.

MHGE-075 HK

E.S.P.—INCHES OF WATER [kPa]

DRIVE PKG	STD CFM	E.S.P.—INCHES OF WATER [kPa]																			
		.1 [0.02]	.2 [0.05]	.3 [0.07]	.4 [0.10]	.5 [0.12]	.6 [0.15]	.7 [0.17]	.8 [0.20]	.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
	2200 [1038 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	2400 [1133 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	2600 [1227 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K	2800 [1321 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3000 [1416 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3200 [1510 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3400 [1605 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3600 [1699 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

K = IVP34, AZ100, 1 HP [746 W] 10
 NOTES: T.O. = Turns Open
 1. Standard air @ .075 lbs/ft³
 2. Operation below heavy lines require optional drives.
 3. Motor efficiency = .70
 4. BHP = WATTS x MOTOR EFFICIENCY
 746
 5. BHP = Brake Horsepower
 RPM = Blower Speed

MHGE-100 Z/Y

E.S.P.—INCHES OF WATER [kPa]

DRIVE PKG	STD CFM	E.S.P.—INCHES OF WATER [kPa]																			
		.1 [0.02]	.2 [0.05]	.3 [0.07]	.4 [0.10]	.5 [0.12]	.6 [0.15]	.7 [0.17]	.8 [0.20]	.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
	3000 [1416 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3200 [1510 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3400 [1605 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K	3600 [1699 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
L	3800 [1793 L/s]	745	1265	780	1350	810	1455	840	1550	875	1630	905	1740	940	1840	955	1905	990	2050	1025	2145
M	4000 [1888 L/s]	780	1465	810	1575	850	1690	880	1780	910	1880	940	2010	970	2110	990	2180	1020	2300	1050	2400
N	4200 [1982 L/s]	825	1750	855	1840	885	1925	920	2060	940	2160	965	2260	995	2365	1025	2470	1050	2560	1080	2680
O	4400 [2077 L/s]	845	1925	875	2100	905	2195	950	2320	970	2430	995	2550	1030	2650	1050	2750	1075	2850	1100	2950
	4600 [2171 L/s]	915	2225	930	2375	955	2495	980	2620	1010	2750	1030	2840	1055	2950	1055	2960	1080	3070	—	—
	4800 [2285 L/s]	930	2555	960	2680	985	2810	1015	2940	1045	3040	1035	3045	1055	3180	—	—	—	—	—	—
	5000 [2360 L/s]	960	2870	990	3010	1020	3135	—	—	—	—	—	—	—	—	—	—	—	—	—	—

K = IVP56, AZ100, 1 1/2 HP [1119 W]
 L = IVP62, AZ100, 2 HP [1491 W]
 M = IVP68, AZ100, 3 HP [2237 W]
 N = IVP65, AZ80, 3 HP [2237 W] [Field Supplied]
 O = IVP75, AZ90, 3 HP [2237 W] [Field Supplied]

NOTE: Bold lines separate K, L, M, N and O drives respectively.

[] Designates Metric Conversions

INDOOR BLOWER PERFORMANCE MHGE-15 TON [53 kW] & 20 TON [70 kW] (DRY COIL)

MHGE-150 Z/Y

DRIVE PKG	STD CFM	E.S.P.—INCHES OF WATER [kPa]																					
		.1 [0.02]	.2 [0.05]	.3 [0.07]	.4 [0.10]	.5 [0.12]	.6 [0.15]	.7 [0.17]	.8 [0.20]	.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]		
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W		
K	4000 [1888 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	4400 [2077 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	4800 [2265 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	5200 [2454 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	5600 [2643 L/s]	490	1420	515	1505	540	1620	560	1700	590	1820	610	1905	635	2080	660	2240	680	2365	700	2510	720	2665
L	6000 [2832 L/s]	510	1640	530	1750	560	1860	590	1950	610	2165	630	2270	660	2450	675	2570	695	2725	720	2905	740	2975
	6400 [3020 L/s]	530	1900	555	1980	590	2255	610	2370	630	2470	655	2660	675	2880	695	2965	720	3180	735	3255	760	3360
	6800 [3209 L/s]	570	2370	590	2455	610	2575	625	2670	655	2870	675	3030	700	3055	720	3175	740	3350	760	3485	780	3620
	7200 [3398 L/s]	590	2685	610	2800	630	2945	650	3100	680	3195	700	3310	720	3450	745	3610	720	3745	780	3910	800	4040

K = IVP44, BK120, 2 HP [1491 W]
 L = IVP50, BK120, 3 HP [2237 W]
 M = IVP50, BK100, 5 HP [3729 W]
 N = IVP65, BK110, 5 HP [3729 W] [Field Supplied]
 NOTE: Bold lines separate K, L, M and N drives respectively.

MHGE-200 Z/Y

DRIVE PKG	STD CFM	E.S.P.—INCHES OF WATER [kPa]																			
		.1 [0.02]	.2 [0.05]	.3 [0.07]	.4 [0.10]	.5 [0.12]	.6 [0.15]	.7 [0.17]	.8 [0.20]	.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]
		RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
K	6000 [2832 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	6500 [3068 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	7000 [3304 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	7500 [3540 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	8000 [3776 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
L-M	8500 [4012 L/s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	9000 [4248 L/s]	685	4070	700	4240	720	4440	735	4615	760	4790	780	4995	815	5165	830	5300	850	5435	865	5570
	9500 [4484 L/s]	700	4730	720	4940	785	5325	800	5500	820	5670	835	5790	850	5920	865	6060	880	6210	895	6370
	10000 [4719 L/s]	805	6080	815	6145	830	6470	840	6615	860	6720	870	6890	885	7040	900	7220	915	7430	925	7600

K = IVP60, BK120, 5 HP [3729 W]
 L = 2VP60, 2BK110, 7 1/2 HP [5593 W]
 M = 2VP60, 2BK100, 7 1/2 HP [5593 W]
 NOTES: 1. Bold lines separate K, L, and M drives respectively.
 2. Standard air @ .075 lbs/ft³ [m³]
 3. Operation below heavy lines require optional drives.
 4. Motor efficiency = .85
 5. BHP = WATTS x MOTOR EFFICIENCY
 746
 6. BHP = Brake Horsepower
 RPM = Blower Speed

[] Designates Metric Conversions

COMPONENT AIR RESISTANCE

MHGE 7.5 TON [26 kW] & 10 TON [35 kW]

CFM	1800 [850 L/s]	2200 [1038 L/s]	2600 [1227 L/s]	3000 [1416 L/s]	3400 [1605 L/s]	3800 [1793 L/s]	4200 [1982 L/s]	4600 [2171 L/s]	5000 [2360 L/s]
Electric Heater 20KW, 30KW	.060 [.015]	.100 [.025]	.140 [.034]	.160 [.040]	.230 [.057]	.320 [.080]	.410 [.102]	.500 [.124]	.600 [.150]
Electric Heater 40KW	.070 [.017]	.110 [.027]	.140 [.034]	.240 [.060]	.350 [.090]	.480 [.119]	.600 [.150]	.730 [.181]	.860 [.214]
Mixing Box (R/A Damper Open)	.006 [.001]	.008 [.002]	.012 [.003]	.024 [.006]	.038 [.009]	.053 [.013]	.068 [.017]	.080 [.020]	.095 [.024]
Discharge Grille (Set Max. Open)	.008 [.002]	.011 [.003]	.015 [.004]	.020 [.005]	.025 [.006]	.031 [.008]	.039 [.010]	.046 [.012]	.055 [.014]
Inlet Grille	.008 [.002]	.010 [.002]	.014 [.003]	.020 [.005]	.026 [.006]	.032 [.008]	.039 [.010]	.049 [.012]	.058 [.014]
Discharge Plenum	.02 [.005]	.04 [.010]	.05 [.012]	.065 [.016]	.085 [.021]	.100 [.025]	.120 [.030]	.150 [.037]	.180 [.045]

MHGE 15 TON [53 kW]

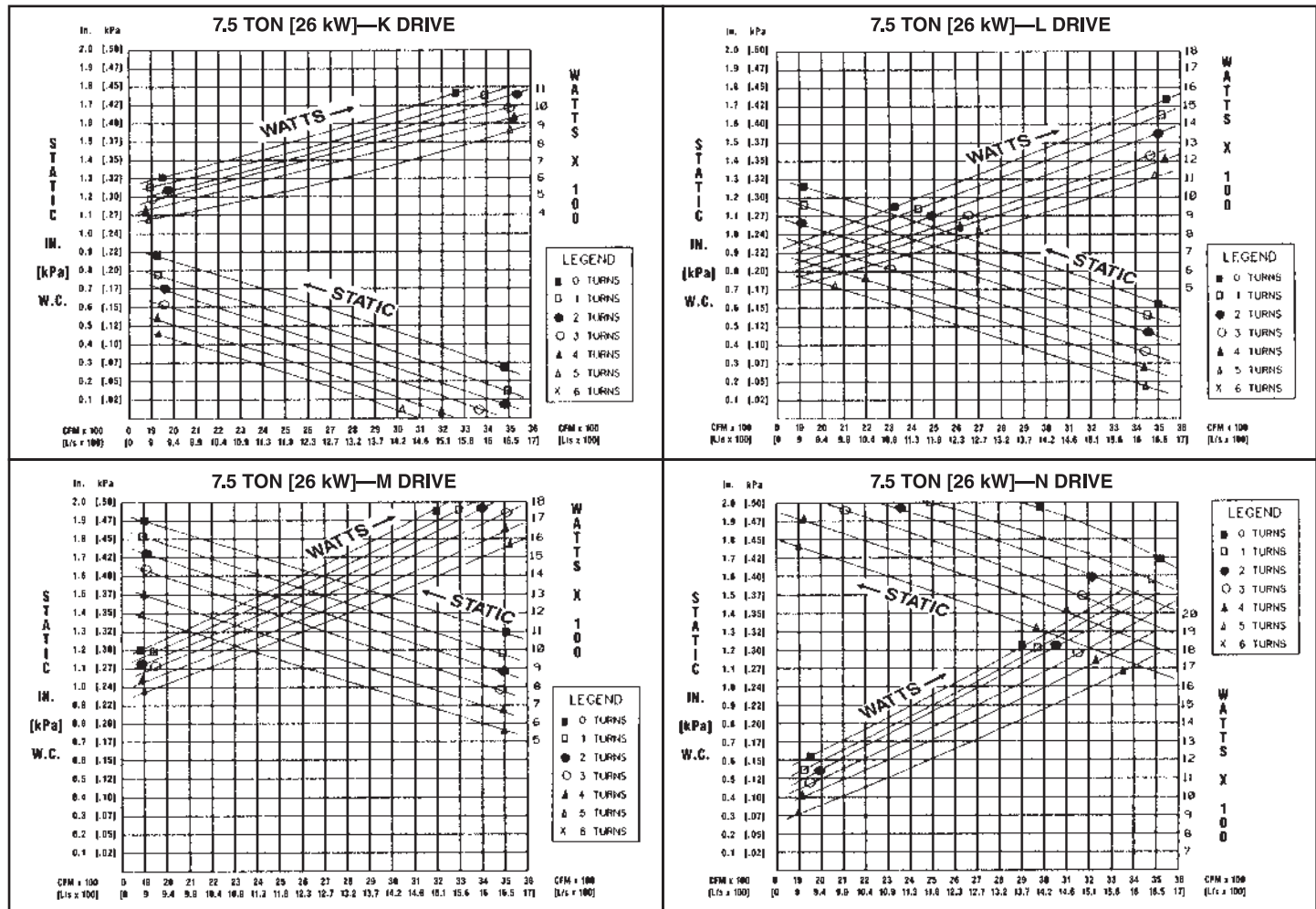
CFM	4000 [1888 L/s]	4400 [2077 L/s]	4800 [2265 L/s]	5200 [2454 L/s]	5600 [2643 L/s]	6000 [2832 L/s]	6400 [3020 L/s]	6800 [3209 L/s]	7200 [3398 L/s]
Electric Heater 20KW, 30KW	.175 [.040]	.187 [.050]	.200 [.049]	.215 [.053]	.230 [.057]	.250 [.062]	.275 [.068]	.305 [.076]	.350 [.087]
Electric Heater 40KW, 60KW	.290 [.070]	.320 [.080]	.350 [.087]	.380 [.095]	.410 [.102]	.450 [.112]	.495 [.123]	.550 [.137]	.600 [.149]
Mixing Box (R/A Damper Open)	.030 [.007]	.037 [.009]	.044 [.011]	.052 [.013]	.061 [.015]	.071 [.018]	.091 [.023]	.102 [.025]	.110 [.027]
Discharge Grille (Set Max. Open)	.010 [.003]	.012 [.003]	.014 [.004]	.017 [.004]	.019 [.005]	.022 [.006]	.025 [.006]	.029 [.007]	.032 [.008]
Inlet Grille	.010 [.003]	.014 [.003]	.020 [.005]	.027 [.007]	.035 [.009]	.044 [.011]	.054 [.013]	.065 [.016]	.077 [.019]
Discharge Plenum	.02 [.005]	.04 [.010]	.05 [.012]	.065 [.016]	.085 [.021]	.100 [.025]	.120 [.030]	.150 [.037]	.180 [.045]

MHGE 20 TON [70 kW]

CFM	6400 [3020 L/s]	6800 [3209 L/s]	7200 [3398 L/s]	7600 [3586 L/s]	8000 [3776 L/s]	8400 [3964 L/s]	8800 [4153 L/s]	9200 [4342 L/s]	9600 [4531 L/s]
Electric Heater 20KW, 30KW	.220 [.055]	.230 [.057]	.240 [.060]	.260 [.065]	.280 [.070]	.300 [.075]	.320 [.080]	.340 [.085]	.370 [.092]
Electric Heater 40KW	.360 [.090]	.390 [.097]	.420 [.104]	.450 [.112]	.490 [.122]	.530 [.132]	.570 [.142]	.610 [.152]	.650 [.162]
Mixing Box (R/A Damper Open)	.095 [.023]	.102 [.025]	.110 [.027]	.115 [.030]	.121 [.030]	.126 [.031]	.128 [.032]	.135 [.034]	.142 [.035]
Discharge Grille (Set Max. Open)	.025 [.006]	.029 [.007]	.032 [.008]	.036 [.009]	.040 [.010]	.044 [.011]	.048 [.012]	.053 [.013]	.057 [.014]
Inlet Grille	.054 [.013]	.065 [.016]	.077 [.019]	.090 [.022]	.104 [.026]	.120 [.030]	.150 [.037]	.190 [.047]	.240 [.060]
Discharge Plenum	.120 [.030]	.150 [.037]	.180 [.045]	.210 [.052]	.250 [.062]	.290 [.072]	.340 [.085]	.400 [.010]	.470 [.117]

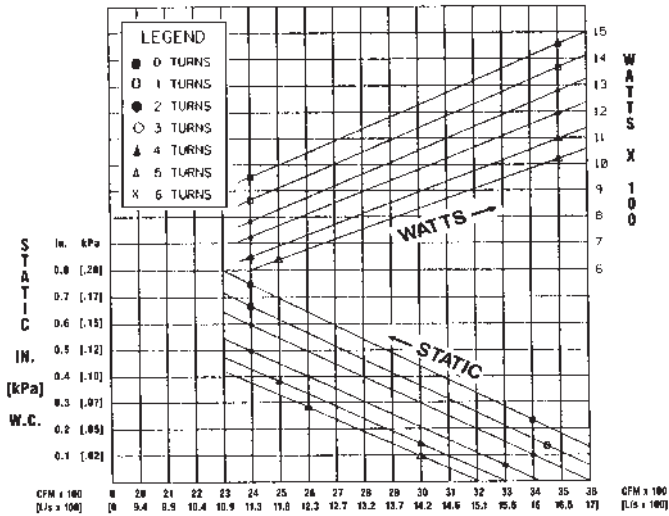
NOTE: Add component resistance to duct resistance to determine total E.S.P.

BLOWER PERFORMANCE CURVES—7.5 TON [26 kW] (WET COIL)

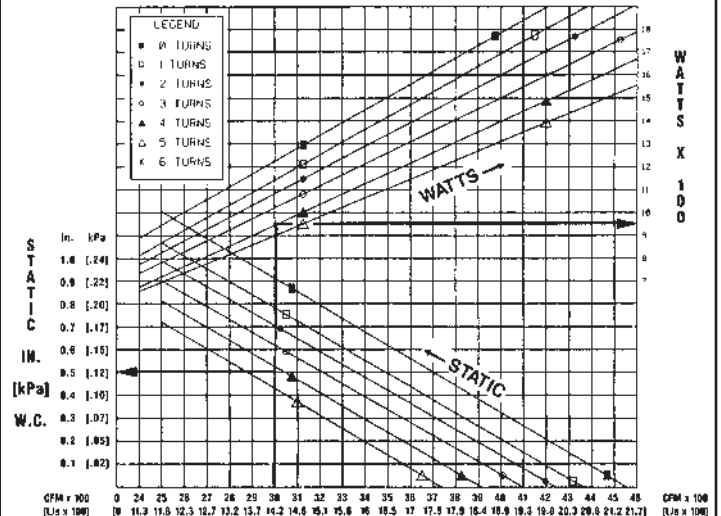


BLOWER PERFORMANCE CURVES—10 TON [35 kW] (WET COIL)

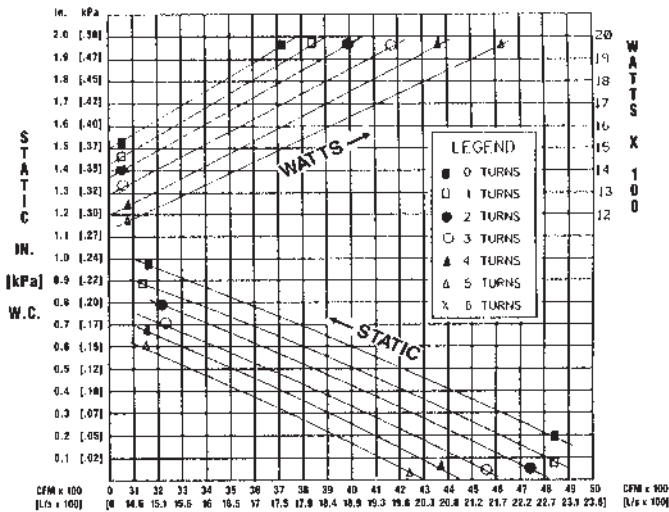
10 TON [35 kW] (MHGF-100 ONLY)
J DRIVE



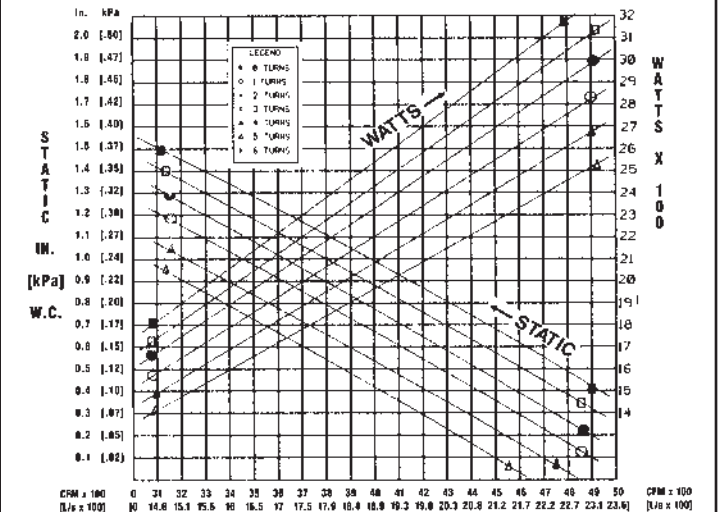
10 TON [35 kW]
K DRIVE



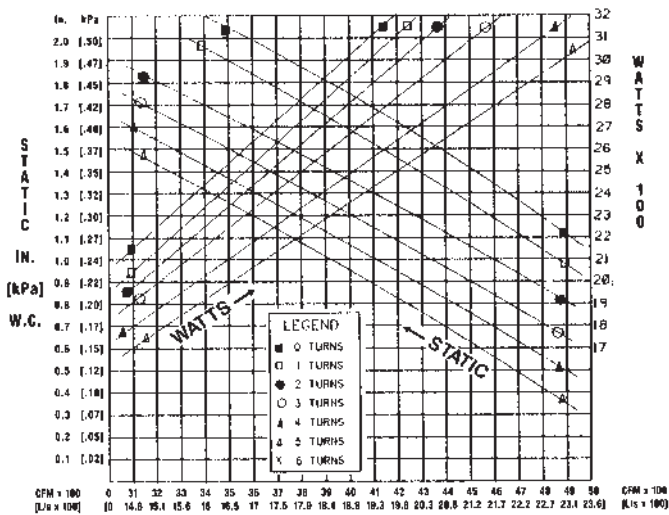
10 TON [35 kW]
L DRIVE



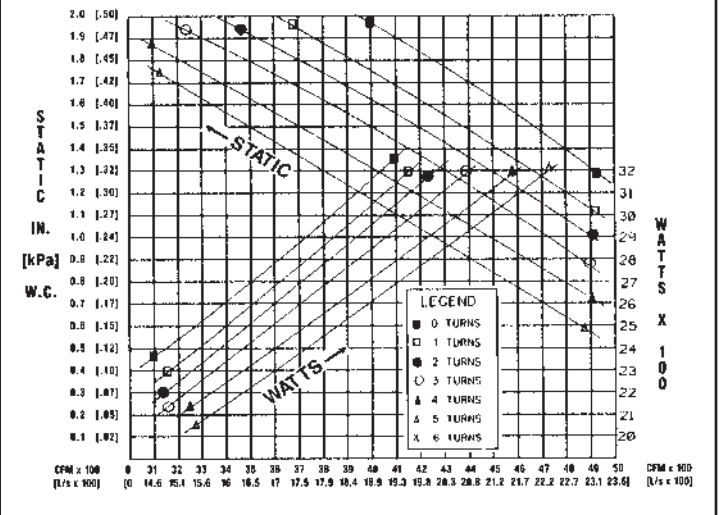
10 TON [35 kW]
M DRIVE



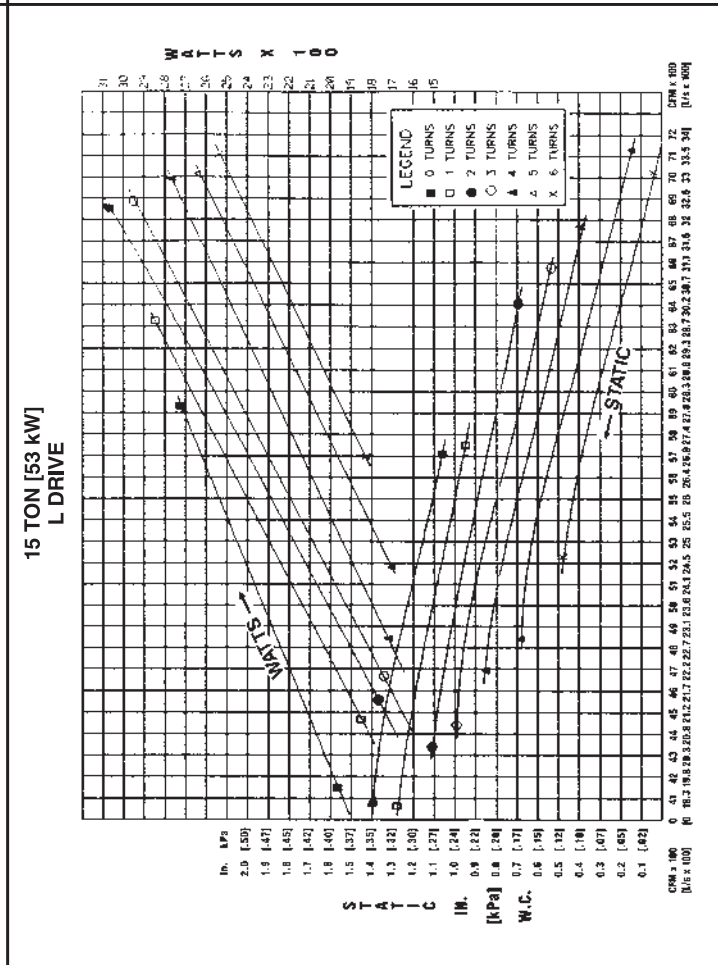
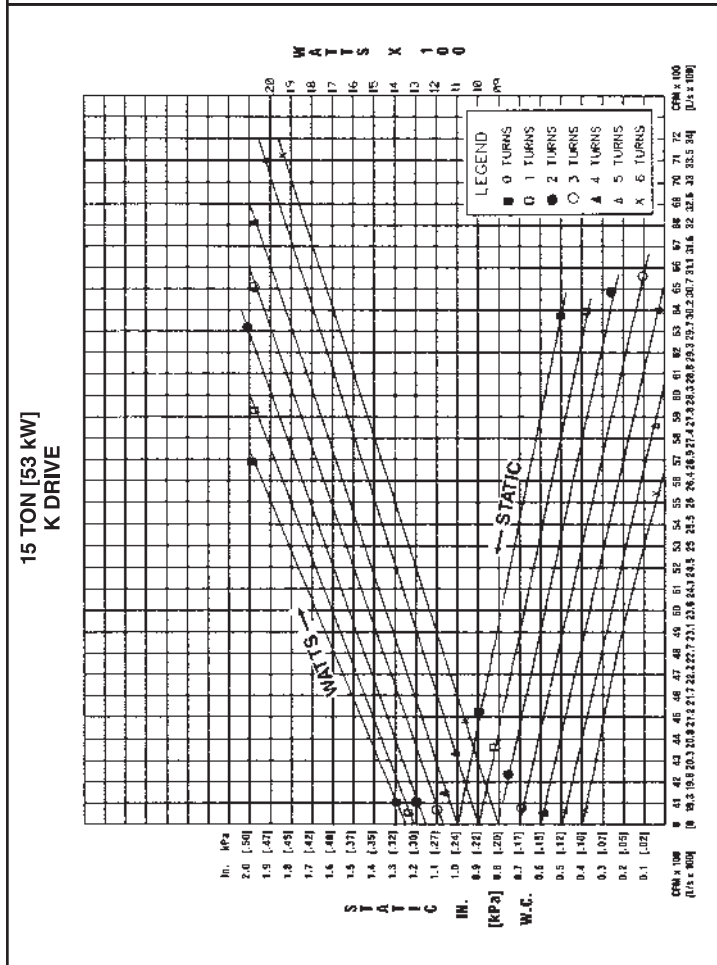
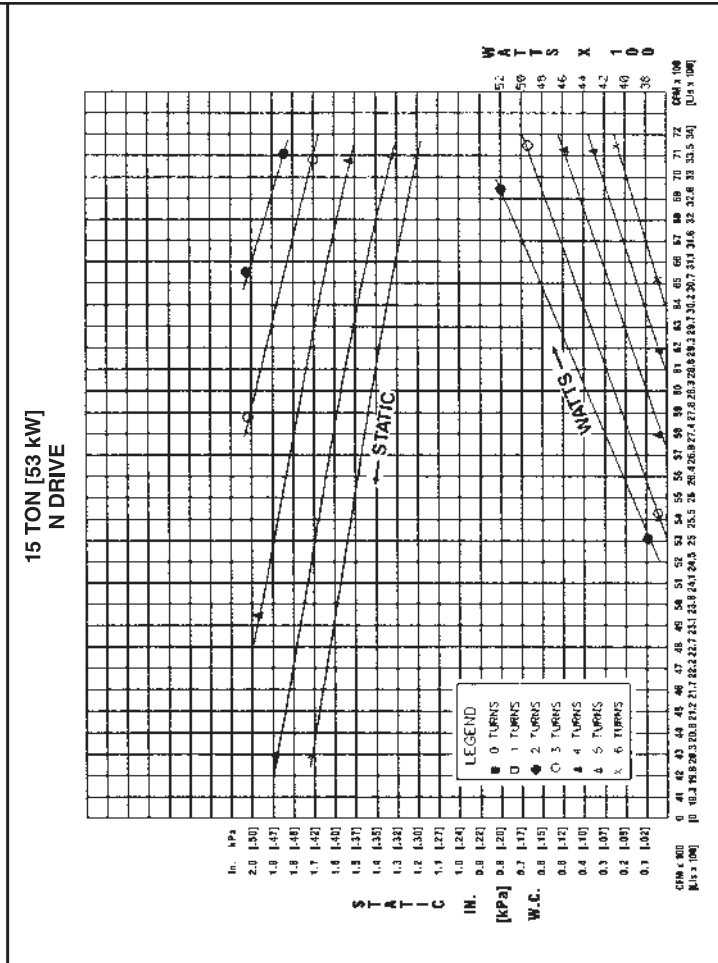
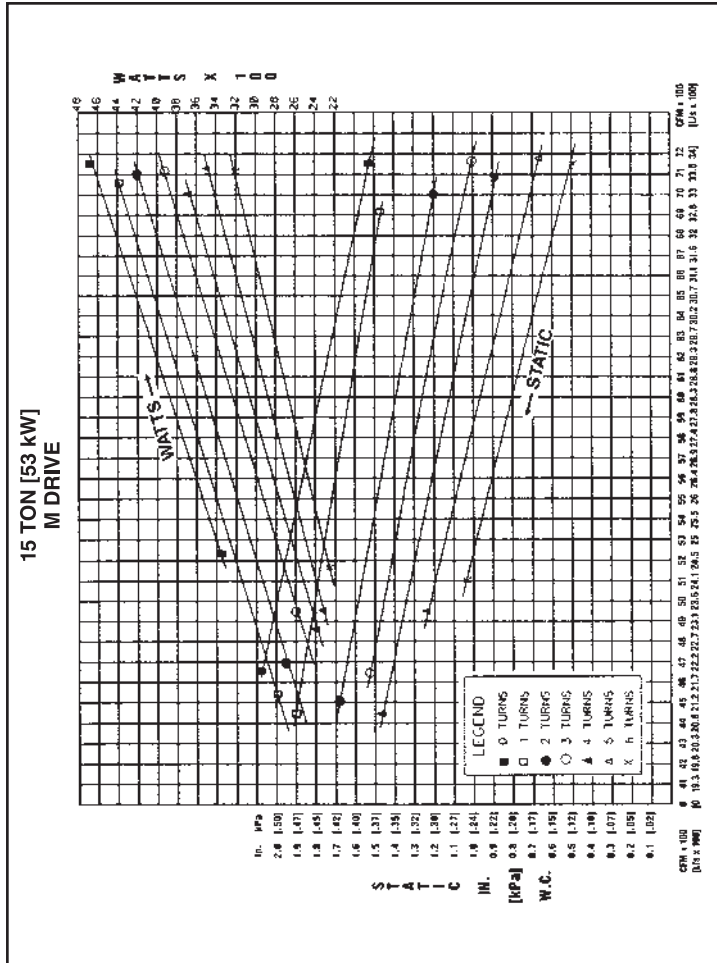
10 TON [35 kW]
N DRIVE



10 TON [35 kW]
O DRIVE

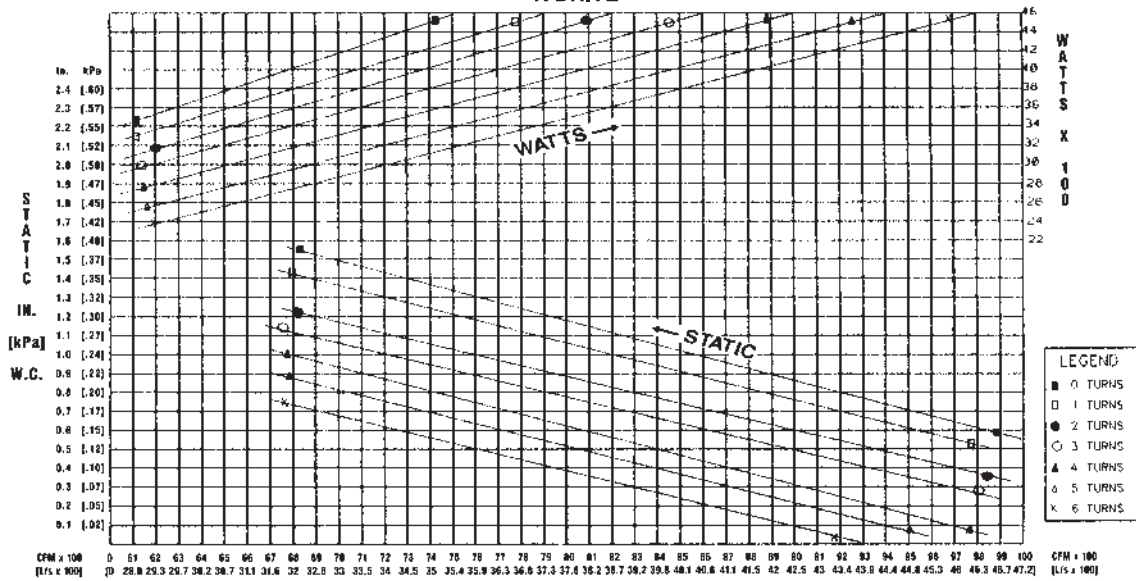


BLOWER PERFORMANCE CURVES—15 TON [53 kW] (WET COIL)

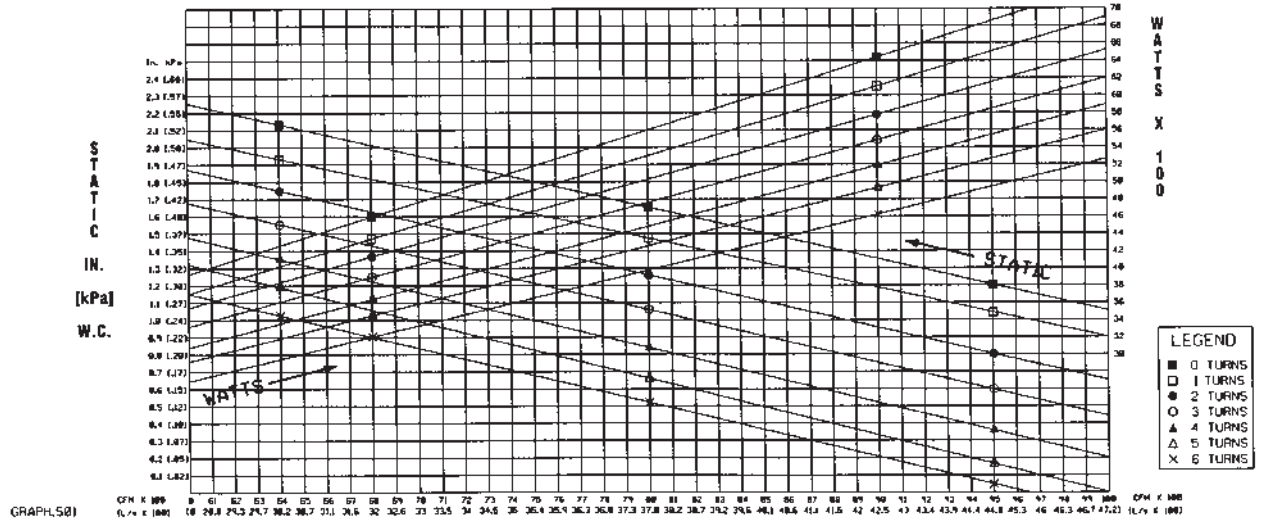


BLOWER PERFORMANCE CURVES—20 TON [70 kW] (WET COIL)

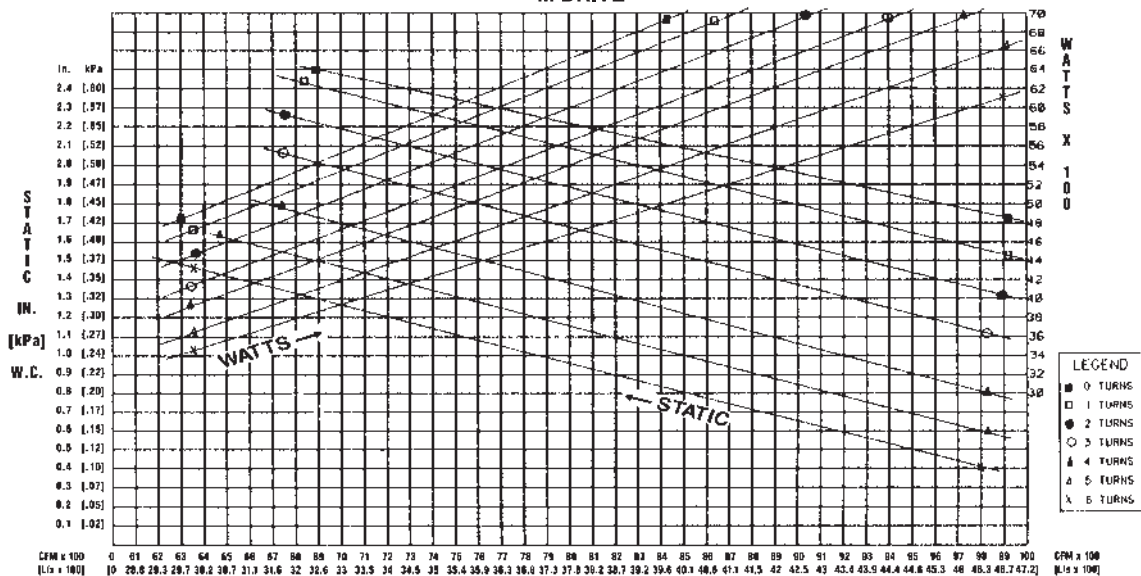
20 TON [70 kW]
K DRIVE



20 TON [70 kW]
L DRIVE



20 TON [70 kW]
M DRIVE



EVAPORATOR PERFORMANCE DATA

EVAPORATOR/AIR HANDLER MHGE-075 @ 3000 CFM [1416 L/s]									
EVAP TEMP °F [°C]	EVAP INLET AIR WB °F [°C]	TOTAL CAPAC MBH [kW]	EVAP LVG AIR WB °F [°C]	EVAPORATOR ENTERING AIR DB—°F [°C]					
				70 [21]	75 [24]	80 [27]	85 [29]	90 [32]	95 [35]
				SENSIBLE CAPACITY					
				MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]
35 [1.5]	59 [15]	73.2 [21.5]	49.8 [10]	63.0 [18.5]	73.2 [21.5]	73.2 [21.5]	73.2 [21.5]	73.2 [21.5]	73.2 [21.5]
	63 [17]	109.1 [32.0]	50.0 [10]	62.2 [18.2]	76.4 [22.4]	90.7 [26.6]	104.9 [30.7]	109.1 [32.0]	109.1 [32.0]
	67 [19]	146.5 [42.9]	50.5 [10]	63.2 [18.5]	77.4 [22.7]	91.7 [26.9]	105.9 [31.0]	120.2 [35.2]	134.4 [39.4]
	71 [21.5]	180.9 [53.0]	51.8 [11]	—	74.9 [22.0]	89.1 [26.1]	103.4 [30.3]	117.6 [34.5]	131.9 [38.7]
	75 [24]	216.8 [63.5]	53.4 [12]	—	74.1 [21.7]	88.3 [25.9]	102.6 [30.6]	116.8 [34.2]	131.1 [38.4]
40 [4.5]	59 [15]	49.8 [14.6]	52.9 [12]	49.8 [14.6]	49.8 [14.6]	49.8 [14.6]	49.8 [14.6]	49.8 [14.6]	49.8 [14.6]
	63 [17]	85.8 [25.1]	53.1 [12]	51.9 [15.2]	66.2 [19.4]	80.4 [23.6]	85.8 [25.1]	85.8 [25.1]	85.8 [25.1]
	67 [19]	123.0 [36.0]	53.5 [12]	53.3 [15.6]	67.6 [19.8]	81.8 [24.0]	96.1 [28.2]	110.3 [32.3]	123.0 [36.0]
	71 [21.5]	157.9 [46.3]	54.7 [13]	—	65.4 [19.2]	79.7 [23.4]	93.9 [27.5]	108.2 [31.7]	122.4 [35.8]
	75 [24]	194.0 [56.9]	56.2 [13]	—	65.1 [19.1]	79.3 [23.2]	93.6 [27.4]	107.8 [31.6]	122.1 [35.8]
45 [7]	59 [15]	24.4 [7.2]	56.1 [13]	24.4 [7.2]	24.4 [7.2]	24.4 [7.2]	24.4 [7.2]	24.4 [7.2]	24.4 [7.2]
	63 [17]	60.5 [17.7]	56.2 [13]	41.5 [12.2]	55.7 [16.3]	60.5 [17.7]	60.5 [17.7]	60.5 [17.7]	60.5 [17.7]
	67 [19]	97.5 [28.6]	56.6 [14]	43.1 [12.6]	57.4 [16.8]	71.6 [21.0]	85.9 [25.2]	97.5 [28.6]	97.5 [28.6]
	71 [21.5]	132.5 [30.8]	57.7 [14]	—	55.5 [16.3]	69.8 [20.5]	84.0 [24.6]	98.3 [28.8]	112.5 [33.0]
	75 [24]	168.5 [49.4]	59.2 [15]	—	55.4 [16.2]	69.7 [20.4]	83.9 [24.6]	98.2 [28.8]	112.4 [33.0]
50 [10]	59 [15]	—	59.1 [15]	—	—	—	—	—	—
	63 [17]	33.8 [9.9]	59.3 [15]	31.1 [9.1]	33.8 [9.9]	33.8 [9.9]	33.8 [9.9]	33.8 [9.9]	33.8 [9.9]
	67 [19]	70.1 [20.5]	59.8 [15]	32.7 [9.6]	47.0 [13.8]	61.2 [17.9]	70.1 [20.5]	70.1 [20.5]	70.1 [20.5]
	71 [21.5]	104.9 [30.7]	60.8 [16]	—	45.3 [13.3]	59.6 [17.5]	73.8 [21.6]	88.1 [25.8]	102.3 [30.0]
	75 [24]	140.4 [41.1]	62.2 [17]	—	45.3 [13.3]	59.5 [17.4]	73.8 [21.6]	88.0 [25.8]	102.3 [30.0]
EVAPORATOR/AIR HANDLER MHGE-100 @ 3800 CFM [1793 L/s]									
35 [1.5]	59 [15]	122.7 [36.0]	46.6 [8]	94.2 [27.6]	112.5 [33.0]	122.7 [36.0]	122.7 [36.0]	122.7 [36.0]	122.7 [36.0]
	63 [17]	155.7 [45.6]	48.1 [9]	87.5 [25.6]	105.8 [31.0]	124.1 [36.4]	142.4 [41.7]	155.7 [45.6]	155.7 [45.6]
	67 [19]	188.5 [55.2]	50.2 [10]	81.2 [23.8]	99.5 [29.2]	117.8 [34.5]	136.2 [39.9]	154.5 [45.3]	172.8 [50.6]
	71 [21.5]	221.7 [65.0]	52.6 [11]	—	92.4 [27.1]	110.7 [32.4]	129.0 [37.8]	147.3 [43.2]	165.6 [48.5]
	75 [24]	254.7 [74.6]	55.4 [13]	—	85.7 [25.1]	104.0 [30.5]	122.3 [35.8]	140.6 [41.2]	158.9 [46.6]
40 [4.5]	59 [15]	95.6 [28.0]	49.5 [10]	81.7 [23.9]	95.6 [28.0]	95.6 [28.0]	95.6 [28.0]	95.6 [28.0]	95.6 [28.0]
	63 [17]	129.7 [38.0]	50.9 [10.5]	75.9 [22.2]	94.2 [27.6]	112.5 [33.0]	129.7 [38.0]	129.7 [38.0]	129.7 [38.0]
	67 [19]	163.0 [47.8]	52.8 [11.5]	70.7 [20.7]	89.0 [26.1]	107.3 [31.4]	125.6 [36.8]	143.9 [42.2]	162.2 [47.5]
	71 [21.5]	197.9 [58.0]	54.9 [13]	—	82.7 [24.2]	101.0 [29.6]	119.3 [35.0]	137.6 [40.3]	155.9 [45.7]
	75 [24]	232.0 [68.0]	57.5 [14]	—	76.9 [22.5]	95.2 [27.9]	113.5 [32.3]	131.8 [38.6]	150.1 [44.0]
45 [7]	59 [15]	64.9 [19.0]	52.7 [11.5]	64.9 [19.0]	64.9 [19.0]	64.9 [19.0]	64.9 [19.0]	64.9 [19.0]	64.9 [19.0]
	63 [17]	100.0 [29.3]	53.9 [12]	63.6 [18.6]	81.9 [24.0]	100.0 [29.3]	100.0 [29.3]	100.0 [29.3]	100.0 [29.3]
	67 [19]	134.1 [39.3]	55.6 [13]	59.0 [17.3]	77.3 [22.7]	95.6 [28.0]	113.9 [33.4]	132.2 [38.7]	134.1 [39.3]
	71 [21.5]	170.0 [49.8]	57.5 [14]	—	71.8 [21.0]	90.1 [26.4]	110.2 [33.1]	126.7 [37.1]	145.0 [42.5]
	75 [24]	205.1 [60.1]	59.9 [15.5]	—	66.8 [19.6]	85.1 [24.9]	103.4 [30.3]	121.7 [35.7]	140.0 [41.0]
50 [10]	59 [15]	31.7 [9.3]	56.0 [13]	31.7 [9.3]	31.7 [9.3]	31.7 [9.3]	31.7 [9.3]	31.7 [9.3]	31.7 [9.3]
	63 [17]	67.2 [19.7]	57.1 [14]	50.7 [14.8]	67.2 [19.7]	67.2 [19.7]	67.2 [19.7]	67.2 [19.7]	67.2 [19.7]
	67 [19]	101.7 [29.8]	58.6 [15]	46.6 [13.7]	64.9 [19.0]	83.2 [24.4]	101.5 [29.8]	101.7 [29.8]	101.7 [29.8]
	71 [21.5]	138.3 [40.5]	60.3 [16]	—	60.0 [17.6]	78.3 [23.0]	96.6 [28.3]	114.9 [33.7]	133.2 [39.0]
	75 [24]	173.8 [50.9]	62.6 [17]	—	55.5 [16.3]	73.8 [21.6]	92.1 [27.0]	110.4 [32.4]	128.7 [37.7]

NOTES: 1. Total and sensible capacity is gross, with no deduction for indoor blower motor heat. 2. Interpolation is permissible, do not extrapolate.

AIRFLOW CORRECTION FACTORS

MHGE-075 @ 3000 CFM [1416 L/s]								MHGE-100 @ 3800 CFM [1793 L/s]									
ACTUAL—CFM [L/s]	2400 [1133]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1605]	3600 [1699]	3000 [1416]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2077]	4600 [2171]	4800 [2265]
TOTAL MBH	0.85	0.90	0.95	1.00	1.04	1.09	1.13	0.85	0.89	0.93	0.97	1.00	1.03	1.06	1.10	1.12	1.15
SENSIBLE MBH	0.83	0.88	0.94	1.00	1.06	1.11	1.16	0.82	0.87	0.91	0.96	1.00	1.04	1.08	1.13	1.17	1.21

NOTES: 1. Multiply correction factor times gross performance data. 2. Resulting sensible capacity cannot exceed total capacity.

[] Designates Metric Conversions

EVAPORATOR PERFORMANCE DATA

EVAPORATOR/AIR HANDLER MHGE-150 @ 6000 CFM [2832 L/s]									
EVAP TEMP °F [°C]	EVAP INLET AIR WB °F [°C]	TOTAL CAPAC MBH [kW]	EVAP LVG AIR WB °F [°C]	EVAPORATOR ENTERING AIR DB—°F [°C]					
				70 [21]	75 [24]	80 [27]	85 [29]	90 [32]	95 [35]
				SENSIBLE CAPACITY					
				MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]
35 [1.5]	59 [15]	159.2 [41.7]	49.0 [9]	122.6 [35.9]	150.8 [44.2]	159.2 [46.7]	159.2 [46.7]	159.2 [46.7]	159.2 [46.7]
	63 [17]	210.6 [61.7]	50.5 [10]	115.6 [33.9]	143.7 [42.1]	171.8 [50.3]	199.9 [58.6]	210.6 [61.7]	210.6 [61.7]
	67 [19]	269.0 [78.8]	52.1 [11]	115.9 [34.0]	144.0 [42.2]	172.2 [50.5]	200.3 [58.7]	228.4 [66.9]	256.5 [75.2]
	71 [21.5]	313.6 [91.9]	54.8 [13]	—	129.5 [38.0]	157.6 [46.2]	185.8 [54.5]	213.9 [62.7]	242.0 [70.9]
	75 [24]	365.0 [107.0]	57.6 [14]	—	122.4 [35.9]	150.6 [44.1]	178.7 [52.4]	206.8 [60.6]	234.9 [68.8]
40 [4.5]	59 [15]	118.5 [34.7]	51.7 [11]	104.8 [30.7]	118.5 [34.7]	118.5 [34.7]	118.5 [34.7]	118.5 [34.7]	118.5 [34.7]
	63 [17]	171.5 [50.3]	53.1 [12]	98.9 [29.0]	127.0 [37.2]	155.1 [45.5]	171.5 [50.3]	171.5 [50.3]	171.5 [50.3]
	67 [19]	231.2 [67.8]	54.4 [12]	100.3 [29.4]	128.5 [37.7]	156.6 [45.9]	184.7 [54.1]	212.8 [62.4]	231.2 [67.8]
	71 [21.5]	277.3 [81.3]	57.0 [14]	—	115.1 [33.7]	143.2 [42.0]	171.4 [50.2]	199.5 [58.5]	227.6 [66.7]
	75 [24]	330.2 [96.8]	59.6 [15]	—	109.2 [32.0]	137.3 [40.2]	165.4 [48.5]	193.5 [56.7]	221.7 [65.0]
45 [7]	59 [15]	74.2 [21.7]	54.5 [12.5]	74.2 [21.7]	74.2 [21.7]	74.2 [21.7]	74.2 [21.7]	74.2 [21.7]	74.2 [21.7]
	63 [17]	128.0 [37.5]	55.8 [13]	81.2 [23.8]	109.3 [32.0]	128.0 [37.5]	128.0 [37.5]	128.0 [37.5]	128.0 [37.5]
	67 [19]	188.5 [55.2]	57.0 [14]	83.5 [24.5]	111.6 [32.7]	139.7 [40.9]	167.9 [49.2]	188.5 [55.2]	188.5 [55.2]
	71 [21.5]	235.7 [69.1]	59.4 [15]	—	99.3 [29.1]	127.4 [37.3]	155.5 [45.6]	183.6 [53.8]	211.8 [62.1]
	75 [24]	289.6 [84.9]	61.8 [16.5]	—	94.2 [27.8]	122.4 [35.9]	150.5 [44.1]	178.6 [52.3]	206.7 [60.6]
50 [10]	59 [15]	27.2 [8.0]	57.3 [14]	27.2 [8.0]	27.2 [8.0]	27.2 [8.0]	27.2 [8.0]	27.2 [8.0]	27.2 [8.0]
	63 [17]	81.2 [23.8]	58.5 [15]	63.0 [18.5]	81.2 [23.8]	81.2 [23.8]	81.2 [23.8]	81.2 [23.8]	81.2 [23.8]
	67 [19]	141.5 [41.5]	59.7 [15]	65.8 [19.3]	93.9 [27.6]	122.0 [35.8]	141.5 [41.5]	141.5 [41.5]	141.5 [41.5]
	71 [21.5]	189.2 [55.4]	61.9 [17]	—	82.3 [24.1]	110.4 [32.4]	138.6 [40.6]	166.7 [48.9]	189.2 [55.4]
	75 [24]	243.2 [71.3]	64.2 [18]	—	77.9 [22.8]	106.0 [31.0]	134.1 [39.3]	162.3 [47.6]	190.4 [55.8]

EVAPORATOR/AIR HANDLER MHGE-200 @ 8000 CFM [3776 L/s]									
EVAP TEMP °F [°C]	EVAP INLET AIR WB °F [°C]	TOTAL CAPAC MBH [kW]	EVAP LVG AIR WB °F [°C]	EVAPORATOR ENTERING AIR DB—°F [°C]					
				70 [21]	75 [24]	80 [27]	85 [29]	90 [32]	95 [35]
				SENSIBLE CAPACITY					
				MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]	MBH [kW]
35 [1.5]	59 [15]	262.0 [76.8]	46.4 [8]	183.9 [53.9]	223.1 [65.4]	262.0 [76.8]	262.0 [76.8]	262.0 [76.8]	262.0 [76.8]
	63 [17]	292.7 [85.8]	49.9 [10]	161.1 [47.2]	200.3 [58.7]	239.5 [70.2]	278.7 [81.7]	292.7 [85.8]	292.7 [85.8]
	67 [19]	333.5 [97.7]	53.3 [12]	145.0 [42.5]	184.2 [54.0]	223.4 [65.4]	262.6 [76.9]	301.8 [88.4]	333.5 [97.7]
	71 [21.5]	354.0 [103.7]	57.5 [14]	—	154.6 [45.3]	193.8 [56.9]	233.0 [68.3]	272.2 [79.8]	311.4 [91.3]
	75 [24]	384.7 [112.7]	61.8 [16.5]	—	131.7 [38.6]	170.9 [50.1]	210.1 [61.6]	249.4 [73.1]	288.6 [84.6]
40 [4.5]	59 [15]	217.7 [63.8]	48.7 [9]	165.3 [48.4]	204.5 [59.9]	217.7 [63.8]	217.7 [63.8]	217.7 [63.8]	217.7 [63.8]
	63 [17]	252.8 [74.1]	51.9 [11]	144.6 [42.4]	183.8 [53.9]	223.0 [65.4]	252.8 [74.1]	252.8 [74.1]	252.8 [74.1]
	67 [19]	298.2 [87.4]	54.9 [13]	130.7 [38.3]	170.0 [49.8]	209.2 [61.3]	248.4 [72.8]	287.6 [84.3]	298.2 [87.4]
	71 [21.5]	322.8 [94.6]	59.0 [15]	—	142.5 [41.8]	181.7 [53.3]	220.9 [64.7]	260.1 [76.2]	299.3 [87.7]
	75 [24]	357.8 [104.9]	62.9 [17]	—	121.9 [35.7]	161.1 [47.2]	200.3 [58.7]	239.5 [70.2]	278.7 [81.7]
45 [7]	59 [15]	166.0 [48.6]	51.3 [11]	143.5 [42.1]	166.0 [48.6]	166.0 [48.6]	166.0 [48.6]	166.0 [48.6]	166.0 [48.6]
	63 [17]	204.9 [60.1]	54.2 [12]	125.1 [36.7]	164.3 [48.2]	203.5 [59.6]	204.9 [60.1]	204.9 [60.1]	204.9 [60.1]
	67 [19]	254.1 [74.5]	56.9 [14]	113.4 [33.2]	152.6 [44.7]	191.8 [56.2]	231.0 [67.7]	254.1 [74.5]	254.1 [74.5]
	71 [21.5]	282.7 [82.9]	60.7 [16]	—	127.4 [37.3]	166.6 [48.8]	205.8 [60.3]	245.0 [71.8]	282.7 [82.9]
	75 [24]	321.6 [94.3]	64.3 [18]	—	109.0 [31.9]	148.2 [43.4]	187.4 [54.9]	226.6 [66.4]	265.8 [77.9]
50 [10]	59 [15]	105.6 [30.9]	54.2 [12]	105.6 [30.9]	105.6 [30.9]	105.6 [30.9]	105.6 [30.9]	105.6 [30.9]	105.6 [30.9]
	63 [17]	148.1 [43.4]	56.8 [14]	102.8 [30.1]	142.0 [41.6]	148.1 [43.4]	148.1 [43.4]	148.1 [43.4]	148.1 [43.4]
	67 [19]	200.7 [58.8]	59.2 [15]	93.2 [27.3]	132.4 [38.8]	171.6 [50.3]	200.7 [58.8]	200.7 [58.8]	200.7 [58.8]
	71 [21.5]	233.1 [68.3]	62.7 [17]	—	109.4 [32.1]	148.6 [43.6]	187.8 [55.0]	227.0 [66.5]	233.1 [68.3]
	75 [24]	275.5 [80.7]	66.0 [19]	—	93.0 [27.3]	132.2 [38.8]	171.4 [50.2]	210.6 [61.7]	249.8 [73.2]

NOTES: 1. Total and sensible capacity is gross, with no deduction for indoor blower motor heat.
 2. Interpolation is permissible, do not extrapolate.

AIRFLOW CORRECTION FACTORS

MHGE-150 @ 6000 CFM [2832 L/s]										MHGE-200 @ 8000 CFM [3776 L/s]								
ACTUAL—CFM [L/s]	4400 [2077]	4800 [2265]	5200 [2454]	5600 [2643]	6000 [2832]	6400 [3020]	6800 [3209]	7200 [3398]	7600 [3587]	6400 [3020]	6800 [3209]	7200 [3398]	7600 [3587]	8000 [3776]	8400 [3964]	8800 [4153]	9200 [4342]	9600 [4531]
TOTAL MBH	0.83	0.88	0.92	0.96	1.00	1.04	1.07	1.10	1.13	0.88	0.91	0.94	0.97	1.00	1.03	1.05	1.07	1.09
SENSIBLE MBH	0.78	0.84	0.89	0.95	1.00	1.05	1.10	1.15	1.20	0.84	0.88	0.92	0.96	1.00	1.04	1.08	1.11	1.15

NOTES: 1. Multiply correction factor times gross performance data.
 2. Resulting sensible capacity cannot exceed total capacity.

[] Designates Metric Conversions

ELECTRICAL HEATER KIT CHARACTERISTICS

208/240 VOLT MODELS					
AIR HANDLER NOM. TONNAGE [kW]/HEATER NOM. 240V K.W. 1ST STAGE/TOTAL	AMPS HEATER ONLY	HEATER KIT CAPACITY KW INPUT	HEATING CAPACITY— MBH [kW]	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE OR HACR BREAKER SIZE
7.5 [26], 10 [35]/20 [70]	42/48	15/20	51,200/68,300 [15/20]	66/72	70/80
7.5 [26], 15 [53]/30 [106]	60/70	21.6/28.8	73,700/98,300 [22/29]	88/100	90/100
7.5 [26], 20 [70]/40 [141]	83/96	30/40	102,400/136,500 [30/40]	117/132	125/150
15 [53], 10 [35]/20 [70]	42/48	15/20	51,200/68,300 [15/20]	83/88	90/90
15 [53], 15 [53]/30 [106]	60/70	21.6/28.8	73,700/98,300 [22/29]	105/115	110/125
15 [53], 20 [70]/40 [141]	83/96	30/40	102,400/136,500 [30/40]	134/148	150/150
480 VOLT MODELS					
7.5 [26], 10 [35]/20 [70]	24	20	68,300 [20]	36	40
7.5 [26], 15 [53]/30 [106]	35	28.8	98,300 [29]	50	50
7.5 [26], 20 [70]/40 [141]	48	40	136,500 [40]	66	70
15 [53], 10 [35]/20 [70]	24	20	68,300 [20]	44	45
15 [53], 15 [53]/30 [106]	35	28.8	98,300 [29]	58	60
15 [53], 20 [70]/40 [141]	48	40	136,500 [40]	74	80

NOTE: All kits have two stages of capacity, first stage heating is 50% of total capacity.

ELECTRICAL DATA TABLE

AIR HANDLER MOTOR			RATING PLATE AMPS	MOTOR LRA	MINIMUM CIRCUIT AMPACITY	RECOMMENDED MINIMUM Cu WIRE SIZE (3% VOLTAGE 75°C DROP) MAX. RUN IN FEET	MAX. FUSES BREAKERS
HP [W]	VOLTS	PHASE					
1 [746]	208-230	3Ø	4.0/3.6	23.9/21.6	15	#14/240	15
1 [746]	460	3Ø	1.8	10.8	15	#14/400	15
1 [746]	575	3Ø	1.4	8.4	15	#14/425	15
1 [746]	115-230	1Ø	16/8	96/48	20/15	#12/120 #14/180	20/15
1½ [1119]	208-230	3Ø	5.7/5.2	34.5/31.2	15	#14/230	15
1½ [1119]	460	3Ø	2.6	15.6	15	#14/300	15
1½ [1119]	575	3Ø	2.1	12.6	15	#14/325	15
2 [1491]	208-230	3Ø	7.5/6.8	45.1/40.8	15	#14/165	15
2 [1491]	460	3Ø	3.4	20.4	15	#14/275	15
2 [1491]	575	3Ø	2.7	16.2	15	#14/300	15
2 [1491]	115-230	1Ø	24/12	144/72	30/15	#10/140 #14/120	30/15
3 [2237]	208-230	3Ø	10.6/9.6	64.1/58	15	#14/135	15
3 [2237]	460	3Ø	4.8	26.8	15	#14/230	15
3 [2237]	575	3Ø	3.9	23.4	15	#14/240	15
5 [3729]	208-230	3Ø	16.7/15.2	100.6/91	21/19	#10/240 #12/150	25/20
5 [3729]	460	3Ø	7.6	45.6	15	#14/185	15
5 [3729]	575	3Ø	6.1	36.6	15	#14/220	15
7½ [5593]	208-230	3Ø	24.2/22.0	146/132	30/28	#10/150	30/30
7½ [5593]	460	3Ø	11.0	66	15	#14/135	15
7½ [5593]	575	3Ø	9.0	54	15	#14/150	15

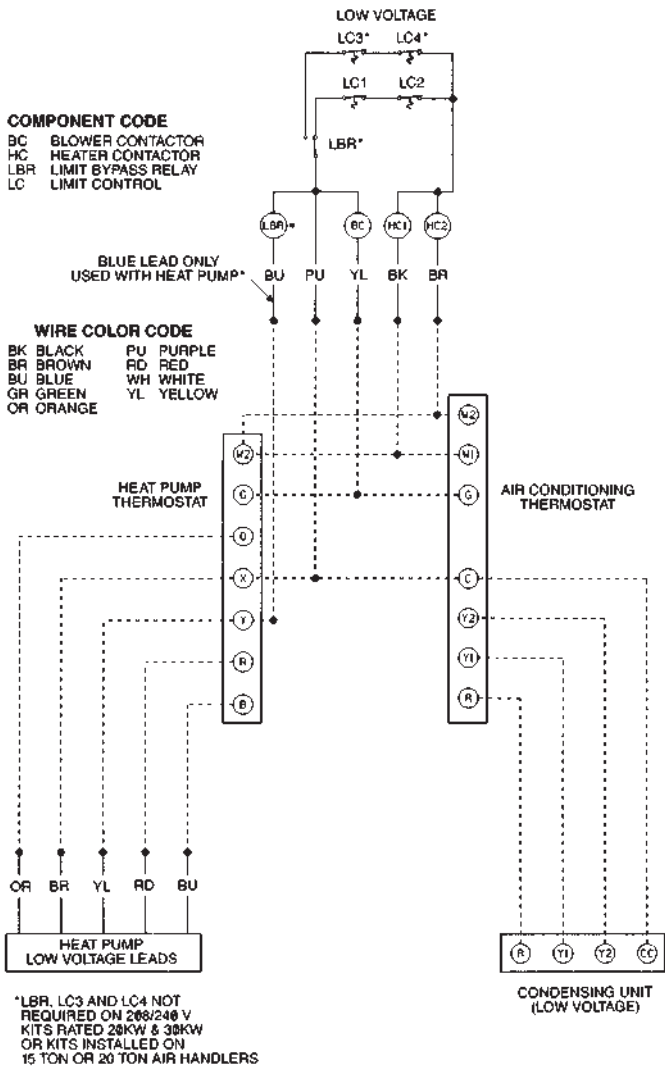
NOTE: N.E.C., C.E.C. and local codes take precedence over suggested wire and fuse sizes.

[] Designates Metric Conversions

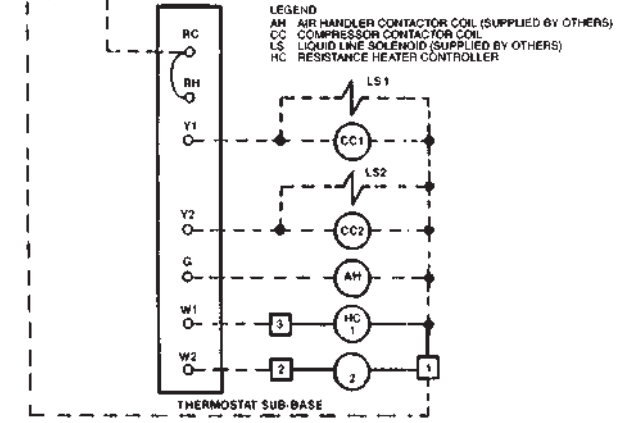
OPTIONAL HEATER KIT

COMPONENT CODE
 BC BLOWER CONTACTOR
 HC HEATER CONTACTOR
 LBR LIMIT BYPASS RELAY
 LC LIMIT CONTROL

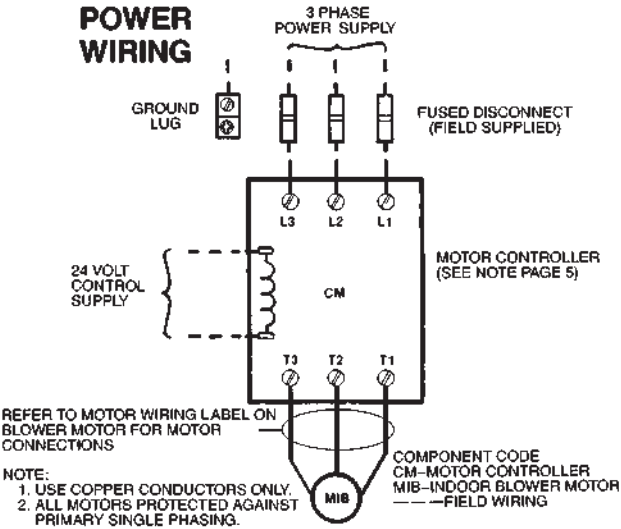
WIRE COLOR CODE
 BK BLACK PU PURPLE
 BR BROWN RD RED
 BU BLUE WH WHITE
 GR GREEN YL YELLOW
 OR ORANGE



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



POWER WIRING



AIR HANDLER ACCESSORIES

ACCESSORY DESCRIPTION	MODEL NUMBER	SIZES USED ON	NET WEIGHT (LBS) [kg]
Hot Water Coil	MXHC-C74W	075, 100	200 [91]
	MXHC-C76W	150, 200	200 [91]
Steam Coil	MXHC-C74S	075, 100	200 [91]
	MXHC-C76S	150, 200	200 [91]
Filter Frame Kit	MXHF-B74A	075, 100	90 [41]
	MXHF-B76A	150, 200	117 [53]
Inlet Grille Kit	MXHG-C74A	075, 100	9 [4]
	MXHG-C76A	150, 200	12 [5]
Discharge Grille Kit	MXHG-C74B	075, 100	15 [7]
	MXHG-C76B	150, 200	23 [10]
Discharge Plenum Kit	MXHL-C74B	075, 100	38 [17]
	MXHL-C76B	150, 200	62 [28]
Mixing Box	MXHM-BC74H	075, 100	120 [54]
	MXHM-BC76H	150, 200	195 [88]
Auxiliary Heater Kit	MXHE-DE020*A	075, 100	75 [34]
	MXHE-DE030*A	075, 100	75 [34]
	MXHE-CE030*C	150, 200	90 [41]
	MXHE-CE040*C	150, 200	98 [44]

NOTE: *Designates "C" or "D" [] Designates Metric Conversions

MXHM MIXING BOX

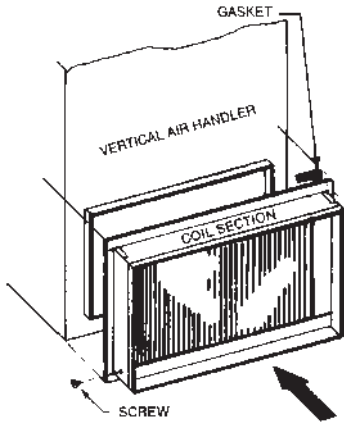


MXHE ELECTRIC HEATER KIT

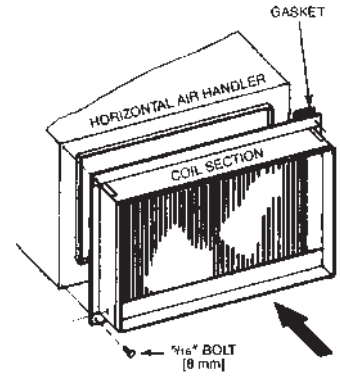


AIR HANDLER ACCESSORIES (con't)

HOT WATER OR STEAM COILS



(075, 100) MXHC-C74W
MXHC-C74S
or
(150, 200) MXHC-C76W
MXHC-C76S



(075, 100) MXHC-C74W
MXHC-C74S
or
(150, 200) MXHC-C76W
MXHC-C76S

PHYSICAL SPECIFICATIONS

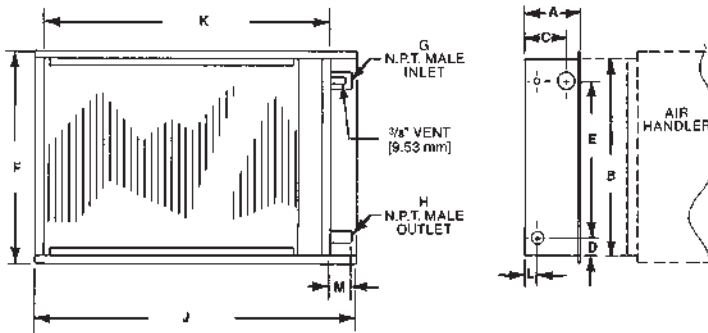
NOMINAL TONS [kW]	FINNED HEIGHT-IN. [mm]	FINNED LENGTH-IN. [mm]	FACE AREA FT ² [m ²]	CIRCUITS & TUBES HIGH
7 1/2 [26.38]-10 [35.17]	18 [457]	40 [1016]	5.0 [.46]	12
15 [52.75]-20 [70.34]	27 [686]	48 [1219]	9.0 [.84]	18

GROSS COIL PERFORMANCE

NOMINAL TONS [kW]	NOMINAL BTUH		NOMINAL CFM [L/s]	VELOCITY FPM
	STEAM	WATER		
7 1/2 [26.38]	242,500	185,000	3,000 [1416]	600
10 [35.17]	285,000	240,000	4,000 [1888]	800
15 [52.75]	465,000	375,000	6,000 [2832]	667
20 [70.34]	540,000	464,000	8,000 [3776]	888

1. Entering air temperature @ 60°F
2. Entering steam @ 5 PSIG
3. Entering water @ 200°F
4. Face velocity = $\frac{\text{CFM}}{\text{Face Area}}$

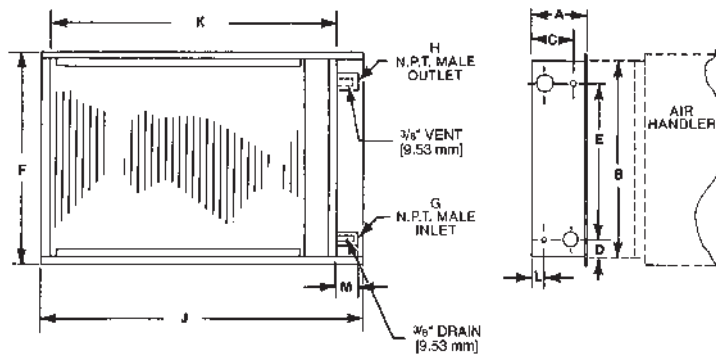
STEAM COIL



STEAM COIL DIMENSIONS—INCHES [mm]

MODEL	NOMINAL TONS [kW]	A	B	C	D	E	F	G	H	J	K	L	M
MXHC-C74	7 1/2 [26.38]-10 [35.17]	9 1/16 [230]	21 3/8 [543]	5 3/8 [137]	3 3/16 [81]	15 [381]	24 [610]	1 1/2 [38]	1 1/4 [32]	51 1/2 [1308]	47 5/8 [1210]	2 13/16 [71]	3 1/4 [83]
MXHC-C76S	15 [52.75]-20 [70.34]	9 1/16 [230]	30 7/8 [784]	5 3/8 [137]	3 3/16 [81]	24 [610]	35 [889]	2 [51]	1 1/2 [38]	59 1/2 [1511]	55 5/8 [1413]	2 13/16 [71]	3 1/2 [89]

HOT WATER COIL



HOT WATER COIL DIMENSIONS—INCHES [mm]

MODEL	NOMINAL TONS [kW]	A	B	C	D	E	F	G	H	J	K	L	M
MXHC-C74W	7 1/2 [26.38]-10 [35.17]	9 1/16 [230]	21 3/8 [543]	5 3/8 [137]	3 3/16 [81]	15 [381]	24 [610]	1 1/4 [32]	1 1/4 [32]	51 1/2 [1308]	47 5/8 [1210]	2 13/16 [71]	3 [76]
MXHC-C76W	15 [52.75]-20 [70.34]	9 1/16 [230]	30 7/8 [784]	5 3/8 [137]	3 3/16 [81]	24 [610]	35 [889]	1 1/2 [38]	1 1/2 [38]	59 1/2 [1511]	55 5/8 [1413]	2 13/16 [71]	3 1/4 [83]

AIR HANDLER ACCESSORIES (con't)

HOT WATER COILS

**CURVE 2
HOT WATER COIL**

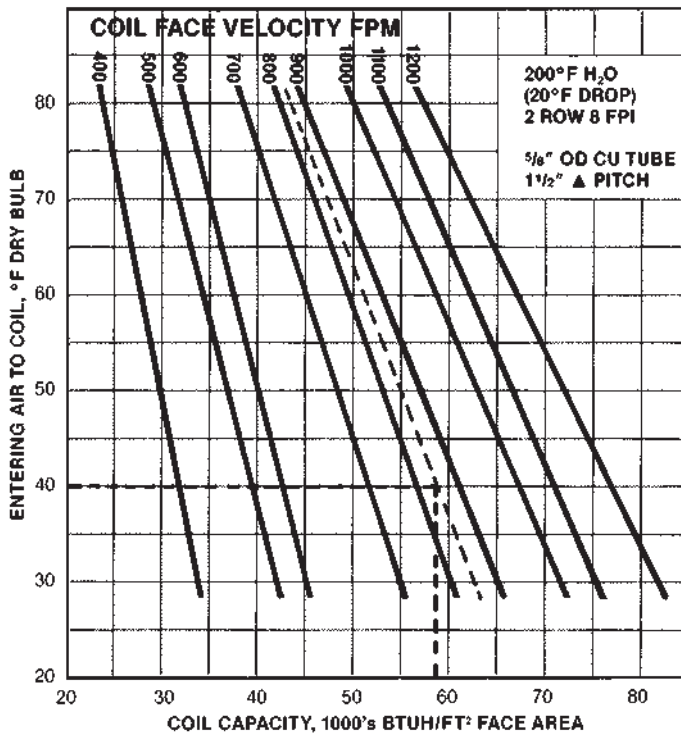


TABLE IV

Curve 2 ratings are based on 200°F entering water and 20°F temperature drop. For other conditions use the following correction factors:

ENTERING WATER °F	FACTOR	WATER TEMPERATURE DROP °F	FACTOR
220	1.14	10	1.030
210	1.07	15	1.015
200	1.00	20	1.000
190	.98	25	.985
180	.93	30	.970

HOT WATER COIL SELECTION:

Specified:

Entering Air Temp. @ 40°F
 5000 CFM @ 6000 Ft. Elevation
 220°F Entering Water Temp. @ 36 GPM

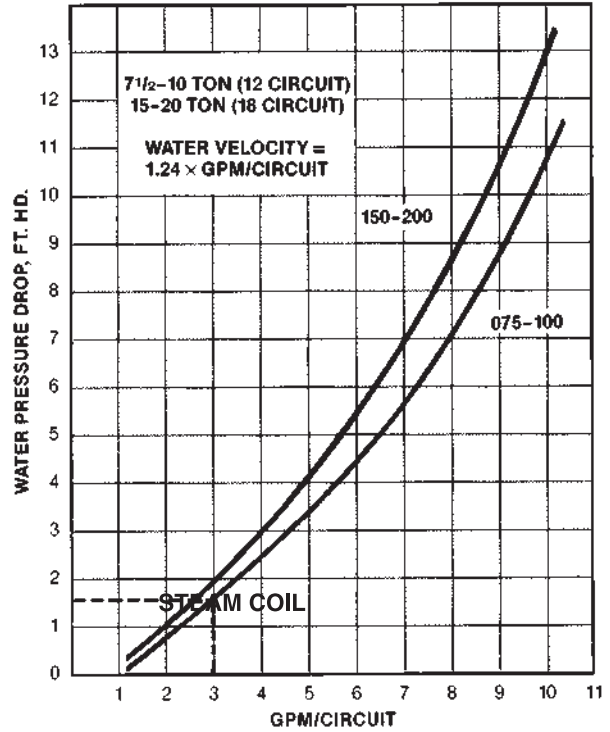
Select 10 Ton Nominal Coil:

Face Area = 5 Ft²
 Circuits = 12

Determine Coil Performance:

From Table I (page 20), Altitude and Temperature Correction Factor = 1.19
 Std. CFM = 5000/1.19 = 4202
 Face Velocity = 4202/5 = 840 FPM
 From Curve 2, BTUH/Ft² = 57,500
 Coil Capacity = 5 x 57,500 = 287,500 BTUH
 Water Temp. Drop = 290,000/(500 x 36) = 16.1°F
 From Table IV, Water Temp. Factor = 1.14
 From Table IV, Water Temp. Drop Factor = 1.012
 Total Capacity = 287,500 x 1.14 x 1.015 = 334,570 BTUH
 From Curve 3, Water Pressure Drop 36 GPM/12 Circuits = 3 GPM/Circuit = 1.6 FT. HD.
 From Table II, Air Side Pressure Drop = .38" H₂O

**CURVE 3
HOT WATER COIL WATER
PRESSURE DROP**



BASIC FORMULA:

$$\text{Air Temperature Rise, } ^\circ\text{F} = \frac{\text{BTUH}}{1.08 \times \text{CFM}}$$

$$\text{Water Temperature Drop, } ^\circ\text{F} = \frac{\text{BTUH}}{500 \times \text{GPM}}$$

AIR HANDLER ACCESSORIES (con't)

STEAM COILS AIRFLOW

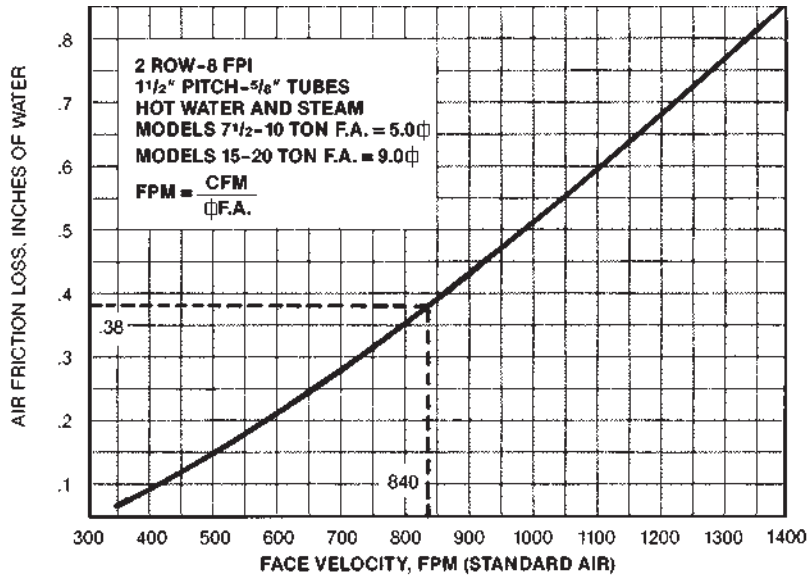
TABLE I
ALTITUDE AND TEMPERATURE CORRECTION FACTOR TABLE

AIR TEMP. (F)	ALTITUDE IN FEET ABOVE SEA LEVEL															
	0	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	7000	8000	9000	10,000
0	.87	.89	.91	.92	.94	.96	.98	.99	1.01	1.03	1.05	1.09	1.13	1.17	1.22	1.26
40	.94	.96	.98	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.19	1.23	1.28	1.32	1.36
70	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.19	1.18	1.20	1.25	1.30	1.35	1.40	1.45
100	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.21	1.23	1.25	1.28	1.33	1.38	1.43	1.48	1.54
120	1.09	1.12	1.14	1.16	1.18	1.20	1.23	1.25	1.28	1.30	1.32	1.38	1.43	1.48	1.53	1.58

EXAMPLE: Determine Equivalent "Standard Air" for use in System Performance Calculations:

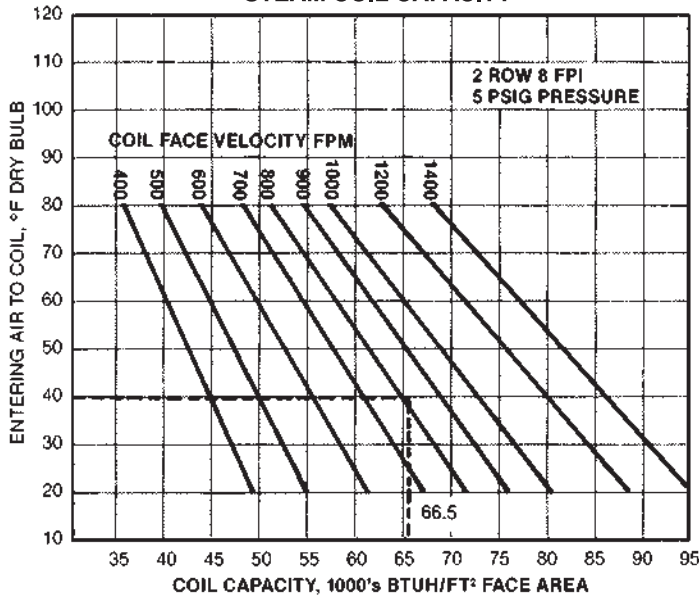
$$\text{Standard Air} = \frac{\text{Specified CFM}}{\text{Correction Factor}}$$

TABLE II
AIR FRICTION LOSS



STEAM COILS

CURVE 1
STEAM COIL CAPACITY



TEMPERATURE OF STEAM AT VARIOUS PRESSURES

Approximate Gauge Pressure (lbs.)	2	5	10	15	20	30
Temperature °F	218	227	240	250	259	275

TABLE III

Steam Coil Capacity, factors are based on 5 PSIG Steam Pressure. For other conditions use the adjacent correction factors.

STEAM PR., PSIG	FACTOR
2	.96
5	1.00
10	1.06
15	1.11
20	1.16
30	1.24

BASIC FORMULA:

$$\text{Air Temperature Rise, } ^\circ\text{F} = \frac{\text{BTUH}}{1.08 \times \text{CFM}}$$

STEAM COIL SELECTION:

Specified:

Steam @ 30 PSIG
Entering Air Temp. @ 40°F Dry Bulb
5000 CFM @ 6000 Ft. Elevation

Select 10 Ton Nominal Coil:

Face Area = 5 Ft²
Circuits = 12

Determine Coil Performance:

From Table I (page 20), Altitude and Temperature Correction Factor = 1.19

Std. CFM = 5000/1.19 = 4202

Face Velocity = 4202/5 = 840 FPM

From Curve 1, BTUH/Ft = 66,500

Coil Capacity = 5 x 65,000 = 325,000 BTUH

From Table III, Steam Correction Factor = 1.24

Total Coil Capacity = 1.24 x 325,000 = 403,000 BTUH

Air Temp. Rise = 403,000/(1.08 x 4202) = 90.85°F

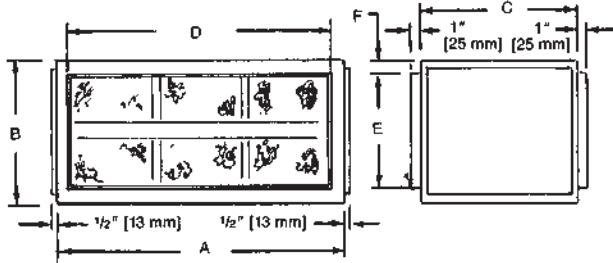
From Table II, Air Side Pressure Drop = .38" H₂O

AIR HANDLER ACCESSORIES (con't)

FILTER RACK

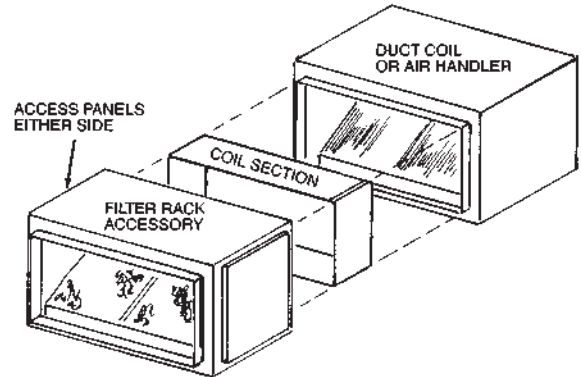
The filter rack accessory can be connected directly to the hot water/steam coil accessory. The filter rack accessory is ONLY needed when hot water steam coils are used.

MODEL NO.	AIR HANDLER SIZES USE ON	IN. [mm]					
		A	B	C	D	E	F
MXHF-B74A	075, 100	51 1/2 [1308]	24 [610]	25 1/8 [638]	47 3/8 [1203]	19 7/8 [505]	2 1/16 [52]
MXHF-B76A	050, 200	59 1/2 [1511]	34 1/2 [876]	27 [686]	55 1/2 [1410]	30 1/2 [775]	2 [51]



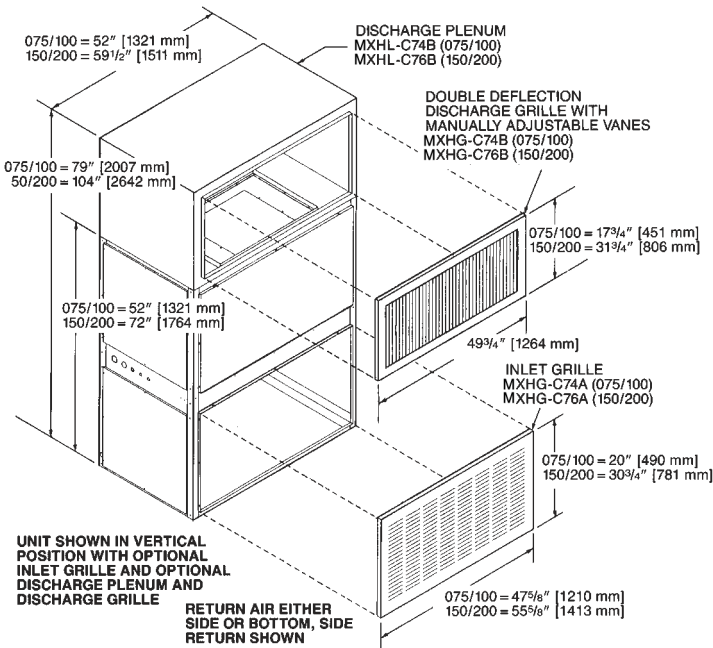
FILTER PRESSURE DROP:

MODEL NO.	CFM [L/s] x 1000 [472]								
	2	3	4	5	6	7	8	9	10
MXHF-B74A	.01 [2]	.02 [4]	.03 [7]	.07 [16]	.10 [22]	.15 [33]	—	—	—
MXHF-B76A	—	—	—	—	.05 [11]	.06 [13]	.10 [22]	.12 [27]	.15 [33]



UNIT WITH ACCESSORIES

7.5 THROUGH 20 NOMINAL TONS [26 THROUGH 70 kW]



DOUBLE DEFLECTION DISCHARGE GRILLE

MODEL NO.	AIR HANDLER SIZES USED ON	NOMINAL CFM [L/s]	FT. [m] OF THROW
MXHG-C74B	075	3000 [1416]	0° DEFLECTION - 43' [13.1] 22° DEFLECTION - 37' [11.3] 45° DEFLECTION - 22' [6.7]
	100	4000 [1888]	0° DEFLECTION - 53' [16.2] 22° DEFLECTION - 46' [14] 45° DEFLECTION - 27' [8.2]
MXHG-C76B	150	6000 [2831]	0° DEFLECTION - 52' [15.8] 22° DEFLECTION - 36' [11] 45° DEFLECTION - 18' [5.5]
	200	8000 [3775]	0° DEFLECTION - 65' [19.8] 22° DEFLECTION - 45' [13.7] 45° DEFLECTION - 22' [6.7]

[] Designates Metric Conversions

TYPICAL APPLICATION

7.5, 10, 15 AND 20 NOMINAL TONS
[26, 35, 53 AND 70 kW]

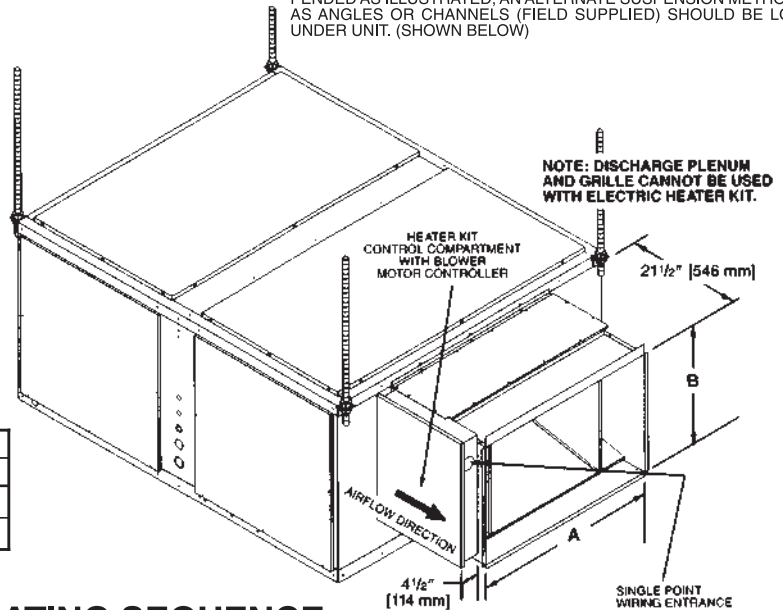
OPTIONAL ELECTRICAL HEATER KIT SHOWN INSTALLED IN HORIZONTAL POSITION AND CONNECTED DIRECTLY TO THE AIR HANDLER. THE HEATER KIT MAY ALSO BE INSTALLED WITH THE AIR HANDLER SET IN THE VERTICAL POSITION. IN EITHER POSITION THE HEATER KIT CONTROL COMPARTMENT MUST BE ON THE LEFT SIDE FACING THE AIR DISCHARGE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

AUXILIARY HEATER KIT

MODEL NO.	AIR HANDLERS SIZES USED ON	IN. [mm]	
		A	B
MXHE-DE****A	075, 100	20 [508]	20 [508]
MXHE-CE****C	150, 200	36 [914]	24 [610]

FOUR HEAVY GAUGE ANGLES ARE FURNISHED (SHIPPED LOOSE) FOR SUSPENDING UNITS FROM ALL FOUR CORNERS. MINIMUM OF 1/2" [13] 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 HOT WATER OR STEAM COIL, MIXING BOX OR DISCHARGE AIR PLENUM ACCESSORIES ARE REQUIRED, UNITS CANNOT BE SUSPENDED AS ILLUSTRATED. AN ALTERNATE SUSPENSION METHOD SUCH AS ANGLES OR CHANNELS (FIELD SUPPLIED) SHOULD BE LOCATED UNDER UNIT. (SHOWN BELOW)



MIXING BOX ACCESSORY—OPERATING SEQUENCE

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.

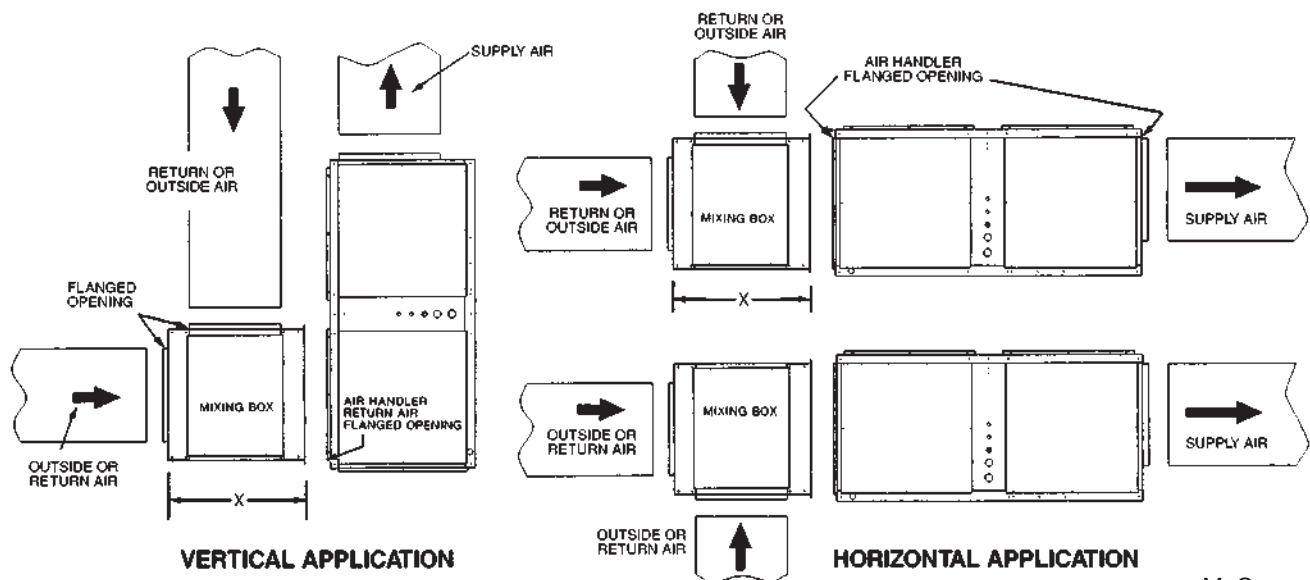
HEATING SEASON—Damper always stays at “minimum fresh air” position while fan motor is operating. Outside air damper closes when blower motor is off. “Minimum fresh air” position must not allow mixed air temperatures to air handler below 50°F. [10°C] during heating seasons.

CAUTION: IT IS NOT RECOMMENDED THAT HOT WATER OR STEAM COILS BE USED WITH THE MIXING BOX ACCESSORY WITHOUT A SUITABLE FREEZE-STAT TO PREVENT THE POSSIBILITY OF FREEZING THE COIL.

MIXING BOX

[] Designates Metric Conversions

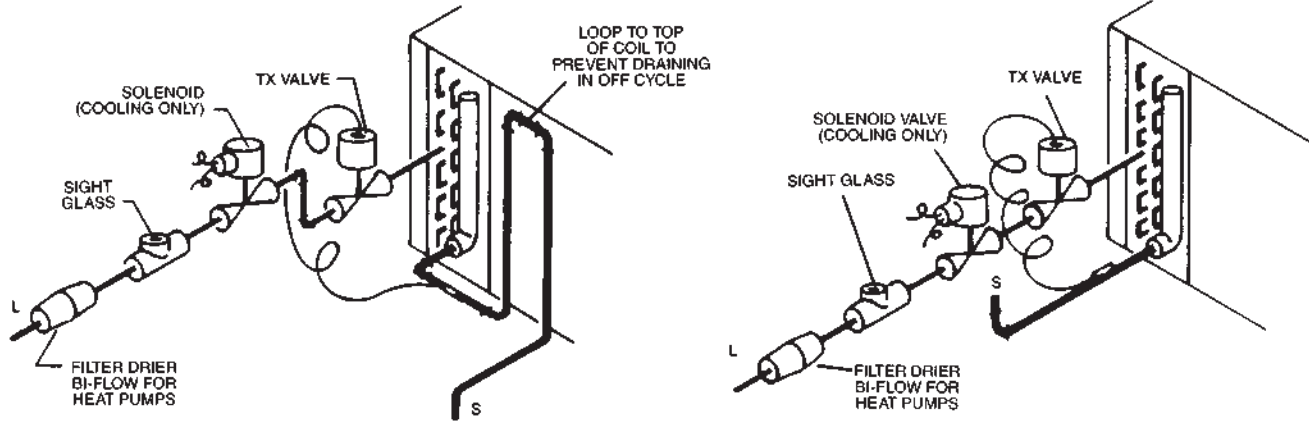
MODEL NO.	AIR HANDLER SIZES USED ON	FLANGED DUCT OPENINGS		IN. [mm]
		LENGTH IN. [mm]	WIDTH IN. [mm]	“X”
MXHM-BC74H	075, 100	42 [1067]	167/8 [454]	27 [686]
MXHM-BC76H	150, 200	483/8 [1229]	22 [559]	32 [813]



TYPICAL PIPING RECOMMENDATIONS

INDOOR COIL ABOVE OUTDOOR UNIT

INDOOR COIL BELOW OUTDOOR UNIT



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

The 7.5 [26 kW] through 20 [70 kW] Air Handlers are designed as two (2) circuit, full face equal distribution coils. As shipped from the factory, the suction and liquid lines are dual circuits. Copper fittings are supplied in the unit to field manifold the suction and liquid lines for single circuit.

NOTE: The expansion valve bulbs must be secured to the corresponding suction lines. The circuits are marked accordingly. See illustration under Typical Piping recommendations for additional information.

When dual straight cool condensing units are used refer to the refrigerant piping size charts for the individual condensing unit piping.

REFRIGERANT PIPING (See Tables at Right)

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

1. Size liquid line for no more than 30 PSIG [207 kPa] pressure drop.
2. Size suction lines for no more than 2°F [1.1°C] loss which corresponds to approximately 3 PSIG [21 kPa] pressure drop.
3. When indoor unit is installed below outdoor unit, do not exceed the recommended vapor line O.D. This will insure adequate velocities for proper oil return.
4. Install strainer-drier and sight glass in liquid line.
5. Pitch all horizontal suction lines downward in the direction of flow for cooling only applications.
6. Locate the outdoor unit and indoor unit as close together as possible to minimize piping runs.
7. A liquid line solenoid installed just ahead of the expansion valve is recommended for cooling only applications. Be sure condensing unit is suitable for pump down.
8. Piping runs between condenser and evaporator not to exceed 150' [46 m] linear length (90' [27 m] linear length for heat pumps).

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

CONDENSATE DRAIN PIPING

- 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 [76 mm] deep and made of flexible material or fabricated to prevent freeze-up.
- Pitch the drain line at least 1/4 inch [6 mm] 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.

PIPING SIZES 075 & 100				
LINEAR LENGTH, FT. [m]	LIQUID LINE O.D., IN. [mm]		SUCTION LINE O.D., IN. [mm]	
	075	100	075	100
0-50 [0-15]	1/2 [13]	5/8 [16]	1 1/8 [29]	1 3/8 [35]
51-100* [16-30]	1/2 [13]	5/8 [16]	1 3/8 [35]	1 5/8 [41]
101-150 [31-46]	1/2 [13]	5/8 [16]	1 3/8 [35]	1 5/8 [41]

*For cooling only, refer to remote heat pump literature for piping recommendations.

PIPING SIZES 150 & 200				
LINEAR LENGTH, FT. [m]	LIQUID LINE O.D., IN. [mm]		SUCTION LINE O.D., IN. [mm]	
	150	200	150	200
0-50 [0-15]	3/4 [19]	7/8 [22]	1 3/8 [35]	1 5/8 [41]
51-100 [16-30]	3/4 [19]	7/8 [22]	1 5/8 [41]	2 1/8 [54]
101-150 [31-46]	3/4 [19]	7/8 [22]	2 1/8 [54]	2 1/8 [54]

EQUIVALENT LENGTH, FT. [m] OF STRAIGHT TYPE "L" TUBING FOR NON-FERROUS VALVES AND FITTINGS (BRAZED)						
TUBE SIZE INCHES [mm] O.D.	SOLENOID VALVE	ANGLE VALVE	SHORT RADIUS ELL	LONG RADIUS ELL	TEE LINE FLOW	TEE BRANCH FLOW
1/2 [13]	70 [21]	24 [7.3]	4.7 [1.4]	3.2 [.98]	1.7 [.52]	6.6 [2.0]
5/8 [16]	72 [22]	25 [7.6]	5.7 [1.7]	3.9 [1.2]	2.3 [.70]	8.2 [2.5]
3/4 [19]	75 [23]	25 [7.6]	6.5 [1.5]	4.5 [1.4]	2.9 [.88]	9.7 [3.0]
7/8 [22]	78 [24]	28 [8.5]	7.8 [2.4]	5.3 [1.6]	3.7 [1.1]	12.0 [3.7]
1 1/8 [29]	87 [27]	29 [8.8]	2.7 [0.8]	1.9 [.58]	5.2 [1.6]	8.0 [2.4]
1 3/8 [35]	102 [31]	33 [10]	3.2 [.98]	2.2 [.67]	6.9 [2.1]	10.0 [3.0]
1 5/8 [41]	115 [35]	34 [10.4]	3.8 [1.2]	2.6 [.79]	8.7 [2.7]	12.0 [3.7]
2 1/8 [54]	141 [43]	39 [11.8]	5.2 [1.6]	3.4 [1.0]	12.0 [3.7]	16.0 [4.9]

[] Designates Metric Conversions

OPERATING SEQUENCE

NOTE: Please refer to specification sheets covering MAWD- condensing units and MPWC- Remote Heat Pumps for operating sequence.

GUIDE SPECIFICATIONS

Furnish and install as shown on the drawing McQuay Model _____ draw through air handler suitable for both horizontal and vertical applications. The entire assembly shall be U.L./C.S.A. listed with the cooling (and heat pump heating) capacity A.R.I. Certified.

DRIVE PACKAGE—A complete drive package shall be factory or field installed. Package shall consist of a 3450 RPM dual voltage, single phase open drip proof motor or a 3 phase 1750 RPM open drip proof internally protected motor, not requiring an external starter. Variable pitch motor sheave, fixed pitch fan sheave, and belt.

COILS—Coils shall be fabricated of $\frac{3}{8}$ " [10 mm] O.D. seamless copper tubing expanded into aluminum fins, corrugated with rippled edges. There shall be 4 rows of coil with a minimum of 13 fins per inch [25]. All coils shall be submitted to an air pressure test of up to 450 PSIG [3103 kPa] under water after fabrication and dehydrated prior to assembly in unit. Units shall be shipped with a nitrogen holding charge. Airflow shall be draw through design providing uniform air distribution across the coil surface.

BLOWER, BEARINGS AND SHAFT—Fans shall be a double width, double inlet, forward curve, centrifugal type, statically and dynamically balanced, and constructed of galvanized steel. They shall be mounted on $\frac{3}{4}$ " [19 mm] = 7.5 ton [26 kW] & 10 ton [35 kW], 1" [25 mm] = 15 ton [53 kW] & 20 ton [70 kW] diameter solid shafts made of high carbon steel, centerless ground and polished, supported by resilient mounted sealed bearings.

DRAIN PAN—The drain pan shall be manufactured of zinc coated steel. The pan shall have internally threaded pipe size drain connections and shall be designed to accept condensate in either horizontal or vertical type applications on either side of unit.

FILTERS—Filter mounting hardware shall be designed to accept up to 2" [51 mm] filters for field replacement. One inch [25 mm] throw away filters shall be furnished with the unit.

CABINET—Cabinets shall be manufactured of galvanized steel subjected to multi-stage cleaning and finished with powder coat paint. Units shall have removable service access panels on each side and top.

INSULATION—Cabinets shall be insulated with $\frac{1}{2}$ " [13 mm] (or 1" [25 mm] for R4.2) by $1\frac{1}{2}$ pound [.68 kg] density fiberglass insulation coated with neoprene and bonded to the cabinet surface with a U.L. approved adhesive. Insulation shall have fire retarding characteristics in accordance with smoke developed rating not to exceed 50 and flame spread rating of 25 per Underwriters Laboratories testing procedures.

FACTORY TESTING—In addition to the pre-assembly testing mentioned above, each coil shall be leak tested with a mixture of dry air and R-22 after assembly into the unit. While under pressure, the coil shall be leak tested using an Electronic Halogen Leak Detector at a setting of $\frac{1}{2}$ oz. [14 g] per year sensitivity.

ELECTRIC HEATERS—UL and cUL listed electric heater kits shall be available in a wide range of capacities. All kits shall offer two stages of capacity, blower motor controller and single point connection. Heater kits shall be available for installation directly on the supply fan discharge for either horizontal or vertical application.

MIXING BOX—Mixing box accessory shall be available for mixing return air with outside air before entering the air handler. The accessory shall include both return and outside air dampers and economizer controls factory mounted. Economizer controls shall include enthalpy and mixed air sensors and damper motors. Mixing box accessory shall be available for installation to the return air section of the air handler for either horizontal or vertical applications.

DISCHARGE PLENUM AND GRILLE—Shall be available for vertical application. Discharge grille shall provide manually adjustable double deflection discharge vanes.

RETURN AIR GRILLES—Shall be provided for vertical return applications.

HOT WATER OR STEAM COILS—Shall be available for field installation. All coils shall be tested to 300 psi. Coils shall be available for either horizontal or vertical air handler applications.

[] Designates Metric Conversions

NOTES

NOTES

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.



"In keeping with its policy of continuous progress and product improvement, McQuay reserves the right to make changes without notice."