



Product Data

38LZA CONDENSING UNIT & 40LZA/LX DUCTED FAN COIL UNIT

50Hz

23.5 to 58.5kW Nominal Cooling



MS ISO 9001 REG. NO. AR 0239



MADE IN MALAYSIA

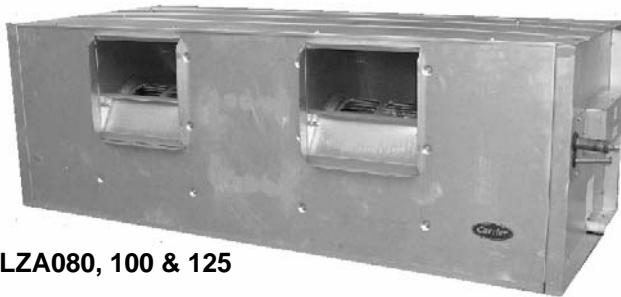


Horizontal Air Discharge



Vertical Air Discharge

38LZA080, 100, 125, 150 & 200



40LZA080, 100 & 125



40LX150 & 200

FEATURES & BENEFITS

38LZA Air-cooled Condensing Unit

- Equipped with fully hermetic scroll technology compressor which provides super efficient, excellent reliability and smooth operation.
- Compressor built-in internal line break motor protection.
- Motor built-in thermal overload protector.
- Convertible fan discharge design for various sites installation.
- Built-in timer, high & low pressure switches.
- Carrier high performance coil with lanced sine wave fins and inner groove tubes.
- Bigger coil surface area provides high heat rejection.
- Bigger size propeller generates huge air flow providing best heat exchange.

40LZA Direct Expansion Fan Coil Unit

- Multi-position design can be installed horizontally or vertically without modification (for 40LX150 & 200).
- High static design meets a wide range of applications than competitive packaged air handler lines.
- Cooling coils with mechanically bonded fins provide peak heat transfer.
- Standard factory-installed Thermostatic Expansion Valves (TXVs) when matching with 38LZA condensing unit.
- Die-formed galvanized steel casing provides durability and structural integrity.
- Easy installation and maintenance; removal of one side panel allows access to most serviceable components.
- Installed with direct driven forward curved centrifugal fans and 3-speed motor ensures quiet operation.
- Carrier lanced sine wave fin pattern ensures high EER performance.





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SPECIFICATIONS

Model		Type	Direct Expansion Ducted Split System							
		Indoor	40LZA080	40LZA100	40LZA125	40LX150		40LX200		
		Outdoor	38LZA080	38LZA100	38LZA125	2x38LZA080	38LZA150	2x38LZA100	38LZA200	
Normal Capacity		kW	23.5	29.3	36.6	43.9		58.6		
Power Consumption (Input)		kW	9.57	10.66	14.03	18.0	17.35	22.98	22.85	
Refrigerant			R-22							
EER			8.36	9.38	8.91	8.33	8.65	8.70	8.75	
INDOOR UNIT	Model		40LZA080	40LZA100	40LZA125	40LX150		40LX200		
	Power Source Nominal		V-Ph-Hz	230-150			380 to 415 - 3 - 50			
	Fan		Type	Centrifugal Forward Curved						
			Quantity	2			1			
	Fan Motor		Type	Direct Driven			Belt Driven			
			Quantity	1						
	Output		kW	0.75	1.35	1.35	2.2		3.0	
			FLA	A	5.5	8.6	8.6	5.1		6.7
	Speed		RPM	1375	1320	1320	1500			
	Nominal Air Flow		l/s	1257	1500	1640	2100		2800	
	Evaporator Coil		Rows-Fins/m	3-472	3-591	4-591	3-589			
			Face area	sq.m	0.69			1.01		1.36
	Dimension		Depth	760			710		764	
			Width	1640			1346		1651	
			Height	541			1487		1541	
Operating Weight		kg	107.5	112	112	200		230		
Sound Pressure Level*		dB(A)	72	73	73	59		61		
External Finish			Unpainted Galvanized Steel Casing							
Filter			Washable							
OUTDOOR UNIT	Model		38LZA080	38LZA100	38LZA125	2x38LZA080	38LZA150	2x38LZA100	38LZA200	
	Power Source Normal		V-Ph-Hz	400-3-50						
	Compressor		Type	Hermetic Scroll						
			LRA	A	130	130	145	2 X 130	175	2 X 130
			RLA	A	14.3	20.7	22.9	2 X 14.3	24.2	2 X 20.7
	Fan Motor		Type	Direct Driven						
			Quantity	1						
	FLA		A	1.80	1.67	1.67	2 x 1.80	2.83	2 x 1.67	2.83
			Condenser Coil	Rows-Fins/m	2-591			2 x 2-591	3-472	2 x 2-591
	Face area		sq.m	1.57	1.93	1.93	2 x 1.57	2.18	2 x 1.93	2.18
	Dimension		Depth	1024			1230		1024	1230
			Width	895			1161		895	1161
			Height	845	945	945	845	1175	945	1175
	Operating Weight		kg	175	189	195	2 x 175	274	2 x 189	342
	Sound Pressure Level*		dB(A)	75	79	79	75	76	79	76
Connection		Type	Sweat							
		Suction	mm (in)	28.6 (1 1/8)		2x28.6 (1 1/8)	34.9 (1 3/8)	2x 28.6 (1 1/8)	34.9 (1 3/8)	
		Liquid	mm (in)	12.7 (1/2)		2x12.7 (1/2)	15.9 (5/8)	2x12.7 (1/2)	15.9 (5/8)	
External Finish			Morning Mist							
Protection Devices			High/Low Pressure Switches, Overload Protector & Crankcase Heater							

FLA: Full Load Amps LRA: Locked Rotor Amps RLA: Rated Load Amps
 *Data is measured at 1mm front of the unit and 1m above the ground



GUIDE SPECIFICATIONS

GENERAL

1. SYSTEM DESCRIPTION

38LZA & 40LZA is for the use in commercial split systems. 40LZA080, 100 & 125 are designed for horizontal at the ceiling. 40LX150 & 200 are capable for horizontal and vertical (upflow) installation on floor or at the ceiling. These indoor units are applied with ductwork.

40LX150 & 200 are dual circuit fan coil units. These indoor units can be coupled with either single or double air-cooled condenser unit – 38LZA. For 40LX150, it can be coupled with 38LZA150 or 2 units of 38LZA080. For 40LX200, it can be coupled with 38LZA200 or 2 units of 38LZA100.

2. PRODUCT

- **Indoor Unit – 40LZA Ducted Fan Coil Unit**

Factory installed refrigerant metering device, Thermostatic Expansion Valves, cooling coil, 1" washable air filter, pre-painted drain pan and galvanized steel panels. Units are insulated internally with 12.7mm polyurethane and also equipped with tubes connection of liquid and suction line. 40LX150 & 200 have dual circuit with double connection.

The non-ferrous direct expansion coil is constructed with Carrier's Lance Sine Wave aluminium plate fins mechanically bonded to 3/8" (9.5mm) copper grooved tubes with all joints brazed. The fin density is not less than 589 fins per meter.

Draw-thru fan shall be centrifugal forward curve, direct driven by permanent split capacitor motor (40LZA080, 100 & 125), belt driven by a totally enclosed fan cooled motor (40LX150 & 200).

- **Outdoor Unit – 38LZA Air-cooled Condensing Unit**

Draw-thru, consist of single propeller fan, direct driven. Metal fan guard is installed at the front of the propeller fan where it offers quick access and easy maintenance. The motor has inherent protection and permanently lubricated.

The compressor is fully hermetic scroll type and equipped with oil level sight glass, rubber anti-vibration mounting and belt type crankcase heater (UL & CE marked). Belt type crankcase heater should be factory installed. The power input is 230V-1Ph-50Hz supply.

The control shall be factory wired and located in a separate enclosure, safety device is high and low pressure switches and compressor internal or external overload. Unit wiring shall incorporate a start delay timer to prevent short cycling of compressor if power is interrupted. Definite purpose contactor is energizing the compressor and fan operation.

Direct expansion coil is aluminium plate fins with Carrier's Lanced Sine Wave fin pattern mechanically bonded to seamless 3/8" copper tube.

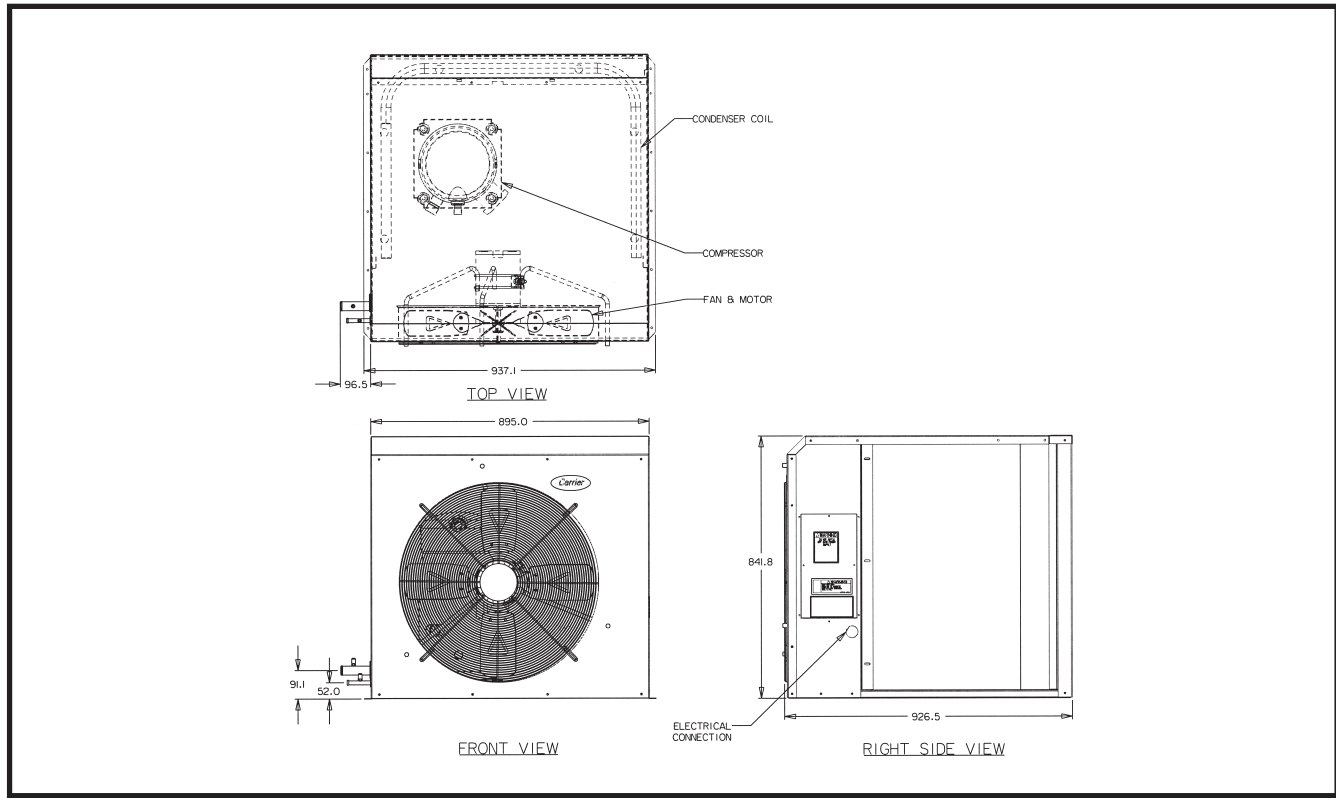
Casing shall be fully weather-proofed for outdoor installation. The panels shall be manufactured from heavy gauge galvanized steel, phosphates and finished in baked enamel paint.

3. INSTALLATION

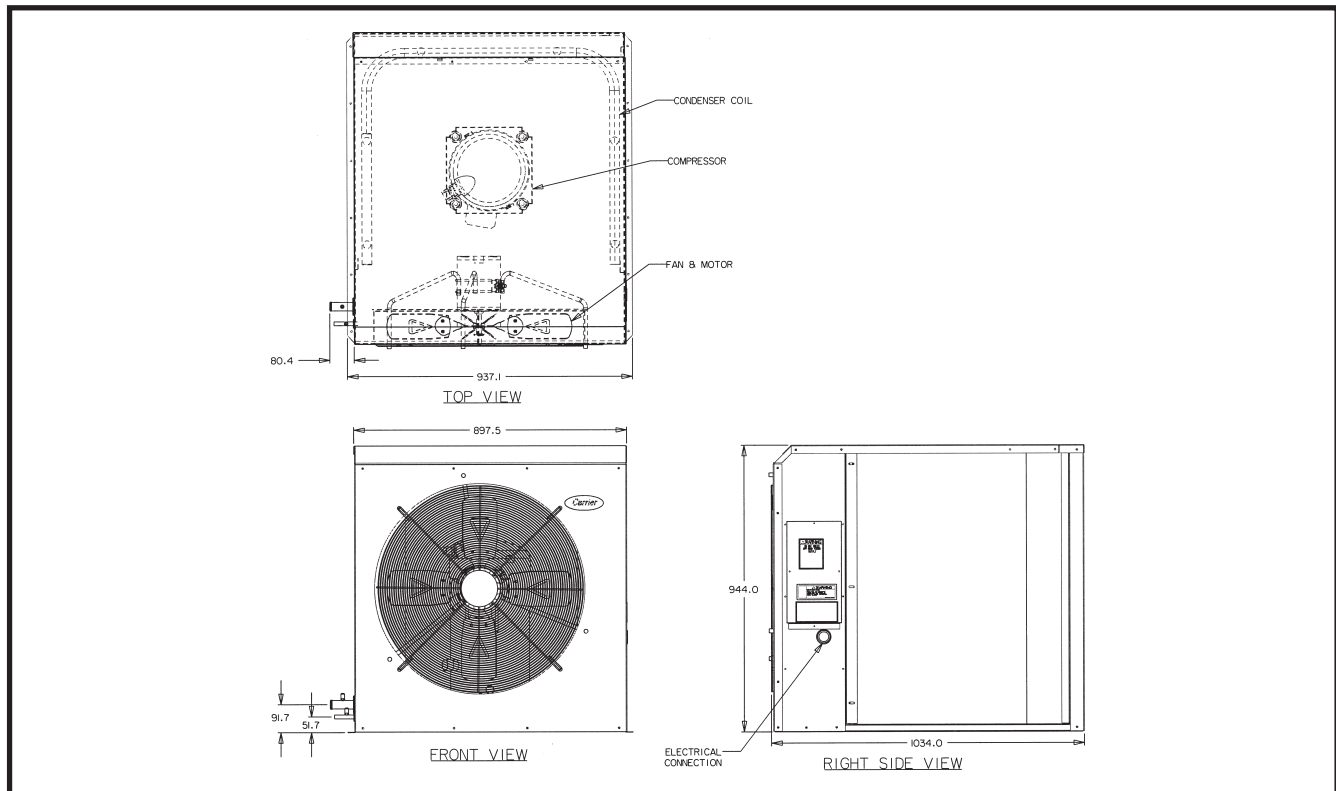
Furnish and install fan coil and condenser units in the location and manner shown in Installation and Instruction's Manual. For 40LZA080, 100 & 125 power supply is 230V-1Ph-50Hz, for 40LX150, 200 and 38LZA080 to 200, power supply is 400V-3Ph-50Hz. These models are designed for use with Refrigerant R22 only.

CONDENSING UNIT PHYSICAL DIMENSIONS

38LZA080

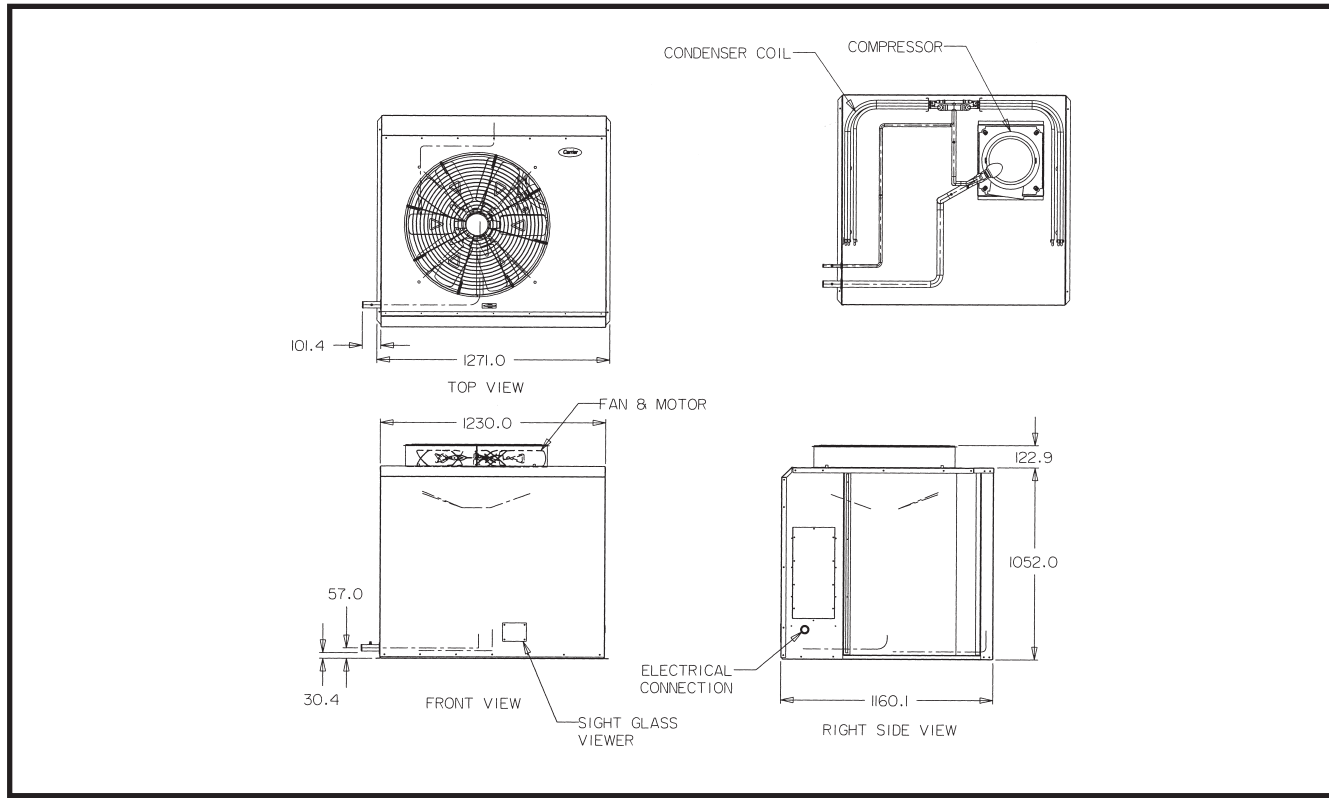


38LZA100 & 125

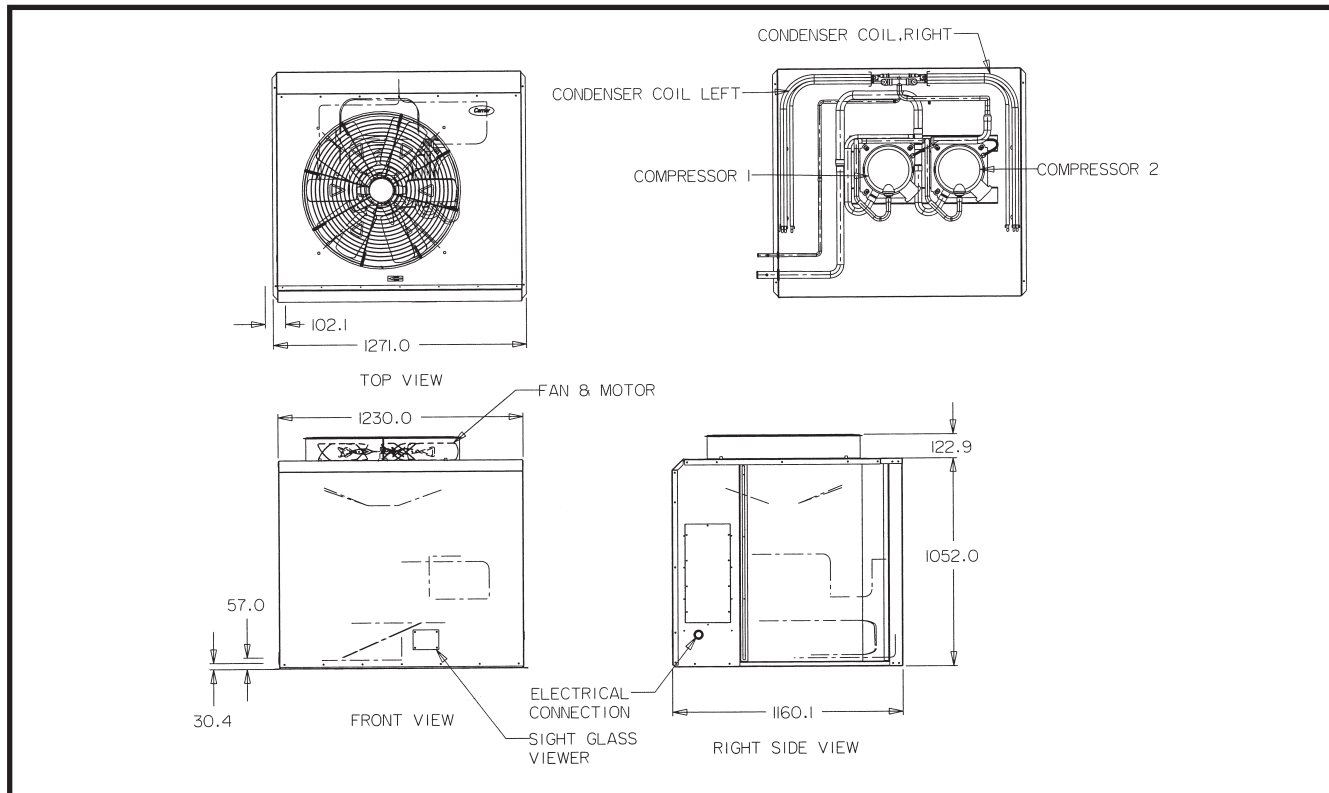


CONDENSING UNIT PHYSICAL DIMENSIONS (cont')

38LZA150



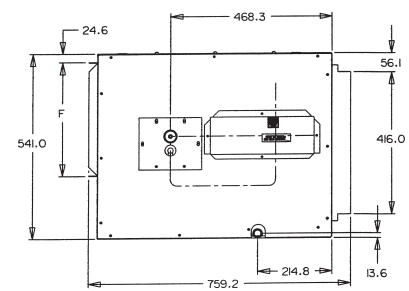
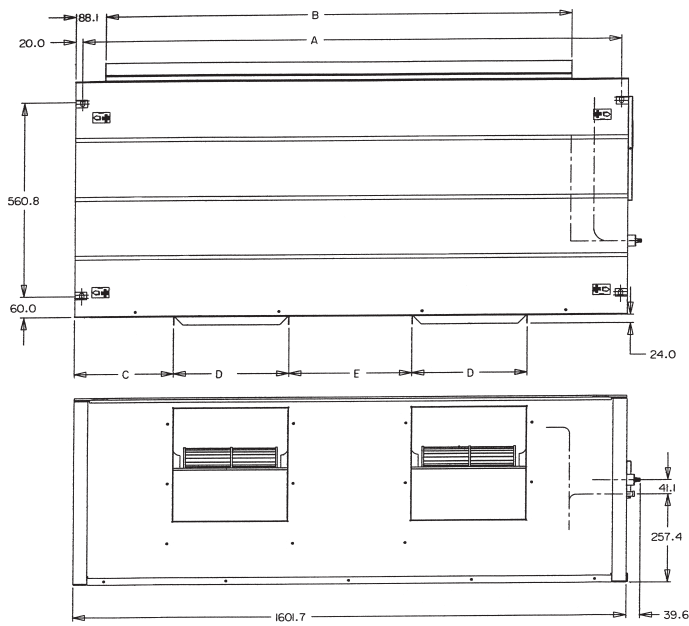
38LZA200



FAN COIL UNIT PHYSICAL DIMENSIONS

40LZA080, 100 & 125

MODEL NO.	A	B	C	D	E	F
40LZA080	1560	1347	335	288	356	288
40LZA100	1560	1347	290	333	356	333
40LZA125	1560	1347	290	333	356	333

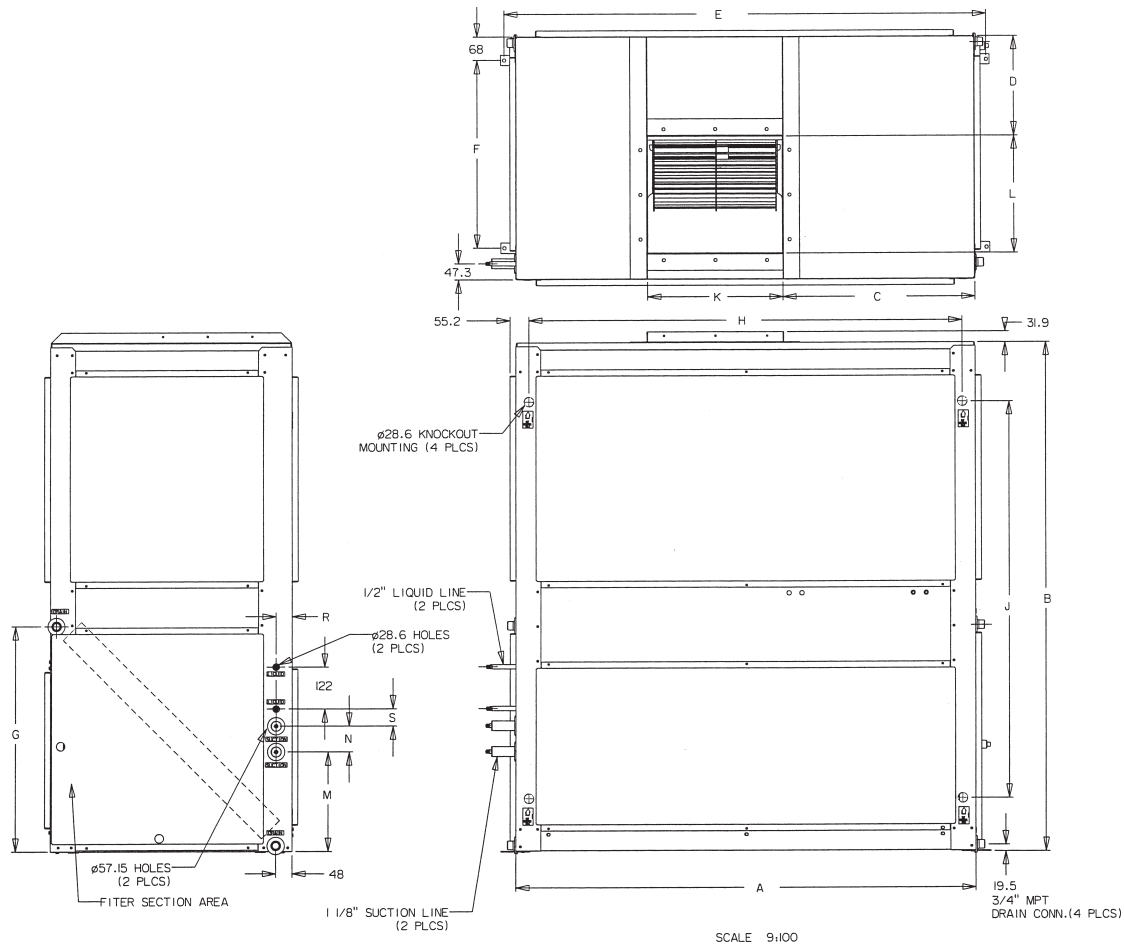




FAN COIL UNIT PHYSICAL DIMENSIONS (cont')

40LX150 & 200

MODEL NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
40LX150	1344	1490	563	288	1411	546	657	1267	1161	395	341	290	75	50	47
40LX200	1654	1541	758	280	1726	602	722	1578	1161	475	406	288	86	64	52



All dimension are in mm.



SELECTION PROCEDURE

1. Determine cooling load requirements

GIVEN:

Total Cooling Load 28 kW
 Sensible Heat Load 22 kW
 Indoor Air Quantity 1,500 l/s

Evaporator Air Entering:

Wet-bulb Temperature (ewb) 19.0°C
 Dry-bulb Temperature (edb) 27.5°C
 Ambient Temperature 35.0°C

2. Select a system for combination rating which will meet cooling requirements :

Enter combination ratings at 19°C indoor ewb and 35°C condenser air entering temperature. At high speed of 1500 l/s indoor air quantity, 38LZA100 c/w 40LZA100 has a total gross cooling capacity of 28.7kW and gross sensible heat capacity of 22.7kW. Bypass factor if 0.10.

Corrected Sensible Heat Capacity (SHC):

$$= SHG + l/s \times \frac{1.23 (1-BF) (Cdb-27)}{1,000}$$

$$= 22.7 + 1500 \times \frac{1.23 (1-0.10) (27.5-27)}{1,000}$$

$$= 23.53$$

Unit power consumption is **9.5kW**.

ELECTRICAL DATA

Model Number	Power Supply V-Ph-Hz	Permissible Voltage Range	Compressor		Fan Motor	Unit	
			LRA	RLA	FLA	MCA	MOCP
38LZA080	400-3-50	380~415	130	14.3	1.80	20.1	36.2
38LZA100	400-3-50	380~415	130	20.7	1.67	28.0	50.3
38LZA125	400-3-50	380~415	145	22.9	1.67	30.7	55.3
38LZA150	400-3-50	380~415	175	29.7	2.83	40.7	73.2
38LZA200	400-3-50	380~415	2 x 130	41.4	2.83	55.3	99.5

LEGEND:

FLA - Full Load Amps
LRA - Locked Rotor Amps
RLA - Rated Load Amps

MCA - Minimum Circuit Amps
MOCP - Maximum Overcurrent Protection

NOTES:

1. MCA values are used for sizing the field supplied wires.
2. MOCP values are used for sizing the field supplied standard fuses or circuit breakers.



PERFORMANCE DATA COOLING CAPACITIES

38LZA080 c/w 40LZA080 SYSTEM COOLING CAPACITIES

Temp (°C) Air Entering Condenser		Evaporator Air //s : BF								
		811 : 0.16			1022 : 0.16			1257 : 0.17		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
25	TCG	20.6	22.8	25.3	22.0	24.2	26.7	22.9	25.3	27.8
	SHG	17.0	14.7	12.1	19.8	16.5	13.4	21.6	18.6	14.7
	kW	7.5	7.7	7.8	7.6	7.8	7.9	7.7	7.8	8.0
30	TCG	20.1	22.3	24.5	21.3	23.6	25.9	22.2	24.5	27.1
	SHG	16.9	14.6	11.9	19.4	16.5	13.1	21.1	18.3	14.4
	kW	8.2	8.4	8.5	8.3	8.5	8.7	8.4	8.5	8.8
35	TCG	19.5	21.5	23.8	20.6	22.8	25.1	21.6	23.7	26.1
	SHG	16.7	14.2	11.6	19.2	16.1	12.8	20.6	18.1	14.1
	kW	8.9	9.1	9.3	9.0	9.2	9.4	9.1	9.3	9.5
40	TCG	18.7	20.8	23.1	19.9	22.0	24.2	21.2	22.8	25.1
	SHG	16.4	13.9	11.4	18.8	15.8	12.5	21.2	17.8	13.8
	kW	9.6	9.9	10.0	9.8	10.0	10.2	9.9	10.1	10.3
46	TCG	18.0	19.9	22.0	18.8	20.9	23.1	20.4	21.7	23.9
	SHG	16.2	13.6	10.9	18.0	15.4	12.1	19.4	17.3	13.4
	kW	10.6	10.9	11.2	10.8	11.0	11.3	11.0	11.1	11.4

2 X 38LZA080 c/w 40LX150 SYSTEM COOLING CAPACITIES

Temp (°C) Air Entering Condenser		Evaporator Air //s : BF								
		1450 : 0.07			1950 : 0.09			2450 : 0.11		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
25	TCG	39.30	43.47	47.99	42.00	46.27	50.88	43.94	48.07	52.81
	SHG	32.42	27.43	22.32	37.88	31.57	25.07	42.44	35.36	27.54
	kW	16.26	16.55	16.85	16.44	16.73	17.03	16.58	16.87	17.18
30	TCG	37.94	41.97	46.38	40.51	44.67	49.13	42.31	46.30	50.88
	SHG	31.77	26.75	21.68	37.06	30.96	24.42	42.19	34.61	26.82
	kW	17.59	17.90	18.24	17.80	18.12	18.46	17.93	18.26	18.60
35	TCG	36.52	40.41	44.66	38.97	42.92	47.26	40.75	44.45	48.85
	SHG	31.02	26.05	21.00	36.22	30.17	23.72	40.75	33.88	26.11
	kW	18.99	19.35	19.72	19.24	19.60	19.97	19.40	19.73	20.11
40	TCG	35.02	38.79	42.85	37.31	41.08	45.24	39.28	42.52	46.74
	SHG	30.27	25.36	20.33	35.40	29.42	22.97	39.28	33.11	25.35
	kW	20.49	20.89	21.29	20.75	21.14	21.54	20.97	21.29	21.69
46	TCG	34.05	36.73	40.58	35.24	38.76	42.72	37.37	40.08	44.07
	SHG	29.77	24.44	19.45	34.13	28.44	22.04	37.37	32.08	24.41
	kW	21.66	22.90	23.36	22.72	23.16	23.61	23.01	23.34	23.79

LEGEND:

BF - Bypass Factor

TCG - Gross Cooling Capacity (kW)

SHG - Gross Sensible Cooling Capacity (kW)

kW - System Total Power Input (kW)



PERFORMANCE DATA COOLING CAPACITIES (cont')

38LZA100 c/w 40LZA100 SYSTEM COOLING CAPACITIES

Temp (°C) Air Entering Condenser		Evaporator Air l/s : BF								
		1051 : 0.07			1200 : 0.08			1500 : 0.10		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
25	TCG	26.8	29.0	32.4	27.5	30.1	33.1	28.3	30.8	33.8
	SHG	24.6	20.6	17.0	26.2	22.1	17.8	27.7	23.6	18.8
	kW	7.6	7.8	7.9	7.6	7.8	8.0	7.7	7.9	8.0
30	TCG	25.9	28.5	31.4	26.6	29.2	32.1	27.5	29.8	32.7
	SHG	24.1	20.4	16.6	25.7	21.7	17.5	27.0	23.1	18.4
	kW	8.4	8.6	8.8	8.4	8.6	8.8	8.5	8.7	8.9
35	TCG	25.0	27.5	30.3	25.7	28.1	31.0	26.6	28.7	31.6
	SHG	23.6	20.0	16.2	25.1	21.3	17.0	26.3	22.7	17.9
	kW	9.2	9.4	9.7	9.3	9.5	9.7	9.4	9.5	9.8
40	TCG	24.1	26.4	29.2	24.8	27.0	30.0	25.7	27.5	30.5
	SHG	23.0	19.5	15.8	24.4	20.8	16.7	25.4	22.2	17.6
	kW	10.1	10.3	10.6	10.2	10.4	10.6	10.3	10.5	10.9
46	TCG	22.8	25.1	27.7	23.6	25.6	28.3	24.6	26.1	28.8
	SHG	22.3	19.0	15.2	23.6	20.2	16.0	24.3	21.6	16.9
	kW	11.3	11.5	11.8	11.4	11.6	11.9	11.5	11.7	12.0

2 X 38LZA100 c/w 40LX200 SYSTEM COOLING CAPACITIES

Temp (°C) Air Entering Condenser		Evaporator Air l/s : BF								
		2200 : 0.14			2800 : 0.16			3400 : 0.17		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
25	TCG	53.48	59.78	66.34	56.62	62.06	69.45	59.84	64.10	71.47
	SHG	48.41	41.16	32.62	54.31	46.49	36.22	57.95	51.74	39.50
	kW	18.97	19.20	19.43	19.09	19.21	19.55	19.22	19.30	19.63
30	TCG	51.95	57.65	63.98	55.46	60.48	66.94	59.55	61.19	68.76
	SHG	47.98	40.18	31.68	54.34	45.80	35.23	58.28	50.12	38.45
	kW	20.40	20.65	20.91	20.57	20.78	21.05	21.14	20.83	21.12
35	TCG	49.89	55.45	61.59	53.59	58.11	63.59	56.69	59.28	65.98
	SHG	46.66	39.17	30.72	52.56	44.76	33.96	56.69	49.03	37.36
	kW	21.94	22.20	22.51	22.13	22.36	22.70	22.30	22.47	22.72
40	TCG	47.90	53.15	59.07	51.60	55.58	61.56	54.55	56.62	63.10
	SHG	45.49	38.12	29.72	50.76	43.67	33.16	54.55	47.21	36.29
	kW	23.59	23.87	24.21	23.81	24.02	24.35	24.00	24.10	24.43
46	TCG	46.62	50.25	55.89	50.17	52.31	58.08	51.82	53.89	59.44
	SHG	44.45	36.81	28.46	49.04	42.20	31.83	51.82	46.85	34.96
	kW	25.07	26.02	26.39	25.45	26.20	26.53	26.14	26.27	26.61

LEGEND:

- BF** - Bypass Factor
- TCG** - Gross Cooling Capacity (kW)
- SHG** - Gross Sensible Cooling Capacity (kW)
- kW** - System Total Power Input (kW)



PERFORMANCE DATA COOLING CAPACITIES (cont')

38LZA125 c/w 40LZA125 SYSTEM COOLING CAPACITIES

Temp (°C) Air Entering Condenser		Evaporator Air //s : BF								
		940 : 0.06			1180 : 0.06			1640 : 0.07		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
25	TCG	28.9	31.4	35.0	30.4	33.3	36.7	32.6	35.2	38.6
	SHG	24.7	21.1	17.7	27.6	23.5	19.2	32.0	27.3	21.6
	kW	9.3	9.8	9.9	9.4	9.8	10.1	9.7	10.0	10.3
30	TCG	28.1	30.9	34.0	29.4	32.3	35.6	31.6	34.1	37.4
	SHG	24.3	20.8	17.3	27.1	23.0	18.7	31.6	26.7	21.2
	kW	10.3	10.6	11.0	10.4	10.8	11.1	10.7	11.0	11.4
35	TCG	27.1	29.9	33.1	28.4	31.2	34.5	30.6	32.9	36.1
	SHG	23.8	20.3	16.9	26.6	22.5	18.3	30.6	26.2	20.7
	kW	11.3	11.6	11.9	11.5	11.8	12.1	11.8	12.1	12.5
40	TCG	26.1	28.8	31.8	27.4	30.1	33.2	29.7	31.6	34.7
	SHG	23.2	19.9	16.4	26.0	22.0	17.8	29.7	25.7	20.2
	kW	12.5	12.8	13.3	12.7	13.0	13.5	13.0	13.3	13.7
46	TCG	24.9	27.5	30.5	26.4	28.9	31.8	28.4	30.1	33.0
	SHG	22.6	19.3	15.9	25.4	21.5	17.3	28.4	25.1	19.6
	kW	13.9	14.3	14.5	13.8	14.2	14.7	14.5	14.8	15.2

38LZA150 c/w 40LX150 SYSTEM COOLING CAPACITIES

Temp (°C) Air Entering Condenser		Evaporator Air //s : BF								
		1450 : 0.07			1950 : 0.09			2450 : 0.11		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
25	TCG	38.05	42.35	47.09	40.78	45.33	50.27	43.31	47.23	52.30
	SHG	32.61	27.50	22.22	38.21	32.09	25.27	43.31	36.21	27.94
	kW	14.28	14.46	14.67	14.40	14.59	14.82	14.51	14.69	14.91
30	TCG	36.93	41.05	45.68	39.37	43.79	48.67	42.08	45.63	50.59
	SHG	32.16	26.92	21.67	37.48	31.41	24.67	41.96	35.60	27.33
	kW	15.30	15.49	15.70	15.41	15.61	15.85	15.55	15.71	15.95
35	TCG	35.58	39.66	44.16	38.09	42.23	46.94	40.92	43.95	48.77
	SHG	31.51	26.33	21.09	37.09	30.79	24.04	40.06	34.92	26.69
	kW	16.40	16.60	16.82	16.51	16.72	16.96	16.67	16.83	17.08
40	TCG	34.13	38.13	42.52	36.73	40.56	45.17	39.38	42.13	46.82
	SHG	30.64	25.66	20.46	35.79	30.08	23.38	39.24	34.15	26.01
	kW	17.57	17.78	18.02	17.72	17.92	18.17	17.86	18.02	18.27
46	TCG	32.44	36.21	40.46	35.05	38.50	42.92	37.64	39.86	44.36
	SHG	29.82	24.81	19.66	34.83	29.28	22.55	37.64	33.26	25.14
	kW	19.09	19.32	19.57	19.26	19.47	19.73	19.42	19.55	19.82

LEGEND:

- BF** - Bypass Factor
- SHG** - Gross Sensible Cooling Capacity (kW)
- TCG** - Gross Cooling Capacity (kW)
- kW** - System Total Power Input (kW)



AIR-COOLED CONDENSING UNIT PERFORMANCE RATING

38LZA080 AIR-COOLED CONDENSING UNIT CAPACITIES

SST (°C)		Air Temperature Entering Condenser (°C)				
		25	30	35	40	46
-1	TCG	21.04	20.29	18.92	17.81	16.43
	SDT	41.69	46.60	51.12	55.79	61.35
	kW	6.53	7.14	7.85	8.57	9.46
0	TCG	21.77	20.70	19.60	18.47	17.08
	SDT	42.14	46.86	51.54	56.20	61.74
	kW	6.59	7.23	7.91	8.64	9.54
4	TCG	24.91	23.74	22.52	21.30	19.78
	SDT	44.07	48.76	53.41	58.02	63.50
	kW	6.84	7.51	8.22	8.97	9.92
8	TCG	28.25	26.95	25.62	24.58	22.62
	SDT	46.18	50.81	55.42	60.20	65.42
	kW	7.12	7.81	8.54	9.25	10.32
10	TCG	28.69	27.80	26.86	25.30	24.13
	SDT	46.45	51.37	56.25	62.89	66.47
	kW	7.13	7.89	8.68	9.86	10.54

38LZA100 AIR-COOLED CONDENSING UNIT CAPACITIES

SST (°C)		Air Temperature Entering Condenser (°C)				
		25	30	35	40	46
-1	TCG	25.56	24.26	22.90	21.47	19.61
	SDT	42.18	47.11	52.08	57.14	63.36
	kW	7.87	8.66	9.50	10.43	11.60
0	TCG	26.42	25.45	23.72	22.28	20.45
	SDT	42.52	47.55	52.38	57.37	63.42
	kW	7.87	8.66	9.50	10.43	11.60
4	TCG	30.15	28.74	27.25	25.76	23.83
	SDT	44.06	48.83	53.70	58.44	64.31
	kW	8.12	8.92	9.79	10.70	11.90
8	TCG	34.12	32.57	30.96	29.32	27.29
	SDT	45.81	50.55	55.33	60.06	65.73
	kW	8.37	9.19	10.08	11.02	12.24
10	TCG	35.71	34.63	32.95	31.23	29.14
	SDT	46.52	51.51	56.26	60.94	66.44
	kW	8.47	9.36	10.25	11.20	12.42

LEGEND:

TCG - Total Capacity (kW) **SDT** - Saturated Condensing Temperature (°C)
kW - Compressor Motor Power Input **SST** - Saturated Suction Temperature (°C)

NOTE:

1. Interpolation is permissible. Do not extrapolate.
2. Saturated Suction Temperature (SST) shown correspond to pressure at compressor, actual suction temperature is higher than due to superheat.
3. The above unit cooling capacity is rated to JIS at rated voltage.



AIR-COOLED CONDENSING UNIT PERFORMANCE RATING (cont')

38LZA125 AIR-COOLED CONDENSING UNIT CAPACITIES

SST (°C)		Air Temperature Entering Condenser (°C)				
		25	30	35	40	46
-1	TCG	30.08	28.63	27.15	25.64	23.78
	SDT	44.80	49.69	54.55	59.41	65.30
	kW	9.71	10.65	11.68	12.80	14.23
0	TCG	31.06	29.58	28.07	26.52	24.63
	SDT	45.25	50.10	54.94	59.77	65.63
	kW	9.80	10.74	11.77	12.90	14.32
4	TCG	35.26	33.63	31.96	30.28	28.20
	SDT	47.19	51.98	56.74	61.47	67.18
	kW	10.22	11.19	12.23	13.37	14.82
8	TCG	39.73	37.94	36.11	34.25	32.00
	SDT	49.37	54.04	58.72	63.41	68.91
	kW	10.71	11.69	12.74	13.91	15.37
10	TCG	40.91	39.06	37.17	35.81	33.97
	SDT	49.91	54.64	59.32	64.20	70.02
	kW	10.83	11.83	12.90	14.14	15.73

38LZA150 AIR-COOLED CONDENSING UNIT CAPACITIES

SST (°C)		Air Temperature Entering Condenser (°C)				
		25	30	35	40	46
-1	TCG	34.55	33.24	31.06	29.24	27.03
	SDT	38.29	43.30	48.08	53.08	59.04
	kW	10.80	11.89	12.94	14.18	15.79
0	TCG	35.80	34.04	32.23	30.39	28.13
	SDT	38.61	43.49	48.39	53.30	59.23
	kW	10.88	11.91	13.02	14.25	15.86
4	TCG	41.26	39.71	37.33	35.31	32.85
	SDT	39.97	44.92	49.60	54.43	60.21
	kW	11.25	12.45	13.40	14.63	16.25
8	TCG	47.12	44.96	42.77	40.56	37.85
	SDT	41.56	46.33	51.07	55.80	61.48
	kW	11.68	12.73	13.86	15.08	16.72
10	TCG	48.65	45.79	44.94	42.64	40.52
	SDT	41.98	46.54	51.68	56.38	62.21
	kW	11.79	12.69	14.05	15.28	17.00

LEGEND:

TCG - Total Capacity (kW) **SDT** - Saturated Condensing Temperature (°C)
kW - Compressor Motor Power Input **SST** - Saturated Suction Temperature (°C)

NOTE:

1. Interpolation is permissible. Do not extrapolate.
2. Saturated Suction Temperature (SST) shown correspond to pressure at compressor, actual suction temperature is higher than due to superheat.
3. The above unit cooling capacity is rated to JIS at rated voltage.



FAN COIL UNIT RATING TABLE

40LZA080 EVAPORATOR ONLY RATING

Coil Refrigerant Temp (°C)		Evaporator Air //s : BF								
		811 : 0.16			1022 : 0.16			1257 : 0.17		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
4	TCG	18.31	24.26	31.15	21.08	21.05	35.90	24.42	26.38	41.59
	SHC	16.90	16.13	15.33	19.77	15.77	17.70	23.36	19.60	20.63
8	TCG	14.28	18.17	24.99	16.73	21.05	28.72	19.81	24.64	33.41
	SHC	14.28	13.37	12.69	16.73	15.77	14.71	19.81	18.85	17.27
10	TCG	12.65	18.17	21.58	14.79	17.21	24.86	17.52	20.20	28.94
	SHC	12.65	13.37	11.33	14.79	14.15	13.17	17.51	17.00	15.57

40LZA100 EVAPORATOR ONLY RATING

Coil Refrigerant Temp (°C)		Evaporator Air //s : BF								
		1051 : 0.07			1200 : 0.08			1500 : 0.10		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
4	TCG	18.69	23.66	32.33	25.76	33.03	41.21	28.18	35.81	45.69
	SHC	18.69	17.94	16.62	25.04	23.03	20.66	28.11	26.04	23.33
8	TCG	18.38	23.11	31.51	21.22	26.09	34.58	23.10	26.76	36.87
	SHC	18.38	17.64	16.26	21.22	20.09	18.05	23.10	22.28	19.94
10	TCG	18.08	22.62	30.95	19.08	23.03	30.66	20.42	21.66	31.74
	SHC	18.08	17.37	16.03	19.08	18.86	16.57	20.42	20.14	18.08

40LZA125 EVAPORATOR ONLY RATING

Coil Refrigerant Temp (°C)		Evaporator Air //s : BF								
		940 : 0.06			1180 : 0.06			1640 : 0.07		
		Evaporator Air Ewb (°C)								
		16	19	22	16	19	22	16	19	22
4	TCG	23.30	19.98	38.33	27.45	35.70	44.63	34.05	43.43	53.84
	SHC	21.07	15.54	18.90	25.51	24.09	22.14	33.24	30.62	27.24
8	TCG	18.22	23.88	31.94	22.01	28.06	37.37	28.39	34.35	45.34
	SHC	18.22	17.21	16.10	22.01	20.74	19.09	28.39	26.76	23.89
10	TCG	16.34	19.98	28.28	19.76	23.57	33.12	25.56	28.99	40.36
	SHC	16.34	15.54	14.62	19.76	18.86	17.42	25.56	24.52	21.99

LEGEND:

BF – Bypass Factor

TCG – Total Capacity (kW)

SHC – Gross Sensible Capacity (kW)



FAN COIL UNIT RATING TABLE (cont')

40LX150 EVAPORATOR ONLY RATING

Coil Refrigerant Temp (°C)		Evaporator Air //s : BF								
		1700 : 0.08			2100 : 0.10			2600 : 0.12		
		Evaporator Air Ewb (°C)								
		17	19	22	17	19	22	17	19	22
4	TCG	33.9	37.9	57.1	39.5	48.8	69.0	41.3	55.2	74.1
	SHC	33.0	37.6	27.6	39.1	34.7	33.1	41.3	40.5	36.2
8	TCG	26.4	33.3	42.4	28.2	34.4	49.1	33.5	40.3	55.9
	SHC	26.4	25.6	21.9	28.2	28.3	25.6	33.5	33.4	29.6
10	TCG	22.7	24.1	37.4	26.3	29.6	43.8	29.5	35.3	44.7
	SHC	22.7	21.5	20.0	26.3	25.9	23.6	29.5	30.9	25.5

40LX200 EVAPORATOR ONLY RATING

Coil Refrigerant Temp (°C)		Evaporator Air //s : BF								
		2200 : 0.08			2800 : 0.11			3400 : 0.14		
		Evaporator Air Ewb (°C)								
		17	19	22	17	19	22	17	19	22
4	TCG	39.8	54.1	70.7	48.8	64.9	88.0	51.0	70.8	96.3
	SHC	38.8	36.2	33.3	48.7	45.1	41.7	51.0	50.9	45.9
8	TCG	27.3	39.7	55.5	36.3	46.7	66.3	43.1	51.5	72.7
	SHC	27.3	39.1	27.4	36.3	37.2	33.5	43.1	42.2	37.4
10	TCG	20.6	31.4	47.0	30.5	37.7	55.5	37.9	40.8	60.2
	SHC	20.6	26.4	24.1	30.5	33.2	29.5	37.9	37.6	32.8

LEGEND:

BF – Bypass Factor

TCG – Total Capacity (kW)

SHC – Gross Sensible Capacity (kW)

NOTE:

1. Interpolation is permissible. Do not extrapolate.
2. Capacity included indoor fan motor heat.
3. The SHG is based on 27°C DB / 19°C WB for air entering indoor coil. At any other temperature, correct the SHG reading from the table of cooling capacity as below:

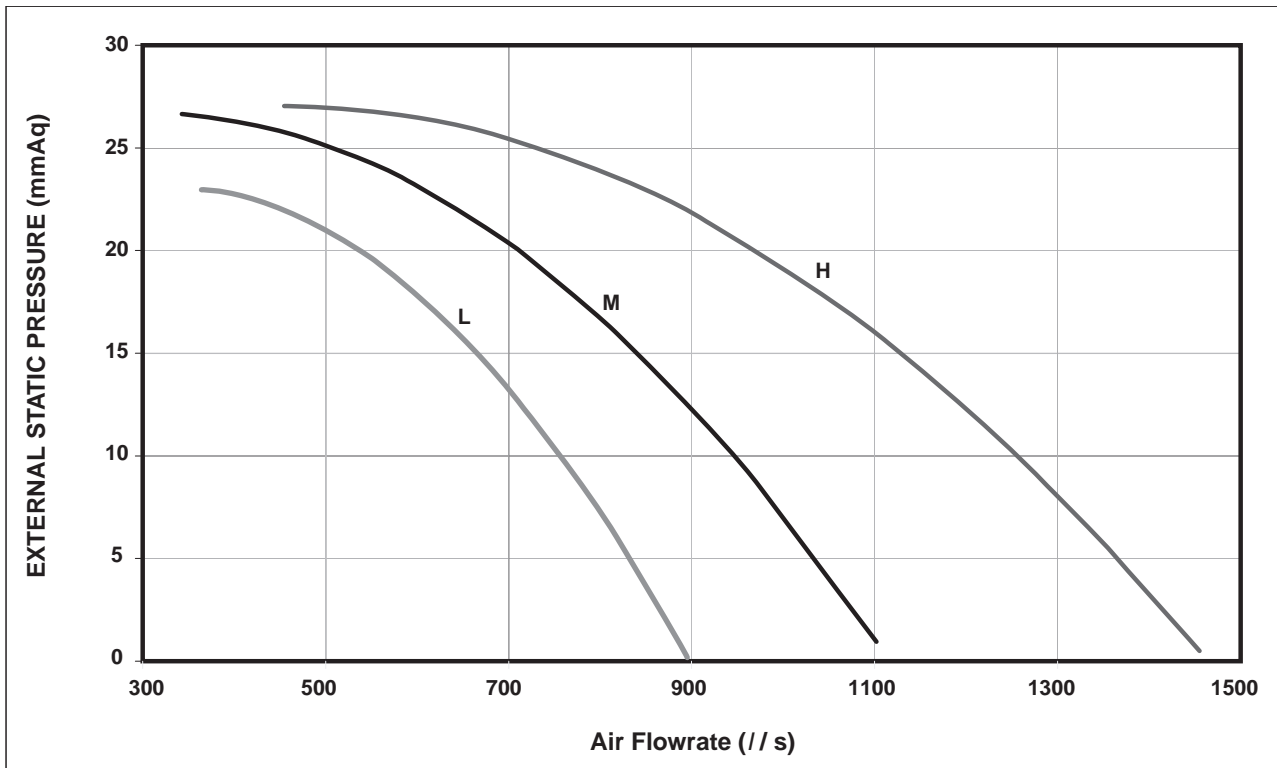
BELOW 27°C dB, correction will be negative, **SUBTRACT** it from SHC

ABOVE 27°C dB, correction will be positive **ADD** SHC

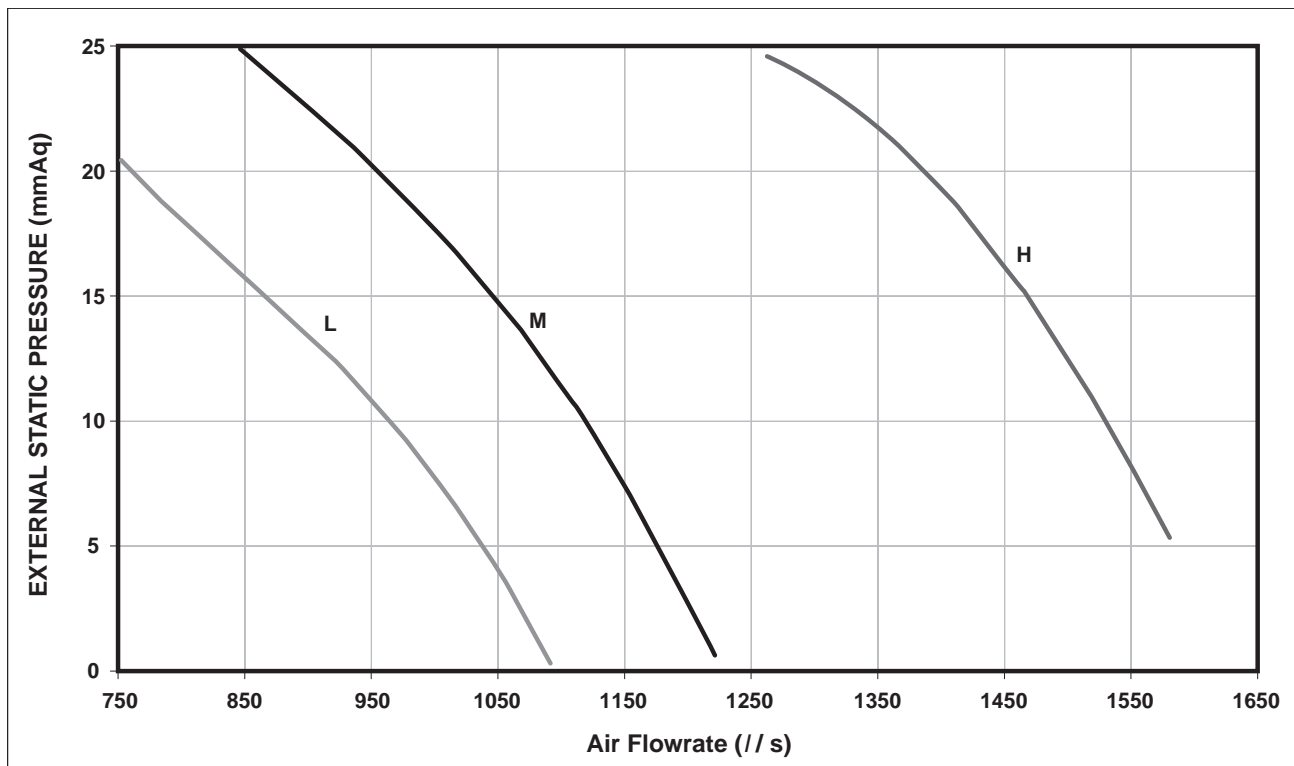
$$\text{Correction Factor} = \frac{1.23 (1 - \text{BF}) (\text{dB} - 27.0)}{10^3} \times //s$$

FAN PERFORMANCE

40LZA080



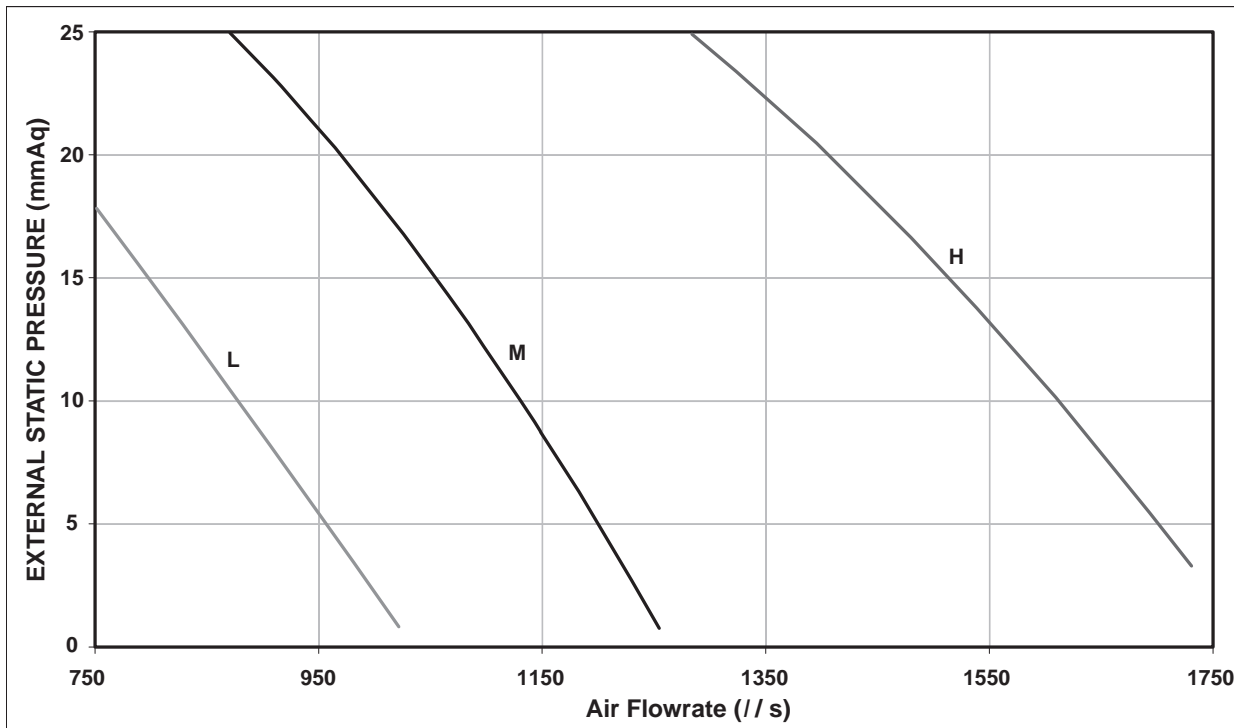
40LZA100



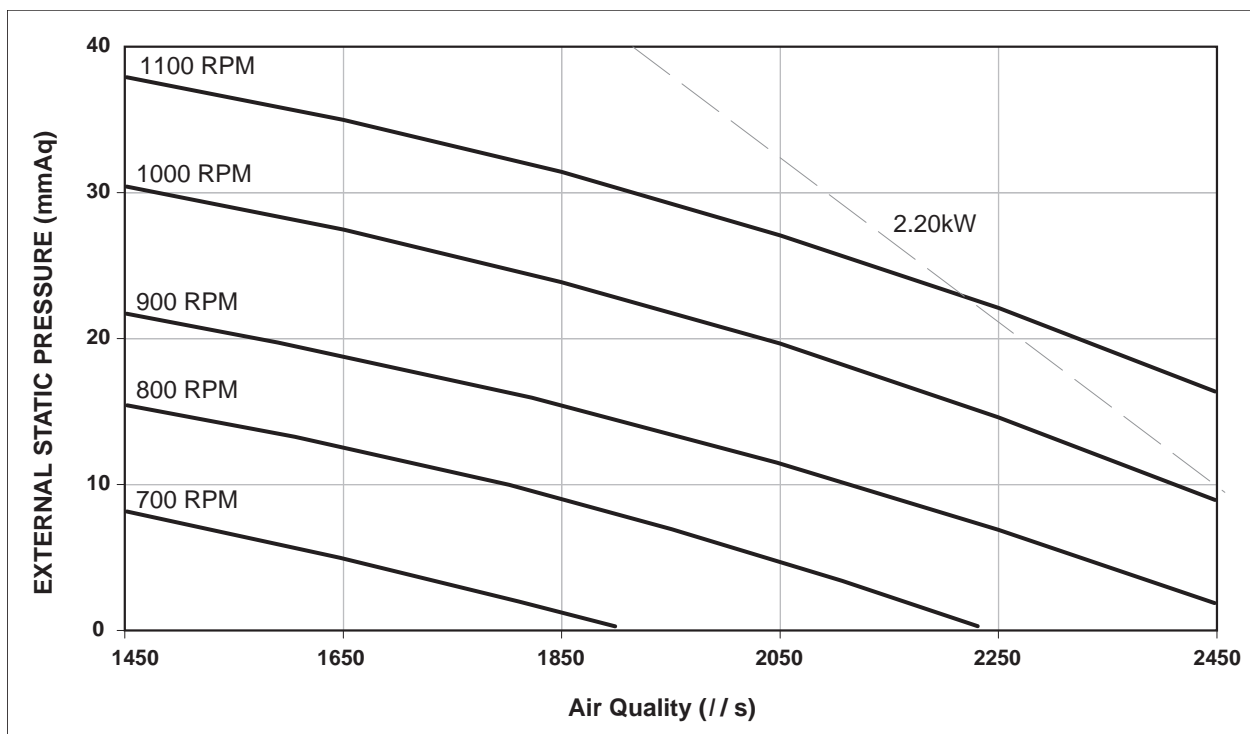


FAN PERFORMANCE (cont')

40LZA125



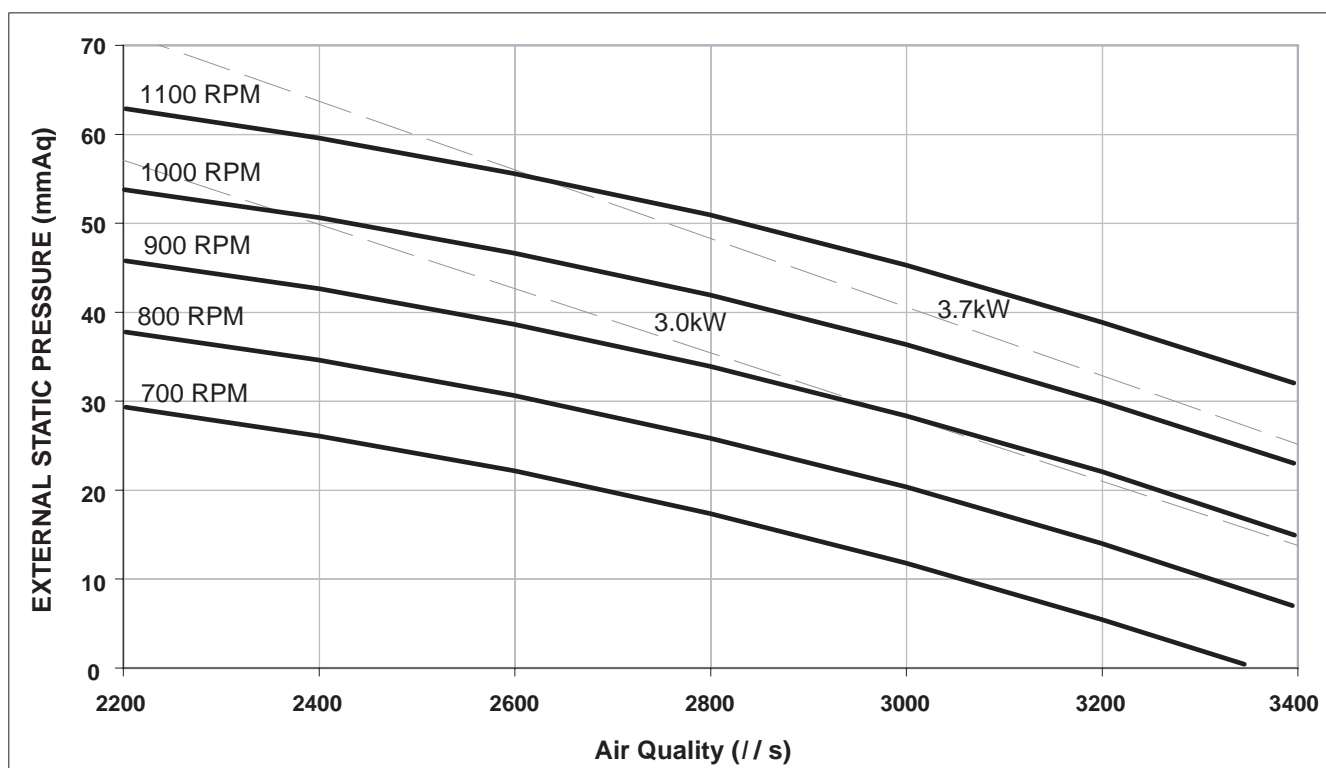
40LX150





FAN PERFORMANCE (cont')

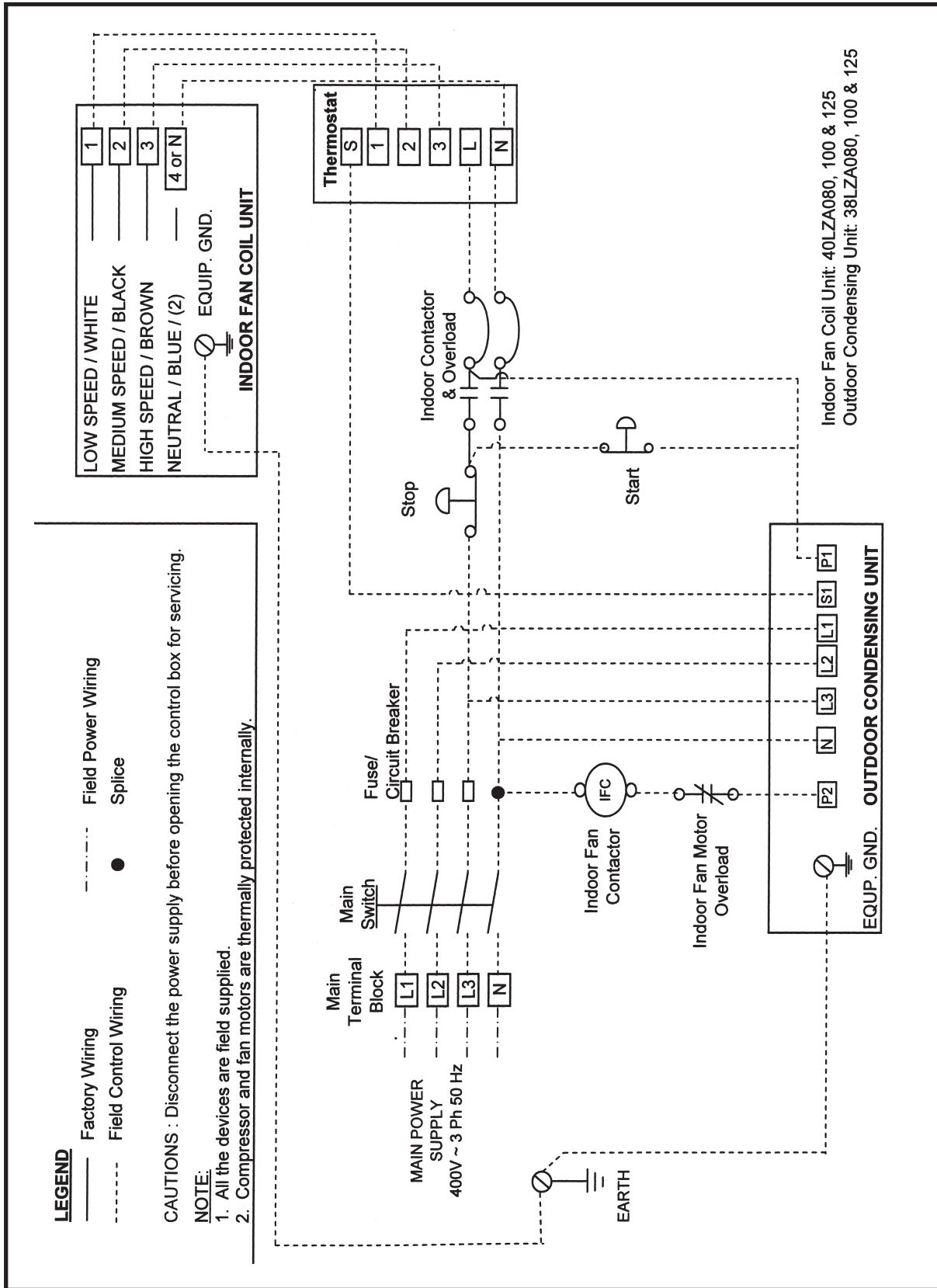
40LX200



SOUND PRESSURE LEVEL

Model	Speed	Octave Band Centre Frequency (Hz)								dB(A)
		63	125	250	500	1000	2000	4000	8000	
40LZA080	High	45	55	55	57	68	65	62	61	72
	Medium	46	45	51	67	58	59	55	48	62
	Low	37	42	45	57	55	53	50	41	57
40LZA100	High	42	56	59	63	68	67	66	57	73
	Medium	40	49	53	59	62	61	58	48	67
	Low	36	47	49	57	58	57	50	43	63
40LZA125	High	50	55	57	65	67	67	65	57	73
	Medium	36	49	50	59	61	60	57	47	66
	Low	33	44	46	56	56	55	50	41	62
40LX150		45	48	51	54	53	50	45	38	59
40LX200		47	49	52	57	55	51	46	42	61

SYSTEM WIRING DIAGRAM

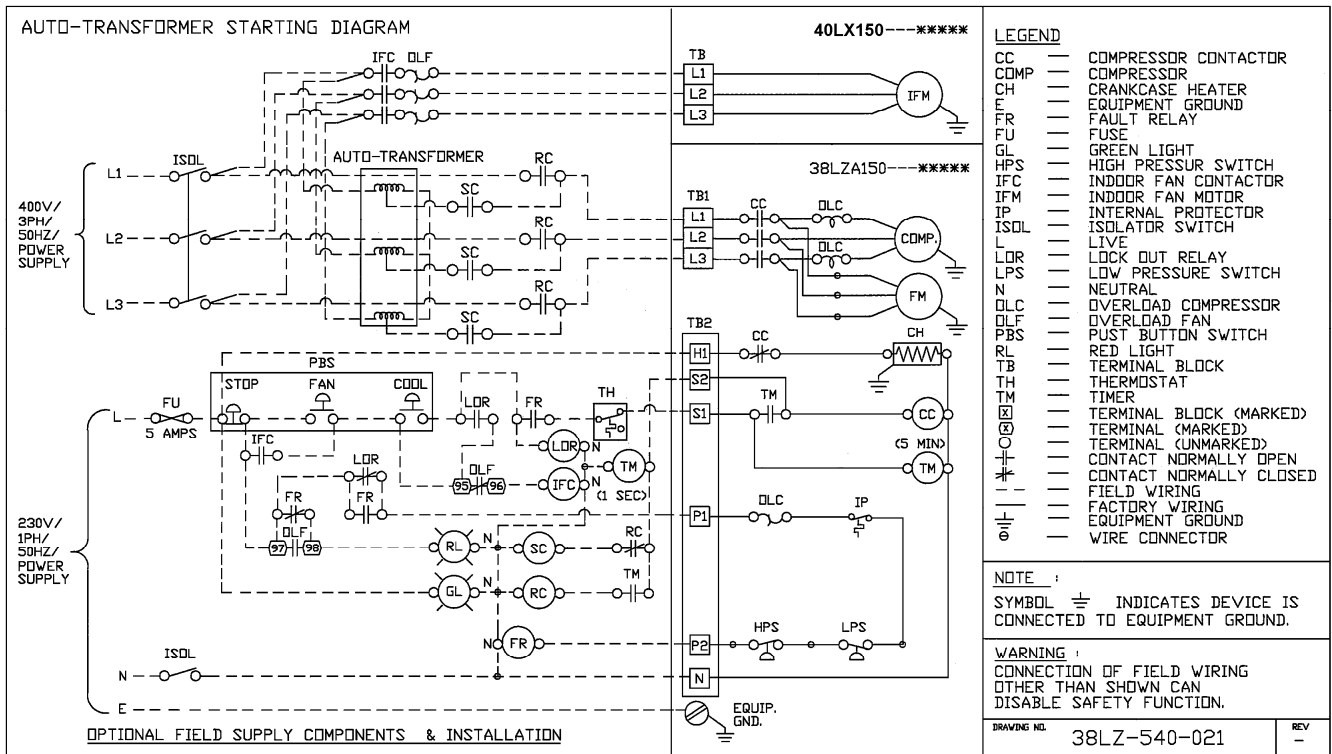


38LZA c/w 40LZA080, 100 & 125 SYSTEM WIRING DIAGRAM

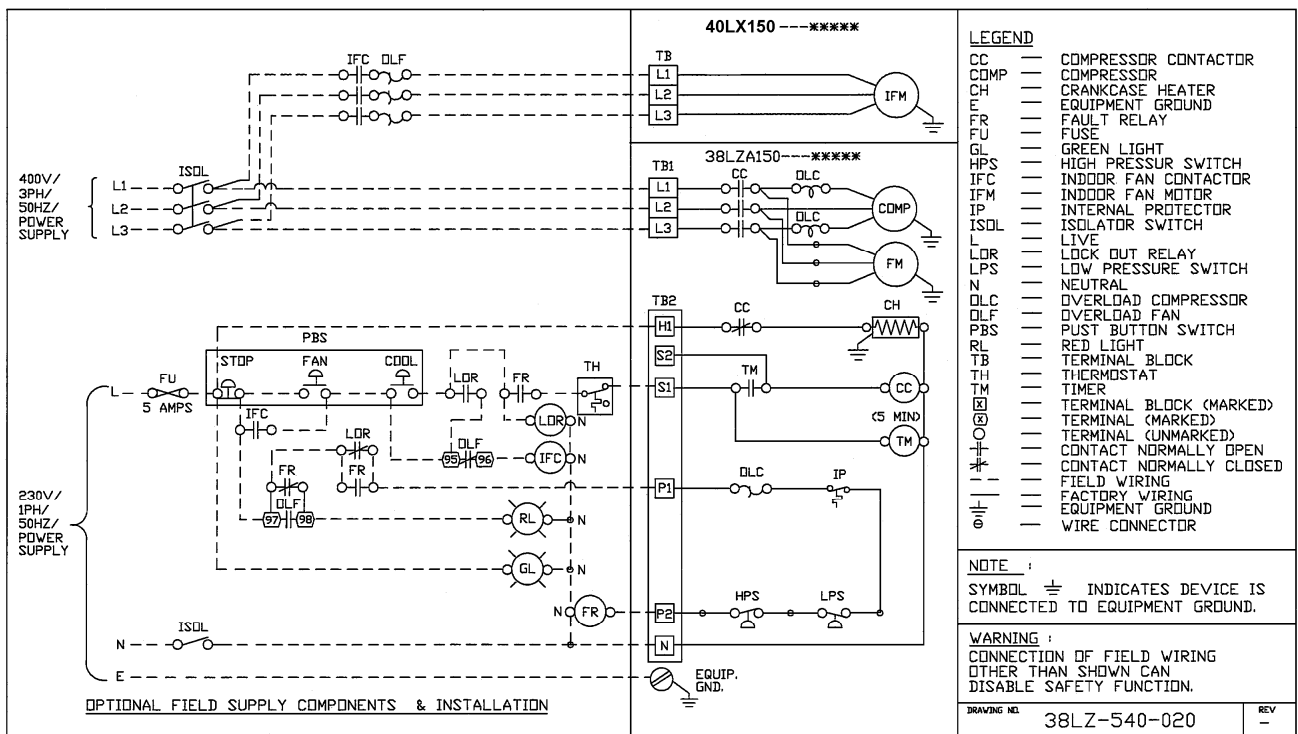


SYSTEM WIRING CONNECTION (cont')

38LZA150 c/w 40LX150



Auto-Transformer Starting Diagram

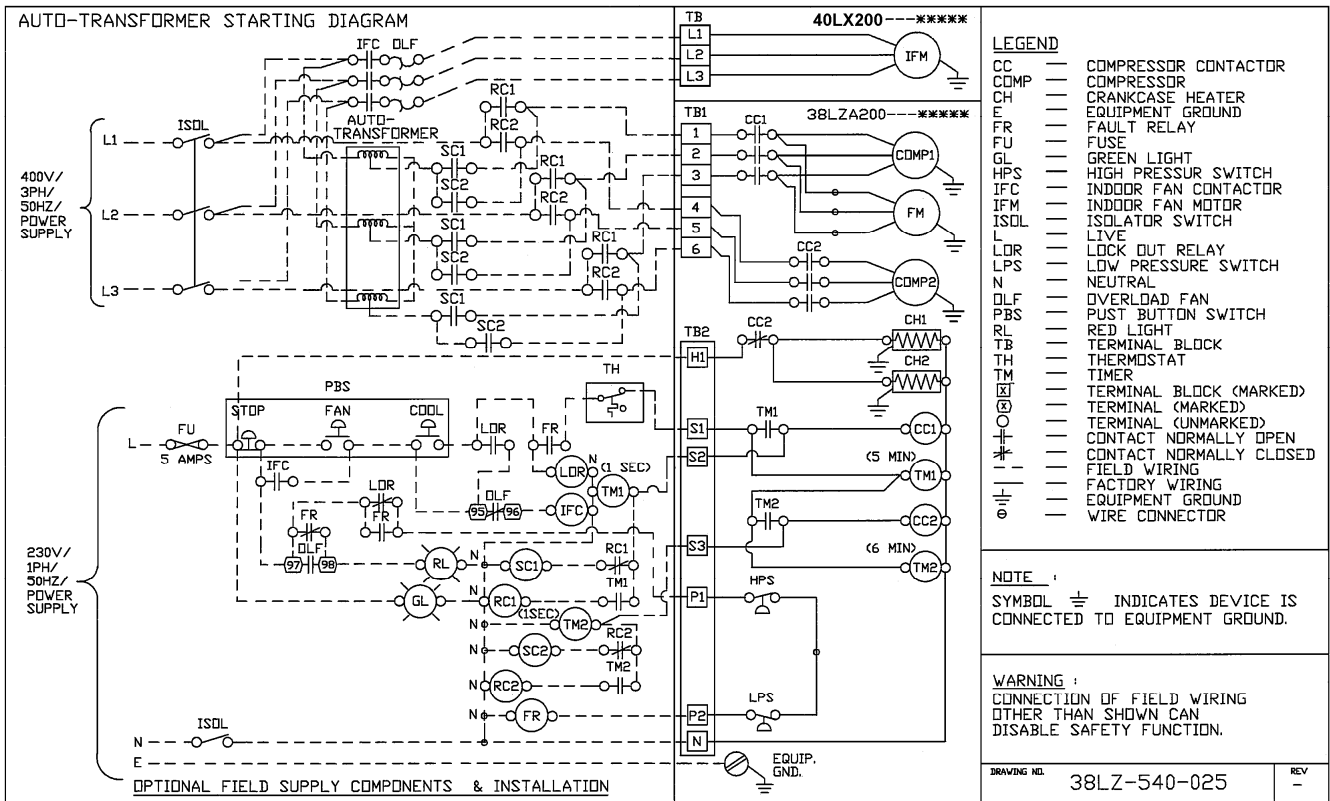


Direct Online Starting Diagram

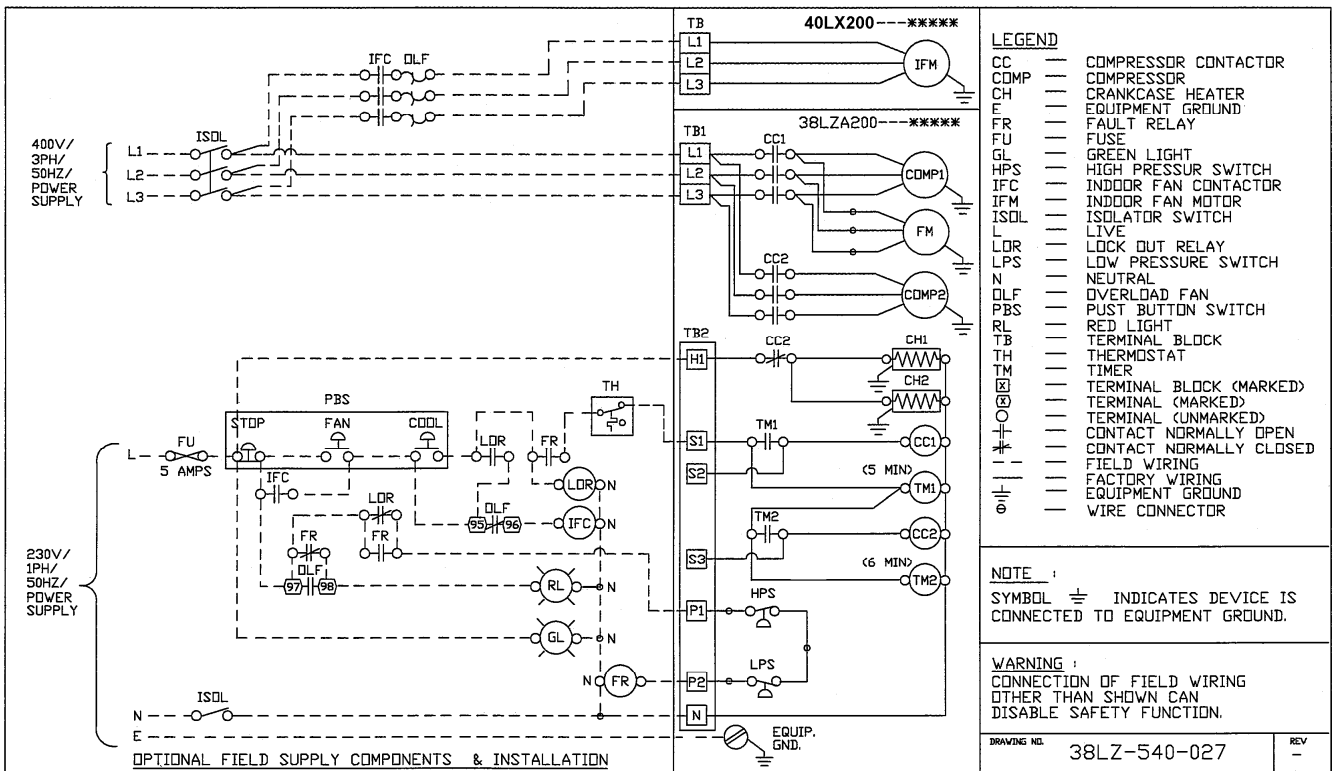


SYSTEM WIRING CONNECTION (cont')

38LZA200 c/w 40LX200



Auto-Transformer Starting Diagram

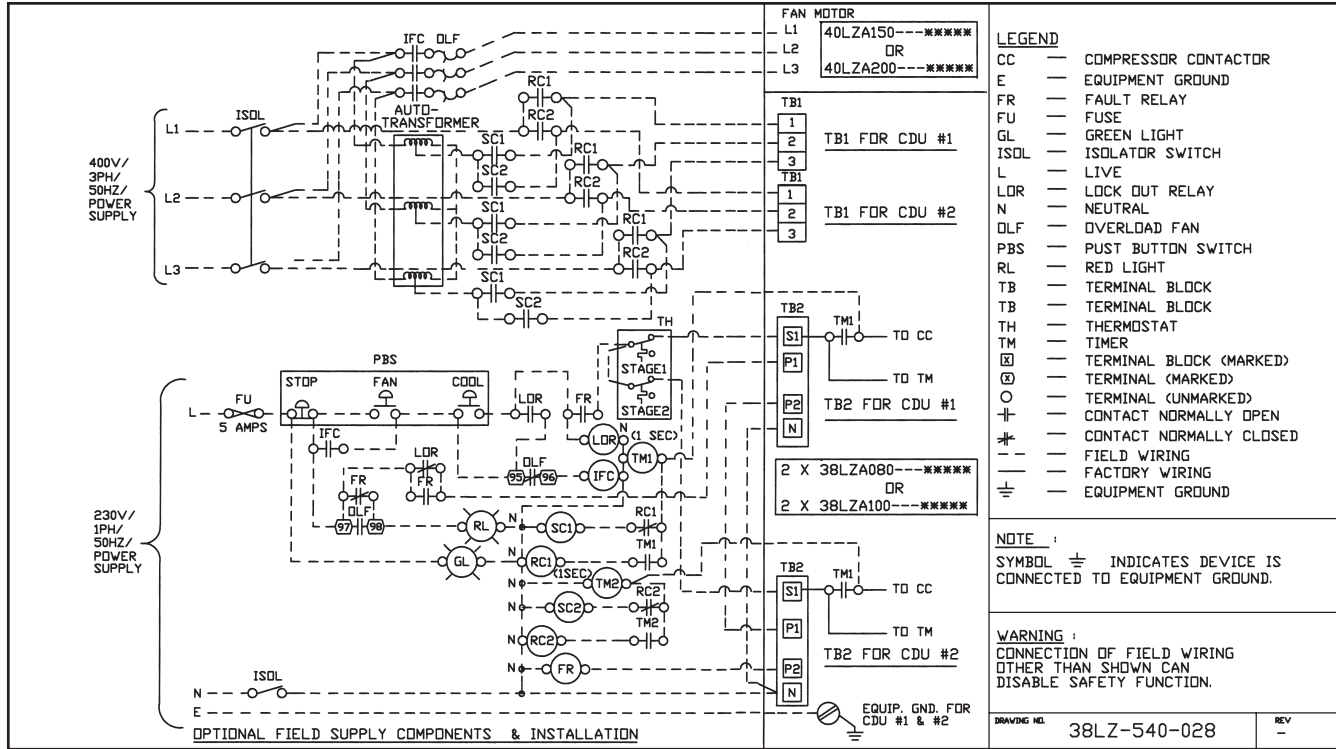


Direct Online Starting Diagram

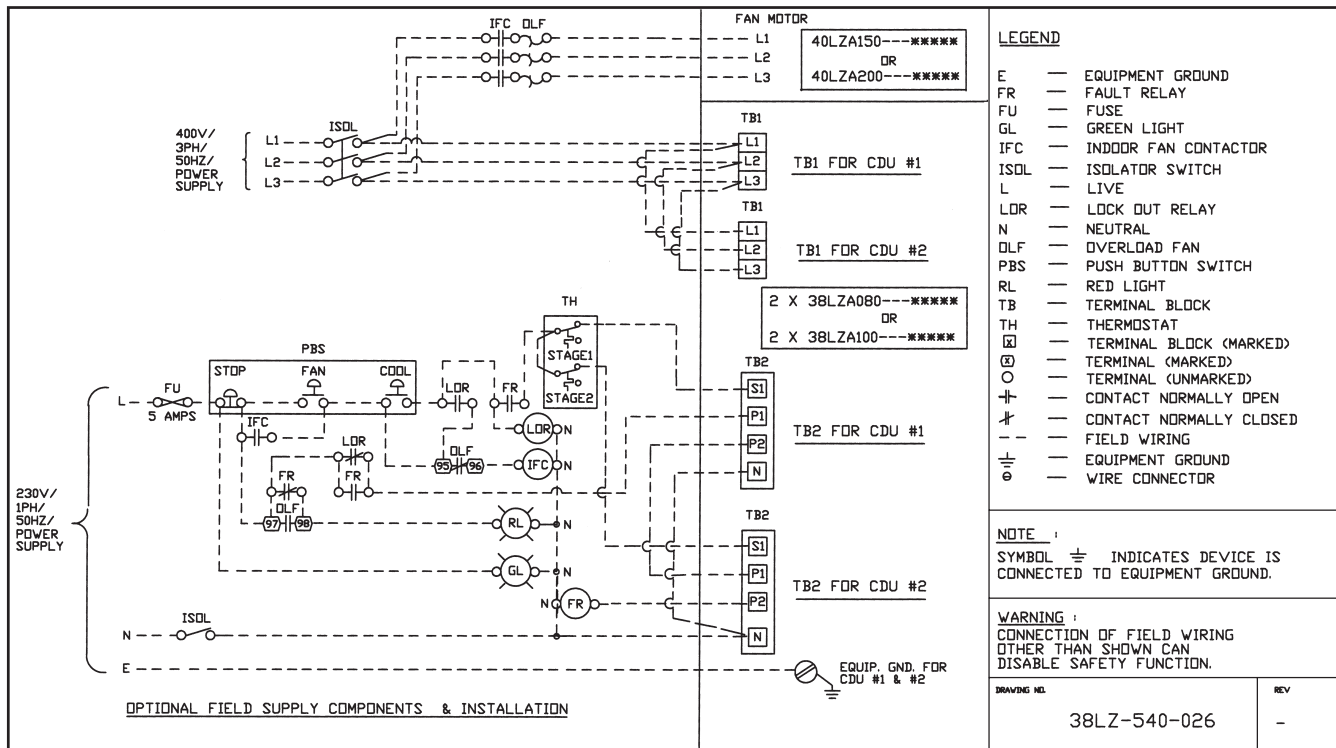


SYSTEM WIRING DIAGRAM (cont')

2 X 38LZA080 c/w 40LX150
2 X 38LZA100 c/w 40LX200



Auto-Transformer Starting Diagram



Direct On-line Starting Diagram



FAN MOTORS AND DRIVES

Unit	Fan Motor (kW)	Fan RPM	Pitch Diameter (mm)		Belt (SPZ)		Centre Line Distance (mm)	Fan Shaft Dia (mm)
			Motor Pulley	Fan Pulley	Size (mm)	No.		
LZA080	0.75	1,375	- Direct Driven -					20
LZA100	1.35	1,320	- Direct Driven -					20
LZA125	1.35	1,320	- Direct Driven -					20
LX150	2.20	879	80	132	1,040	2	336 ± 40	25
LX200	3.00	906	100	160	1,112	2	336 ± 40	25

Equation 1 : Pulley Diameter

$$PD_f = \frac{PD_m \times RPS_m}{RPS_f}$$

$$PD_m = \frac{PD_f \times RPS_f}{RPS_m}$$

PD_f	Fan pulley pitch diameter (mm)
PD_m	Motor pulley pitch diameter (mm)
RPS_f	Fan speed
RPS_m	Motor speed
L_b	V belt length (mm)
L_w	Center line distance (mm)
S_b	V belt size

Equation 2 : V Belt Length

$$L_b = 2 \times L_w + \frac{\pi (PD_m \times PD_f)}{2} + \frac{(PD_m \times PD_f)^2}{4 \times L_w}$$

Equation 3 : V Belt Size

$$S_b = \frac{L_b}{25.4}$$





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