

# Water-Cooled Self-Contained Units L-Series, Vertical

Year: 2020

Size: 80 Tons

Model #: LSWU080SEA46SPD40OP36P2VBHW000S

Serial #: TAHM134940



L: 8' 10"

W: 8'

H: 8' 6"



Operating Weight: 12,119 lbs  
Shipping Weight: 11,802 lbs



# Nomenclature



**LSWU 080 SE A 46 SPD 40 OP 36 P2 VB HW 000 S**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31  
**L S W U 0 9 5 S E A 4 6 S P D 4 0 O H 3 6 P 2 V V C O 0 0 0 S**

**UNIT TYPE**  
**L** = "L" Series  
**S** = Self-Contained  
**W** = Water-Cooled  
**U/D** = Upflow/Downflow

**NOMINAL CAPACITY**  
 025 = 25 Ton  
 032 = 32 Ton  
 035 = 35 Ton  
 040 = 40 Ton  
 050 = 50 Ton  
 060 = 60 Ton  
 062 = 62 Ton  
 070 = 70 Ton  
**080 = 80 Ton**  
 095 = 95 Ton  
 105 = 105 Ton

**SUPPLY VOLTAGE**  
 17 = 208V-3-6-0  
 28 = 230V-3-6-0  
**46 = 460V-3-6-0**  
 58 = 575V-3-6-0

**DESIGN SEQUENCE**  
**A** = Initial Design

**EVAPORATOR COIL**  
**SE** = Standard Efficiency  
 HE = High Efficiency

**SUPPLY MOTOR HP**  
 05 = 5 HP  
 07 = 7.5 HP  
 10 = 10 HP  
 20 = 20 HP  
 25 = 25 HP  
 30 = 30 HP  
**40 = 40 HP**  
 50 = 50 HP  
 60 = 60 HP

**SUPPLY MOTOR TYPE**  
**OP** = ODP Premium Eff.  
 TP = TEFC Premium Eff.

**POWER SUPPLY CONNECTION**  
 SPT = Single Point Terminal Block  
**SPD** = Single Point Disconnect Switch  
 DPT = Dual Point Terminal Block  
 DPD = Dual Point Disconnect Switch

**FAN SIZE**  
 25 = 25 inch  
 28 = 28 inch  
 32 = 32 inch  
**36 = 36 inch**  
 40 = 40 inch

**FAN CLASS**  
**P2** = CL2, Plenum  
 P3 = CL3, Plenum

**VFD OPTION**  
 CV = Constant Volume  
 VV = Variable Air Volume (VAV)  
**VB** = VAV with Bypass

**ELECTRIC HEAT SIZE**  
**000** = No EH  
 017 = 17.5 KW  
 035 = 35 KW  
 052 = 52.5 KW  
 070 = 70 KW  
 105 = 105 KW

**HEAT OPTION**  
 CO = Cooling Only  
**HW** = Hot Water  
 EH = Electric Heat

**ENTERING WATER TEMPERATURE**  
**S** = Standard Temperature  
 H = High Temperature

## Physical Data (Cont'd)

TABLE 6 - LSWU070-LSWU105

Nominal Capacity, Tons		70	80	95	105
Air Flow Range	Maximum Design Air Flow - Standard - CFM	29,800	33,900	36,100	36,100
	Maximum Design Air Flow - High Efficiency - CFM	24,800	28,200	30,100	30,100
	Minimum Design Air Flow - Standard - CFM	19,900	22,600	24,200	24,200
	Minimum Design Air Flow - High Efficiency - CFM	17,400	19,800	21,200	21,200
Cabinet Dimensions	Depth (Excluding Filter Section) - Inches	96	96	96	96
	Length - Inches	130	130	130	130
	Height - Inches	102	102	102	102
EER		14.1	13.7	13.7	13.3
EER - High Efficiency		14.5	14.1	14.1	13.7
Cooling Coil	Face Area - Square Feet	49.7	56.5	60.3	60.3
	Rows	4	5	5	6
	Fins Per Inch (Standard/High Efficiency)	12/17	12/17	12/17	12/17
Supply Fan	Fan Type	Airfoil Plenum Fan (SWSI)			
	Diameter - Inches/Class - Standard	36/Class II	36/Class II	40/Class II	40/Class II
	Diameter - Inches/Class - High Capacity Fan	40/Class II	40/Class II	None	None
	Fan Motor HP	15 - 40	15 - 40	20 - 50	20 - 50
Filters	4 Inch Deep - MERV 8 20X20X4 / 24X20X4	8 / 12	8 / 12	8 / 12	8 / 12
	4 Inch Deep - MERV 13 20X20X4 / 24X20X4	8 / 12	8 / 12	8 / 12	8 / 12
Compressors	Type	Scroll			
	Compressor Quantity / Nominal HP	2 - 15 + 2 - 13	4 - 15	6 - 13	6 - 15
Number of Capacity Steps		4	4	6	6
Condensers	Type	Shell and Tube			
	Quantity (2 refrigerant circuits per condenser)	2	2	3	3
Condenser Water Connections	Water In and Out Copper Victaulic Connections - Inches	3.125	3.125	3.125	3.125
Waterside Economizer Coil	Face Area - Square Feet	49.7	56.5	60.3	60.3
	Rows/Fins Per Inch	4/11	4/11	4/11	4/11
Heating	Hot Water Coil Face Area - Square Feet	35.8	40.6	43.3	43.3
	Hot Water Coil Rows/Fins Per Inch	1/12	1/12	1/12	1/12
	Steam Coil	Consult Factory			
	Electric Heat - KW - 240/3/60 Nominal	17.5/35.0	17.5/35.0	35.0/52.5	35.0/52.5
	Electric Heat - KW - 480/3/60 Nominal	17.5/35.0	17.5/35.0	35.0/52.5	35.0/52.5
	Electric Heat - KW - 600/3/60 Nominal	17.5/35.0	17.5/35.0	35.0/52.5	35.0/52.5

TABLE 7 - REFRIGERANT CHARGE DATA – LSWU060-LSWU105

MODEL #	COMP A		COMP B		COMP C		COMP D		COMP E		COMP F	
	NORM HP	410A CHARGE-LBS	NORM HP	410A CHARGE-LBS	NORM HP	410A CHARGE-LBS	NORM HP	410A CHARGE-LBS	NORM HP	410A CHARGE-LBS	NORM HP	410A CHARGE-LBS
LSWU025	10	20.0	10	20.0	-	-	-	-	-	-	-	-
LSWU032	15	21.5	11	21.5	-	-	-	-	-	-	-	-
LSWU035	15	23.0	13	23.0	-	-	-	-	-	-	-	-
LSWU040	15	27.0	15	27.0	-	-	-	-	-	-	-	-
LSWU050	15	28.5	11	25.0	11	25.0	-	-	-	-	-	-
LSWU060	15	26.5	15	26.5	15	27.5	-	-	-	-	-	-
LSWU070	15	22.5	15	22.5	15	22.50	15	22.5	-	-	-	-
<b>LSWU080</b>	15	23.25	15	23.25	15	25.3	15	25.3	-	-	-	-
LSWU095	13	19.0	13	19.0	13	23.50	13	23.5	13	23.5	13	23.5
LSWU105	15	19.0	15	19.0	15	23.50	15	23.5	15	27.5	15	27.5

TABLE 15 - LSWU080

AIR FLOW 32,000 CFM

EDB	EWB	EWT 80				LWT 90				EWT 80				LWT 92				EWT 85				LWT 95			
		TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM
75	62	901.4	798.5	52.3	52.1	46.6	212.1	894.4	795.2	52.4	52.2	47.6	176.1	884.5	790.4	52.6	52.3	49.0	210.4						
75	67	954.7	619	57.7	57.7	47.6	223.5	947	616.1	57.8	57.8	48.6	185.4	935.5	611.5	57.9	57.9	50.0	221.2						
75	72	1032	439.7	63.1	63.1	49.2	239.9	1023	436.7	63.3	63.2	50.1	199.0	1010	432.2	63.3	63.3	51.5	237.2						
80	62	940.3	940.3	53.2	51.6	47.4	220.4	933.5	933.5	53.4	51.7	48.4	183.1	924	924	53.6	51.8	49.8	218.8						
80	67	970.5	796.4	57.6	57.4	48.0	226.8	963	793	57.6	57.5	48.9	188.3	952	788.1	57.8	57.6	50.3	224.7						
80	72	1033	614.2	63.0	63.0	49.3	240.2	1026	611.5	63.1	63.1	50.2	199.4	1013	606.9	63.2	63.2	51.6	237.7						
85	62	995.5	995.5	56.5	50.9	48.5	232.2	988	988	56.8	51.0	49.5	192.8	978	978	57.0	51.1	50.9	230.4						
85	67	998.4	963.7	57.6	57.1	48.6	232.8	993.3	962	57.7	57.1	49.5	193.7	981.7	955.9	57.9	57.3	51.0	231.1						
85	72	1041	790.9	62.9	62.9	49.4	241.8	1032	787.6	62.9	62.9	50.3	200.6	1021	783.6	63.1	63.0	51.8	239.4						

AIR FLOW 32,000 CFM

EDB	EWB	EWT 85				LWT 97				EWT 90				LWT 100				EWT 90				LWT 102			
		TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM
75	62	877.5	787.1	52.7	52.4	50.1	174.7	866.4	781.9	52.8	52.5	51.6	208.5	859.4	778.6	52.9	52.6	52.7	173.2						
75	67	927.8	608.5	58.0	58.0	50.9	183.6	916.1	603.9	58.1	58.1	52.5	219.0	907.4	600.6	58.2	58.2	53.6	181.7						
75	72	1002	429.3	63.4	63.4	52.5	196.8	989.3	424.9	63.6	63.5	54.0	234.7	980.8	421.9	63.6	63.6	55.0	194.8						
80	62	917.3	917.3	53.8	51.9	50.8	181.8	908	908	54.1	52.0	52.4	217.4	900.4	900.4	54.3	52.1	53.5	180.5						
80	67	944.7	785	57.9	57.7	51.3	186.7	932.5	779.6	58.0	57.9	52.9	222.6	924.5	776	58.1	57.9	54.0	184.8						
80	72	1005	604.2	63.3	63.3	52.5	197.4	991.2	599.3	63.4	63.4	54.1	235.1	982.8	596.3	63.5	63.5	55.1	195.1						
85	62	972.1	972.1	57.2	51.2	51.9	191.5	960.4	960.4	57.6	51.3	53.5	228.6	954.5	954.5	57.7	51.4	54.5	190.1						
85	67	974.5	952	58.0	57.3	52.0	192.0	963.4	946.7	58.1	57.5	53.5	229.2	956	942.4	58.2	57.5	54.6	190.4						
85	72	1013	780.8	63.1	63.1	52.7	198.9	999.5	775.7	63.3	63.3	54.2	236.9	993.4	773.6	63.3	63.3	55.3	197.0						

HIGH EFFICIENCY - AIR FLOW 26,000 CFM

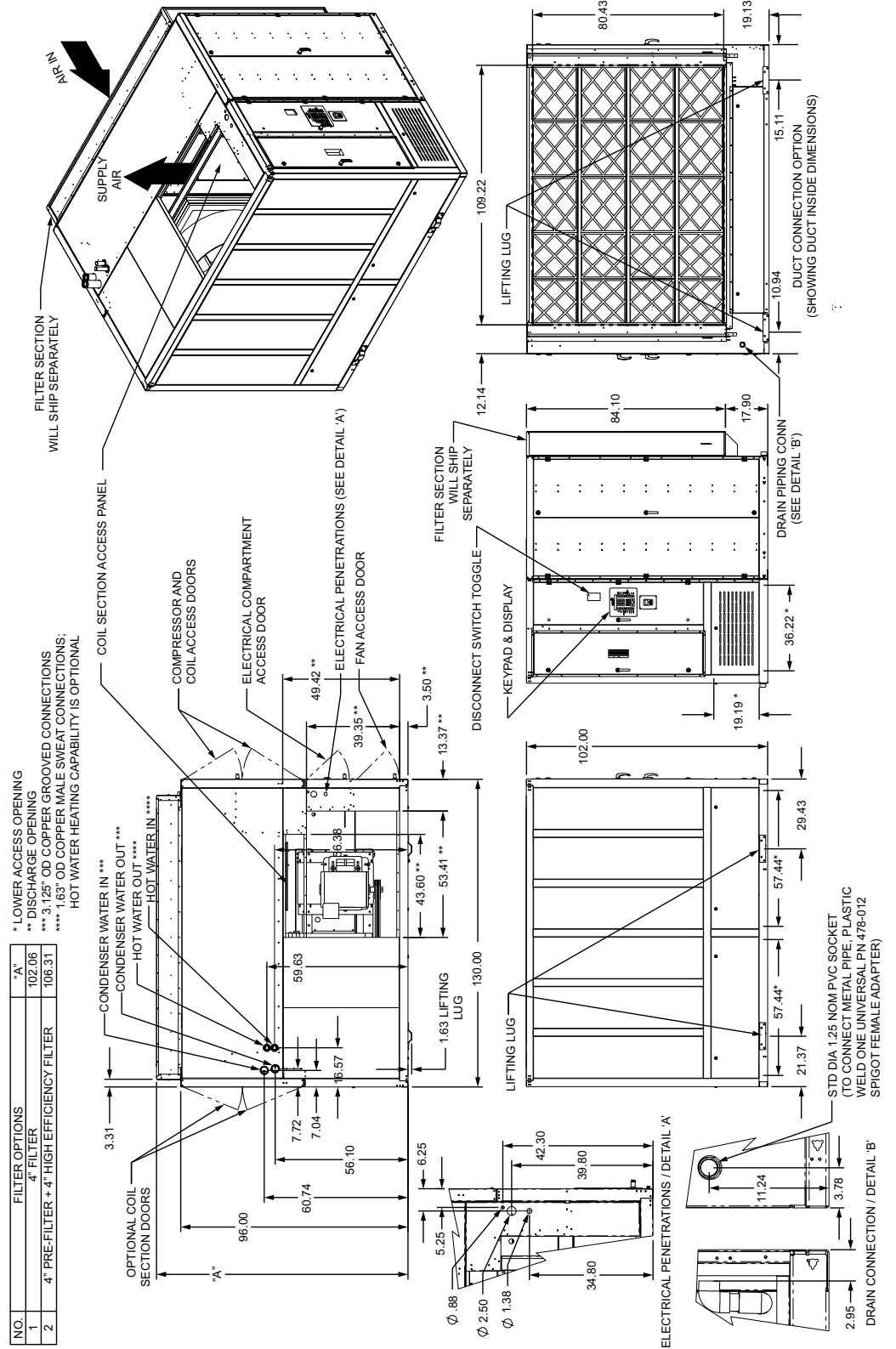
EDB	EWB	EWT 80				LWT 90				EWT 80				LWT 92				EWT 85				LWT 95			
		TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM
75	62	901.4	798.5	47.2	47.1	46.6	212.1	894.4	795.2	47.3	47.2	47.6	176.1	884.5	790.4	47.5	47.4	49.0	210.4						
75	67	954.7	619	53.8	53.7	47.6	223.5	947	616.1	53.9	53.8	48.6	185.4	935.5	611.5	54.0	53.9	50.0	221.2						
75	72	1032	439.7	60.4	60.3	49.2	239.9	1023	436.7	60.5	60.4	50.1	199.0	1010	432.2	60.7	60.6	51.5	237.2						
80	62	940.3	940.3	47.1	47.0	47.4	220.4	933.5	933.5	47.3	47.2	48.4	183.1	924	924	47.7	47.6	49.8	218.8						
80	67	970.5	796.4	52.5	52.4	48.0	226.8	963	793	52.6	52.5	48.9	188.3	952	788.1	52.7	52.6	50.3	224.7						
80	72	1033	614.2	59.2	59.1	49.3	240.2	1026	611.5	59.3	59.2	50.2	199.4	1013	606.9	59.4	59.3	51.6	237.7						
85	62	995.5	995.5	50.0	47.9	48.5	232.2	988	988	50.2	48.1	49.5	192.8	978	978	50.6	48.2	50.9	230.4						
85	67	998.4	963.7	51.4	51.3	48.6	232.8	993.3	962	51.5	51.4	49.5	193.7	981.7	955.9	51.7	51.6	51.0	231.1						
85	72	1041	790.9	57.8	57.7	49.4	241.8	1032	787.6	57.9	57.8	50.3	200.6	1021	783.6	58.1	58.0	51.8	239.4						

HIGH EFFICIENCY - AIR FLOW 26,000 CFM

EDB	EWB	EWT 85				LWT 97				EWT 90				LWT 100				EWT 90				LWT 102			
		TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM	TMBH	SMBH	LDB	LWB	COMP KW	WATER FLOW GPM
75	62	877.5	787.1	47.6	47.5	50.1	174.7	866.4	781.9	47.8	47.7	51.6	208.5	859.4	778.6	47.9	47.8	52.7	173.2						
75	67	927.8	608.5	54.1	54.0	50.9	183.6	916.1	603.9	54.3	54.2	52.5	219.0	907.4	600.6	54.4	54.3	53.6	181.7						
75	72	1002	429.3	60.8	60.7	52.5	196.8	989.3	424.9	60.9	60.8	54.0	234.7	980.8	421.9	61.0	60.9	55.0	194.8						
80	62	917.3	917.3	47.9	47.8	50.8	181.8	908	908	48.2	48.1	52.4	217.4	900.4	900.4	48.5	48.4	53.5	180.5						
80	67	944.7	785	52.8	52.7	51.3	186.7	932.5	779.6	53.0	52.9	52.9	222.6	924.5	776	53.1	53.0	54.0	184.8						
80	72	1005	604.2	59.5	59.4	52.5	197.4	991.2	599.3	59.7	59.6	54.1	235.1	982.8	596.3	59.8	59.7	55.1	195.1						
85	62	972.1	972.1	50.8	48.3	51.9	191.5	960.4	960.4	51.2	48.5	53.5	228.6	954.5	954.5	51.4	48.6	54.5	190.1						
85	67	974.5	952	51.8	51.7	52.0	192.0	963.4	946.7	52.0	51.9	53.5	229.2	956	942.4	52.2	52.1	54.6	190.4						
85	72	1013	780.8	58.2	58.1	52.7	198.9	999.5	775.7	58.3	58.2	54.2	236.9	993.4	773.6	58.4	58.3	55.3	197.0						

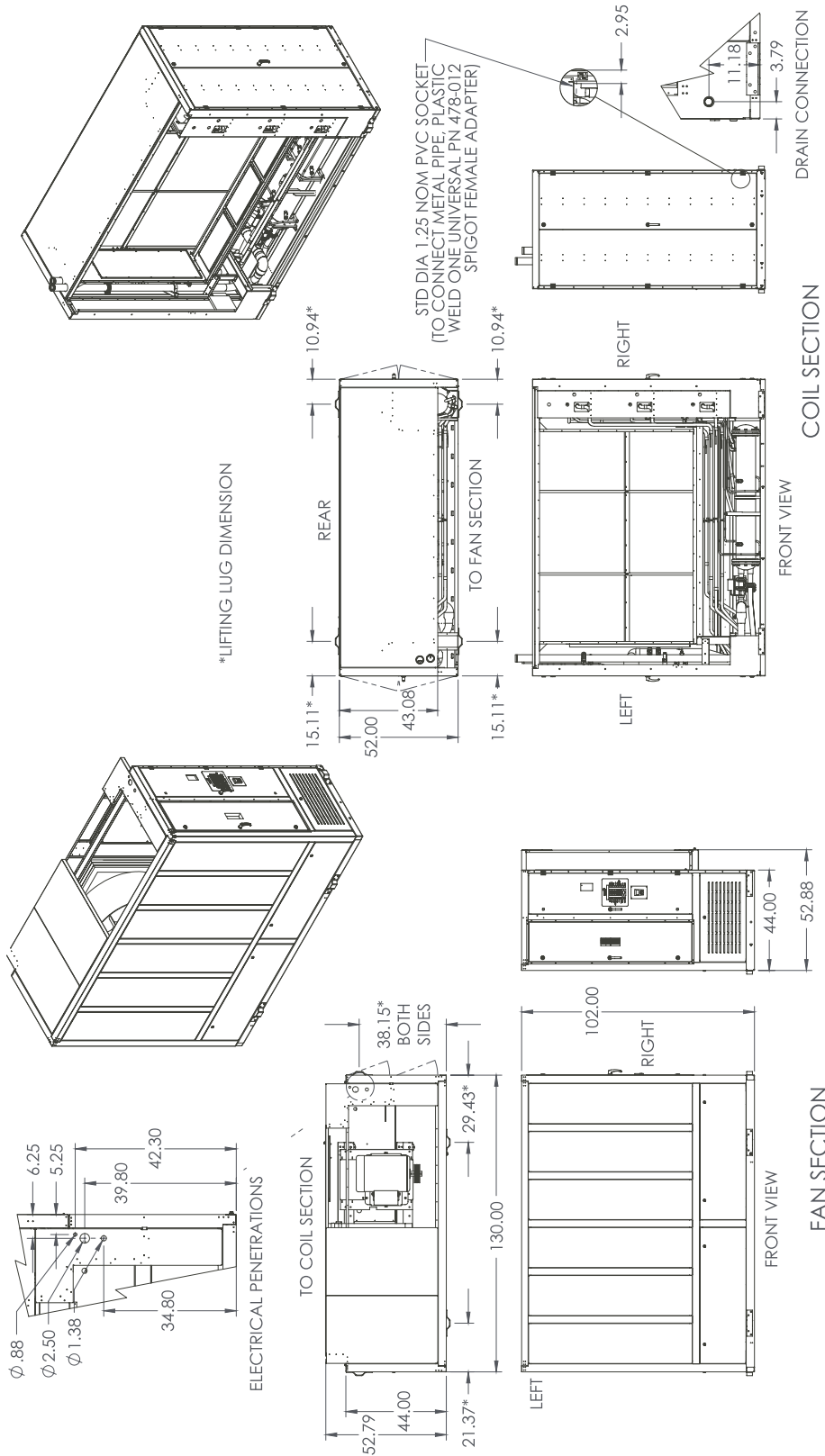
NOTE: EDB-entering dry bulb temp, EWB-entering wet bulb temp, EWT-entering water temp, LWT-leaving water temp, LDB-leaving dry bulb temp, LWB-leaving wet bulb temp, TMBH-total capacity, SMBH-sensible capacity

## OVERVIEW OF COMBINED UNIT LSWU070-105 MODELS



# Dimensional Data (Cont'd)

## OVERVIEW OF SPLIT SHIPMENTS LSWU070-105 MODELS



NOTE: FILTER SECTION IS NOT SHOWN AND WILL BE SHIPPED SEPARATELY.

## Operating Weights (Cont'd)

TABLE 31 - OPERATING WEIGHTS (LBS) - LSWU070-105

MODEL	LSWU070		LWSU080		LSWU095		LSWU105	
<b>Compressor Section</b>								
	<i>H2O Weight</i>		<i>H2O Weight</i>		<i>H2O Weight</i>		<i>H2O Weight</i>	
Compressor-Standard	4316	231	4456	231	5331	231	5442	231
Compressor-High Efficiency	4376	231	4542	231	5441	231	5562	231
Water Economy Coil	783	240	989	240	1036	240	1036	240
Hot Water Heat	288	70	320	70	320	70	320	70
<b>Fan Section</b>								
<b>Supply Fan</b>	2040		2040		2040		2040	
36 Inch Class II	685		685		685		685	
40 Inch Class II	920		920		920		920	
40 Inch Class III	1065		1065		1065		1065	
<b>Supply Fan Motor</b>								
ODP	<i>Prem Eff</i>		<i>Prem Eff</i>		<i>Prem Eff</i>		<i>Prem Eff</i>	
15HP	327		327		327		327	
20HP	367		367		367		367	
25HP	470		470		470		470	
30HP	512		512		512		512	
40HP	614		614		614		614	
50HP	622		622		622		622	
TEFC	<i>Prem Eff</i>		<i>Prem Eff</i>		<i>Prem Eff</i>		<i>Prem Eff</i>	
15HP	365		365		365		365	
20HP	421		421		421		421	
25HP	538		538		538		538	
30HP	573		573		573		573	
40HP	742		742		742		742	
50HP	900		900		900		900	
<b>Variable Frequency Drive (VFD)</b>								
Variable Air Volume (VAV) & VAV w/ Bypass								
15HP	96		96		96		96	
20HP	96		96		96		96	
25HP	115		115		115		115	
30HP	115		115		115		115	
40HP	115		115		115		115	
50HP	190		190		190		190	
<b>Filter Section</b>								
4" 30-35% Efficiency (MERV 8)	257		257		257		257	
4" 80-85% Efficiency + 4" 30-35% Efficiency Prefilter (MERV 13 + 8)	487		487		487		487	
<b>Plenums</b>								
Inlet Plenum - Sound Attenuating	439		439		439		439	
Outlet Plenum - Half	415		415		415		415	
Outlet Plenum - Full	556		556		556		556	
Inlet Plenum - Air Economy	1540		1540		1540		1540	
<b>Electric Heat Section</b>								
Fan	161		161		161		161	

\*\*Weights shown represent approximate operating weights, and they have a ±10% accuracy.