



ENGINEERING DATA

INDOOR AIR QUALITY

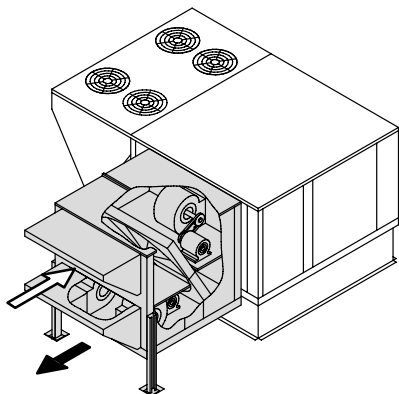
ERS

ENERGY RECOVERY SYSTEM

60 HZ

Bulletin No. 210368  
April 2007  
Supersedes February 2007

Typical Application



300 to 6200 cfm Capacity

MODEL NUMBER IDENTIFICATION

**L A ERS 03/07 - 0550 M F - 1 P - XX**

**Unit Type**  
L = L Series®

**Major Design Sequence**  
A = first generation  
B = second generation

**Product Type**  
ERS = Energy Recovery System

**Matching Rooftop Unit**  
03/07 = 3-6 ton L Series  
08/10 = 7.5 ton L Series  
10/15 = 7.5-12 ton L Series  
18/24 = 13-25 ton L Series  
30/36 = 25 & 30 ton L Series

**Air Flow Range**  
0550 = 300-550 cfm  
1000 = 600-1000 cfm  
1700 = 1100-1700cfm  
2200 = 1500-2200 cfm  
2800 = 2200-2800 cfm  
3600 = 2800-3600 cfm  
4600 = 3400-4600 cfm  
5600 = 4800-5600 cfm  
6200 = 5500-6200 cfm

**Blower Speed**  
H = High  
M = Medium

**Factory Option Codes**

- XX = No options
- L1 = Low ambient kit
- L2 = Low ambient kit & motorized outdoor air damper
- L3 = Low ambient kit, motorized outdoor air damper, and stop-start-jog
- L4 = Low ambient kit, motorized outdoor air damper, stop-start-jog, and pressure sensor
- L5 = Low ambient kit and stop-start-jog
- L6 = Low ambient kit, stop-start-jog, & pressure sensor
- L7 = Low ambient kit and pressure sensor
- L8 = Low ambient kit, motorized damper, and pressure sensor
- M1 = Motorized outdoor air damper
- M2 = Motorized outdoor air damper & stop-start-jog
- M3 = Motorized outdoor air damper, stop-start-jog, and pressure sensor
- M4 = Motorized outdoor air damper & pressure sensor
- P1 = Pressure sensor
- S1 = Stop-start-jog
- S2 = Stop-start-jog and pressure sensor

**Voltage**

- P = 208/230V-1 phase-60hz
- Y = 208/230V-3 phase-60hz
- G = 460V-3 phase-60hz
- J = 575V-3 phase-60hz

**Minor Revision Number**

**Wheel Design**  
F = Fixed  
P = Pivoting

## FEATURES

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### APPROVALS

Rated in accordance with ARI standard 1060-2005. To obtain a copy of the Standard or to view Lennox' latest certified data, please visit the ARI website at [www.ari.org](http://www.ari.org). ETL Certified per UL 1995 and CSA/CAN C22.2 No. 236.

### WARRANTY

Recovery Wheel - limited warranty for five years.  
All other covered components - one year limited warranty.

### APPLICATIONS

The Lennox Energy Recovery System (ERS) is a constant volume, energy recovery ventilator that is directly coupled with Lennox L Series® rooftop units.

Its primary function is to increase overall HVAC system efficiency and to reduce long-term energy costs.

This is accomplished by capturing both sensible and latent energy from either the exhaust or intake air stream and transferring it to the other, resulting in reduced cooling loads at design temperatures up to 4 tons per 1000 cfm of outside air and reduced heating loads up to 12,000 Btuh per 400 cfm of outside air.

The recovery wheel provides sensible and latent energy exchange between the entering and exhaust air streams of a building allowing a substantial amount of the energy, which is normally lost in the exhaust air stream, to be returned into the entering air.

Each unit factory test operated to ensure proper operation.

### OPERATION

The ERS enthalpy wheel contains parallel layers of a polymeric material that is physically imbedded with a silica gel (desiccant).

The wheel is located in the intake and exhaust air streams of the ventilation equipment.

As the wheel rotates through each air stream, the wheel surface captures sensible and latent energy.

In the heating mode, the wheel rotates to provide a constant transfer of heat from the exhaust air stream to the colder intake air stream. During the cooling season, the process is reversed.

When used in conjunction with a rooftop unit equipped with an economizer, on pivoting models, the wheel pivots out of the air stream to allow the economizer to operate normally for "free cooling" when outdoor temperature and humidity is acceptable.

By pivoting the wheel of the ERS out of the air stream, the system can utilize 100% of the rooftop unit's blower capabilities.

During economizer operation, the ERS exhaust blower continues to run, providing power exhaust for the system. The intake blower is de-energized during economizer operation.

### ERS SELECTION

**Step One** - Determine the air conditioning load requirements using the required amount of outside air *without* an ERS.

**Step Two** - Select the proper ERS for the outside air requirements and calculate the tonnage reduction through the optional ERS System Selection Tool software program.

Select the rooftop unit required by reducing the load determined in step one by the reduction in step two. (Example: If the load in Step 1 was 10 tons, and the reduction in Step 2 was 2.5 tons, select a 7.5 ton unit).

Select the proper ERS based on the selected unit.

NOTE - The height of the rooftop unit curb **MUST** correspond with the required curb height needed for the ERS. See Specifications Table.

### SYSTEM FEATURES

Low-voltage logic board used to control frost protection and motorized outside air damper.

Low-voltage terminal strip.

Barometric relief dampers provided standard on all ERS units.

Balancing dampers provided standard on all fixed wheel ERS units.

Metal-mesh, mist-eliminator-type filters provided in intake air hood.

Separate, fused power supply.

Continuous operation down to 10°F without defrost at indoor relative humidity up to 40%. For temperatures below 10°F, Optional Low Ambient Control Kit is required.

### RECOVERY WHEEL

AirXchange Enthalpy Wheels.

Capable of both sensible and latent heat recovery. Dry energy transfer. Moisture in supply air stream is transferred to exhaust air stream in vapor state, eliminating condensate plumbing in the ventilator.

Constructed of lightweight polymer material and coated with a desiccant silica gel that will not dissolve or liquify in the presence of water or high humidity.

Wheels 36 in. and larger in diameter are segmented for easy removal. Wheels less than 36 in. in diameter are removed from cabinet in a slide-out cassette.

Patented, pivoting-wheel option allows unit to operate in true economizer mode when the outside temperature is suitable for cooling. Pivoting the wheel out of the air stream during economizer mode allows efficiencies to be maximized by reducing demand on the supply fan motor.

### BLOWERS

Centrifugal blowers provided for high-static capability and low sound levels.

Belt drive and direct drive models available.

Belt-drive blowers have permanently lubricated ball bearings, overload protection, and adjustable sheaves for blower speed adjustment.

## **FEATURES**

### **CABINET**

Fully insulated with non-hygroscopic fiberglass insulation. Constructed of galvanized steel and finished with electrostatically bonded powdered enamel coating to withstand 1000 hour salt-spray test per ASTM B117.

Attaches directly to the rooftop unit. All mounting hardware is provided.

Adjustable support legs are provided.

### **OPTIONS**

#### **ERS Support**

8 inch high base for support of the exhaust and intake end of the ERS.

Available in 48, 60, and 76 inch lengths.

#### **Motorized Intake Air Damper**

Damper mounts in the outdoor air intake hood.

Damper opens when the ERS is energized and closes when de-energized.

### **CONTROLS**

#### **OPTIONS**

#### **Low Ambient Control Kit**

Prevents frost formation on energy wheel heat transfer surfaces by terminating the intake blower operation when discharge air temperature falls below a field-selectable temperature setting.

Intake blower operation resumes after temperature rises above the adjustable temperature differential.

Kit includes temperature sensor.

#### **Pressure Sensor**

Measures the amount of outside airflow across the enthalpy wheel.

#### **Stop-Start-Jog (Fixed Models Only)**

Rotates the enthalpy wheel on a pre-set timer to prevent contamination of the wheel during economizer operation.

## **SOFTWARE**

### **OPTIONS**

#### **ERS System Selection Tool Software**

Use to select the proper ERS for the outside air requirements and calculate the reduction in required tonnage.

IBM compatible PC with 266 Mhz or better microprocessor, Microsoft Windows® 95 (Service Pack 1 or OSR2), Windows® 98, Windows® XP, Windows® 2000, or Windows NT® operating system, at least 64 MB RAM, and at least 60 MB of free space on hard drive.

## ELECTRICAL DATA - 60HZ

Model No.		<sup>2</sup> LAERS03/07-0550HF	LAERS03/07-1000HF LAERS03/07-1000HP	LAERS03/07-1700HF LAERS10/15-1700HF	LAERS03/07-1700HP LAERS10/15-1700HP
Fresh Air Blower Motor	208/230V-1ph	3.8	---	---	---
	208/230V-3ph	3.8	3.4	3.8	3.8
	460V-3ph	3.8	3.4	1.9	1.9
	575V-3ph	3.8	3.4	1.4	1.4
Exhaust Blower Motor	208/230V-1ph	3.8	---	---	---
	208/230V-3ph	3.8	3.4	3.8	5.5
	460V-3ph	3.8	1.5	1.9	2.8
	575V-3ph	3.8	1.5	1.4	1.9
Wheel Drive Motor - Full load amps		0.6	0.6	0.6	0.6
Maximum fuse size (amps)	208/230V-1ph	10	---	---	---
	208/230V-3ph	10	10	12	15
	460V-3ph	10	6	6	8
	575V-3ph	10	6	5	6
<sup>1</sup> Minimum Circuit Ampacity	208/230V-1ph	8.7	---	---	---
	208/230V-3ph	8.7	8.25	9.15	11.3
	460V-3ph	8.7	4.4	4.9	6
	575V-3ph	8.7	4.4	3.8	4.4

<sup>1</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>2</sup> A unit stepdown transformer is provided, 208/230/460/575V-1 or 3 phase primary, 120V secondary.

## ELECTRICAL DATA - 60HZ

Model No.		LAERS18/24-2200HF LAERS10/15-2800HF LAERS18/24-2800HF LAERS10/15-3600HF LAERS18/24-3600HF	LAERS18/24-2200HP LAERS10/15-2800HP LAERS18/24-2800HP LAERS10/15-3600HP LAERS18/24-3600HP	LAERS30/36-3600HF	LAERS30/36-3600HP	
Fresh Air Blower Motor	Full load amps	208/230V-3ph	5.5	5.5	6.6	6.6
		460V-3ph	2.8	2.8	3.3	3.3
		575V-3ph	1.9	1.9	2.5	2.5
Exhaust Blower Motor	Full load amps	208/230V-3ph	5.5	9	6.6	9
		460V-3ph	2.8	4.4	3.3	4.4
		575V-3ph	1.9	3.6	2.5	3.6
Wheel Drive Motor - Full load amps			1.1	1.1	2.7	2.7
Maximum fuse size (amps)		208/230V-3ph	20	25	20	25
		460V-3ph	10	12	12	15
		575V-3ph	7	10	10	12
<sup>1</sup> Minimum Circuit Ampacity		208/230V-3ph	13.5	17.9	17.5	20.6
		460V-3ph	7.4	9.4	10.1	11.5
		575V-3ph	5.4	7.5	8.3	9.7

<sup>1</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

## ELECTRICAL DATA - 60HZ

Model No.		LAERS18/24-4600HF LAERS30/36-4600HF	LAERS18/24-4600HP LAERS30/36-4600HP	LAERS18/24-5600MF LAERS30/36-5600MF LAERS18/24-6200HF LAERS30/36-6200HF	LAERS18/24-5600MP LAERS30/36-5600MP LAERS18/24-6200HP LAERS30/36-6200HP	
Fresh Air Blower Motor	Full load amps	208/230V-3ph	9	9	15	15
		460V-3ph	4.4	4.4	7.4	7.4
		575V-3ph	3.6	3.6	5.8	5.8
Exhaust Blower Motor	Full load amps	208/230V-3ph	9	15	15	14.8
		460V-3ph	4.4	7.4	7.4	7
		575V-3ph	3.6	5.8	5.8	5
Wheel Drive Motor - Full load amps			2.7	2.7	2.7	2.7
Maximum fuse size (amps)		208/230V-3ph	30	45	50	50
		460V-3ph	15	20	25	25
		575V-3ph	12	15	20	20
<sup>1</sup> Minimum Circuit Ampacity		208/230V-3ph	23	30.5	36.4	36.3
		460V-3ph	12.6	16.4	19.4	19
		575V-3ph	10.8	13.6	15.8	15

<sup>1</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

## SPECIFICATIONS - 300-550 CFM MODELS

<b>General Data</b>	<b>Model Number Fixed Wheel</b>	<sup>2</sup> LAERS03/07-0550HF			
	Nominal Air Volume - cfm	300-550			
	Matching Units	LCA/C036-072 LGA/C036-072			
<b>Required Height of Rooftop Unit Curb - in.</b>		14			
<b>Fresh Air Blower</b>	PSC Motor - hp	0.2			
	Wheel Size (diameter x width) - in	6-1/4 x 6-1/2			
	Motor Speed - rpm	1780			
	Motor Speed(s)	2			
	Bearing Type	Sleeve			
<b>Exhaust Air Blower</b>	PSC Motor - hp	1/4			
	Wheel Size (diameter x width) -in	6-1/4 x 6-1/2			
	Motor Speed - rpm	1780			
	Motor Speed(s)	2			
	Bearing Type	Sleeve			
<b>Recovery Wheel</b>	Wheel Depth x Diameter - in	2 x 19-1/3			
	Motor Speed - rpm	1050			
<b>Electrical Data - Line Voltage - 60hz</b>		<sup>2</sup> 208/230V-1ph, 208/230V-3ph, 460V-3ph, and 575V-3ph			
<b><sup>1</sup>Enthalpy Wheel ARI Rating Data</b>	Nominal Airflow	500 cfm at 0.6 in. w.c.			
	EATR - Exhaust Air Transfer Ratio	at minus 0.5 in. w. c.	9.90%		
		at 0 in. w.c.	0.20%		
		at 0.5 in. w.c.	0.00%		
	OACF - Outdoor Air Correction Factor	at minus 0.5 in. w. c.	1.02%		
		at 0 in. w.c.	1.33%		
at 0.5 in. w.c.		1.59%			
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	Sensible	Latent	Total
		75% Airflow Heating	68%	60%	65%
		100% Airflow Cooling	73%	65%	70%
		75% Airflow Cooling	68%	60%	64%
	Net Effectiveness	100% Airflow Heating	73%	65%	69%
		75% Airflow Heating	68%	60%	65%
		100% Airflow Cooling	73%	65%	70%
		75% Airflow Cooling	68%	60%	64%
		100% Airflow Heating	73%	65%	69%
		75% Airflow Heating	68%	60%	65%
		100% Airflow Cooling	73%	65%	70%
		75% Airflow Cooling	68%	60%	64%
<b>Weights</b>	Shipping - lbs.	198			
	Net - lbs.	155			

### OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ERS System Selection Tool Software	<b>47M74</b>
ERS Support - 48 in. length	<b>94K14</b>
Low ambient kit	<b>44M03</b>
Low ambient / stop-start-jog kit	<b>44M28</b>
Low ambient / stop-start-jog / pressure sensor kit	<b>44M29</b>
Low ambient / pressure sensor kit	<b>44M30</b>
Pressure sensor kit	<b>44M71</b>
Stop-start-jog kit	<b>44M72</b>
Stop-start-jog / pressure sensor kit	<b>44M73</b>
Low ambient / motorized outdoor air damper kit	<b>44M04</b>
Low ambient / motorized outdoor air damper / stop-start-jog kit	<b>44M12</b>
Low ambient / motorized OAD/stop-start-jog/press. sensor kit	<b>44M20</b>
Low ambient / motorized damper / pressure sensor kit	<b>44M31</b>
Motorized outdoor air damper kit	<b>44M39</b>
Motorized outdoor air damper / stop-start-jog kit	<b>44M47</b>
Motorized outdoor air damper / stop-start-jog / pressure sensor kit	<b>44M55</b>
Motorized outdoor air damper / pressure sensor kit	<b>44M63</b>

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

<sup>2</sup> A unit stepdown transformer is provided, 208/230/460/575V primary, 120V secondary.

## SPECIFICATIONS - 600-1000 CFM MODELS

<b>General Data</b>	<b>Model Number Fixed Wheel</b>		<b>LAERS03/07-1000HF</b>		
	<b>Model Number Pivoting Wheel</b>		<b>LAERS03/07-1000HP</b>		
	Nominal Air Volume - cfm		600-1000		
	Matching Units		LCA/C036-072 LGA/C036-072		
<b>Required Height of Rooftop Unit Curb - in.</b>			14		
<b>Fresh Air Blower</b>	PSC Motor - hp		1/2		
	Wheel Size (diameter x width) -in		10 x 6		
	Motor Speed -rpm		1120		
	Motor Speed(s)		3		
	Bearing Type		Sleeve		
<b>Exhaust Air Blower</b>	PSC Motor - hp		1/2		
	Wheel Size (diameter x width) - in		10 x 6		
	Motor Speed - rpm		1120		
	Motor Speed(s)		3		
	Bearing Type		Sleeve		
<b>Recovery Wheel</b>	Wheel Depth x Diameter - in		3 x 25-1/3		
	Motor Speed - rpm		1050		
<b>Electrical Data - Line Voltage - 60hz</b>			208/230V-1ph, 208/230V-3ph, 460V-3ph, and 575V-3ph		
<b><sup>1</sup>Enthalpy Wheel ARI Rating Data</b>	Nominal Airflow		900 cfm at 1 in. w.c.		
	EATR - Exhaust Air Transfer Ratio	at minus 1 in. w. c.		9.30%	
		at 0 in. w.c.		0.70%	
		at 1 in. w.c.		0.00%	
	OACF - Outdoor Air Correction Factor	at minus 1 in. w. c.		0.97%	
		at 0 in. w.c.		1.19%	
at 1 in. w.c.			1.34%		
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	Sensible	Latent	Total
		75% Airflow Heating	76%	68%	73%
	Net Effectiveness	100% Airflow Cooling	81%	73%	78%
		75% Airflow Cooling	76%	68%	72%
	100% Airflow Heating	81%	73%	76%	
		75% Airflow Heating	76%	68%	73%
	100% Airflow Cooling	81%	73%	78%	
		75% Airflow Cooling	76%	68%	72%
	Shipping - lbs.				
		Net - lbs.			

### OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ERS System Selection Tool Software	<b>47M74</b>
ERS Support - 48 in. length	<b>94K14</b>
Low ambient kit	<b>44M03</b>
Low ambient / stop-start-jog kit	<b>44M28</b>
Low ambient / stop-start-jog / pressure sensor kit	<b>44M29</b>
Low ambient / pressure sensor kit	<b>44M30</b>
Pressure sensor kit	<b>44M71</b>
Stop-start-jog kit	<b>44M72</b>
Stop-start-jog / pressure sensor kit	<b>44M73</b>
Low ambient / motorized outdoor air damper kit	<b>44M05</b>
Low ambient / motorized outdoor air damper /stop-start-jog kit	<b>44M13</b>
Low ambient/motorized OAD/stop-start-jog/press. sensor kit	<b>44M21</b>
Low ambient / motorized damper / pressure sensor kit	<b>44M32</b>
Motorized outdoor air damper kit	<b>44M40</b>
Motorized outdoor air damper / stop-start-jog kit	<b>44M48</b>
Motorized outdoor air damper/stop-start-jog / press. sensor kit	<b>44M56</b>
Motorized outdoor air damper / pressure sensor kit	<b>44M64</b>

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

## SPECIFICATIONS - 1100-1700 CFM MODELS

General Data	Model Number Fixed Wheel	LAERS03/07-1700HF			LAERS10/15-1700HF			
Data	Model Number Pivoting Wheel	LAERS03/07-1700HP			LAERS10/15-1700HP			
	Nominal Air Volume - cfm	1100-1700			1100-1700			
	Matching Units	LCA/C036-072 LGA/C036-072			LCA/C090-150 LGA/C090-150 LHA120			
<b>Required Height of Rooftop Unit Curb - in.</b>		24			14			
<b>Fresh Air Blower</b>	Belt-Drive Motor - hp	1			1			
	Wheel Size (diameter x width) - in	9 x 9			9 x 9			
	Motor Speed - rpm	1725			1725			
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			
	Bearing Type	Ball			Ball			
<b>Exhaust Air Blower</b>	Belt-Drive Motor - hp	Fixed Wheel 1.0			Fixed Wheel 1.0			
		Pivoting Wheel 1.5			Pivoting Wheel 1.5			
	Wheel Size (diameter x width) - in	9 x 9			9 x 9			
	Motor Speed - rpm	1725			1725			
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			
	Bearing Type	Ball			Ball			
<b>Recovery Wheel</b>	Wheel Depth x Diameter - in	3 x 30-11/32			3 x 30-11/32			
	Motor Speed - rpm	1050			1050			
<b>Electrical Data - Line Voltage - 60hz</b>		208/ 230V-3ph, 460V-3ph, or 575V-3ph						
<b><sup>1</sup>Enthalpy Wheel ARI Rating Data</b>	Nominal Airflow	1600 cfm at 0.95 in. w.c.			1600 cfm at 0.95 in. w.c.			
	EATR - Exhaust Air Transfer Ratio	at minus 1 in. w. c.	7.80%			7.80%		
		at 0 in. w.c.	0.40%			0.40%		
		at 1 in. w.c.	0.00%			0.00%		
	OACF - Outdoor Air Correction Factor	at minus 1 in. w. c.	0.97%			0.97%		
at 0 in. w.c.		1.16%			1.16%			
at 1 in. w.c.		1.29%			1.29%			
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	Sensible 68%	Latent 61%	Total 65%	Sensible 68%	Latent 61%	Total 65%
		75% Airflow Heating	72%	67%	71%	72%	67%	71%
		100% Airflow Cooling	68%	61%	64%	68%	61%	64%
		75% Airflow Cooling	72%	67%	70%	72%	67%	70%
	Net Effectiveness	100% Airflow Heating	68%	61%	65%	68%	61%	65%
		75% Airflow Heating	72%	67%	71%	72%	67%	71%
		100% Airflow Cooling	68%	61%	64%	68%	61%	64%
		75% Airflow Cooling	72%	67%	70%	72%	67%	70%
<b>Weights</b>	Shipping Weight - lbs.	425			425			
	Net Weight - lbs.	345			345			
<b>OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA</b>								
ERS System Selection Tool Software		47M74			47M74			
ERS Support - 48 in. length		94K14			94K14			
Low ambient kit		44M03			44M03			
Low ambient / stop-start-jog kit		44M28			44M28			
Low ambient / stop-start-jog / pressure sensor kit		44M29			44M29			
Low ambient / pressure sensor kit		44M30			44M30			
Pressure sensor kit		44M71			44M71			
Stop-start-jog kit		44M72			44M72			
Stop-start-jog / pressure sensor kit		44M73			44M73			
Low ambient / motorized outdoor air damper kit		44M06			44M06			
Low ambient / motorized outdoor air damper /stop-start-jog kit		44M14			44M14			
Low ambient/motorized OAD/stop-start-jog/press. sensor kit		44M22			44M22			
Low ambient / motorized damper / pressure sensor kit		44M33			44M33			
Motorized outdoor air damper kit		44M41			44M41			
Motorized outdoor air damper / stop-start-jog kit		44M49			44M49			
Motorized outdoor air damper/stop-start-jog / press. sensor kit		44M57			44M57			
Motorized outdoor air damper / pressure sensor kit		44M65			44M65			

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

## SPECIFICATIONS - 1500-2200 CFM MODELS

<b>General Data</b>	<b>Model Number Fixed Wheel</b>		<b>LAERS10/15-2200MF LAERS18/24-2200HF</b>		
	<b>Model Number Pivoting Wheel</b>		<b>LAERS10/15-2200MP LAERS18/24-2200HP</b>		
	Nominal Air Volume - cfm		1500-2200		
	Matching Units		LCA/C090-150 LGA/C090-150 LHA120		
<b>Required Height of Rooftop Unit Curb - in.</b>			14		
<b>Fresh Air Blower</b>	Belt-Drive Motor - hp		1-1/2		
	Wheel Size (diameter x width) - in		10 x 10		
	Motor Speed - rpm		1725		
	Motor Speed(s)		Adjustable Sheave		
	Bearing Type		Ball		
<b>Exhaust Air Blower</b>	Belt-Drive Motor - hp	Fixed Wheel	1-1/2		
		Pivoting Wheel	3		
	Wheel Size (diameter x width) - in		10 x 10		
	Motor Speed - rpm		1725		
	Motor Speed (s)		Adjustable Sheave		
	Bearing Type		Ball		
<b>Recovery Wheel</b>	Wheel Depth x Diameter - in		3 x 37-3/4		
	Motor Speed - rpm		1725		
<b>Electrical Data - Line Voltage - 60hz</b>			208/ 230V-3ph, 460V-3ph or 575V-3ph		
<b><sup>1</sup> Enthalpy Wheel ARI Rating Data</b>	Nominal Airflow		1950 cfm at 0.67 in. w.c.		
	EATR - Exhaust Air Transfer Ratio	at minus 1 in. w. c.	6.10%		
		at 0 in. w.c.	4.00%		
		at 1 in. w.c.	0.00%		
OACF - Outdoor Air Correction Factor	at minus 1 in. w. c.	0.98%			
	at 0 in. w.c.	1.13%			
	at 1 in. w.c.	1.23%			
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	Sensible	Latent	Total
		75% Airflow Heating	68%	60%	65%
		100% Airflow Cooling	74%	67%	71%
		75% Airflow Cooling	68%	60%	63%
	Net Effectiveness	100% Airflow Heating	74%	67%	70%
		75% Airflow Heating	68%	60%	65%
		100% Airflow Cooling	74%	67%	71%
		75% Airflow Cooling	68%	60%	63%
<b>Weights</b>	Shipping Weight - lbs.		470		
	Net Weight - lbs.		395		

### OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ERS System Selection Tool Software	<b>47M74</b>
ERS Support - 48 in. length	<b>94K14</b>
Low ambient kit	<b>44M03</b>
Low ambient / stop-start-jog kit	<b>44M28</b>
Low ambient / stop-start-jog / pressure sensor kit	<b>44M29</b>
Low ambient / pressure sensor kit	<b>44M30</b>
Pressure sensor kit	<b>44M71</b>
Stop-start-jog kit	<b>44M72</b>
Stop-start-jog / pressure sensor kit	<b>44M73</b>
Low ambient / motorized outdoor air damper kit	<b>44M06</b>
Low ambient / motorized outdoor air damper /stop-start-jog kit	<b>44M14</b>
Low ambient/motorized OAD/stop-start-jog/press. sensor kit	<b>44M22</b>
Low ambient / motorized damper / pressure sensor kit	<b>44M33</b>
Motorized outdoor air damper kit	<b>44M41</b>
Motorized outdoor air damper / stop-start-jog kit	<b>44M49</b>
Motorized outdoor air damper/stop-start-jog / press. sensor kit	<b>44M57</b>
Motorized outdoor air damper / pressure sensor kit	<b>44M65</b>

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

NOTE - The energy recovery wheel internal to the unit is rated at 2600 cfm at 0.95 in. w.c., units in the above table are rated at 1950 cfm at 0.67 in. w.c..



## SPECIFICATIONS - 2200-2800 CFM MODELS

General Data	Model Number Fixed Wheel Model Number Pivoting Wheel	LAERS10/15-2800HF LAERS10/15-2800HP				LAERS18/24-2800HF LAERS18/24-2800HP		
	Nominal Air Volume - cfm Matching Units	2200-2800 LCA/C090-150 LGA/C090-150 LHA120				2200-2800 LCA/C156-300S LGA/C156-300S LHA180-240		
<b>Required Height of Rooftop Unit Curb - in.</b>		24				14		
<b>Fresh Air Blower</b>	Belt-Drive Motor - hp	1-1/2				1-1/2		
	Wheel Size (diameter x width) - in.	10 x 10				10 x 10		
	Motor Speed - rpm	1725				1725		
	Motor Speed(s)	Adjustable Sheave				Adjustable Sheave		
	Bearing Type	Ball				Ball		
<b>Exhaust Air Blower</b>	Belt-Drive Motor - hp	1-1/2				1-1/2		
	Fixed Wheel Pivoting Wheel	3 3				3 3		
	Wheel Size (diameter x width) - in.	10 x 10				10 x 10		
	Motor Speed - rpm	1725				1725		
	Motor Speed(s)	Adjustable Sheave				Adjustable Sheave		
	Bearing Type	Ball				Ball		
<b>Recovery Wheel</b>	Wheel Depth x Diameter - in. Motor Speed - rpm	3 x 37-3/4 1725				3 x 37-3/4 1725		
<b>Electrical Data - Line Voltage - 60hz</b>		208/ 230V-3ph, 460V-3ph or 575V-3ph						
<b><sup>1</sup>Enthalpy Wheel ARI Rating Data</b>	Nominal Airflow	2600 cfm at 0.95 in. w.c.			2600 cfm at 0.95 in. w.c.			
	EATR - Exhaust Air Transfer Ratio	at minus 1 in. w. c.	6.10%			6.10%		
		at 0 in. w. c.	4.00%			4.00%		
		at 1 in. w. c.	0.00%			0.00%		
	OACF - Outdoor Air Correction Factor	at minus 1 in. w. c.	0.98%			0.98%		
	at 0 in. w. c.	1.13%			1.13%			
	at 1 in. w. c.	1.23%			1.23%			
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	68%	60%	65%	68%	60%	65%
		75% Airflow Heating	74%	67%	71%	74%	67%	71%
		100% Airflow Cooling	68%	60%	63%	68%	60%	63%
		75% Airflow Cooling	74%	67%	70%	74%	67%	70%
	Net Effectiveness	100% Airflow Heating	68%	60%	65%	68%	60%	65%
		75% Airflow Heating	74%	67%	71%	74%	67%	71%
		100% Airflow Cooling	68%	60%	63%	68%	60%	63%
		75% Airflow Cooling	74%	67%	70%	74%	67%	70%
<b>Weights</b>	Shipping Weight - lbs.	470			470			
	Net Weight - lbs.	395			395			
<b>OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA</b>								
ERS System Selection Tool Software		<b>47M74</b>			<b>47M74</b>			
ERS Support	48 in. length	<b>94K14</b>			<b>94K14</b>			
	60 in. length	<b>64K61</b>			<b>64K61</b>			
	76 in. length	- - -			<b>64K62</b>			
Low ambient kit		<b>44M03</b>			<b>44M03</b>			
Low ambient / stop-start-jog kit		<b>44M28</b>			<b>44M28</b>			
Low ambient / stop-start-jog / pressure sensor kit		<b>44M29</b>			<b>44M29</b>			
Low ambient / pressure sensor kit		<b>44M30</b>			<b>44M30</b>			
Pressure sensor kit		<b>44M71</b>			<b>44M71</b>			
Stop-start-jog kit		<b>44M72</b>			<b>44M72</b>			
Stop-start-jog / pressure sensor kit		<b>44M73</b>			<b>44M73</b>			
Low ambient / motorized outdoor air damper kit		<b>44M07</b>			<b>44M07</b>			
Low ambient / motorized outdoor air damper /stop-start-jog kit		<b>44M15</b>			<b>44M15</b>			
Low ambient/motorized OAD/stop-start-jog/press. sensor kit		<b>44M23</b>			<b>44M23</b>			
Low ambient / motorized damper / pressure sensor kit		<b>44M34</b>			<b>44M34</b>			
Motorized outdoor air damper kit		<b>44M42</b>			<b>44M42</b>			
Motorized outdoor air damper / stop-start-jog kit		<b>44M50</b>			<b>44M50</b>			
Motorized outdoor air damper/stop-start-jog / press. sensor kit		<b>44M58</b>			<b>44M58</b>			
Motorized outdoor air damper / pressure sensor kit		<b>44M66</b>			<b>44M66</b>			

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

## SPECIFICATIONS - 2800-3600 CFM MODELS

General Data		Model Number Fixed Wheel	LAERS10/15-3600HF	LAERS18/24-3600HF	LAERS30/36-3600HF								
Model Number Pivoting Wheel		LAERS10/15-3600HP	LAERS18/24-3600HP	LAERS18/24-3600HP	LAERS30/36-3600HP								
Nominal Air Volume - cfm		2800-3600		2800-3600									
Matching Units		LCA/C090-150 LGA/C090-150 LHA120		LCA/C156-300S LGA/C156-300S LHA180-240									
Required Height of Rooftop Unit Curb - in.		24		14									
Fresh Air Blower		Belt-Drive Motor - hp 2		2									
Wheel Size (diameter x width) - in.		12 x 9		12 x 9									
Motor Speed - rpm		1725		1725									
Motor Speed(s)		Adjustable Sheave		Adjustable Sheave									
Bearing Type		Ball		Ball									
Exhaust Air Blower		Belt-Drive Motor - hp 2		2									
Fixed Wheel		3		3									
Pivoting Wheel		3		3									
Wheel Size (diameter x width) - in		12 x 9		12 x 9									
Motor Speed - rpm		1725		1725									
Motor Speed(s)		Adjustable Sheave		Adjustable Sheave									
Bearing Type		Ball		Ball									
Recovery Wheel		Wheel Depth x Diameter - in 3 x 41-13/16		3 x 41-13/16									
Motor Speed - rpm		1725		1725									
Electrical Data - Line Voltage - 60hz		208/ 230V-3ph, 460V-3ph, or 575V-3ph											
<sup>1</sup> Enthalpy Wheel ARI Rating Data		Nominal Airflow 3100 cfm at 0.9 in. w.c.		3100 cfm at 0.9 in. w.c.		3100 cfm at 0.9 in. w.c.							
EATR - Exhaust Air Transfer Ratio		at minus 1 in. w. c. 4.90%		4.90%		4.90%							
		at 0 in. w.c. 1.30%		1.30%		1.30%							
		at 1 in. w.c. 0.30%		0.30%		0.30%							
OACF - Outdoor Air Correction Factor		at minus 1 in. w. c. 0.99%		0.99%		0.99%							
		at 0 in. w.c. 1.07%		1.07%		1.07%							
		at 1 in. w.c. 1.12%		1.12%		1.12%							
<sup>1</sup> Thermal Ratings at 0 in. w.c. Pressure Differential		Sensible		Latent		Total		Sensible		Latent		Total	
Total Effectiveness		100% Airflow Heating 68%		60% Airflow Heating 60%		65% Airflow Heating 65%		68%		60%		65%	
		75% Airflow Heating 74%		67% Airflow Heating 67%		71% Airflow Heating 71%		74%		67%		71%	
		100% Airflow Cooling 68%		60% Airflow Cooling 60%		63% Airflow Cooling 63%		68%		60%		63%	
		75% Airflow Cooling 74%		67% Airflow Cooling 67%		70% Airflow Cooling 70%		74%		67%		70%	
Net Effectiveness		100% Airflow Heating 68%		60% Airflow Heating 60%		65% Airflow Heating 65%		68%		60%		65%	
		75% Airflow Heating 74%		67% Airflow Heating 67%		71% Airflow Heating 71%		74%		67%		71%	
		100% Airflow Cooling 68%		60% Airflow Cooling 60%		63% Airflow Cooling 63%		68%		60%		63%	
		75% Airflow Cooling 74%		67% Airflow Cooling 67%		70% Airflow Cooling 70%		74%		67%		70%	
Weights		Shipping Weight - lbs. 571		571		571		571		571		571	
		Net Weight - lbs. 475		475		475		475		475		475	

### OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ERS System Selection Tool Software		<b>47M74</b>	<b>47M74</b>	<b>47M74</b>
ERS Support		---		
48 in. length		<b>94K14</b>	<b>94K14</b>	<b>94K14</b>
60 in. length		<b>64K61</b>	<b>64K61</b>	<b>64K61</b>
76 in. length		---	<b>64K62</b>	<b>64K62</b>
Low ambient kit		<b>44M03</b>	<b>44M03</b>	<b>44M03</b>
Low ambient / stop-start-jog kit		<b>44M28</b>	<b>44M28</b>	<b>44M28</b>
Low ambient / stop-start-jog / pressure sensor kit		<b>44M29</b>	<b>44M29</b>	<b>44M29</b>
Low ambient / pressure sensor kit		<b>44M30</b>	<b>44M30</b>	<b>44M30</b>
Pressure sensor kit		<b>44M71</b>	<b>44M71</b>	<b>44M71</b>
Stop-start-jog kit		<b>44M72</b>	<b>44M72</b>	<b>44M72</b>
Stop-start-jog / pressure sensor kit		<b>44M73</b>	<b>44M73</b>	<b>44M73</b>
Low ambient / motorized outdoor air damper kit		<b>44M08</b>	<b>44M08</b>	<b>44M08</b>
Low ambient / motorized outdoor air damper /stop-start-jog kit		<b>44M16</b>	<b>44M16</b>	<b>44M16</b>
Low ambient/motorized OAD/stop-start-jog/press. sensor kit		<b>44M24</b>	<b>44M24</b>	<b>44M24</b>
Low ambient / motorized damper / pressure sensor kit		<b>44M35</b>	<b>44M35</b>	<b>44M35</b>
Motorized outdoor air damper kit		<b>44M43</b>	<b>44M43</b>	<b>44M43</b>
Motorized outdoor air damper / stop-start-jog kit		<b>44M51</b>	<b>44M51</b>	<b>44M51</b>
Motorized outdoor air damper/stop-start-jog / press. sensor kit		<b>44M59</b>	<b>44M59</b>	<b>44M59</b>
Motorized outdoor air damper / pressure sensor kit		<b>44M67</b>	<b>44M67</b>	<b>44M67</b>

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

## SPECIFICATIONS - 3400-4600 CFM MODELS

General Data		Model Number Fixed Wheel	LAERS18/24-4600HF			LAERS30/36-4600HF		
		Model Number Pivoting Wheel	LAERS18/24-4600HP			LAERS30/36-4600HP		
		Nominal Air Volume - cfm	3400-4600			3400-4600		
		Matching Units	LCA/C156-300S LGA/C156-300S LHA180-240			LCA/C300H-360 LGA/C300H-360		
<b>Required Height of Rooftop Unit Curb - in.</b>			24			24		
<b>Fresh Air Blower</b>	Belt-Drive Motor - hp		3			3		
	Wheel Size (dia x width) - in		12 x 12			12 x 12		
	Motor Speed - rpm		1725			1725		
	Motor Speed(s)		Adjustable Sheave			Adjustable Sheave		
	Bearing Type		Ball			Ball		
<b>Exhaust Air Blower</b>	Belt-Drive Motor - hp	Stationary	3			3		
		Pivoting	5			5		
		Wheel Size (dia x width) - in	12 x 12			12 x 12		
		Motor Speed -rpm	1725			1725		
		Motor Speed(s)	Adjustable Sheave			Adjustable Sheave		
		Bearing Type	Ball			Ball		
<b>Recovery Wheel</b>		Motor Speed - rpm	1150			1150		
		Wheel Depth x Diameter - in	3 x 46-3/4			3 x 46-3/4		
<b>Electrical Data - Line Voltage - 60hz</b>			208/ 230V-3ph, 460V-3ph, or 575V-3ph					
<b><sup>1</sup>Enthalpy Wheel ARI Rating Data</b>	Nominal Airflow		3900 cfm at 0.95 in. w.c.			3900 cfm at 0.95 in. w.c.		
	EATR - Exhaust Air Transfer Ratio	at minus 1 in. w. c.	4.40%			4.40%		
		at 0 in. w.c.	1.10%			1.10%		
		at 1 in. w.c.	0.20%			0.20%		
	OACF - Outdoor Air Correction Factor	at minus 1 in. w. c.	0.99%			0.99%		
		at 0 in. w.c.	1.06%			1.06%		
at 1 in. w.c.		1.11%			1.11%			
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	Sensible	Latent	Total	Sensible	Latent	Total
		75% Airflow Heating	68%	60%	65%	68%	60%	65%
	Net Effectiveness	100% Airflow Heating	73%	67%	71%	73%	67%	71%
		75% Airflow Heating	68%	60%	63%	68%	60%	63%
	100% Airflow Cooling	75% Airflow Cooling	73%	67%	70%	73%	67%	70%
		100% Airflow Heating	68%	60%	65%	68%	60%	65%
	75% Airflow Heating	75% Airflow Heating	73%	67%	71%	73%	67%	71%
		100% Airflow Cooling	68%	60%	63%	68%	60%	63%
75% Airflow Cooling	75% Airflow Cooling	73%	67%	70%	73%	67%	70%	
<b>Weights</b>		Shipping Weight - lbs.	920			920		
		Net Weight - lbs.	805			805		

### OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ERS System Selection Tool Software		<b>47M74</b>	<b>47M74</b>	
ERS Support	48 in. length	<b>94K14</b>	---	
	60 in. length	<b>64K61</b>	<b>64K61</b>	
	76 in. length	<b>64K62</b>	<b>64K62</b>	
Low ambient kit		<b>44M03</b>	<b>44M03</b>	
Low ambient / stop-start-jog kit		<b>44M28</b>	<b>44M28</b>	
Low ambient / stop-start-jog / pressure sensor kit		<b>44M29</b>	<b>44M29</b>	
Low ambient / pressure sensor kit		<b>44M30</b>	<b>44M30</b>	
Pressure sensor kit		<b>44M71</b>	<b>44M71</b>	
Stop-start-jog kit		<b>44M72</b>	<b>44M72</b>	
Stop-start-jog / pressure sensor kit		<b>44M73</b>	<b>44M73</b>	
Low ambient / motorized outdoor air damper kit		<b>44M09</b>	<b>44M09</b>	
Low ambient / motorized outdoor air damper /stop-start-jog kit		<b>44M17</b>	<b>44M17</b>	
Low ambient/motorized OAD/stop-start-jog/press. sensor kit		<b>44M25</b>	<b>44M25</b>	
Low ambient / motorized damper / pressure sensor kit		<b>44M36</b>	<b>44M36</b>	
Motorized outdoor air damper kit		<b>44M44</b>	<b>44M44</b>	
Motorized outdoor air damper / stop-start-jog kit		<b>44M52</b>	<b>44M52</b>	
Motorized outdoor air damper/stop-start-jog / press. sensor kit		<b>44M60</b>	<b>44M60</b>	
Motorized outdoor air damper / pressure sensor kit		<b>44M68</b>	<b>44M68</b>	

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

## SPECIFICATIONS - 4800-5600 CFM MODELS

General Data	Model Number Fixed Wheel Model Number Pivoting Wheel	LAERS18/24-5600MF LAERS18/24-5600MP				LAERS30/36-5600MF LAERS30/36-5600MP		
	Nominal Air Volume - cfm Matching Units	4800-5600 LCA/C156-300S LGA/C156-300S LHA180-240				4800-5600 LCA/C300H-360 LGA/C300H-360		
<b>Required Height of Rooftop Unit Curb - in.</b>		24				24		
<b>Fresh Air Blower</b>	Motor - hp	5				5		
	Wheel Size (dia x width) - in	12 x 12				12 x 12		
	Motor Speed - rpm	1725				1725		
	Motor Speed(s)	Adjustable Sheave				Adjustable Sheave		
	Bearing Type	Ball				Ball		
<b>Exhaust Air Blower</b>	Motor - hp Stationary	5				5		
	Motor - hp Pivoting	2 each - 5				2 each - 5		
	Wheel Size (dia x width) - in	12 x 12				12 x 12		
	Motor Speed - rpm	1725				1725		
	Motor Speed(s)	Adjustable Sheave				Adjustable Sheave		
	Bearing Type	Ball				Ball		
<b>Recovery Wheel</b>	Motor Speed - rpm Wheel Depth x Diameter - in	1075 3 x 52-1/32				1075 3 x 52-1/32		
<b>Electrical Data - Line Voltage - 60hz</b>		208/230V-3ph, 460V-3ph, or 575V-3ph						
<b><sup>1</sup>Enthalpy Wheel ARI Rating Data</b>	Nominal Airflow	5500 cfm at 0.95 in. w.c.			5500 cfm at 0.95 in. w.c.			
	EATR - Exhaust Air Transfer Ratio	at minus 1 in. w. c.	4.00%			4.00%		
		at 0 in. w.c.	1.00%			1.00%		
		at 1 in. w.c.	0.20%			0.20%		
	OACF - Outdoor Air Correction Factor	at minus 1 in. w. c.	0.99%			0.99%		
		at 0 in. w.c.	1.06%			1.06%		
at 1 in. w.c.		1.10%			1.10%			
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	Sensible	Latent	Total	Sensible	Latent	Total
		75% Airflow Heating	68%	60%	65%	68%	60%	65%
		100% Airflow Cooling	73%	67%	71%	73%	67%	71%
		75% Airflow Cooling	68%	60%	63%	68%	60%	63%
	Net Effectiveness	100% Airflow Heating	73%	67%	70%	73%	67%	70%
		75% Airflow Heating	68%	60%	65%	68%	60%	65%
		100% Airflow Cooling	73%	67%	71%	73%	67%	71%
		75% Airflow Cooling	68%	60%	63%	68%	60%	63%
<b>Weights</b>	Shipping Weight - lbs.	1250			1250			
	Net Weight - lbs.	1075			1075			

### OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ERS System Selection Tool Software		<b>47M74</b>	<b>47M74</b>
ERS Support	48 in. length	<b>94K14</b>	- - -
	60 in. length	<b>64K61</b>	<b>64K61</b>
	76 in. length	<b>64K62</b>	<b>64K62</b>
Low ambient kit		<b>44M03</b>	<b>44M03</b>
Low ambient / stop-start-jog kit		<b>44M28</b>	<b>44M28</b>
Low ambient / stop-start-jog / pressure sensor kit		<b>44M29</b>	<b>44M29</b>
Low ambient / pressure sensor kit		<b>44M30</b>	<b>44M30</b>
Pressure sensor kit		<b>44M71</b>	<b>44M71</b>
Stop-start-jog kit		<b>44M72</b>	<b>44M72</b>
Stop-start-jog / pressure sensor kit		<b>44M73</b>	<b>44M73</b>
Low ambient / motorized outdoor air damper kit		<b>44M11</b>	<b>44M11</b>
Low ambient / motorized outdoor air damper /stop-start-jog kit		<b>44M19</b>	<b>44M19</b>
Low ambient/motorized OAD/stop-start-jog/press. sensor kit		<b>44M27</b>	<b>44M27</b>
Low ambient / motorized damper / pressure sensor kit		<b>44M38</b>	<b>44M38</b>
Motorized outdoor air damper kit		<b>44M46</b>	<b>44M46</b>
Motorized outdoor air damper / stop-start-jog kit		<b>44M54</b>	<b>44M54</b>
Motorized outdoor air damper/stop-start-jog / press. sensor kit		<b>44M62</b>	<b>44M62</b>
Motorized outdoor air damper / pressure sensor kit		<b>44M70</b>	<b>44M70</b>

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

NOTE - The energy recovery wheel internal to the unit is rated at 5500 cfm at 0.95 in. w.c., units in the above table are rated at 4215 cfm at 0.69 in. w.c.

## SPECIFICATIONS - 5500-6200 CFM MODELS

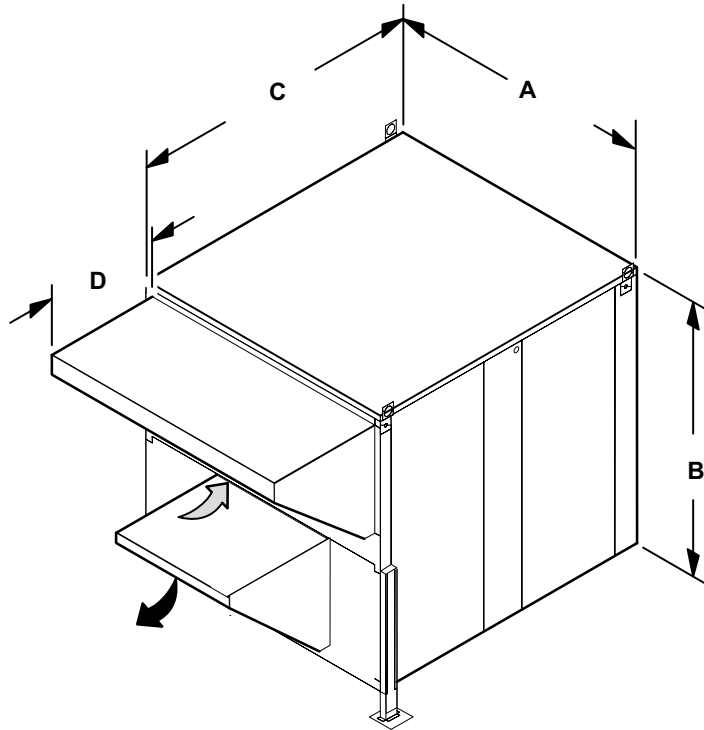
General Data		Model Number Fixed Wheel	LAERS18/24-6200HF			LAERS30/36-6200HF		
		Model Number Pivoting Wheel	LAERS18/24-6200HP			LAERS30/36-6200HP		
		Nominal Air Volume - cfm	5500-6200			5500-6200		
		Matching Units	LCA/C156-300S LGA/C156-300S LHA180-240			LCA/C300H-360 LGA/C300H-360		
<b>Required Height of Rooftop Unit Curb - in.</b>			24			24		
<b>Fresh Air Blower</b>	Belt Drive Blower Motor - hp		5			5		
	Wheel Size (dia x width) - in		12 x 12			12 x 12		
	Motor Speed - rpm		1725			1725		
	Motor Speed(s)		Adjustable Sheave			Adjustable Sheave		
	Bearing Type		Ball			Ball		
<b>Exhaust Air Blower</b>	Belt Drive Blower Motor - hp	Stationary	5			5		
		Pivoting	2 each - 5			2 each - 5		
	Wheel Size (dia x width) - in		12 x 12			12 x 12		
	Motor Speed - rpm		1725			1725		
	Motor Speed(s)		Adjustable Sheave			Adjustable Sheave		
		Bearing Type	Ball			Ball		
<b>Recovery Wheel</b>		Motor Speed - rpm	1075			1075		
		Wheel Depth x Diameter - in	3 x 52-1/32			3 x 52-1/32		
<b>Electrical Data - Line Voltage - 60hz</b>			208/230V-3ph, 460V-3ph, or 575V-3ph					
<b><sup>1</sup>Enthalpy Wheel ARI Rating Data</b>		Nominal Airflow	5500 cfm at 0.95 in. w.c.			5500 cfm at 0.95 in. w.c.		
	EATR - Exhaust Air Transfer Ratio	at minus 1 in. w. c.	4.00%			4.00%		
		at 0 in. w.c.	1.00%			1.00%		
		at 1 in. w.c.	0.20%			0.20%		
	OACF - Outdoor Air Correction Factor	at minus 1 in. w. c.	0.99%			0.99%		
at 0 in. w.c.		1.06%			1.06%			
at 1 in. w.c.		1.11%			1.11%			
<b><sup>1</sup>Thermal Ratings at 0 in. w.c. Pressure Differential</b>	Total Effectiveness	100% Airflow Heating	Sensible	Latent	Total	Sensible	Latent	Total
		75% Airflow Heating	68%	60%	65%	68%	60%	65%
		100% Airflow Cooling	73%	67%	71%	73%	67%	71%
		75% Airflow Cooling	68%	60%	63%	68%	60%	63%
	Net Effectiveness	100% Airflow Heating	73%	67%	70%	73%	67%	70%
		75% Airflow Heating	68%	60%	65%	68%	60%	65%
		100% Airflow Cooling	73%	67%	71%	73%	67%	71%
		75% Airflow Cooling	68%	60%	63%	68%	60%	63%
		Shipping Weight - lbs.	1250			1250		
		Net Weight - lbs.	1075			1075		

### OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

ERS System Selection Tool Software		<b>47M74</b>	<b>47M74</b>
ERS Support	48 in. length	<b>94K14</b>	---
	60 in. length	<b>64K61</b>	<b>64K61</b>
	76 in. length	<b>64K62</b>	<b>64K62</b>
Low ambient kit		<b>44M03</b>	<b>44M03</b>
Low ambient / stop-start-jog kit		<b>44M28</b>	<b>44M28</b>
Low ambient / stop-start-jog / pressure sensor kit		<b>44M29</b>	<b>44M29</b>
Low ambient / pressure sensor kit		<b>44M30</b>	<b>44M30</b>
Pressure sensor kit		<b>44M71</b>	<b>44M71</b>
Stop-start-jog kit		<b>44M72</b>	<b>44M72</b>
Stop-start-jog / pressure sensor kit		<b>44M73</b>	<b>44M73</b>
Low ambient / motorized outdoor air damper kit		<b>44M11</b>	<b>44M11</b>
Low ambient / motorized outdoor air damper /stop-start-jog kit		<b>44M19</b>	<b>44M19</b>
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Motorized outdoor air damper / pressure sensor kit		<b>44M70</b>	<b>44M70</b>

<sup>1</sup> Rated in accordance with ARI Standard 1060-2005. For further information, please reference ARI 1060-2005 Standard For Rating Air-to-Air Heat Exchangers For Energy Recovery Ventilation Equipment.

**DIMENSIONS - INCHES (MM)**



Model Number	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
LAERS03/07-0550	24-3/4	629	24-5/8	625	34-9/16	876	8	203
LAERS03/07-1000	32-1/2	816	33-1/2	851	44-3/4	1138	11	279
LAERS03/07-1700 LAERS10/15-1700	37-1/4	946	37-1/2	951	54-3/8	1330	20-5/16	517
LAERS18/24-2200 LAERS10/15-2200 LAERS10/15-2800 LAERS18/24-2800	42-5/8	1083	43-9/16	1106	52-1/4	1327	18-5/16	466
LAERS10/15-3600 LAERS18/24-3600 LAERS30/36-3600	46-11/16	1185	57-3/8	1458	60	1524	18-5/16	466
LAERS18/24-4600 LAERS30/36-4600	52-11/16	1338	57-3/8	1458	60	1524	18-5/16	466
LAERS18/24-5600 LAERS30/36-5600 LAERS18/24-6200 LAERS30/36-6200	58-7/8	1494	57-3/8	1458	60	1524	18-5/16	466

## GUIDE SPECIFICATIONS

Prepared for the guidance of architects, consulting engineers and mechanical contractors.

### General

- Unit shall be a constant volume, energy recovery system used in conjunction with packaged rooftop equipment.
- Unit shall be directly coupled to the rooftop packaged unit to form a unitized system.
- Unit shall be performance rated in accordance with ARI standards and in compliance with ASHRAE or DOE standards.
- Unit shall be certified to the applicable safety standards for the installed country.
- In addition, manufacturer shall test operate system at the factory before shipment.

### Approvals

- All models shall be certified in accordance with ARI Standard 1060-2005, Air-to-Air Energy Recovery Ventilation Equipment and UL 1812 Heat Recovery Ventilators, Ducted

### Equipment Warranty

- Energy Recovery wheel shall have a limited warranty for five years.
- All other covered components have a limited warranty for one year.

### Cabinet

- Shall be designed to attach directly to the rooftop unit.
- Shall be constructed of G90 galvanized steel with a powdered enamel paint finish electrostatically bonded to the metal.
- Metal shall be salt spray tested for 1000 hours per ASTM B-117.
- Cabinet panels shall be fully insulated with non-hygroscopic fiberglass insulation. Insulation shall have an R-Value of 3.7 and shall be flame resistant per UL-723. Insulation shall be in accordance with NFPA 90A and tested to meet UL 181 erosion requirements.
- Full perimeter base rail with top mounted rigging holes and fork truck access from three sides shall be provided.
- Test ports shall be provided so airflow can be measured across the energy recovery wheel.

### Energy Recovery Wheel

- Wheel shall be of the enthalpy type for both sensible and latent heat recovery.
- Energy transfer ratings shall be certified in accordance with ARI Standard 1060-2000.
- Wheel shall be constructed of a lightweight polymer material and shall be coated with a desiccant silica gel that will not dissolve or liquify in the presence of water or high humidity.
- The wheel shall be easily cleanable with standard coil cleaning solution.
- The wheel shall be available in both fixed and pivoting configurations.

### Performance

- The complete line of units shall have a cfm range of 300 to 6200.
- Individual units shall be available in ranges of 300-550, 600-1000, 1100-1700, 1500-2200, 2200-2800, 2800-3600, 3400-4600, 4800-5600, and 5500-6200 cfm.
- Unit shall operate to 10 °F without the need for frost protection.
- Unit shall have up to 73% net effectiveness per ARI tests. Application effectiveness shall be higher.

### Control Operation

- Operation shall be controlled by a low voltage logic board.
- Logic board shall control low ambient kit and motorized outside air damper.

### Access Doors

- All components shall be accessible through removable access doors.
- Energy recovery wheels under 36 in. diameter shall be designed to be removed from the unit for ease of inspection and maintenance, larger wheels shall be segmented for easy removal.

### Filters

- Unit shall be provided with mist eliminator type filters in the intake air hood.

### Blowers

- Intake/exhaust air blowers shall be direct drive on ERS of 1000 cfm or less.
- Belt drive intake/exhaust air blowers shall be used on ERS over 1000 cfm.

### Motors

- Blower motors on belt drive ERS shall have permanently lubricated ball bearings. Motors shall have thermal overload protection and shall have adjustable sheaves for blower speed adjustment.
- Blower motors on direct drive ERS shall be PSC type with multiple speeds.
- Intake and exhaust motors shall be individually controlled.
- Motor efficiency shall meet requirements of U.S. Energy Policy Act of 1992 (EPACT).

### Electrical

- Units shall have single power point connection.
- A low voltage terminal strip shall be available.

### Balancing Dampers

- Shall be provided for all fixed wheel units and shall be mounted inside the rooftop unit.

### Barometric Relief Dampers

- Pressure operated dampers shall be provided for all ERS units.

## OPTIONAL ACCESSORIES

### Energy Recovery System Selection Software

- Shall be used to select the proper ERS for the outside air requirements and calculate the reduction in required tonnage.

### Low Ambient Kit

- Low Ambient Kit shall be factory or field installed to prevent frost formation on the energy recovery wheel.
- Frost is prevented controlling the intake blower operation when discharge temperature is below a selectable temperature setting.

### Motorized Intake Damper Assembly with Hood

- Shall be available factory or field installed to provide motorized operation of intake air requirements.
- Damper assembly shall install in the ERS intake hood.

### Pressure Sensor

- Shall be a factory installed option to provide amount of outside air across the wheel.

### Stop-Start-Jog

- Shall be a factory installed option for units without economizers.



**ARI Standard  
1060**



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