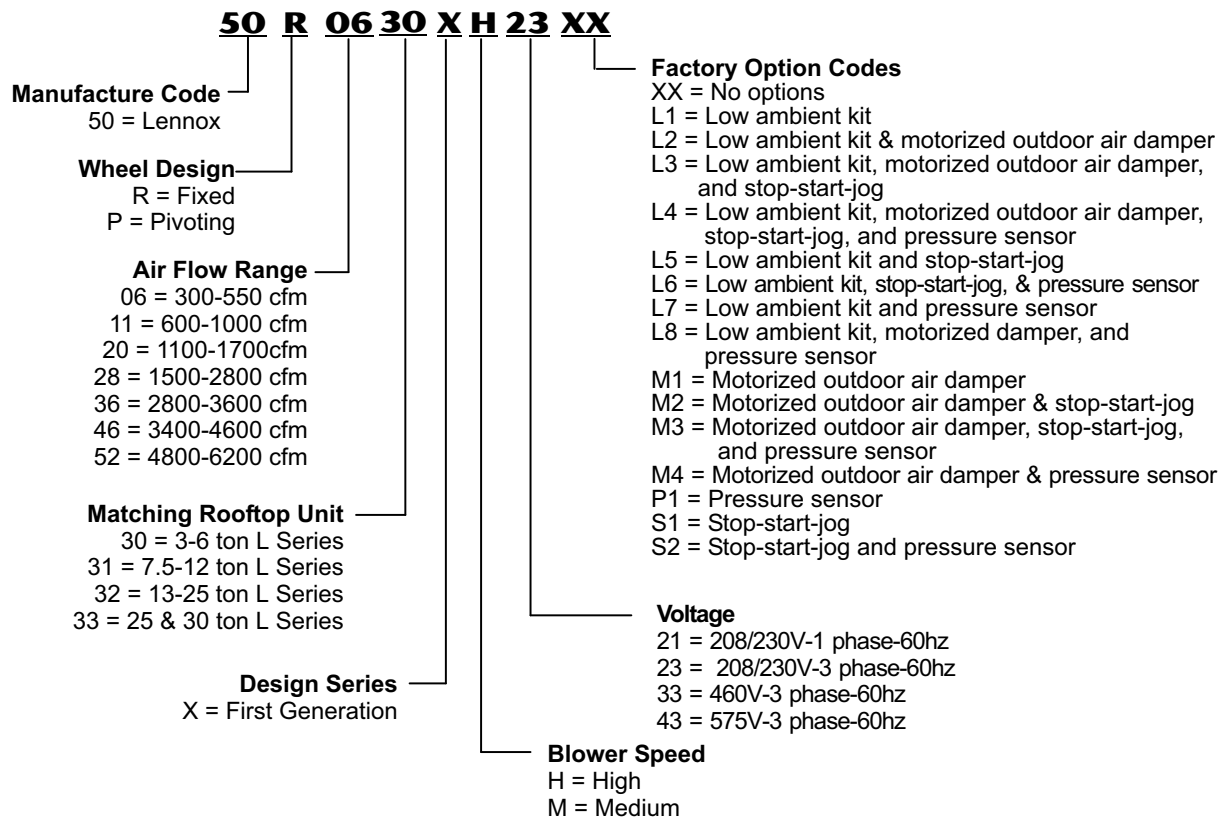




300 to 6200 cfm Capacity

MODEL NUMBER IDENTIFICATION



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. 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 four 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 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 out of the air stream, the system can utilize 100% of the rooftop unit's blower capabilities.

During economizer operation, the 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 an optional, factory installed 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 25 in. and larger in diameter are segmented for easy removal. Wheels less than 25 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, forward curved 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/ACCESSORIES

Field Installed

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.

NOTE - Contact your local Lennox Commercial Sales Representative for ordering information.

Factory Installed

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/ACCESSORIES

Factory Installed

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/ACCESSORIES

Factory Installed

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.

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

| Model No. | Fixed Wheel | 50R0630XH 50R1130XH 50R2030XH | 50R2031XH 50R2030XH 50R2031XH | 50R2831XH 50R2832XH 50R2831XM 50R2832XM | 50R3631XH 50R3632XH 50R3633XH 50R4632XH 50R4633XH | 50R6232XM 50R6233XM 50R6232XH 50R6233XH |
|------------------------------------|---------------|-------------------------------------|-------------------------------------|--|---|--|
| | Pivot Wheel | 50P1130XH 50P2030XH 50P2031XH | 50P2030XH 50P2031XH | 50P2831XH 50P2832XH 50P2831XM 50P2832XM | 50P3631XH 50P3632XH 50P3633XH 50P4632XH 50P4633XH | 50P6212XM 50P6213XM 50P6232XH 50P6233XH |
| ERS System Selection Tool Software | 47M74 | | X | X | | X |
| ¹ ERS Support | 48 in. length | | X | X | | |
| | 60 in. length | | | X | | X |
| | 76 in. length | | | | | X |
| Low Ambient Kit | | | ○ | ○ | | ○ |
| Pressure sensor kit | | | ○ | ○ | | ○ |
| Stop-start-jog kit | | | ○ | ○ | | ○ |
| Motorized outdoor air damper kit | | | ○ | ○ | | ○ |

NOTE - The catalog numbers that appear here are for ordering field installed accessories only.

○ - Configure to Order (Factory Installed)

X - Field Installed.

¹ **NOTE** - Contact your local Lennox Commercial Sales Representative for ordering information.

SPECIFICATIONS - FOR 3 TO 6 TON L SERIES MODELS

| General Data | Model Number Fixed Wheel | ² 50R0630XH | 50R1130XH | | | 50R2030XH | | | | | |
|--|--------------------------------------|--|--|-----|-----------------------|---|-----|---------------------------|-------|-----|-----|
| | Model Number Pivoting Wheel | - - - | 50P1130XH | | | 50P2030XH | | | | | |
| | Nominal Air Volume - cfm | 300-550 | 600-1000 | | | 1100-1700 | | | | | |
| | Matching Units | L Series 036 through 072 models | | | | | | | | | |
| Required Height of Rooftop Unit Curb - in. | | 14 | 14 | | | 24 | | | | | |
| Fresh Air Blower | Motor - hp | 0.2 | 1/2 | | | 1 | | | | | |
| | Wheel Size (diameter x width) - in | 6-1/4 x 6-1/2 | 10 x 6 | | | 9 x 9 | | | | | |
| | Motor Speed - rpm | 1780 | 1120 | | | 1725 | | | | | |
| | Motor Speed(s) | 2 | 3 | | | Adjustable Sheave | | | | | |
| | Bearing Type | Sleeve | Sleeve | | | Ball | | | | | |
| Exhaust Air Blower | Motor Type | PSC | | | PSC | | | Belt Drive | | | |
| | Motor - hp | 1/4 | 1/2 | | | 1.0 | | | | | |
| | Pivoting Wheel | - - - | | | 1/2 | | | 1.5 | | | |
| | Wheel Size (diameter x width) - in | 6-1/4 x 6-1/2 | 10 x 6 | | | 9 x 9 | | | | | |
| | Motor Speed - rpm | 1780 | 1120 | | | 1725 | | | | | |
| | Motor Speed(s) | 2 | 3 | | | Adjustable Sheave | | | | | |
| | Bearing Type | Sleeve | Sleeve | | | Ball | | | | | |
| Recovery Wheel | Wheel Depth x Diameter - in | 2 x 19-1/3 | 3 x 25-1/3 | | | 3 x 30-11/32 | | | | | |
| | Motor Speed - rpm | 1050 | 1050 | | | 1050 | | | | | |
| Electrical Data - Line Voltage - 60hz | | ² 208/230V-1ph, 208/230V-3ph, 460V-3ph, and 575V-3ph | 208/230V-3ph, 460V-3ph, and 575V-3ph | | | 208/ 230V-3ph, 460V-3ph, or 575V-3ph | | | | | |
| ¹Enthalpy Wheel ARI Rating Data | Nominal Airflow | 500 cfm at 0.6 in. w.c. | | | 900 cfm at 1 in. w.c. | | | 1600 cfm at 0.95 in. w.c. | | | |
| | EATR - Exhaust Air Transfer Ratio | at minus 1 in. w. c. | 9.90% | | | 9.30% | | | 7.80% | | |
| | | at 0 in. w.c. | 0.20% | | | 0.70% | | | 0.40% | | |
| | | at 1 in. w.c. | 0.00% | | | 0.00% | | | 0.00% | | |
| | OACF - Outdoor Air Correction Factor | at minus 1 in. w. c. | 1.02% | | | 0.97% | | | 0.97% | | |
| | | at 0 in. w.c. | 1.33% | | | 1.19% | | | 1.16% | | |
| at 1 in. w.c. | | 1.59% | | | 1.34% | | | 1.29% | | | |
| ¹Thermal Ratings at 0 in. w.c. Pressure Differential | Total Effectiveness | 100% Airflow Heating | 68% | 60% | 65% | 76% | 68% | 73% | 68% | 61% | 65% |
| | | 75% Airflow Heating | 73% | 65% | 70% | 81% | 73% | 78% | 72% | 67% | 71% |
| | | 100% Airflow Cooling | 68% | 60% | 64% | 76% | 68% | 72% | 68% | 61% | 64% |
| | | 75% Airflow Cooling | 73% | 65% | 69% | 81% | 73% | 76% | 72% | 67% | 70% |
| | Net Effectiveness | 100% Airflow Heating | 68% | 60% | 65% | 76% | 68% | 73% | 68% | 61% | 65% |
| | | 75% Airflow Heating | 73% | 65% | 70% | 81% | 73% | 78% | 72% | 67% | 71% |
| | | 100% Airflow Cooling | 68% | 60% | 64% | 76% | 68% | 72% | 68% | 61% | 64% |
| | | 75% Airflow Cooling | 73% | 65% | 69% | 81% | 73% | 76% | 72% | 67% | 70% |
| | Weights | Shipping Weight - lbs. | 198 | | | 318 | | | 425 | | |
| | | Net Weight - lbs. | 155 | | | 245 | | | 345 | | |

¹ 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.

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

SPECIFICATIONS - FOR 7.5 TO 12.5 TON L SERIES MODELS

| General Data | Model Number Fixed Wheel Model Number Pivoting Wheel | 50R2031XH 50P2031XH | 50R2831XM 50P2831XM | 50R2831XH 50P2831XH | 50R3631XH 50P3631XH | | | |
|--|---|--------------------------------------|---------------------------|---------------------------|--------------------------|-------|-----|-----|
| | Nominal Air Volume - cfm | 1100-1700 | 1500-2200 | 2200-2800 | 2800-3600 | | | |
| | Matching Units | L Series 090 through 150 models | | | | | | |
| Required Height of Rooftop Unit Curb - in. | | 14 | 14 | 14 | 24 | | | |
| Fresh Air Blower | Belt-Drive Motor - hp | 1 | 1-1/2 | 1-1/2 | 2 | | | |
| | Wheel Size (diameter x width) - in. | 9 x 9 | 10 x 10 | 10 x 10 | 12 x 9 | | | |
| | Motor Speed - rpm | 1725 | 1725 | 1725 | 1725 | | | |
| | Motor Speed(s) | Adjustable Sheave | | | | | | |
| | Bearing Type | Ball | | | | | | |
| Exhaust Air Blower | Belt-Drive Motor - hp | 1.0 | 1-1/2 | 1-1/2 | 2 | | | |
| | Fixed Wheel Pivoting Wheel | 1.5 | 3 | 3 | 3 | | | |
| | Wheel Size (diameter x width) - in. | 9 x 9 | 10 x 10 | 10 x 10 | 12 x 9 | | | |
| | Motor Speed - rpm | 1725 | 1725 | 1725 | 1725 | | | |
| | Motor Speed(s) | Adjustable Sheave | | | | | | |
| Bearing Type | Ball | | | | | | | |
| Recovery Wheel | Wheel Depth x Diameter - in. | 3 x 30-11/32 | 3 x 37-3/4 | 3 x 37-3/4 | 3 x 41-13/16 | | | |
| | Motor Speed - rpm | 1050 | 1725 | 1725 | 1725 | | | |
| Electrical Data - Line Voltage - 60hz | | 208/ 230V-3ph, 460V-3ph, or 575V-3ph | | | | | | |
| ¹Enthalpy Wheel ARI Rating Data | Nominal Airflow | 1600 cfm at 0.95 in. w.c. | 1950 cfm at 0.67 in. w.c. | 2600 cfm at 0.95 in. w.c. | 3100 cfm at 0.9 in. w.c. | | | |
| | EATR - Exhaust Air Transfer Ratio | at minus 1 in. w. c. | 7.80% | 6.10% | 6.10% | 4.90% | | |
| | | at 0 in. w.c. | 0.40% | 4.00% | 4.00% | 1.30% | | |
| | | at 1 in. w.c. | 0.00% | 0.00% | 0.00% | 0.30% | | |
| | OACF - Outdoor Air Correction Factor | at minus 1 in. w. c. | 0.97% | 0.98% | 0.98% | 0.99% | | |
| | | at 0 in. w.c. | 1.16% | 1.13% | 1.13% | 1.07% | | |
| | | at 1 in. w.c. | 1.29% | 1.23% | 1.23% | 1.12% | | |
| ¹Thermal Ratings at 0 in. w.c. Pressure Differential | Total Effectiveness | 100% Airflow Heating | 68% | 61% | 65% | 68% | 60% | 65% |
| | | 75% Airflow Heating | 72% | 67% | 71% | 74% | 67% | 71% |
| | Net Effectiveness | 100% Airflow Cooling | 68% | 61% | 64% | 68% | 60% | 63% |
| | | 75% Airflow Cooling | 72% | 67% | 70% | 74% | 67% | 70% |
| | Shipping Weight - lbs. | 425 | 470 | 470 | 571 | | | |
| | | Net Weight - lbs. | 345 | 395 | 395 | 475 | | |

¹ 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 - FOR 13 TO 25 TON L SERIES MODELS

| General Data | Model Number Fixed Wheel | 50R2832XH | 50R2832XH | 50R3632XH | |
|--|--------------------------------------|--------------------------------------|--------------------------|---------------------------|--------------------------|
| | Model Number Pivoting Wheel | 50P2832XH | 50P2832XH | 50P3632XH | |
| | Nominal Air Volume - cfm | 1500-2200 | 2200-2800 | 2800-3600 | |
| | Matching Units | L Series 156 through 300S models | | | |
| Required Height of Rooftop Unit Curb - in. | | 14 | 14 | 14 | |
| Fresh Air Blower | Belt Drive Blower Motor - hp | 1-1/2 | 1-1/2 | 2 | |
| | Wheel Size (dia x width) - in | 10 x 10 | 10 x 10 | 12 x 9 | |
| | Motor Speed - rpm | 1725 | 1725 | 1725 | |
| | Motor Speed(s) | Adjustable Sheave | Adjustable Sheave | Adjustable Sheave | |
| | Bearing Type | Ball | Ball | Ball | |
| Exhaust Air Blower | Belt Drive Blower Motor - hp | 1-1/2 | 1-1/2 | 2 | |
| | Stationary Pivoting | 3 | 3 | 3 | |
| | Wheel Size (dia x width) - in | 10 x 10 | 10 x 10 | 12 x 9 | |
| | Motor Speed - rpm | 1725 | 1725 | 1725 | |
| | Motor Speed(s) | Adjustable Sheave | Adjustable Sheave | Adjustable Sheave | |
| | Bearing Type | Ball | Ball | Ball | |
| Recovery Wheel | Wheel Depth x Diameter - in | 3 x 37-3/4 | 3 x 37-3/4 | 3 x 41-13/16 | |
| | Motor Speed - rpm | 1725 | 1725 | 1725 | |
| Electrical Data - Line Voltage - 60hz | | 208/ 230V-3ph, 460V-3ph, or 575V-3ph | | | |
| ¹Enthalpy Wheel ARI Rating Data | Nominal Airflow | | 1900 cfm at 0.7 in. w.c. | 2600 cfm at 0.95 in. w.c. | 3100 cfm at 0.9 in. w.c. |
| | EATR - Exhaust Air Transfer Ratio | at minus 1 in. w. c. | 6.10% | 6.10% | 4.90% |
| | | at 0 in. w.c. | 4.00% | 4.00% | 1.30% |
| | | at 1 in. w.c. | 0.00% | 0.00% | 0.30% |
| | OACF - Outdoor Air Correction Factor | at minus 1 in. w. c. | 0.98% | 0.98% | 0.99% |
| | | at 0 in. w.c. | 1.13% | 1.13% | 1.07% |
| at 1 in. w.c. | | 1.23% | 1.23% | 1.12% | |
| ¹Thermal Ratings at 0 in. w.c. Pressure Differential | 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% |
| Weights | Shipping Weight - lbs. | | 470 | 470 | 571 |
| | Net Weight - lbs. | | 395 | 395 | 475 |

¹ 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 - FOR 13 TO 25 TON L SERIES MODELS

| General Data | | Model Number Fixed Wheel | 50R4632XH | 50R6232XM | 50R6232XH |
|--|--------------------------------------|-----------------------------|--------------------------------------|---------------------------|---------------------------|
| | | Model Number Pivoting Wheel | 50P4632XH | 50P6232XM | 50P6232XH |
| | | Nominal Air Volume - cfm | 3400-4600 | 4800-5600 | 5500-6200 |
| | | Matching Units | L Series 156 through 300S models | | |
| Required Height of Rooftop Unit Curb - in. | | | 24 | 24 | 24 |
| Fresh Air Blower | Belt Drive Blower Motor - hp | | 3 | 5 | 5 |
| | Wheel Size (dia x width) - in | | 12 x 12 | 12 x 12 | 12 x 12 |
| | Motor Speed - rpm | | 1725 | 1725 | 1725 |
| | Motor Speed(s) | | Adjustable Sheave | Adjustable Sheave | Adjustable Sheave |
| | Bearing Type | | Ball | Ball | Ball |
| Exhaust Air Blower | Belt Drive Blower Motor - hp | Stationary | 3 | 5 | 5 |
| | | Pivoting | 5 | 2 each - 5 | 2 each - 5 |
| | Wheel Size (dia x width) - in | | 12 x 12 | 12 x 12 | 12 x 12 |
| | Motor Speed - rpm | | 1725 | 1725 | 1725 |
| | Motor Speed(s) | | Adjustable Sheave | Adjustable Sheave | Adjustable Sheave |
| | | Bearing Type | Ball | Ball | Ball |
| Recovery Wheel | Motor Speed - rpm | | 1150 | 1075 | 1075 |
| | Wheel Depth x Diameter - in | | 3 x 46-3/4 | 3 x 52-1/32 | 3 x 52-1/32 |
| Electrical Data - Line Voltage - 60hz | | | 208/ 230V-3ph, 460V-3ph, or 575V-3ph | | |
| ¹Enthalpy Wheel ARI Rating Data | Nominal Airflow | | 3900 cfm at 0.95 in. w.c. | 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. | 4.40% | 4.00% | 4.00% |
| | | at 0 in. w.c. | 1.10% | 1.00% | 1.00% |
| | | at 1 in. w.c. | 0.20% | 0.20% | 0.20% |
| | OACF - Outdoor Air Correction Factor | at minus 1 in. w. c. | 0.99% | 0.99% | 0.99% |
| | | at 0 in. w.c. | 1.06% | 1.06% | 1.06% |
| | | at 1 in. w.c. | 1.11% | 1.10% | 1.11% |
| ¹Thermal Ratings at 0 in. w.c. Pressure Differential | Total Effectiveness | 100% Airflow Heating | Sensible 68% | Latent 60% | Total 65% |
| | | 75% Airflow Heating | 73% | 67% | 71% |
| | | 100% Airflow Cooling | 68% | 60% | 63% |
| | | 75% Airflow Cooling | 73% | 67% | 70% |
| | Net Effectiveness | 100% Airflow Heating | 68% | 60% | 65% |
| | | 75% Airflow Heating | 73% | 67% | 71% |
| | | 100% Airflow Cooling | 68% | 60% | 63% |
| | | 75% Airflow Cooling | 73% | 67% | 70% |
| Weights | Shipping Weight - lbs. | | 920 | 1250 | 1250 |
| | Net Weight - lbs. | | 805 | 1075 | 1075 |

¹ 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 - FOR 20 - 30 TON L SERIES UNITS

| General Data | | Model Number Fixed Wheel | 50R3633XH | 50R4633XH | 50R6233XM | 50R6233XH | | | | | |
|--|--------------------------------------|-----------------------------|-------------------------------------|---------------------------|---------------------------|-----------|-----|-----|-----|-----|-----|
| | | Model Number Pivoting Wheel | 50P3633XH | 50P4633XH | 50P6233XM | 50P6233XH | | | | | |
| | | Nominal Air Volume - cfm | 2800-3600 | 3400-4600 | 4800-5600 | 5500-6200 | | | | | |
| | | Matching Units | L Series 248, 300H and 360 models | | | | | | | | |
| Required Height of Rooftop Unit Curb - in. | | | 14 | 24 | 24 | | | | | | |
| Fresh Air Blower | Belt Drive Blower Motor - hp | | 2 | 3 | 5 | 5 | | | | | |
| | Wheel Size (dia x width) - in | | 12 x 9 | 12 x 12 | 12 x 12 | 12 x 12 | | | | | |
| | Motor Speed - rpm | | 1725 | 1725 | 1725 | 1725 | | | | | |
| | Motor Speed(s) | | | Adjustable Sheave | | | | | | | |
| | Bearing Type | | | Ball | | | | | | | |
| Exhaust Air Blower | Belt Drive Blower Motor - hp | Stationary | 2 | 3 | 5 | | | | | | |
| | | Pivoting | 3 | 5 | 2 each - 5 | | | | | | |
| | Wheel Size (dia x width) - in | | 12 x 9 | 12 x 12 | 12 x 12 | | | | | | |
| | Motor Speed - rpm | | 1725 | 1725 | 1725 | | | | | | |
| | Motor Speed(s) | | | Adjustable Sheave | | | | | | | |
| | Bearing Type | | | Ball | | | | | | | |
| Recovery Wheel | Motor Speed - rpm | | 1725 | 1150 | 1075 | | | | | | |
| | Wheel Depth x Diameter - in | | 3 x 41-13/16 | 3 x 46-3/4 | 3 x 52-1/32 | | | | | | |
| Electrical Data - Line Voltage - 60hz | | | 208/230V-3ph, 460V-3ph, or 575V-3ph | | | | | | | | |
| ¹Enthalpy Wheel ARI Rating Data | Nominal Airflow | | 3100 cfm at 0.9 in. w.c. | 3900 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. | 4.90% | 4.40% | 4.00% | 4.00% | | | | | |
| | | at 0 in. w.c. | 1.30% | 1.10% | 1.00% | 1.00% | | | | | |
| | | at 1 in. w.c. | 0.30% | 0.20% | 0.20% | 0.20% | | | | | |
| | OACF - Outdoor Air Correction Factor | at minus 1 in. w. c. | 0.99% | 0.99% | 0.99% | 0.99% | | | | | |
| | at 0 in. w.c. | 1.07% | 1.06% | 1.06% | 1.06% | | | | | | |
| | at 1 in. w.c. | 1.12% | 1.11% | 1.10% | 1.11% | | | | | | |
| ¹Thermal Ratings at 0 in. w.c. Pressure Differential | Total Effectiveness | 100% Airflow Heating | 68% | 60% | 65% | 68% | 60% | 65% | 68% | 60% | 65% |
| | | 75% Airflow Heating | 74% | 67% | 71% | 73% | 67% | 71% | 73% | 67% | 71% |
| | | 100% Airflow Cooling | 68% | 60% | 63% | 68% | 60% | 63% | 68% | 60% | 63% |
| | | 75% Airflow Cooling | 74% | 67% | 70% | 73% | 67% | 70% | 73% | 67% | 70% |
| | Net Effectiveness | 100% Airflow Heating | 68% | 60% | 65% | 68% | 60% | 65% | 68% | 60% | 65% |
| | | 75% Airflow Heating | 74% | 67% | 71% | 73% | 67% | 71% | 73% | 67% | 71% |
| | | 100% Airflow Cooling | 68% | 60% | 63% | 68% | 60% | 63% | 68% | 60% | 63% |
| | | 75% Airflow Cooling | 74% | 67% | 70% | 73% | 67% | 70% | 73% | 67% | 70% |
| Weights | Shipping Weight - lbs. | | 571 | 920 | 1250 | | | | | | |
| | Net Weight - lbs. | | 475 | 805 | 1075 | | | | | | |

¹ 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.

ELECTRICAL DATA - 60HZ

| Model No. | | ² 50R0630XH | 50R1130XH 50P1130XH | 50R2030XM 50R2031XM | 50P2030XH 50P2031XH | 50R2831XM 50R2831XH 50R2832XM 50R2832XH | 50P2831XM 50P2831XH 50P2832XM 50P2832XH |
|--|--------------|------------------------|------------------------|------------------------|------------------------|--|--|
| Fresh Air Blower Motor | 208/230V-1ph | 3.8 | --- | --- | --- | --- | --- |
| Full load amps | 208/230V-3ph | 3.8 | 3.4 | 3.8 | 3.8 | 5.6 | 5.6 |
| | 460V-3ph | 3.8 | 1.5 | 1.9 | 1.9 | 2.8 | 2.8 |
| | 575V-3ph | 3.8 | 1.5 | 1.4 | 1.4 | 2.0 | 2.0 |
| Exhaust Blower Motor | 208/230V-1ph | 3.8 | --- | --- | --- | --- | --- |
| Full load amps | 208/230V-3ph | 3.8 | 3.4 | 3.8 | 5.6 | 5.6 | 9 |
| | 460V-3ph | 3.8 | 1.5 | 1.9 | 2.8 | 2.8 | 4.4 |
| | 575V-3ph | 3.8 | 1.5 | 1.4 | 2.0 | 2.0 | 3.6 |
| Wheel Drive Motor - Full load amps | | 0.6 | 0.6 | 0.6 | 0.6 | 1.1 | 1.1 |
| Maximum fuse size (amps) | 115V-1ph | 10 | --- | --- | --- | --- | --- |
| | 208/230V-3ph | --- | 10 | 12 | 15 | 20 | 25 |
| | 460V-3ph | --- | 6 | 6 | 8 | 10 | 12 |
| | 575V-3ph | --- | 6 | 5 | 6 | 7 | 10 |
| ¹ Minimum Circuit Ampacity | 115V-1ph | 8.7 | --- | --- | --- | --- | --- |
| | 208/230V-3ph | --- | 8.25 | 9.15 | 11.4 | 13.7 | 18.0 |
| | 460V-3ph | --- | 4.4 | 4.9 | 6 | 7.4 | 9.4 |
| | 575V-3ph | --- | 4.4 | 3.8 | 4.5 | 5.6 | 7.6 |

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

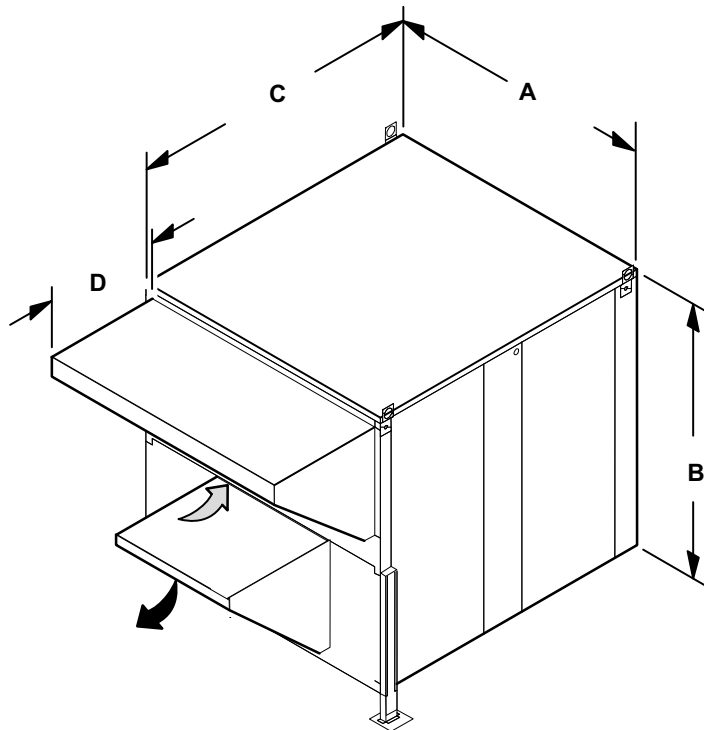
² A unit stepdown transformer is provided, 208/230/460/575V-1 or 3 phase primary, 115V secondary.

ELECTRICAL DATA - 60HZ

| Model No. | | 50R3631XH 50R3632XH 50R3633XH | 50P3631XH 50P3632XH 50P3633XH | 50R4632XH 50R4633XH | 50P4632XH 50P4633XH | 50R6232XM 50R6233XM 50R6232XH 50R6233XH | 50P6232XM 50P6233XM 50P6232XH 50P6233XH |
|--|--------------|-------------------------------------|-------------------------------------|------------------------|------------------------|--|--|
| Fresh Air Blower Motor | 208/230V-3ph | 6.6 | 6.6 | 9 | 9 | 15 | 15 |
| Full load amps | 460V-3ph | 3.3 | 3.3 | 4.4 | 4.4 | 7.4 | 7.4 |
| | 575V-3ph | 2.4 | 2.4 | 3.4 | 3.4 | 5.8 | 5.8 |
| Exhaust Blower Motor | 208/230V-3ph | 6.6 | 9.4 | 9 | 14.8 | 14.8 | 14.8 |
| | 460V-3ph | 3.3 | 4.3 | 4.3 | 7.0 | 7.0 | 7 |
| | 575V-3ph | 2.4 | 3.2 | 3.2 | 5.1 | 5.1 | 5.1 |
| Wheel Drive Motor - Full load amps | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Maximum fuse size (amps) | 208/230V-3ph | 20 | 25 | 30 | 40 | 50 | 50 |
| | 460V-3ph | 12 | 15 | 15 | 20 | 25 | 25 |
| | 575V-3ph | 9 | 10 | 12 | 15 | 20 | 20 |
| ¹ Minimum Circuit Ampacity | 208/230V-3ph | 16.1 | 19.6 | 22 | 28.7 | 34.8 | 34.8 |
| | 460V-3ph | 8.6 | 9.9 | 11 | 14.4 | 17.5 | 17.5 |
| | 575V-3ph | 6.6 | 7.6 | 8.7 | 11 | 13.6 | 13.6 |

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

DIMENSIONS - INCHES (MM)



| Model Number | A | | B | | C | | D | |
|--|----------|------|---------|------|---------|------|---------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm |
| 50R0630XH | 24-3/4 | 629 | 24-5/8 | 625 | 34-9/16 | 876 | 8 | 203 |
| 50R1130XH 50P1130XH | 32-1/2 | 816 | 33-1/2 | 851 | 44-3/4 | 1138 | 11 | 279 |
| 50R2030XH 50P2030XH | 37-1/4 | 946 | 37-1/2 | 951 | 54-3/8 | 1330 | 20-5/16 | 517 |
| 50R2831XM 50P2831XM 50R2832XM 50P2832XM | 42-5/8 | 1083 | 43-9/16 | 1106 | 52-1/4 | 1327 | 18-5/16 | 466 |
| 50R3631XH 50P3631XH 50R3632XH 50P3633XH | 46-11/16 | 1185 | 57-3/8 | 1458 | 60 | 1524 | 18-5/16 | 466 |
| 50R4632XH 50P4632XH | 52-11/16 | 1338 | 57-3/8 | 1458 | 60 | 1524 | 18-5/16 | 466 |
| 50R6232XM 50P6232XM 50R6233XM 50P6233XM | 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 Standard for Safety for Heating and Cooling Equipment ANSI/UL1995, CAN CSA - 22.2 No. 236-05

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.
- All energy recovery wheels shall be designed to be removed from the unit for ease of inspection and maintenance, 25 inch and 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 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 factory 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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NOTE - Due to an ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.
Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
Installation and service must be performed by a qualified installer and servicing agency.

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