RRS ROOFTOP SYSTEMS

Stand Alone Energy Recovery Ventilators

Engineering Data

Energy recovery COMPONENT certified to the AHRI Air-to-Air Energy Recovery Ventilation Equipment Certification Program in accordance with AHRI Standard 1060-2000. Actual performance in packaged equipment may vary.

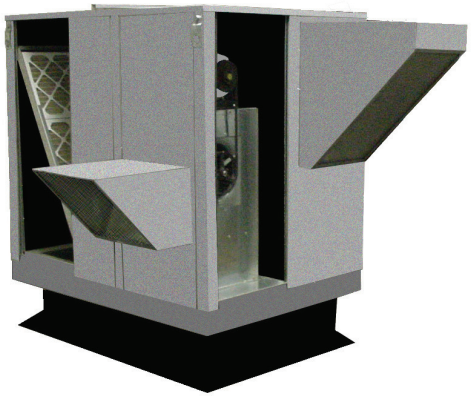
Stand Alone ERV Catalog
June 3, 2023
Supersedes: 11-21-22

- Reduces cooling load at design temperatures up to 4 tons per 1000 cfm of outside air.
- Reduces heating load up to 12,000 Btuh per 400 cfm of outside air.
- Dry energy transfer. Moisture in supply (intake) air stream is transferred to exhaust air stream in a vapor state, eliminating condensate plumbing in the ventilator.
- Units can be used in a rooftop application, a mechanical room application, or ground application.
- Separate fused power supply.
- Filters / mist eliminators are provided on the entering air openings of the outdoor units. Indoor units have pre-filters for both the supply and exhaust air.
- Centrifugal blowers (both intake and exhaust) for high static capability and low sound levels.
- Heavy gauge galvanized steel cabinets corrosion protected with powder paint process.
- Fully insulated cabinet.
- **ARI rated internal enthalpy wheel is provided.**
- Internal enthalpy wheel made of polymeric material with silica gel impregnated into the material. The enthalpy wheel has a five year limited warranty.
- Internal enthalpy wheels are easily cleanable. All wheels are segmented into easily removable pie segments.
- All wheels are designed to easily slide in and out of the ERV for servicing.
- Continuous operation down to 10°F (-12°C) without defrost at indoor relative humidity up to 40%. For temperatures below 10°F (-12°C), Optional Low Ambient Control Kit is required. Kit includes temperature sensor to shutoff power to UERV before frost build up can occur on recovery wheel.

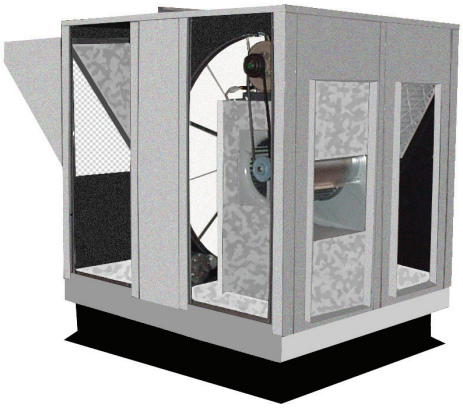
ETL Certified per UL 1995 and CSA 22.2

Intertek

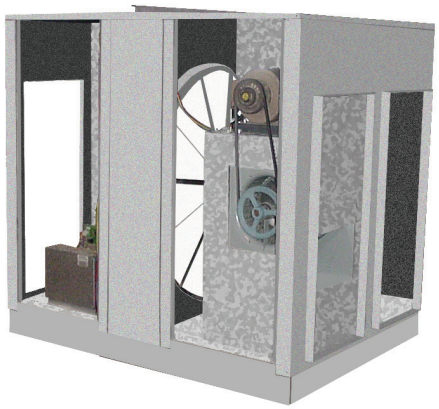
Typical Applications



Rooftop Downflow ERV Unit



ERV for Rooftop or Ground Installation



Mechanical Room ERV Unit

Applications

Energy Recovery Ventilators (ERV) are used to recover exhaust air energy and reintroduce it into the conditioned space. The recovery wheel provides sensible and latent energy exchange between the entering and exhaust air streams of a building. This allows a substantial amount of the energy which is normally lost in the exhaust air stream to be returned into the entering air. Ideal applications are areas that have cold or hot temperatures with high occupancy loads or high ventilation requirements. Areas that have high humidity or very low humidity (recover exhaust air humidity from buildings that have humidifiers) are good applications. ERV's also reduce the design loads due to outside air, which can mean downsizing the air conditioning equipment. Application software is available to calculate the load reductions and provide the energy and dollar savings for all areas of the United States and Canada.

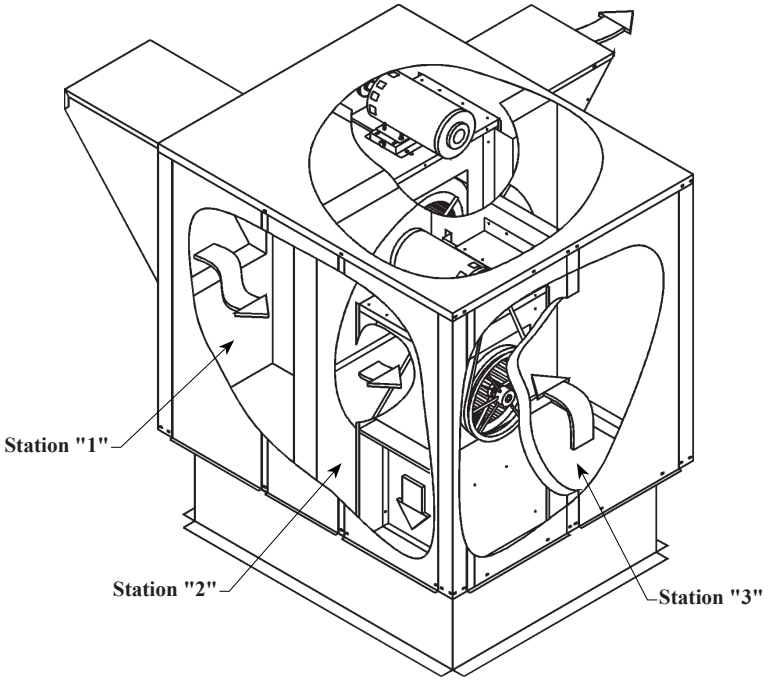
Principle of Operation

The ERV enthalpy wheel contains parallel layers of a polymeric material that are impregnated with silica gel (desiccant). The wheel is located in the entering (intake) air 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. For applications that do not need to recover energy during mild outside weather conditions, an option is provided to stop the wheel from rotating, thereby providing cooling with energy recovery.

Enthalpy Wheels and AHRI

ARI Standard 1060-2000 for Air-to-Air Energy Recovery Ventilation Equipment

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) issued Standard 1060-2000 to certify air-to-air energy recovery ventilators. This standard deals specifically with the ratings of the Energy Recovery Wheel that is incorporated into the ERV. All of the RRS energy recovery units have an AHRI certified wheel. The data shown in the specification charts are the AHRI certified data for the wheel. Actual performances may vary.



Critical Terms for Standard 1060 are as follows:

1. Effectiveness. The measured energy recovery effectiveness not adjusted to account for that portion of the psychometric change in the leaving supply air (Station 2) that is the result of leakage of entering exhaust air (Station 3) rather than exchange of heat or moisture between the air streams.

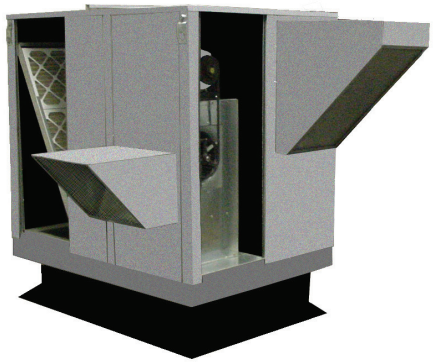
2. Net Effectiveness. The measured recovery effectiveness adjusted to account for that portion of the psychometric change in the leaving supply air (Station 2) that is the result of leakage of the entering exhaust air (Station 3) rather than exchange of heat or moisture between the air streams.

3. Exhaust Air Transfer Ratio (EATR). The tracer gas concentration difference between the leaving supply air (Station 2) and entering supply (outdoor) air stream (Station 1) divided by the tracer gas concentration in the entering exhaust (return) air (Station 3) at the 100% rated air-flow, expressed as a percentage.

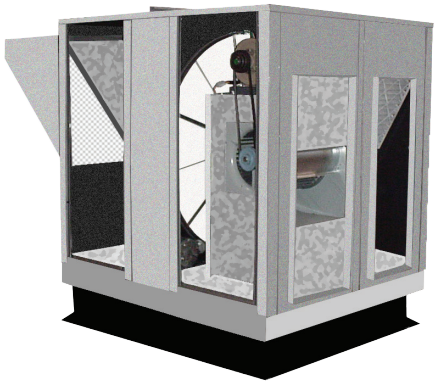
4. Outdoor Air Correction Factor (OACF). The entering supply (outdoor) airflow (Station 1) divided by the measured (gross) leaving supply airflow (Station 2).

Product Applications

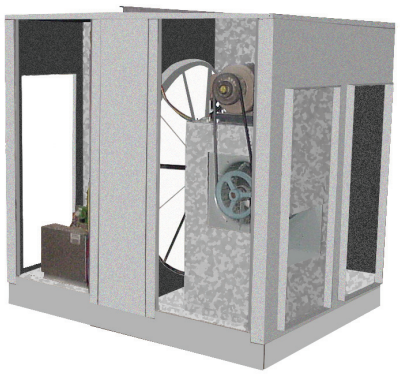
"D" Series energy recovery ventilators are utilized in applications that require a rooftop installation. These units may be installed as a stand-alone unit with a separate and distinct duct system from other air conditioning equipment. In many applications the supply (intake) air duct is connected to the return air duct of an air conditioning system (or multiple systems). By doing this the enthalpy wheel is able to provide preconditioned outside air to the air conditioning system(s).



"S" Series energy recovery ventilators are designed for outside use in rooftop or "pad" installations where the application requires a "side-by-side" duct system. One of the benefits of this design is the ability to easily be connected to the horizontal ductwork of an air conditioning system. Field supplied balancing dampers should be utilized to help control the air volumes.



"M" Series energy recovery ventilators are designed for use inside a building for applications that require "side-by-side" duct. Typically these units are installed in a mechanical room or mounted above a ceiling. Both the outside air intake and the exhaust air have duct systems to an outside source. The return air and supply air also are ducted. Field provided balancing dampers should be utilized to help control the air volumes.



"O" Series energy recovery ventilators are designed for outside use in rooftop or "pad" installations where the application requires a "over and under" duct system. One of the benefits of this design is the ability to be ducted directly to the back of a rooftop air conditioning unit. Another use is for "through the wall" applications. The horizontal return duct connection can be converted to bottom return in the field. Field supplied balancing dampers should be utilized to help control the air volumes.

"N" Series energy recovery ventilators are designed for use inside a building for applications that require "over and under" duct. Typically these units are installed in a mechanical room or mounted above a ceiling. Both the outside air intake and the exhaust air have duct systems to an outside source. The return air and supply air also are ducted. The horizontal return duct connection can be converted to bottom return in the field. Field provided balancing dampers should be utilized to help control the air volumes.

ERV Standard Features

RRS Energy Recovery Ventilators are supplied with filters before the Energy Recovery Wheel. The type(s) of filters are determined by the style of the ERV.

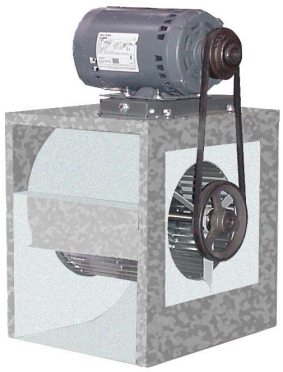
"D" series has an aluminum mist eliminator filter for the intake air and a 2" pleated filter for the exhaust air.

"O" & "S" series have an aluminum mist eliminator filter for the intake air and a 2" pleated filter for the exhaust air.

"M" & "N" series have a 2" pleated filter for both the exhaust air and the intake air.

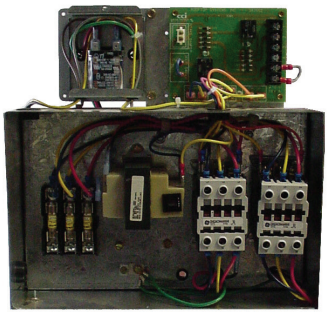
RRS Energy Recovery Ventilators are supplied with fully tested blower assemblies. Some of the features are as follows:

1. The blowers are housed within a sheet metal frame to insure reliable performance.
2. The blower motor is mounted on an adjustable motor mount that provides an easy method of adjusting the belts.
3. All blowers are equipped with adjustable sheave pulleys.
4. The blower pulley and the motor pulley are aligned by a state of the art "laser" alignment system.



RRS Energy Recovery Ventilators are supplied with fully tested control systems. Some of the features are as follows:

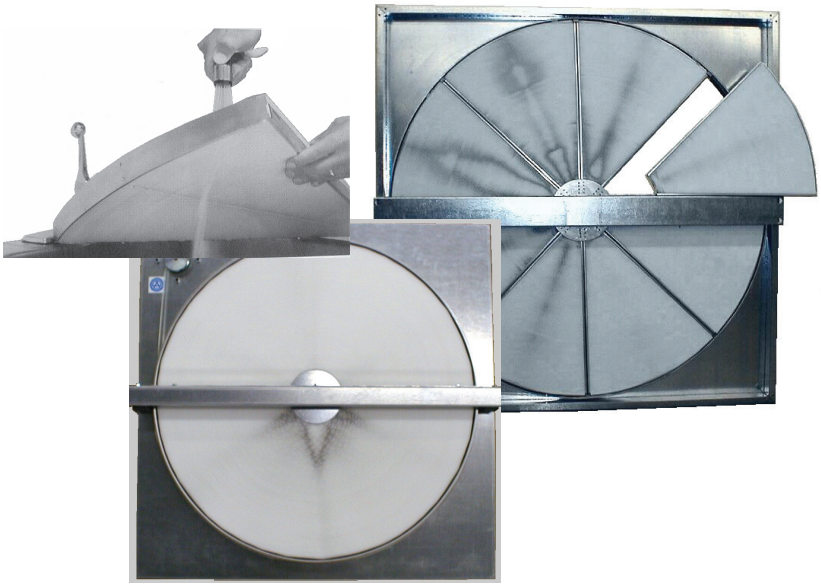
1. Electronic control board.
2. Fully wired.
3. Independently fused.
4. Color coded wires.
5. Provides own 24 volt circuit.
6. All options are "plug-in" modules.



Enthalpy Wheels and Maintenance

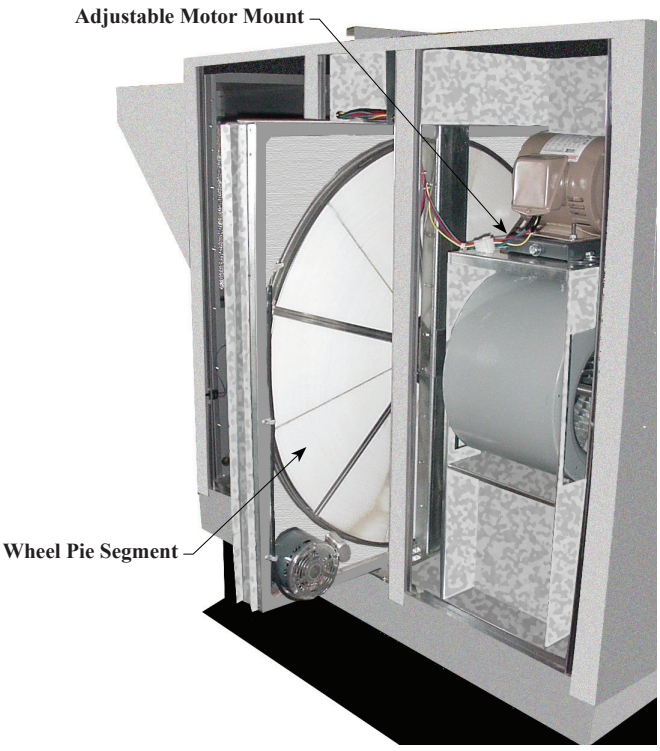
Energy Recovery Wheel

The heart of the Energy Recovery Ventilator is the Energy Recovery Wheel (defined by AHRI as a rotary heat exchanger). The wheel has a patented design of parallel layers of wrapped polymeric material that is impregnated with a silica gel (desiccant). This unique design makes it the only truly cleanable wheel on the market today. The small wheels (19 inch diameter) are slide out cassettes, and the larger wheels have pie segments that are removable for cleaning.



RRS Stand Alone Energy Recovery Ventilators are designed for ease of maintenance.

- ❖ All of the enthalpy wheels are designed to "slide" in and out of the ERV. This allows easy access to all parts of the wheel.
- ❖ Wheel "Pie" segments can be removed for easy cleaning.
- ❖ All wiring is color coded to match the wiring diagram.
- ❖ Control boxes provided with internal fuses.
- ❖ Blower motors are mounted on "adjustable" bases that allow easy tensioning of the belts.
- ❖ All filters are standard sizes.
- ❖ All options are easily installed by simply plugging them into the appropriate plug.
- ❖ Roof curbs have duct supports



Product Applications

01-D28-02xH-33-L2

- Option Code (see list below)
- Voltage: 21 = 208/230 volt 1 phase
  23 = 208/230 volt 3 phase
  33 = 460 volt 3 phase
  43 = 575 volt 3 phase
- Blower Speed (L for Low, M for Medium, H for high)
- Unit Cabinet Size
- ERV Enthalpy Wheel Designation (11, 20, 28, 36, 46, 62)
- Paint Designation ("01" is galvanized cabinet)

Optional Accessories

Roof Mounting Frame – A 14 or 24 inch (356 or 610 mm) roof curb is required to match supply and exhaust openings of the ERV with the rooftop units. RRS provides a full line of roof curbs to match the specified unit.

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 operation after temperature rises above the adjustable temperature differential.

Pressure Sensor – Measurement device on the UERV to determine airflow across the Enthalpy Wheel.

Motorized Intake Air Damper – Damper mounts in the outdoor air intake hood. It opens when the UERV is energized and closes when de-energized. **Not available on "M" and "N" Series.**

Stop-Start-Jog – Function that rotates the Enthalpy on a preset timer to prevent contamination of the wheel during economizer operation.

ERV Option Codes (ex.: xx-S28-02xH-L3 would be an S28 series high speed ERV with a Low Ambient Kit, Motorized Outside Air, and Stop-Start-Jog kit.)

- L1 – Low Ambient Kit (LAK)
- L2 – LAK & Motorized. Outside Air (MOA)
- L3 – LAK, MOA, & Stop-Start-Jog (SSJ)
- L4 – LAK, MOA, SSJ, & Pressure Sensor (PS)
- L5 – LAK and SSJ
- L6 – LAK, SSJ, and PS
- L7 – LAK and PS
- L8 – LAK, MOA, and PS
- M1 – Motorized Outside Air (MOA)
- M2 – MOA and Stop-Start-Jog (SSJ)
- M3 – MOA, SSJ, and Pressure Sensor (PS)
- M4 – MOA and PS
- S1 – Stop-Start-Jog (SSJ)
- S2 – SSJ and Pressure Sensor (PS)
- P1 – Pressure Sensor (PS)

Other options (ordered separately) – Rotation Sensor, Motorized Exhaust Air Damper and Disconnects.

Cross Leakage in UERV's (Purge Sectors)

The issue of cross leakage in rotary wheel based UERV's used in space conditioning applications is often misunderstood. As a result, many systems are installed with purge sectors and the additional fan capacity required to allow these sectors to function when in fact they are unnecessary. A better understanding of the rational for the purge sector, and its history, allows us to dispense with the purge sector, its added first cost and continuing cost of operation.

A purge sector minimizes the carry over cross leakage from the exhaust into the supply (outside air) air stream by shunting a portion of the supply air back into the exhaust air stream across the seal separating the exhaust and supply. This is required in industrial applications where the exhaust carries contaminants. This typically results in air volume being 15% to 20% higher to get the desired air intake, and the cost associated with it.

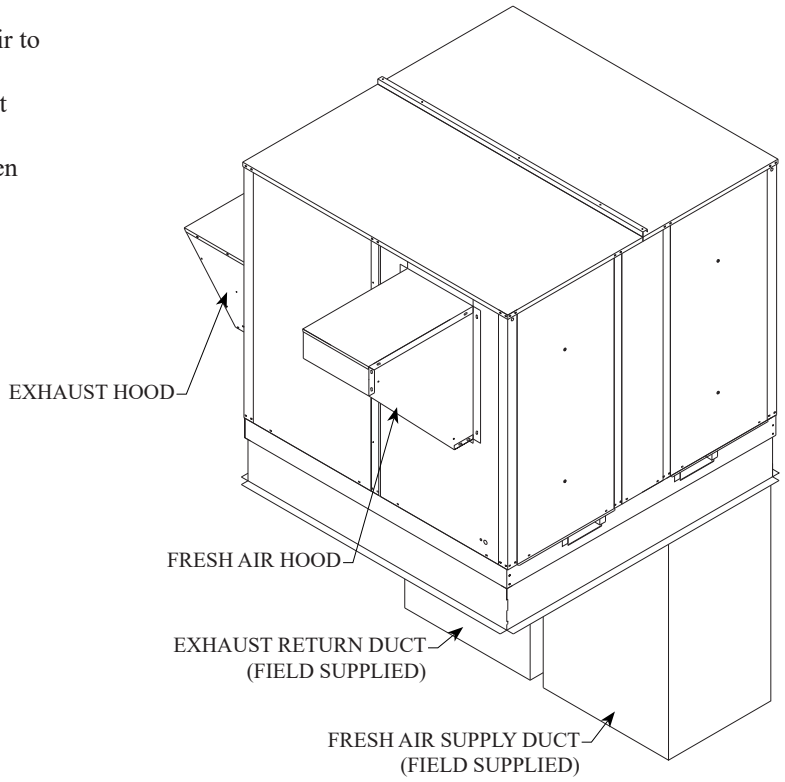
In space conditioning applications, where the ventilation is operating to maintain acceptable indoor air quality, there are no contaminants in concentrations of concern. Cross leakage in the UERV system results in a small amount of the exhaust air, typically less than 5% in balanced airflow, returning to the space. This is not contaminated air, as some would suggest. It is however air that effectively never left the space. The operation cost of moving this air is far less than that required for a purge sector. Do not use the RRS UERV's in applications that have concentrations of contaminants.

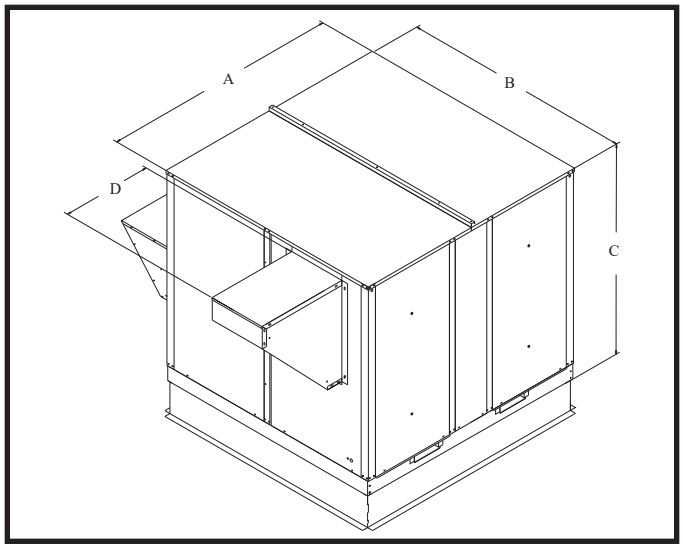
D-02 Series Stand Alone ERV'S For Down Discharge Duct Arrangements

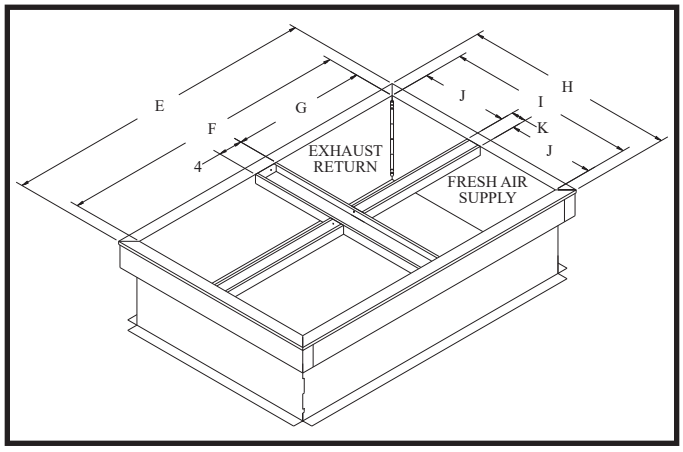
Features and Notes

1. Stand alone design allows higher levels of outdoor air to be introduced into the a/c space.
2. Static test ports provided to verify intake and exhaust CFM.
3. Balancing damper(s) field supplied in duct work when connected to ERV.
4. Roof curbs are available for the ERV's.
5. See blower performance charts for airflow at various E.S.P..
6. Filter rack with 2" pleated filters included.

ERV Roof Curbs	
Series	**Model No**
D11	01-2D1-2514
D20	01-2D1-3014
D28	01-2D1-3614
D36	01-2D1-4114
D46	01-2D1-4614
D62	01-2D1-5214





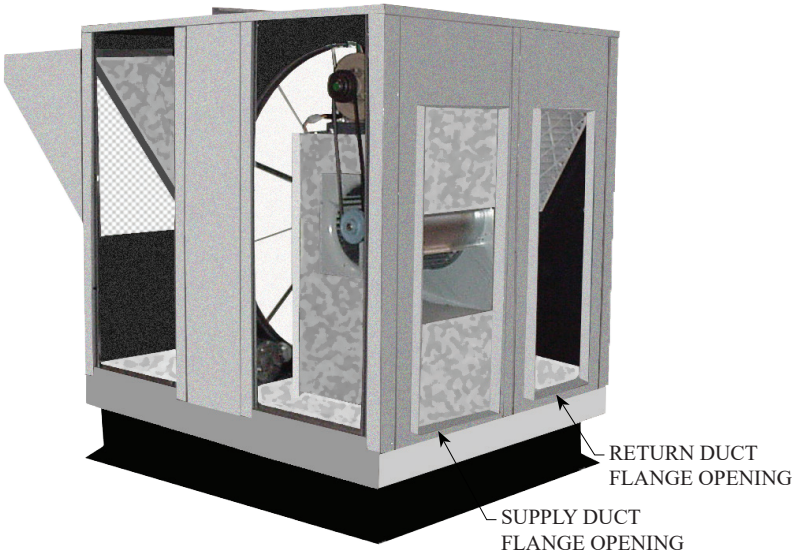


ERV Data			Dimensional Data										
ERV Series	CFM Range	Duct Size (G x J)	ERV				Roof Curb						
			A	B	C	D	E	F	G	H	I	J	K
D11-02	300-1100	17.00 x 11.38	44.75	32.13	33.50	14.38	43.00	39.00	17.50	30.25	26.25	11.88	2.50
D20-02	1200-2000	21.88 x 14.00	54.38	37.25	37.50	17.50	52.75	48.75	22.38	35.50	31.50	14.50	2.50
D28-02	1200-2800	20.25 x 17.00	52.25	42.63	43.56	25.50	49.50	45.50	20.75	41.00	37.00	17.50	2.00
D36-02	2000-3600	23.38 x 17.38	60.00	46.69	57.37	25.50	55.75	51.75	23.88	41.81	37.81	17.91	2.00
D46-02	3000-4600	23.38 x 20.38	60.00	52.69	57.37	28.06	55.75	51.75	23.88	47.81	43.81	20.91	2.00
D62-02	4600-6200	29.38 x 30.00	72.00	70.88	63.63	37.75	67.75	63.75	29.88	66.00	62.00	30.00	2.00

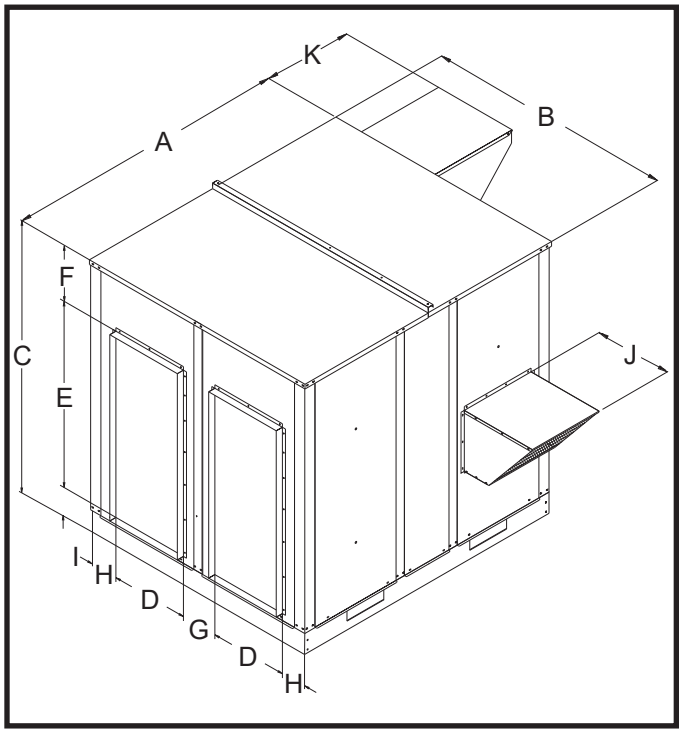
S-02 Series Stand Alone ERV'S For Side by Side Duct Arrangements

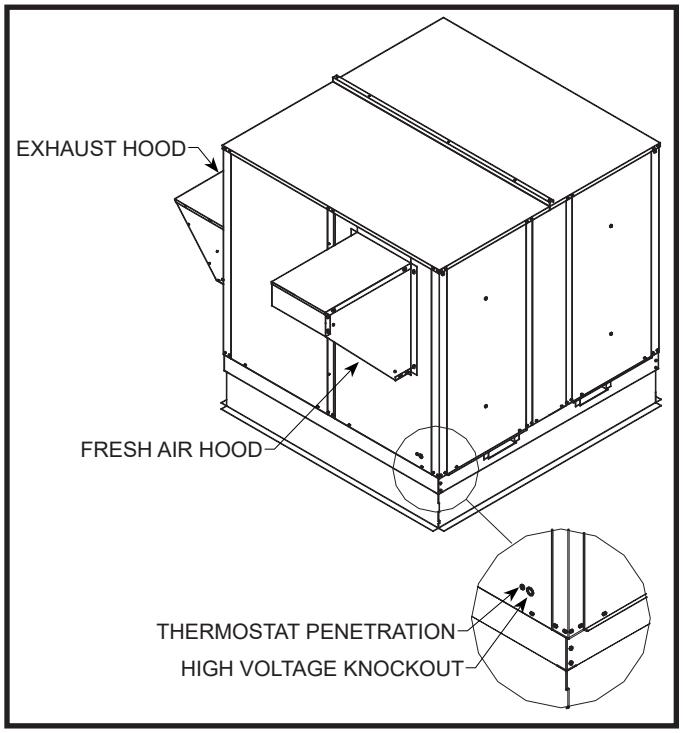
Features and Notes

1. Stand alone design allows higher levels of outdoor air to be introduced into the a/c space.
2. Static test ports provided to verify intake and exhaust CFM.
3. Balancing damper(s) is field provided when connected to ductwork. System will not operate properly without balancing damper.
4. Roof curbs are available for the ERV's.
5. See blower performance charts for airflow at various E.S.P..
6. Filter rack with 2" pleated filters included.



ERV Roof Curbs	
Series	**Model No**
S11	01-2D1-2514
S20	01-2D1-3014
S28	01-2D1-3614
S36	01-2D1-4114
S46	01-2D1-4614
S62	01-2D1-5214



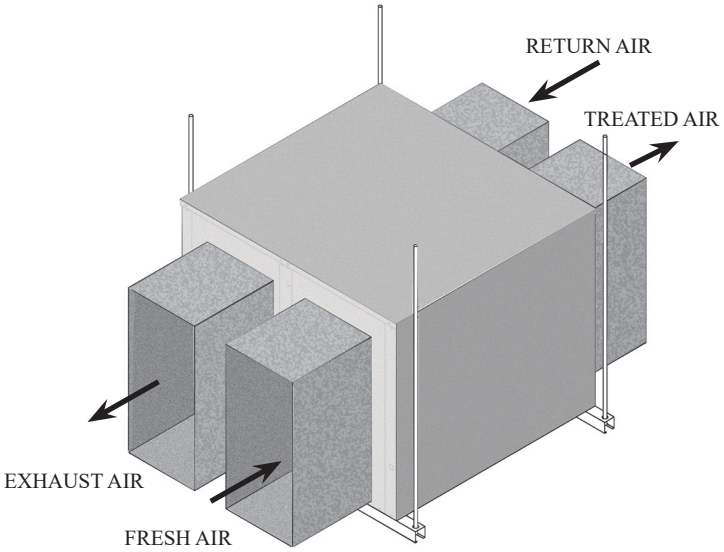


ERV Data		Dimensional Data										
ERV Series	**CFM Range**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**
S11-02	300-1100	44.75	32.13	33.50	11.00	27.00	4.00	4.25	2.88	2.50	20.75	14.38
S20-02	1200-2000	54.38	37.25	37.50	12.00	30.00	5.87	5.13	4.06	1.63	20.75	17.50
S28-02	1200-2800	52.25	42.63	43.56	14.00	32.00	8.69	5.25	4.25	2.88	20.75	25.50
S36-02	2000-3600	60.00	46.69	57.37	16.50	39.50	12.00	5.50	4.05	5.88	20.75	25.50
S46-02	3000-4600	60.00	52.69	57.37	16.50	39.50	12.00	8.69	5.50	5.88	20.75	28.06
S62-02	4600-6200	72.00	70.88	63.63	19.50	39.50	17.53	14.50	8.70	6.60	20.75	37.75

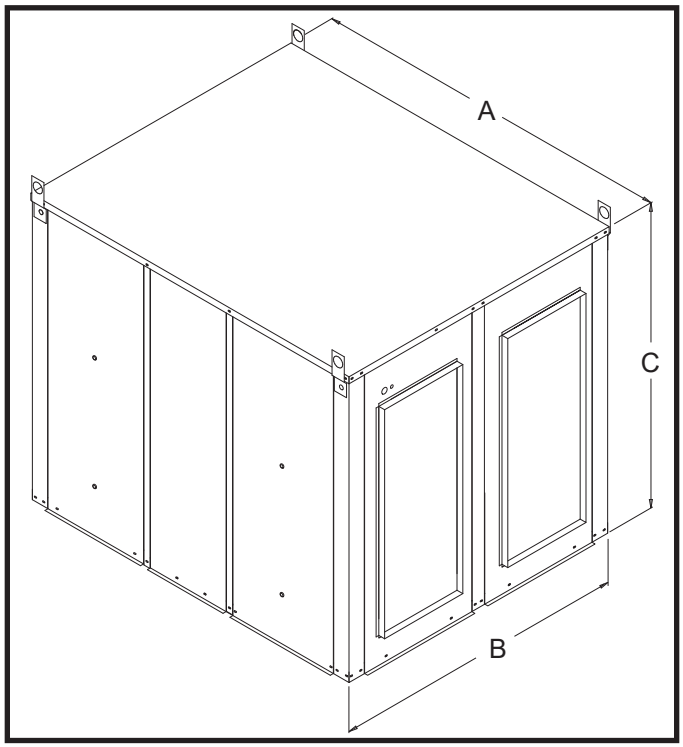
M-02 Series Stand Alone ERV'S For Side by Side Indoor Application

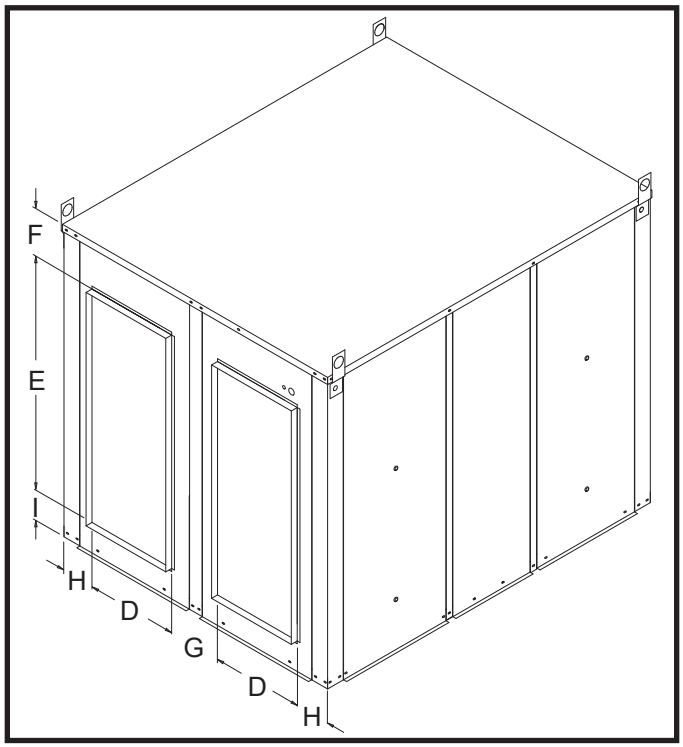
Features and Notes

1. Stand alone design allows higher levels of outdoor air to be introduced into the a/c space.
2. Static test ports provided to verify intake and exhaust CFM.
3. Balancing damper(s) is field provided when connected to ductwork. System will not operate properly without balancing damper.
4. See blower performance charts for airflow at various E.S.P..
5. Filter rack with 2" pleated filters included.



ERV with Horizontal Ductwork (balancing damper(s) field supplied)





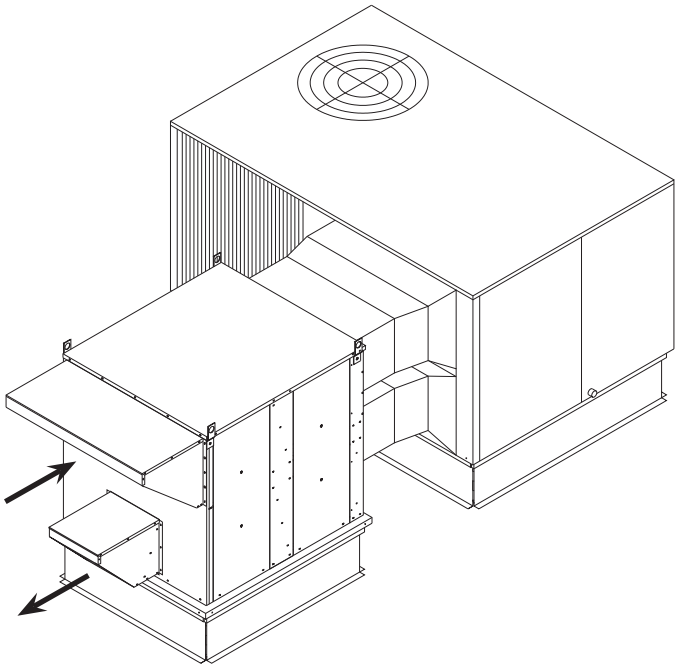
ERV Data		Dimensional Data								
ERV Series	**CFM Range**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
M11-02	300-1100	44.75	32.13	33.50	11.00	27.00	4.00	4.25	2.88	2.50
M20-02	1200-2000	54.38	37.25	37.50	12.00	30.00	5.87	5.13	4.06	1.63
M28-02	1200-2800	52.25	42.63	43.56	14.00	32.00	8.69	5.25	4.25	2.88
M36-02	2000-3600	60.00	46.69	57.37	16.50	39.50	12.00	5.50	4.05	5.88
M46-02	3000-4600	60.00	52.69	57.37	16.50	39.50	12.00	8.69	5.50	5.88
M62-02	4600-6200	72.00	70.88	63.63	19.50	39.50	17.53	14.50	8.70	6.60

O-02 Series Stand Alone ERV'S For Over and Under Duct Arrangements

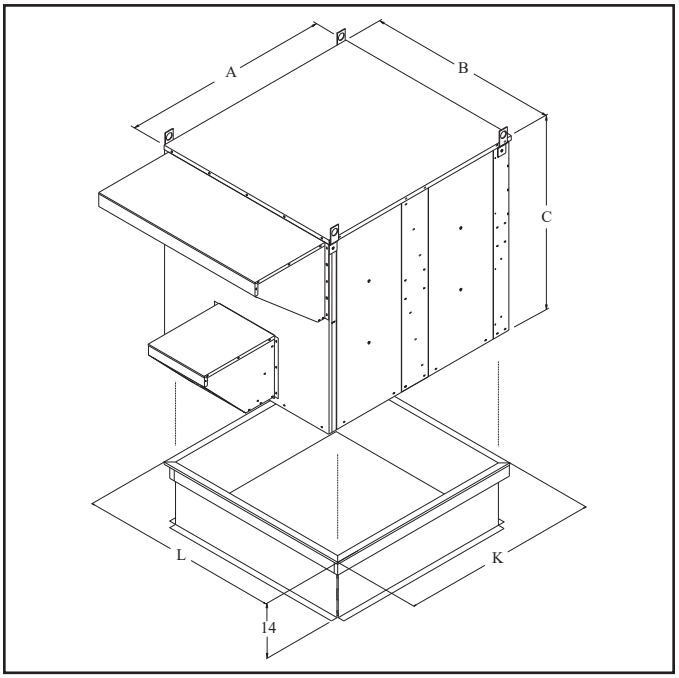
Features and Notes

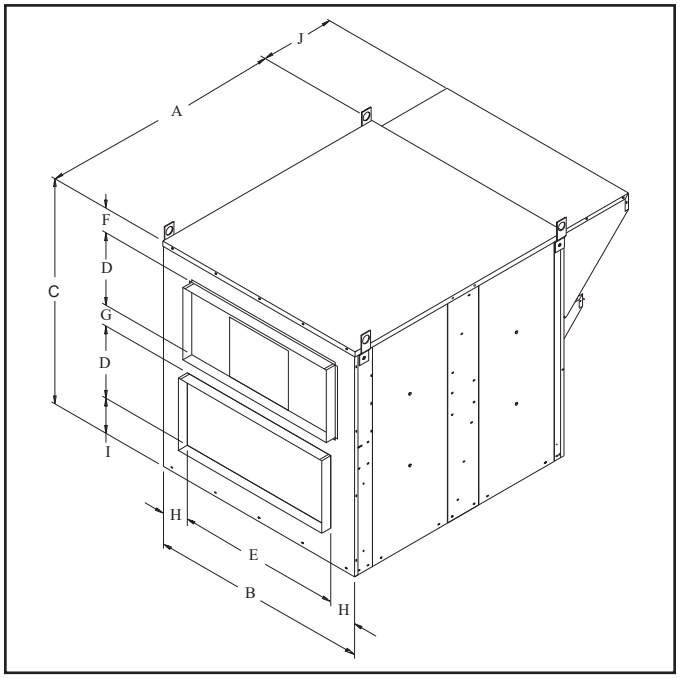
1. Stand alone design allows higher levels of outdoor air to be introduced into the a/c space.
2. Static test ports provided to verify intake and exhaust CFM.
3. Balancing damper(s) is field provided when connected to ductwork. System may not operate properly without balancing damper.
4. Roof curbs are available for the ERV's.
5. See blower performance charts for airflow at various E.S.P..
6. Filter rack with 2" pleated filters included.

ERV Roof Curbs	
Series	**Model No**
O11	01-2O1-2514
O20	01-2D1-3014
O28	01-2O1-3614
O36	01-2D1-4114
O46	01-2D1-4614
O62	01-2O1-5214



ERV with Horizontal Ductwork (balancing damper(s) field supplied)



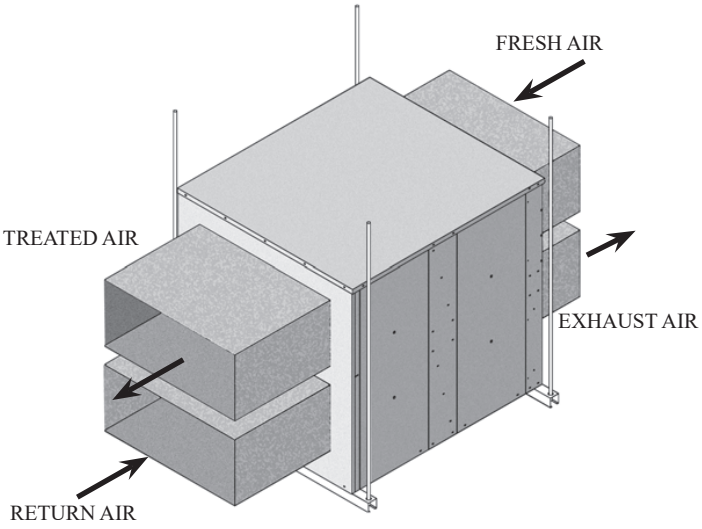


ERV Data		Dimensional Data											
ERV Series	**CFM Range**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**
O11-02	300-1100	56.75	32.13	39.50	11.00	27.00	6.50	10.00	2.56	1.00	11.00	55.00	30.25
O20-02	1200-2000	54.38	37.25	37.50	12.00	30.00	8.00	4.00	3.63	1.50	20.32	52.75	35.50
O28-02	1200-2800	60.00	42.63	43.56	14.00	32.00	9.56	4.50	5.31	1.50	18.32	49.50	41.00
O36-02	2000-3600	60.00	46.69	57.37	16.50	39.50	12.13	6.38	3.59	5.88	18.32	55.75	41.81
O46-02	3000-4600	60.00	52.69	57.37	16.50	39.50	12.13	6.38	6.59	5.88	18.32	55.75	47.81
O62-02	4600-6200	72.00	70.88	63.63	19.50	39.50	12.13	6.50	15.69	5.88	18.32	67.75	66.00

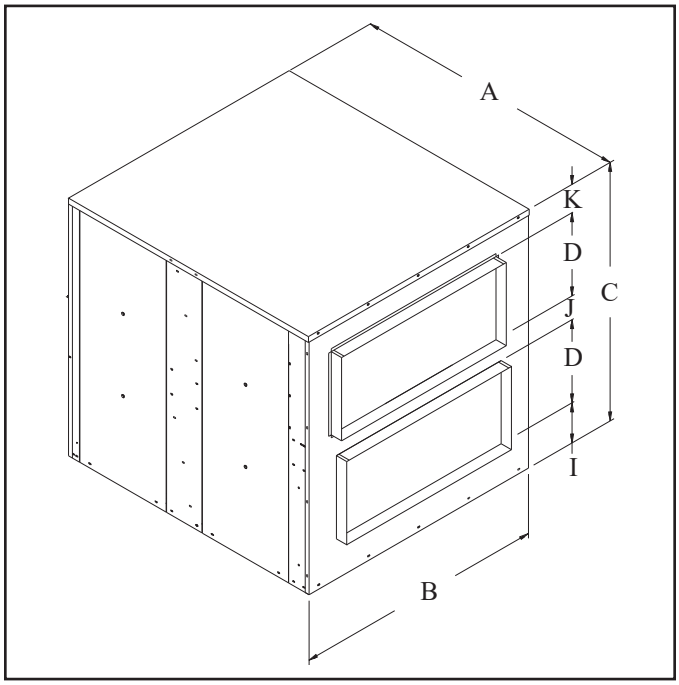
N–02 Series Stand Alone ERV'S For Over and Under Indoor Application

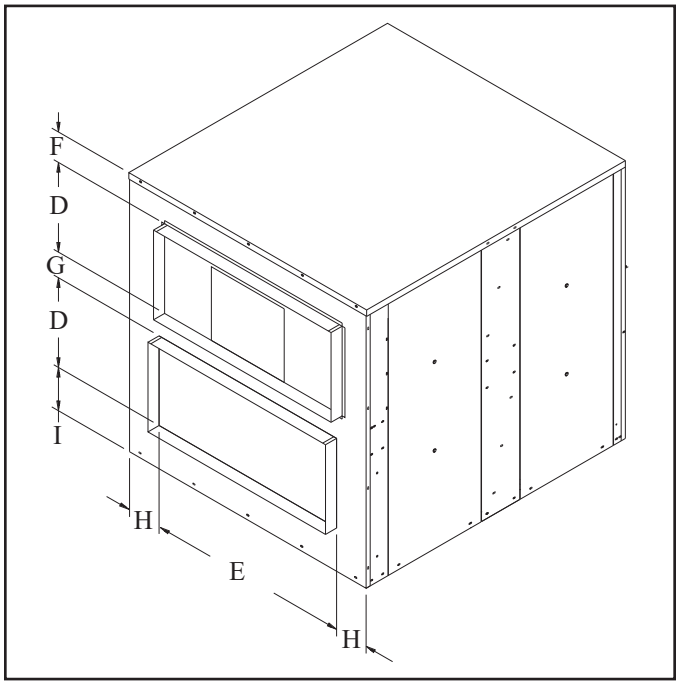
Features and Notes

1. Stand alone design allows higher levels of outdoor air to be introduced into the a/c space.
2. Static test ports provided to verify intake and exhaust CFM.
3. Balancing damper(s) is field provided when connected to ductwork. System will not operate properly without balancing damper.
4. See blower performance charts for airflow at various E.S.P..
5. Filter rack with 2" pleated filters included.



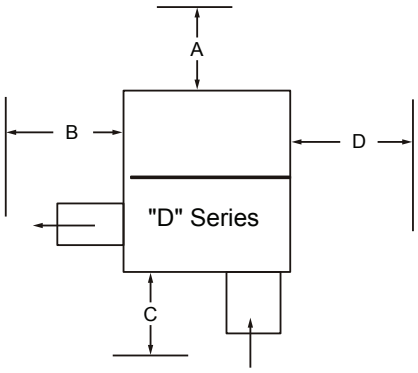
ERV with Horizontal Ductwork
(balancing damper(s) field supplied)





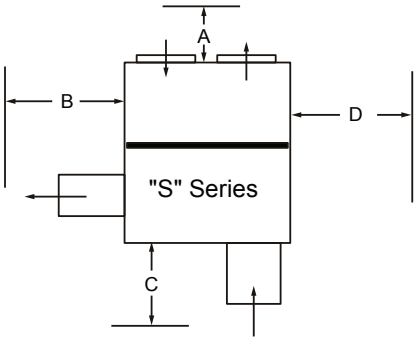
ERV Data		Dimensional Data										
ERV Series	CFM Range	A	B	C	D	E	F	G	H	I	J	K
N11-02	300-1100	56.75	32.13	39.50	11.00	27.00	6.50	10.00	2.56	1.00	10.00	6.50
N20-02	1200-2000	54.38	37.25	37.50	12.00	30.00	8.00	4.00	3.63	1.50	7.00	5.00
N28-02	1200-2800	60.00	42.63	43.56	14.00	32.00	9.56	4.50	5.31	1.50	8.81	5.25
N36-02	2000-3600	60.00	46.69	57.37	16.50	39.50	12.13	6.38	3.59	5.88	11.75	6.75
N46-02	3000-4600	60.00	52.69	57.37	16.50	39.50	12.13	6.38	6.59	5.88	11.75	6.75
N62-02	4600-6200	72.00	70.88	63.63	19.50	39.50	12.13	6.50	15.69	5.88	12.00	6.75

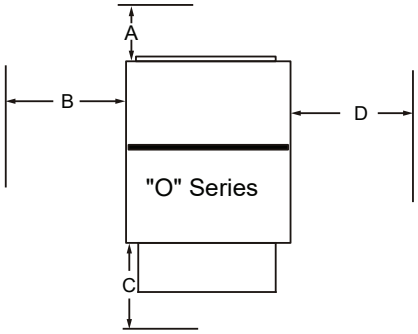
Service Clearances - Stand Alone "02" Series ERVs



Dimension (inches)	"D" Series					
	11	20	28	36	46	62
A	36	36	36	36	36	36
B	60	60	60	60	60	60
C	48	60	60	60	72	72
D	36	36	48	48	60	60

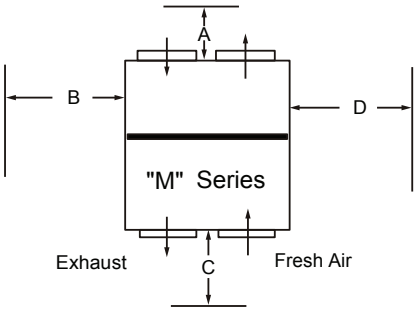
Dimension (inches)	"S" Series					
	11	20	28	36	46	62
A	12	12	12	12	12	12
B	60	60	60	60	60	60
C	48	60	60	60	72	72
D	36	36	48	48	60	60

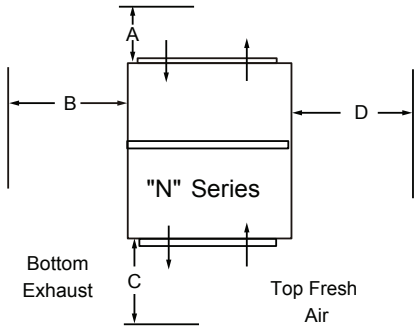




Dimension (inches)	"O" Series					
	11	20	28	36	46	62
A	12	12	12	12	12	12
B	36	36	36	36	36	36
C	48	60	60	60	60	60
D	36	36	48	48	60	60

Dimension (inches)	"M" Series					
	11	20	28	36	46	62
A	12	12	12	12	12	12
B	36	36	36	36	36	36
C	12	12	12	12	12	12
D	36	36	48	48	60	60





Dimension (inches)	"N" Series					
	11	20	28	36	46	62
A	12	12	12	12	12	12
B	36	36	36	36	36	36
C	12	12	12	12	12	12
D	36	36	48	48	60	60

Performance - "02" Series

Use this table to determine ventilation and size requirements. Table shows ERV Air Flow Range. AHRI certified performance rating provided in specifications and electrical data Effectiveness. "xL", "xM" and "xH" signify low, medium and high speed.

ERV CFM Range	RRS ERV Series
300-1100	D11, M11, N11, O11, S11
1200-2000	D20, M20, N20, O20, S20
1200-2800	D28, M28, N28, O28, S28
2000-3600	D36, M36, N36, O36, S36
3000-4600	D46, M46, N46, O46, S46
4600-5400	N62, O62
4600-6200	D62, M62, S62

RRS ERV Series Descriptions

Series	Description
O	Stand alone outdoor application that attaches to horizontal return air duct in an over and under design.
S	Stand alone outdoor application that attaches to horizontal return air duct in an side by side design.
N	Over/Under Indoor Application
M	Side/Side Indoor Application
D	Down Discharge Outdoor Application

Filter Sizes - Stand Alone "02" Series

Series	Size	Return Filter				Intake Filter			
		Qty	Width	Height	Type	Qty	Width	Height	Type
D	11	1	14	20	2" PLT	1	16.25	10.375	1" ME
	20	2	16	20		1	12.5	20	
	28	2	20	20		1	14.75	32.25	
	36	3	16	20		1	16.5	32.25	
	46	2	24	24		1	20	36	
	62	5	14	20		1/1	20 / 20	36 / 12.5	
M	11	1	14	20	2" PLT	1	14	20	2" PLT
	20	2	16	16		2	16	16	
	28	2	20	20		2	20	20	
	36	3	16	20		3	16	20	
	46	2	24	24		2	24	24	
	62	5	14	20		5	14	20	
N	11	1	18	25	2" PLT	1	18	25	2" PLT
	20	2	16	16		2	16	16	
	28	2	20	20		2	20	20	
	36	2 / 1	16 / 14	20		2 / 1	16 / 14	20	
	46	2	24	24		2	24	24	
	62	5	14	20		5	14	20	
O	11	1	18	25	2" PLT	1	27.5	10	1" ME
	20	2	16	16		1	32.25	18.5	
	28	2	20	20		1	40.25	21.5	
	36	2 / 1	16 / 14	20		1	40.25	21.5	
	46	2	24	24		1	40.25	21.5	
	62	5	14	20		1	40.25	25.5	
S	11	1	14	20	2" PLT	1	16.25	10.375	1" ME
	20	2	16	20		1	12.5	20	
	28	2	20	20		1	14.75	32.25	
	36	3	16	20		1	16.5	32.25	
	46	2	24	24		1	20	36	
	62	5	14	20		1 / 1	20 / 20	36 / 12.5	

Specifications and Electrical Data - 300 through 1100 CFM ERV's

Model Numbers		O11-02 - Stand Alone Over/Under N11-02 - Over/Under Indoor Application			
Line Voltage - 60hz		208/230v - 1ph	208/230v - 3ph	460v - 3ph	575v - 3ph
Fresh Air Blower	Motor - hp	1.5 / Belt			
	Wheel Size (dia x width) -in	9 x 4			
	Motor Speed -rpm	1725			
	Motor Speed(s)	Adjustable Sheave			
	Bearing Type	Ball			
	Full Load Amps	9.1	5.6	2.8	2.0
	Service Factor	1.15			
Exhaust Air Blower	Motor - hp Stationary	1.5 / Belt			
	Wheel Size (dia x width) -in	9 x 4			
	Motor Speed -rpm	1725			
	Motor Speed(s)	Adjustable Sheave			
	Bearing Type	Ball			
	Full Load Amps-Stationary	9.1	5.6	2.8	2.0
	Service Factor	1.15			
Wheel Electrical Data	Potential Volts	208 - 230			
	Motor Speed -rpm	1050			
	Full Load Amps	0.3			
Total Electrical	MCA - Stationary	20.8	12.9	6.6	4.8
	OCPD - Stationary	30	15	9	7
Wheel Data	Wheel Depth - in	3			
	Wheel Diameter - in	25.3			
	Construction / Media	Segmented Pies/Polymeric			
Curb	Curb Height - in	14			
Weights	Shipping Weight - lbs. (kg)	389			
	Net Weight - lbs. (kg)	314			

ARI Certified Ratings

Thermal Ratings @ 0" Pressure Diff.		Sensible	Latent	Total
Total Effectiveness	100% Airflow Heating	76%	68%	73%
	75% Airflow Heating	81%	73%	78%
	100% Airflow Cooling	76%	68%	72%
	75% Airflow Cooling	81%	73%	76%
Net Effectiveness	100% Airflow Heating	76%	68%	73%
	75% Airflow Heating	81%	73%	78%
	100% Airflow Cooling	76%	68%	72%
	75% Airflow Cooling	81%	73%	76%

Enthalpy Wheel Airflow Data	
Nominal Airflow CFM	900 @ 1.0Δ
EATR - -1.00 H_2O	9.30%
EATR - 0.00 H_2O	0.70%
EATR - +1.00 H_2O	0.00%
OACF - -1.00 H_2O	0.97
OACF - 0.00 H_2O	1.19
OACF - +1.00 H_2O	1.34

Specifications and Electrical Data - 300 through 1100 CFM ERV's

Model Numbers		D11-02 - Down Discharge				S11-02 - Stand Alone S/S M11-02 - S/S Indoor Application			
Line Voltage - 60hz		208/230v 1ph	208/230v 3ph	460v 3ph	575v 3ph	208/230v 1ph	208/230v 3ph	460v 3ph	575v 3ph
Fresh Air Blower	Motor - hp	1.5 / Belt				1.5 / Belt			
	Wheel Size (dia x width) -in	9 x 4				9 x 4			
	Motor Speed -rpm	1725				1725			
	Motor Speed(s)	Adjustable Sheave				Adjustable Sheave			
	Bearing Type	Ball				Ball			
	Full Load Amps	9.1	5.6	2.8	2.0	9.1	5.6	2.8	2.0
	Service Factor	1.15				1.15			
Exhaust Air Blower	Motor - hp Stationary	1.5 / Belt				1.5 / Belt			
	Wheel Size (dia x width) -in	9 x 4				9 x 4			
	Motor Speed -rpm	1725				1725			
	Motor Speed(s)	Adjustable Sheave				Adjustable Sheave			
	Bearing Type	Ball				Ball			
	Full Load Amps-Stationary	9.1	5.6	2.8	2.0	9.1	5.6	2.8	2.0
	Service Factor	1.15				1.15			
Wheel Electrical Data	Potential Volts	208 - 230				208 - 230			
	Motor Speed -rpm	1050				1050			
	Full Load Amps	0.3				0.3			
Total Electrical	MCA - Stationary	20.8	12.9	6.6	4.8	20.8	12.9	6.6	4.8
	OCPD - Stationary	30	15	9	7	30	15	9	7
Wheel Data	Wheel Depth - in	3				3			
	Wheel Diameter - in	25.3				25.3			
	Construction / Media	Segmented Pies/Polymeric				Segmented Pies/Polymeric			
Curb	Curb Height - in	14				14			
Weights	Shipping Weight - lbs. (kg)	389				389			
	Net Weight - lbs. (kg)	314				314			

ARI Certified Ratings

Thermal Ratings @ 0" Pressure Diff.		Sensible	Latent	Total
Total Effectiveness	100% Airflow Heating	76%	68%	73%
	75% Airflow Heating	81%	73%	78%
	100% Airflow Cooling	76%	68%	72%
	75% Airflow Cooling	81%	73%	76%
Net Effectiveness	100% Airflow Heating	76%	68%	73%
	75% Airflow Heating	81%	73%	78%
	100% Airflow Cooling	76%	68%	72%
	75% Airflow Cooling	81%	73%	76%

Enthalpy Wheel Airflow Data	
Nominal Airflow CFM	900 @ 1.0Δ
EATR - -1.00 H_2O	9.30%
EATR - 0.00 H_2O	0.70%
EATR - +1.00 H_2O	0.00%
OACF - -1.00 H_2O	0.97
OACF - 0.00 H_2O	1.19
OACF - +1.00 H_2O	1.34

Specifications and Electrical Data - 1200 through 2000 CFM ERV's

Model Numbers		O20-02 - Stand Alone O/U N20-02 - O/U Indoor			D20-02 Down Discharge			S20-02 - Stand Alone S/S M20-02 - S/S Indoor		
Line Voltage - 60hz		208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph
Fresh Air Blower	Motor - hp	2 / Belt			2 / Belt			2 / Belt		
	Wheel Size (dia x width) -in	9 x 9			9 x 9			9 x 9		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps	6.0	2.6	2.4	6.0	2.6	2.4	6.0	2.6	2.4
	Service Factor	1.15			1.15			1.15		
Exhaust Air Blower	Motor - hp Stationary	2 / Belt			2 / Belt			2 / Belt		
	Wheel Size (dia x width) -in	9 x 9			9 x 9			9 x 9		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps-Stationary	6.0	2.6	2.4	6.0	2.6	2.4	6.0	2.6	2.4
	Service Factor	1.15			1.15			1.15		
Wheel Electrical Data	Potential Volts	208 - 230			208 - 230			208 - 230		
	Motor Speed -rpm	1050			1050			1050		
	Full Load Amps	0.3			0.3			0.3		
Total Electrical	MCA - Stationary	13.8	6.2	5.7	13.8	6.2	5.7	13.8	6.2	5.7
	OCPD - Stationary	20	9	8	20	9	8	20	9	8
Wheel Data	Wheel Depth - in	3			3			3		
	Wheel Diameter - in	30.346			30.346			30.346		
	Construction / Media	Segmented Pies/Polymeric			Segmented Pies/Polymeric			Segmented Pies/Polymeric		
Curb	Curb Height - in	14			14			14		
Weights	Shipping Weight - lbs. (kg)	650			650			650		
	Net Weight - lbs. (kg)	570			570			570		

ARI Certified Ratings

Thermal Ratings @ 0" Pressure Diff.		Sensible	Latent	Total
Total Effectiveness	100% Airflow Heating	68%	61%	65%
	75% Airflow Heating	72%	67%	71%
	100% Airflow Cooling	68%	61%	64%
	75% Airflow Cooling	72%	67%	70%
Net Effectiveness	100% Airflow Heating	68%	61%	65%
	75% Airflow Heating	72%	67%	71%
	100% Airflow Cooling	68%	61%	64%
	75% Airflow Cooling	72%	67%	70%

Enthalpy Wheel Airflow Data	
Nominal Airflow CFM	1600 @ .95Δ
EATR - -1.00 H_2O	7.80%
EATR - 0.00 H_2O	0.40%
EATR - +1.00 H_2O	0.00%
OACF - -1.00 H_2O	0.97
OACF - 0.00 H_2O	1.16
OACF - +1.00 H_2O	1.29

Specifications and Electrical Data - 1200 through 2800 CFM ERV's										
Model Numbers		**O28-02 - Stand Alone O/U N28-02 - O/U Indoor**			**D28-02 Down Discharge**			**S28-02 - Stand Alone S/S M28-02 - S/S Indoor**		
Line Voltage - 60hz		208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph
Fresh Air Blower	Motor - hp	3 / Belt			3 / Belt			3 / Belt		
	Wheel Size (dia x width) -in	10 x 10			10 x 10			10 x 10		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps	9.4	4.3	3.2	9.4	4.3	3.2	9.4	4.3	3.2
	Service Factor	1.15			1.15			1.15		
Exhaust Air Blower	Motor - hp Stationary	3 / Belt			3 / Belt			3 / Belt		
	Wheel Size (dia x width) -in	10 x 10			10 x 10			10 x 10		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps-Stationary	9.4	4.3	3.2	9.4	4.3	3.2	9.4	4.3	3.2
	Service Factor	1.15			1.15			1.15		
Wheel Electrical Data	Motor - hp (1 phase)	0.05			0.05			0.05		
	Potential Volts	200 / 208 - 230			200 / 208 - 230			200 / 208 - 230		
	Motor Speed -rpm	825			825			825		
	Full Load Amps	0.6			0.6			0.6		
Total Electrical	MCA - Stationary	21.8	10.3	7.8	21.8	10.3	7.8	21.8	10.3	7.8
	OCPD - Stationary	30	12	10	30	12	10	30	12	10
Wheel Data	Wheel Depth x Dia - in	3 x 37.759			3 x 37.759			3 x 37.759		
	Construction / Media	Segmented Pies/Polymeric			Segmented Pies/Polymeric			Segmented Pies/Polymeric		
Curb	Curb Height - in	14			14			14		
Weights	Shipping Weight - lbs. (kg)	876			876			876		
	Net Weight - lbs. (kg)	801			801			801		

ARI Certified Ratings				
Thermal Ratings @ 0" Pressure Diff.		**Sensible**	**Latent**	**Total**
Total Effectiveness	100% Airflow Heating	68%	60%	65%
	75% Airflow Heating	74%	67%	71%
	100% Airflow Cooling	68%	60%	63%
	75% Airflow Cooling	74%	67%	70%
Net Effectiveness	100% Airflow Heating	68%	60%	65%
	75% Airflow Heating	74%	67%	71%
	100% Airflow Cooling	68%	60%	63%
	75% Airflow Cooling	74%	67%	70%
Enthalpy Wheel Airflow Data				
Nominal Airflow CFM		2600 @ .95Δ		
EATR - -1.00 H_2O		6.10%		
EATR - 0.00 H_2O		0.40%		
EATR - +1.00 H_2O		0.00%		
OACF - -1.00 H_2O		0.99		
OACF - 0.00 H_2O		1.13		
OACF - +1.00 H_2O		1.23		

Specifications and Electrical Data - 2000 through 3600 CFM ERV's

Model Numbers		O36-02 - Stand Alone O/U N36-02 - O/U Indoor			D36-02 Down Discharge			S36-02 - Stand Alone S/S M36-02 - S/S Indoor		
Line Voltage - 60hz		208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph
Fresh Air Blower	Motor - hp	3 / Belt			3 / Belt			3 / Belt		
	Wheel Size (dia x width) -in	12 x 9			12 x 9			12 x 9		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps	9.4	4.3	3.2	9.4	4.3	3.2	9.4	4.3	3.2
	Service Factor	1.15			1.15			1.15		
Exhaust Air Blower	Motor - hp Stationary	3 / Belt			3 / Belt			3 / Belt		
	Wheel Size (dia x width) -in	12 x 9			12 x 9			12 x 9		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps-Stationary	9.4	4.3	3.2	9.4	4.3	3.2	9.4	4.3	3.2
	Service Factor	1.15			1.15			1.15		
Wheel Electrical Data	Motor - hp (1 phase)	0.17			0.17			0.17		
	Potential Volts	200 / 208 - 230			200 / 208 - 230			200 / 208 - 230		
	Motor Speed -rpm	1075			1075			1075		
	Full Load Amps	1.2			1.2			1.2		
Total Electrical	MCA - Stationary	22.4	10.9	8.4	22.4	10.9	8.4	22.4	10.9	8.4
	OCPD - Stationary	30	15	10	30	15	10	30	15	10
Wheel Data	Wheel Depth x Dia - in	3 x 41.825			3 x 41.825			3 x 41.825		
	Construction / Media	Segmented Pies/Polymeric			Segmented Pies/Polymeric			Segmented Pies/Polymeric		
Curb	Curb Height - in	14			14			14		
Weights	Shipping Weight - lbs. (kg)	950			950			950		
	Net Weight - lbs. (kg)	854			854			854		

ARI Certified Ratings

Thermal Ratings @ 0" Pressure Diff.		Sensible	Latent	Total
Total Effectiveness	100% Airflow Heating	68%	60%	65%
	75% Airflow Heating	74%	67%	71%
	100% Airflow Cooling	68%	60%	63%
	75% Airflow Cooling	74%	67%	70%
Net Effectiveness	100% Airflow Heating	68%	60%	65%
	75% Airflow Heating	74%	67%	71%
	100% Airflow Cooling	68%	60%	63%
	75% Airflow Cooling	74%	67%	70%

Enthalpy Wheel Airflow Data	
Nominal Airflow CFM	3100 @ .95Δ
EATR - -1.00 H_2O	4.90%
EATR - 0.00 H_2O	1.30%
EATR - +1.00 H_2O	0.30%
OACF - -1.00 H_2O	0.99
OACF - 0.00 H_2O	1.07
OACF - +1.00 H_2O	1.12

Specifications and Electrical Data - 3000 through 4600 CFM ERV's										
Model Numbers		**O46-02 - Stand Alone O/U N46-02 - O/U Indoor**			**D46-02 Down Discharge**			**S46-02 - Stand Alone S/S M46-02 - S/S Indoor**		
Line Voltage - 60hz		208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph
Fresh Air Blower	Motor - hp	5 / Belt			5 / Belt			5 / Belt		
	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		
	Full Load Amps	14.8	7.0	5.1	14.8	7.0	5.1	14.8	7.0	5.1
	Service Factor	1.15			1.15			1.15		
Exhaust Air Blower	Motor - hp Stationary	5 / Belt			5 / Belt			5 / Belt		
	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		
	Full Load Amps-Stationary	14.8	7.0	5.1	14.8	7.0	5.1	14.8	7.0	5.1
	Service Factor	1.15			1.15			1.15		
Wheel Electrical Data	Motor - hp (1 phase)	0.17			0.17			0.17		
	Potential Volts	200 / 208 - 230			200 / 208 - 230			200 / 208 - 230		
	Motor Speed -rpm	1075			1075			1075		
	Full Load Amps	1.2			1.2			1.2		
Total Electrical	MCA - Stationary	34.5	17.0	12.7	34.5	17.0	12.7	34.5	17.0	12.7
	OCPD - Stationary	40	25	15	40	25	15	40	25	15
Wheel Data	Wheel Depth x Dia - in	3 x 46.776			3 x 46.776			3 x 46.776		
	Construction / Media	Segmented Pies/Polymeric			Segmented Pies/Polymeric			Segmented Pies/Polymeric		
Curb	Curb Height - in	14			14			14		
Weights	Shipping Weight - lbs. (kg)	1228			1228			1228		
	Net Weight - lbs. (kg)	1113			1113			1113		

ARI Certified Ratings				
Thermal Ratings @ 0" Pressure Diff.		**Sensible**	**Latent**	**Total**
Total 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%
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%
Enthalpy Wheel Airflow Data				
Nominal Airflow CFM		3900 @ .95Δ		
EATR - -1.00 H_2O		4.40%		
EATR - 0.00 H_2O		1.10%		
EATR - +1.00 H_2O		0.20%		
OACF - -1.00 H_2O		0.99		
OACF - 0.00 H_2O		1.06		
OACF - +1.00 H_2O		1.11		

Specifications and Electrical Data - 4600 through 6200 CFM ERV's

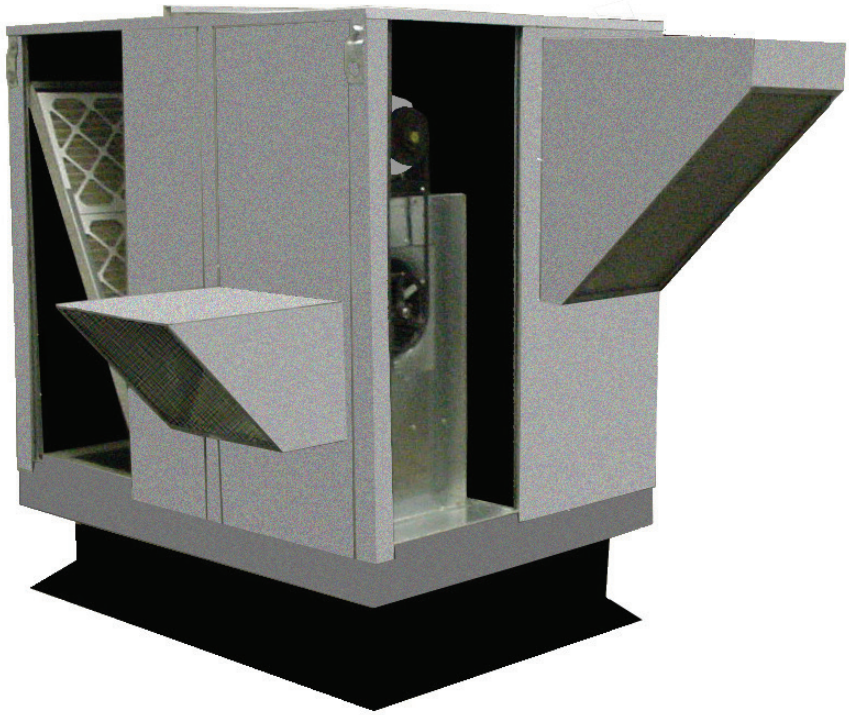
Model Numbers		O62-02 - Stand Alone O/U N62-02 - O/U Indoor			D62-02 Down Discharge			S62-02 - Stand Alone S/S M62-02 - S/S Indoor		
Line Voltage - 60hz		208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph	208/230v 3ph	460v 3ph	575v 3ph
Fresh Air Blower	Motor - hp	5 / belt			5 / belt			5 / belt		
	Wheel Size (dia x width) -in	15 x 15			15 x 15			15 x 15		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps	14.8	7.0	5.1	14.8	7.0	5.1	14.8	7.0	5.1
	Service Factor	1.15			1.15			1.15		
Exhaust Air Blower	Motor - hp Stationary	5 / Belt			5 / Belt			5 / Belt		
	Wheel Size (dia x width) -in	15 x 15			15 x 15			15 x 15		
	Motor Speed -rpm	1725			1725			1725		
	Motor Speed(s)	Adjustable Sheave			Adjustable Sheave			Adjustable Sheave		
	Bearing Type	Ball			Ball			Ball		
	Full Load Amps-Stationary	14.8	7.0	5.1	14.8	7.0	5.1	14.8	7.0	5.1
	Service Factor	1.15			1.15			1.15		
Wheel Electrical Data	Motor - hp (1 phase)	0.17			0.17			0.17		
	Potential Volts	200 / 208 - 230			200 / 208 - 230			200 / 208 - 230		
	Motor Speed -rpm	1075			1075			1075		
	Full Load Amps	1.2			1.2			1.2		
Total Electrical	MCA - Stationary	34.5	17.0	12.7	34.5	17.0	12.7	34.5	17.0	12.7
	OCPD - Stationary	40	25	15	40	25	15	40	25	15
Wheel Data	Wheel Depth x Dia - in	3 x 52.026			3 x 52.026			3 x 52.026		
	Construction / Media	Segmented Pies/Polymeric			Segmented Pies/Polymeric			Segmented Pies/Polymeric		
Curb	Curb Height - in	14			14			14		
Weights	Shipping Weight - lbs. (kg)	1380			1380			1380		
	Net Weight - lbs. (kg)	1205			1205			1205		

ARI Certified Ratings

Thermal Ratings @ 0" Pressure Diff.		Sensible	Latent	Total
Total 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%
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%

Enthalpy Wheel Airflow Data	
Nominal Airflow CFM	5500 @ .95Δ
EATR - -1.00 H_2O	4.00%
EATR - 0.00 H_2O	1.00%
EATR - +1.00 H_2O	0.20%
OACF - -1.00 H_2O	0.99
OACF - 0.00 H_2O	1.06
OACF - +1.00 H_2O	1.10

Down Discharge
Energy Recovery Ventilators
Preliminary Airflow Charts



"D-02" Series
Outdoor Units

Airflow Performance - Downflow Configuration for D11 & D20

Blower RPM for D11

SUPPLY

Mist Eliminator Filter in Intake Hood (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	1175	1350	1450	1605	1730
	500	N/A	1170	1340	1540	1655	1725	1840
	700	1295	1425	1600	1625	1795	1960	2035
	900	1540	1660	1720	1790	2030	2110	2195
	1100	1785	1915	2025	2185	N/A	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	1030	1225	N/A	N/A	N/A
	500	N/A	1025	1180	1265	1425	1535	N/A
	700	1120	1190	1340	1445	1540	1645	1720
	900	1285	1525	1500	1575	1670	1785	1865
	1100	1570	1665	1670	1775	1860	1920	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1700	Optional Kit
High	1750-2200	Optional Kit

Blower RPM for D20

SUPPLY

Mist Eliminator Filter in Intake Hood (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1055	1135	1295	1420	1540	1650	1725
	1400	1140	1240	1340	1490	1600	1690	1795
	1600	1200	1330	1460	1565	1645	1740	1830
	1800	1320	1405	1525	1615	1705	1785	1885
	2000	1415	1515	1605	1690	1775	1875	1960

EXHAUST

Barometric Hood, 2" Pleated Filters (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1010	1195	1350	1445	1580	1685	1735
	1400	1125	1315	1435	1545	1620	1730	1800
	1600	1185	1370	1500	1610	1695	1790	1965
	1800	1305	1485	1600	1685	1781	1955	2030
	2000	1410	1550	1670	1765	1855	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1700	Optional Kit
High	1700-2080	Optional Kit

Airflow Performance - Downflow Configuration for D28 & D36

Blower RPM for D28

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	790	960	1110	1210	1315	1380
	1600	750	900	1005	1145	1230	1365	1410
	2000	900	1005	1105	1210	1275	1400	1450
	2400	1005	1125	1210	1275	1365	1450	1500
	2800	1125	1230	1315	1380	1450	1535	1600

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	750	885	1015	1145	1260	1350	1485
	1600	870	1015	1125	1215	1325	1410	1500
	2000	1015	1145	1240	1345	1410	1485	1560
	2400	1125	1250	1345	1430	1500	1575	1630
	2800	1250	1410	1485	1520	1630	1650	1675

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range		
	Low	750-975	Standard Unit
	Medium	1008-1314	Optional Kit
	High	1311-1708	Optional Kit

Blower RPM for D36

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	725	825	900	1000	1070	1180	1250
	2400	800	900	1000	1070	1160	1250	1275
	2800	900	1000	1070	1160	1250	1275	1340
	3200	1000	1070	1160	1250	1275	1340	1400
	3600	1055	1180	1250	1300	1360	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	750	865	950	1030	1100	1200	1265
	2400	820	950	1035	1100	1200	1265	1300
	2800	925	1035	1150	1200	1265	1315	1350
	3200	1035	1160	1215	1265	1325	1350	1390
	3600	1100	1215	1300	1350	1390	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range		
	Low	725-975	Standard Unit
	Medium	1000-1315	Optional Kit
	High	1215-1425	Optional Kit

Airflow Performance - Downflow Configuration for D46 & D62

Blower RPM for D46

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	900	1030	1100	1165	1240	1285	1350
	3400	975	1085	1175	1240	1290	1350	1400
	3800	1070	1175	1240	1290	1350	1400	1465
	4200	1165	1240	1320	1350	1430	1465	1515
	4600	1240	1320	1375	1430	1500	1515	1580

EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	955	1100	1160	1245	1280	1360	1425
	3400	1055	1185	1245	1300	1375	1425	1480
	3800	1160	1300	1360	1400	1425	1530	1585
	4200	1245	1375	1450	1480	1500	1585	1650
	4600	1360	1450	1500	1585	1600	1650	1700

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	780-1020	Standard Unit
Medium	1000-1315	Optional Kit
High	1315-1700	Optional Kit

Blower RPM for D62

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	815	900	975	1045	1085	1125	1175
	5000	880	940	1015	1060	1135	1175	1215
	5400	915	975	1045	1125	1150	1195	1250
	5800	975	1045	1085	1175	1250	1260	N/A
	6200	1000	1075	1165	1200	N/A	N/A	N/A

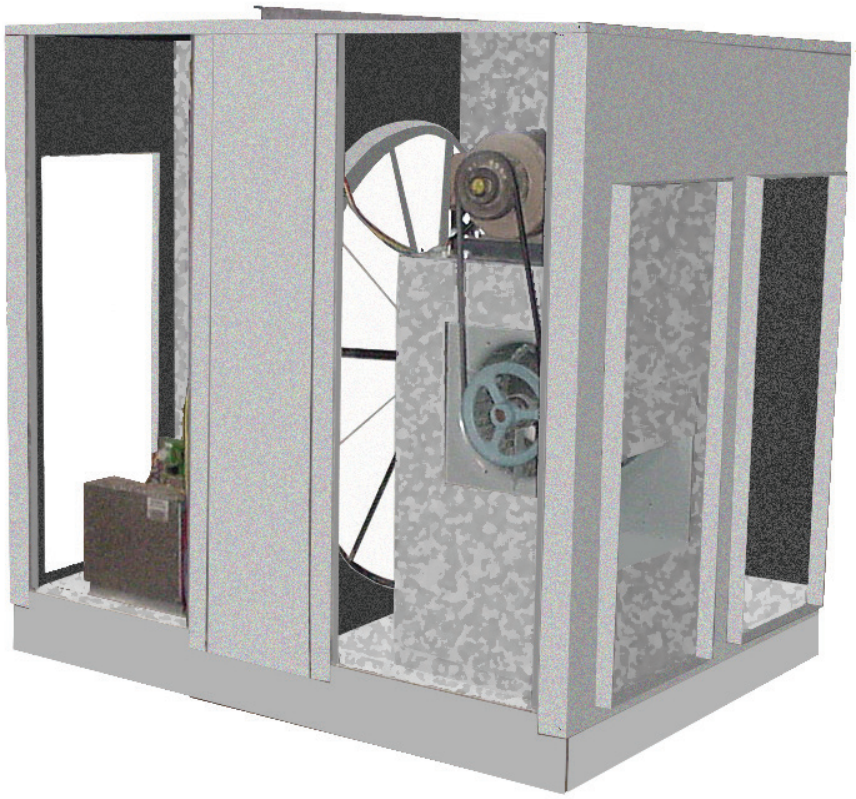
EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	825	915	1000	1025	1100	1140	1170
	5000	890	975	1025	1100	1140	1170	1240
	5400	925	1000	1085	1140	1170	1240	1280
	5800	975	1025	1140	1170	1240	N/A	N/A
	6200	1025	1120	1170	N/A	N/A	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	820-1000	Standard Unit
Medium	1000-1200	Optional Kit
High	1175-1375	Optional Kit

Side by Side Discharge
Indoor Unit
Energy Recovery Ventilators
Preliminary Airflow Charts



"M-02" Series
Indoor Units

Airflow Performance - Side by Side Duct Configuration for M11 & M20

Blower RPM for M11

SUPPLY

Mist Eliminator Filter in Intake Hood (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	1075	1280	1390	1535	1635
	500	N/A	1065	1275	1355	1505	1615	1670
	700	1060	1270	1370	1525	1610	1660	1790
	900	1310	1455	1520	1605	1655	1820	1960
	1100	1445	1515	1625	1725	1815	1955	2035

EXHAUST

Barometric Hood, 2" Pleated Filters (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	1075	1180	1290	1445	1565	1645
	500	N/A	1170	1285	1375	1470	1605	1725
	700	1065	1280	1370	1465	1600	1680	1800
	900	1255	1360	1460	1590	1675	1755	1865
	1100	1445	1455	1585	1670	1750	1860	1935

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1750	Optional Kit
High	1750-2200	Optional Kit

Blower RPM for M20

SUPPLY

Mist Eliminator Filter in Intake Hood (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1100	1225	1315	1405	1440	1695	1725
	1400	1220	1275	1400	1480	1620	1730	1790
	1600	1225	1345	1475	1615	1715	1775	1890
	1800	1335	1465	1610	1710	1765	1880	1930
	2000	1380	1585	1680	1755	1815	1920	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1045	1170	1380	1475	1635	1720	1805
	1400	1115	1330	1470	1570	1725	1745	1850
	1600	1320	1460	1565	1680	1790	1840	1940
	1800	1415	1560	1725	1780	1885	1930	2045
	2000	1490	1660	1770	1875	1920	1985	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1700	Optional Kit
High	1700-2080	Optional Kit

Airflow Performance - Side by Side Duct Configuration for M28 & M36

Blower RPM for M28

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	N/A	985	1115	1255	1390	1445
	1600	N/A	975	1090	1190	1320	1320	1525
	2000	960	1085	1185	1315	1410	1410	1550
	2400	1080	1240	1310	1405	1485	1485	1650
	2800	1230	1395	1505	1535	1595	1595	1775

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	N/A	1050	1210	1315	1375	1465
	1600	N/A	1020	1200	1285	1365	1465	1545
	2000	1010	1190	1320	1355	1540	1580	1660
	2400	1155	1315	1425	1545	1660	1735	1785
	2800	1290	1450	1600	1725	1755	1825	1880

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range		
	Low	950-1320	Standard Unit
	Medium	1325-1565	Optional Kit
	High	1570-1880	Optional Kit

Blower RPM for M36

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	820	930	1015	1095	1160	1245	1315
	2400	920	1010	1090	1155	1240	1305	1405
	2800	1000	1085	1150	1235	1295	1410	1500
	3200	1130	1200	1260	1395	1430	1495	1565
	3600	1190	1385	1420	1455	1510	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	780	890	970	1065	1130	1235	1275
	2400	885	965	1060	1125	1230	1270	1340
	2800	945	1055	1120	1225	1265	1355	1405
	3200	1050	1135	1255	1325	1350	1415	1460
	3600	1125	1250	1305	1340	1415	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range		
	Low	700-1025	Standard Unit
	Medium	1030-1305	Optional Kit
	High	1325-1575	Optional Kit

Airflow Performance - Side by Side Duct Configuration for M46 & M62

Blower RPM for M46

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	925	1035	1110	1140	1235	1315	1350
	3400	1030	1120	1185	1225	1310	1345	1385
	3800	1100	1150	1240	1335	1385	1420	1455
	4200	1165	1245	1375	1435	1460	1505	1550
	4600	1230	1315	1335	1470	1525	1585	1655

EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	985	1085	1155	1280	1325	1370	1440
	3400	1060	1150	1270	1320	1365	1430	1480
	3800	1145	1265	1335	1400	1450	1475	1505
	4200	1240	1330	1375	1460	1470	1515	1560
	4600	1305	1400	1420	1485	1525	1550	1650

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	780-1020	Standard Unit
	Medium	1000-1315	Optional Kit
	High	1315-1700	Optional Kit

Blower RPM for M62

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	820	910	990	1020	1135	1165	1225
	5000	885	965	1040	1100	1160	1225	1280
	5400	910	1000	1095	1155	1215	1275	N/A
	5800	960	1060	1145	1205	1265	1290	N/A
	6200	1020	1110	1195	1255	1275	N/A	N/A

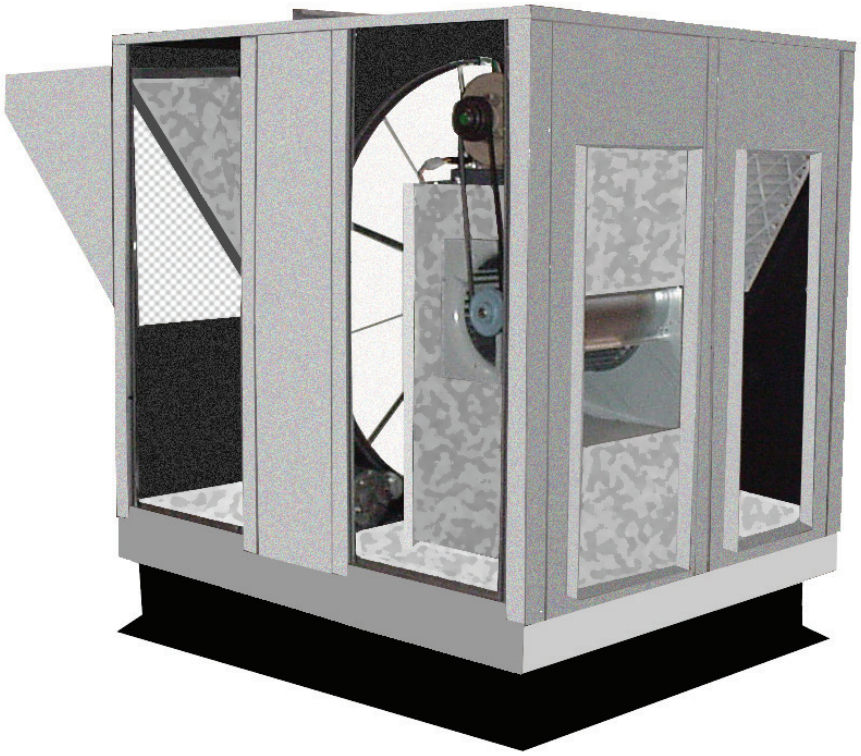
EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	875	935	1000	1025	1140	1175	1190
	5000	910	975	1040	1130	1190	1200	1280
	5400	945	1015	1095	1150	1230	1275	N/A
	5800	990	1060	1125	1175	1265	N/A	N/A
	6200	1010	1110	1195	1200	N/A	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	820-1000	Standard Unit
	Medium	1000-1200	Optional Kit
	High	1175-1375	Optional Kit

Side by Side Discharge
Outdoor Units
Energy Recovery Ventilators
Preliminary Airflow Charts



"S-02" Series
Outdoor Units

Airflow Performance - Side by Side Duct Configuration for S11 & S20

Blower RPM for S11

SUPPLY

Mist Eliminator Filter in Intake Hood (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	1020	1205	1365	1480	1590
	500	N/A	1015	1200	1320	1460	1565	1670
	700	990	1190	1315	1455	1560	1665	1715
	900	1150	1310	1450	1555	1660	1680	1795
	1100	1305	1440	1550	1655	1740	1815	1895

EXHAUST

Barometric Hood, 2" Pleated Filters (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	1150	1285	1415	1515	1640
	500	N/A	1145	1275	1410	1510	1545	1720
	700	1140	1270	1405	1505	1590	1715	1815
	900	1320	1435	1585	1665	1705	1810	1930
	1100	1495	1580	1660	1755	1880	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1700	Optional Kit
High	1750-2200	Optional Kit

Blower RPM for S20

SUPPLY

Mist Eliminator Filter in Intake Hood (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1065	1285	1375	1415	1495	1580	1685
	1400	1140	1330	1410	1440	1555	1660	1760
	1600	1290	1400	1480	1545	1670	1745	1835
	1800	1395	1470	1540	1665	1735	1800	1880
	2000	1460	1530	1650	1725	1795	1870	1960

EXHAUST

Barometric Hood, 2" Pleated Filters (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1175	1290	1430	1520	1680	1765	1850
	1400	1245	1425	1515	1675	1755	1830	1920
	1600	1400	1505	1670	1750	1825	1910	1980
	1800	1495	1660	1740	1820	1900	1975	2090
	2000	1645	1730	1815	1895	1965	2080	2170

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1750	Optional Kit
High	1750-2080	Optional Kit

Airflow Performance - Side by Side Duct Configuration for S28 & S36

Blower RPM for S28

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	955	1070	1210	1370	1465	1550
	1600	N/A	1065	1205	1305	1460	1540	1595
	2000	1060	1200	1290	1445	1530	1585	1680
	2400	1190	1335	1440	1490	1575	1670	1755
	2800	1300	1460	1550	1645	1705	1750	1800

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	N/A	1025	1170	1270	1355	1400
	1600	N/A	1020	1155	1240	1330	1390	1490
	2000	1015	1150	1235	1325	1380	1475	1590
	2400	1140	1285	1365	1420	1510	1595	1640
	2800	1280	1345	1455	1540	1575	1670	1745

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	950-1320	Standard Unit
Medium	1325-1565	Optional Kit
High	1570-1880	Optional Kit

Blower RPM for S36

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	815	925	1020	1105	1155	1255	1325
	2400	920	1060	1130	1215	1250	1355	1385
	2800	1010	1140	1240	1285	1370	1425	1470
	3200	1125	1235	1340	1385	1455	1465	N/A
	3600	1225	1375	1440	1460	1500	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	755	890	970	1060	1125	1215	1280
	2400	985	1035	1085	1140	1240	1275	1325
	2800	1020	1115	1175	1230	1270	1335	1370
	3200	1105	1200	1225	1285	1300	1390	1430
	3600	1155	1265	1295	1335	1385	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	700-1025	Standard Unit
Medium	1030-1305	Optional Kit
High	1325-1575	Optional Kit

Airflow Performance - Side by Side Duct Configuration for S46 & S62

Blower RPM for S46

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	965	1085	1150	1230	1295	1345	1420
	3400	1035	1145	1250	1290	1335	1415	1475
	3800	1120	1245	1285	1315	1440	1470	1535
	4200	1215	1305	1355	1430	1465	1530	1595
	4600	1300	1375	1450	1460	1540	1590	1650

EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	1010	1105	1195	1255	1300	1375	1415
	3400	1100	1190	1250	1320	1370	1410	1480
	3800	1185	1245	1360	1410	1440	1475	1540
	4200	1240	1355	1425	1465	1530	1590	1630
	4600	1345	1410	1485	1520	1585	1650	1700

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	780-1020 Standard Unit
	Medium	1000-1315 Optional Kit
	High	1315-1700 Optional Kit

Blower RPM for S62

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	795	900	1030	1075	1160	1220	1255
	5000	855	920	1070	1130	1190	1250	1275
	5400	880	950	1095	1155	1245	1270	1290
	5800	915	1035	1115	1175	1255	1280	N/A
	6200	985	1080	1135	1225	1265	N/A	N/A

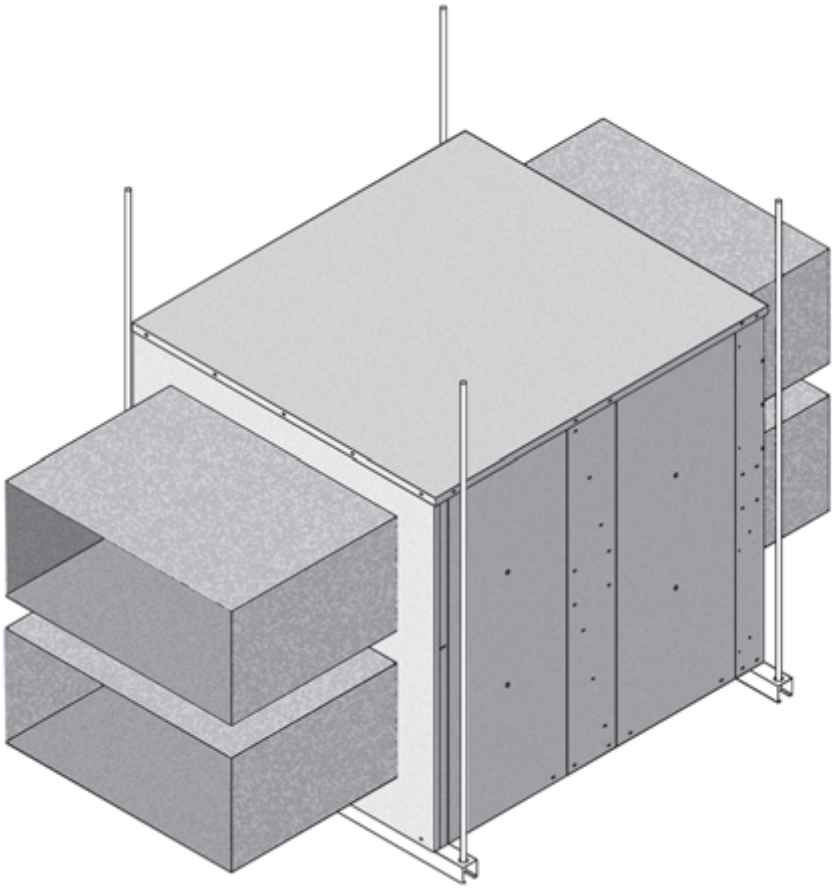
EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	705	885	985	1045	1100	1155	1215
	5000	825	950	1025	1095	1150	1210	1245
	5400	875	980	1080	1140	1190	1240	1275
	5800	935	995	1130	1180	1230	N/A	N/A
	6200	985	1095	1165	N/A	N/A	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	700-900 Standard Unit
	Medium	900-1100 Optional Kit
	High	1100-1300 Optional Kit

Over & Under Discharge
Indoor Units
Energy Recovery Ventilators
Preliminary Airflow Charts



"N-02" Series
Indoor Units

Airflow Performance - Downflow Configuration for N11 & N20

Blower RPM for N11

SUPPLY

Mist Eliminator Filter in Intake Hood (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	980	1065	1320	1400	1520
	500	N/A	905	1050	1215	1360	1495	1595
	700	865	1035	1210	1330	1440	1535	1620
	900	1030	1205	1325	1435	1530	1615	1725
	1100	1200	1320	1430	1525	1605	1720	1800

EXHAUST

Barometric Hood, 2" Pleated Filters (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	815	1030	1185	1305	1450	1535
	500	N/A	950	1075	1220	1375	1490	1610
	700	810	1070	1195	1295	1445	1510	1645
	900	995	1125	1290	1405	1500	1600	1690
	1100	1120	1280	1400	1495	1595	1685	1770

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1750	Optional Kit
High	1750-2200	Optional Kit

Blower RPM for N20

SUPPLY

Mist Eliminator Filter in Intake Hood (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	990	1075	1220	1380	1480	1605	1720
	1400	1030	1165	1280	1410	1520	1620	1740
	1600	1135	1250	1340	1445	1570	1665	1760
	1800	1240	1330	1425	1550	1625	1720	1785
	2000	1295	1405	1540	1615	1705	1760	1830

EXHAUST

Barometric Hood, 2" Pleated Filters (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	900	1085	1235	1380	1495	1585	1680
	1400	1050	1220	1345	1490	1535	1630	1715
	1600	1205	1335	1430	1520	1625	1705	1790
	1800	1315	1425	1510	1580	1655	1775	1850
	2000	1390	1490	1570	1650	1735	1750	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1700	Optional Kit
High	1700-2080	Optional Kit

Airflow Performance - Downflow Configuration for N28 & N36

Blower RPM for N28

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	900	1045	1135	1255	1395	1410
	1600	880	1035	1130	1245	1385	1405	1450
	2000	1045	1145	1235	1325	1400	1440	1555
	2400	1135	1300	1375	1435	1505	1550	1590
	2800	1295	1365	1435	1515	1580	1625	1695

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	955	1075	1185	1285	1355	1495
	1600	945	1055	1175	1265	1335	1445	1635
	2000	1045	1170	1330	1395	1440	1570	1695
	2400	1210	1325	1435	1510	1580	1620	1675
	2800	1315	1475	1500	1595	1710	1755	1790

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	950-1320	Standard Unit
Medium	1325-1565	Optional Kit
High	1570-1880	Optional Kit

Blower RPM for N36

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	735	860	920	1005	1075	1150	1220
	2400	850	945	1030	1090	1110	1215	1265
	2800	935	1020	1080	1145	1200	1255	1335
	3200	1015	1075	1105	1195	1285	1325	1380
	3600	1065	1125	1220	1305	N/A	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	740	855	930	970	1080	1155	1240
	2400	800	925	1015	1075	1145	1225	1280
	2800	885	1010	1070	1140	1235	1255	1330
	3200	950	1065	1135	1230	1290	1325	N/A
	3600	1055	1130	1235	1280	1310	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	700-1025	Standard Unit
Medium	1030-1305	Optional Kit
High	1325-1575	Optional Kit

Airflow Performance - Downflow Configuration for N46 & N62

Blower RPM for N46

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	840	990	1065	1135	1215	1265	1335
	3400	875	1060	1130	1205	1255	1320	1385
	3800	1015	1120	1200	1245	1315	1365	1450
	4200	1080	1195	1240	1350	1395	1445	1510
	4600	1120	1200	1315	1380	1460	1515	1560

EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	850	995	1065	1135	1220	1270	1335
	3400	925	1060	1130	1225	1265	1330	1375
	3800	1020	1120	1220	1285	1325	1370	1430
	4200	1100	1215	1280	1345	1400	1435	1480
	4600	1150	1275	1340	1415	1475	1520	1565

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	780-1020 Standard Unit
	Medium	1000-1315 Optional Kit
	High	1315-1700 Optional Kit

Blower RPM for N62

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	795	900	960	1010	1090	1135	1165
	5000	835	945	1000	1060	1135	1155	1230
	5400	895	985	1040	1130	1155	1220	1265
	5800	940	1025	1085	1145	1225	1250	1300
	6200	990	1070	1105	1210	1245	1290	N/A

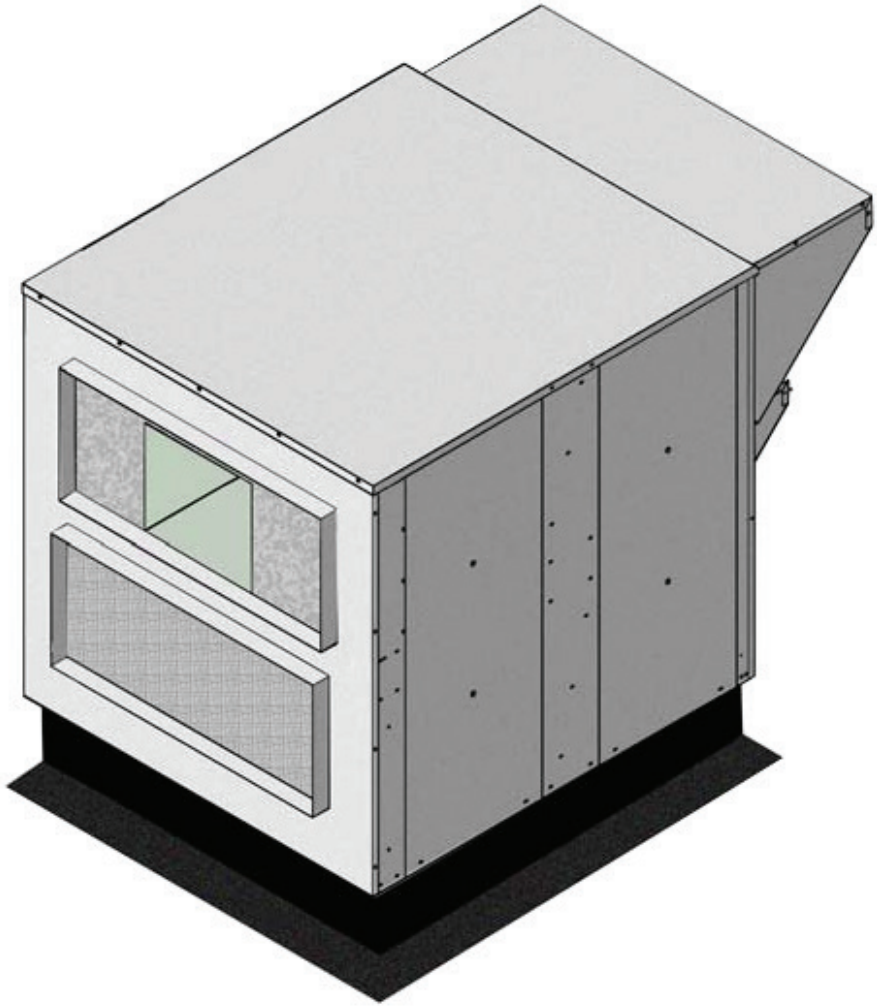
EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	780	910	900	1045	1085	1135	1185
	5000	825	945	1015	1075	1125	1180	1230
	5400	890	990	1065	1105	1170	1220	1270
	5800	940	1025	1085	1165	1215	1250	1310
	6200	980	1060	1150	1205	1235	1305	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	700-900 Standard Unit
	Medium	900-1100 Optional Kit
	High	1100-1300 Optional Kit

Over & Under Discharge
For Outdoor Units
Energy Recovery Ventilators
Preliminary Airflow Charts



"O-02" Series
Outdoor Units

Airflow Performance - Downflow Configuration for O11 & O20

Blower RPM for O11

SUPPLY

Mist Eliminator Filter in Intake Hood (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	1175	1350	1450	1605	1730
	500	N/A	1170	1340	1540	1655	1725	1840
	700	1295	1425	1600	1625	1795	1960	2035
	900	1540	1660	1720	1790	2030	2110	2195
	1100	1785	1915	2025	2185	N/A	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (1.5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	1030	1225	N/A	N/A	N/A
	500	N/A	1025	1180	1265	1425	1535	N/A
	700	1120	1190	1340	1445	1540	1645	1720
	900	1285	1525	1500	1575	1670	1785	1865
	1100	1570	1665	1670	1775	1860	1920	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1700	Optional Kit
High	1750-2200	Optional Kit

Blower RPM for O20

SUPPLY

Mist Eliminator Filter in Intake Hood (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1055	1135	1295	1420	1540	1650	1725
	1400	1140	1240	1340	1490	1600	1690	1795
	1600	1200	1330	1460	1565	1645	1740	1830
	1800	1320	1405	1525	1615	1705	1785	1885
	2000	1415	1515	1605	1690	1775	1875	1960

EXHAUST

Barometric Hood, 2" Pleated Filters (2HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	1010	1195	1350	1445	1580	1685	1735
	1400	1125	1315	1435	1545	1620	1730	1800
	1600	1185	1370	1500	1610	1695	1790	1965
	1800	1305	1485	1600	1685	1781	1955	2030
	2000	1410	1550	1670	1765	1855	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

RPM Range		
Low	1000-1300	Standard Unit
Medium	1300-1700	Optional Kit
High	1700-2080	Optional Kit

Airflow Performance - Downflow Configuration for O28 & O36

Blower RPM for O28

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	790	960	1110	1210	1315	1380
	1600	750	900	1005	1145	1230	1365	1410
	2000	900	1005	1105	1210	1275	1400	1450
	2400	1005	1125	1210	1275	1365	1450	1500
	2800	1125	1230	1315	1380	1450	1535	1600

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	750	885	1015	1145	1260	1350	1485
	1600	870	1015	1125	1215	1325	1410	1500
	2000	1015	1145	1240	1345	1410	1485	1560
	2400	1125	1250	1345	1430	1500	1575	1630
	2800	1250	1410	1485	1520	1630	1650	1675

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
Low	750-975	Standard Unit
Medium	1008-1314	Optional Kit
High	1311-1708	Optional Kit

Blower RPM for O36

SUPPLY

Mist Eliminator Filter in Intake Hood (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	725	825	900	1000	1070	1180	1250
	2400	800	900	1000	1070	1160	1250	1275
	2800	900	1000	1070	1160	1250	1275	1340
	3200	1000	1070	1160	1250	1275	1340	1400
	3600	1055	1180	1250	1300	1360	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (3HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	750	865	950	1030	1100	1200	1265
	2400	820	950	1035	1100	1200	1265	1300
	2800	925	1035	1150	1200	1265	1315	1350
	3200	1035	1160	1215	1265	1325	1350	1390
	3600	1100	1215	1300	1350	1390	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
Low	725-975	Standard Unit
Medium	1000-1315	Optional Kit
High	1215-1425	Optional Kit

Airflow Performance - Downflow Configuration for O46 & O62

Blower RPM for O46

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	900	1030	1100	1165	1240	1285	1350
	3400	975	1085	1175	1240	1290	1350	1400
	3800	1070	1175	1240	1290	1350	1400	1465
	4200	1165	1240	1320	1350	1430	1465	1515
	4600	1240	1320	1375	1430	1500	1515	1580

EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	955	1100	1160	1245	1280	1360	1425
	3400	1055	1185	1245	1300	1375	1425	1480
	3800	1160	1300	1360	1400	1425	1530	1585
	4200	1245	1375	1450	1480	1500	1585	1650
	4600	1360	1450	1500	1585	1600	1650	1700

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	780-1020 Standard Unit
	Medium	1000-1315 Optional Kit
	High	1315-1700 Optional Kit

Blower RPM for O62

SUPPLY

Mist Eliminator Filter in Intake Hood (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	815	900	975	1045	1085	1125	1175
	5000	880	940	1015	1060	1135	1175	1215
	5400	915	975	1045	1125	1150	1195	1250
	5800	975	1045	1085	1175	1250	1260	N/A
	6200	1000	1075	1165	1200	N/A	N/A	N/A

EXHAUST

Barometric Hood, 2" Pleated Filters (5HP)								
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	825	915	1000	1025	1100	1140	1170
	5000	890	975	1025	1100	1140	1170	1240
	5400	925	1000	1085	1140	1170	1240	1280
	5800	975	1025	1140	1170	1240	N/A	N/A
	6200	1025	1120	1170	N/A	N/A	N/A	N/A

Notes:
1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions.
3. Blower RPMs are for reference only.

	RPM Range	
	Low	820-1000 Standard Unit
	Medium	1000-1200 Optional Kit
	High	1175-1375 Optional Kit

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

General – Furnish and install _____ mechanical cooling system, complete with a Stand Alone Energy Recovery Ventilator (ERV).

Approvals – The Stand Alone Energy Recovery Ventilator will contain an energy recovery component rated in accordance with AHRI Standard 1030-2000 with ratings certified by AHRI.

Cabinet – ERV shall be designed to attach directly to the air conditioning (rooftop, upflow, horizontal) unit. It shall be galvanized material with a powdered enamel paint finish electrostatically bonded to the metal. Cabinet panels where conditioned air is handled shall be fully insulated to prevent sweating and minimize sound. Openings shall be provided for power connections. Lifting devices will be provided for rigging. Test ports shall be provided so airflow can be measured across the energy recovery wheel.

Intake Air Blower (belt drive) – ERV shall contain a centrifugal blower. It shall have ball bearings and adjustable belt drive. Motor mount base shall permit ease of motor changeover and belt tension adjustment.

Exhaust Air Blower (belt drive) – ERV shall contain a centrifugal blower. It shall have ball bearings and adjustable belt drive. Motor mount base shall permit ease of motor changeover and belt tension adjustment.

Energy Recovery Wheel – The energy recovery device shall be a rotary heat exchanger per AHRI Standard 1060 description. The device will be an enthalpy wheel coated with a silica gel desiccant by a patented process without the use of binders or adhesives which may plug the desiccant aperture. The substrate shall be a lightweight polymer. Desiccant shall not dissolve or deliquesce in the presence of water or high humidity. The wheel shall be easily cleanable with standard coil cleaning solution. On ERV's the wheel will be provided with removable segments for cleaning and maintenance. All diameter and perimeter seals shall be provided. The energy recovery cassette shall be Underwriters Laboratories Recognized Component for electrical and fire safety.

Balancing Dampers – These dampers will be mounted inside the rooftop air conditioning unit to adjust for the amount of exhaust air on packaged units (ordered separately) and field provide and installed in duct work for units that stand alone.

Barometric Relief Dampers – Barometric relief dampers will be provided in the outdoor units within exhaust air hood to prevent air infiltration when the ERV is de-energized.

ERV Support – All outdoor ERV's will be provided with support legs attached to the cabinet to support for the intake and exhaust end of the rooftop unit. Horizontal ERV's will be provided with support brackets for hanging.

Filters – All outdoor ERV's shall be provided with mist eliminator type filters in the intake air hood.

Power Connection – The ERV shall be provided with a single point power connection for high voltage.

Options:

Optional ERV Equipment Support – Furnish and install the optional equipment support for the intake and exhaust end of the outdoor unit.

Optional Roof Mounting Frame – Furnish and install the optional roof mounting frame to maintain proper height above the roof.

Optional Low Ambient Kit – Furnish and install the optional low ambient kit to prevent frost formation on the energy recovery wheel.

Optional Motorized Intake Air Damper – Furnish and install the optional motorized intake air damper.

Optional Stop-Start-Jog – On units wanting economizer type control, it is recommended to install the optional stop-start-jog controls.