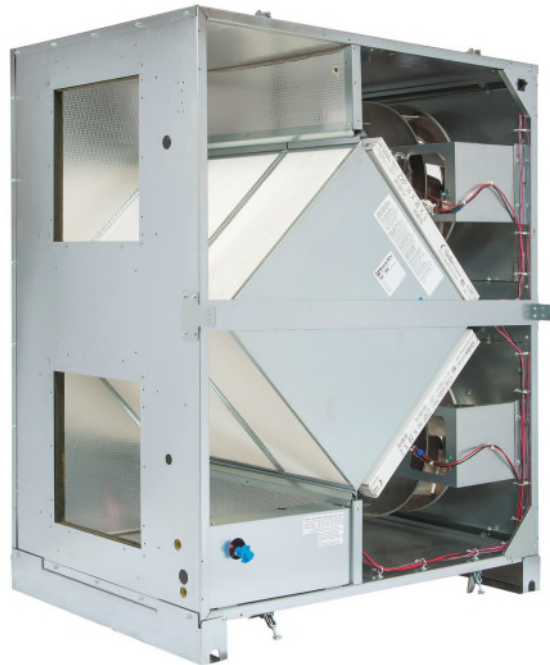




INSTALLATION, OPERATION & MAINTENANCE MANUAL
ENERGY RECOVERY VENTILATOR

TRC1200



TRC1200 INFO

ABOUT S&P

S&P USA operations are based in Jacksonville, Florida. This geographically strategic location allows the shipment of products *throughout the US and Canada*. The Jacksonville manufacturing facility has more than 150,000 square feet of warehouse space for the stocking of a comprehensive range of products. This permits the overnight delivery of many popular model sizes to anywhere in the US and Canada.

At S&P USA we take pride in the fact that our customers receive only the very highest levels of customer service and care. Our internal and external technical and customer service teams are on-hand to provide professional and experienced application advice to enable our customers to apply our products to their particular ventilation and air movement applications. As the USA sales, marketing and distribution division of the Soler & Palau Ventilation Group of companies we are committed to providing only the very highest levels of customer service. Our commitment in providing only the very highest standards of customer service is key to our company strategy.

Soler & Palau Ventilation Group is the world's leading fan manufacturer. It celebrated its 50th anniversary in 2001. Soler & Palau is able to offer a range of ventilation products benefiting from over 50 years of experience within the industry. The company's impressive, long-term growth is the result of one simple philosophy—develop an air-moving product that effectively and efficiently meets the needs of the customer, supported by unparalleled engineering, distribution and service.

In 1951 Eduard Soler and Josep Palau, both born in Ripoll, Spain, founded the company Soler & Palau (S&P). From the very start the business proved to be their vocation. Together they combined their extensive knowledge and flair to ensure the successful start of their business project. There is continual in-house product development with state-of-the-art technology, and a continued program of in-house laboratory certifications.

Currently S&P's R&D, manufacturing and distribution facilities occupy a total of 1.1 million square feet, with offices and locations around the globe. S&P products can be found in virtually any commercial or residential application, ranging from innovative, quiet and reliable room ventilators to large diameter, high capacity exhaust systems designed for critical applications in some of the world's toughest environments.

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TRC1200 INFO

SPECIFICATIONS

NOTE: Specifications may be subject to change without notice.

Unless otherwise specified, dimensions are rounded to the nearest eighth of an inch.



INDOOR UNIT



Ventilation Type:
Static plate, heat and humidity transfer

Typical Airflow Range:
375–1,575 CFM

AHRI 1060 Certified Core:
One L62-G5 and one L125-G5

Standard Features:
Non-fused disconnect
24 VAC transformer/relay package

Filters:
Total Qty. 4, MERV 8: (2) 14" x 20" x 2" and
(2) 16" x 20" x 2"

Unit Dimensions & Weight:
45 1/8" L x 33 1/2" W x 53 5/8" H
337 lbs.

Max. Shipping Dimensions & Weight (on pallet):
70" L x 47" W x 58 5/8" H
403 lbs.

Motor(s):
Qty. 2, 1.0 HP ea., Direct drive motorized
impeller packages

AIRFLOW PERFORMANCE

Motor HP Phase	External Static Pressure (Inches Water Column)						
	0.0	0.25	0.50	0.75	1.00	1.25	1.50
1.0 Single Phase	1,575 CFM	1,470 CFM	1,350 CFM	1,225 CFM	1,090 CFM	950 CFM	795 CFM
	1,545 Watts	1,525 Watts	1,500 Watts	1,475 Watts	1,435 Watts	1,380 Watts	1,300 Watts
1.0 Three Phase	1,675 CFM	1,570 CFM	1,435 CFM	1,280 CFM	1,115 CFM	940 CFM	760 CFM
	1,410 Watts	1,400 Watts	1,380 Watts	1,340 Watts	1,280 Watts	1,210 Watts	1,135 Watts

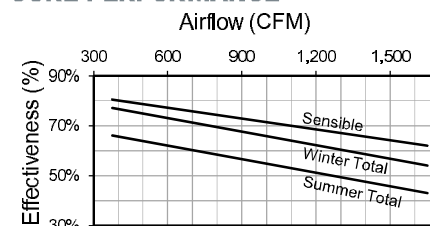
NOTE: Watts is for the entire unit (2 motors).

NOTE: Airflow performance includes effect of clean, standard filter supplied with unit.

ELECTRICAL DATA

HP	V	HZ	Phase	FLA per motor	Min. Cir. Amps	Max. Overcurrent Protection Device
1.0	120	60	Single	6.5	14.6	20
1.0	208-230	60	Single	3.3-3.4	7.7	15
1.0	208-230	60	Three	2.2-2.2	5.0	15
1.0	460	60	Three	1.1	2.5	15

CORE PERFORMANCE



At AHRI 1060 standard conditions. See all AHRI certified ratings at www.ahrinet.org.

ERV TRC1200

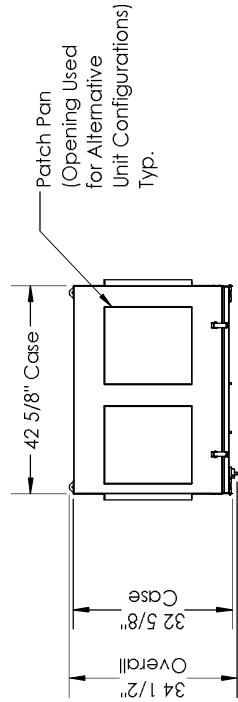
TRC1200 INFO

ABBREVIATIONS
 EA: Exhaust Air to outside
 OA: Outside Air intake
 RA: Room Air to be exhausted
 FA: Fresh Air to inside

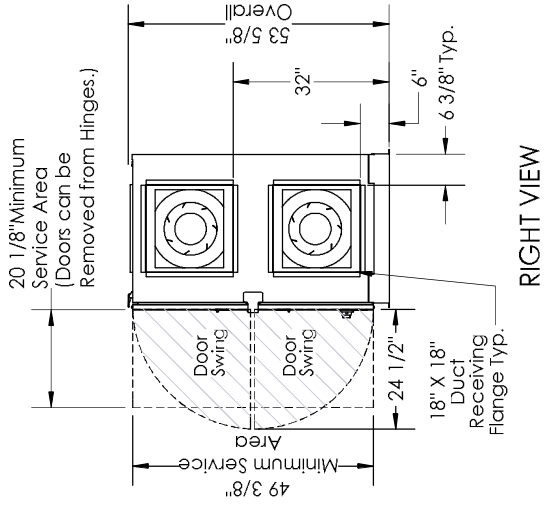
INSTALLATION ORIENTATION
 Unit may be installed in any orientation.

NOTE
 1. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE ROUNDED TO THE NEAREST EIGHTH OF AN INCH.
 2. SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE.
 3. MIN. DUCT CLEARANCE FROM DAMPER BLADE WHEN FULLY OPENED TO BE 2". SMACNA RULES APPLY.

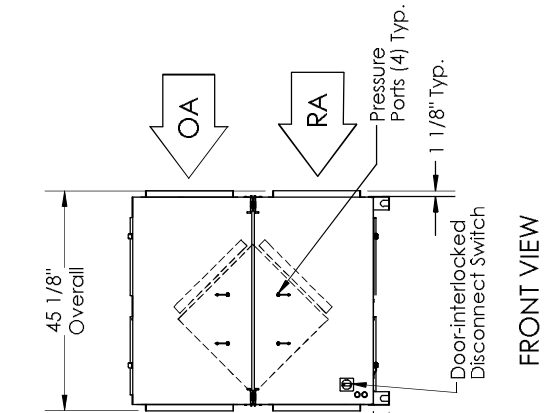
PRODUCT DIMENSIONS
TRC1200



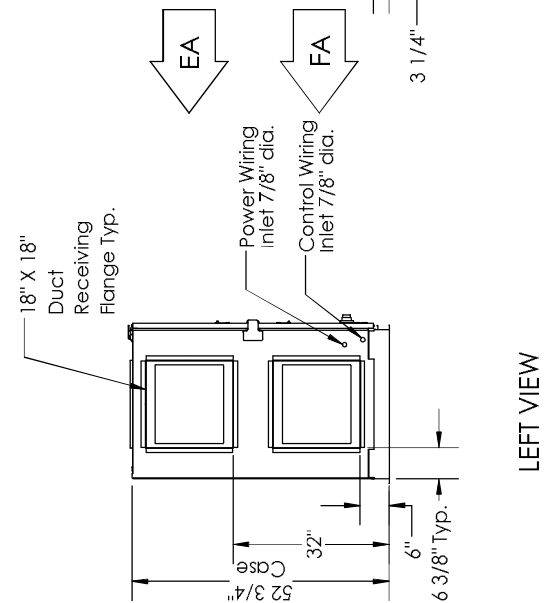
TOP VIEW



RIGHT VIEW



FRONT VIEW



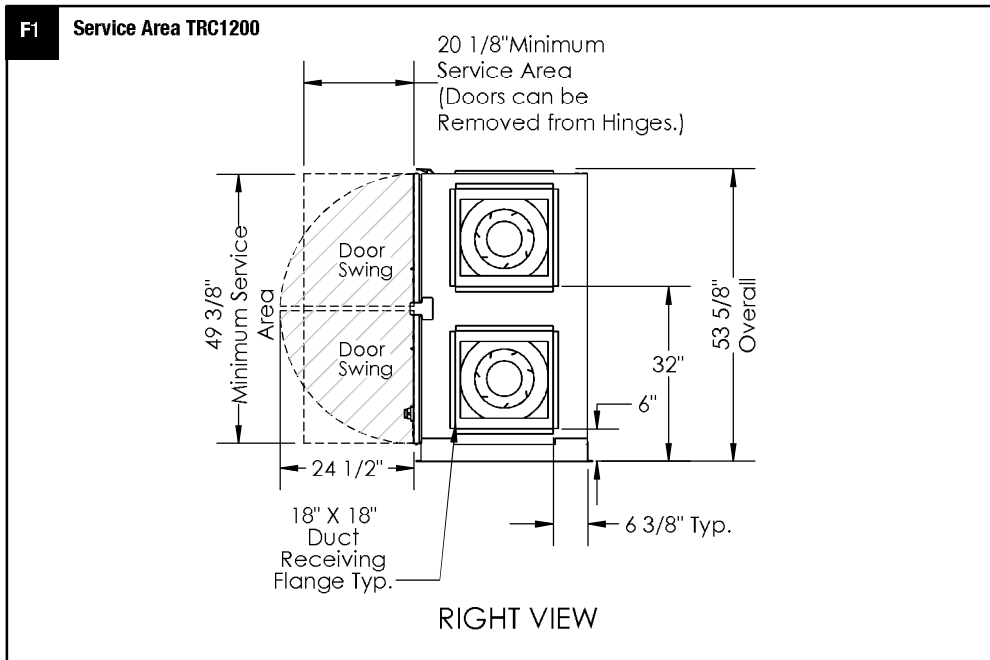
LEFT VIEW

INSTALLATION

PLACEMENT OF THE TRC1200

The TRC1200 is designed for installation indoors. Select a location that is central to the inside duct runs, and close to both the exhaust duct (to the outside) and the fresh air duct (from the outside). The unit can be installed in any orientation but the contractor is responsible for safe installation of the unit.

**PLANNING
YOUR INSTALLATION**



INSTALLATION

**PLANNING
YOUR INSTALLATION**

DUCTS TO THE OUTSIDE

The exhaust outlet and fresh air inlet on the outside of the building should be at least ten feet apart to avoid cross-contamination. The exhaust outlet should not dump air into an enclosed space or any other structure. The inlets and outlets should be screened against insects and vermin and shielded from the weather to prevent the entry of rain or snow.

⚠ WARNING

The fresh air inlet should be at least 10' away from chimneys, furnace and water heater exhausts, and other sources of carbon monoxide, humidity or other contamination. Do not locate the fresh air inlet where vehicles may be serviced or left idling. Never locate the fresh air inlet inside a structure.

NOTE: To prevent the entry of rain through the outside air inlet duct, observe the following:

1. Velocity at face of inlet hood should not exceed 500 feet per minute (fpm).
2. Inlet duct must be at least 18" x 18".
3. Centerline length along duct from weather hood to unit inlet must be at least 48".
4. Inlet duct must pitch downward to the outside; centerline of inlet hood must be at least 18" below the centerline of the unit inlet.
5. Outlet duct must pitch downward to the outside with a slope of at least ¼" to the foot.

Ducts connecting the TRC1200 to the outside must be insulated, with sealed vapor barrier on both inside and outside of the insulation. Insulate both the Outside Air (OA) and Exhaust Air (EA) ducts.

INSIDE DUCTWORK SYSTEM

Ensure Good Ductwork Design

Ductwork should be designed to allow the unit to provide the required airflow and reduce pressure drop for efficient, quiet operation. If the inside ducts run through unconditioned spaces they must be insulated with a sealed vapor barrier on both inside and outside of insulation.

Use Non-motorized Dampers to Set and Balance Air

In most applications, the airflow rate for both the Fresh Air and the Exhaust Air should be roughly equal (or "balanced") for best performance of the TRC1200 Unit. See unit specification sheet for CFM/ESP curves.

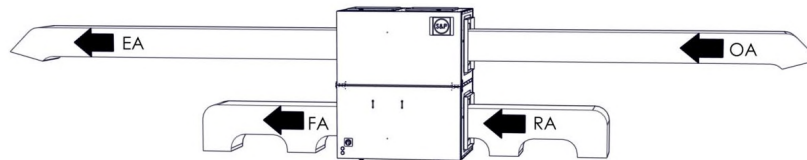
INSTALLATION

APPLICATIONS

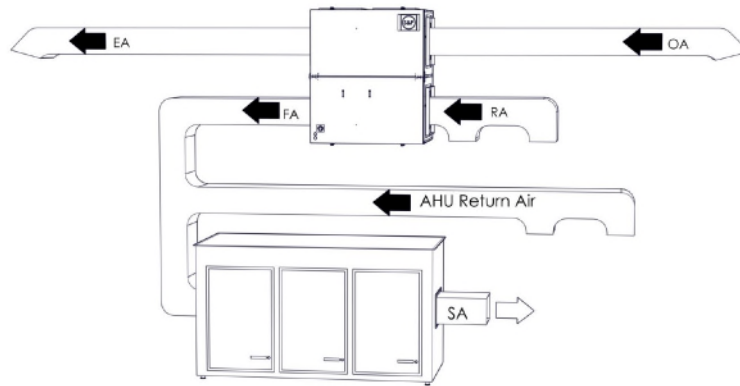
See figure F2 for examples of some common installation approaches.

**PLANNING
YOUR INSTALLATION**

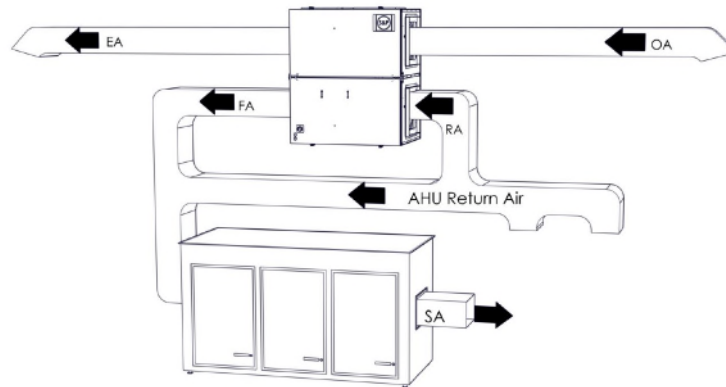
F2 Common Installation Approaches



Conditioned Space



AHU



AHU

INSTALLATION

**PLANNING
YOUR INSTALLATION**

⚠ WARNING

RISK OF FIRE, ELECTRIC SHOCK, OR INJURY. OBSERVE ALL CODES AND THE FOLLOWING:

1. Before servicing or cleaning the unit, switch power off at disconnect switch or service panel and lock-out/tag-out to prevent power from being switched on accidentally. More than one disconnect switch may be required to de-energize the equipment for servicing.
2. This installation manual shows the suggested installation method. Additional measures may be required by local codes and standards.
3. Installation work and electrical wiring must be done by qualified professional(s) in accordance with all applicable codes, standards and licensing requirements.
4. Any structural alterations necessary for installation must comply with all applicable building, health, and safety code requirements.
5. This unit must be grounded.
6. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment that might be installed in the area affected by this equipment. If this unit is exhausting air from a space in which chimney-vented fuel burning equipment is located, take steps to assure that combustion air supply is not affected. Follow the heating equipment manufacturer's requirements and the combustion air supply requirements of applicable codes and standards.
7. Use the unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
8. This unit is intended for general ventilating only. Do not use to exhaust hazardous or explosive materials and vapors. Do not connect this unit to range hoods, fume hoods or collection systems for toxics.
9. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
10. If installed indoors this unit must be properly ducted to the outdoors.

SOUND ATTENUATION

Take these simple steps to attenuate noise from the unit.

OUTSIDE THE BUILDING

Exhaust velocity noise is the primary cause of unit-related noise outside the building. Size the exhaust duct and grille for less than 1000 FPM air velocity. When practical, orient the exhaust air hood to point away from houses or public areas.

DUCTS

Make sure the ductwork at the unit outlets is stiff enough to resist the flexure and resulting booming associated with system start-up and shut-off.

In general, provide smooth transitions from the ERV's outlets to the duct. The ducts connecting to the outlets should be straight for a sufficient distance, with gradual transitions to the final duct size.

These guidelines are consistent with SMACNA recommended duct layout practices for efficient and quiet air movement. Follow SMACNA guidelines.

RADIATED NOISE

The TRC1200 is insulated with high-density fiberglass. This provides significant attenuation of radiated sound.

The inlet ducts can be significant sources of radiated sound as well. The OA and RA ducts (inlet ducts) should be insulated for sound control. This insulation should start at the unit. At a minimum the first ten feet of duct should be insulated. All parts of the OA and RA ducts located in the mechanical space should be insulated for sound control, both to minimize sound radiation out of these ducts and also to control sound radiation into the ducts.

CAUTION

To avoid motor bearing damage and noisy and/or unbalanced blowers, keep drywall spray, construction dust, etc., out of unit.

INSTALLATION

FIELD CONVERSION OF OPENINGS

The TRC1200 is designed to allow field conversion of the unit openings. This means the motorized impeller subassemblies can be moved to an adjacent wall of the unit if that opening is preferred. The outlet openings can also be moved to an adjacent wall. Before you start, plan the duct work layout. Determine which openings are to be converted.

TO FIELD CONVERT INLET OPENING

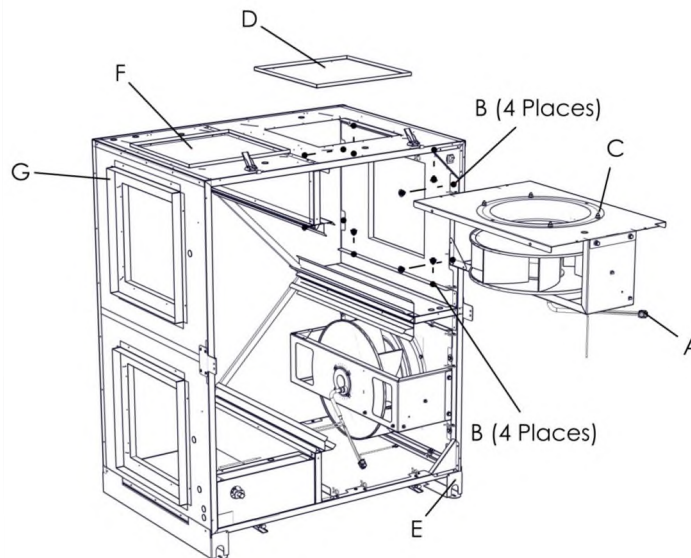
1. Disconnect motor harness connector (A) by the motor. Move the wire harness out of the way if necessary.
2. Support the impeller subassembly. Remove the eight ¼-20 bolts (B) retaining the impeller subassembly plate to the side rails and front and back tabs.
3. Lift the entire impeller subassembly (C) out of the unit and set aside. Leave the rails in the unit.
4. Remove the patch pan (D) from the desired opening.
5. Using the exposed sheet metal cutout, cut the insulation from the desired opening.
6. Seal the edges of the cut insulation to prevent erosion of the insulation edges and having debris in the air stream.
7. Install the patch pan over the undesired opening.
8. Install the insulation in the undesired opening. Seal the insulation.
9. Remove the duct flange from the undesired opening and install it at the desired opening.
10. If both inlet openings are to be converted, repeat Steps 2 – 9 for the second inlet opening.
11. At this point, if there are outlet openings for conversion, you will want to address them before proceeding with the inlet opening.
12. After converting the outlet openings move the unit floor brackets (E), if necessary, so when the unit is re-oriented the floor brackets support the unit on the floor.
13. Rotate the unit to the desired orientation, if necessary.
14. Install the impeller subassembly into the new inlet opening and fasten with eight ¼-20 bolts to retain to the side rails and front and back tabs. Make sure the motor harness connector is towards the front of the unit.
15. Connect the motor harness.
16. Repeat Steps 14 – 15 for other impeller subassembly if required.
17. Tidy up any wire harnesses that were moved making sure motor wires are taut and away from the impeller blades.

- Turn off the disconnect switch on the unit. **Make sure electrical power is shut off to the unit and disconnect switch.**
- Remove the access doors from the unit.
- Remove the core strap, filters, and energy exchanger cores from the unit.

FIELD CONVERSION

TO FIELD CONVERT OUTLET OPENING

1. Remove the patch pan (F) from the desired opening.
2. Using the exposed sheet metal cutout, cut the insulation from the desired opening.
3. Seal the edges of the cut insulation to prevent erosion of the insulation edges and having debris in the air stream.
4. Install the patch pan over the undesired opening.
5. Install the insulation in the undesired opening. Seal the insulation.
6. Remove the duct flange (G) from the undesired opening and install it at the desired opening.
7. If both outlet openings are to be converted, repeat Steps 1 – 6 for the second outlet opening.
8. If Inlet Openings are being converted return to Step 12 in the “To Field Convert Inlet Opening” instructions.



- After completion of the field conversion,
- Clean out the interior of the unit to remove any debris.
 - Install energy exchanger cores, filters, and core strap.
 - Install access doors on the unit