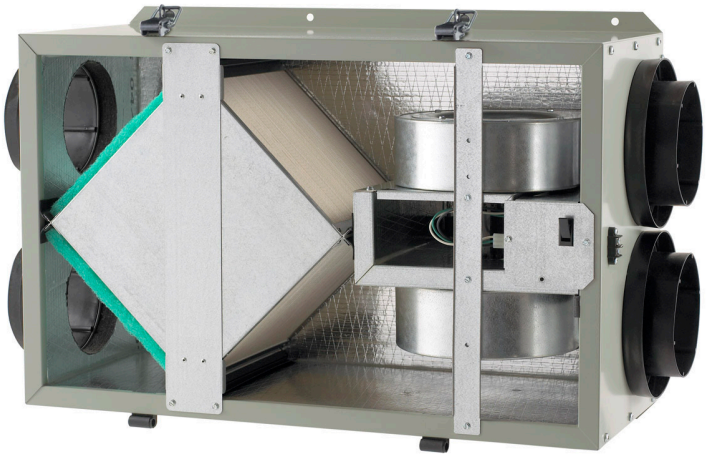
# Energy Recovery Ventilator

**TERVR100A1P00B**
**TERVR200A1P00B**
**TERVR300A1P00B**



**PUB. NO. 22-1776-05**

# General Features

**General Features**
Energy Recovery Ventilator (ERV)

**Product Description**
Packaged static plate enthalpic-energy recovery ventilator. Energy transfer core is constructed of static plates in a cross flow arrangement with no moving parts. The unit is capable of operating in summer and winter conditions without generating condensate. No condensate drain pan or drain line is required. The ERV ships with MERV 8 Spun Polyester air filters in the exhaust and fresh air streams to protect the energy transfer core.

**Product Certification**
ERV models are listed under UL 1812 Standard for Ducted Air to Air Heat Exchangers and are certified by the Home Ventilating Institute (HVI) per CSA 439. Both a heating and cooling test are run to demonstrate year round energy recovery.

**Energy Transfer**
ERV's are capable of transferring both heat and moisture between airstreams. Moisture transfer is achieved by direct water vapor transfer from one air stream to the other.

**Passive Frost Control**
The energy transfer core performs without condensing or frosting under normal operating conditions (defined as outside temperatures above -10F and inside relative humidity below 40%). Occasional extreme conditions will not affect the usual function or performance of the element. A condensate drain is not required.

**Continuous Ventilation**
ERV's have the capacity to operate continuously without the need for bypass, recirculation, pre-heaters or defrost cycles under normal operating conditions.

**Positive Airstream Separation**
Water vapor transfer is achieved through molecular transport by hydroscopic resin and shall not be achieved by “porous plate” mechanisms. Exhaust and fresh air travel in separate passages at all times, and airstreams do not mix.

**Laminar Flow**
Airflow through the energy transfer core is laminar, avoiding deposit of particulates on the interior of the energy exchange plate material.



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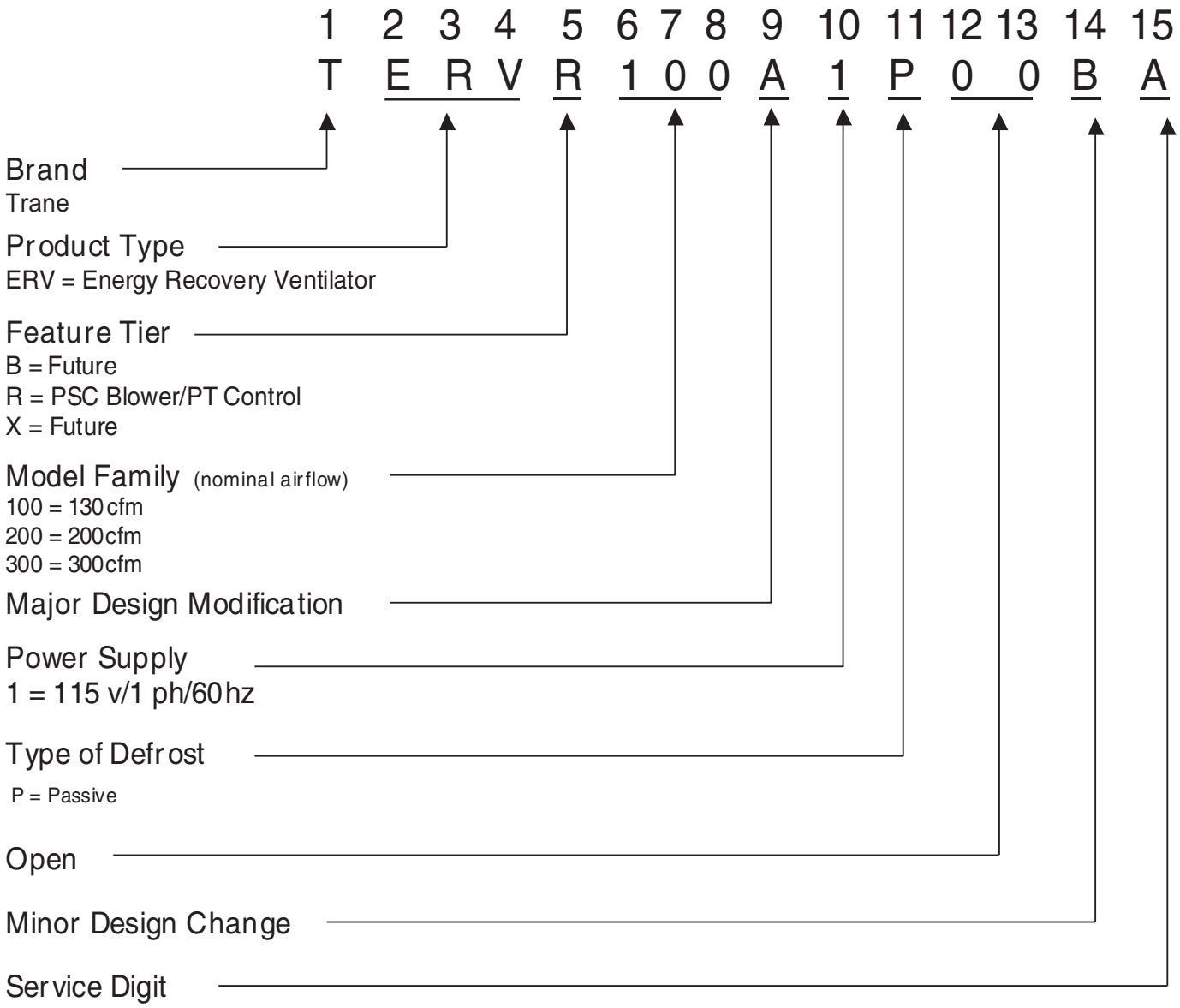
# Contents

# ERV Model Nomenclature



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# Features and Benefits

**Features and Benefits**

***Features:***

- ERV technology for all seasons and climates
- Static plate energy transfer core for efficient transfer of heat and moisture
- Passive defrost does not require condensate drain and provides lower installed cost and improves reliability
- Multi position mounting for installation flexibility
- ERV airflow design does not require installation of balancing dampers reducing installation and start up time
- Percent Timer (PT) control included with ERV for simple, automatic operation
- Optional push button control accessory provides manual override at point of use
- Latches and hinged access doors provide quick access for maintenance and service.
- Heavy gauge, powder painted steel cabinet provides durability and matches the system appearance
- Permanently lubricated motor bearings for long life
- Standard 34" power cord with ground plug for easy installation
- Double duct collars (6” & 8”)for connection of flexible or rigid ductwork for TERVR100 and 200
- 8” round compatible duct connection for TERVR300
- Cabinet wall and doors have 1" cleanable, foil face, high density board insulation, with 1/4” foam insulation on access panel for thermal and sound insulation
- ERV cabinet / door color: Polyslate Gray
- 5 year limited warranty on parts
- 10 year limited warranty on energy transfer core
- **Optional 5 and 10 year extended warranties**

## OPTIONAL ACCESSORIES

Point of Use Push Button Control for use with ERV models 100, 200, 300 ..... TCONTV10APBC0A [ ]
Filters - 2 per pack, for use with ERV model 100 ..... FLR08618 [ ]
Filters - 2 per pack, for use with ERV model 200 & 300 ..... FLR08619 [ ]
6 inch White Vinyl Ventilation Hood ..... BAYWHT10AVENTA [ ]
6 inch Brown Vinyl Ventilation Hood ..... BAYBRN10AVENTA [ ]
8 inch Galvenized Ventilation Hood ..... BAYGLV10AVENTA [ ]

# General Data

| MODEL | TERVR100A1P00B | TERVR200A1P00B | TERVR300A1P00B |
|---|---|---|---|
| **RATINGS** ① | See Note ① | See Note ① | See Note ① |
| **AIRFLOW RANGE (cfm)** | 50-130 | 100-210 | 150-320 |
| **BLOWER ASSEMBLY** | | | |
| Diameter x Width | 6.32" x 2.01" | 6.75" x 1.89" | 7.67" x 1.89" |
| No. Blower Wheels Used | 2 | 2 | 2 |
| Speeds ② | 1 | 1 | 1 |
| No. Motors — H.P. | 1 - 0.09 | 1 - 0.09 | 1 - 0.25 |
| Nominal Motor Speed (R.P.M.) | 1750 | 1750 | 1550 |
| **POWER CONNECTIONS** | | | |
| Volts/Ph/Hz | 120/1/60 | 120/1/60 | 120/1/60 |
| Ampacity (in Amps) | 15 | 15 | 15 |
| Fuse Size - Max (Amps) | 15 | 15 | 15 |
| F.L. Amps | 1.3 | 1.5 | 3.3 |
| **FILTER** | | | |
| Filter Furnished? | Yes | Yes | Yes |
| Type Recommended | MERV 8 Spun Polyester | MERV 8 Spun Polyester | MERV 8 Spun Polyester |
| No.-Size-Thickness | 2 - 10.5" x 10.5" | 2 - 10.5" x 21.75" | 2 - 10.5" x 21.75" |
| **Defrost** | Passive | Passive | Passive |
| **Duct Connections** | See Note ② | See Note ② | 8" oval connection for flex or rigid |
| Heat Exchanger | See Note ③ | See Note ③ | See Note ③ |
| Insulation - Thermal/Sound | See Note ④ | See Note ④ | See Note ④ |
| **DIMENSIONS** | H x W x D | H x W x D | H x W x D |
| Crated (In.) | 21-1/2 x 32 x 17-1/2 | 21-1/2 x 32 x 28-1/2 | 21-1/2 x 32 x 28-1/2 |
| Uncrated (In.) (Not including duct collars) | 20-1/8 x 28-3/4 x 13 | 20-1/8 x 28-3/4 x 23-7/8 | 20-1/8 x 28-3/4 x 23-7/8 |
| **WEIGHT** | | | |
| Shipping (Lbs.)/Net (Lbs) Including collars) | 65 / 58 | 91 / 78 | 95 / 82 |

① Certified HVI 2100 PER CSA 439 and listed under UL standard UL 1812.

② Insulating double collars with 6" and 8" round connections for flex or rigid duct.

③ Cross flow - fixed plate enthalpic energy transfer core. Transfers heat and moisture.

④ Cabinet - 1" cleanable foil face fiberglass high density board insulation. Access door - 1/4" foam insulation over 1" fiberglass board insulation.



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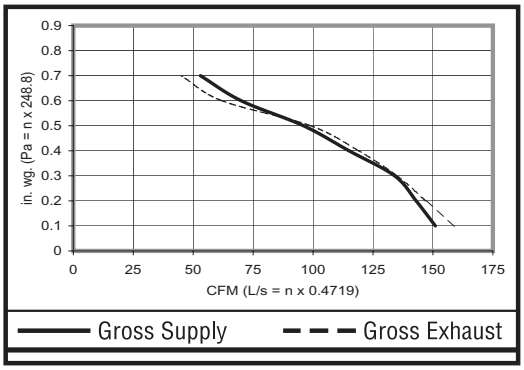
# Performance Data

| TERVR100 - Ventilation Performance | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ext. Static Pressure | | Net Supply Airflow | | Gross Airflow | | | |
| | | | | Supply | | Exhaust | |
| Pa | in. wg | L/S | CFM | L/S | CFM | L/S | CFM |
| 25 | 0.1 | 77 | 165 | 79 | 168 | 79 | 168 |
| 50 | 0.2 | 72 | 153 | 73 | 156 | 73 | 156 |
| 75 | 0.3 | 64 | 137 | 66 | 140 | 66 | 140 |
| 100 | 0.4 | 59 | 126 | 61 | 129 | 61 | 129 |
| 125 | 0.5 | 49 | 104 | 50 | 106 | 50 | 106 |
| 150 | 0.6 | 37 | 79 | 38 | 81 | 38 | 81 |

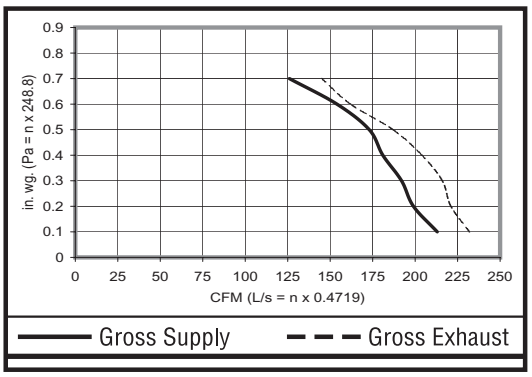



Electrical Requirements Volts 120 Amps 1.3

Exhaust Air Transfer Ratio = 2% @ 0.2 in. wg (50 PA) and 2% @ 0.4 in. wg (100 PA)

| TERVR100 - Energy Performance | | | | | | | |
|---|---|---|---|---|---|---|---|
| Supply Temperature | | Net Airflow | | Average Power Watts | Sensible Recovery Efficiency % | Apparent Sensible Effectiveness % | Net Moisture Transfer % |
| C° | F° | L/S | CFM | | | | |
| Heating | | | | | | | |
| 0° | 32° | 61 | 130 | 102 | 71 | 77 | 53 |
| Cooling | | | | | Total Recovery Efficiency % | | |
| 35° | 95° | 61 | 130 | 102 | 48 | | |

| TERVR200 - Ventilation Performance | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ext. Static Pressure | | Net Supply Airflow | | Gross Airflow | | | |
| | | | | Supply | | Exhaust | |
| Pa | in. wg | L/S | CFM | L/S | CFM | L/S | CFM |
| 25 | 0.1 | 97 | 207 | 100 | 213 | 109 | 232 |
| 50 | 0.2 | 90 | 192 | 93 | 199 | 104 | 221 |
| 75 | 0.3 | 88 | 186 | 90 | 192 | 101 | 216 |
| 100 | 0.4 | 83 | 176 | 85 | 181 | 96 | 204 |
| 125 | 0.5 | 79 | 168 | 81 | 173 | 88 | 187 |
| 150 | 0.6 | 70 | 149 | 72 | 154 | 76 | 162 |
| 175 | 0.7 | 57 | 122 | 59 | 126 | 68 | 145 |



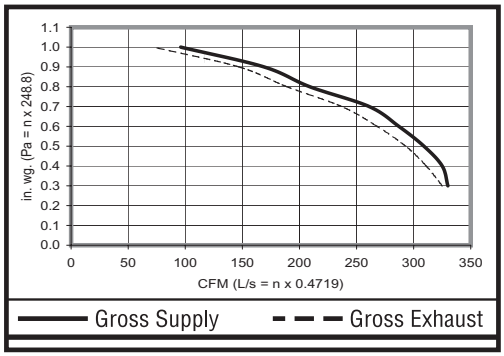

Electrical Requirements Volts 120 Amps 1.5

Exhaust Air Transfer Ratio = 3% @ 0.2 in. wg (50 PA) and 3% @ 0.4 in. wg (100 PA)

| TERVR200 - Energy Performance | | | | | | | |
|---|---|---|---|---|---|---|---|
| Supply Temperature | | Net Airflow | | Average Power Watts | Sensible Recovery Efficiency % | Apparent Sensible Effectiveness % | Net Moisture Transfer % |
| C° | F° | L/S | CFM | | | | |
| Heating | | | | | | | |
| 0° | 32° | 85 | 181 | 157 | 78 | 85 | 62 |
| Cooling | | | | | Total Recovery Efficiency % | | |
| 35° | 95° | 85 | 180 | 155 | 52 | | |

# Performance Data

| TERVR300 - Ventilation Performance | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ext. Static Pressure | | Net Supply Airflow | | Gross Airflow | | | |
| | | | | Supply | | Exhaust | |
| Pa | in. wg | L/S | CFM | L/S | CFM | L/S | CFM |
| 100 | 0.4 | 147 | 311 | 150 | 317 | 143 | 303 |
| 125 | 0.5 | 139 | 295 | 142 | 301 | 133 | 283 |
| 150 | 0.6 | 131 | 277 | 133 | 282 | 125 | 265 |
| 175 | 0.7 | 121 | 256 | 123 | 261 | 108 | 230 |
| 200 | 0.8 | 101 | 215 | 103 | 219 | 94 | 198 |
| 225 | 0.9 | 90 | 191 | 92 | 195 | 74 | 156 |
| 250 | 1.0 | 80 | 170 | 82 | 174 | 47 | 99 |




Electrical Requirements Volts 120 Amps 3.3
Exhaust Air Transfer Ratio = 3% @ 0.4 in. wg (50 PA)

| TERVR300 - Energy Performance | | | | | | | |
|---|---|---|---|---|---|---|---|
| Supply Temperature | | Net Airflow | | Average Power Watts | Sensible Recovery Efficiency % | Apparent Sensible Effectiveness % | Net Moisture Transfer % |
| C° | F° | L/S | CFM | | | | |
| Heating | | | | | | | |
| 0° | 32° | 139 | 297 | 315 | 67 | 74 | 54 |
| Cooling | | | | | Total Recovery Efficiency % | | |
| 35° | 95° | 138 | 294 | 313 | 46 | | |

* Refer to HVI Directory (Home Ventilation Institute) for definitions of column headings



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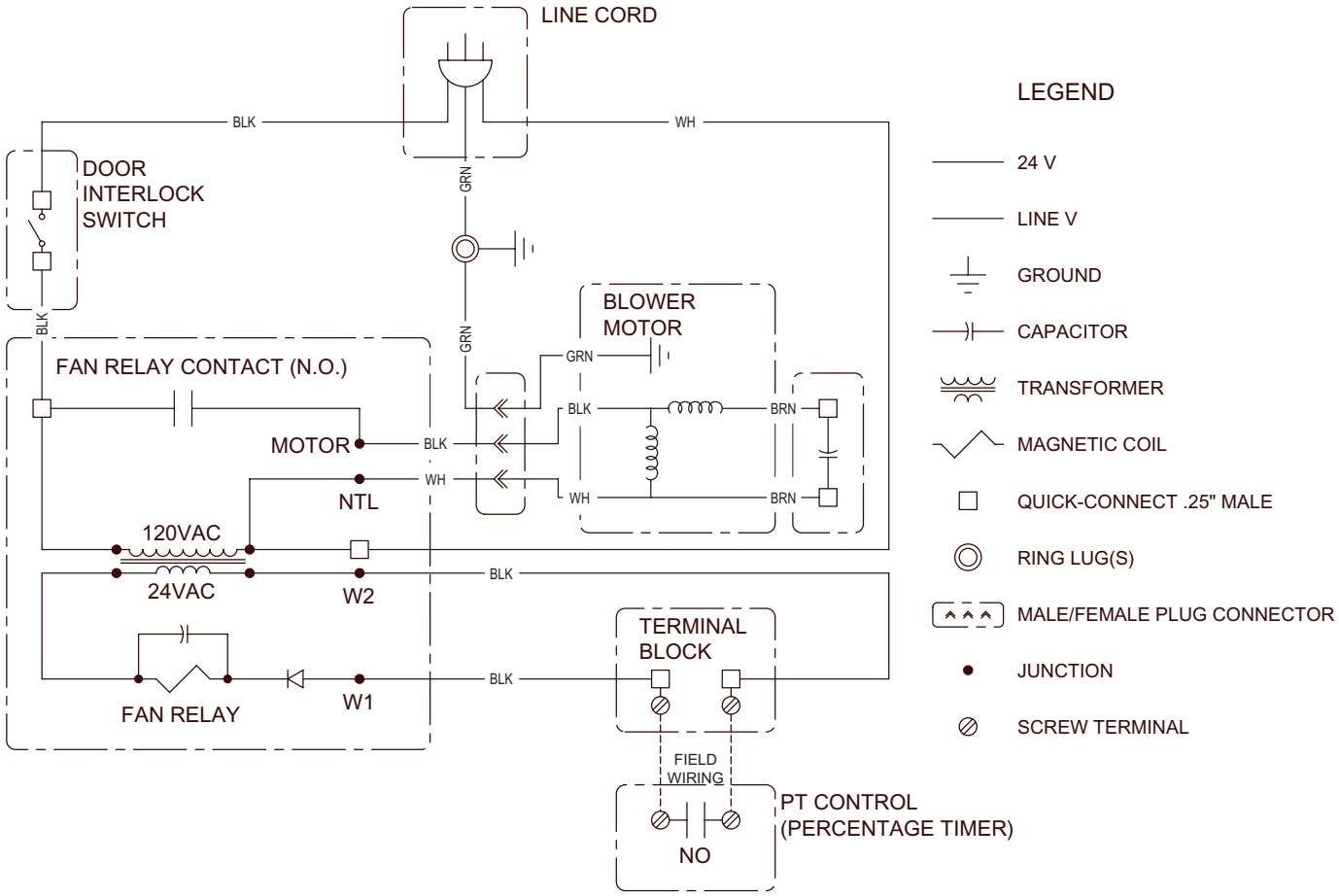
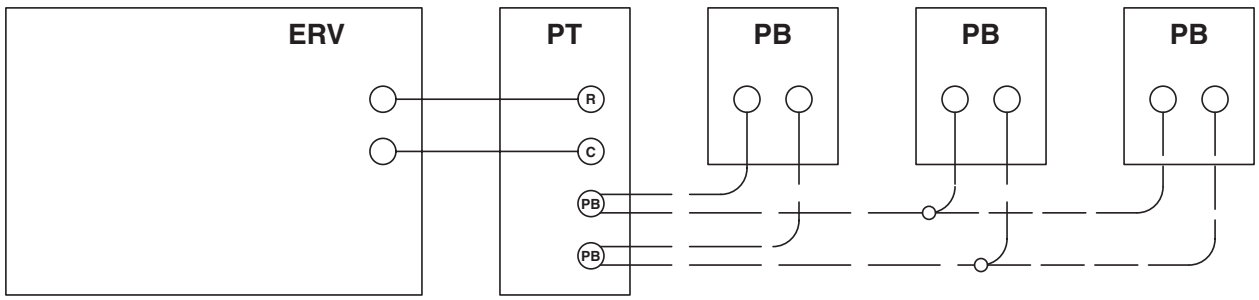
# Electrical Data




**Optional PB Controls**

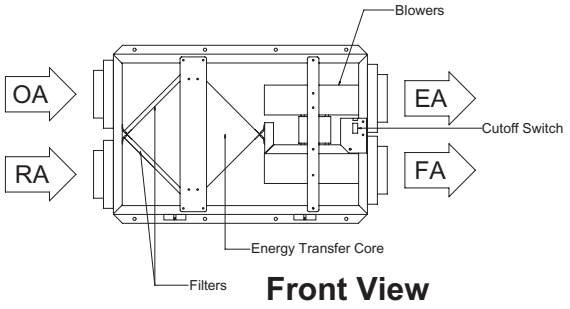



(2) PB controls can be directly connected to the PT control

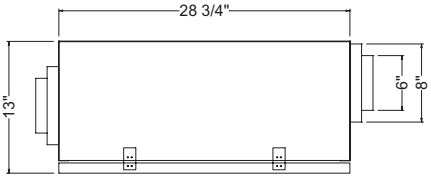
Up to (6) PB controls, wired in parallel, may be used.

# Dimensions

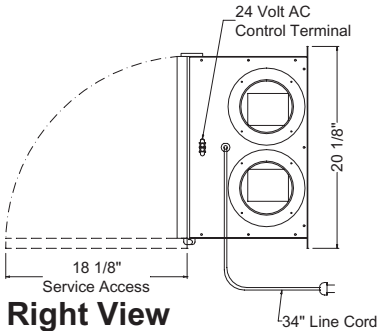
## TERVR100A1P00B




**Front View**

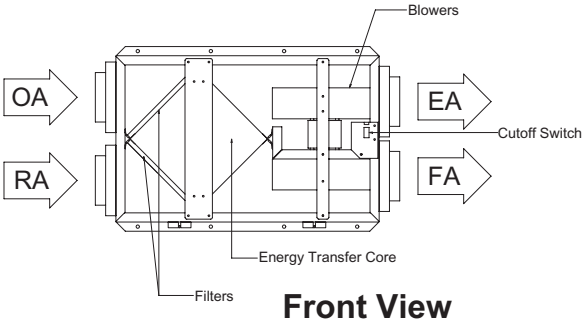



**Top View**

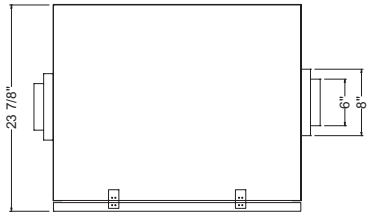



**Right View**

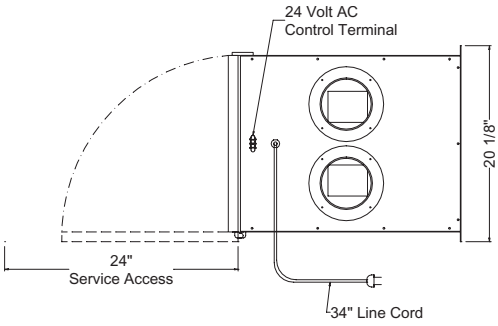
## TERVR200A1P00B




**Front View**

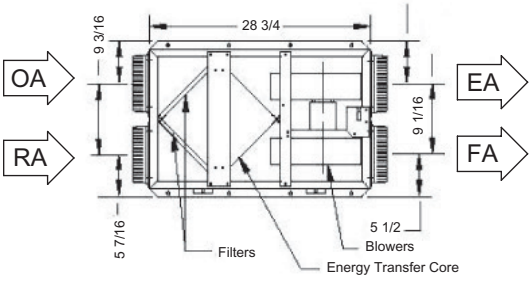



**Top View**

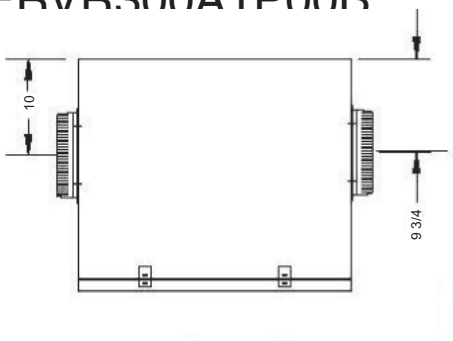



**Right View**

## TERVR300A1P00B




**Front View**

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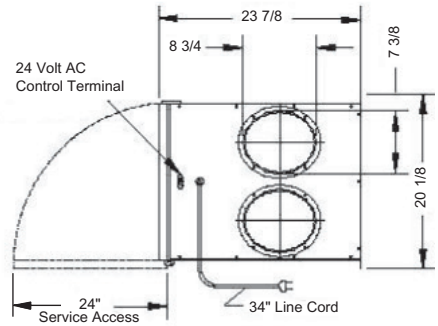


**Right View**



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# Notes



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*Tyler, TX  75707*