

General

Receiving Inspection Checklist

- Visually inspect unit for shipping damage before unwrapping any packaging material. Report any damage immediately to the delivering carrier.
- After unpacking the unit, check it again for shipping damage. If any shipping damage is found, report it immediately to the delivering carrier.
- Notify your local Nailor representative of damage and arrange for repair or replacement.
- Check that the unit is labeled as intended and deliver to appropriate site location.
- Store units in a clean, dry location.



Caution: Do not use the inlet collar, damper shaft, airflow sensor, electrical conduit, water coil extremities, drip pan, or tubing as a handle to lift or move assembly. Damage to the unit, unit accessories or controls may result.

Safety Precautions

- All person(s) involved in installation process shall be qualified according to all relevant local codes and standards.
- Equipment is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Beware of other building utilities and electrical wiring during installation process.
- The unit installed shall be used only as intended. Any unintended use shall therein result in immediate forfeiture of manufacturer assumed warranty, responsibility and liability of product and associated components. Contact your local Nailor representative for questions.



Warning: Make sure all electrical power to the unit has been disconnected and any capacitors fully discharged before servicing. Failure to do so could result in injury or death.

- During brazing process, make sure to protect any surrounding flammable materials, using barriers where applicable and always have a fire extinguisher accessible.



Caution: DO NOT exceed coil's parameters. The coil's water temperature range is 40°F - 200°F. For standard coil wall thickness 0.016", the coil's maximum working pressure is 250 PSIG.



Caution: Any improper product handling, installation, servicing, or operation resulting in personal injury and property damage shall void any manufacturer assumed legal responsibility.

- Equipment's maximum altitude of use is 2,200 m.

Installation

Supporting the Assembly

Suspend the unit from the building structure in the horizontal plane and ensure the unit is level to guarantee proper performance. Hanger rods or straps (by others) should be securely attached to joists or to mounting anchors which are properly secured to slab construction with lugs or poured in place anchors. Be careful not to obstruct the bottom access panel in order to maintain clearance for blower service. When requested, the unit is supplied with optional hanger brackets (shipped loose for field mounting) for use with hanger rod up to 3/8" (9.5) dia. Hanger brackets or straps should be screwed to the top corner posts (35S only) or unit casing sides (other models) or alternatively onto the inlet and outlet ends of the unit. See Figures 1 and 2.



Caution: Nailor Fan Powered Terminal units are too heavy to suspend with the ductwork and must be independently supported.

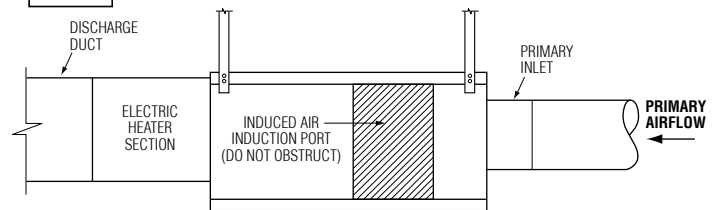


Figure 1: Fan Powered Terminal Unit Support Using Hanger Straps (Model 35SE illustrated).

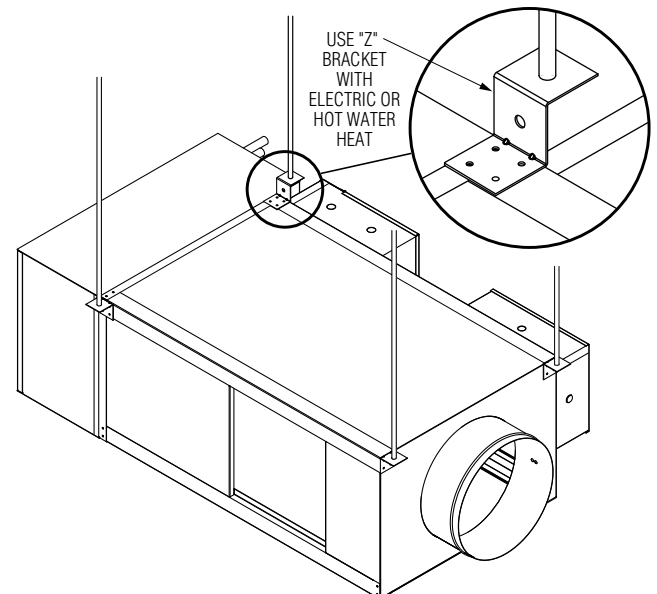
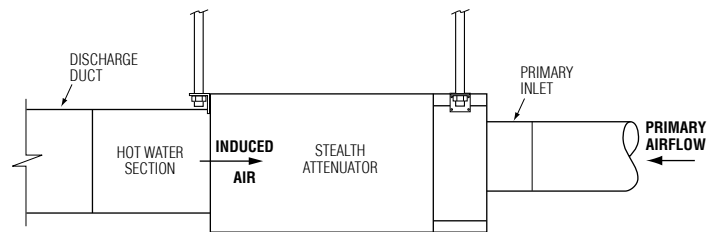


Figure 2: Fan Powered Terminal Unit Support Using Hanger Brackets and Rods (Models 35SWST and 35SW illustrated).

Duct Connections

All ducts should be installed in accordance with SMACNA guidelines. Slip each inlet duct over the inlet collar of the terminal. Fasten and seal the connection by the method prescribed in the job specification. The diameter of the inlet duct in inches must be equal to the nominal size of the terminal inlet. The inlet collar of the terminal is 1/8" (3) smaller than the nominal duct size to allow it to fit inside the duct.



Important: Do not insert ductwork inside the inlet collar of the assembly.

For optimum performance, 2 to 3 equivalent diameters of straight duct should be installed prior to the inlet of the unit. Rectangular discharge opening is designed for a flanged duct connection. A clear area around the opening has been left for screw penetration. Fasten and seal all connections by method prescribed in the job specification. Zero clearance to combustible materials is allowed. The range of external static pressures for model series 35S(ST), 35SXC, 35N, 37S(ST) and 37N were tested at: 0 - 0.5" WC.

Minimum Access

Make appropriate accommodations for access panel removal. If unit is to be installed in **hard ceiling/wall application**, refer to Nailor fan powered terminal unit submittals for specific dimensions before installing to assure there is access to the unit and components after installation is complete. Nailor 35S fan powered VAV terminal units have access panels on the top, bottom and side. Nailor 35N units have only bottom panels. Model 37S and 37N have top and bottom panels. Removable top and bottom access panels are secured as standard with screws. However, if the 1/4 turn fastener access panel option is supplied, the bottom panel screws are replaced with two quick-connect latches.

Units with a removable top access panel are secured with two additional screws in the middle for shipping and handling. These additional screws can be removed after the unit is hung for quicker service if needed.

For low voltage control enclosure access, a minimum of 18" (457) is recommended. Specific control enclosure location is indicated on product submittals. Low voltage control enclosures have removable covers that are attached with sheet metal screws. High voltage controls enclosures have access panels that are equipped with hinges. For clearances for full opening of hinged access doors, refer to project specifications, submittal sheets and NEC.



Important: These recommendations do not preclude NEC or local codes that may be in effect, which are the responsibility of the installing contractor.

Field Wiring

All field wiring must comply with NEC and local codes. Disconnect switches are optional. Wiring diagrams can be found on labels affixed to the exterior/interior of the control box enclosure. Unless specifically requested by customer, all units are wired for a single point connection to the fan and electric heater (if present). All electric heaters will be staged per specification. Motors rated for 277 or 120 VAC on units with 480 or 208 VAC ratings respectively are always connected between the neutral and L1 terminals. The installing electrician should rotate the incoming electric service by phase to help balance the building electric load.

Fuse size designates the size of the internal fuse if it is supplied. Maximum Overcurrent Protection (MOP) designates the largest breaker or fuse in the electrical service panel that can be used to protect the unit. See Table 1 for calculation details.

Electrical Suggestions and Requirements

1. Provide a safety disconnect per NEC 424-19, 20, 21.
2. Disconnect the power supply before wiring or servicing unit. If a

disconnect switch is present, it should be in the OFF position while making power connections or repairs.

3. All units with electric heat should have copper wires sized for minimum circuit ampacity (MCA). See Table 1 for calculation details.
4. Follow wiring diagrams and instructions mounted on the unit. 480V/3 phase heaters, for example, require a neutral wire in addition to the full sized ground wire. NEC 424-15 and 250 also require that all units be grounded.

Water Pipe Connections

Exercise extreme caution during "sweating" or brazing process of coil piping to avoid applying excessive heat to components associated with valve package. This could cause irreversible damage, requiring immediate replacement of parts. Make sure valves are in full open position during brazing process. Heat can be dissipated more effectively by wrapping a wet towel around the valve body during the brazing process.

Control Start-up and Operation

Your local Nailor Representative can provide detailed information about start-up and operating procedures for Nailor's digital, analog, and pneumatic controls. For specific information on controls provided by other manufacturers contact the control manufacturer's local or national office. This applies whether the controls were factory or field installed.



Note: Digital controllers may use specific communication addresses based on Building Management Systems, Architecture and original engineering drawings. Installing the terminal in a location other than that noted on the label may result in excessive start-up labor.

Primary Air Damper and Fan Adjustment

Before starting the fan motor:

- a. If filters are required, make sure they are installed as intended.
- b. Make sure duct system is clear of all debris and foreign objects.
- c. Ensure unit enclosure, blower housing and blower wheel are free of any debris and foreign objects.

Starting the fan motor:

1. Start motor and let it run-in at least 15 minutes. During run-in, check ductwork connections for leaks and repair if necessary.
2. All Nailor fan powered VAV terminal units incorporating PSC motors use a solid state SCR speed controller to adjust motor speed and consequently air volume. Speed controllers have built-in maximum and minimum stops as detailed on the fan performance pages in the Nailor VAV Terminal Unit catalog. Turning the manual fan speed control counterclockwise will increase the fan speed; clockwise will decrease speed. The fan speed control is located on the side of the motor controls enclosure.
3. For series units, set the unit to full cooling. Adjust and set primary maximum cfm by measuring the airflow with a manometer attached between the gauge ports in the pneumatic tube leading to the high and low sides of the inlet air pick-up. A chart is attached to the side of the unit showing airflow vs. pressure for different inlet sizes. Adjust and set remote balancing dampers, if present. Do not worry about airflow at this time; just proportion the outlets with the dampers. Be sure to leave the dampers in the most possible open position. This will generate the minimum noise level. Adjust the fan speed control until the required CFM is obtained (by measuring the air quantity at the room outlets or by zeroing the induction air if primary and fan match). Fan should be adjusted with primary air at maximum set point to ensure that no supply air is discharged at the induction port. Recheck the fan and primary airflows when the damper is reset to the minimum set point.
4. For parallel units, turn the fan off, and set the primary air in the same manner as described for series units. Proportion the diffusers as above. Reset the primary airflow to the design fan turn-on point. Measure the airflow again to verify proper airflow. Turn the fan

- on. Allow the primary air damper to come under control after the fan is started, and then adjust the fan until the prescribed airflow is achieved by measuring the air quantity at the room outlets. Be sure to allow the primary air damper to stabilize after each fan adjustment and prior to measuring the airflow. Turn the fan off and verify the minimum airflow point on the damper.
- For units equipped with ECM motors, set the primary air dampers as described in (3). Set the fan as described on the ECM MOTORS IOM, page 1. Proportion the dampers after the fan is set. Remember to adjust the dampers so that they are in the most open condition after proportioning. This will generate the minimum noise.

Maintenance Procedures

Warning: Electrical Hazard!

Before Servicing, disconnect all sources of electrical power, including the complete discharge of any electric current stored in capacitors included in the wiring structure. Practice good lockout/tagout procedures to prevent energizing of the unit during servicing. Failure to comply with previous statements could yield personal injury or even result in death.

Fan and Motor

Nailor fan powered terminal units are equipped with permanently lubricated motors. Inspect fan and motor assembly for dust and dirt as often as dictated by operating environment. Clean assembly if necessary.

If fan motor does not run, do the following:

- Check for free rotation of blower wheel. Make sure no foreign objects are in fan. Look for signs of freight or job site damage.
- Check power supply. Disconnects should be in the "ON" position. Optional fusing should also be inspected. Check transformer for proper output.
- Check for proper control signals and PE switch setting (if provided) and relay function.

Fan motor runs but emits excessive noise

- Maximum airflow may be too high, or discharge static pressure may be incorrect.
- Blower may have clearance problems. Make sure all components are securely attached.

Label Example

KW/HP		Amps (Ampères)			Ampacity (Ampacité)			Max. Overcurrent Protection (Résistance Des Fusible Max.)		Internal Fuse Size (If Supplied)
Total (Totale)	Each Cir. (Chaque Circuit)	Each Stg. (Chaque Étape)	Total (Totale)	Each Cir. (Chaque Circuit)	Each Stg. (Chaque Étape)	Total (Totale)	Each Cir. (Chaque Circuit)	Each Stg. (Chaque Étape)		
Heater (Chauffage)	13.00	13.00	6.50	62.5	62.5	31.25	78.13	39.07	39.07	40
Motor (Moteur)	0			0			0.00			15
Total (Totale)				62.50			78.13			N/A

Each Element Rated @ (Chaque Element Classifieur A) **3.25** KW @ **208** VAC. AWG. Min Wire Size (Min Diamètre De Fil) : **4**
 Min. Heating CFM (Min. PCM) : **910.00**

Use wire suitable for at least 75 °C.
 L1 is color coded black, L2 is blue, L3 is red,
 Control wires coded as marked.
 Use copper conductors only.

Utiliser un fil métallique qui convient au moins 75 °C.
 L1 est colore noire, L2 est bleu, L3 est rouge.
 Les fils de contrôle son identifiée comme marquée.
 Utilisez des conducteurs de cuivre seulement.

Primary CFM (Max/Min) : 890 / 360 <small>Primaire PCM (Max/Min):</small>	Primary L/S (Max/Min) : 420 / 170 <small>Primaire L/S (Max/Min):</small>
Fan CFM : 890 <small>Ventilateur PCM:</small>	Fan L/S : 420 <small>Ventilateur L/S:</small>

- Verify integrity of ductwork. Leaks or loose connections could cause noise. Check for rattling diffusers or rattling or incorrectly adjusted balancing dampers.

Fan motor runs, but airflow too low:

- May be due to ductwork restrictions, dirty air filters or clogged water coils.
- Readjust fan speed control on control card.
- Discharge static pressure may be incorrect. Check balancing dampers.
- Confirm signal from the motor card to the motor by measuring the plug at the motor.

If repair or replacement is required

Disconnect all power before servicing. Motor and fan should be removed as an assembly. Remove the four hex nuts from mounting lugs holding the fan assembly to the discharge panel, and remove the assembly through any convenient access panel. Do not allow assembly to hang from wiring. If removing motor from blower, first loosen the set screw holding the blower wheel to the motor shaft. Remove the three screws holding the motor to the fan housing, and slide motor and fan housing apart.

To put the assembly back together, reverse the procedure. Be sure to align the blower set screw with the flat section of motor shaft.



Note: Over-tightening motor mounting screws may crush isolation bushing, causing excessive fan noise.

Primary Air Damper Replacement

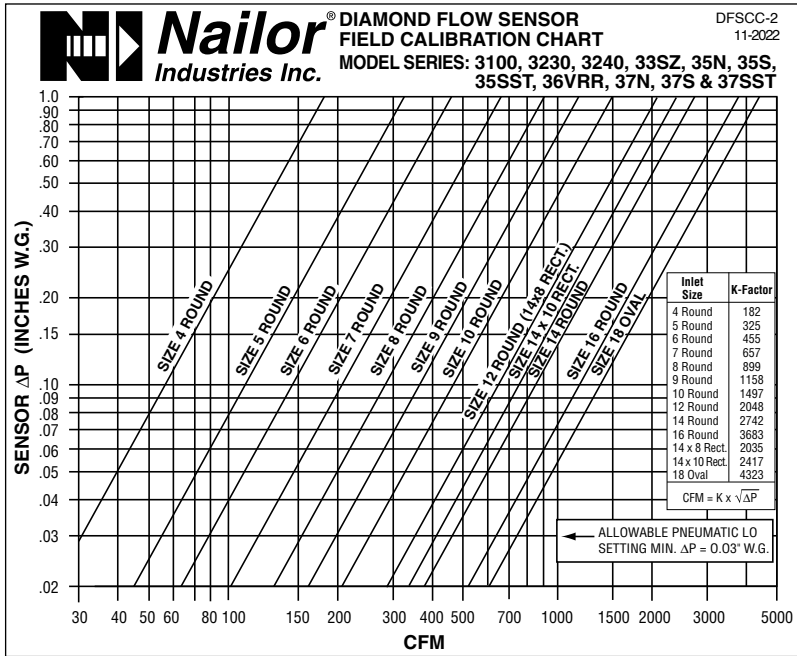
Nailor's primary air valve assembly is not repairable. The entire assembly should be replaced if it is damaged.

Labels

Each fan powered terminal unit is shipped with a nameplate label affixed to the control casing. Principle nameplate data on the label typically include Order-Serial number, Model number, Unit Size, Motor horsepower, Amperage, MOP, Heater (if present) data, Supply voltage and Airflows. Also provided are calibration, airflow, as well as other labels as necessary. We suggest that you read all labels before beginning installation. If you have any questions, please contact your local Nailor Representative. Their phone numbers can be found on our website at nailor.com.

Sample Diamond Flow Sensor Calibration Label

Application Charts for ECM Motors

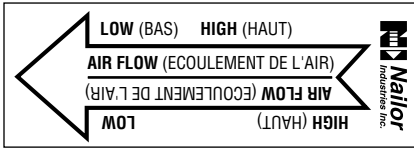


Nailor Industries Inc. ECM MOTOR FAN CALIBRATION TABLE
 CFM vs VDC (Imperial Units)
 FAN POWERED TERMINAL UNIT
 MODEL SERIES: 36S & 35SST - UNIT SIZE 3 • 120/208/230/277 VAC

CFM	0-10 VDC REF.	CFM	0-10 VDC REF.	CFM	0-10 VDC REF.	CFM	0-10 VDC REF.
138	0.50	429	2.89	747	5.29	1023	7.68
146	0.57	438	2.96	756	5.36	1030	7.75
155	0.64	448	3.03	765	5.43	1037	7.82
163	0.71	457	3.10	774	5.50	1044	7.89
171	0.78	466	3.17	783	5.57	1051	7.96
179	0.85	475	3.24	791	5.64	1058	8.03
188	0.92	485	3.31	800	5.71	1065	8.10
196	0.99	494	3.39	809	5.78	1072	8.17
204	1.06	503	3.46	818	5.85	1079	8.24
213	1.13	513	3.53	826	5.92	1086	8.31
221	1.20	522	3.60	835	5.99	1093	8.38
229	1.27	531	3.67	843	6.06	1100	8.45
238	1.34	541	3.74	852	6.13	1108	8.52
246	1.41	550	3.81	860	6.20	1115	8.59
254	1.49	560	3.88	869	6.27	1122	8.66
263	1.56	569	3.95	877	6.34	1129	8.73
271	1.63	579	4.02	885	6.41	1136	8.80
280	1.70	588	4.09	893	6.48	1143	8.87
288	1.77	598	4.16	901	6.55	1151	8.94
297	1.84	607	4.23	909	6.62	1158	9.01
305	1.91	616	4.30	917	6.69	1166	9.09
314	1.98	626	4.37	925	6.76	1173	9.16
322	2.05	635	4.44	933	6.83	1181	9.23
331	2.12	645	4.51	941	6.90	1189	9.30
340	2.19	654	4.58	949	6.97	1197	9.37
349	2.26	663	4.65	956	7.04	1205	9.44
357	2.33	673	4.72	964	7.11	1213	9.51
366	2.40	682	4.79	971	7.19	1222	9.58
375	2.47	691	4.86	979	7.26	1230	9.65
384	2.54	701	4.93	986	7.33	1239	9.72
393	2.61	710	5.00	994	7.40	1248	9.79
402	2.68	719	5.07	1001	7.47	1257	9.86
411	2.75	728	5.14	1008	7.54	1266	9.93
420	2.82	737	5.21	1016	7.61	1276	10.00

THIS UNIT HAS BEEN FACTORY SET AT _____ CFM.
 RE-CALIBRATION IS NOT REQUIRED UNLESS THE ZONE DESIGN AIRFLOW REQUIREMENT HAS CHANGED. THE BOLD LINES INDICATE MIN AND MAX CFM FOR THE UNIT. VARIATIONS IN FLOW IS IN +/- 5% or +/- 30 CFM WHICHEVER IS GREATER EXCEPT IN GRAY AREA. DATA REPRESENTED IN THIS CHART IS AT STANDARD CONDITIONS OF TEMPERATURE, PRESSURE AND HUMIDITY (I.E. SCFM). FAN TURNS OFF BELOW 0.50 W.G.
 www.nailor.com
 Digital Control Algorithm:
 CFM = 0.027717807(VDC)5 - 0.61146699(VDC)4 + 4.155391639(VDC)3 - 8.60626115(VDC)2 + 124.7107364(VDC) + 77.19940471
 VDC = -1.2214E-14(CFM)5 + 3.95345E-11(CFM)4 - 4.43622E-08(CFM)3 + 2.07462E-05(CFM)2 + 4.104313E-03(CFM) - 0.340841705E+00

Airflow Direction (affixed to inlet collar)



MCA and MOP Calculations

Minimum Circuit Ampacity

$$MCA = 1.25 \times (\text{Load 1} + \text{Load 2} + \text{Load 3} + \text{Load 4})$$

Maximum Overcurrent Protection

$$MOP = (2.25 \times \text{load 1}) + \text{load 2} + \text{load 3} + \text{load 4}$$

If the calculated MOP does not equal the standard current rating of an Overcurrent protective device (typically even multiples of 5), then the marked MOP is the next lower standard rating.

Exceptions:

1. The marked MOP will be the next higher standard rating than the computed value, if the next lower standard rating is less than 125 percent of the current rating of an electric heater load when such heater is involved.
2. If the computed value for MOP is less than the MCA, then the marked MOP is increased to the largest MOP appropriate for the MCA.
3. If the MCA does not correspond to a standard protective device rating, the next higher standard rating of the protective device will be marked if this rating does not exceed 800 A.

For Nailor Fan Powered Terminal Units and Fan Powered Terminal Units, **Load 1** is the largest motor current, **Load 2** is the sum of all other motor currents, and **Load 3** is the heater current. **Load 4** is used for other loads greater than 1.0 ampere and can be considered zero for most standard products.

For Nailor Variable Air Volume Units, **Load 1** and **Load 2** are considered zero.

Load 3 is the heater current **Load 4** is used for other loads greater than 1.0 ampere and can be considered zero for most standard products.

(Motor currents are determined by product application test in accordance with UL 1995 and may not be the same as the motor manufacturer's FLA marking.)

All formulae, definitions, and exceptions are cited from Underwriters Laboratories Inc. Standard for Safety for Heating and Cooling Equipment, UL 1995 Fifth Edition (Sec. 44.14.44.15) CAN/CSA-C22.2 No. 236 Fifth Edition

Table 1.

Model Series Fan Powered Terminal Units Replacement Parts

NAILOR EZVAV DIGITAL CONTROLS

Code	Description
BAC-8001-36	Controller/Actuators: EZVAV Digital Controller (SD Clg only) EZVAV Digital Controller (SDRH, FP) EZVAV Digital Controller (DD master) EZVAV Digital Controller (DD slave)
BAC-8005-36	
BAC-8007-36	
TSP-8001-36	
STE-8001W36	Room Temperature Sensors: EZVAV Room Temp Sensor – Digital display EZVAV Room Temp Sensor – Digital display w/ motion sensor EZVAV Room Temp Sensor – Rotary dial
STE-8201W36	
STE-6014W36	
ECRJ45-25	Ethernet cable RJ-45, 25 ft.
ECRJ45-35	Ethernet cable RJ-45, 35 ft.
ECRJ45-50	Ethernet cable RJ-45, 50 ft.
ECRJ45-75	Ethernet cable RJ-45, 75 ft.
STE-1401	Air temp. sensor (HCCO, DAT)

ELECTRIC CONTROLS - Transformers

Code	Description	Part Number
V2072	120 to 24 v. 40VA - foot mount	H1-0669
V2073	- 4" x 4" elec. box	
V2074	208/240 to 24 v. 40VA - foot mount	H1-0671
V2075	277 to 24 v. 40VA - foot mount	H1-0675
V2076	24 to 24 v. 50VA - foot mount	H1-0673

ELECTRICAL COMPONENTS

RAPP Code	Description	Part Number
Disconnect Switches		
EC-DISTG251P	Toggle Disconnect Switch 1P,600V,25A	H1-0212A
EC-DISTG403P	Toggle Disconnect Switch 3P,600V,40A	H1-0220Z
EC-DISTG603P	Toggle Disconnect Switch 3P,600V,60A	H1-0221Z
EC-DISINT25A	Interlocking Disconnect Switch 3P,600V,25A	H1-0215Z
EC-DISINT40A	Interlocking Disconnect Switch 3P,600V,40A	H1-0216Z
EC-DISINT60A	Interlocking Disconnect Switch 3P,600V,60A	H1-0217Z
EC-DISINTHDL	Interlocking Disconnect Handle	H1-0215C
EC-DISINTSFT	Interlocking Disconnect Shaft	H1-0215D
Contactors		
EC-CONM50A1P	Contactors MAG 1P,600V,40Amp	H1-0635
EC-CONM40A1P	Contactors MAG 1P,600V,40Amp	H1-0636
EC-CONM30A1P	Contactors MAG 1P,600V,20Amp	H1-0654
EC-CONM50A2P	Contactors MAG 2P,600V,40Amp	H1-0658
EC-CONM40A2P	Contactors MAG 2P,600V,30Amp	H1-0655
EC-CONM30A2P	Contactors MAG 2P,600V,20Amp	H1-0652
EC-CONM50A3P	Contactors MAG 3P,600V,40Amp	H1-0640
EC-CONM40A3P	Contactors MAG 3P,600V,30Amp	H1-0639
EC-CONM30A3P	Contactors MAG 3P,600V,20Amp	H1-0653
SCR/SSR		
EC-SCR	SCR Elect. Heat controller, 600V, 1ph, 45A	H1-2064
EC-SSR	SSR Elect. Heat controller, 600V, 1ph, 45A	H1-2082
ECM Motor Wiring harness		
EC-HARNESS1	Wiring Harness, Card to ECM. 16 Pin	H1-1104
EC-HARNESS2	Wiring Harness Power to Motor. 5 Pin	H1-1101
EC-HARNESS3	0-10 VDC wiring harness, 2 Pin	H1-1921
EC-HARNESS4	0-10 VDC wiring harness, 4 Pin, 2W	H1-1921A
	0-10 VDC wiring harness, 4 Pin, 4W	H1-1921H
Transformers		
EC-TRANS120A	Transformer 120V,24V,50VA	H1-0692
EC-TRANS208A	Transformer 208-240V,24V,50VA	H1-0685
EC-TRANS277A	Transformer 277V,24V,50VA	H1-0674
EC-TRANS480A	Transformer 480V,24V,50VA	H1-0686
EC-TRANS2424	Isolation Transformer 24V,24V,50VA	H1-0673
EC-TRANSB	Transformer 120V/208/240/480 to 24V,75VA	H1-0689
EC-TRANS277B	Transformer 277V,24V,75VA	H1-0677
MISC		
EC-AFSW	Airflow Switch	H1-0236A
EC-AFSWPB	Airflow Switch Probe 4"	H1-0242
EC-AFSWPBL	Airflow Switch Probe 6"	H1-1924
EC-AUTOLMTSW	Auto Temp. LMT Switch	H1-0006
EC-MANLMTSW	Manual Temp. LMT Switch	H1-0805
EC-FANRELAY	Fan Relay 24V	H1-0666

Model Series Fan Powered Terminal Units Replacement Parts

FILTERS

Model 35S Basic Unit Side Inlet & Q Boot option

Unit Size	RAPP Code	Description	Part Number
1, 2	VH1-0998	Filter 1" 10x12	H1-0998
	VH1-0998B	Filter 2" MERV8 10x12	H1-0998B
3	VH1-0196	Filter 1" 14x16	H1-0196
	VH1-0196C	Filter 2" MERV8 14x16	H1-0196C
4,5	VH1-0199	Filter 1" 16x16	H1-0199
	VH1-3184	Filter 2" MERV8 16x16	H1-3184
6	VH1-1529	Filter 1" 17x18	H1-1529
	VH1-1529B	Filter 2" MERV8 17x18	H1-1529B
7	VH1-0196	Filter 1" 14x16	H1-0196 (2)
	VH1-0196C	Filter 2" MERV8 14x16	H1-0196C (2)

Model 35S Basic Unit Top Inlet

Unit Size	RAPP Code	Description	Part Number
1, 2	VH1-0196	Filter 1" 14x16	H1-0196
	VH1-0196C	Filter 2" MERV8 14x16	H1-0196C
3	VH1-0199	Filter 1" 16x16	H1-0199
	VH1-3184	Filter 2" MERV8 16x16	H1-3184
4,5	VH1-0979	Filter 1" 16x25	H1-0979
	VH1-3167	Filter 2" MERV8 16x25	H1-3167
6	VH1-0200	Filter 1" 18x28	H1-0200
	VH1-3246	Filter 2" MERV8 18x28	H1-3246
7	VH1-0979	Filter 1" 16x25	H1-0979 (2)
	VH1-3167	Filter 2" MERV8 16x25	H1-3167 (2)

Model 35SST Stealth

Unit Size	RAPP Code	Description	Part Number
1, 2	VH1-0974	Filter 1" 10x14	H1-0974
	VH1-2055A	Filter 2" MERV8 10x14	H1-2055A
3	VH1-0977	Filter 1" 12x18	H1-0977
	VH1-1966B	Filter 2" MERV8 12x18	H1-1966B
4	VH1-0196	Filter 1" 14x16	H1-0196
	VH1-0196C	Filter 2" MERV8 14x16	H1-0196C
5	VH1-0975	Filter 1" 14x18	H1-0975
	VH1-1434B	Filter 2" MERV8 14x18	H1-1434B
6	VH1-0197	Filter 1" 18x19	H1-0197
	VH1-0197C	Filter 2" MERV8 18x19	H1-0197C
7	VH1-0928	Filter 1" 14x14	H1-0928 (2)
	VH1-1966A	Filter 2" MERV8 14x14	H1-1966A (2)

Model Series 35SXC

Unit Size	RAPP Code	Description	Part Number
1	VH1-3457	Filter 1" 6x14	H1-3457
3	VH1-2901	Filter 1" 6x18	H1-2901
5	VH1-2902	Filter 1" 12x20	H1-2902

Model 37S Basic Unit

Unit Size	RAPP Code	Description	Part Number
1	VH1-0997	Filter 1" 8x10	H1-0997
	VH1-0997B	Filter 2" MERV8 8x10	H1-0997B
2,3	VH1-0203	Filter 1" 10x18	H1-0203
	VH1-2056A	Filter 2" MERV8 10x18	H1-2056A
4	VH1-0974	Filter 1" 10x14	H1-0974 (2)
	VH1-2055A	Filter 2" MERV8 10x14	H1-2055A (2)

Model 37SST Stealth

Unit Size	RAPP Code	Description	Part Number
1	VH1-0201	Filter 1" 9x11	H1-0201
	VH1-0201B	Filter 2" MERV8 9x11	H1-0201B
2,3	VH1-0202	Filter 1" 11x12	H1-0202
	VH1-2020A	Filter 2" MERV8 11x12	H1-2020A
4	VH1-0974	Filter 1" 10x14	H1-0974 (2)
	VH1-2055A	Filter 2" MERV8 10x14	H1-2055A (2)

Model 35N Basic Unit & Q Boot Option

Unit Size	RAPP Code	Description	Part Number
2	VH1-1282	Filter 1" 13x26	H1-1282
	VH1-1282B	Filter 2" MERV8 13x26	H1-1282B
3	VH1-1283	Filter 1" 17x27	H1-1283
	VH1-1283D	Filter 2" MERV8 17x27	H1-1283D
5	VH1-1284	Filter 1" 17x33	H1-1284
	VH1-1284B	Filter 2" MERV8 17x33	H1-1284B
6	VH1-1285	Filter 1" 19x35	H1-1285
	VH1-1285B	Filter 2" MERV8 19x35	H1-1285B

Model 37N

Unit Size	RAPP Code	Description	Part Number
2	VH1-2254A	Filter 1" 11x14	H1-2254A
	VH1-2255M	Filter 2" MERV8 11x14	H1-2255M
3	VH1-2254B	Filter 1" 11x18	H1-2254B
	VH1-2255N	Filter 2" MERV8 11x18	H1-2255N
4	VH1-2254C	Filter 1" 11x21	H1-2254C
	VH1-2255P	Filter 2" MERV8 11x21	H1-2255P

Model Series Fan Powered Terminal Units Replacement Parts

EPIC ECM MOTORS

Model 35S(ST)

Unit Size	RAPP Code	Description	Part Number	Program
1	MTR35SECMS1	ECM Motor 35S(ST), Size 1, 120V	H1-3146	35S(ST-XC)-1-120V
1	MTR35SECMS1	ECM Motor 35S(ST), Size 1, 277-208V	H1-2267A	35S(ST-XC)-1-277V
2	MTR35SECMS2	ECM Motor 35S(ST), Size 2, 120-277V	H1-2267A	35S_Size2_ALL
3	MTR35SECMS3	ECM Motor 35S(ST), Size 3, 120-277V	H1-2269A	35S_35S-SIZES3-ADSR-REV1
4	MTR35SECMS4	ECM Motor 35S(ST), Size 4, 120-277V	H1-2269A	35S_4ADSR
5	MTR35SECMS5	ECM Motor 35S(ST), Size 5, 120-277V	H1-2270A	35S_5ADSR
6	MTR35SECMS6	ECM Motor 35S(ST), Size 6, 120-277V	H1-2271A	35S_6ADSR
7	MTR35SECMS7	ECM Motor 35S(ST), Size 7, 120-277V	H1-2270A	35S_7ADSR

Model 35N

Unit Size	RAPP Code	Description	Part Number	Program
2	MTR35NECMS2	ECM Motor 35N, Size 2, 120-277V	H1-2267A	35N_Size2_ALL_E
3	MTR35NECMS3	ECM Motor 35N, Size 3, 120-277V	H1-2267A	35N_Size3_ALL_E
5	MTR35NECMS5	ECM Motor 35N, Size 5, 120-277V	H1-2270A	35N_Size5_ALL_E
6	MTR35NECMS6	ECM Motor 35N, Size 6, 120-277V	H1-2270A	35N_Size6_ALL_E

Model Series 35SXC

Unit Size	RAPP Code	Description	Part Number	Program
1	MTR35XECMS1A	ECM Motor 35SXC, Size 1, 120V	H1-3146	35S(ST_XC)_1_120V.ECM
1	MTR35XECMS1B	ECM Motor 35SXC, Size 1, 277V	H1-3145	35S(ST_XC)_1_277V.ECM
3	MTR35XECMS3	ECM Motor 35SXC, Size 3, 120-277V	H1-3098	35SXC-3 HEB.ECM_Application
5	MTR35XECMS5	ECM Motor 35SXC, Size 5, 120-277V	H1-3099	35SXC-5 HEB.ECM_Application

Model 37S(ST)

Unit Size	RAPP Code	Description	Part Number	Program
1	MTR37SECMS1A	ECM Motor 37S(ST), Size 1, 120-277V	H1-2705	37S_Size1_All_R2
2	MTR37SECMS2A	ECM Motor 37S(ST), Size 2, 120V	H1-2706	37S_Size2_120
2	MTR37SECMS2B	ECM Motor 37S(ST), Size 2, 208-277V	H1-2705	37S_Size2_277
3	MTR37SECMS3	ECM Motor 37S(ST), Size 3, 120-277V	H1-2269UA	37S_Size3_ADSR
4	MTR37SECMS4	ECM Motor 37S(ST), Size 4, 120-277V	H1-2267A	37S_Size4_All_R2

Model 37N

Unit Size	RAPP Code	Description	Part Number	Program
2	MTR37NECMS2	ECM Motor 37N, Size 2, 120-277V	H1-2267A	37N_2ADS2
3	MTR37NECMS3	ECM Motor 37N, Size 3, 120-277V	H1-2267A	37N_3ADSR
4	MTR37NECMS4	ECM Motor 37N, Size 4, 120-277V	H1-2269UA	37N_Size4_ALL_R2

Model Series Fan Powered Terminal Units Replacement Parts

PSC MOTORS

Model 35S(ST)

Unit Size	RAPP Code	Description	Part Number	Capacitor
1,2	MTR35SPSCS1A	PSC 35S, Size 1&2, 1/10 HP, 120V+Cap	H1-2584	H1-0875
1,2	MTR35SPSCS1B	PSC 35S, Size 1&2, 1/10 HP, 208V+Cap	H1-2585	H1-0875
1,2	MTR35SPSCS1C	PSC 35S, Size 1&2, 1/10 HP, 277V+Cap	H1-2586	H1-0875
3	MTR35SPSCS3A	PSC 35S, Size 3, 1/4 HP, 120V+Cap	H1-2590S	H1-0878
3	MTR35SPSCS3B	PSC 35S, Size 3, 1/4 HP, 208V+Cap	H1-2591S	H1-0878
3	MTR35SPSCS3C	PSC 35S, Size 3, 1/4 HP, 277V+Cap	H1-2592S	H1-0878
4	MTR35SPSCS4A	PSC 35S, Size 4, 1/3 HP, 120V+Cap	H1-2593	H1-0877
4	MTR35SPSCS4B	PSC 35S, Size 4, 1/3 HP, 208V+Cap	H1-2594	H1-0876
4	MTR35SPSCS4C	PSC 35S, Size 4, 1/3 HP, 277V+Cap	H1-2595	H1-0876
5,7	MTR35SPSCS5A	PSC 35S, Size 5&7, 1/2 HP, 120V+Cap	H1-2596S	H1-0877
5,7	MTR35SPSCS5B	PSC 35S, Size 5&7, 1/2 HP, 208V+Cap	H1-2597S	H1-0876
5,7	MTR35SPSCS5C	PSC 35S, Size 5&7, 1/2 HP, 277V+Cap	H1-2598S	H1-0876
6	MTR35SPSCS6A	PSC 35S, Size 6, 3/4 HP, 120V+Cap	H1-2599	H1-0877
6	MTR35SPSCS6B	PSC 35S, Size 6, 3/4 HP, 208V+Cap	H1-2600	H1-0877
6	MTR35SPSCS6C	PSC 35S, Size 6, 3/4 HP, 277V+Cap	H1-2601	H1-0877

Model 35N

Unit Size	RAPP Code	Description	Part Number	Capacitor
2	MTR35NPSCS2A	PSC 35N, Size 2, 1/10 HP, 120V+Cap	H1-2584	H1-0875
2	MTR35NPSCS2B	PSC 35N, Size 2, 1/10 HP, 208V+Cap	H1-2585	H1-0875
2	MTR35NPSCS2C	PSC 35N, Size 2, 1/10 HP, 277V+Cap	H1-2586	H1-0875
3	MTR35NPSCS3A	PSC 35N, Size 3, 1/4 HP, 120V+Cap	H1-2590S	H1-0878
3	MTR35NPSCS3B	PSC 35N, Size 3, 1/4 HP, 208V+Cap	H1-2591S	H1-0878
3	MTR35NPSCS3C	PSC 35N, Size 3, 1/4 HP, 277V+Cap	H1-2592S	H1-0878
5	MTR35NPSCS5A	PSC 35N, Size 5, 1/2 HP, 120V+Cap	H1-2596S	H1-0877
5	MTR35NPSCS5B	PSC 35N, Size 5, 1/2 HP, 208V+Cap	H1-2597S	H1-0876
5	MTR35NPSCS5C	PSC 35N, Size 5, 1/2 HP, 277V+Cap	H1-2598S	H1-0876
6	MTR35NPSCS6A	PSC 35N, Size 6, 3/4 HP, 120V+Cap	H1-2599	H1-0877
6	MTR35NPSCS6B	PSC 35N, Size 6, 3/4 HP, 208V+Cap	H1-2600	H1-0877
6	MTR35NPSCS6C	PSC 35N, Size 6, 3/4 HP, 277V+Cap	H1-2601	H1-0877

Model 37S(ST)

Unit Size	RAPP Code	Description	Part Number	Capacitor
2	MTR37SPSCS2A	PSC 37S, Size 2, 1/6 HP, 120V+Cap	H1-2589S	H1-0875
2	MTR37SPSCS2B	PSC 37S, Size 2, 1/6 HP, 208V+Cap	H1-2588	H1-0875
2	MTR37SPSCS2C	PSC 37S, Size 2, 1/6 HP, 277V+Cap	H1-2587	H1-0875
3,4	MTR37SPSCS3A	PSC 37S, Size 3&4, 1/4 HP, 120V+Cap	H1-2590S	H1-0878
3,4	MTR37SPSCS3B	PSC 37S, Size 3&4, 1/4 HP, 208V+Cap	H1-2591S	H1-0878
3,4	MTR37SPSCS3C	PSC 37S, Size 3&4, 1/4 HP, 277V+Cap	H1-2592S	H1-0878

Model 37N

Unit Size	RAPP Code	Description	Part Number	Capacitor
2	MTR37NPSCS2A	PSC 37N, Size 2, 1/6 HP, 120V+Cap	H1-2589S	H1-0875
2	MTR37NPSCS2B	PSC 37N, Size 2, 1/6 HP, 208V+Cap	H1-2588	H1-0875
2	MTR37NPSCS2C	PSC 37N, Size 2, 1/6 HP, 277V+Cap	H1-2587	H1-0875
3	MTR37NPSCS3A	PSC 37N, Size 3, 1/4 HP, 120V+Cap	H1-2590S	H1-0878
3	MTR37NPSCS3B	PSC 37N, Size 3, 1/4 HP, 208V+Cap	H1-2591S	H1-0878
3	MTR37NPSCS3C	PSC 37N, Size 3, 1/4 HP, 277V+Cap	H1-2592S	H1-0878
4	MTR37NPSCS4A	PSC 35N, Size 4, 1/2 HP, 120V+Cap	H1-2596S	H1-0877
4	MTR37NPSCS4B	PSC 35N, Size 4, 1/2 HP, 208V+Cap	H1-2597S	H1-0876
4	MTR37NPSCS4C	PSC 35N, Size 4, 1/2 HP, 277V+Cap	H1-2598S	H1-0876

Model Series Fan Powered Terminal Units Replacement Parts

WATER COILS

Model 35SW(ST)

Unit size	RAPP code	Description	Part Number
1,2	V35SHWC12	HW Coil 35S 1 Row, Size 1,2	H1-0986
3	V35SHWC13	HW Coil 35S 1 Row, Size 3	H1-0987
4,5	V35SHWC15	HW Coil 35S 1 Row, Size 4,5	H1-0988
6	V35SHWC16	HW Coil 35S 1 Row, Size 6	H1-0989
7	V35SHWC17	HW Coil 35S 1 Row, Size 7	H1-0055
1,2	V35SHWC22	HW Coil 35S 2 Row, Size 1,2	H1-0925
3	V35SHWC23	HW Coil 35S 2 Row, Size 3	H1-0926
4,5	V35SHWC25	HW Coil 35S 2 Row, Size 4,5	H1-0927
6	V35SHWC26	HW Coil 35S 2 Row, Size 6	H1-0990
7	V35SHWC27	HW Coil 35S 2 Row, Size 7	H1-0056
1,2	V35SHWC32	HW Coil 35S 3 Row, Size 1,2	H1-0942
3	V35SHWC33	HW Coil 35S 3 Row, Size 3	H1-0943
4,5	V35SHWC35	HW Coil 35S 3 Row, Size 4,5	H1-0944
6	V35SHWC36	HW Coil 35S 3 Row, Size 6	H1-0945
7	V35SHWC37	HW Coil 35S 3 Row, Size 7	H1-1038

Model 35SXCW

Unit size	RAPP code	Description	Part Number
1	V35SHWC12	HW Coil 35S 1 Row, Size 1	H1-0986
3	V35SHWC13	HW Coil 35S 1 Row, Size 3	H1-0987
5	V35SHWC15	HW Coil 35S 1 Row, Size 5	H1-0988
1	V35SHWC22	HW Coil 35S 2 Row, Size 1	H1-0925
3	V35SHWC23	HW Coil 35S 2 Row, Size 3	H1-0926
5	V35SHWC25	HW Coil 35S 2 Row, Size 5	H1-0927
1	V35SHWC32	HW Coil 35S 3 Row, Size 1	H1-0942
3	V35SHWC33	HW Coil 35S 3 Row, Size 3	H1-0943
5	V35SHWC35	HW Coil 35S 3 Row, Size 5	H1-0944

Model 35NW

Unit Size	RAPP Code	Description	Part Number
2	V35NHWC12	HW Coil 35N 1 Row, Size 2	H1-1251
3	V35NHWC13	HW Coil 35N 1 Row, Size 3	H1-1254
5	V35NHWC15	HW Coil 35N 1 Row, Size 5	H1-1257A
6	V35NHWC16	HW Coil 35N 1 Row, Size 6	H1-1260
2	V35NHWC22	HW Coil 35N 2 Row, Size 2	H1-1252
3	V35NHWC23	HW Coil 35N 2 Row, Size 3	H1-1255
5	V35NHWC25	HW Coil 35N 2 Row, Size 5	H1-1258
6	V35NHWC26	HW Coil 35N 2 Row, Size 6	H1-1261
2	V35NHWC32	HW Coil 35N 3 Row, Size 2	H1-1253
3	V35NHWC33	HW Coil 35N 3 Row, Size 3	H1-1256
5	V35NHWC35	HW Coil 35N 3 Row, Size 5	H1-1259
6	V35NHWC36	HW Coil 35N 3 Row, Size 6	H1-1262

Model 37NW

Unit Size	RAPP Code	Description	Part Number
2	V37NHWC12	HW Coil 37N 1 Row, Size 2	H1-2163
3	V37NHWC13	HW Coil 37N 1 Row, Size 3	H1-2165
4	V37NHWC14	HW Coil 37N 1 Row, Size 4	H1-2167
2	V37NHWC22	HW Coil 37N 2 Row, Size 2	H1-2164
3	V37NHWC23	HW Coil 37N 2 Row, Size 3	H1-2166
4	V37NHWC24	HW Coil 37N 2 Row, Size 4	H1-2168

Model 37SW(ST)

Unit Size	RAPP Code	Description	Part Number
1	V37SHWC11	HW Coil 37S 1 Row, Size 1	H1-0091
2,3	V37SHWC13	HW Coil 37S 1 Row, Size 2,3	H1-0094
4	V37SHWC14	HW Coil 37S 1 Row, Size 4	H1-0097
1	V37SHWC21	HW Coil 37S 2 Row, Size 1	H1-0092
2,3	V37SHWC23	HW Coil 37S 2 Row, Size 2,3	H1-0095
4	V37SHWC24	HW Coil 37S 2 Row, Size 4	H1-0098
1	V37SHWC31	HW Coil 37S 3 Row, Size 1	H1-0093
2, 3	V37SHWC33	HW Coil 37S 3 Row, Size 2,3	H1-0096
4	V37SHWC34	HW Coil 37S 3 Row, Size 4	H1-0099

FUSE/FUSE BLOCKS

RAPP Code	Description	Part Number
EC-FSBLK1PA	Fuseblock, 1P, 250V, 30A	H1-0016
EC-FSBLK1PB	Fuseblock, 1P, 250V, 60A	H1-0263
EC-FSBLK1PC	Fuseblock, 1P, 600V, 30A	H1-0973
EC-FSBLK1PD	Fuseblock, 1P, 600V, 60A	H1-0269A
EC-FSBLK2PA	Fuseblock, 2P, 250V, 30A	H1-0920
EC-FSBLK2PC	Fuseblock, 2P, 600V, 30A	H1-0264
EC-FSBLK2PD	Fuseblock, 2P, 600V, 60A	H1-0269B
EC-FSBLK3PA	Fuseblock, 3P, 250V, 30A	H1-0265
EC-FSBLK3PB	Fuseblock, 3P, 250V, 60A	H1-0266
EC-FSBLK3PC	Fuseblock, 3P, 600V, 30A	H1-0268
EC-FSBLK3PD	Fuseblock, 3P, 600V, 60A	H1-0269
EC-FUS250V15	Fuse, 250V, 15A	H1-0320A
EC-FUS250V20	Fuse, 250V, 20A	H1-0321A
EC-FUS250V25	Fuse, 250V, 25A	H1-0322A
EC-FUS250V30	Fuse, 250V, 30A	H1-0323A
EC-FUS250V35	Fuse, 250V, 35A	H1-0324A
EC-FUS250V40	Fuse, 250V, 40A	H1-0325A
EC-FUS250V45	Fuse, 250V, 45A	H1-0326A
EC-FUS250V50	Fuse, 250V, 50A	H1-0327A
EC-FUS250V60	Fuse, 250V, 60A	H1-0328A
EC-FUS600V15	Fuse, 600V, 15A	H1-0329A
EC-FUS600V20	Fuse, 600V, 20A	H1-0330A
EC-FUS600V25	Fuse, 600V, 25A	H1-0331A
EC-FUS600V30	Fuse, 600V, 30A	H1-0332A
EC-FUS600V35	Fuse, 600V, 35A	H1-0333A
EC-FUS600V40	Fuse, 600V, 40A	H1-0334A
EC-FUS600V45	Fuse, 600V, 45A	H1-0335A
EC-FUS600V50	Fuse, 600V, 50A	H1-0336A
EC-FUS600V60	Fuse, 600V, 60A	H1-0337A

Model Series Fan Powered Terminal Units Replacement Parts

BLOWERS AND WHEEL

Model Series 35S(ST) and 35SXC

Unit Size	RAPP Code	Location	Description	Part Number
1	BLW1809X	OL, OR	Blower, 7x7, .5, CW, Dual Inlet (H1-2361 + H1-2361A + H1-2361B + H1-2547):	4 parts below:
1	BLW2361	OL, OR	Blower, Wheel	H1-2361
1	BLW2361A	OL, OR	Blower, Inlet Ring	H1-2361A
1	BLW2361B	OL, OR	Blower, Housing, Beckett 625C, 8.25	H1-2361B
1	BLW2547	OL, OR	Blower, Inlet Ring	H1-2547

Model Series 35S(ST)

Unit Size	RAPP Code	Location	Description	Part Number
2	BLW0902AX	OL, OR	Blower, 9X7T, .5, CW, Dual Inlet	H1-0902AX
3	BLW0900X	OL, OR	Blower, 9X7R, .5, CW, Dual Inlet	H1-0900X
4	BLW1983X	OL, OR	Blower, 9X9R, .5, CW, Dual Inlet	H1-1983X
5	BLW0903X	OL, OR	Blower, 10X10T, .5, CW, Dual Inlet	H1-0903X
6	BLW004X	OL, OR	Blower, 10X10R, .5, CW, Dual Inlet	H1-0904X
7	BLW0903X	OL, OR	Blower, 10X10T, .5, CW, Dual Inlet	H1-0903X (2)

Model Series 35SXC

Unit Size	RAPP Code	Location	Description	Part Number
3	BLW3098	OL, OR	Blower, 9X7 w/EON Spoked Rotor, 48frame,10P,1/2HP	H1-3098
5	BLW3099	OL, OR	Blower, 10X10 w/EON Spoked Rotor,48frame,10P,3/4HP	H1-3099

Model 37S(ST)

Unit Size	RAPP Code	Location	Description	Part Number
1	BLW2730	OL, OR	Blower, 9X4R, .5, CW, Dual Inlet	H1-2730
2	BLW2731	OL, OR	Blower, 10X4R, .5, CW, Dual Inlet	H1-2731
3	BLW2427X	OL, OR	Blower, 11X4R, .5, CW, Dual Inlet	H1-2427X
4	BLW0906	OL, OR	Blower, 10X4R, .5, CW, Dual Inlet	H1-0906 (2)
2, 3	BLW0906	OL, OR	Blower, 10X4R, .5, CW, Dual Inlet	H1-0906

Model 35N

Unit Size	RAPP Code	Location	Description	Part Number
2	BLW0902AX	OL, OR	Blower, 9X7T, .5, CW, Dual Inlet	H1-0902AX
3	BLW0900ZX	OL, OR	Blower, 9X7R, .5, CW, Dual Inlet	H1-0900ZX
5	BLW0903X	OL, OR	Blower, 10X10T, .5, CW, Dual Inlet	H1-0903X
6	BLW0904X	OL, OR	Blower, 10X10R, .5, CW, Dual Inlet	H1-0904X

Model 37N

Unit Size	RAPP Code	Location	Description	Part Number
4	BLW0905AX	OL, OR	Blower, 10X6R, .5, CW, Dual Inlet	H1-0905AX
2, 3	BLW0906X	OL, OR	Blower, 10X4R, .5, CW, Dual Inlet	H1-0906X



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