COMFORT SYSTEMS USA

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Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
Little Rock, AR 72231
Phone 501-834-3320
Fax 501-834-5416

Date: 1/14/2023
Return Request: 1/30/2023
Project: ATU – Jones Hall
Supplier: Airetech
Manufacturer: Greenheck
Submittal: HVAC Power Ventilation
Submittal Number: 23 34 23-01
Drawing # and Installation: Mechanical Drawings

ARCHITECT
SCM Architects
1400 Kirk Rd. Suite 220
Little Rock, AR 72223
501-224-3055

ENGINEER
Pettit & Pettit
201 E. Markham, Suite 400
Little Rock, AR 72201
501-374-3731

GENERAL CONTRACTOR
Alessi Keyes Construction
10623 Maumelle Blvd.
N. Little Rock, AR 72113
501-225-6699

MECHANICAL SUBCONTRACTOR
Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

*EF-1 & EF-2

CSUSA PROJECT NO.
22-620
sean@comfortar.com

ALESSI KEYES CONSTRUCTION
REVIEWED FOR GENERAL COMPLIANCE
WITH CONTRACT DOCUMENTS
Charley Dawson 2/7/2023

Installation, Operation and Maintenance Manual

EQUIPMENT: **FANTECH RVF 6XL**

PROJECT: **ATU JONES HALL**
LOCATION: **Russellville, Arkansas**

MECHANICAL CONTRACTOR: **Comfort Systems USA Construction**

SUBMITTED BY: **Forrest Moseley**
Forrest@airetechcorp.com
(501) 425-6112

Job # 71022

7631 NORTHSHORE PLACE
NORTH LITTLE ROCK, ARKANSAS 72118
Voice (501)280-0404 ● Fax (501)280-9200

Installation, Operations, and Maintenance Manual
Manuel d'installation, de fonctionnement et de maintenance
Manual de instalación, funcionamiento y mantenimiento

Item #: 401452
Rev Date: 2023-03-06

RVF Series • Série RVF • Serie RVF

Exterior-Mount Fan • Ventilateur à montage extérieur •
Ventilador a mataje exterior

PARTS IN THE BOX
Exterior-Mount Fan RVF, 1 pc
Installation, Operations, and Maintenance Manual, 1 pc

PIÈCES DANS LA BOÎTE
Ventilateur à montage extérieur RVF, 1 pc
Manuel d'installation, de fonctionnement et de maintenance, 1 pc

PARTES EN LA CAJA
Ventilador a mataje exterior RVF, 1 pc
Manual de Instalación, funcionamiento y mantenimiento, 1 pc

Systemair MFG Inc. certifies that the RVF EC Series and the RVF 10, 10L, and 10XL shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211/311 and comply with the requirements of the AMCA Certified Ratings Program.

Systemair MFG Inc. certifie que les ventilateurs de la série RVF EC et la RVF 10, 10L, et 10XL décrits aux présentes portent le sceau de l'ACMA. Les caractéristiques indiquées sont fondées sur les essais et procédures effectués conformément aux publications 211 et 311 de l'ACMA, et répondent aux exigences du programme de certification des caractéristiques.

Systemair MFG Inc. certifica que los modelos de la serie RVF EC y la serie RVF 10, 10L, y 10XL que aparecen en este documento están autorizados para llevar el sello de AMCA. Las clasificaciones se basan en pruebas y procedimientos realizados de acuerdo con el documento AMCA 211 y 311 en cumplimiento con los requisitos del programa AMCA para la certificación.

United States Tel.: 800 747 1762
Canada Tel.: 800 565 3548
Latinoamérica Tel.: +52 55 1328 7328

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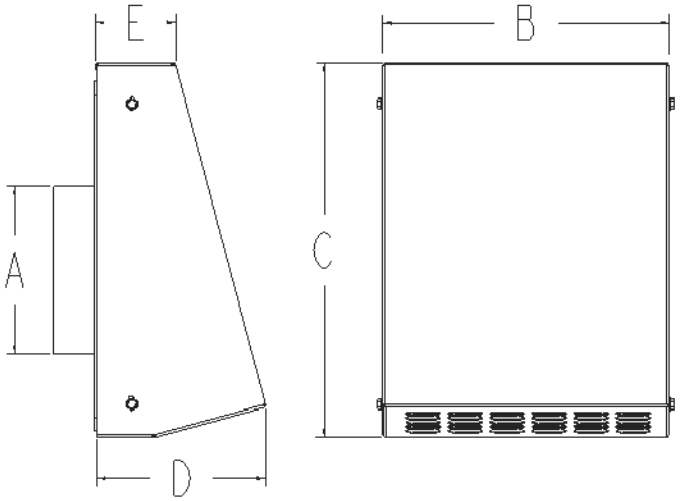
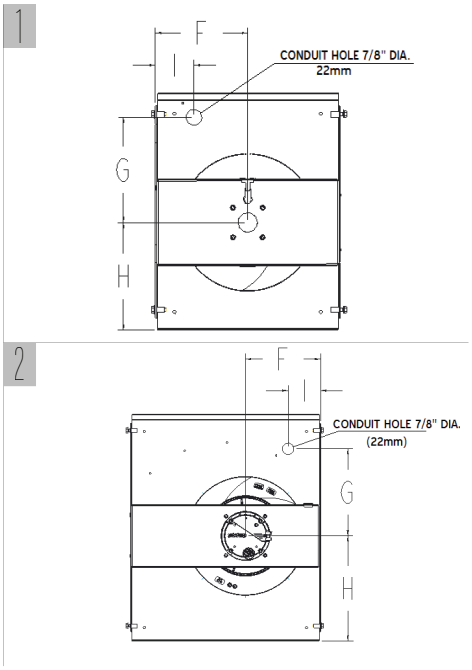
Note	Warning / Important Note	Information	Technical information	Practical tip

DIMENSIONS • DIMENSIONS • DIMENSIONES





Model • Modèle • Modelo	A	B	C	D	E	F	G	H	I
RVF 4[1]	4	10 1/4	13	6	2 3/4	5 1/8	6 1/2	4 1/16	1
RVF 4XL[1]	4	10 1/4	13	6	2 3/4	5 1/8	5 1/4	5 1/4	1
RVF 4XL-EC[1]	4	10 1/4	13	6	2 3/4	5 1/8	5 3/4	5 7/8	2 1/8
RVF 6[1]	6	10 1/4	13	6	2 3/4	5 1/8	5 1/4	5 9/32	1
RVF 6XL[1]	6	14 1/4	17	6	2 3/4	7 1/8	7 3/8	7 1/16	1
RVF 8XL[1]	8	14 1/4	17	6	2 3/4	7 1/8	7 3/8	7 1/16	1
RVF 6XL-EC[2]	6	14 1/4	17	8	4 7/8	5 5/8	6 1/2	7 13/16	2 1/2
RVF 8XL-EC[2]	8	14 1/4	17	8	4 7/8	5 5/8	6 1/2	7 13/16	2 1/2
RVF 10-EC[2]	10	17 7/8	21 1/4	10	5 7/8	7 3/8	8 1/16	9 1/8	2 3/4
RVF 10[2]	10	17 7/8	21 1/4	10	5 7/8	7 3/8	8 1/16	9 1/8	2 3/4
RVF 10L[2]	10	17 7/8	21 1/4	10	5 7/8	8 1/8	8 1/16	9 1/8	2 3/4
RVF 10XL[2]	10	17 7/8	21 1/4	10	5 7/8	8 1/8	8 1/16	9 1/8	2 3/4

Dimensions are in inches. Dimensions en pouces. Dimensiones en pulgadas.

WARNINGS

Do not connect power supply until fan is completely installed. Make sure electrical service to the fan is locked in "off" position.

1. Remove unit from packaging and inspect within 15 days after receipt. If damaged, report damage to carrier. Do NOT operate this unit with visible damage to the blower or impeller assembly.
2. All products with A/C motors installed are suitable for use with solid state speed control (example: RVF4, RVF4XL, RVF6, RVF6XL, RVF8XL, RVF10, RVF10L, & RVF10XL).
3. All products with EC motors installed can be speed controlled via 0-10V or PWM signal (potentiometer provided).
4. This unit has rotating parts and safety precautions should be exercised during installation, operation and maintenance.
5. CAUTION: "For General Ventilation Use Only. Do Not Use To Exhaust Hazardous Or Explosive Materials and Vapors."
6. **WARNING!** To reduce the risk of fire, electric shock, or injury to persons- observe the following:
   a. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
   b. Before servicing or cleaning, switch power off at the service panel and lock service panel to prevent fan from being switched on accidentally.
   c. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including firerated construction.
   d. Sufficient air flow is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent backdrafting. Follow the heating equipment manufacturer's guidelines and safety standards such as those published by the National Fire Protection Association (NFPA), the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) and the local code authorities.
   e. When cutting or drilling into a wall or ceiling, do not damage electrical wires or other hidden utilities.
   f. Ducted exhaust fans must always be vented to the outdoors.
   g. Install fan at least five feet above the floor.
   h. NEVER place a switch where it can be reached from a tub or shower.
7. **WARNING!** Check voltage at the fan to see if it corresponds to the motor nameplate.
8. Guards must be installed when this fan is within reach of personnel or within seven (7) feet of working level or when deemed advisable for safety.

ADVERTISSEMENTS

Ne pas brancher la source d'énergie avant que l'installation du ventilateur soit complète. S'assurer que le courant électrique au ventilateur soit interrompue (en position "off").

1. Retirer l'appareil de l'emballage et inspecter dans les 15 jours après la réception. Sìl est endommagé, rapporter les dommages au transporteur. Ne pas utiliser cet appareil avec des dommages visible au ventilateur ou à l'ensemble de rotor.
2. Tous les produits avec des moteurs AC installés sont adaptés pour une utilisation avec commande de vitesse à semi-conducteur.
3. La vitesse de tous les produits avec des moteurs C.E installés peut être contrôlée via 0-10V ou signal PWM.
4. Cet appareil contient des pièces rotatives et des précautions doivent être prises durant l'installation, l'opération et l'entretien.
5. ATTENTION: "Pour ventilation générale seulement. Ne pas utiliser pour l'évacuation de matériaux ou de vapeurs dangereux ou explosifs.
6. **AVERTISSEMENT!** Afin de réduire les risque d'incendie, de choc électrique ou de blessures corporelles, observer ce que suit:
   a. Utiliser seulement l'appareil tel que prévu par le fabricant. Communiquer avec le manufacturier pour toute question.
   b. Avant de procéder à l'entretien ou au nettoyage de l'appareil, interrompre le courant au panneau central et refermer la porte pour ne pas que l'on remette le courant de façon accidentelle.
   c. Les travaux d'installation et de raccordement électrique doivent être effectués par des personnes qualifiées conformément aux codes et normes applicables, y compris les codes de protection contre les incendies.
   d. L'apport d'air de combustion requis pour le fonctionnement sécuritaire d'équipement à combustion pourrait être affecté par le fonctionnement de cet appareil. Respecter le guide du fabricant pour équipement de chauffage ainsi que les normes de sécurité telles que celles qui sont publiées par la National Fire Protection Association (NFPA), l'American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), ainsi que les autorités locales.
   e. En taillant ou en perforant les murs et les plafonds, attention de ne pas endommager les fils électriques ou autres appareils dissimulés.
   f. Les ventilateurs d'extraction canalisés doivent toujours être évacués vers l'extérieur.
   g. Installer le ventilateur à au moins cinq pieds du plancher.
   h. NE JAMAIS installer un interrupteur où il pourrait être accessible d'un bain ou d'une douche.
7. **AVERTISSEMENT!** Vérifier le voltage au ventilateur afin de voir s'il correspond à l'indication sur la plaque du moteur.
8. Des barrures de sécurité doivent être installés lorsque le ventilateur sera accessible par du personnel, s'il est situé dans un rayon d'au moins sept pieds de l'aire de travail, ou lorsque considéré nécessaire aux fins de sécurité.

ADVERTENCIAS

No conecta la alimentación eléctrica hasta tanto quede el ventilador totalmente instalado. Compruebe que la alimentación eléctrica del ventilador este asegurada en la posición "off" (desactivado).

1. Remueva la unidad del empaque e inspecciónela dentro de los 15 días de su recibo. Si está dañada, reporte el daño al transportador. NO opere esta unidad con daños visibles al conjunto del ventilador o del impulsor.
2. Todos los productos con motores A/C instalados son adecuados para su uso con control de velocidad de estado sólido. (por ejemplo, RVF4, RVF4XL, RVF6, RVF6XL, RVF8XL, RVF10, RVF10L, & RVF10XL).
3. Todos los productos con motores EC instalados pueden ser de velocidad controlada vía 0-10V o señal PWM (potenciómetro provisto).
4. Esta unidad tiene piezas rotativas; se deben tomar precauciones de seguridad durante la instalación, operación y mantenimiento.
5. PRECAUCIÓN: "Sólo para Uso General de Ventilación. No Utilizar para Extraer Materiales y Vapores Peligrosos o Explosivos".
6. **ADVERTENCIA!** Para reducir el riesgo de incendio, conmoción eléctrica o lesiones personales, observe lo siguiente:
   a. Sólo utilice esta unidad en al forma contemplada por el fabricantes. Si tiene cualquier pregunta, diríjase a la fábrica.
   b. Antes de hacerle ningún mantenimiento o limpieza a la unidad, desconecte la alimentación en el tablero de control y ciérrelo con ilave para impedir que se active accidentalmente.
   c. Los trabajos de instalación y cableado deben ser realizados por personal calificado conforme todos los códigos y normas del caso incluso construcción contra incendios.
   d. Hay que proveer un caudal suficiente de aire para la debida combustión y desalojo de gases a través de la chimenea de los equipos quemadores de combustible para evitar la contracorriente. Guíese por las indicaciones y normas de seguridad del fabricante, tales como las publicadas por la National Fire Protection Association (NFPA-Asociación Nacional de Incendios) y la American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE-Sociedad Americana de Ingenieros de Calefacción, Refrigeratión y Aire Acondicionado), así como las autoridades competentes de la localidad.
   e. Al cortar o perforar paredes y techos, tena cuidado de no dañar el cableado eléctrico y demás servicios ocultos.
   f. Los extractores de aire siempre deben ventilarse el exterior.
   g. Instálese por lo menos a 152 cm por encima del piso.
   h. JAMAS coloque un interruptor donde pueda alcanzarse desde una bañera o ducha.
7. **ADVERTENCIA**! Compruebe la tension de línea a la entrada del ventilador, para verificar que corresponda al voltaje de placa del motor.
8. Hay que instalar guardas donde quiera que se instale el ventilador al alcance del personal, si se encuentra a menos de 213 cm del piso de trabajo, o bien cuando se considere necesario por motivos de seguridad.

Fan Installation

Step 1
When selecting the fan mounting location, the following criteria should be considered: a) type of application; b) proximity to fresh air intakes; c) sound created by fan operation.

a. For dryer boosting applications, fan must be mounted a minimum of 12 linear feet from the dryer outlet. If the fan is mounted closer than the recommended 12 feet, it will develop enough pressure to pull wet lint through the duct system causing buildup on the impeller and clogging of the vents in the discharge cover.

To prevent the possibility of fire hazards when using a booster fan in conjunction with a gas fired dryer, booster fan flow must not exceed the dryer fan capacity. Typical resident dryer fans produce 160 cfm.

For range venting applications, sufficient access for periodic cleaning of exhausted grease from the wall and fan discharge cover should be provided.

In order to minimize operational noise, only the RVF4 should be used for direct, through-the-wall, systems. The larger units (RVF4XL,RVF8XL) should only be used in conjunction with ducted systems.

b. With any exhaust system, the fan should be located a minimum of 6 feet horizontally and 8 feet vertically from any fresh air intakes for HVAC systems, heat recovery systems, etc. to prevent re-entrainment of exhaust air streams. Windows that are frequently opened during moderate seasons may also be considered fresh air intakes.
c. Although system noise at the point of exhaust will be virtually silent, windows and other structural openings may be sources for noise entry during fan operation. Proximity to windows and openings should be considered.

Select the location on the exterior wall where the fan is to be mounted. Make a hole through the wall that is 1/2" larger than the diameter of the fan duct connection collar. A short piece of rigid duct (not included) approximately 2" longer than the wall thickness is recommended for use as an extension through the wall.

Step 2
Remove the four screws securing the white fan discharge cover and remove the cover. Place the fan against the wall, as centered as possible on the wall opening, then mark the location of the four backplate mounting holes and the electrical knockout. Drill a hole for the electrical service that is 1/8" larger than the size of conduit to be used. A 1" diameter electrical service opening is provided on the fan backplate (see dimensional drawing on Page 1). When mounting the fan on a masonry wall, drill 7/32" holes for the four anchors and mounting screws (provided). Tap the anchors flush into the holes. When mounting the fan on a wood surface, wood screws should be used.

If the fan is to be mounted on a wall surface which is Lapped Siding, a mounting frame made from 1x1 board may be necessary for a flush fit (see I-2).

Step 3
Before mounting the fan, bring the electrical supply through the wall. Attach the extension collar to the fan duct connection collar. The connection should be as air tight as possible to prevent leakage from the wall cavity. Apply a generous amount of polyurethane caulk to the exterior side of the fan housing backplate (except the bottom so that water that leaked in can drain back out). This will ensure an airtight/waterproof connection between the fan and the wall surface. If a mounting frame is used in conjunction with lapped siding, be certain to apply a generous amount of caulk between the frame and the wall as well as the fan backplate and the frame. Mount the fan to the wall.

Be certain to make an airtight seal around all interior wall penetrations before attaching duct work.

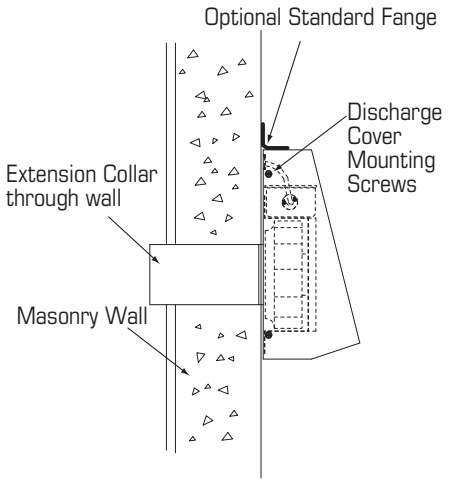


Figure 1

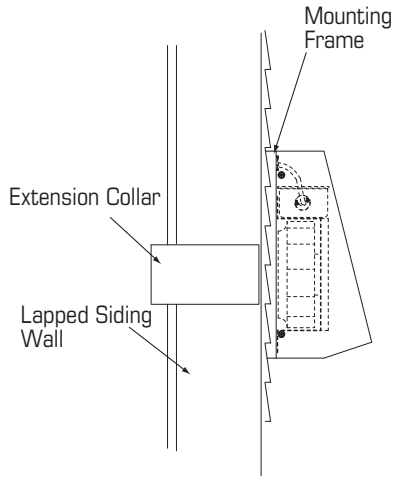


Figure 2

For use with DB10 Pressure Switch

See DB10 Pressure Switch installation manual for complete installation instructions

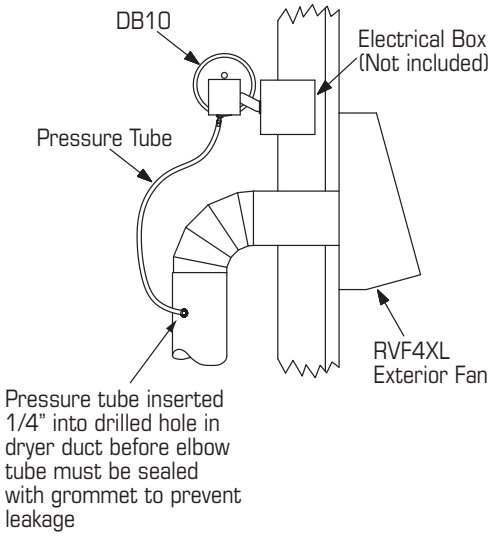


Figure 3

Wiring Instructions

Step 1.
Remove the screws securing the terminal box cover plate. The wiring compartment is located out of the air stream on the back side of the scroll (figure 4, 5, & 6). The RVF series is factory wired to the terminal block. Except for the supply power installation, no additional field wiring is necessary.

Step 2.
A 3/8-inch romex cable clamp (not supplied) is needed to secure the incoming power supply to the exhaust fan (see illustration on figure 4, 5, & 6). Begin by installing the romex cable clamp through the conduit hole (figure 4, 5, & 6). Thread the nut on the connector until firmly tight. Route the power supply cable through the romex clamp. The field wiring locations are indicated below and are labeled 'L' for line voltage (black wire), 'N' for neutral (white wire), and GND for ground (green wire). Firmly secure each incoming wire to the proper terminal post using a small flat head screw driver. CAUTION - maximum terminal block screw torque is 7lb-in (0.79 Nm).

Step 3.
Secure the power cable by tightening the romex clamp and replace the fan terminal box cover.

Figure 4 – Models: RVF4, RVF4XL, RVF6, RVF6XL, RVF8XL

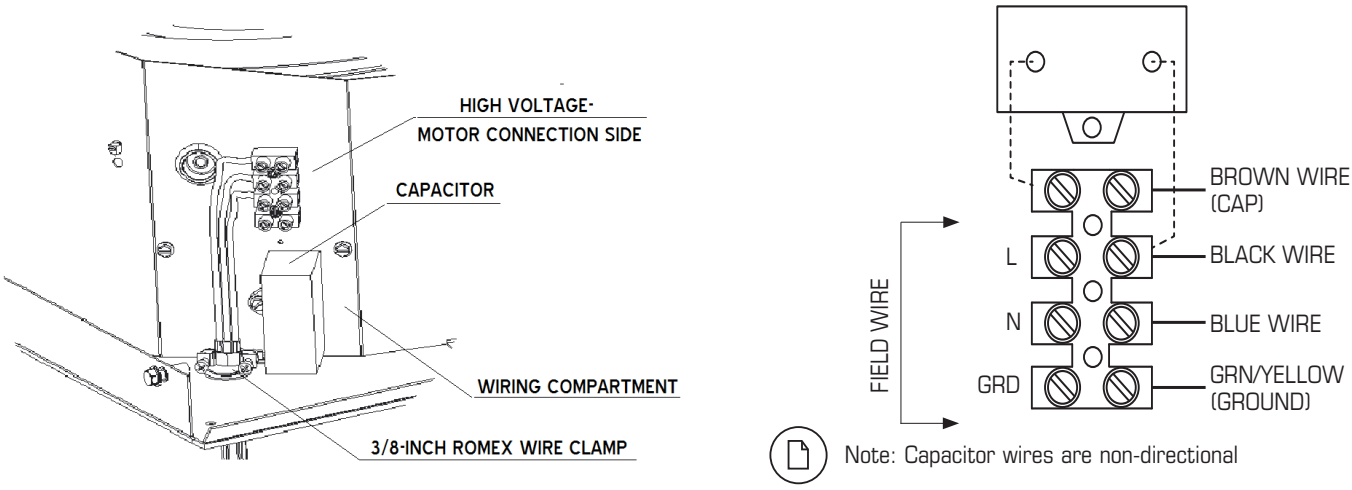


Figure 5 – Models: RVF10, RVF10L, RVF10XL

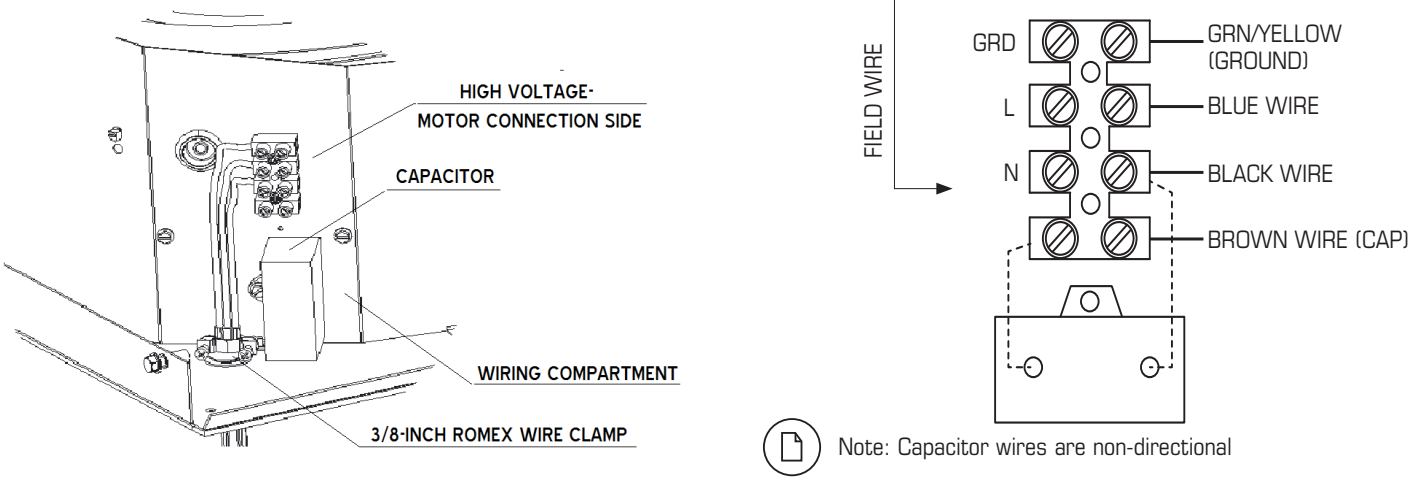
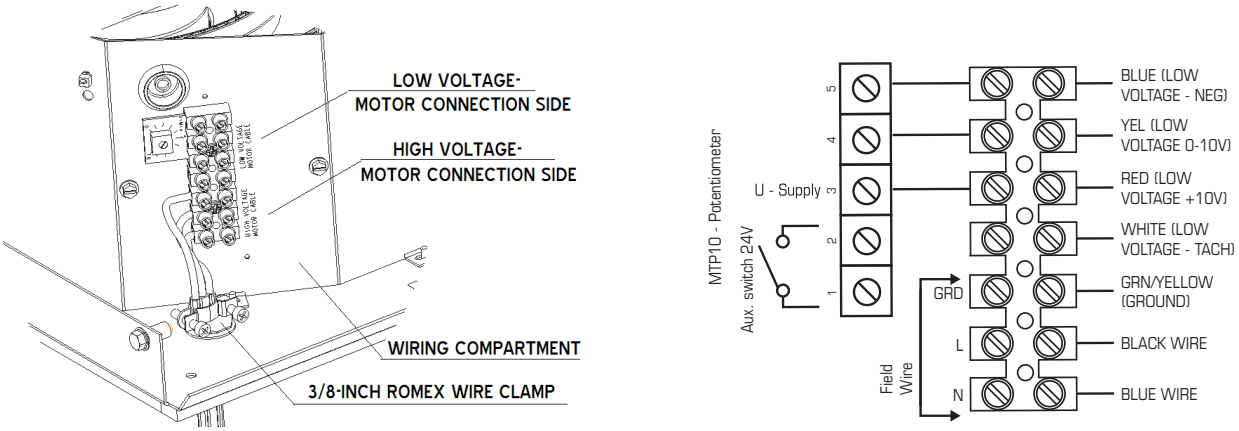


Figure 6 – Models: RVF4XL-EC, RVF6XL-EC, RVF8XL-EC, RVF10XL-EC



Alternate Control Options: Products Containing EC Motors

Connection to Building Management System

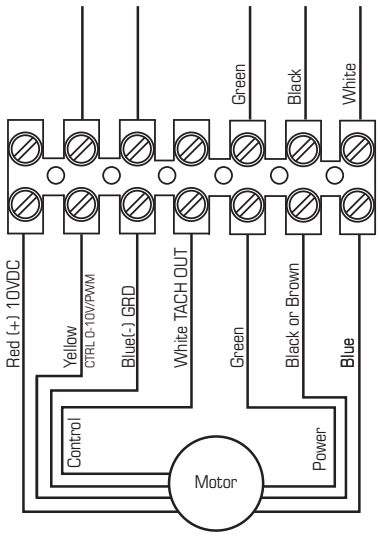


Figure 7

External Motor Speed Controller

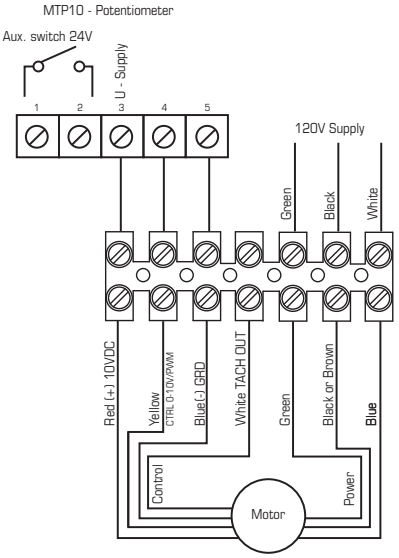


Figure 8

For applications such as multi bathroom exhaust where multi location switching is desired, refer to figure 8 for proper wiring.

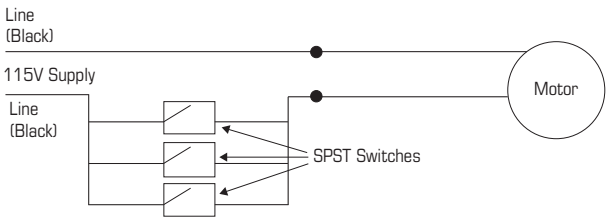


Figure 9

Troubleshooting

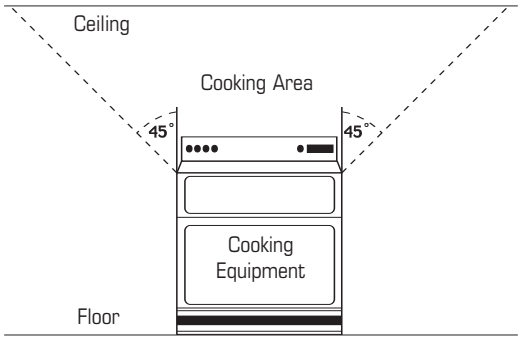
If fan fails to operate, please check the following:

1. Consult wiring diagrams (page four of these instructions) to ensure proper connection.
2. Check motor lead wiring, capacitor leads and incoming supply leads to ensure definite contact.
3. If possible, use a meter to test for continuity across the fan motor leads. In order to do this, the capacitor must be disconnected (do not test the capacitor it will not meter continuity). If motor leads show continuity, consult manufacturer for a replacement capacitor.

Maintenance

1. Since fan bearings are sealed and provided with an internal lubricating material, no additional lubrication is necessary.
2. When using in a dryer boosting application, DISCONNECT POWER SUPPLY and check impeller periodically for lint buildup.

No other maintenance is necessary.



For installations in which the fan is connected to a range hood, or if an exhaust grill connected to the fan is located above or near the cooking surface, as shown, be sure to observe the following safety warning:

WARNING
TO REDUCE THE RISK OF FIRE, USE ONLY METAL DUCTWORK.

(Use only galvanized steel ductwork)
Use only galvanized steel ductwork in accordance with all applicable codes.
(Note: If the fan is not connected to a range hood, or a grill in the vicinity of the cooking surface, other approved ducting may be used. Check your local codes.)

WARNING

TO REDUCE THE RISK OF A RANGE TOP GREASE FIRE:

A. Never leave surface units unattended at high settings. Boilovers cause smoking and greasy spillovers that may ignite. Heat oils slowly on low or medium settings.
B. Always turn hood ON when cooking at high heat or when flambeing food (i.e. Crepes Suzette, Cherries Jubilee, Peppercorn Beef Flambé').
C. Clean ventilating fans frequently. Grease should not be allowed to accumulate on fan or filter.
D. Use proper pan size. Always use cookware appropriate for the size of the surface element.

WARNING

TO REDUCE THE RISK OF INJURY TO PERSONS IN THE EVENT OF A RANGE TOP GREASE FIRE, OBSERVE THE FOLLOWING:

A. SMOTHER FLAMES with a close-fitting lid, cookie sheet, or metal tray, then turn off the burner. BE CAREFUL TO PREVENT BURNS. If the flames do not go out immediately, EVACUATE AND CALL THE FIRE DEPARTMENT.
B. NEVER PICK UP A FLAMING PAN – You may be burned
C. DO NOT USE WATER, including wet dishcloths or towels – a violent steam explosion will result.
D. Use an extinguisher ONLY if:
1. You know you have a Class ABC extinguisher, and you already know how to operate it.
2. The fire is small and contained in the area where it started.
3. The fire department is being called.
4. You can fight the fire with your back to an exit.

Installation du ventilateur

Étape 1
Pour choisir l'emplacement du ventilateur, considérer les points suivants: a) le type d'application; b) la proximité des sources d'air frais; c) la propagation du bruit.

a. Pour agir comme appoint d'une sécheuse, le ventilateur DOIT être installé à au moins 12 pieds de la sortie de la sécheuse. Si le ventilateur est installé à moins des douze pieds recommandés, il produira suffisamment de pression pour retirer la charpie à travers le système de conduits causant ainsi une accumulation sur l'impulseur et l'obstruction des évents dans le couvercle de la bouche d'évacuation.

Afin d'éviter tout danger d'incendie lors de l'utilisation d'un ventilateur d'appoint avec une sécheuse à gaz, le débit du ventilateur d'appoint ne doit pas excéder la capacité du ventilateur de la sécheuse. Les ventilateurs de sécheuses résidentielles produisent habituellement 160 PCM.

Pour la ventilation d'une cuisinière, il convient de laisser suffisamment d'accès pour un nettoyage périodique de la graisse sur le mur et sur le couvercle de la bouche d'évacuation.

Afin de minimiser le bruit d'opération, seul le RVF4 devrait être utilisé comme système trans-mural direct. Les plus gros modèles (RVF4XL-RVF8XL) devraient seulement être utilisés conjointement à des systèmes de conduits.

b. Avec tout système d'évacuation, le ventilateur devrait être situé à au moins six pieds horizontalement et 8 pieds verticalement de toute entrée d'air frais pour systèmes HVAC, à récupération de chaleur, etc. afin de prévenir la réintroduction de l'air évacué. Des fenêtres que l'on ouvre souvent peuvent aussi être considérées comme des entrées d'air frais.
c. Quoique le bruit du système au point d'évacuation sera pratiquement nul. La proximité aux fenêtres et autres ouvertures doit être prise en considération dans certains cas où la conduction du bruit doit être nulle.

Choisir l'emplacement sur le mur extérieur où le ventilateur va être placé. Faire un trou dans le mur d'un demi-pouce de plus que le diamètre du collet de raccord du conduit du ventilateur. Un bout de conduit rigide (non-inclus) d'environ 2" supérieur à l'épaisseur du mur est recommandé pour servir de rallonge à travers le mur.

Étape 2
Enlever les quatre vis qui retiennent le couvercle blanc de la bouche d'évacuation et enlever le couvercle. Placer le ventilateur contre le mur en le centrant autant que possible sur l'ouverture du mur, puis indiquer l'emplacement des quatre trous pour monter la plaque arrière, ainsi que le trou d'entrée électrique (ELECTRICAL KNOCKOUT). Pour le service électrique, percer un trou de 1/8" supérieur à la grosseur de fil utilisée. Une ouverture d'un pouce de diamètre est prévue sur la plaque arrière du ventilateur pour le service électrique (voir le dessin dimensionnel à la page 1). Lorsque le ventilateur est monté sur un mur en béton, perforer des ouvertures de 7/32" pour les quatre ancrages et vis de montage (inclus). Enfoncez les ancrages complètement dans le trou. Pour placer le ventilateur dans un mur en bois, utiliser des vis pour le bois.

Si le ventilateur doit être placé sur une surface où le revêtement est gradué, un cadre en bois de 1"x1" pourrait s'avérer nécessaire pour assurer un ajustement uni. (voir figure 2).

Étape 3
Avant de placer le ventilateur, introduire la source électrique dans le mur. Rattacher le collet de rallonge au collet de raccord du conduit du ventilateur. Le raccord devrait être aussi hermétique que possible afin d'éviter tout écoulement de la cavité murale. Appliquer une quantité considérable de calfeutrage en polyuréthanne au côté extérieur de la plaque renfermant le ventilateur. Il y aura ainsi une joint étanche entre le ventilateur et la surface murale. Si un cadre en bois est utilisé conjointement avec du revêtement gradué, il faut s'assurer de bien calfeutrer l'endroit entre le support et le mur, ainsi qu'entre la plaque arrière du ventilateur et le support. Placer le ventilateur sur le mur.

S'assurer d'obtenir un scellement hermétique tout autour des ouvertures dans les murs intérieurs avant de procéder à l'installation des conduits.

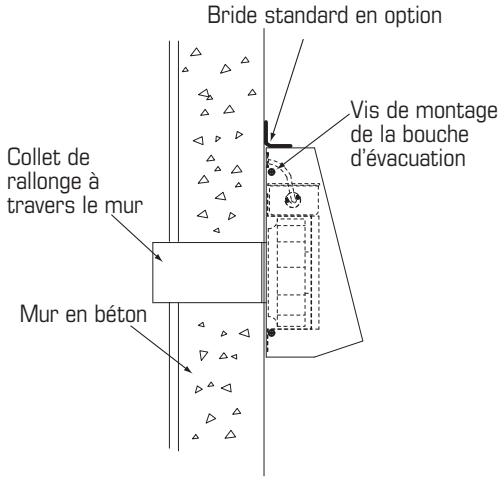


Figure 1

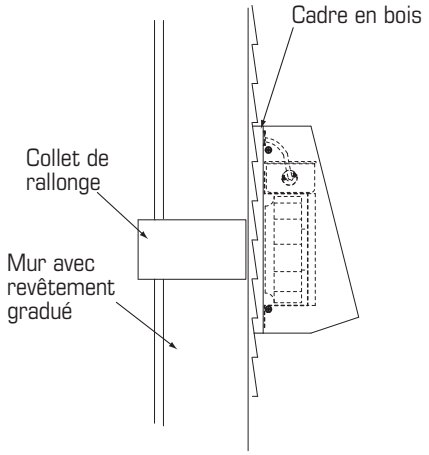


Figure 2

Pour fins d'utilisation avec le pressostat DB10

Voir manuel d'installation du Pressostat DB10 pour les instructions d'installation complètes.

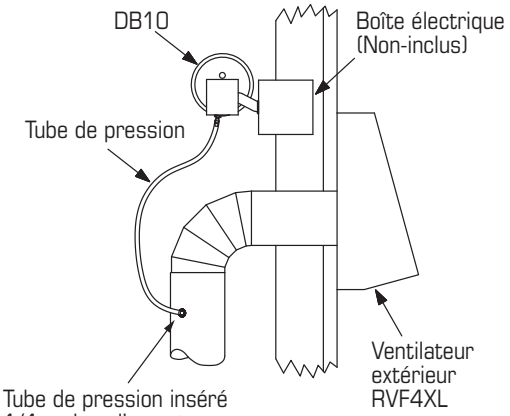


Figure 3

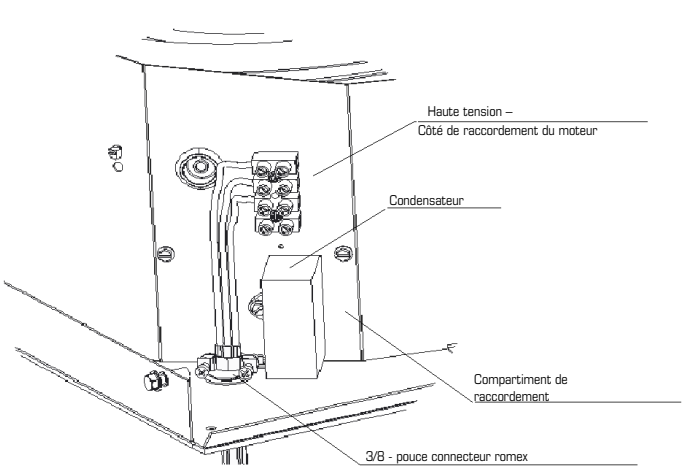
Instructions pour le raccordement

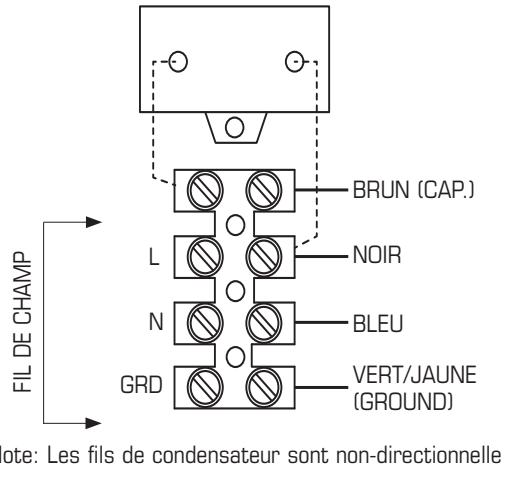
Étape 1:
Retirer les vis de fixation de la plaque de couvercle de la boîte à bornes. Le compartiment de câblage se trouve sur le flux d'air a larriere de la spirale (figures 4, 5, et 6). La série RVF est câblé en usine au bornier. Sauf pour l'installation d'alimentation en énergie, sans câblage supplémentaire ne est nécessaire.

Étape 2.
Une pince à câble de 3/8 pouce romex (non fourni) est nécessaire pour garantir l'alimentation entrant au ventilateur d'évacuation. (voir figure 4, 5 et 6). Commencez par installer la pince a cable romex a travers le trou de conduit (figures 4, 5, et 6). Visser l'écrou sur le connecteur jusqu'à fermement serré. Faites passer le câble d'alimentation à travers la pince romex. Les emplacements de câblage sont indiqués ci-dessous et sont étiquetés «L» pour la tension de ligne (fil noir), «N» pour neutre (fil blanc) et GND pour la terre (fil vert). Attachez fermement chaque fil entrant au poste terminal appropriée en utilisant un petit tournevis à tête plate. ATTENTION - maximum bornier couple de vis est 7lb-in (0.79 Nm).

Étape 3.
Fixez le câble d'alimentation en serrant la pince romex et replacez le couvercle de boîte à bornes du ventilateur.

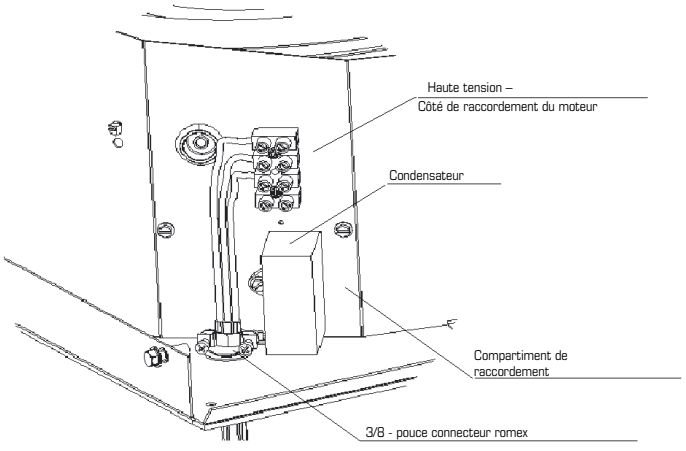
Figure 4 – Modèles: RVF4, RVF4XL, RVF6, RVF6XL, RVF8XL

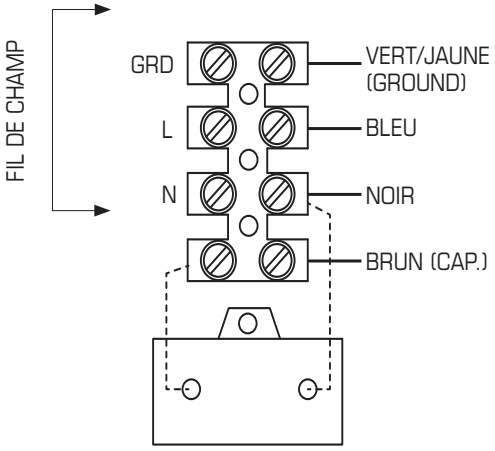




Note: Les fils de condensateur sont non-directionnelle

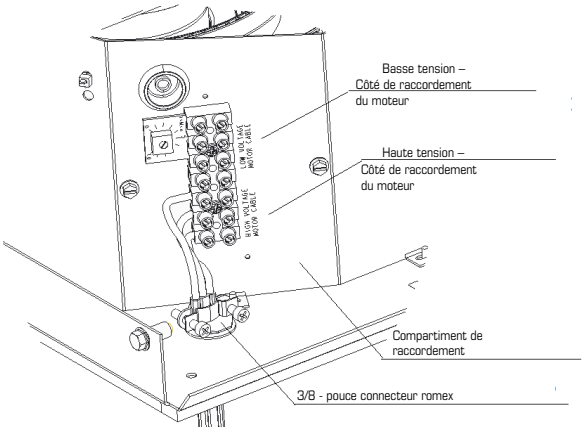
Figure 5 – Modèles: RVF10, RVF10L, RVF10XL

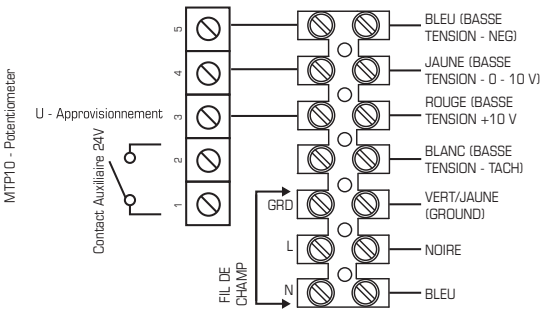




Note: Les fils de condensateur sont non-directionnelle

Figure 6 – Modèles: RVF4XL-EC, RVF6XL-EC, RVF8XL-EC, RVF10-EC





Autres option de contrôle: Les produit contenant un moteur EC

Connexion au système de gestion du bâtiment

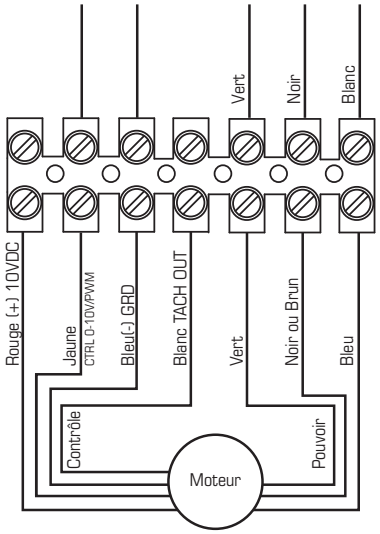


Figure 7

Rédulateur de vitesse du moteur externe

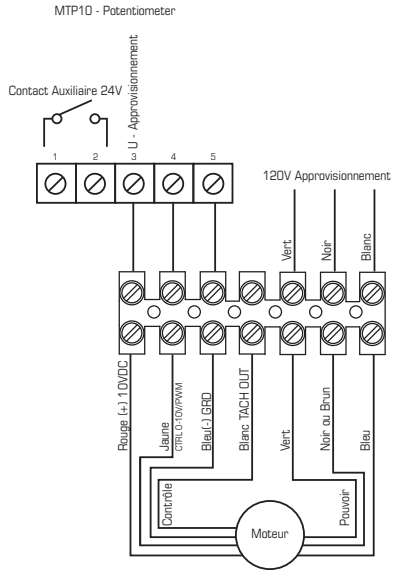


Figure 8

Pour des applications telles l'évacuation de plusieurs salles de bain ou à avec interrupteur dans multiples emplacement est désirée, reportez-vous à la figure 8 pour le raccordement approprié.

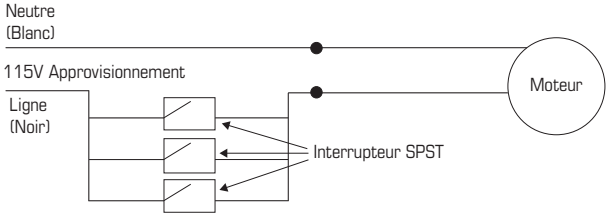


Figure 9

Dépannage

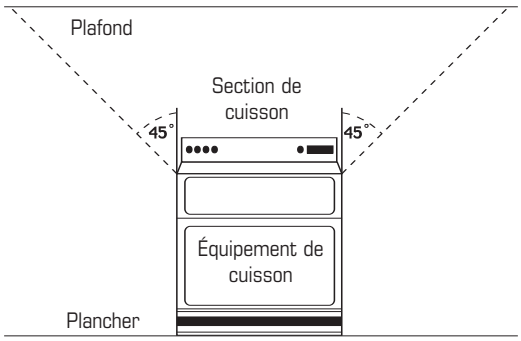
Si le ventilateur cesse de fonctionner, vérifier ce que suit:

1. Consulter le diagramme de raccordement électrique inclus afin d'assurer les bons raccords.
2. Pour assurer un contact approprié, vérifier le fil principal du moteur, les fils d'approvisionnement et les raccords du condensateur.
3. Si possible, utiliser un compteur pour vérifier la continuité entre les fils conducteurs du ventilateur. Pour ce faire, le condensateur doit être débranché (ne pas vérifier le condensateur n'indiquera pas la continuité). Si les fils conducteurs indiquent la continuité, consulter le manufacturer/distributeur pour un nouveau condensateur.

Entretien

1. Puisque les coussinets du ventilateur sont scellés et qu'ils comportent déjà un lubrifiant interne, aucune lubrification n'est nécessaire.
2. Pour utiliser comme appoint d'une sécheuse, DÉBRANCHER LE COURANT et vérifier l'impulseur de façon périodique pour vérifier sil y a accumulation de charpie.

Aucun autre entretien n'est nécessaire.



Pour une installation dans laquelle le ventilateur est raccordé à la hotte, ou pour une où une grille d'évacuation raccordée au ventilateur est située au-dessus ou près du dessus de la cuisinière, comme démontrée, suivez les directives suivantes :

AVERTISSEMENTS
AFIN D'ÉVITER LES RISQUES D'INCENDIE, UTILISEZ DES CONDUITS EN MÉTAL SEULEMENT.

(Utilisez des conduits de métal galvanisé seulement.)
Utilisez seulement des conduits de métal galvanisé conforme aux codes en vigueur.
(Veuillez noter : Si le ventilateur n'est pas raccordé à la hotte, ou la grille n'est près de la surface de la cuisinière, d'autres conduits approuvés peuvent être utilisés. Vérifiez vos codes dans votre localité.)

AVERTISSEMENTS

Pour prévenir les risques d'inflammation de la graisse sur le dessus de la cuisinière :

A. Gardez propres les ventilateurs, les filtres et les surfaces exposées à la graisse.
B. Mettez toujours la hotte en marche pendant la cuisson à haute température.
C. N'utilisez les réglages les plus élevés sur la cuisinière que s'ils sont nécessaires. Faites chauffer l'huile lentement à feu bas ou modéré.
D. Ne laissez pas la cuisinière sans surveillance pendant la cuisson.
E. Utilisez toujours une batterie de cuisine et des ustensiles appropriés à l'usage et aux quantités de nourriture voulues.

AVERTISSEMENTS

Afin d'éviter les risques de blessures en cas d'inflammation de la graisse sur le dessus de la cuisinière, respectez les directives suivantes :

A. Étouffez les flammes à l'aide d'un couvercle étanche, d'une tôle à biscuits ou d'un plateau de métal, puis fermez le bouton de réglage. Attention aux brûlures. Si les flammes ne sont pas maîtrisées immédiatement, évacuez et téléphonez au service d'incendie.
B. Ne ramassez jamais un chaudron en flammes. Vous risquez de vous brûler.
C. Ne vous servez pas d'eau, ni de lignes mouillé-cela causerait une violente explosion de vapeur.
D. Utilisez un extincteur d'incendie seulement si :
1. Vous êtes sûr de posséder un extincteur à poudre ABC et vous savez déjà vous servir.
2. C'est un petit incendie qui ne s'est pas échappé de la zone où il a commencé.
3. On est en train d'appeler le service d'incendie.
4. Vous pouvez combattre l'incendie en gardant une sortie derrière vous.

INSTALACION DEL VENTILADOR

Paso 1
Al seleccionar la ubicación del ventilador, se debe considerar lo siguiente: a) tipo de aplicación, b) proximidad a entradas de aire fresco; c) el ruido del ventilador.

a. Para aumentar el rendimiento de una secadora, hay que montar el ventilador a un minimo de 366 cm de la salida de la secadora. De montarse más cerca, el ventilador levanta suficiente presión para halar la hilacha húmeda a través del conducto, causando cúmulos en el impulsor y atascando los respiraderos en la caperuza de descarga.

Aviso Importante: Para evitar el posible riesgo de incendio, si se trata de un ventilador auxiliar para una secadora quemadora de gas, el caudal del ventilador auxiliar no puede superar el des ventilador propio de la secadora. Los ventiladores típicos de secadoras caseras mueven 4, 53 m3 de aire por minuto.

Para ventilación de cocinas se debe disponer un acceso adecuado para la limpieza periódica de grasas en la pared y en la caperuza de descarga.

Para minimizar el ruido del funcionamiento, sólo se debe emplear el RVF-4 para sistemas directos a través de la pared. Las unidades mayores (RVF-4XL-RVF8XL) sólo deben instalarse en conductos.

b. En cualquier sistema extractor, el ventilador se debe situar por lo menos a 183cm de distancia lateral y 244 cm de distancia vertical de cualquier toma de aire fresco de sistemas HVAC, sistemas de recuperación de calor, etc., para impedir la reintroducción de aire extraído. Cualquier ventana que se abra con frecuenia durante temporadas moderadas se pueden considerar también como entradas de aire fresco.

c. Aucque el ruido propio del sistema a la salida es prácticamente silensioso, puede haber otras fuentes de ruido a través de ventanas y otras aperturas estructurales que se escuchen durante la operación del ventilador. Se debe tomar en consideración la proximidad a ventanas y otras aperturas.

Seleccione el sitio en la pared exterior donde corresponde montar el ventilador. Abrale a la pared un hueco que mida 12 mm más de diámetro que el collarín adaptador del ventilador al conducto. Para la extensión a través de la pared recomendamos un tramo corto de conducto rígido (no incluido) que tenga aproximadamente 50 mm más de longitud que el ancho de la pared.

Paso 2
Desenrosque los cuatro tornillos que sostienen la caperuza blanca de descarga del ventilador y desmonte la caperuza. Coloque el ventilador contra la pared lo más centrado posible al hueco de la pared, y marque la ubicación de los cuatro agujeros de montaje de la placa de soporte trasero del ventilador, y del bocado pasacables. Perfore un agujero pasacables que mida 3mm más de diámetro que el conducto a instalar. La placa de soporte trasero del ventilador incorpora una abertura pasacables de 25 mm (ver el diagrama acotado en la Página 1). Al montar el ventilador en una pared de mamposteriá, perfore agujeros de 5,5 mm para los cuatro tornillos con sus tapones de encaje (suministrados). Inserte los tapones hasta donde queden al ras. Si se trata de montar el ventilador en una superficie de madera, se deben usar tornillos tirafondo para madera.

Si hay que montar el ventilador en una pared de tablas solapadas en el exterior, tal vez haya que construirie un marco de montaje con listones de 25x25 mm para que elmontaje quede asegurado (ver figura 2).

Paso 3
Antes de montar el ventilador, pase la acometida eléctrica a través de al pared. Fije el collarín de extensión al collarín de conexión del ventilador al conducto. La conexión debe quedar lo más hermética posible, a fin de evitar fugas desde la cavidad en la pared. Aplique una cantidad sustancial de calafateo de poliuretano a la parte exterior de la placa de soporte del ventilador. De esta manera se asegura una conexión hermética e impermeable entre el ventilador y la superficie de la pared. Si se ha usado un marco adaptador de listones para acomodar el exterior solapado, no deje de aplicar una cantidad sustancial de calafateo entre el marco y la pared así como entre la placa de soporte del ventilador y el marco. Monte el ventilador en la pared.

Antes de conectar el conducto, asegúrese de que haya un sello hermético alrededor de toda perforación de la pared interior.

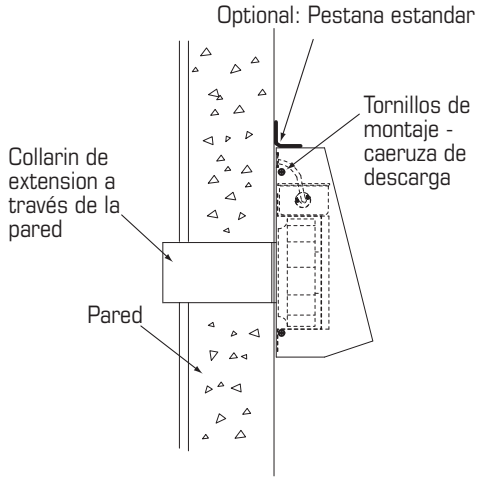


Figura 1

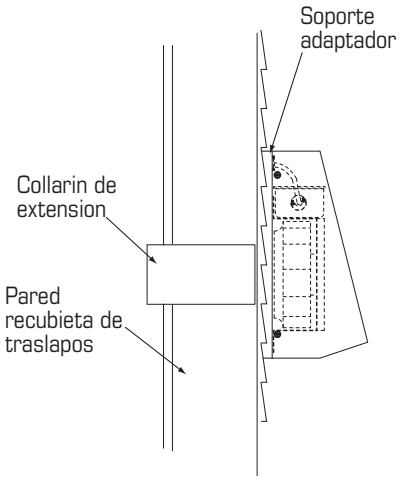


Figura 2

Para su uso con el interruptor de presión DB10

Ver la manual de instrucciones del interruptor de presión DB10 para las instrucciones completas de instalación.

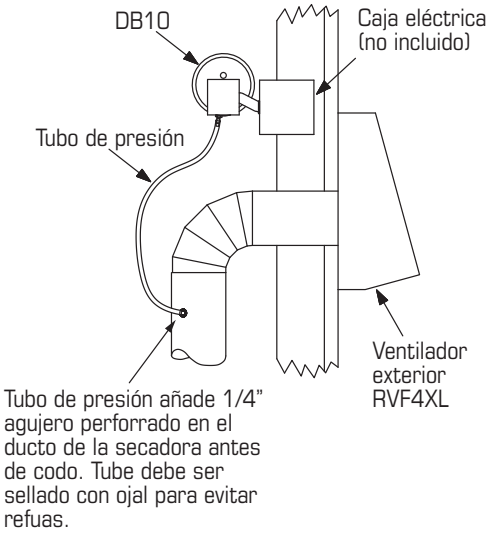


Figura 3

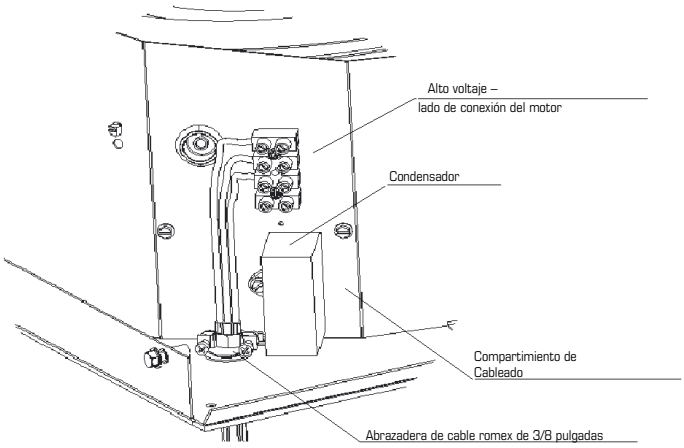
INSTRUCCIONES DE CABLEADO

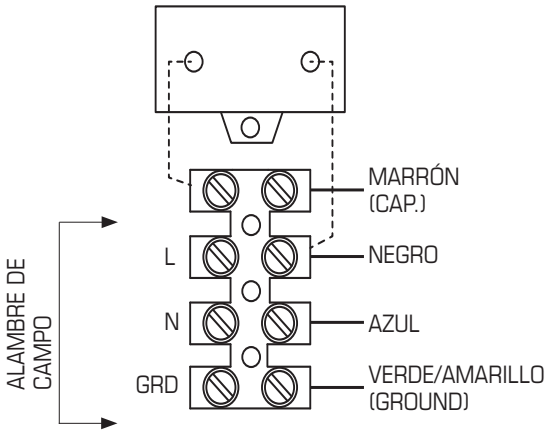
Paso 1:
Remueva los tornillos que sujetan la tapa de la caja terminal. El compartimiento del cableado esta localizado fuera de la corriente de aire en la parte posterior del desplazamiento (figura 4, 5, y 6). La serie RVF viene alambrada de fábrica al bloque terminal. Excepto para la instalación del de suministro de energía, no es necesario ningún cableado de campo adicional.

Paso 2:
Una abrazadera de cable romex de 3/8 pulgadas (no incluida) es necesaria para asegurar la alimentación entrante al ventilador de escape (ver ilustración en figuras 4, 5, y 6). Comience instalando la abrazadera de cable romex a traves del orificio del conducto (figuras 4, 5, y 6). Enrosque la tuerca al conector hasta que esté bien apretada. Pase el cable de la fuente de alimentación a través de la abrazadera romex. Las ubicaciones de cableado de campo están indicadas y etiquetadas a continuación. L para línea de voltaje (cable negro). N para neutro (cable blanco) y GND para tierra (cable verde). Asegure firmemente cada cable entrante al terminal apropiado utilizando un pequeño destornillador cabeza plana. PRECAUCION torsión del tonillo bloque terminal máxima es de 7lb (0.79 Nm).

Paso 3.
Asegure el cable de alimentación apretando la abrazadera romex y reemplace la tapa de la caja terminal del ventilador.

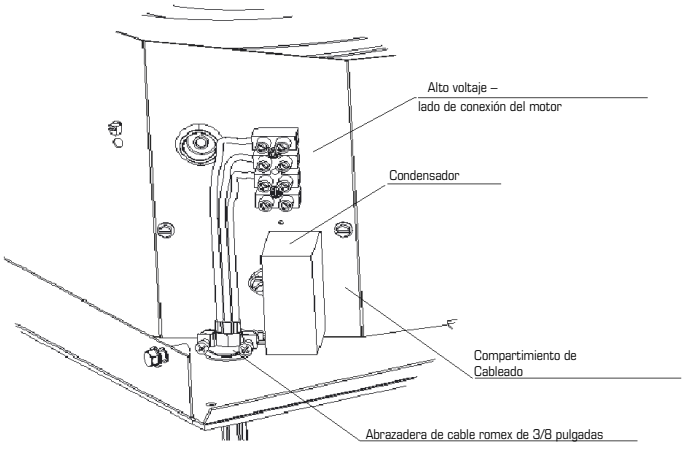
Figura 4 – Modelos: RVF4, RVF4XL, RVF6, RVF6XL, RVF8XL

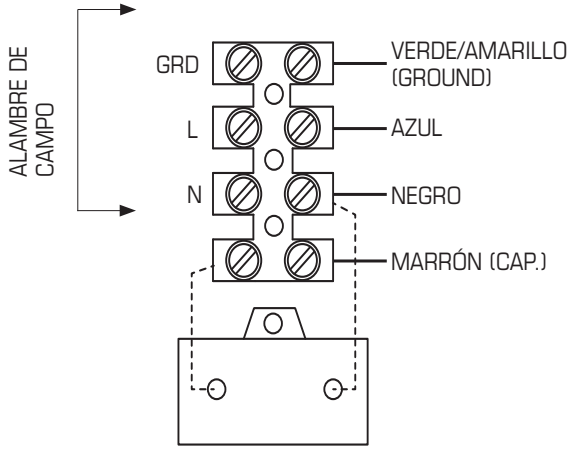




Nota: Alambres de condensador no son direccionales

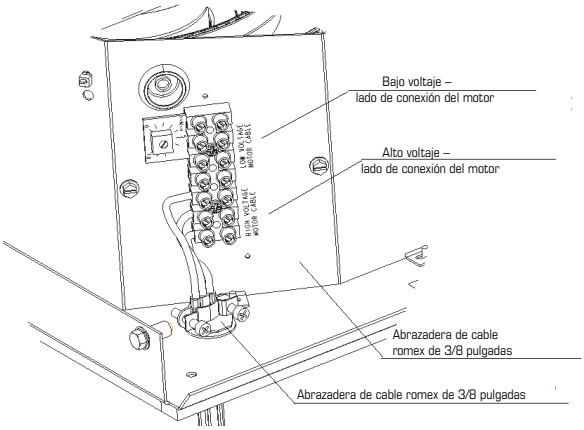
Figura 5 – Modelos: RVF10, RVF10L, RVF10XL

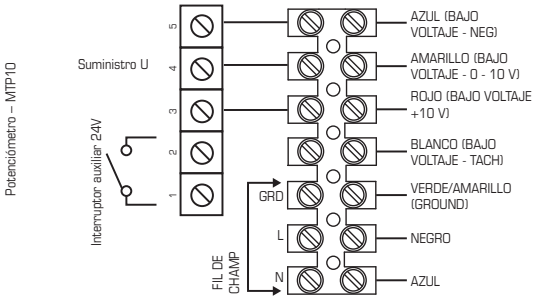




Nota: Alambres de condensador no son direccionales

Figura 6 – Modelos: RVF4XL-EC, RVF6XL-EC, RVF8XL-EC, RVF10XL-EC





Suplentes Opciones de control: Productos que contienen la EC Motors

Conexión al Sistema de Gestión de Edificios

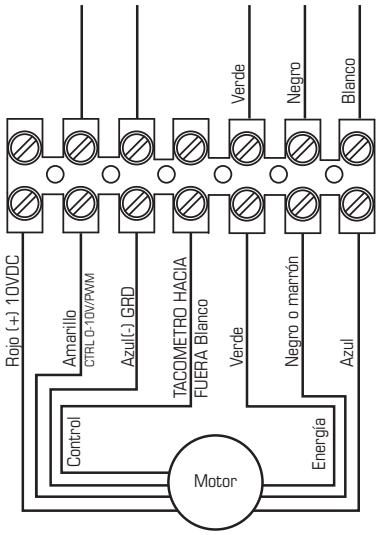


Figura 7

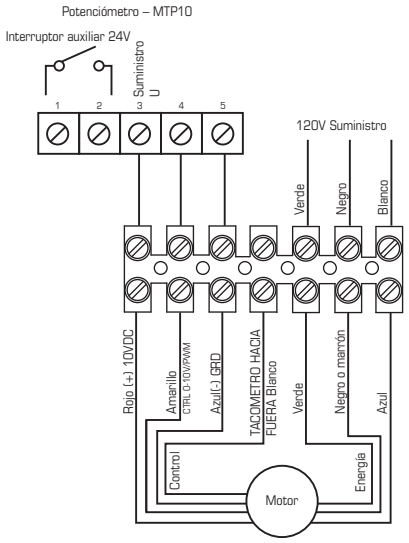


Figura 8

Para aplicaciones como multi extractor de baño donde se desea una conmutación de multi posición, refiérase a la figura 8 para el cableado apropiado.

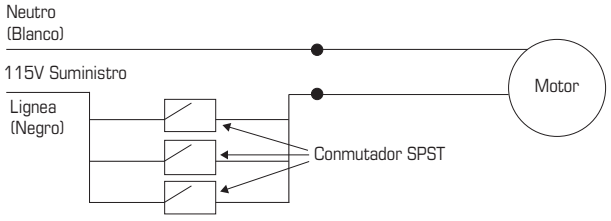


Figura 9

ANÁLISI DE FALLAS

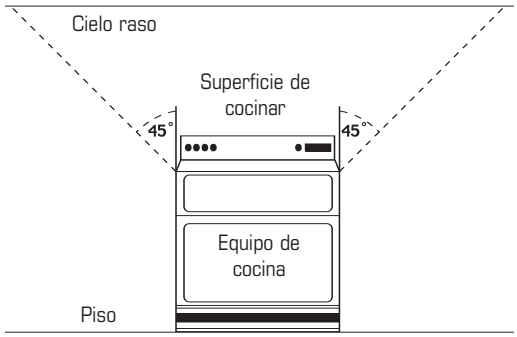
Si el ventilador deja de funcionar, favor comprobar lo siguiente:

1. Consulte los diagramas de cableadi (Página 4 de estas instruccuibes) para comprobar las conexiones correctas.
2. Para asegurar el buen contacto compruebe los cables del motor, la alimentación y las conexiones del capacitor.
3. Si es possible, use un ohmiómetro para comprobar la continuidad entre contactos del ventilador. Para ello, hay que desconectar el capacitor (no trate de comprobar el capacitor: no indica continuidad). Si los cables del motor no indican falta de continuidad, pídale un capacitor de repuesto a la fábrica.

INSTRUCCIONES DE MANTENIMIENTO

1. No hay necesidad de lubricación, ya que los rodamientos del ventilador están sellados y vienen cargados de lubricante.
2. Si el ventilador se emplea para reforzar la capacidad de una secadora, DESCONECTE LA ALIMENTACION ELECTRICA y revise el impulsor regularmente por si acumula hilacha.

No hace falta ningún otro mantenimiento.



Es imprescindible observar las siguientes medidas de seguridad en aquellas instalaciones en que el ventilador está conectado a la campana de humos, o cuando el escape del asador conectado al ventilador está situado encima o cerca de la superficie de cocina.

ADVERTENCIA
PARA REDUCIR EL RIESGO DE FUEGO, USE SOLAMENTE EN DUCTOS METÁLICOS

(Use solamente ductos de acero galvanizado)
Use solamente ductos de acero galvanizado cumpliendo con todos los códigos aplicables.
(Nota: Se pueden aprobar otros tipos de ductos, si el ventilador no está conectado a la campana de humos, o a un asador cerca de la superficie de cocina. Consulte los códigos locales y actúe de acuerdo).

ADVERTENCIA

Para reducir el riesgo de un incendio causado por grasa:

A. Mantenga el ventilador, los filtros y toda superficie limpia y libre de grasa.
B. Siempre encienda (ON) la campana de humos cuando cocina a fuego alto.
C. Regule el grado de calor de la estufa solamente cuando es necesario. Caliente aceites lentamente, poniendo el grado de calor en mediano o bajo.
D. No deje la estufa sin atender cuando hay algo cocinando.
E. Siempre use los utensilios de cocina apropiados para el tipo y cantidad de comida que se está preparando.

ADVERTENCIA

Para reducir el riesgo de lesiones personales en caso de un fuego de grasa, observe las siguientes recomendaciones:

A. Apague las llamas con una tapa bien ajustada, una pana para hornear galletas o una bandeja de metal y luego apague el quemador. Tenga mucho cuidado para evitar quemarse. Si las llamas no se apagan inmediatamente, evacue el lugar y llame a los bomberos.
B. Nunca recoja una pana o cacerola en llamas. Se puede quemar.
C. No use agua, ni trapos o toallas mojadas. Puede causar una explosión violenta de vapor.
D. Use un extintor solamente si:
1. Usted sabe que tiene un extintor Clase ABC, y sabe como funciona.
2. El fuego es pequeño y está contenido en el área donde comenzó.
3. Ya ha llamado a los bomberos
4. Usted puede combatir el fuego teniendo una salida a su espalda.

Fantech reserves the right to make technical changes.
For updated documentation please refer to www.fantech.net

Fantech se réserve le droit de faire des changements techniques. Pour de la documentation à jour, s'il vous plaît se référer au www.fantech.net

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Includes a 5y warranty. Make a scan of the code above to access Fantech's warranty in English, French, or Spanish.

If additional support is needed to retrieve the warranty, visit fantech.net; call (800) 747–1762 (US), (800) 565–3548 (Canada), or +52 55 1328–7328 (Latin America); email support@fantech.net; or mail us at 10048 Industrial Blvd, Lenexa, KS 66215 United States or at 50 Kanalläkt Way, Bouctouche, NB E4S 3M5 Canada.

Garantie the 5 ans inclue. Escanee el código más arriba para acceder a la garantía de Fantech en inglés, francés o español.

Si necesita ayuda para retirar la garantía, visite fantech.net; llame al (800) 747–1762 (EE. UU.), al (800) 565–3548 (Canadá) o al +52 55 1328–7328 (Latinoamérica); envíe un correo electrónico a: support@fantech.net; envíe un correo postal a: 10048 Industrial Blvd, Lenexa, KS 66215 Estados Unidos, o a: 50 Kanalläkt Way, Bouctouche, NB E4S 3M5 Canadá.

Incluye una garantía de 5 años. Scannez le code ci-dessus pour accéder à la garantie de Fantech en anglais, français ou espagnol.

Si vous avez besoin d'une assistance supplémentaire pour récupérer la garantie, visitez fantech.net; appelez au (800) 747-1762 (États-Unis), (800) 565-3548 (Canada) ou +52 55 1328-7328 (Amérique latine); envoyez un courriel à support@fantech.net; ou envoyez-nous un courrier à 10048 Industrial Blvd, Lenexa, KS 66215 États-Unis ou à 50 Kanalläkt Way, Bouctouche, NB E4S 3M5 Canada.

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REVIEW OF MECHANICAL SUBMITTALS

Project: Arkansas Tech University – Jones Hall
Location: Russellville, Arkansas
Date of Receipt: Wednesday, February 8, 2023
Date of Review: Tuesday, February 14, 2023
Reviewed by: Adam Kelly
Email: akelly@pettitinc.com

P&P Job No. 21-108

Signed: Adam Kelly

Checking is for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication processes or to techniques of construction; and for coordination of the work of all trades.

Item	Approval Status		Comments
Section 23 34 23 – HVAC Power Ventilators	Approved as Corrected	o	- Contractor to coordinate with kitchen hood provider and electrical contractor for exhaust hoods **EF-1** & **EF-2** electrical and controls requirements. - Contractor to coordinate color of fan shroud with architect. - Contractor to provide backdraft dampers for both kitchen hood exhaust fans **EF-1** & **EF-2**. - Contractor to coordinate all electrical requirements for **EF-3** with electrical contractor. - Contractor to coordinate all electrical and controls requirements for exhaust fan **EF-3** with electrical contractor and to closely follow manufacturer's installation instructions.

✓ ✗ o ✳

Note:

RESUBMITTAL DATA

EQUIPMENT: Fantech Exhaust Fans

TAGS: EF-1 and EF-2
For use with KH-1 and KH-2

PROJECT: ATU Jones Hall Renovation

LOCATION: Russellville, AR

ENGINEER:

CONTRACTOR:

DATE: 1/7/2023

SUBMITTED BY: Forrest Moseley
forrest@airetechcorp.com
(501) 425-6112

RVF 6XL EC Ext Centrifugal Fan

6" exterior wall exhaust fan, white, EC Motor, 120V, 1~
Item #: 44861
Variant: 120V 1~ 60Hz

The RVF 6XL EC is an exterior wall-mount fan. The fan extracts air from remotely located sources of excess humidity and/or polluted indoor areas. General application examples include large residential bathrooms and home spas, utility rooms, kitchen motorless range hoods up to 400 cfm, and residential multi-bay garages.

- Ambient noise kept outside
- Painted cover (RAL9010)
- Galvanized housing with neoprene sealer for soft mount
- Outdoor install
- High cfm/W ratio
- Excellent energy savings, especially at partial load
- Optional control via external devices outputting 0-10V signal such as temperature, occupancy sensor, gas detection, humidity, etc.
- BMS compatible
- LEED credit qualifier for green or passive house projects
- 5-year factory warranty

The RVF 6XL EC comes with a built-in 0-10V potentiometer that makes it easier to find the preferred working point without any additional wiring. The fan has built-in thermal overload protection with automatic reset, meaning no user intervention necessary. The fan motor can operate in temperatures of air up to 104°F. With the motor in the airstream, this fan provides the constant dissipation of heat build-up even at partial load that gives this fan best-in-class longevity and reliability. For the same air volume, this fan consumes considerably less energy than an AC fan of its size.

Technical parameters

Nominal data		
Voltage (nominal)	120	V
Frequency	60	Hz
Phases	1~	
Input power	69	W
Input current	0.948	A
Impeller speed	2,501	rpm
Air flow	max 409	cfm
Temperature of transported air	max 104	°F
Max temperature of transported air, when speed controlled	104	°F

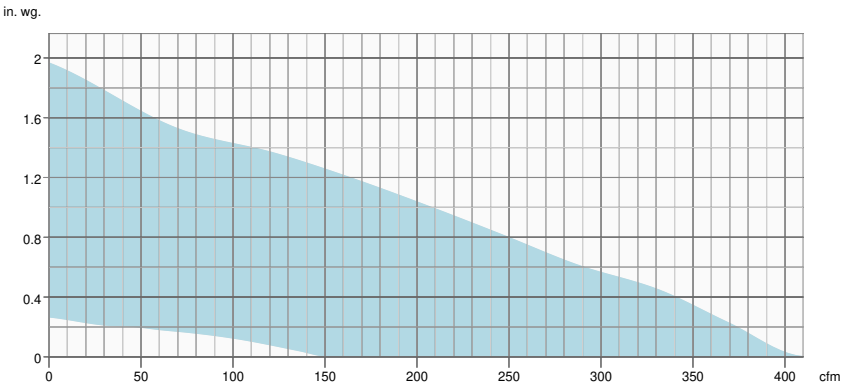
Protection/Classification		
Enclosure class, motor	IP44	
Insulation class	B	

Dimensions and weights		
Duct dimension; Circular, inlet	6	in.
Duct dimension; Circular, outlet	6	in.
Weight	16.6	lb

Optional		
Duct connection type	Circular	
Motor type	EC	

Performance

Performance curve



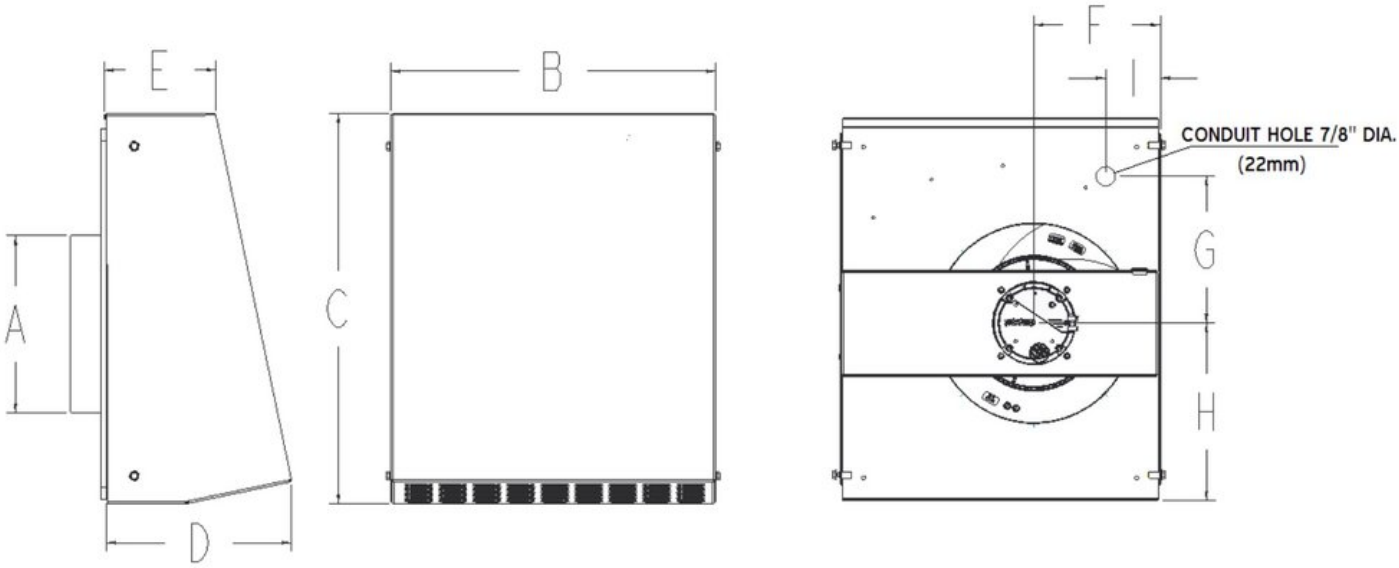
Hydraulic data	
Required air flow	-
Required static pressure	-
Working air flow	-
Working static pressure	-
Air density	0.075 lb/ft³
Power	-
Fan control - RPM	-
Current	-
Airflow efficiency	-
Control voltage	-
Supply voltage	-

Performances

CFM Table

Model	0" Ps	0.2" Ps	0.4" Ps	0.6" Ps	0.8" Ps	1.0" Ps	1.5" Ps
RVF 4XL EC	255	220	209	190	170	155	108
RVF 6XL EC	409	362	328	284	244	208	95
RVF 8XL EC	572	470	433	392	348	290	160
RVF 10 EC	925	830	766	698	611	505	100

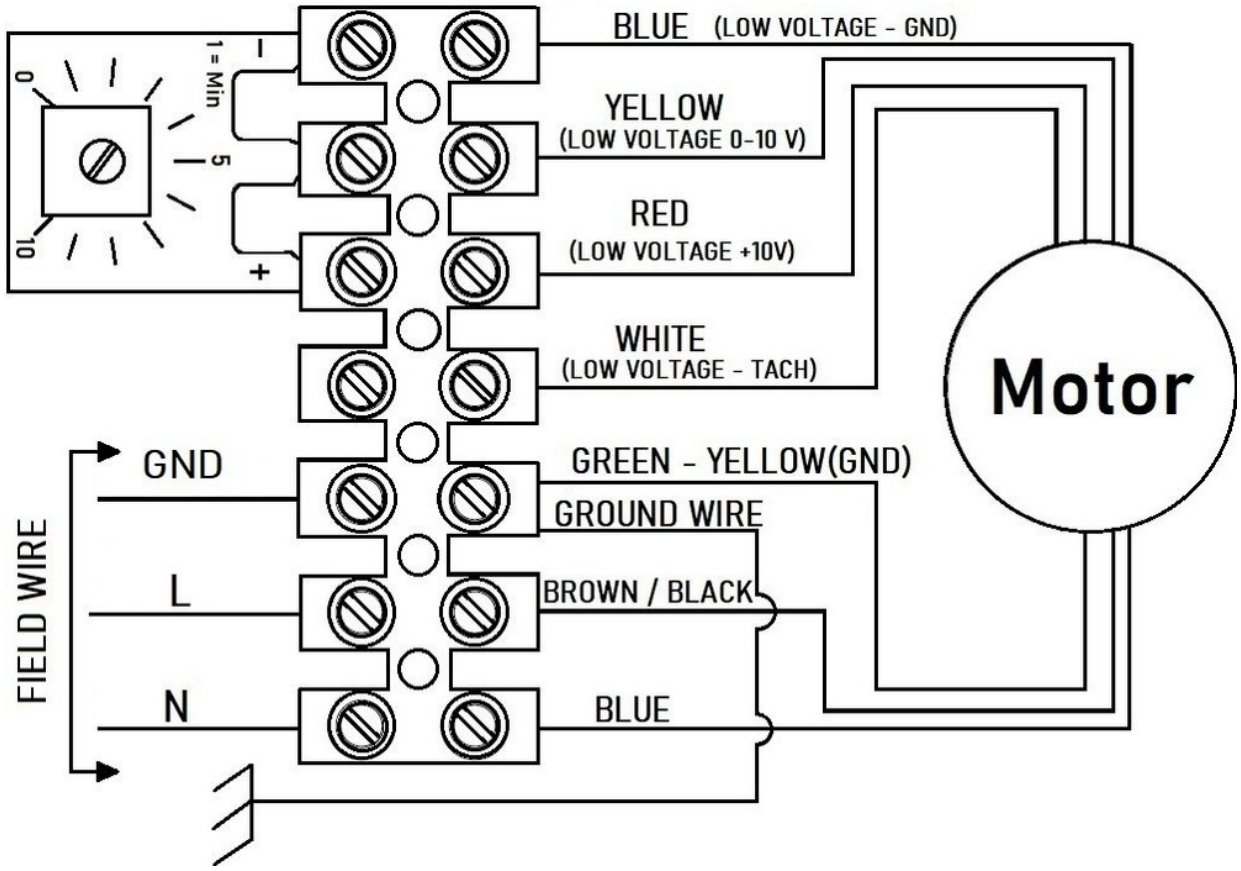
Dimensions



Model	A	B	C	D	E	F	G	H	I
RVF 4XL EC	4 (102)	10 1/4 (260)	13 (330)	6 (152)	2 3/4 (70)	5 1/8 (130)	5 3/4 (146)	5 7/8 (149)	2 1/8 (54)
RVF 6XL EC	6 (152)	14 1/4 (362)	17 (432)	8 (203)	4 7/8 (124)	5 5/8 (143)	6 1/2 (165)	7 13/16 (198)	2 1/2 (63)
RVF 8XL EC	8 (203)	14 1/4 (362)	17 (432)	8 (203)	4 7/8 (124)	5 5/8 (143)	6 1/2 (165)	7 13/16 (198)	2 1/2 (63)
RVF 10 EC	10 (254)	17 7/8 (454)	21 1/4 (540)	10 (254)	5 7/8 (149)	7 3/8 (188)	8 1/16 (205)	9 1/8 (232)	2 3/4 (70)

Dimensions in inches (mm)

Wiring


BLUE (LOW VOLTAGE - GND)
YELLOW
(LOW VOLTAGE 0-10 V)
RED
(LOW VOLTAGE +10V)
WHITE
(LOW VOLTAGE - TACH)
Motor
GND
GREEN - YELLOW(GND)
GROUND WIRE
FIELD WIRE
L
BROWN / BLACK
N
BLUE
0
1 = Min
5
10
I
+

Accessories

- FH 20 Dehumidistat (410727)
- FIDT 6 Insulated Flex Duct (411064)
- CG 6 Contour Grille (40309)
- MGE 6 Metal Exhaust Grill (411371)
- EC-10V Speed control (498148)
- FTD7 7-day digital timer (49792)
- RSK 6 Backdraft Damper (411114)
- FC 6 Mounting Clamps (2 pcs) (411120)
- MGS 6 Metal Supply Grill (411242)

Documents

- 401452 RVF OIPM EN FR ES.PDF

RESUBMITTAL DATA

EQUIPMENT: Tjernlund Dryer Exhaust Fan

TAGS: EF-3

PROJECT: ATU Jones Hall Renovation

LOCATION: Russellville, AR

ENGINEER:

CONTRACTOR:

DATE: 1/7/2023

SUBMITTED BY: Forrest Moseley
forrest@airetechcorp.com
(501) 425-6112

Notes:
Voltage Changed to 208/1
Equipment rails provided in lieu of Big Foot System

Submittal Data Sheet

EC3400US Utility Set Fan

Job Name: ATU Jones Hall

Contractor: CSUSA

Arch./Engr.: Pettit

Equipment Rep: _____

Prepared By: _____

Date: _____

Description:
Utility Sets are designed for continuous operation to exhaust Lint–laden air, foul air, fumes, odors. Utility sets are also an excellent choice for general exhaust and supply requirements of commercial and light industrial applications. ECUS Series feature energy saving EC motors, which are ideal for applications requiring demand control ventilation, for example, apartment buildings, multi-story dryer venting, multi-purpose rooms with differing rates of ventilation, hi-rise buildings - single fan on riser exhausting multiple spaces. If constant (reduced) speed operation is desired, the fan's speed can be manually adjusted and set via the integral potentiometer located in the electrical enclosure. The potentiometer permits the system balancer to dial in the necessary air flow rate. Motor protection is integrated in the electronics of the motor.

Use with the MPC-Series Modulating Pressure Controller for an Automatic-Variable Speed system which will modulate to always deliver the correct amount of exhaust or supply air.

Housing Construction:
The housing is rotatable and made from heavy gauge galvanized steel.

Impeller:
Aluminum wheel statically and dynamically balanced.

Motor:
ECM 208-230/1/60 VAC, 2 HP, 1750 RPM, 12 FLA

Max Temperature:
300° F / 150° C

Weight:
93 Lbs

Listings:
UL 705, UL 762

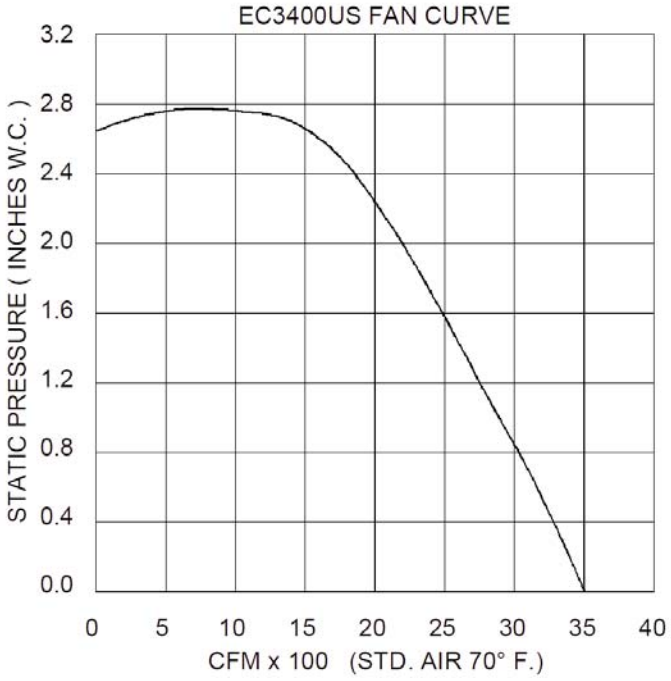
Sound:

Octave Bands	1	2	3	4	5	6	7	8	LwA
Level at Inlet	81	80	84	84	81	82	76	71	87

Warranty:
1 year mechanical

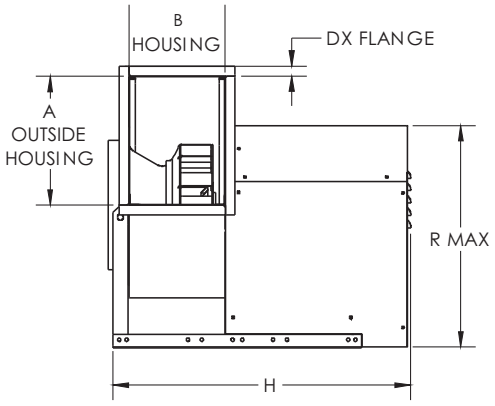
Standard Equipment:
Motor mounted speed control, Weather cover, Access door, Drain w/ plug - 1/2”

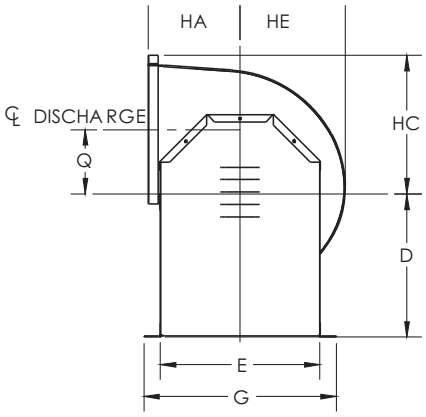
Optional Controls & Equipment:
- MPC Modulating Pressure Controller
- MPCI Modulating Pressure Controller Interlocked
- MAC1E Multiple Appliance Control (Use with MPCI)
- MAC4E Multiple Appliance Control (Use with MPCI)
- IPS-1 Indoor Pressure Sensor Decorative Cover
- FFP-1 Freeze and Fire Protection Limit (FFP-1 For combustion air applications only!)

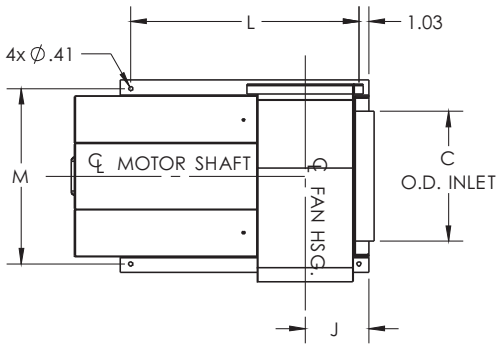


Tjernlund Products, Inc. • 1601 Ninth Street • White Bear Lake, MN 55110 • (651) 426-2993 • (800) 255-4208 • FAX (651) 426-9547 • www.tjernlund.com

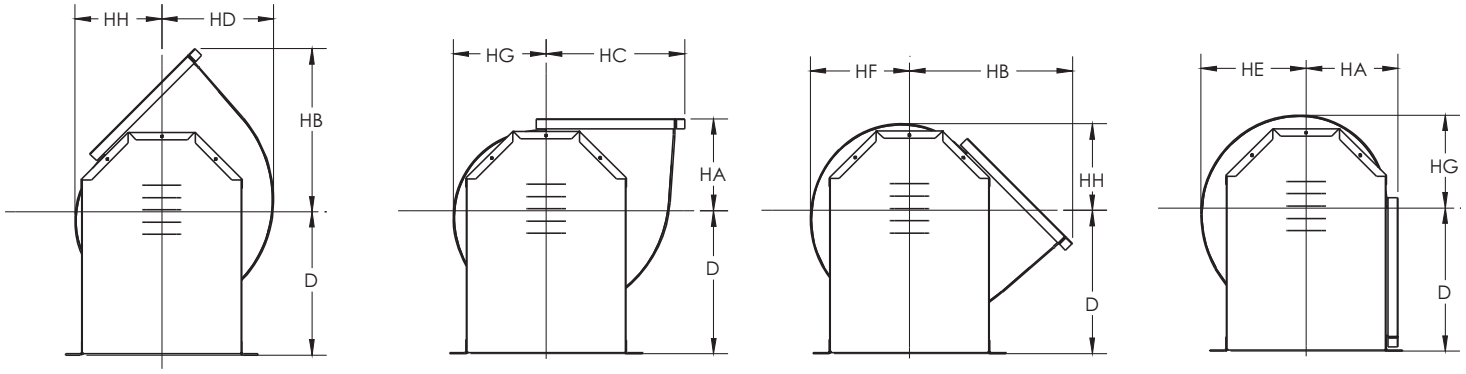
P/N 8513060 REV A







FOUNDATION PLAN



FIELD ADJUSTABLE

MODEL	A	B	C	D	DX	E	G	H	HA	HB	HC	HD	HE	HF	HG	HH	J	L	M	Q	R
EC3400US	15.93	11.90	15.75	17.75	1.00	19.18	22.50	33.43	11.50	20.10	16.93	13.79	12.98	12.23	11.48	10.73	7.58	26.38	20.75	7.96	27.18

DIMENSIONS IN INCHES

REV 0618

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PHONE (800) 255-4208 • (651) 426-2993 • FAX (651) 426-9547
Visit our web site • www.tjernlund.com

MODEL MPC
MODULATING PRESSURE CONTROL
INSTALLATION INSTRUCTIONS

⚠ Recognize this symbol as an indication of important Safety Information!

OWNER INSTRUCTIONS, DO NOT DESTROY

⚠ WARNING

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED, LICENSED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS PRODUCT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING INSTALLATION OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE POSSIBLY RESULTING IN FIRE, ELECTRICAL SHOCK, CARBON MONOXIDE POISONING, EXPLOSION, PERSONAL INJURY OR PROPERTY DAMAGE.

DO NOT DESTROY. PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

P/N 8504251

TABLE OF CONTENTS

Tjernlund Products welcomes your comments and questions. Address all correspondence to:
Customer Service • Tjernlund Products, Inc. • 1601 Ninth Street • White Bear Lake, MN 55110-6794
Call us toll free at 800-255-4208, visit our web site @ www.tjernlund.com or email us at fanmail@tjfans.com.

DESCRIPTION

The MPC (without integral UC1 interlock) Controller is designed to modulate exhaust or supply air so that the programmed pressure set point is maintained. Two MPC Controllers will be needed if controlling both exhaust and supply air. The MPCI Controller (with integral UC1 burner interlock) must be used if appliance interlock is required.

FOR EXHAUST APPLICATIONS
Pressure is measured in a chase, duct or vent at the farthest point from the Exhaust Fan. As exhaust volume increases within the duct/chase/vent the resulting reduction in measured pressure causes the controller to speed the fan up to handle the additional exhaust volume and slow the fan down when the exhaust volume is reduced to maintain a consistent exhaust pressure.

FOR SUPPLY / MAKE-UP AIR APPLICATIONS:
Pressure is measured within a mechanical room space or duct connected to the outdoor air supply fan. As air is exhausted from the monitored space, the MPC Controller modulates the supply air fan speed to maintain the pressure set point air pressure within the space or duct.

GENERAL INFORMATION

Each MPC Controller is electrically factory line tested before shipment. After opening carton, inspect thoroughly for hidden damage. If any damage is found notify freight carrier and your distributor immediately and file a concealed damage claim.

INSTALLATION RESTRICTIONS

1. **Do not** use the MPC Controller with gas or oil fired heating equipment. Instead use the model MPCI Controller (with integral UC1 burner interlock) and the required number of MAC-Series Multiple Appliance Controls. Follow instructions and wiring diagrams included and perform “Operation Confirmation”check on Page 7 to validate the interface is operating correctly.

2. The MPC controller is intended for indoor installation only. Do not mount on a heat source or in an environment that exceeds 122^{O}F (50^{O}C) or 85% relative humidity.

3. The maximum wire distance from the Control to a VFD or ECM Exhaust Fan Motor is 300 feet. Install the MPC as close to the pressure sampling point as possible to avoid delayed response to pressure changes. **Do not** exceed a sampling tube length of 15 feet. The default fan acceleration rate may need to be increased for sampling tube lengths greater than 10 feet.

CAUTIONS

The MPC Controller must be installed by a qualified installer (an individual properly licensed and/or trained) in accordance with all local codes or, in their absence, in accordance with the National Electrical Code and Uniform Mechanical Code if applicable. Failure to install, maintain and/or operate the MPC Controller in accordance with manufacturer's instructions may result in conditions which can produce bodily injury and property damage.

1. Disrupt external supply power to MPC Controller when making wiring connections and servicing. Failure to do so may result in personal injury and/or equipment damage.

2. All installation restrictions and instructions specific to the exhaust or supply Fan installation instructions must be followed.

3. Make certain the power source is adequate for the MPC requirements. Do not add equipment to a circuit when the total electrical load is unknown.

SAMPLE AND REFERENCE PRESSURE CONNECTIONS

Application	Sensing Tube Sample Location	MPC Pressure Port
Exhaust	Bottom of Chase	Connect to Negative (-)
Open Supply	Mechanical Room	Positive (Port Open)
Sealed Supply	End of Supply Duct	Connect to Positive (+)

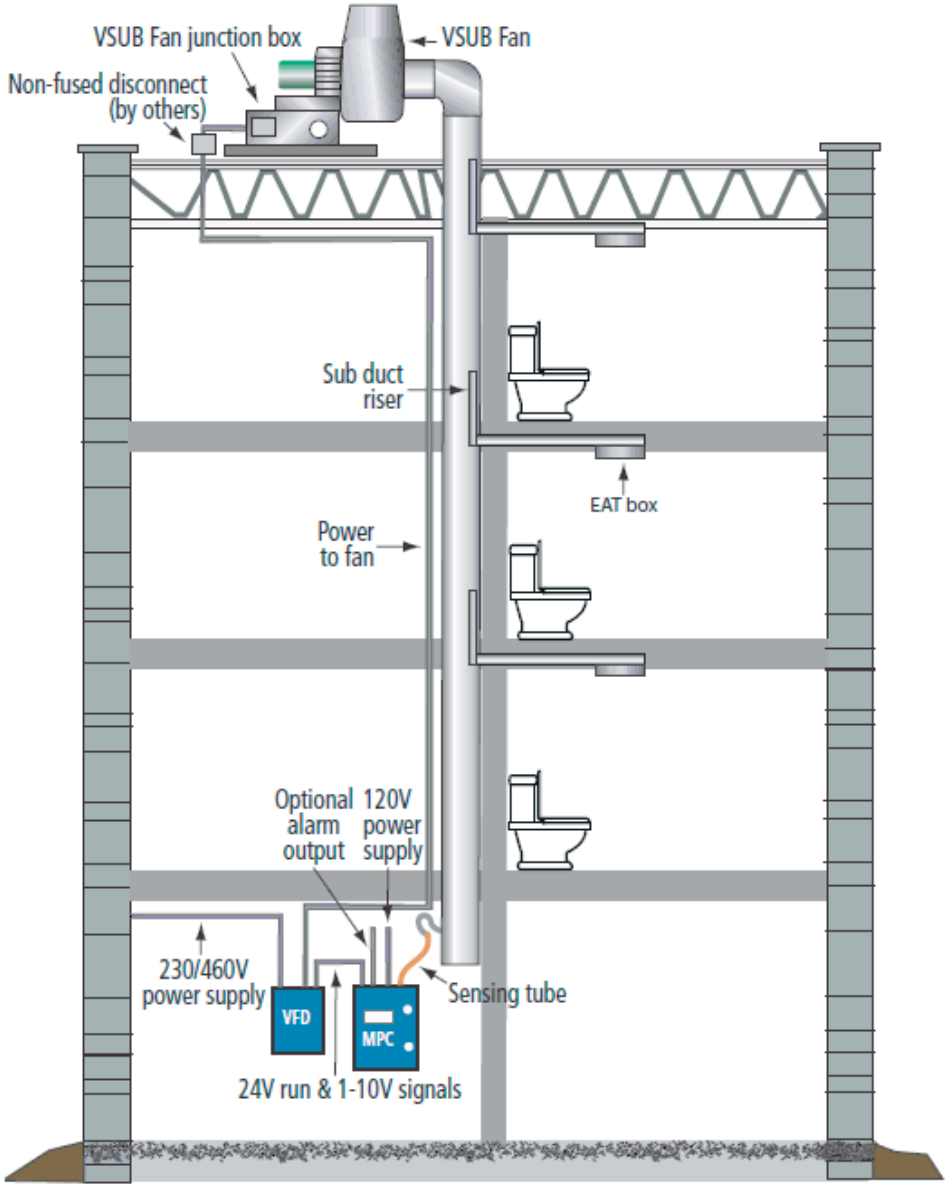
Reference Pressure Location	MPC Pressure Port
Room at Bottom of Chase	Positive (Port Open)
Adjacent Room	Connect to Negative (-)
Heater Mechanical Room	Negative (Port Open)

Recommendations based on MPC Control being installed in the same room as the sample location. If the MPC is installed in an adjacent space, pneumatic connections must be made to the open Pressure Ports that are indicated above.

PRESSURE SENSING TUBE INSTALLATION LOCATIONS

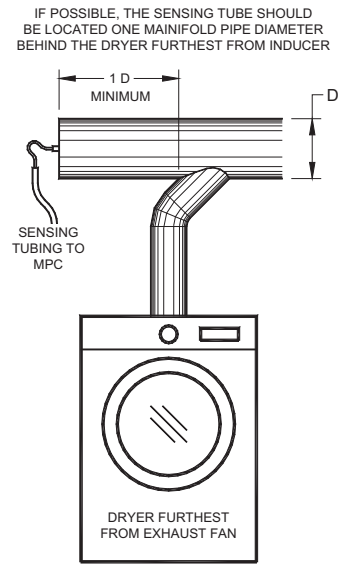
FOR EXHAUST CHASE APPLICATIONS

Install MPC and Pressure Sensing Tube at the bottom of a chase/shaft serving multiple floors of bathroom, kitchen or clothes dryer exhaust. The Pressure Sensing Tube must be installed below the farthest exhaust connection from the termination in a section of the chase/shaft that sees no air movement so that only static pressure is measured. Sample above any lint cleanout at bottom of shaft.

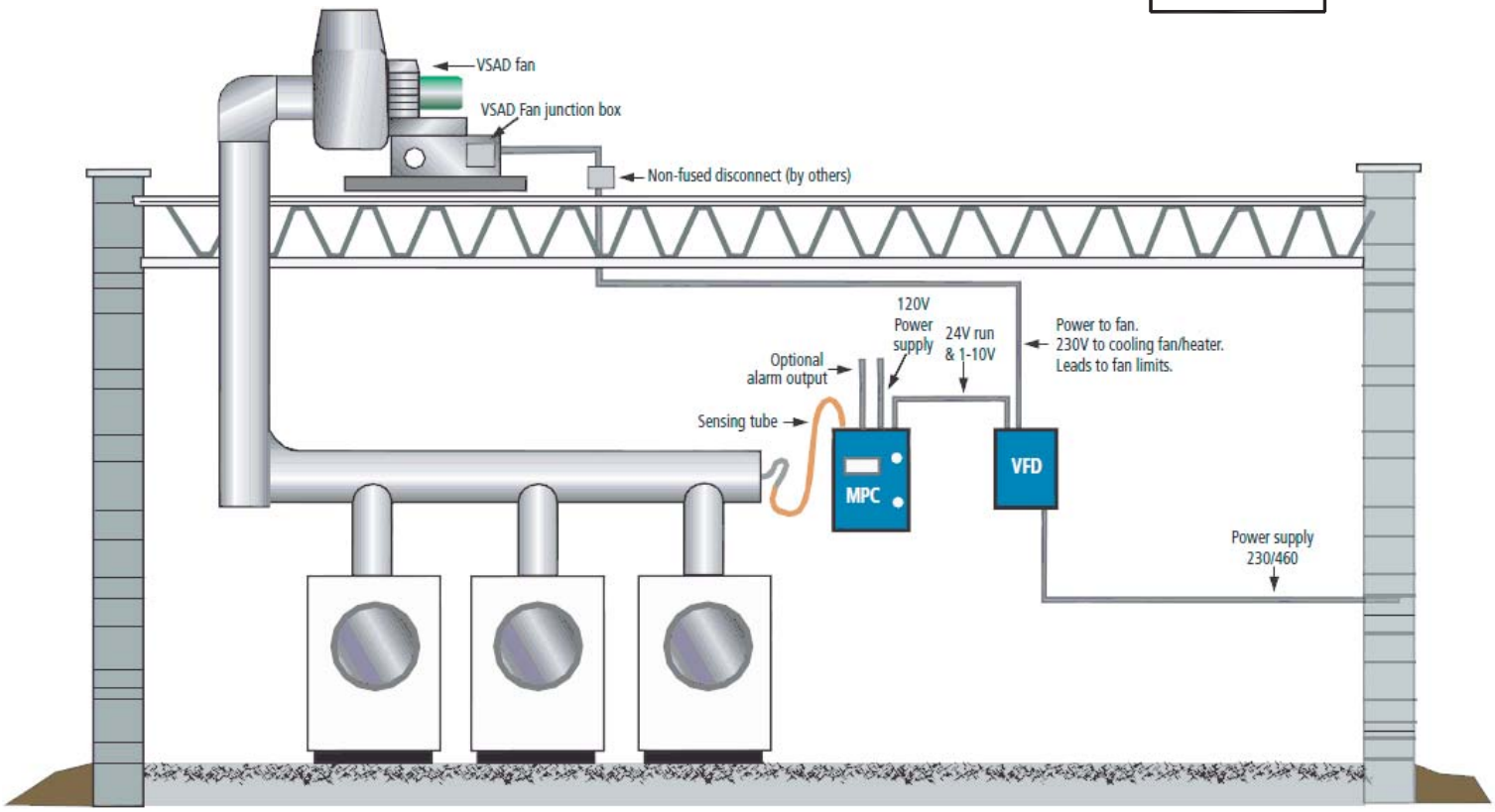


MULTIPLE DRYERS JOINED IN A COMMON HORIZONTAL DUCT

FIGURE A

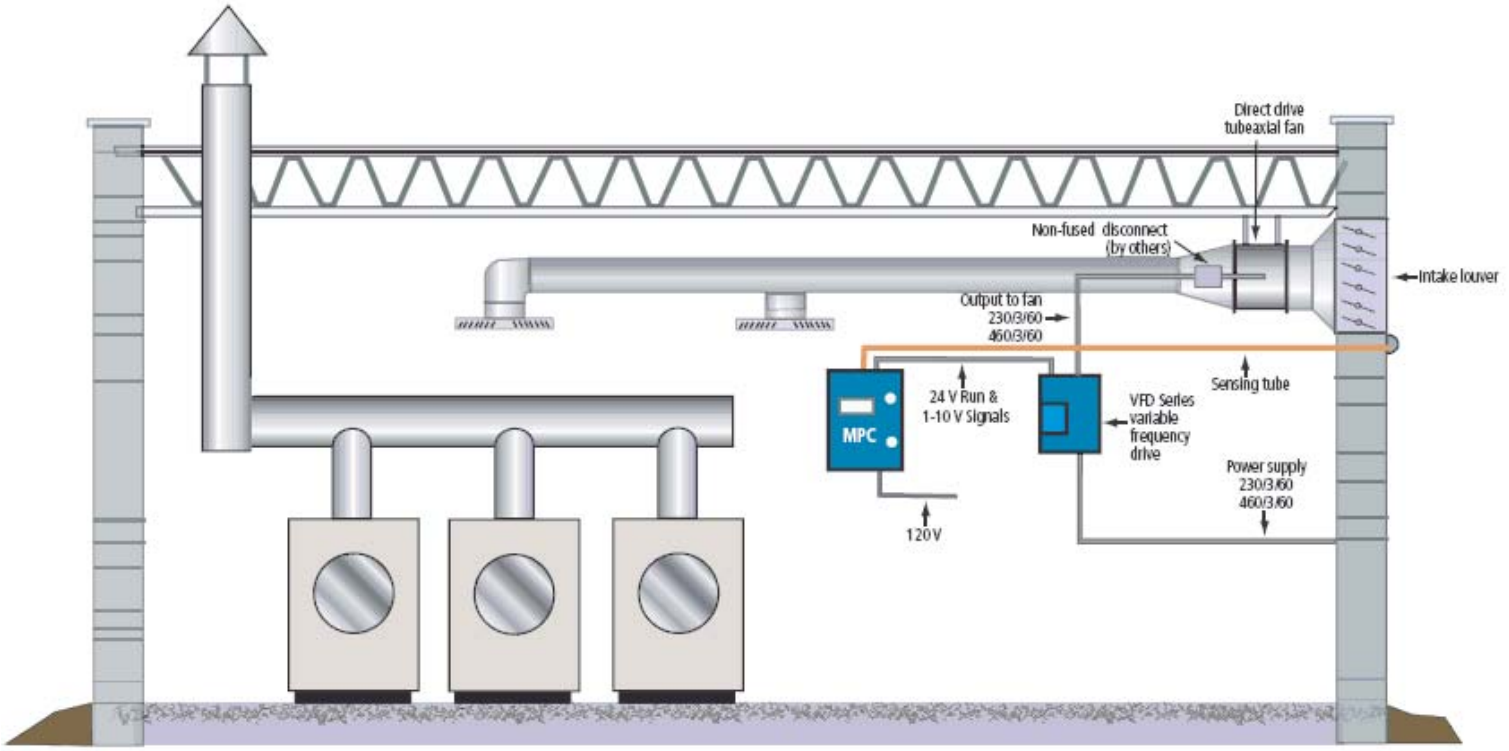


The sensing tube should be installed in the vent cap of a tee or at the rear of a common exhaust manifold, in back of the vent connector that is farthest from the Dryer Exhaust Fan. The tee is necessary so that only static pressure is measured, (See Figure A). If the pressure sensing tube is installed in the side of a duct it will also measure velocity pressure, giving an incorrect signal back to the Pressure Control. If mounting on the side of the duct is unavoidable, the sensing tube should be flush to the interior wall of the duct. Avoid sampling near or in elbows. Duct connections should be sealed to prevent leakage or entrainment. Installer must provide access for lint clean out.



FOR “OPEN” MAKE-UP AIR APPLICATIONS

In "Open" mode the mechanical room air is sampled and an adjacent space is referenced. Referencing an adjacent space within the building typically provides a more stable reference pressure than referencing outdoor air. Varying wind speeds will affect outdoor reference pressure and are difficult to neutralize. The goal is to reference static pressure. Don't sample pressures at locations that can be affected by frequently opened doors, elevator shafts, ventilation fans and diffusers. The optional model IPS-1 adjacent space Reference Pressure Sensor includes a decorative cover, sampling tube and fittings may be used in conjunction with the MPC Pressure Control. It reduces the effects of air movement on the sampling tube and provides a finished look.



PESSURE SENSING TUBE INSTALLATION

1. Follow sensing tube installation location recommendations. Use a sharp drill bit to reduce burr, drill a 1/4" hole for pressure sensing tube. Screw sensing tube bracket to duct/chase with sampling hole centered, (See Figure B).

2. Insert stainless steel sensing tube through 1/4" hole enough to just penetrate interior of duct/chase and lock in place with compression ferrule and nut, (See Figure B).

3. Connect sampling tube with included tubing to the correct pressure port on the exterior of the MPC enclosure. The Pressure Ports are located on the Top Right side of the MPC Cabinet. These are the pneumatic connection points to the Pressure Control inside the MPC. The Rear Port (-) is for those applications where a negative pressure is required. This port is typically used for Exhaust applications. The Front Port (+) is typically for those supply air applications where a neutral or positive pressure is required. See “Sample and Reference Connections”, Page 2 for port information. For rear Negatve (-) and front Positive (+) port location on MPC, (See Figure C). **Important:** Excessive additional lengths of tubing will delay the response of the Fan which can lead to control lag.

FIGURE B

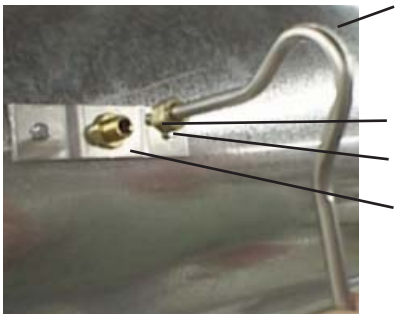
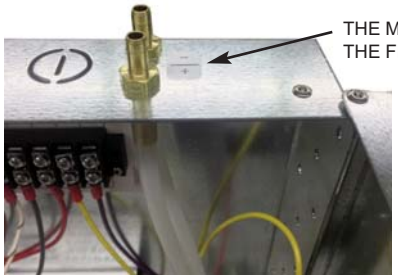


FIGURE C



WIRING

The MPC must be wired by a qualified installer (an individual properly licensed and/or trained) in accordance with these instructions and in accordance with all local codes or in their absence, with the current editions of NFPA 70, National Electrical Code in the U.S. or CSA C22.1-12 Canadian Electrical Code in Canada.

All 120 V wiring from the MPC to the Fan junction box must be appropriate Class 1 wiring as follows: installed in rigid metal conduit, intermediate metal conduit, rigid non-metallic conduit, electrical metallic tubing, Type MI Cable, Type MC Cable, or be otherwise suitably protected from physical damage.

The maximum distance the 1-10 VDC output from the MPC to the VFD or ECM motor is 300 feet. Exceeding this distance can result in lower than desired signal strength. 1-10 VDC wiring should be in metal conduit or utilize shielded cable. Non-shielded signal wiring can be influenced by outside conditions resulting in undesirable operation of the MPC control.

IMPORTANT:
Installer must supply overload and disconnect protection as dictated by local and national codes. Do not use a fused disconnect. MPC Control supply power may be switched through a building management system, pressure switch or other 120 VAC switch.

IMPORTANT:
MOTOR ROTATION MUST BE VERIFIED PRIOR TO OPERATION CHECKS.
If using the model MPC in conjunction with a VFD, fan rotation must be checked to validate that the motor is turning in the correct direction. Fans should have rotation stickers on the housing or motor mount. Activate the MPC as directed on page 7 and then disrupt operation so that motor rotation can be detected as the motor coasts down. If rotation is incorrect, change by switching any two of the 3 power output leads from the VFD to the fan motor. Verify proper rotation by repeating steps above.

MPC WIRING

Modulating Pressure Control

TJERNLUND

Draft • Combustion Air • Ventilation

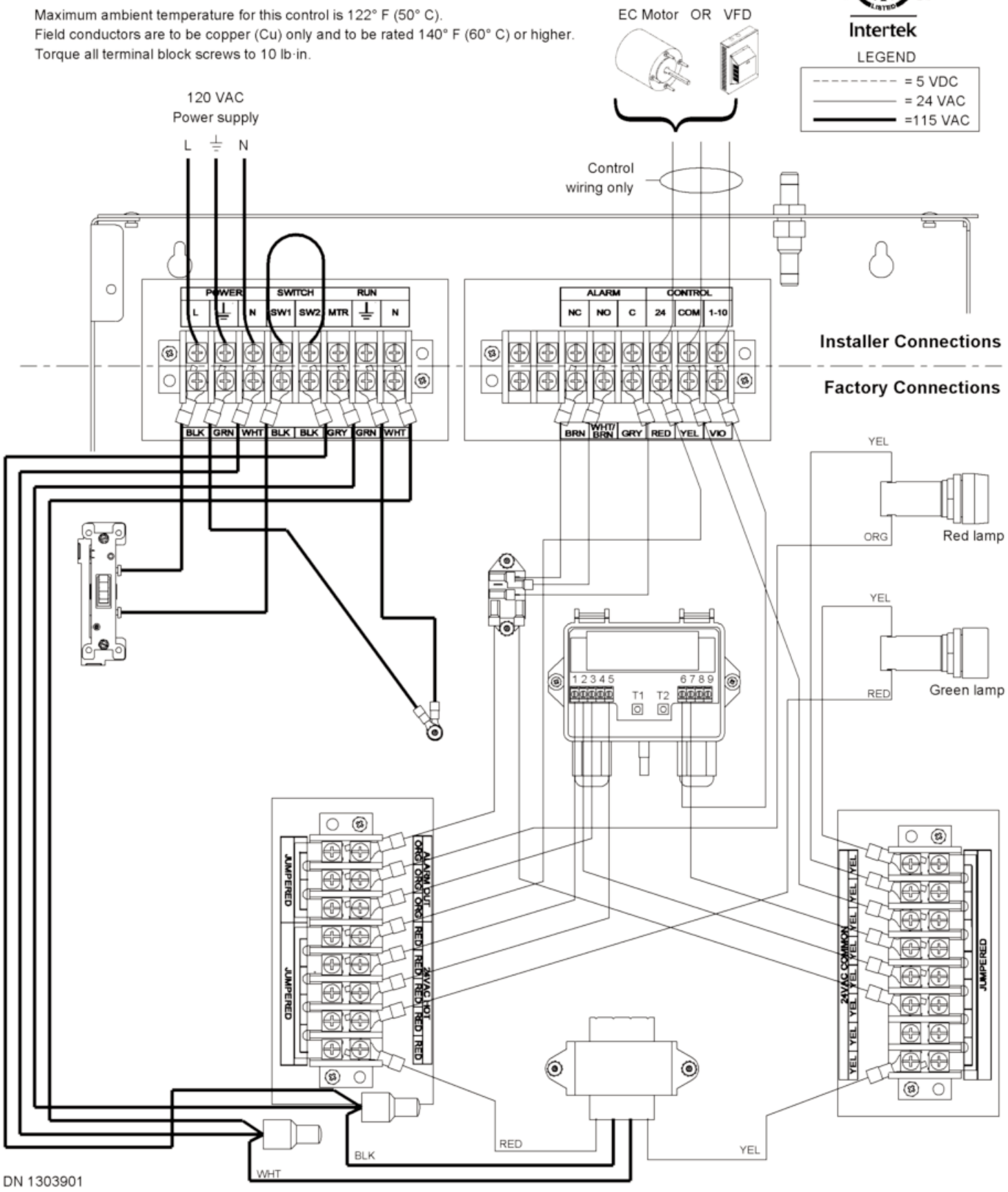
800.255.4208 www.tjernlund.com

Intertek

Electrical Specifications

Power supply:	120 VAC, 7 amps minimum	Alarm:	10 amps at 120 VAC
Switch:	120 VAC, 7 amps minimum	Control:	20 VA maximum out
Run:	120 VAC, 5 amps out maximum		

Maximum ambient temperature for this control is 122° F (50° C).
Field conductors are to be copper (Cu) only and to be rated 140° F (60° C) or higher.
Torque all terminal block screws to 10 lb·in.



DN 1303901

SUPPLY MAKE-UP / COMBUSTION AIR PRESSURE SET POINT

MPC Controllers are defaulted to a 0.10” w.c. set point. To enable the SET POINT 2, default setting (0.00” w.c.) for Supply Make-up / Combustion air, a jumper wire must be installed between terminals 8 & 9 on the right hand side of the Pressure Control terminal strip, (See Figure D). Remove Pressure Control cover with small phillips screwdriver to access terminal strip.

FIGURE D

JUMPER WIRE MUST BE INSTALLED ON PRESSURE CONTROL BETWEEN TERMINALS 8 & 9 TO ENABLE SET POINT 2.

MPC SEQUENCE OF OPERATION

1. With any external 120 VAC supply power switch to MPC activated and the MPC internal power switch ON, 120 VAC is supplied to:

2. The MTR terminal of the Power Terminal Block (can be used to power 120 VAC intake damper motors up to 5 amps or energize the coil of a line voltage coil VFD activation relay).

3. Simultaneously it energizes the 24 VAC transformer to supply power to:

   The 24 VAC hot of the external Green run light on the MPC cover.

   Terminal 5 of the Pressure Control to power the common of its N/O alarm relay contacts.

   The 24 terminal of the Pressure Control Terminal Block. (Used to energize Tjernlund Products VFDxxx-MPC Series VFD activation relay within VFD electrical enclosure)

   Terminal 1 of the Pressure Control, activating it to measure system pressure and to output a proportional 1-10 VDC signal to the 1-10 terminal of the Control Terminal Strip. The 1-10 VDC signal from the Control Terminal Strip is wired directly to an ECM motor input or to a VFD input to vary the fan speed to maintain the set point as volume, stack effect, wind loading and reference pressure change.

   If the Pressure Control max’s out the output (10 VDC) for greater than 10 seconds (field adjustable), the Pressure Control Alarm Circuit will activate, powering the MPC external Red fault light with audible alarm as well as any external alarm or BMS that are wired to the alarm circuit while continuing to try to make the set point. The alarm will remain until the set point is reached or power is removed from the MPC Controller.

PRESSURE FAULT SEQUENCE

If the Pressure Control max’s out the output (10 VDC) for greater than 10 seconds (field adjustable), the Pressure Control Alarm Circuit will activate, powering the MPC external Red fault light with audible alarm as well as any external alarm or BMS that are wired to the alarm circuit while continuing to try to make the set point. The alarm will remain until the set point is reached or power is removed from the MPC Controller.

MPC OPERATIONAL CONFIRMATION

Establish 120 VAC supply power to the MPC and switch MPC internal power switch to the ON position.

The Pressure Control should become energized and output a 1-10 VDC signal to the VFD or ECM fan motor.
Verify that a 0.10” w.c. for exhaust or 0.00” w.c. for supply air set point is obtained by the Pressure Control.

Remove the tubing from the stainlees steel Sampling Tube to disrupt the pneumatic connection to the MPC.

The Pressure Control will continue to output an increasingly higher 1-10 VDC signal to make the set point.

When the output reaches 10 VDC a 10 second delay will occur and then the Pressure Control Alarm Circuit will activate, powering the MPC external Red fault light with audible alarm as well as any external alarm or BMS that are wired to the alarm circuit.

Reconnect the tubing to the Sampling Tube.

The safety circuit will reset when the pressure set point is once again achieved.

BALANCING CONNECTIONS TO MULTI-STORY EXHAUST CHASES/SHAFTS

IMPORTANT: Do Not use Balancing Dampers or Automatic Flow Balancers for clothes dryer applications.

In general, the further away from a Fan a connection is, the harder it is to make pressure. To balance the pressure for all levels of a chase/shaft we recommend that kitchen and bath duct connections have adjustable dampers or automatic flow balancers installed prior to the connection to the exhaust chase/shaft.

Automatic flow balancers require no action. If adjustable dampers are installed close all dampers and starting at the lowest level open dampers until desired flow is achieved. Repeat on all remaining levels.

CHANGING MPC PROGRAM DEFAULTS

THE FACTORY PRESET PROGRAM SETTINGS ARE AS FOLLOWS:

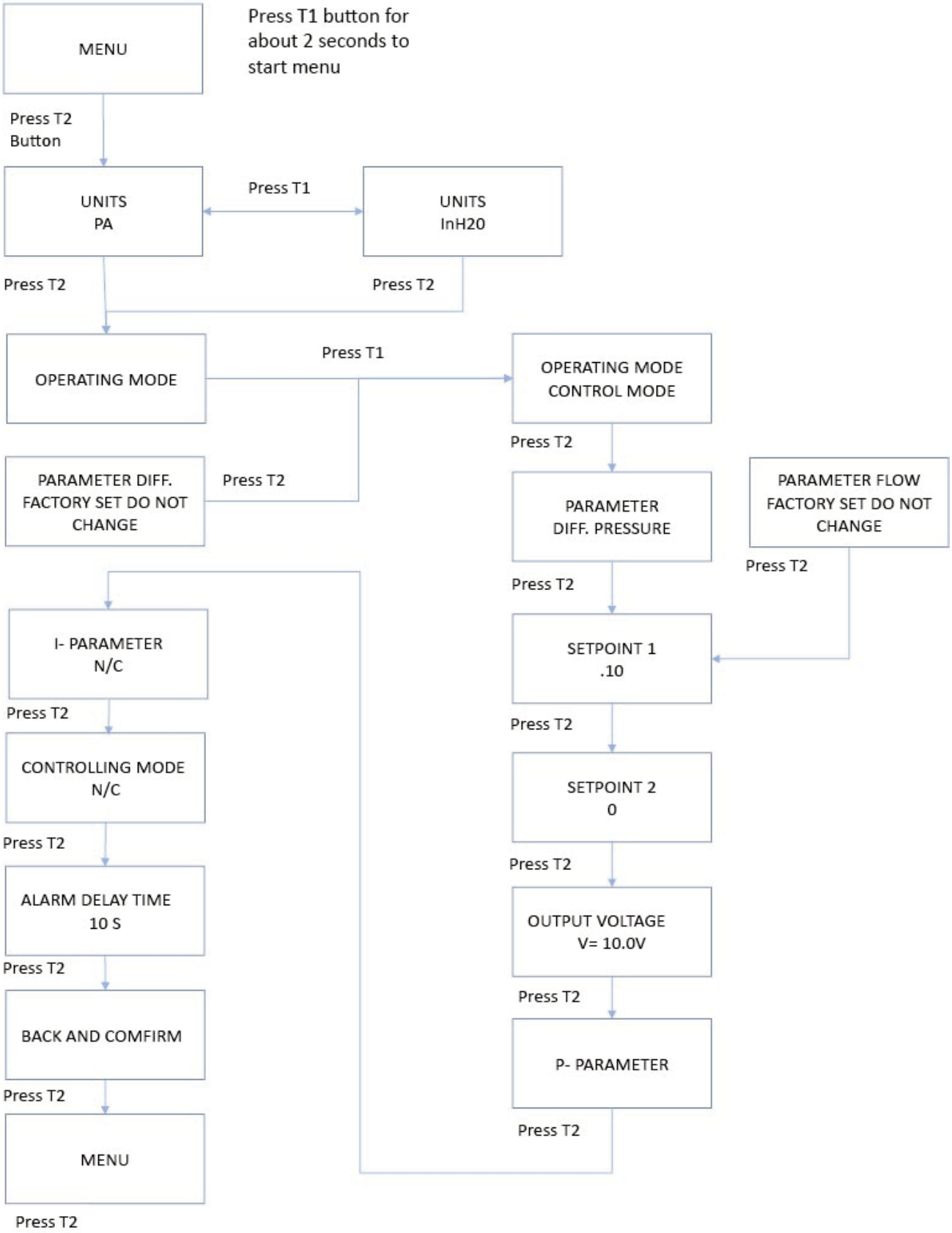
PROGRAM OPTION	FACTORY PRESETS	ADJUSTMENT RANGE
Pressure Units of Measure	Units InH2O	Units PA
Operating Mode	Control Mode	**Do Not Change**
Parameter	Diff. Pressure	**Do Not Change**
Setpoint 1 (Use for Draft)	0.10	0 to 40 (PA 0 to 100)*
Setpoint 2 (Use for Supply/Comb Air)	0	0 to 40 (PA 0 to 100)*

* **NOTE:** A negative value can not be set on the Pressure Control, however, the Pressure Control can display a negative pressure reading. Pressure Control will read either negative or positive pressures depending on what sensing port is used and type of application. See “Sample and Reference Pressure Connections”, Page 2.

Output Voltage	V=10.0 V	**Do Not Change**
P-Parameter	50	1-999 (Acceleration Rate)
I-Parameter	3.15	**Do Not Change**
Controlling Mode	Positive/Heating	**Do Not Change**
Alarm Delay Time	10s	1 Second to 15 Minutes

The Pressure Control must be powered to enter the program mode. For the model MPC activate any external switch and turn the internal power switch on. Push the left button (T1) for 2 seconds, make any necessary program changes and cycle through the remaining programs by pushing the T2 button until the display reads MENU. In menu mode the 1-10 VDC output is disrupted until you exit.

To enable the SET POINT 2 for supply/combustion air a jumper wire must be installed between the last two terminals 8 & 9 on the right hand side or the Pressure Control. See “Supply Make-Up / Combustion Air Pressure Set Point”, Page 7.


MENU
Press T1 button for about 2 seconds to start menu
Press T2 Button
UNITS PA
Press T1
UNITS InH20
Press T2
Press T2
OPERATING MODE
Press T1
OPERATING MODE CONTROL MODE
Press T2
PARAMETER DIFF. FACTORY SET DO NOT CHANGE
Press T2
PARAMETER DIFF. PRESSURE
PARAMETER FLOW FACTORY SET DO NOT CHANGE
Press T2
Press T2
I- PARAMETER N/C
SETPOINT 1 .10
Press T2
Press T2
CONTROLLING MODE N/C
SETPOINT 2 0
Press T2
Press T2
ALARM DELAY TIME 10 S
OUTPUT VOLTAGE V= 10.0V
Press T2
Press T2
BACK AND COMFIRM
P- PARAMETER
Press T2
Press T2
MENU
Press T2

TROUBLESHOOTING

If It is necessary to measure voltage during troubleshooting. Extreme caution must be exercised to prevent injury. If you are unable to determine the defective part with the use of this guide, call your Tjernlund distributor or Tjernlund Products direct at 1-800-255-4208 for further assistance.

1. If you have any questions about a MPC Controller or if it requires adjustment or repair, contact your installer, contractor or service agency.

2. If you require technical information contact Tjernlund Products, Inc. at 1-800-255-4208 with the following information.

   Model of the Exhaust/Supply Air Fan that MPC is controlling as shown on the Fan nameplate.

   Name and telephone number of installer and any service agency who performed work on the system.

   Date of original installation and dates any service work was performed.

   Details of the problem as you can best describe them.

LIMITED PARTS WARRANTY AND CLAIM PROCEDURE

Tjernlund Products, Inc. warrants the components of the MPC for one year from date of installation. This warranty covers defects in material and workmanship. This warranty does not cover normal maintenance, transportation or installation charges for replacement parts or any other service calls or repairs. This warranty DOES NOT cover the complete MPC if it is operative, except for the defective part.

Tjernlund Products, Inc. will issue credit or provide a free part to replace one that becomes defective during the one year warranty period. Proof of date of the installation in the form of the contractor sales/installation receipt is necessary to prove the unit has been in service for under one year. All receipts should include the date code of the MPC to ensure that the defective component corresponds with the complete unit. This will help prevent possible credit refusal.

After the faulty component is determined, return it to your Tjernlund distributor for replacement. Please include MPC date code component was taken from. The date code is located inside the Electrical Box enclosure. The first two digits are the day, second two digits the month and third two digits are the year of manufacture. The last two digits are the Tjernlund manufacturing order number. If the date code is older than one year, you will need to provide a copy of the original installation receipt to your distributor. Credit or replacement will only be issued to a Tjernlund distributor after the part has been returned prepaid to Tjernlund and verified defective.

WHAT IS NOT COVERED

Product installed contrary to our installation instructions, altered, neglected or misused
Product that has been wired incorrectly
Any freight charges related to the return of the defective part
Any labor charges related to evaluating and replacing the defective part

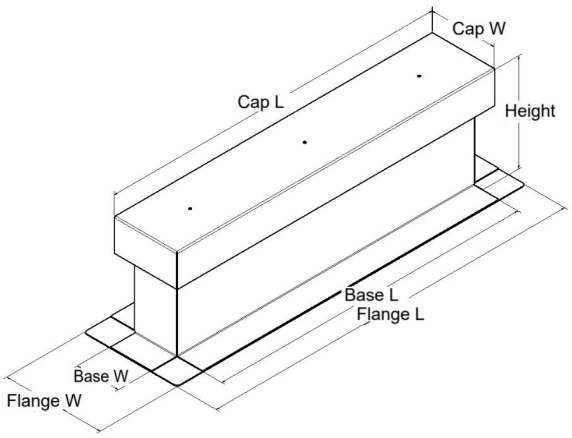
REPLACEMENT PARTS

Component	Part Number
Pressure Control	950-9355
Alarm & Safety Circuit Relays	950-1040
Indoor Pressure Sensor (Optional)	IPS-1

TJERNLUND LIMITED ONE YEAR WARRANTY

Tjernlund Products, Inc. warrants to the original purchaser of this product that the product will be free from defects due to faulty material or workmanship for a period of (1) year from the date of original purchase or delivery to the original purchaser, whichever is earlier. Remedies under this warranty are limited to repairing or replacing, at our option, any product which shall, within the above stated warranty period, be returned to Tjernlund Products, Inc. at the address listed below, postage prepaid. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, AND TJERNLUND PRODUCTS, INC. EXPRESSLY DISCLAIMS LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS PRODUCT. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND NO AGENT IS AUTHORIZED TO ASSUME FOR US ANY LIABILITY ADDITIONAL TO THOSE SET FORTH IN THIS LIMITED WARRANTY. IMPLIED WARRANTIES ARE LIMITED TO THE STATED DURATION OF THIS LIMITED WARRANTY. Some states do not allow limitation on how long an implied warranty lasts, so that limitation may not apply to you. In addition, some states do not allow the exclusion or limitation of incidental or consequential damages, so that above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from State to State. Send all inquiries regarding warranty work to Tjernlund Products, Inc. 1601 9th Street, White Bear Lake, MN 55110-6794. Phone (651) 426-2993 • (800) 255-4208 • Fax (651) 426-9547 • Email fanmail@tjfans.com.

Printed Date: 01/07/2023
Job: ATU Jones Hall VAU
Mark: Equip Rails EF-3
Model: GESI



Model: GESI

Flat or Pitched Roof Equipment Support

Standard Construction Features:

- Welded construction (see Material Note) - Wood nailer - Flashing cap. NOTES: - MAXIMUM design load of 400 lb per isolator. MATERIAL NOTE: - If Length <= 44 OR Height <= 12: Galvanized is 18 ga and Aluminum is 0.064 in. - If Length > 44 OR Height > 12: Galvanized is 16 ga and Aluminum is 0.080 in.

Dimensions

ID#	Tag	Qty	Length (in.)	Flange Width (in.)	Flange Length (in.)	Base Width (in.)	Base Length (in.)	Cap Width (in.)	Cap Length (in.)
2-1	(Multiple)	2	36	7.5	40	4	36	5	37.5

Accessories

ID#	Material	Width (in.)	Height (in.)	Pitch (in.)	Pitch Run	Sizing
2-1	Galvanized	4	14	None	Long Side	Actual