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Project: Farm Credit Office

Supplier: Falk

Submittal: Plumbing Specialties

Submittal Number: 22 10 06-01

Drawing # and Installation: Plumbing Drawings

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Rogers, AR 72758
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Fort Smith, AR 72916
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GENERAL CONTRACTOR

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Notes:

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CSUSA PROJECT NO.

23-1013

jon@comfortar.com

DISPOSER



**Badger® 1, Badger® 1XL, Badger® 100,
Badger® 5, Badger® 5XL, Badger® 500**

1-800-558-5700

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⚠ DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE is used to address practices not related to personal injury.

SAFETY INSTRUCTIONS (or equivalent) signs indicate specific safety-related instructions or procedures.

⚠ PELIGRO indica una situación peligrosa que, si no se evita, provocará lesiones graves o incluso la muerte.

⚠ ADVERTENCIA indica una situación riesgosa, la cual, si no se evita, puede ocasionar lesiones graves o incluso la muerte.

⚠ PRECAUCIÓN indica una situación riesgosa, la cual, si no se evita, puede provocar heridas leves o moderadas.

AVISO hace referencia a prácticas que no presentan riesgos de generar lesiones personales.

INSTRUCCIONES PARA SU SEGURIDAD (o equivalentes) son señales que designan procedimientos específicos de seguridad.

⚠ DANGER indique une situation dangereuse qui, si elle n'est pas évitée, entraînera la mort ou une blessure grave.

⚠ AVERTISSEMENT indique une situation dangereuse qui, si elle n'est pas évitée, pourrait entraîner la mort ou une blessure grave.

⚠ MISE EN GARDE indique une situation dangereuse qui, si elle n'est pas évitée, pourrait entraîner une blessure mineure ou modérée.

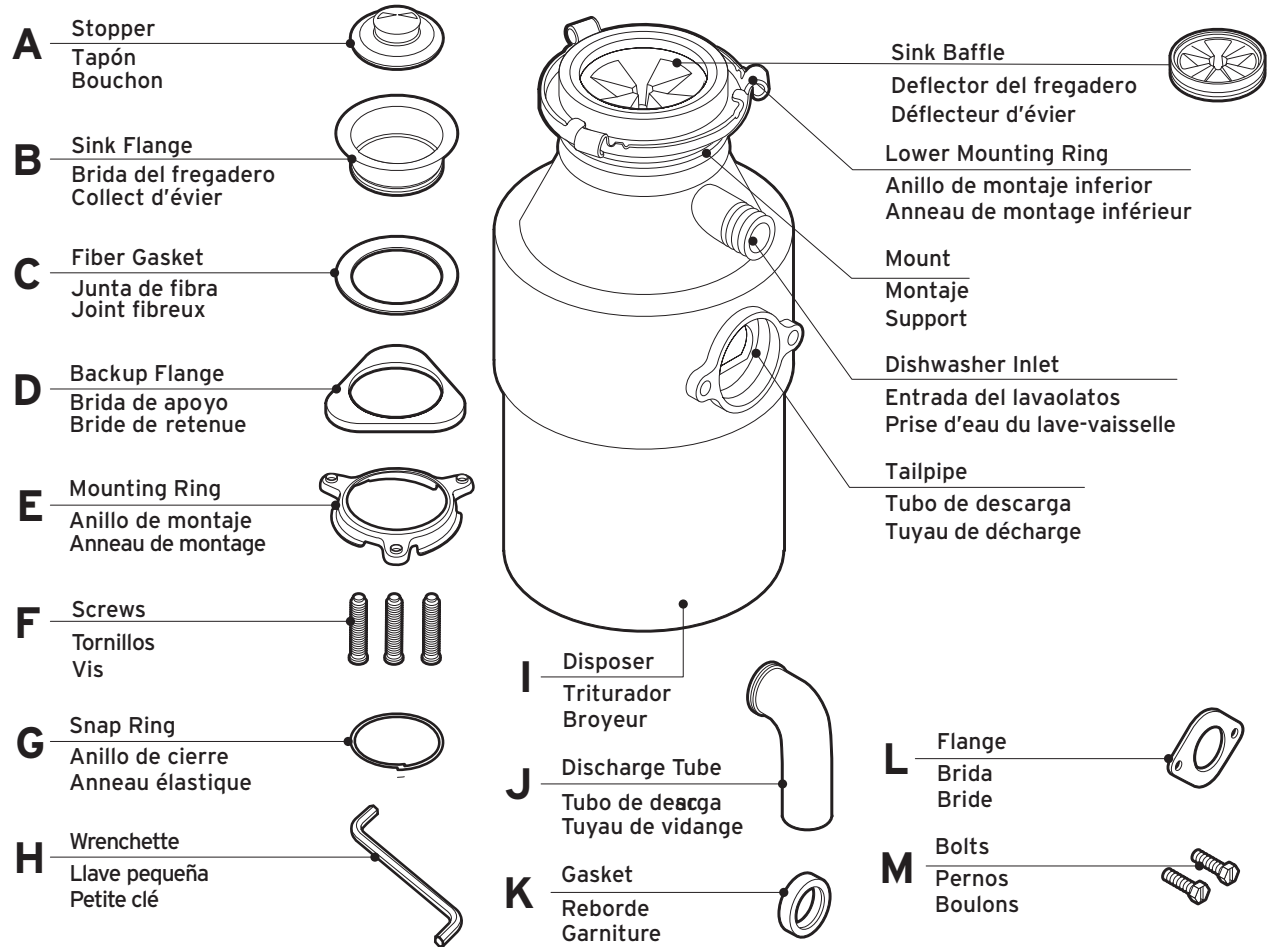
AVIS est utilisé pour décrire des pratiques qui ne sont pas liées à des blessures.

DIRECTIVES DE SÉCURITÉ (ou l'équivalent) ces panneaux indiquent des directives ou des procédures concernant spécifiquement la sécurité.

79158-ISE Rev C

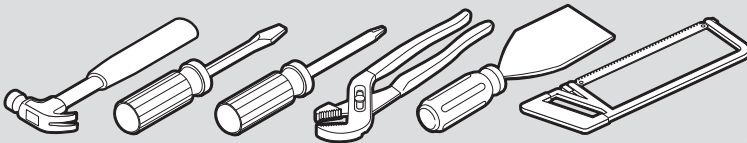
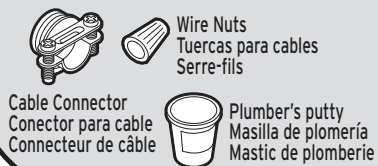
Badger®

Includes/Incluye/Comprend



Tools and Materials/Herramientas y materiales/Outils et pièces

Not Included/No incluidos/Non compris



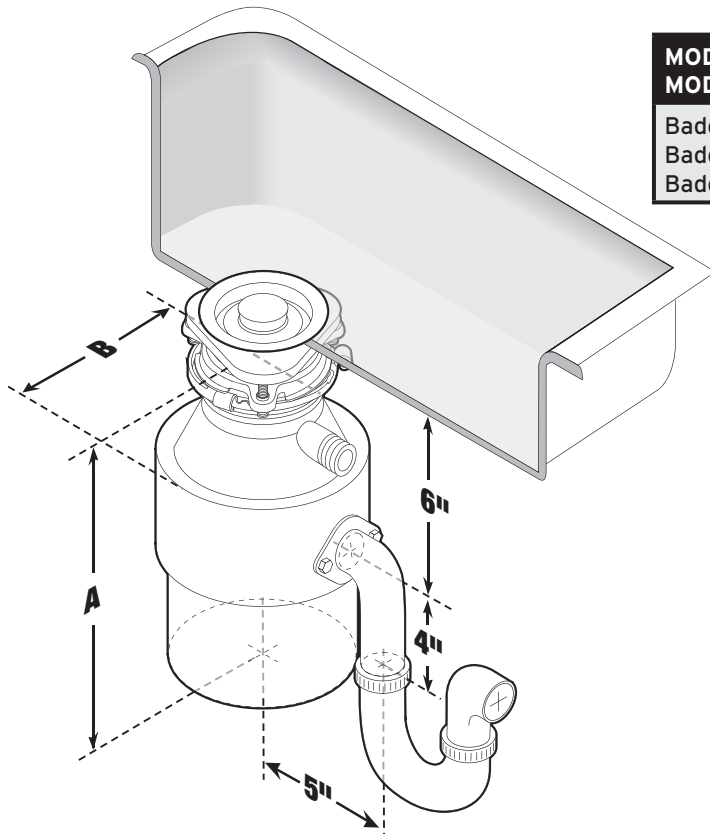


WARNING/ADVERTENCIA/AVERTISSEMENT

Read these instructions carefully. Failure to follow the Installation, Operating and User-Maintenance Instructions may result in personal injury or property damage.

Lea atentamente estas instrucciones. Si no sigue las instrucciones de mantenimiento para el usuario, de funcionamiento y de instalación puede provocar lesiones personales o daños materiales.

Lire ces instructions avec soin. Le non-respect des instructions d'installation, d'utilisation et d'entretien par l'utilisateur peut entraîner des blessures et des dommages matériels.



MODEL/ MODELO/MODÈLE

A

B

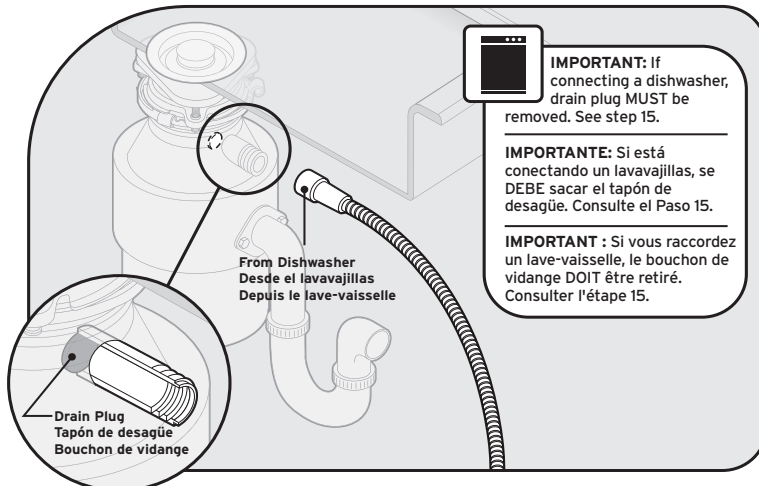
Badger® 1, Badger® 1XL,
Badger® 100, Badger® 5,
Badger® 5XL, Badger® 500

11-1/2"

6-5/16"

Dimensions/Dimensiones/Dimensions

Before You Begin/Antes de comenzar/Avant de commencer



Removal of old disposer/Extracción del triturador viejo/Retrait de l'ancien broyeur

⚠ WARNING/ADVERTENCIA/AVERTISSEMENT

SHOCK HAZARD

Turn off electrical power at circuit breaker or fuse box.

PELIGRO DE DESCARGA ELÉCTRICA

Desconecte el suministro eléctrico desde la caja de fusibles o del interruptor de circuito.

DANGER D'ÉLECTROCUTION

Couper l'alimentation au tableau de distribution (retirer le fusible ou actionner le disjoncteur).

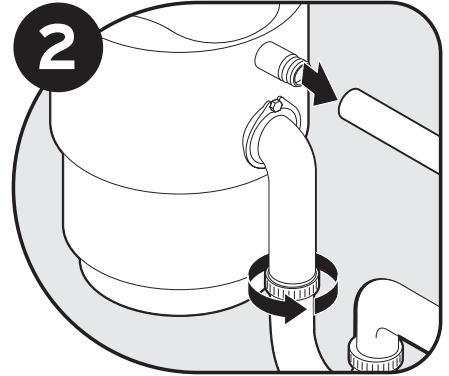
1

If you are replacing an existing disposer, continue to Step 2. If there is no existing disposer, disconnect sink drain and skip to Step 9.

Si tiene que reemplazar un triturador existente, continúe con el Paso 2. Si no existe un triturador, desconecte el desagüe del fregadero y continúe con el Paso 9.

En cas de remplacement d'un broyeur existant, passer à l'étape 2. Dans le cas contraire, déconnecter le drain de l'évier et passer à l'étape 9.

2

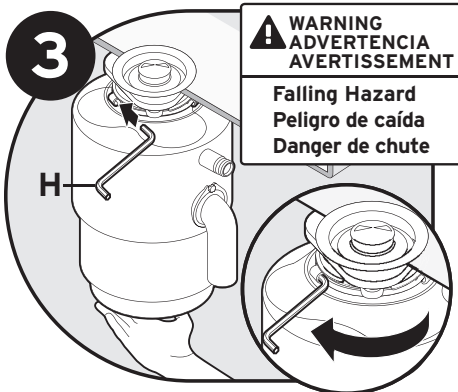


Turn off electrical power at circuit breaker or fuse box. Disconnect drain trap from waste discharge tube. Disconnect dishwasher if connected to the disposer.

Desconecte el suministro eléctrico desde la caja de fusibles o del interruptor de circuito. Desconecte la trampa de desagüe del tubo de descarga de desperdicios. Desconecte el lavaplatos si está conectado al triturador.

Couper l'alimentation au tableau de distribution (retirer le fusible ou actionner le disjoncteur). Déconnecter le robinet de vidange du tube de vidange. Déconnecter le lave-vaisselle s'il est connecté au broyeur.

3



⚠ WARNING/ADVERTENCIA/AVERTISSEMENT

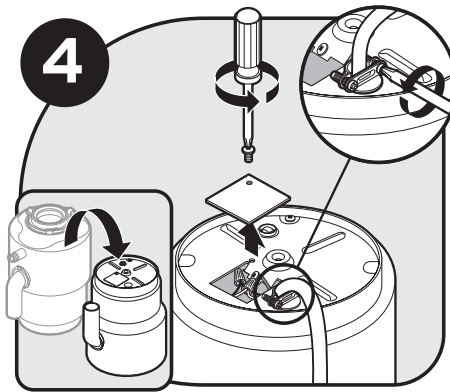
**Falling Hazard
Peligro de caída
Danger de chute**

Support disposer, insert end of wrenchette (H) into right side of mounting lug, and turn. Disposer will fall free.

Sostenga el triturador, inserte el extremo de la llave (H) en el lado derecho de la aleta de montaje y gírela. El triturador se liberará.

Soutenir le broyeur, insérer l'extrémité de la petite clé (H) dans le côté droit de la patte de fixation et tourner. Le broyeur chutera librement en place.

4

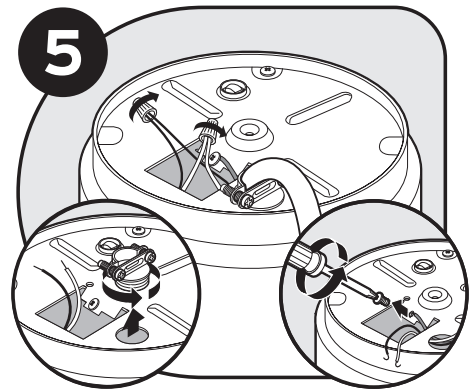


Flip disposer over and remove electrical cover plate. Save cable connector if applicable.

Dé vuelta al triturador y retire la placa de protección eléctrica. Guarde el conector del cable si corresponde.

Renverser le broyeur et retirer la plaque électrique. Conserver le connecteur de câble s'il y a lieu.

5



Disconnect the disposer wires from the electrical supply.

Desconecte del suministro eléctrico los cables del triturador.

Débrancher les fils du broyeur de l'alimentation électrique.

Removal of old disposer/Extracción del triturador viejo/Retrait de l'ancien broyeur

6

Is the new disposer mounting the same as the old one?

If YES, you may choose to skip to step 15.
If NO, continue to step 7.

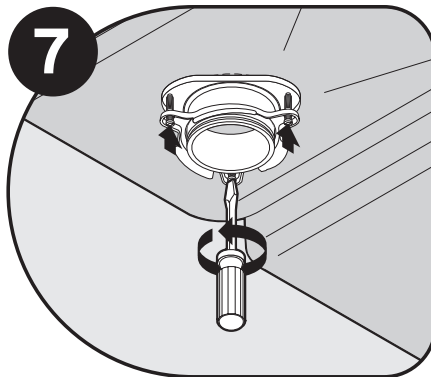
¿El montaje del triturador nuevo es el mismo que el del viejo?

Si la respuesta es SÍ, continúe en el paso 15.
Si la respuesta es NO, continúe en el paso 7.

Est-ce que le montage du nouveau broyeur est le même que celui de l'ancien?

Si OUI, passer à l'étape 15.
Si NON, passer à l'étape 7.

7

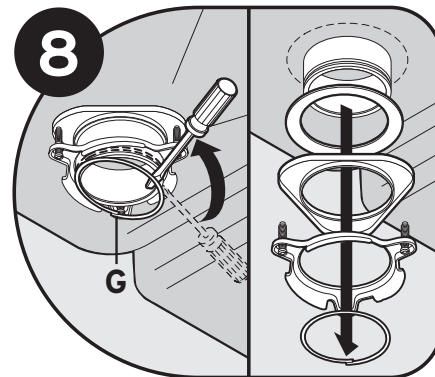


Using a flathead screwdriver, loosen the 3 screws on the mounting assembly.

Con un destornillador de punta plana, afloje los 3 tornillos del conjunto de montaje.

Au moyen d'un tournevis à tête plate, desserrer les trois vis du montage de base.

8



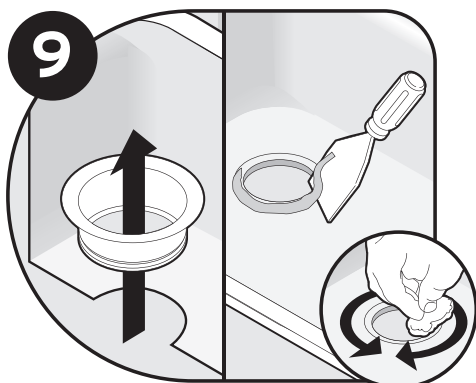
Using a screwdriver, remove the snap ring (G).

Retire el anillo de cierre con un destornillador (G).

Au moyen d'un tournevis, retirer le jonc de blocage (G).

Install flange in sink hole/Instale la brida en el orificio del fregadero/Installer le collet dans le trou de l'évier

9

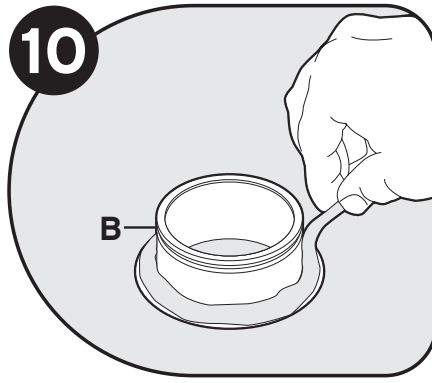


Remove flange from sink. Remove old plumber's putty from sink with putty knife.

Retire la brida del fregadero. Retire la masilla de plomería vieja del fregadero con una espátula para masilla.

Retirer le collet de l'évier. Enlever le mastic de plomberie usagé au moyen d'un couteau à mastic.

10

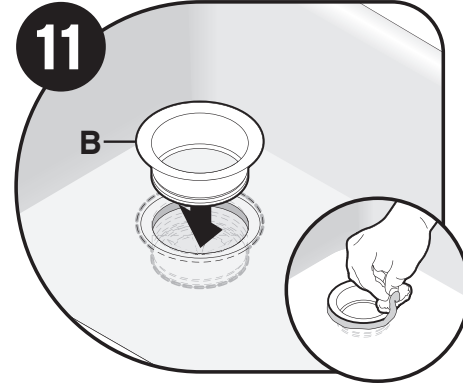


Evenly apply 1/2" thick rope of plumber's putty around sink flange (B).

Aplique una tira gruesa de masilla de plomería, de 1/2" (1.3 cm), en forma uniforme alrededor de la brida (B).

Appliquer uniformément un cordon de mastic de plomberie de 1/2" (1,3 cm) d'épaisseur autour du collet (B).

11



Press sink flange (B) firmly into sink drain. Remove excess putty.

Presione la brida (B) firmemente en el desagüe del fregadero. Retire la masilla sobrante.

Enfoncer le collet (B) fermement dans le drain de l'évier. Enlever l'excès de mastic.

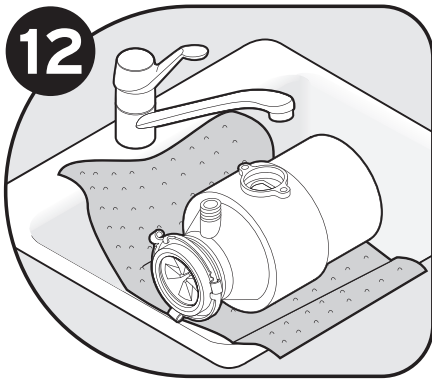
NOTICE/AVISO/AVIS

Property Damage: Risk of long/short term water leakage if not properly assembled.

Daño a la propiedad: Si no se coloca de la manera adecuada existe riesgo de filtración de agua a corto o largo plazo.

Dommages matériels : Un assemblage incorrect peut entraîner un risque de fuite d'eau à court ou à long terme.

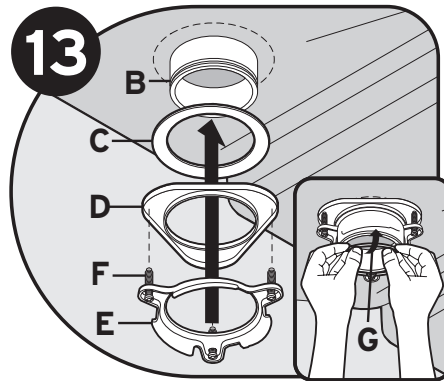
Attach upper mounting assembly/Conecte el conjunto de montaje superior/Fixer le montage de base supérieur



Place a weight, such as the disposer, on the sink flange to hold it in place. Use a towel to avoid scratching sink.

Coloque un peso, por ejemplo el triturador, sobre la brida del fregadero para mantenerla en su lugar. Utilice una toalla para evitar que se raye el fregadero.

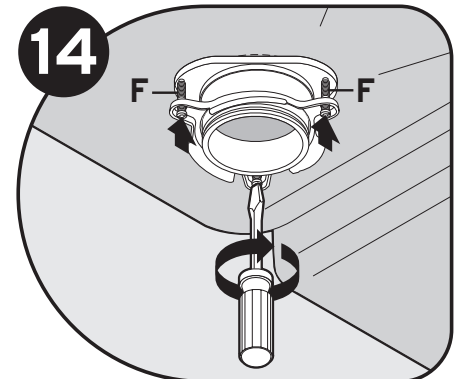
Placer un poids tel que le broyeur sur le collet de l'évier pour le maintenir en place. Utiliser une serviette pour éviter d'égratigner l'évier.



Insert fiber gasket (C), backup flange (D) and mounting ring (E). Hold in place while inserting snap ring (G). Pull snap ring (G) open and press firmly until it snaps into place.

Insérte la junta de fibra (C), la brida de soporte (D) y el anillo de montaje (E). Sosténgalos en su lugar mientras inserta el anillo de cierre (G). Abra el anillo de cierre (G) y presione firmemente hasta que se coloque en el lugar.

Insérer le joint fibreux (C), la bride de retenue (D) et l'anneau de montage (E). Tenir le tout en place pendant l'insertion du l'anneau élastique (G). Ouvrir l'anneau élastique (G) et appuyer fermement jusqu'à ce qu'il s'enclenche.



Tighten 3 mounting screws (F) evenly and firmly against backup flange.

Ajuste los 3 tornillos de montaje (F) en forma uniforme y firme contra la brida de soporte.

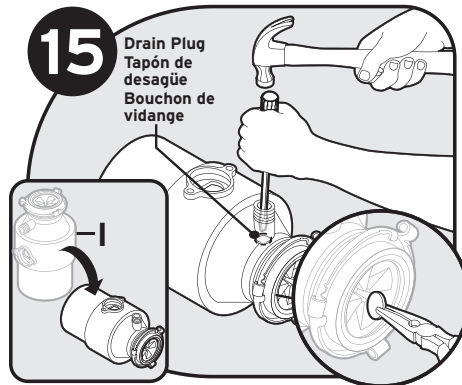
Serrer les trois vis de montage (F) uniformément et fermement contre la bride de retenue.

Attach upper mounting assembly/Conecte el conjunto de montaje superior/Fixer le montage de base supérieur

STOP! If connecting a dishwasher, remove drain plug in step 15.

¡PARE! Si está conectando un lavavajillas, saque el tapón de desagüe como se indica en el paso 15.

ARRÊTEZ! Si vous raccordez un lave-vaisselle, retirez le bouchon de vidange à l'étape 15.



IMPORTANT: Dishwasher connection only
IMPORTANT: Sólo para la conexión del lavavajillas
IMPORTANT : Connexion du lave-vaisselle seulement

If NOT connecting a dishwasher, continue to step 16.

Si no está conectando un lavavajillas, continúe con el paso 16.

Si vous ne raccordez pas un lave-vaisselle, continuez à l'étape 16.

NOTICE: Drain plug cannot be replaced once it is knocked out. Turn disposer (J) onto side and knock out drain plug with screwdriver. Remove plug from inside of disposer with pliers.

AVISO: El tapón de drenaje no se puede colocar de nuevo una vez que se ha quitado. Dé vuelta el triturador (J) para un costado y golpee el tapón del desagüe con un destornillador para extraerlo. Retire el tapón del interior del triturador con pinzas.

AVIS : Le bouchon de vidange ne peut être remis en place une fois qu'il est retiré. Déposer le broyeur (J) sur le côté et enlever le bouchon du drain avec un tournevis. Retirer le tampon de l'intérieur du broyeur avec des pinces.

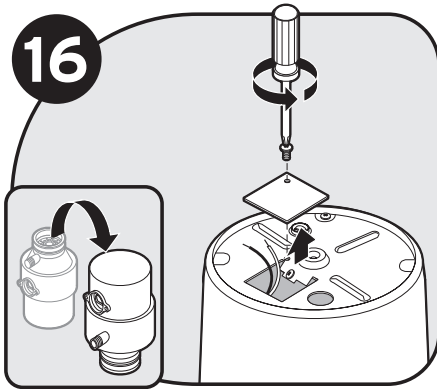
NOTICE/AVISO/AVIS

If the dishwasher connection is made without removing the plug, the dishwasher may overflow.

Si conecta el lavavajillas sin retirar la tapa ciega, el lavavajillas puede rebalsarse.

Si le raccordement du lave-vaisselle est effectué sans que le bouchon ne soit retiré, le lave-vaisselle peut déborder.

Connect disposer to electrical supply/Conecte el triturador al suministro eléctrico/ Raccorder le broyeur à l'alimentation électrique



Turn disposer over and remove electrical cover plate. Pull out wires.

Dé vuelta el triturador y retire la placa protectora eléctrica. Saque los cables.

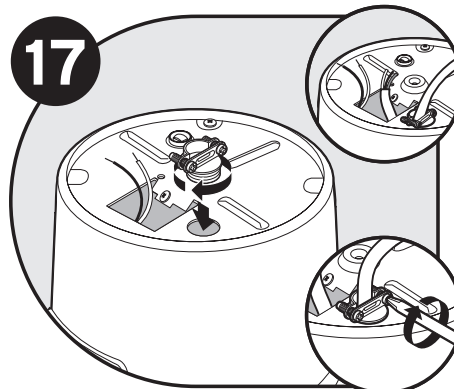
Renverser le broyeur et enlever la plaque électrique. Extraire les fils électriques

NOTICE/AVISO/AVIS

Property Damage: Do not remove or displace motor compartment insulation shield.

Daño a la propiedad: No retire o desplace la protección aislante del compartimento del motor.

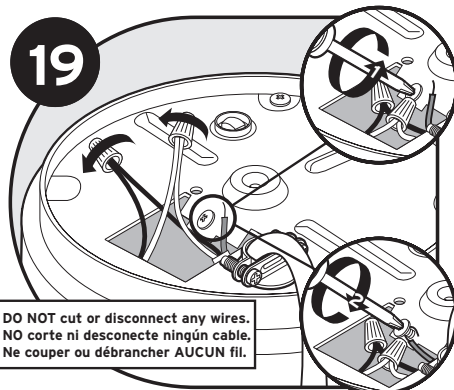
Dommages matériels : Ne pas enlever ni déplacer l'écran d'isolation du compartiment moteur.



Insert cable connector (not included) and run electrical cable through access hole on bottom of disposer. Tighten cable connector.

Introduzca el conector del cable (no incluido) y pase el cable eléctrico a través del orificio de acceso en la parte inferior del triturador. Ajuste el conector del cable.

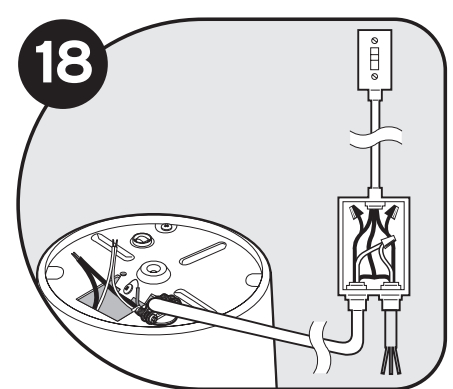
Insérer le connecteur de câble (non compris) et faire passer le câble électrique par le trou d'accès qui se trouve au fond du broyeur. Serrer le connecteur de câble.



⚠ DO NOT cut or disconnect any wires.
⚠ NO corte ni desconecte ningún cable.
⚠ Ne couper ou débrancher AUCUN fil.

Connect white wire from disposer to neutral (white) wire from power source. Connect black wire from disposer to hot (black, red) wire from power source with wire nuts (not included). Connect ground wire to green grounding screw. Unit must be grounded for safe and proper installation.

Conecte el cable blanco del triturador al cable neutro (blanco) de la fuente de energía, y el cable negro del triturador al cable vivo (negro, rojo) de la fuente de energía, use para ello tuercas para cable (no incluidas); finalmente, una el cable de conexión a tierra con el tornillo verde conectado a tierra. La unidad debe estar conectada a tierra para una instalación segura y adecuada.



This disposer requires a switch with a marked "Off" position (wired to disconnect all ungrounded supply conductors) installed within sight of the disposer sink opening (1 hp minimum rating).

Este triturador requiere un interruptor que tenga la posición "Off" marcada (cableado de modo de desconectar todos los conductores de suministro no conectados a tierra) e instalado no muy lejos de la abertura del fregadero para el triturador (capacidad mínima de 1 hp).

Ce broyeur doit être équipé d'un interrupteur sur lequel la position d'arrêt (Off) est indiquée (pour débrancher tous les conducteurs d'alimentation non mis à la terre) et installé à la vue du trou d'évier du broyeur (puissance minimale de 1 HP).

Raccordez le fil blanc du broyeur au fil neutre (blanc) de la source d'alimentation et le fil noir du broyeur au fil sous tension (noir ou rouge) de la source d'alimentation au moyen de serre-fils (non inclus); mettez le fil à la terre au moyen de la vis verte de mise à la terre. L'unité doit être mise à la terre pour assurer une installation adéquate et sûre.



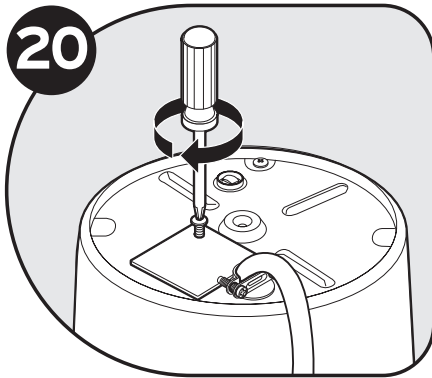
WARNING/ADVERTENCIA/ AVERTISSEMENT

Improper grounding can result in electric shock hazard.

La conexión incorrecta a tierra puede representar un riesgo de descarga eléctrica.

Une mise à la terre inefficace peut entraîner un risque de choc électrique.

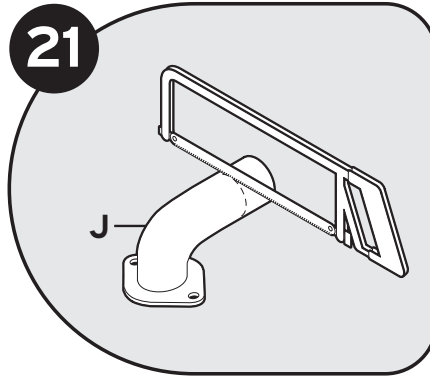
Connect disposer to electrical supply/Conecte el triturador al suministro eléctrico/ Raccorder le broyeur à l'alimentation électrique



Push wires into disposer and replace electrical cover plate.

Coloque los cables dentro del triturador y vuelva a colocar la placa protectora eléctrica.

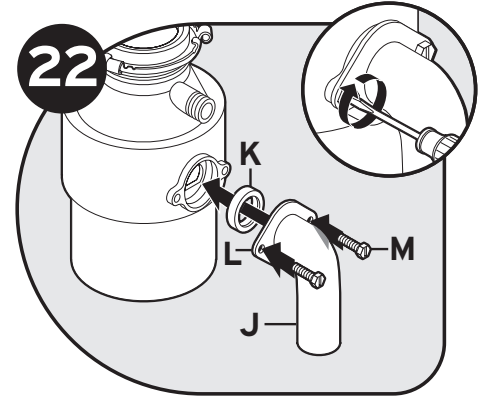
Pousser les fils dans le broyeur et replacer la plaque électrique.



You may need to trim discharge tube (J) to ensure proper fit.

Es posible que deba recortar el tubo de descarga (J) para asegurarse de que quede bien colocado.

Vous devrez peut-être ajuster le tuyau de vidange (J) pour qu'il s'adapte correctement.



Slide flange (L) over discharge tube (J). Insert gasket (K) into discharge outlet. Secure flange and discharge tube to disposer with two bolts (M). Although the supplied discharge tube is preferred, a straight discharge tube may be used.

Deslice la brida (L) sobre el tubo de descarga (J). Introduzca la junta (K) en la salida de descarga. Fije con dos pernos (M) la brida y el tubo de descarga al triturador. Aunque se recomienda utilizar el tubo de descarga incluido con la unidad, puede usar un tubo de descarga recto.

Glissez le collet (L) sur le tuyau de vidange (J). Insérer le joint (K) dans l'orifice d'évacuation. À l'aide des deux boulons (M), fixer le collet et le tuyau de vidange au broyeur. Même s'il est préférable d'utiliser le tuyau de vidange fourni, un tuyau de vidange droit peut être utilisé.

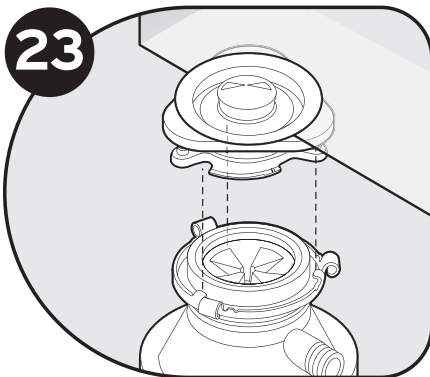
NOTICE/AVISO/AVIS

Property Damage Risk: Do not remove or displace motor compartment insulation shield.

Daño a la propiedad: No retire o desplace la protección aislante del compartimento del motor.

Dommages matériels : Ne pas enlever ni déplacer l'écran d'isolation du compartiment moteur.

Connect disposer to mounting assembly/Conecte el triturador al conjunto de montaje/ Raccorder le broyeur au montage de base



Hang disposer by aligning 3 mounting tabs with slide-up ramps on mounting ring.

Sostenga el triturador y alinee las 3 lengüetas de montaje con las rampas deslizables sobre el anillo de montaje.

Accrocher le broyeur en alignant les 3 onglets de montage avec les glissières de l'anneau de montage.

⚠ WARNING/ADVERTENCIA/AVERTISSEMENT

Do not position your head or body under disposer; unit could fall during removal or installation.

Lesiones personales: No coloque la cabeza ni el cuerpo debajo del triturador, ya que la unidad podría caerse mientras lo retira o instala.

Ne pas placer la tête ou le corps sous le broyeur de déchets, l'unité pourrait tomber pendant le retrait ou l'installation.

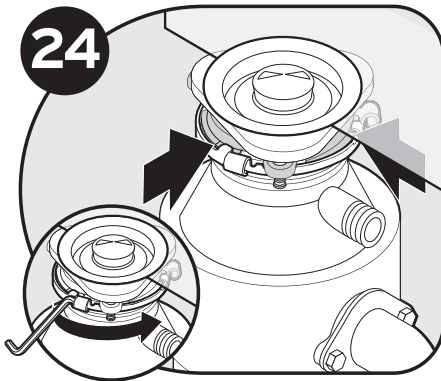
NOTICE/AVISO/AVIS

Property Damage: Risk of long/short term water leakage if all three mounting tabs are not properly engaged on all slide-up ramps and locked in place past the ridges.

Daño a la propiedad: Riesgo de filtración de agua a corto/largo plazo si las tres lengüetas de montaje no están correctamente acopladas a todas las rampas deslizantes y aseguradas en el lugar por los bordes.

Dommages matériels : Risque de fuite à court terme ou à long terme si les trois languettes de montage ne sont pas correctement enclenchées dans les rampes de glissement vers le haut et verrouillées en position en amont des arêtes.

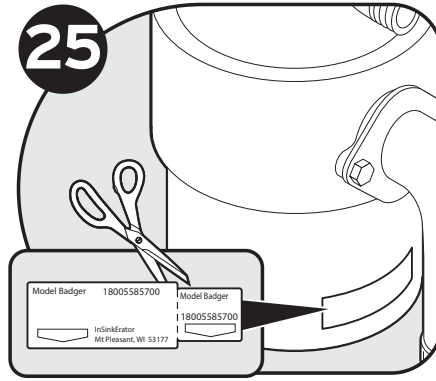
**Connect disposer to mounting assembly/Conecte el triturador al conjunto de montaje/
Raccorder le broyeur au montage de base**



Turn mounting ring until all 3 mounting tabs lock over the ridges on the slide-up ramps.

Gire el anillo de montaje hasta que las 3 lengüetas de montaje se cierren sobre los bordes de las rampas deslizables.

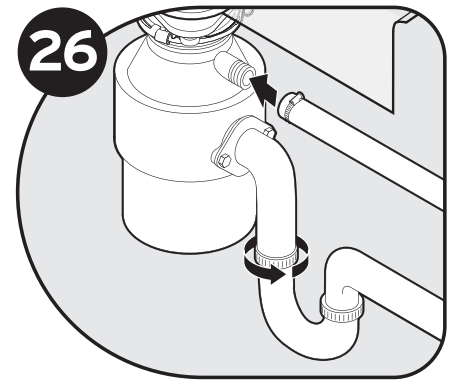
Faire tourner l'anneau de montage jusqu'à ce que les 3 onglets se bloquent par-dessus les nervures des glissières.



Detach removable portion of spec label and place on a visible location.

Corte la parte desmontable de la etiqueta de/ especificaciones y colóquela en un lugar visible.

Détacher la partie détachable de l'étiquette de spécifications et la placer dans un endroit bien visible.



Reconnect plumbing (and dishwasher connection if used).

Vuelva a conectar las tuberías (y la conexión del lavavajillas, si fuese necesario).

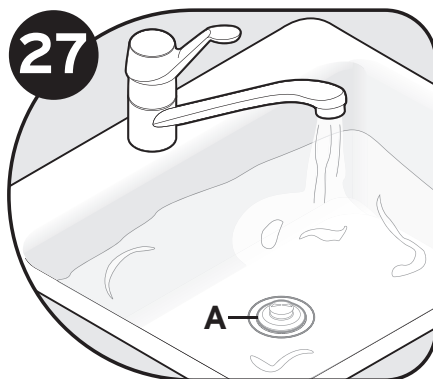
Le tuyau devra peut-être être coupé pour s'ajuster proprement.

⚠ CAUTION/PRECAUCIÓN/MISE EN GARDE

To avoid leaks and/or potential falling hazard, make sure all three mounting tabs are locked over ridges.

Para evitar filtraciones o peligro de caída potencial, asegúrese de que las tres lengüetas de montaje queden aseguradas en los bordes.

Pour éviter les fuites et les risques de chute, veiller à ce que les trois languettes de montage soient verrouillées sur les arêtes.



Insert stopper (A) into sink opening. Fill sink with water, then test for leaks. Reconnect electrical power at fuse box or circuit breaker box.

Introduzca el tapón (A) en la abertura del fregadero. Llene el fregadero con agua y luego verifique que no haya fugas. Vuelva a conectar el suministro eléctrico desde la caja de fusibles o el disyuntor.

Remettre le bouchon (A) dans l'ouverture de l'évier. Remplir l'évier d'eau pour vérifier qu'il ne fuit pas. Rétablir l'alimentation électrique au boîtier de fusibles ou de disjoncteurs.

NOTICE/AVISO/AVIS

Property Damage: Risk of long/short term water leakage if not properly assembled.

You may need to trim tube for proper fit. To reduce the potential of leaking, the drain line must be properly pitched (not less than 1/4" of pitch per foot of run) from the disposer to the drain connection, with the drain connection being lower than the disposer discharge. Failure to do so could lead to premature corrosion or leaking due to standing water left in the disposer.

Daño a la propiedad: Si no se coloca de la manera adecuada existe riesgo de filtración de agua a corto o largo plazo.

Es posible que deba recortar el tubo para que quede bien colocado. Para reducir el potencial de fugas, la línea del drenaje debe estar colocada de la manera apropiada (no menos de 1/4" de inclinación por pie de tramo) desde el triturador hasta la conexión del drenaje, y la conexión del drenaje debe estar más baja que la descarga del triturador. Si no se coloca de la manera apropiada, puede provocar corrosión prematura o filtraciones debido al agua estancada en el triturador.

Dommages matériels : Un assemblage incorrect peut entraîner un risque de fuite d'eau à court ou à long terme.

Il peut être nécessaire de couper le tube pour l'ajuster correctement. Pour réduire les risques de fuite, le tuyau de vidange doit avoir une pente adéquate (chute d'au moins 6 mm sur 30 cm ou 1/4 po par pied) entre le broyeur et le raccord de vidange, le raccord de vidange devant se trouver plus bas que l'évacuation du broyeur. Le non-respect de cette instruction pourrait entraîner une corrosion prématurée ou des fuites en raison de la présence d'eau stagnante dans le broyeur.

ENGLISH

INSTRUCTIONS PERTAINING TO RISK OF FIRE, ELECTRIC SHOCK, INJURY TO PERSONS OR DAMAGE TO PROPERTY

IMPORTANT SAFETY INSTRUCTIONS

WARNING

Personal Injury: Do not position your head or body under disposer; unit could fall during removal or installation.

GROUNDING INSTRUCTIONS

For all grounded, cord-connected disposers:

This disposer must be grounded to reduce the risk of electric shock in the event of a malfunction or breakdown. Grounding provides a path of least resistance for electric current. If your disposer did not include a factory installed power cord, use a cord having an equipment-grounding conductor and a grounding plug. (InSinkErator power cord accessory CRD-00 recommended.) The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

For permanently connected disposers:

This disposer must be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the disposer.

WARNING

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the disposer is properly grounded. If the plug you are using does not fit the outlet, do not modify the plug or attempt to force the plug into the outlet - have a proper outlet installed by a qualified electrician.

- This disposer must be properly grounded.
- Do not attach ground wire to gas supply line.
- Disconnect power before installing or servicing disposer.
- If three-prong grounded plug is used, plug must be inserted into three-hole grounded receptacle.
- All wiring must comply with local electrical codes.
- Do not reconnect electrical current at main service panel until proper grounds are installed.

NOTICE

- Do not use plumber's putty on any other disposer connection other than sink flange. Do not use thread sealants or pipe dope. These may harm disposer and cause property damage.

WARNING

When using electric appliances, basic precautions are always to be followed, including:

- Read all instructions before using the appliance.
- To reduce the risk of injury, close supervision is required when an appliance is used near children.
- Do not put fingers or hands into a waste disposer.
- Turn the power switch to the off position before attempting to clear a jam, removing an object from the disposer or pressing reset button.
- When attempting to loosen a jam in a waste disposer, use the self-service wrenchette.
- When attempting to remove objects from a waste disposer, use long-handled tongs or pliers.
- Do not put the following into a disposer: clam or oyster shells, caustic drain cleaners or similar products, glass, china, or plastic, metal (such as bottle caps, steel shot, tin cans, or utensils), hot grease or other hot liquids.
- When not operating a disposer, leave the stopper in place to reduce the risk of objects falling into the disposer.
- This product is designed to dispose of normal household food waste; inserting materials other than food waste into disposer could cause personal injury and/or property damage.
- To reduce the risk of injury and/or property damage, do not use the sink containing the disposer for purposes other than food preparation (such as baby bathing or washing hair).
- Do not dispose of the following in the disposer: paints, solvents, household cleaners and chemicals, automotive fluids, plastic wrap.
- **FIRE HAZARD:** Do not store flammable items such as rags, paper or aerosol cans near disposer. Do not store or use gasoline or other flammable vapors and liquids in vicinity of disposer.
- **LEAK HAZARD:** Regularly inspect disposer and plumbing fittings for leaks, which can cause property damage and could result in personal injury.

SAVE THESE INSTRUCTIONS

OPERATING INSTRUCTIONS

1. Remove stopper from sink opening and run cold water.
2. Turn on disposer.
3. Slowly insert food waste into disposer. **WARNING!** Position stopper to minimize possible ejection of material while grinding.
4. After grinding is complete, turn disposer off and run water for a few seconds to flush drain line.

DO...

- First turn on cold water and then turn on the disposer. Continue running cold water for several seconds after grinding is completed to flush the drain line.
- Grind hard materials such as small bones, fruit pits, and ice. A scouring action is created by the particles inside the grind chamber.
- Grind peelings from citrus fruits to freshen up drain smells.
- Use a disposer cleaner, degreaser, or deodorizer as necessary to relieve objectionable odors caused by grease build-up.

NOTICE

Failure to flush the disposer properly may result in damage to the disposer and/or property damage.

DON'T...

- **DON'T POUR GREASE OR FAT DOWN YOUR DISPOSER OR ANY DRAIN. IT CAN BUILD UP IN PIPES AND CAUSE DRAIN BLOCKAGES. PUT GREASE IN A JAR OR CAN AND DISPOSE IN THE TRASH.**
- Don't use hot water when grinding food waste. It is OK to drain hot water into the disposer between grinding periods.
- Don't fill disposer with a lot of vegetable peels all at once. Instead, turn the water and disposer on first and then feed the peels in gradually.
- Don't grind large amounts of egg shells or fibrous materials like corn husks, artichokes, etc., to avoid possible drain blockage.
- Don't turn off disposer until grinding is completed and only sound of motor and water is heard.



USER MAINTENANCE INSTRUCTIONS

CLEANING DISPOSER

Over time, food particles may accumulate in the grind chamber and baffle. An odor from the disposer is usually a sign of food buildup. To clean disposer:

1. Place stopper in sink opening and fill sink halfway with warm water.
2. Mix 1/4 cup baking soda with water. Turn disposer on and remove stopper from sink at same time to wash away loose particles.

RELEASING DISPOSER JAM

If motor stops while disposer is operating, disposer may be jammed. To release jam:

1. Turn off disposer and water.
2. Insert one end of self-service Jam-Buster™ Wrench into center hole on bottom of disposer (see Figure A). Work Jam-Buster™ Wrench back and forth until it turns one full revolution. Remove Jam-Buster™ Wrench.
3. Reach into disposer with tongs and remove object(s). Allow disposer motor to cool for 3 - 5 minutes, then lightly push red reset button on disposer bottom (see Figure B). (If motor remains inoperative, check service panel for tripped circuit breakers or blown fuses.)

Figure A

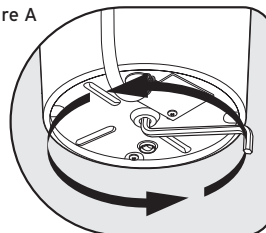
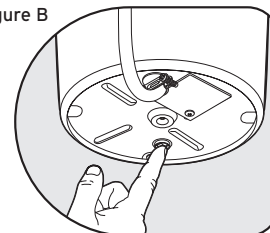


Figure B



IN-HOME FULL-SERVICE LIMITED WARRANTY BADGER® 1, BADGER® 1XL, BADGER® 100 - 1 YEAR BADGER® 5, BADGER® 5XL, BADGER® 500 - 3 YEARS

This limited warranty is provided by InSinkErator®, a business unit of Emerson Electric Co., ("InSinkErator" or "Manufacturer" or "we" or "our" or "us") to the original consumer owner of the InSinkErator product with which this limited warranty is provided (the "InSinkErator Product"), and any subsequent owner of the residence in which the Product was originally installed ("Customer" or "you" or "your").

InSinkErator warrants to Customer that your InSinkErator Product will be free from defects in materials and workmanship, subject to the exclusions described below, for the warranty period, commencing on the later of: (a) the date your InSinkErator Product is originally installed, (b) the date of purchase, or (c) the date of manufacture as identified by your InSinkErator Product serial number. You will be required to show written documentation supporting (a) or (b). If you are unable to provide documentation supporting either (a) or (b), the Warranty Period commencement date will be determined by Manufacturer, in its sole and absolute discretion, based upon your InSinkErator Product serial number.

What is Covered

This limited warranty covers defects in materials or workmanship, subject to the exclusions below, in InSinkErator Products used by a consumer Customer for residential use only, and includes all replacement parts and labor costs. YOUR SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE INSINKERATOR PRODUCT, PROVIDED THAT IF WE DETERMINE IN OUR SOLE DISCRETION THAT NEITHER REMEDY IS PRACTICABLE, WE MAY PROVIDE YOU A REFUND OF YOUR PURCHASE PRICE OR A CREDIT TOWARDS ANOTHER INSINKERATOR PRODUCT.

What is not Covered

This limited warranty does not extend to and expressly excludes:

- Losses or damages or the inability to operate your InSinkErator Product resulting from conditions beyond the Manufacturer's control including, without limitation, accident, alteration, misuse, abuse, neglect, negligence (other than Manufacturer's), failure to install, maintain, assemble, or mount the InSinkErator Product in accordance with Manufacturer's instructions or local electrical and plumbing codes.
- Wear and tear expected to occur during the normal course of use, including without limitation, cosmetic rust, scratches, dents or comparable and reasonably expected losses or damages.

In addition to the above exclusions, this limited warranty does not apply to InSinkErator Products installed in a commercial or industrial application.

No Other Express Warranty Applies

This limited warranty is the sole and exclusive warranty provided to the Customer identified above. No other express warranty, written or verbal, applies. No employee, agent, dealer, or other person is authorized to alter this limited warranty or make any other warranty on behalf of Manufacturer. The terms of this limited warranty shall not be modified by the Manufacturer, the original owner, or their respective successors or assigns.

What we will do to Correct Problems

If your InSinkErator Product does not operate in accordance with the documentation provided to you, or you have questions concerning your InSinkErator Product or how to determine when service is needed, please call the toll free InSinkErator AnswerLine® at 1 (800) 558-5700, or visit our website at www.insinkerator.com. You may also notify us at: InSinkErator Service Center, 4700 21st Street, Racine, Wisconsin 53406 USA.

The following information must be provided as part of your warranty claim: your name, address, phone number, your InSinkErator Product model and serial number, and if necessary, upon request, written confirmation of either: (a) the date shown on your installation receipt, or (b) the date shown on your purchase receipt.

Manufacturer or its authorized service representative will determine, in its sole and absolute discretion, if your InSinkErator Product is covered under this limited warranty. You will be given the contact information for your closest authorized InSinkErator Service Center. Please contact your InSinkErator Service Center directly to receive in home warranty repair or replacement service. Only an authorized InSinkErator service representative may provide warranty service. InSinkErator is not responsible for warranty claims arising from work performed on your InSinkErator Product by anyone other than an authorized InSinkErator service representative.

If a covered claim is made during the Warranty Period, Manufacturer will, through its authorized service representative, either repair or replace your InSinkErator Product. Cost of replacement parts or a new InSinkErator Product, and cost of labor for repair or installation of the replacement InSinkErator Product are provided at no cost to you. Repair or replacement shall be determined by Manufacturer or its authorized service representative in their sole discretion. All repair and replacement services will be provided to you at your home. If Manufacturer determines that your InSinkErator Product must be replaced rather than repaired, the limited warranty on the replacement InSinkErator Product will be limited to the unexpired term remaining in the original Warranty Period.

This disposer is covered by Manufacturer's limited warranty. This limited warranty is void if you attempt to repair the InSinkErator Product. For service information, please visit www.insinkerator.com or call, toll free, 1-800-558-5700.

Limitation of Liability

TO THE EXTENT PERMITTED BY LAW, IN NO EVENT SHALL MANUFACTURER OR ITS AUTHORIZED SERVICE REPRESENTATIVES BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, INCLUDING ANY ECONOMIC LOSS, WHETHER RESULTING FROM NONPERFORMANCE, USE, MISUSE OR INABILITY TO USE THE INSINKERATOR PRODUCT OR THE MANUFACTURER'S OR ITS AUTHORIZED SERVICE REPRESENTATIVE'S NEGLIGENCE. MANUFACTURER SHALL NOT BE LIABLE FOR DAMAGES CAUSED BY DELAY IN PERFORMANCE AND IN NO EVENT, REGARDLESS OF THE FORM OF THE CLAIM OR CAUSE OF ACTION (WHETHER BASED IN CONTRACT, INFRINGEMENT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE), SHALL MANUFACTURER'S LIABILITY TO YOU EXCEED THE PRICE PAID BY THE ORIGINAL OWNER FOR THE INSINKERATOR PRODUCT.

The term "consequential" damages shall include, but not be limited to, loss of anticipated profits, business interruption, loss of use or revenue, cost of capital or loss or damage to property or equipment.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This limited warranty gives you specific legal rights and you may also have other rights which vary from state to state.



Food waste is roughly 80% water. By using your disposal regularly, you can help divert food waste from landfills and reduce greenhouse gas emissions. Make sustainability a family affair by using your disposal. After all, the smallest changes can make the biggest impact.

For U.S. www.insinkerator.com/green For Canada www.insinkerator.ca

InSinkErator® may make improvements and/or changes in the specifications at any time, in its sole discretion, without notice or obligation and further reserves the right to change or discontinue models.

The mounting collar configuration is a trademark of Emerson Electric Co.

Badger®

EMERSON
Commercial & Residential Solutions

in sink erator

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INSTRUCCIONES IMPORTANTES PARA SU SEGURIDAD

⚠ ADVERTENCIA

Lesiones personales: No coloque la cabeza ni el cuerpo debajo del triturador, ya que la unidad podría caerse mientras lo retira o instala.

INSTRUCCIONES PARA LA CONEXIÓN A TIERRA

Instrucciones para todos los trituradores con conexión a tierra conectados por cable:

El triturador debe estar conectado a tierra a fines de reducir el riesgo de descarga eléctrica en caso de mal funcionamiento o avería. La conexión a tierra proporciona una vía de menor resistencia para la corriente eléctrica. Si su triturador no incluía un cable de alimentación instalado de fábrica, use un cable que tenga un conductor de conexión a tierra y un enchufe de conexión a tierra. (Se recomienda el accesorio de cable de alimentación InSinkErator CRD-00). El enchufe debe estar conectado a un tomacorriente que esté instalado correctamente y con conexión a tierra de acuerdo con todos los reglamentos y códigos locales.

Instrucciones para los trituradores de desperdicios de comida de conexión permanente:

El triturador debe estar conectado a un sistema de cableado permanente de metal y con conexión a tierra, o bien el conductor de conexión a tierra del equipo debe funcionar junto con los conductores de circuito y estar conectado al cable o terminal con conexión a tierra del equipo del triturador.

⚠ ADVERTENCIA

La conexión incorrecta del conductor de conexión a tierra del equipo puede representar un riesgo de descarga eléctrica. Consulte a un electricista calificado o especialista en reparaciones si tiene dudas sobre la conexión a tierra del triturador. Si el enchufe que está usando no coincide con el tipo de tomacorriente, no altere el enchufe ni lo fuerce para que entre en el tomacorriente; pídale a un electricista calificado que instale un tomacorriente adecuado.

- El triturador debe tener una adecuada conexión a tierra.
- No conecte el cable de conexión a tierra en un tubo de suministro de gas.
- Desconecte la corriente eléctrica antes de instalar o reparar el triturador.
- Si se utiliza un enchufe de tres patas con conexión a tierra, el enchufe debe introducirse en un receptáculo de tres orificios con conexión a tierra.
- Todo el cableado debe cumplir con los códigos eléctricos locales.
- No reconecte la corriente eléctrica al panel de servicio principal sino hasta que se instalen las conexiones a tierra adecuadas.

AVISO

- No utilice masilla de plomería ni ninguna otra conexión del triturador que no sea la brida del fregadero. No utilice sellador de rosca ni grasa para rosca de cañerías. Estos productos pueden dañar el triturador y ocasionar daños a la propiedad.

⚠ ADVERTENCIA

Al usar artefactos electrodomésticos, siempre se deben tomar precauciones básicas, las que incluyen:

- Lea todas las instrucciones antes de utilizar el aparato.
- Para reducir el riesgo de lesiones, se requiere estrecha supervisión cuando se usa un artefacto cerca de niños.
- No ponga los dedos ni las manos dentro de un triturador de desperdicios.
- Coloque el interruptor de encendido en la posición de apagado antes de tratar de eliminar un atasco, retirar un objeto del triturador de desperdicios o presionar el botón de reposición.
- Para eliminar obstrucciones de un triturador de desperdicios, utilice la llave para autoservicio.
- Al tratar de extraer objetos de un triturador de desperdicios use tenazas o pinzas de mango largo.
- No coloque los siguientes elementos dentro de un triturador: conchas de almejas u ostras, limpiadores de drenaje cáusticos o productos similares, vidrio, loza o plástico, metales (como tapas de botellas, granalla de acero, latas o utensilios), grasa caliente u otros líquidos calientes.
- Cuando el triturador no esté en funcionamiento, deje la tapón del drenaje en su lugar para reducir el riesgo de que algún objeto caiga en el triturador.
- Este producto está diseñado para deshacerse de desperdicios normales de los alimentos hogareños; insertar materiales que no son desperdicios en el triturador podría ocasionar lesiones personales o daños a la propiedad.
- Para reducir el riesgo de lesiones o de daños en bienes, no utilice el fregadero con el triturador de desperdicios de comida en otras actividades que no sean preparación de comida (tales como bañar a un bebé o lavarse el pelo).
- No elimine ninguno de los siguientes elementos en el triturador: pinturas, solventes, limpiadores de uso doméstico, productos químicos, líquidos para automóviles o envolturas de plástico.
- PELIGRO DE INCENDIO: No guarde artículos inflamables, como trapos, papel o aerosoles, cerca del triturador. No guarde ni utilice gasolina ni otros vapores o líquidos inflamables cerca del triturador.
- PELIGRO DE FUGA: Revise periódicamente el triturador y los acoples de plomería para ver si hay fugas que puedan ocasionar daños materiales y puedan provocar lesiones personales.

GUARDE ESTAS INSTRUCCIONES

INSTRUCCIONES DE OPERACION

1. Retire el tapón del fregadero y haga correr agua fría.
2. Encienda el triturador.
3. Introduzca lentamente los desperdicios de comida dentro del triturador. ¡ADVERTENCIA! Coloque el tapón para disminuir la posibilidad de que los materiales salgan despedidos durante la trituración.
4. Luego de que la trituración esté completa, apague el triturador y deje correr el agua durante unos segundos para enjuagar la línea de drenaje.

LO QUE DEBE HACER

- Primero haga correr el agua fría y luego encienda el triturador. Después de que termine la trituración, deje correr el agua durante varios segundos para enjuagar la línea de drenaje.
- Triture materiales duros como huesos pequeños, carozos de frutas y hielo. Las partículas crean una acción de restregado en el interior de la cámara de trituración.
- Triture cáscaras de frutas cítricas para refrescar el olor del drenaje.
- Utilice un limpiador, desengrasante o desodorante para trituradores cuando sea necesario a fin de eliminar malos olores causados por la acumulación de grasa.

LO QUE NO DEBE HACER

• NO VIERTA GRASA NI ACEITE EN EL TRITURADOR NI EN NINGÚN DRENAJE. ESTOS MATERIALES SE PUEDEN ACUMULAR EN LAS CAÑERÍAS Y TAPAR EL DRENAJE. COLOQUE LA GRASA EN UN FRASCO O LATA Y DESÉCHELO EN LA BASURA.

- No use agua caliente para triturar desperdicios de comidas. Puede dejar correr agua caliente en el triturador entre períodos de trituración.
- No llene el triturador con demasiadas cáscaras de vegetales al mismo tiempo. Primero abra la llave del agua y encienda el triturador y luego coloque las cáscaras gradualmente.
- No triture grandes cantidades de cáscaras de huevo ni materiales fibrosos como barbas del choclo, alcachofas, etc., pues ello podría obstruir el drenaje.
- No apague el triturador hasta que la trituración esté completa y sólo se escuche el sonido del motor y del agua.



AVISO

Si no enjuaga el triturador de la manera adecuada puede provocar daños al triturador o a la propiedad.

INSTRUCCIONES DE MANTENIMIENTO PARA EL USUARIO

LIMPIEZA DEL TRITURADOR

Con el tiempo, pueden acumularse partículas de comida en la cámara de trituración y el deflector. Los malos olores provenientes del triturador son generalmente un signo de acumulación de comida. Para limpiar el triturador:

1. Coloque el tapón en la abertura del fregadero y llénelo con agua tibia hasta la mitad.
2. Mezcle 1/4 de taza de bicarbonato de sodio con agua. Encienda el triturador y retire el tapón del fregadero al mismo tiempo para eliminar las partículas sueltas.

COMO LIBERAR LAS OBSTRUCCIONES DEL TRITURADOR

Si el motor se detiene durante el funcionamiento del triturador, puede ser debido a una obstrucción.

Para liberar las obstrucciones:

1. Apague el triturador y cierre la llave de agua.
2. Inserte un extremo de la Llave incorporada Jam-Buster™ en el orificio central, en el fondo del triturador (ver Figura A). Mueva la Llave Jam-Buster™ hacia adelante y hacia atrás hasta que gire una vuelta completa. Quite la Llave Jam-Buster™.
3. Introduzca unas tenazas dentro del triturador y retire el objeto u objetos. Deje enfriar el motor durante 3 a 5 minutos y luego oprima suavemente el botón de reposición rojo ubicado en la parte inferior del triturador (ver Figura B). (Si el motor sigue sin funcionar, revise el panel de servicio para ver si hay interruptores de circuito activados o fusibles quemados.)

Figura A

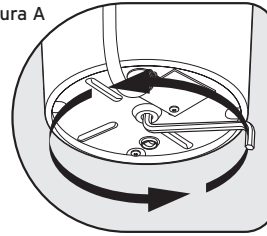
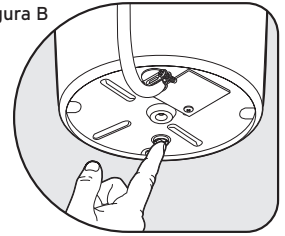


Figura B



GARANTÍA LIMITADA DE SERVICIO COMPLETO EN EL HOGAR BADGER® 1, BADGER® 1XL, BADGER® 100 - 1 AÑO BADGER® 5, BADGER® 5XL, BADGER® 500 - 3 AÑOS

InSinkErator®, una unidad comercial de Emerson Electric Co., ("InSinkErator", "el Fabricante", "nosotros", "nuestro" o "nos") otorga esta garantía limitada al usuario propietario original del producto de InSinkErator por el cual se extiende esta garantía limitada (el "Producto de InSinkErator"), o a cualquier otro propietario posterior del lugar donde se instaló originalmente el Producto ("Cliente", "usted" o "su").

InSinkErator le garantiza al Cliente que su Producto InSinkErator no tendrá defectos en el material ni la mano de obra, sujetos a las exclusiones descritas a continuación, durante el período de garantía, que comienza luego de: (a) la fecha en la que se instaló originalmente su Producto InSinkErator, (b) la fecha de compra o (c) la fecha de fabricación indicada por el número de serie de su Producto InSinkErator. Deberá presentar la documentación escrita correspondiente para justificar (a) o (b). En caso de que no pueda presentar la documentación para justificar (a) o (b), la fecha de inicio del Período de Garantía quedará a consideración del Fabricante, bajo su único y absoluto criterio, basado en el número de serie del Producto InSinkErator.

Cobertura

Esta garantía limitada cubre defectos en los materiales y en la mano de obra, sujeta a las excepciones detalladas a continuación, en productos de InSinkErator utilizados por un Cliente usuario solo para uso doméstico, e incluye el costo de todos los repuestos y servicios de mano de obra. SU ÚNICO Y EXCLUSIVO RECURSO SEGÚN LOS TÉRMINOS DE ESTA GARANTÍA LIMITADA SERÁ LA REPARACIÓN O EL REEMPLAZO DEL PRODUCTO INSINKERATOR, EN EL ENTENDIDO DE QUE SI A NUESTRO JUICIO NINGÚN RECURSO ES PRÁCTICO, LE PODREMOS REEMBOLSAR EL PRECIO DE SU COMPRA O APLICARLO COMO CRÉDITO PARA LA COMPRA DE OTRO PRODUCTO INSINKERATOR.

Qué no cubre la cobertura

Esta garantía limitada no cubre y excluye de manera expresa lo siguiente:

- Pérdidas o daños, o la imposibilidad de operar su producto InSinkErator debido a condiciones que escapen al control del Fabricante, las que incluyen, de forma no taxativa, accidentes, modificaciones, uso incorrecto, abuso, descuido, negligencia (que no sea responsabilidad del Fabricante), fallas en la instalación, mantenimiento, armado o montaje del producto de InSinkErator, según lo indican las instrucciones del Fabricante o los códigos locales eléctricos y de plomería.
- El deterioro previsto bajo condiciones normales de uso incluye, de forma no taxativa, óxido superficial, rayones, abolladuras o pérdidas y daños comparables o razonablemente previstos.

Además de las excepciones anteriores, esta garantía limitada no se aplica a productos de InSinkErator instalados con fines comerciales o industriales.

No se aplica ninguna otra garantía expresa

Esta es la única y exclusiva garantía limitada que se le brinda al Cliente descrito anteriormente. No se aplica ninguna otra garantía expresa, oral o escrita. No se autoriza a ningún empleado, agente, distribuidor o tercero a modificar esta garantía limitada o a elaborar alguna otra garantía en nombre del Fabricante. Ninguna persona podrá modificar los términos de esta garantía limitada independientemente de si se trata del Fabricante, el propietario original o sus respectivos sucesores o beneficiarios.

Solución de problemas

Si su producto de InSinkErator no funciona según la documentación brindada, o si tiene preguntas sobre su producto de InSinkErator o desea saber si necesita servicio, llame a la línea de ayuda gratuita AnswerLine® de InSinkErator al 1 (800) 558-5700, o visite nuestro sitio web www.insinkerator.com. También puede comunicarse con nosotros en: InSinkErator Service Center, 4700 21st Street, Racine, Wisconsin 53406 USA. Wisconsin 53406 USA.



Los desperdicios de comida son aproximadamente un 80% de agua. Si utiliza su triturador con frecuencia, ayuda a desviar los desperdicios de comida de los vertederos (basureros) y a reducir las emisiones de gases de efecto invernadero. Haga que la sostenibilidad sea un asunto familiar mediante el uso del triturador. Después de todo, hasta el cambio más pequeño puede provocar el efecto más grande.

Para EEUU www.insinkerator.com/green Para Canadá www.insinkerator.ca

InSinkErator® podrá hacer mejores y/o cambios en las especificaciones en cualquier momento, a su discreción exclusiva, sin aviso ni obligación, y se reserve adicionalmente el derecho a cambiar o discontinuar los modelos.

La configuración del collarín de montaje es una marca registrada de Emerson Electric Co.

Debe brindar la siguiente información para presentar su reclamo de garantía: nombre, dirección, número de teléfono, modelo y número de serie del producto de InSinkErator, y en caso de ser necesario, se solicitará confirmación por escrito de: (a) fecha detallada en el recibo de instalación, o (b) fecha detallada en el recibo de compra.

El fabricante o su representante de servicio autorizado determinarán, a su exclusivo y absoluto criterio, si esta garantía limitada cubre su producto de InSinkErator. Se le dará la información para comunicarse con el centro de servicio autorizado de InSinkErator más cercano. Comuníquese directamente con el centro de servicio de InSinkErator para recibir en su hogar el servicio de garantía de reparación o reemplazo. Solo un representante de servicio autorizado de InSinkErator puede ofrecer el servicio de garantía. InSinkErator no se hace responsable de los reclamos de garantía que surjan del trabajo realizado en su producto de InSinkErator por otra persona que no sea un representante autorizado de servicio de InSinkErator.

Si se realiza un reclamo cubierto por la garantía durante el período de garantía, el Fabricante reparará o reemplazará su producto de InSinkErator a través de un representante de servicio autorizado. No se le cobrará el costo de los repuestos o del nuevo producto de InSinkErator, ni el costo de la mano de obra para la reparación o instalación del producto de InSinkErator de reemplazo. El Fabricante o su representante de servicio autorizado determinarán, a su exclusivo criterio, la reparación o el reemplazo. Todos los servicios de reparación y reemplazo se realizarán en su hogar. Si el Fabricante determina que se debe reemplazar su producto InSinkErator en vez de repararlo, la garantía limitada del producto InSinkErator de reemplazo se limitará al plazo restante vigente de la garantía original.

Este triturador está cubierto por la garantía limitada del Fabricante. Esta garantía limitada es nula si usted intenta reparar el producto InSinkErator. Para obtener información sobre el servicio, visite www.insinkerator.com o llame a la línea gratuita 1-800-558-5700.

Limitación de responsabilidades

EN LA MEDIDA EN QUE LA LEY LO PERMITA, EN NINGÚN CASO EL FABRICANTE NI SUS REPRESENTANTES DE SERVICIO AUTORIZADO SE RESPONSABILIZARÁN DE CUALQUIER DAÑO INCIDENTAL, ESPECIAL, DIRECTO O CONSECUENTE, INCLUIDA CUALQUIER PÉRDIDA ECONÓMICA, YA SEA RESULTADO DEL INCUMPLIMIENTO, EL USO, EL USO INCORRECTO O LA IMPOSIBILIDAD DE USAR EL PRODUCTO DE INSINKERATOR O LA NEGLIGENCIA POR PARTE DEL FABRICANTE O SUS REPRESENTANTES DE SERVICIO AUTORIZADO. EL FABRICANTE NO SE RESPONSABILIZARÁ DE LOS DAÑOS CAUSADOS POR DEMORAS EN EL CUMPLIMIENTO Y, EN NINGÚN CASO, INDEPENDIENTEMENTE DEL TIPO DE RECLAMO O CAUSA DE ACCIÓN (YA SEA QUE SE BASE EN EL CONTRATO, INCUMPLIMIENTO, NEGLIGENCIA, RESPONSABILIDAD OBJETIVA U OTRA RESPONSABILIDAD EXTRA CONTRACTUAL, ENTRE OTROS), LA RESPONSABILIDAD DEL FABRICANTE SUPERARÁ EL PRECIO ABONADO POR EL PROPIETARIO ORIGINAL DEL PRODUCTO DE INSINKERATOR.

El término "daños consecuentes" incluye, de forma no taxativa, pérdida de ganancias anticipadas, interrupción de actividades comerciales, uso o lucro cesante, costo de capital o pérdidas, o daños de propiedades o equipos.

Algunos estados no permiten la exclusión o limitación de responsabilidades por daños incidentales o consecuentes; por lo tanto, es posible que estas limitaciones no se apliquen a usted. Esta garantía limitada le otorga derechos legales específicos y también puede tener otros derechos que varían según el estado.

FRANÇAIS

DIRECTIVES RELATIVES AUX RISQUES D'INCENDIE, DE CHOC ÉLECTRIQUE, DE BLESSURES ET DE DOMMAGES MATÉRIELS

CONSIGNES DE SÉCURITÉ IMPORTANTES

AVERTISSEMENT

Blessures : Ne pas placer la tête ou le corps sous le broyeur de déchets, l'unité pourrait tomber pendant le retrait ou l'installation.

DIRECTIVES DE MISE À LA TERRE

Pour tous les broyeurs mis à la terre et raccordés à l'aide d'un cordon d'alimentation :

Le broyeur doit être mis à la terre pour réduire le risque de choc électrique en cas de défaillance ou de panne. La mise à la terre fournit un espace de moindre résistance au courant électrique. Si votre broyeur ne comprenait pas un cordon d'alimentation installé en usine, utilisez un cordon ayant un conducteur et une fiche de mise à la terre. (Le cordon d'alimentation CRD-00 d'InSinkErator est recommandé.) La fiche doit être branchée sur une prise qui est correctement installée et mise à la terre conformément à tous les codes et ordonnances locaux.

Pour les broyeurs connectés en permanence :

Le broyeur doit être connecté à une installation électrique métallique permanente mise à la terre ou un conducteur de mise à la terre d'équipement doit être lié aux conducteurs du circuit et raccordé à la borne de mise à la terre d'équipement ou au fil de connexion se trouvant sur le broyeur.

AVERTISSEMENT

Un branchement inadéquat du conducteur de mise à la terre d'équipement peut entraîner des risques de choc électrique. En cas de doute sur la mise à la terre du broyeur, demandez l'avis d'un électricien ou d'un réparateur qualifié. Si la fiche que vous utilisez ne convient pas à la prise, ne modifiez pas la fiche et ne tentez pas de la forcer dans la prise - faites installer une prise appropriée par un électricien qualifié.

- Ce broyeur doit être correctement mis à la terre.
- Ne pas fixer de fil de mise à la terre au tuyau d'alimentation du gaz.
- Couper l'alimentation électrique avant d'installer ou de réparer le broyeur.
- Si une fiche de mise à la terre à trois branches est utilisée, celle-ci doit être insérée dans une prise de trois trous mise à la terre.
- Tout le câblage utilisé doit être conforme aux codes de l'électricité locaux en vigueur.
- Ne pas remettre le courant au panneau principal avant que des conducteurs de mise à la terre ne soient installés.

AVIS

- Ne pas utiliser du mastic de plomberie sur aucune autre connection du broyeur que le collier d'évier. Ne pas utiliser de produit d'étanchéité pour filetage ni de pâte lubrifiante. Ces produits sont nuisibles au broyeur et peuvent causer des dommages.

AVERTISSEMENT

Lors de l'utilisation d'appareil électriques, des précautions élémentaires doivent toujours être prises, y compris :

- Lire les instructions au complet avant d'utiliser l'appareil.
- Pour réduire les risques de blessure, surveiller étroitement les enfants lorsqu'ils se trouvent à proximité d'un appareil en marche.
- Ne pas mettre les doigts ou la main dans un broyeur de déchets.
- Mettre l'interrupteur à la position d'arrêt avant de tenter de libérer un objet coincé, d'enlever un objet du broyeur ou d'appuyer sur le bouton de réenclenchement.
- Pour tenter de dégager un objet coincé dans le broyeur de déchets, utiliser la petite clé d'entretien.
- Pour enlever des objets du broyeur de déchets, utiliser des clés ou des pinces à longs manches.
- Ne pas mettre les produits ou objets suivants dans le broyeur de déchets : coquilles de palourde ou d'huître, nettoyants caustiques pour drain ou produits similaires, verre, porcelaine ou plastique, métal (tel que bouchons de bouteille, morceaux de métal, boîtes de conserve ou ustensiles), graisse chaude ou autres liquides chauds.
- Lorsque le broyeur n'est pas utilisé, laisser le bouchon en place pour éviter toute chute d'objet dans le broyeur.
- Ce produit a été conçu pour disposer des déchets de cuisine, le fait d'insérer autre chose que des déchets de cuisine dans le broyeur pourrait entraîner des blessures et/ou des dommages matériels.
- Afin de réduire les risques de blessure et de dommages matériels, ne pas utiliser un évier doté d'un broyeur de déchets à d'autres fins que la préparation d'aliments (par exemple, pour donner le bain à un bébé ou pour se laver les cheveux).
- Ne pas jeter les produits suivants dans le broyeur : peinture, solvants, produits chimiques et nettoyants ménagers, liquides automobiles, pellicule plastique.
- RISQUES D'INCENDIE : Ne pas ranger d'articles inflammables tels que des chiffons, du papier ou des aérosols à proximité du broyeur. Ne pas ranger ni utiliser de l'essence ou autres vapeurs et liquides inflammables à proximité du broyeur.
- RISQUES DE FUITE : Inspectez régulièrement le broyeur de déchets alimentaires et les raccords de plomberie pour détecter les fuites qui pourraient entraîner des dommages matériels, lesquels pourraient causer des blessures.

GARDER CES INSTRUCTIONS

MODE D'EMPLOI

1. Enlever le bouchon de l'ouverture de l'évier et faire couler l'eau froide.
2. Mettre le broyeur en marche.
3. Insérer lentement les déchets de cuisine dans le broyeur. **AVERTISSEMENT!** Placer le bouchon de façon à minimiser l'éjection possible de déchets pendant le broyage.
4. Une fois le broyage terminé, éteindre le broyeur et faire couler l'eau dans la conduite du drain pendant quelques secondes pour la rincer.

UTILISATION ADÉQUATE

- Ouvrir d'abord l'eau froide, puis mettre le broyeur en marche. Continuer à faire couler l'eau froide pendant plusieurs secondes après la fin du broyage pour rincer le conduit de vidange.
- Broyer des objets durs tels que de petits os, des noyaux de fruits et de la glace. Une action de frottement est créée par les particules à l'intérieur de la chambre de broyage.
- Broyer des pelures d'agrumes afin de rafraîchir les odeurs que dégagent le drain.
- Au besoin, utiliser un nettoyant, un dégraissant ou un désodorisant pour éliminer les mauvaises odeurs causées par l'accumulation de graisse dans le broyeur.

AVIS

Un rinçage inadéquat du broyeur peut endommager celui-ci et provoquer des dommages matériels.

UTILISATION INADÉQUATE

- **NE PAS VERSER D'HUILE OU DE GRAISSE DANS VOTRE BROYLEUR OU DANS N'IMPORTE QUEL DRAIN. LA GRAISSE POURRAIT S'ACCUMULER DANS LES TUYAUX ET ENTRAÎNER UN BLOCAGE DU DRAIN. VERSER LA GRAISSE DANS UN POT OU UNE BOÎTE DE CONSERVE VIDE ET LA METTRE AU REBUS.**
- Ne pas utiliser d'eau chaude pendant le broyage des déchets de cuisine. Le fait de faire couler de l'eau chaude dans le broyeur entre les broyages ne nuit pas à l'appareil.
- Ne pas remplir le broyeur de pelures de légumes en une seule fois. Faire plutôt couler l'eau et allumer le broyeur, puis ajouter les pelures dans le broyeur graduellement.
- Ne pas procéder au broyage de grandes quantités de coquilles d'œuf ou de matières fibreuses telles que des enveloppes de maïs, des artichauts etc. afin d'éviter tout blocage du drain.
- Ne pas éteindre le broyeur avant d'avoir complètement broyé les déchets et d'entendre uniquement le bruit du moteur et de l'eau qui coule.



INSTRUCTIONS D'ENTRETIEN PAR L'UTILISATEUR

NETTOYAGE DU BROYEUR

À la longue, des particules d'aliments peuvent s'accumuler dans la cuve de broyage et sur l'écran. Une odeur émanant du broyeur signifie habituellement une accumulation d'aliments. Pour nettoyer le broyeur :

1. Poser le bouchon dans l'ouverture de l'évier et remplir ce dernier à moitié avec de l'eau tiède.
2. Verser 125 ml de bicarbonate de soude dans l'eau. Allumer le broyeur et enlever le bouchon de l'évier simultanément afin d'évacuer les particules qui se sont détachées.

Le broyeur est équipé d'un dispositif Jam-Sensor® Circuit qui empêche pratiquement n'importe quels déchets alimentaires de se bloquer pendant le broyage. Si cet incident peu probable se produisait, débloquent le broyeur comme suit :

DÉBLOCAGE DU BROYEUR

Si le moteur s'arrête pendant que le broyeur fonctionne, il est possible que celui-ci soit bloqué.

Pour débloquent le broyeur :

1. Éteindre le broyeur et cesser de faire couler l'eau.
2. Insérez une extrémité de la Clé libre-service Jam-Buster™ dans le trou central au fond du broyeur (reportez-vous à la figure A). Déplacez la Clé Jam-Buster™ de l'avant vers l'arrière jusqu'à ce qu'elle tourne un tour complet. Retirez la Clé Jam-Buster™.
3. Au moyen de pinces, dégager et enlever les débris qui bloquent le broyeur. Laissez le moteur du broyeur refroidir pendant 3 à 5 minutes puis enfoncez légèrement le bouton de réenclenchement rouge au bas du broyeur (voir Figure B). (Si le moteur ne fonctionne toujours pas, vérifiez le panneau de service pour y rechercher des disjoncteurs déclenchés ou des fusibles grillés.)

Figure A

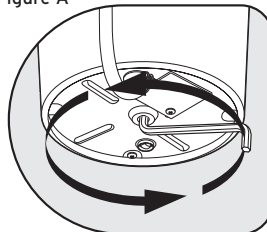
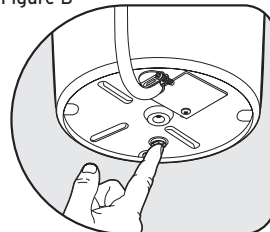


Figure B



GARANTIE LIMITÉE DE SERVICE COMPLET À DOMICILE BADGER® 1, BADGER® 1XL, BADGER® 100 - 1 AN BADGER® 5, BADGER® 5XL, BADGER® 500 - 3 ANS

Cette garantie limitée est fournie par InSinkErator®, une unité commerciale d'Emerson Electric Co., (« InSinkErator », « Fabricant », « nous » ou « notre ») au consommateur original propriétaire du produit InSinkErator avec lequel cette garantie est fournie (le « Produit InSinkErator ») et tout propriétaire subséquent de la résidence dans laquelle le Produit a originalement été installé (« Client », « vous » ou « votre »).

InSinkErator garantit au Client que votre Produit InSinkErator sera de défauts de matières premières et de main d'œuvre, sous réserve des exclusions décrites ci-dessous, pendant la période de garantie, à compter de la date la plus récente entre : (a) la date d'installation originale de votre Produit InSinkErator, (b) la date d'achat ou (c) la date de fabrication identifiée par le numéro de série de votre Produit InSinkErator. Vous devez présenter une documentation écrite prouvant (a) ou (b). Si vous ne pouvez pas fournir un document prouvant (a) ou (b), la date de début de la Période de garantie sera déterminée par le Fabricant, à son entière discrétion, selon le numéro de série du Produit InSinkErator.

Ce qui est couvert

Cette garantie limitée couvre les défauts de matériaux ou de main d'œuvre, sous réserve des exclusions ci-dessous, dans les Produits InSinkErator utilisés par un Client consommateur en vertu d'un usage résidentiel seulement et comprend toutes les pièces de rechange et les frais de main d'œuvre. VOTRE SEUL ET EXCLUSIF REMÈDE EN VERTU DE CETTE GARANTIE LIMITÉE SE LIMITE À LA RÉPARATION OU AU REMPLACEMENT DU PRODUIT INSINKERATOR, ENTENDU QUE, SI NOUS DÉTERMINONS À NOTRE ENTIÈRE DISCRÉTION, QU'AUCUN REMÈDE N'EST POSSIBLE, NOUS POUVONS VOUS PROPOSER LE REMBOURSEMENT DE VOTRE PRIX D'ACHAT OU UN CRÉDIT POUR L'ACHAT D'UN AUTRE PRODUIT INSINKERATOR.

Ce qui n'est pas couvert

Cette garantie limitée ne couvre pas et exclut expressément :

- Les pertes ou les dommages ou l'incapacité à utiliser votre Produit InSinkErator en raison de conditions indépendantes de la volonté du Fabricant, y compris sans en exclure d'autres, les accidents, les altérations, les mauvaises utilisations, les abus, la négligence (autre que celle du Fabricant), le défaut d'installer, de maintenir, d'assembler ou de monter le Produit InSinkErator conformément aux directives du Fabricant ou aux codes locaux de plomberie ou d'électricité.
- L'usage devant se produire durant le cours normal de l'utilisation, y compris sans en exclure d'autres, la rouille cosmétique, les égratignures, les bosselures ou les pertes ou dommages similaires et raisonnablement prévus.

En plus des exclusions ci-dessus, cette garantie limitée ne s'applique pas aux Produits InSinkErator installés dans une application commerciale ou industrielle.

Aucune autre garantie expresse ne s'applique

Cette garantie limitée est la seule et unique garantie fournie au Client identifié ci-dessus. Aucune autre garantie expresse, écrite ou verbale ne s'applique. Aucun employé, agent, dépositaire ou autre personne n'est autorisé à modifier cette garantie limitée ou à effectuer toute autre garantie au nom du Fabricant. Les conditions de cette garantie limitée ne seront pas modifiées par le Fabricant, le propriétaire original ou leurs successeurs ou ayants droit respectifs.

Ce que nous ferons pour corriger les problèmes

Si votre Produit InSinkErator ne fonctionne pas conformément à la documentation qui vous est fournie ou si vous avez des questions concernant votre Produit InSinkErator ou sur la façon de déterminer s'il doit être réparé, veuillez appeler sans frais la ligne d'assistance AnswerLine® d'InSinkErator au 1 (800) 558-5700 ou visitez notre site Web à www.insinkerator.com. Vous pouvez aussi nous écrire à : Centre de service InSinkErator, 4700 21st Street, Racine, Wisconsin 53406 É.-U.

Les renseignements suivants doivent être fournis lors de votre réclamation au titre de la garantie : votre nom, adresse, numéro de téléphone, le numéro de série et modèle de votre Produit InSinkErator et si nécessaire, sur demande, une confirmation écrite de : (a) la date indiquée sur votre reçu d'installation ou (b) la date indiquée sur votre reçu d'achat.

Le Fabricant ou son représentant de service autorisé détermineront, à leur entière discrétion, si votre Produit InSinkErator est couvert en vertu de cette garantie limitée. On vous remettra les renseignements de contact de votre centre de service InSinkErator autorisé le plus proche. Veuillez communiquer avec votre centre de service InSinkErator directement pour obtenir une réparation de garantie à domicile ou un service de remplacement. Seul un représentant de service InSinkErator autorisé peut fournir le service de garantie. InSinkErator n'est pas responsable des réclamations de garantie découlant du travail effectué sur votre Produit InSinkErator par toute personne autre qu'un représentant de service InSinkErator autorisé.

Si une réclamation couverte est effectuée pendant la Période de garantie, le Fabricant, par l'entremise de son représentant de service autorisé, réparera ou remplacera votre Produit InSinkErator. Le coût des pièces de rechange ou d'un nouveau Produit InSinkErator et les frais de main d'œuvre pour la réparation ou l'installation du Produit InSinkErator de rechange sont offerts gratuitement. La réparation ou le remplacement seront déterminés par le Fabricant ou son représentant de service autorisé à leur entière discrétion. Tous les services de réparation et de remplacement seront effectués à votre domicile. Si le Fabricant détermine que votre Produit InSinkErator doit être remplacé au lieu d'être réparé, la garantie limitée sur le Produit InSinkErator de rechange se limitera à la durée restante de la Période de garantie originale.

Ce broyeur est couvert par la garantie limitée du fabricant. Cette garantie limitée est nulle si vous tentez de réparer le Produit InSinkErator. Pour obtenir des renseignements sur le service, veuillez visiter www.insinkerator.com ou composez, sans frais, le 1-800-558-5700.

Limite de responsabilité

DANS LA MESURE PERMISE PAR LA LOI, LE FABRICANT OU SES REPRÉSENTANTS DE SERVICE AUTORISÉS SERONT DANS AUCUN CAS RESPONSABLES DES DOMMAGES CONSÉCUTIFS, SPÉCIAUX, INDIRECTS OU CORRÉLATIFS, Y COMPRIS TOUTE PERTE ÉCONOMIQUE, DÉCOULANT D'UNE NON PERFORMANCE, DE L'UTILISATION, DE LA MAUVAISE UTILISATION OU DE L'INCAPACITÉ À UTILISER LE PRODUIT INSINKERATOR OU DE LA NÉGLIGENCE DU FABRICANT OU DE SES REPRÉSENTANTS DE SERVICE AUTORISÉ. LE FABRICANT NE SERA PAS RESPONSABLE DES DOMMAGES CAUSÉS PAR UN DÉLAI DE PERFORMANCE ET LA RESPONSABILITÉ DU FABRICANT NE DÉPASSERA DANS AUCUN CAS, QUELLE QUE SOIT LA FORME DE LA RÉCLAMATION OU LA RAISON DE L'ACTION (FONDÉE SUR UN CONTRAT, UNE INFRACTION, LA NÉGLIGENCE, LA RESPONSABILITÉ STRICTE OU TOUT AUTRE TORT OU AUTREMENT), LE PRIX PAYÉ PAR LE PROPRIÉTAIRE ORIGINAL DU PRODUIT INSINKERATOR.

Le terme dommages « indirects » comprend, sans en exclure d'autres, la perte des profits anticipés, l'interruption commerciale, la perte d'utilisation ou de revenus, le coût du capital ou la perte ou les dommages aux biens ou à l'équipement.

Certaines provinces ne permettent pas l'exclusion ou la limite des dommages indirects ou corrélatifs, par conséquent, la limite ci-dessus peut ne pas s'appliquer à votre cas. Cette garantie limitée vous confère des droits légaux précis et vous pouvez aussi avoir d'autres droits qui peuvent varier d'un État ou d'une province à l'autre.



Environ 80 % des déchets alimentaires sont constitués d'eau. Une utilisation régulière du broyeur peut contribuer à détourner les déchets alimentaires des sites d'enfouissement et à réduire les émissions de gaz à effet de serre. Le broyeur est une solution écologique pour toute la famille. Après tout, même les petits changements peuvent avoir un grand impact.

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InSinkErator® se réserve le droit, à sa seule discrétion, d'apporter en tout temps des améliorations ou des modifications aux spécifications sans préavis ou obligation de sa part, ou de modifier ou de supprimer des modèles.

La configuration du collier de fixation est une marque de commerce de Emerson Electric Co.

Badger®

EMERSON
Commercial & Residential Solutions

in sink erator®

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WALL HYDRANTS

This unit offers anti-siphon protection.

The Woodford Model 25 drains as handle is shut off even if hose is attached. This faucet is designed for outside residential water service applications and intended for irrigation purposes.

SPECIFICATIONS:

MODEL 25 - Approved under ASSE Standard 1019-B and listed by IAPMO®. Meets Government Specification WW-541b Type 205.

Vacuum Breaker - Anti-Siphon

NIDEL® model 34HA with 3/4" male hose thread. Approved under ASSE Standard 1011. Canadian Standards Association and listed by IAPMO®.

FEATURES:

EXTERIOR FINISH - Brass

VALVE - Molded nitrile suitable for hot water.

NOZZLE - 3/4" male hose thread.

NO LEAD SOLDER - All solder joints.

PLUNGER - Hemispherical cushion type.

STEM SCREW - DELRIN®

HEAD NUT - Brass

HANDLE - Metal. (Optional Tee Key)

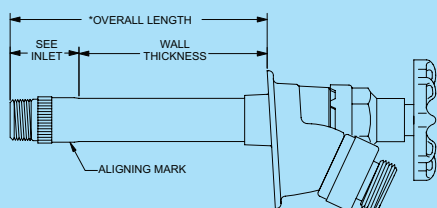
INLETS - As shown.

MAX PRESSURE - 125 p.s.i.

MAX TEMPERATURE - 120° F

NOTICE - To close and drain, turn handle clockwise until seated and water drains out of the drain hole or faucet may freeze and burst. Vacuum Breaker replacement is recommended every 3-5 years.

Rough-In Dimensions



Wall Thickness (inches)

4	6	8	10	12	14	16	18	20	22	24
2.0	2.1	2.2	2.3	2.4	2.5	2.7	2.9	3.1	3.3	3.5

Shipping Wt. (lbs)

Approx. Shipping Weight Each

*Overall Length Dimension: Add wall thickness and inlet option length shown in chart at right.

Patent informaion available at :

<http://www.woodfordmfg.com/Woodford/patents/>

For Installation / Troubleshooting Instructions go to:

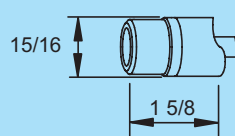
www.woodfordmfg.com or call 1-800-621-6032



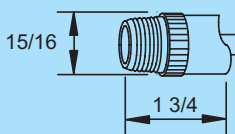
Anti-Siphon Automatic Draining Freezeless Wall Faucet Model 25



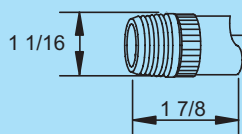
Inlet Descriptions



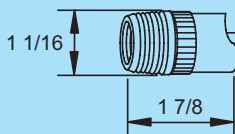
C Inlet
COMBINATION
Copper Sweat Fitting
1/2" K, L or M Inside
3/4" M Only Outside



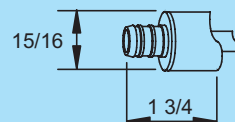
CP Inlet
COMBINATION
1/2" Male Pipe Thread
1/2" Female Sweat



CP3 Inlet
COMBINATION
3/4" Male Pipe Thread
3/4" Female Sweat

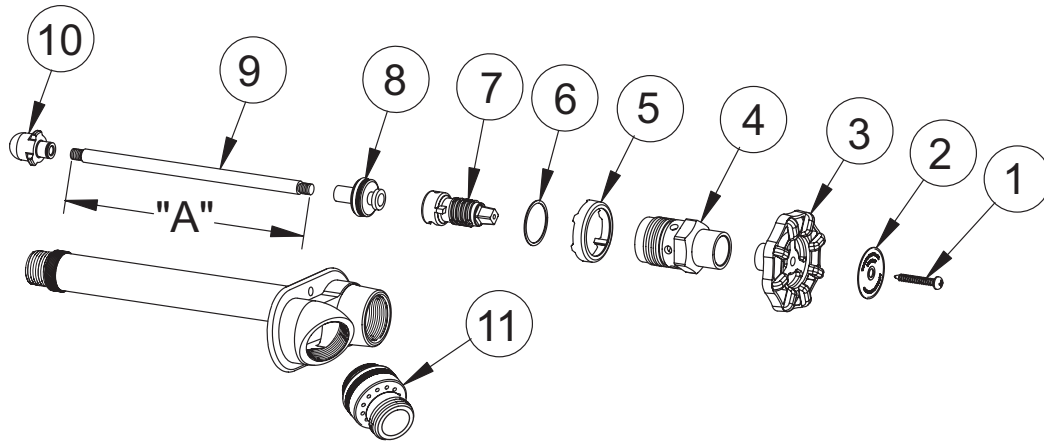


P Inlet
COMBINATION
1/2" Female Pipe Thread
3/4" Male Pipe Thread



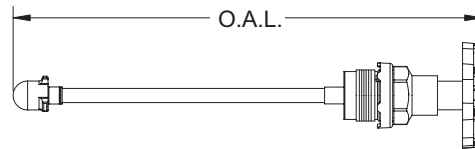
PX Inlet
1/2" PEX Tube Fitting
PX3 INLET
3/4" PEX Tube Fitting

When ordering, specify model , inlet and wall thickness.



MODEL 25 PARTS LIST

ITEM	PART#	DESCRIPTION
1	30234	Handle Screw
2	30438	I.D. Ring - Model 25
3	30239	Wheel Handle - Metal
4	30241	Head Nut - Brass
5	30236	Drain Guard
6	30245	Head Nut Gasket
7	30238	Stem Screw
8	35280	Drain Valve Assembly
9	303XX	Operating Rod (See Chart)
10	30230	Plunger Assembly
11	34HA-BR	34HA Vacuum Breaker - brass
	RK-25	Repair Kit (Includes items 1, 3-8 & 10)



OPERATING ROD ASSEMBLY INCLUDES ITEMS 1 THRU 10

Wall Thickness	Overall Length	Part No.
CC	5"	35501
4	8"	35504
6	10"	35506
8	12"	35508
10	14"	35510
12	16"	35512
14	18"	35514
16	20"	35516
18	22"	35518
20	24"	35520
22	26"	35522
24	28"	35524

OPERATING ROD DIM "A"

Wall Thickness	Length	Part No.
4	4-7/16"	30304
6	6-7/16"	30306
8	8-7/16"	30308
10	10-7/16"	30310
12	12-7/16"	30312
14	14-7/16"	30314
16	16-7/16"	30316
18	18-7/16"	30318
20	20-7/16"	30320
22	22-7/16"	30322
24	24-7/16"	30324



For more information contact...

WOODFORD MANUFACTURING COMPANY, LLC.

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Model 65 & 67 Freezeless Wall Hydrant

Rev 06/15 Form No. TM65.103



Fig 1



Fig 2



Fig 3



Fig 4

Drain Hole Air Vent



Fig 5

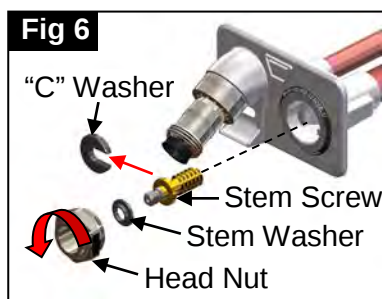


Fig 6

"C" Washer
Stem Screw
Stem Washer
Head Nut

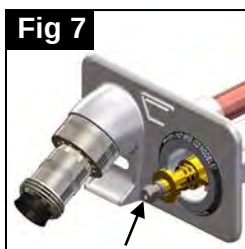


Fig 7

Stem Screw

For replacement
parts order
Repair Kit
RK-65

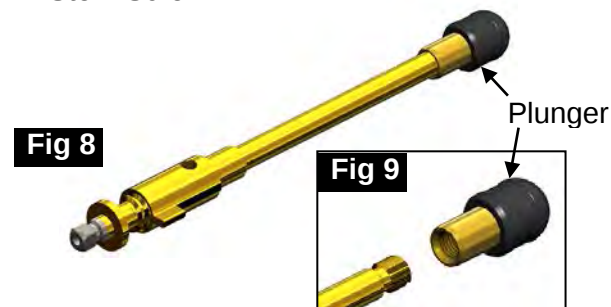


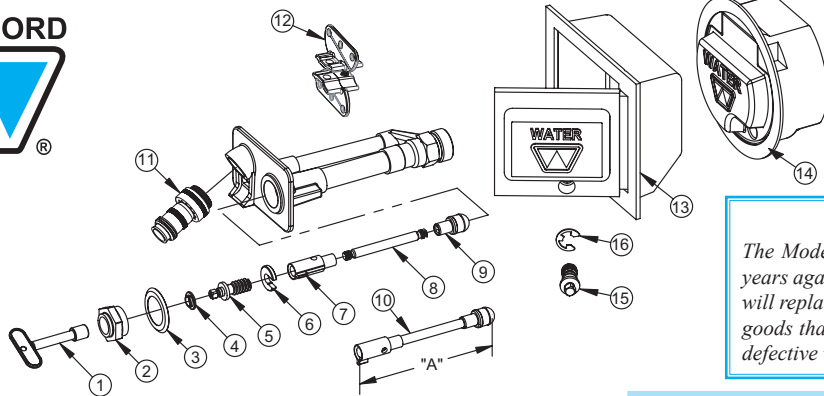
Fig 8



Fig 9

Plunger

- **Water leaks from drain hole (Fig 1) and/or air vent in Stem Screw when the hydrant is on.**
Plunger (50250) is damaged and needs to be replaced.
See **Operating Rod Removal**
 - **Hydrant will not shut off. Water leaks out nozzle (Fig 2) and/or drain hole when hydrant is off.**
If a new installation debris or other obstruction may be prohibiting the plunger from seating properly. Remove rod assembly, inspect plunger for damage and flush the casing before reassembling. See **Operating Rod Removal**
 - **Hydrant does not drain when it is shut off.**
Drain hole cavity in casting and/or air vent hole in Stem Screw (Fig 3) may be blocked with insect nest or other debris. Use a stiff wire to clear any obstructions.
 - **Hydrant does not flow water when it is on.**
The Vacuum Breaker may be obstructed or damaged. Remove the Vacuum Breaker (Fig 4) and check to see if the hydrant flows water with the Vacuum Breaker removed. Inspect the Vacuum Breaker for obstruction or damage. If the hydrant still does not flow water with the Vacuum Breaker removed, remove the Operating Rod Assembly and turn on the water supply to flush the casing.
See **Operating Rod Removal**
- Operating Rod Removal:**
1. Shut off water supply.
 2. Turn the Stem Screw counterclockwise to the full open position. (Fig 5)
 3. Remove the Head Nut and Stem Screw. (Fig 6)
 4. Remove the "C" Washer from the stem screw. (Fig 6)
 5. Thread the stem screw back in the operating rod one or two turns. (Fig 7) Use a screwdriver or small pry bar to pry under the ledge of the stem screw, against the face of the hydrant, to pull the rod out of the hydrant. A damaged plunger may require a significant force to pull the rod free. (Fig 8)
 6. Once the rod is out of the hydrant, inspect and/or replace the plunger, which is threaded on the rod. (Fig 8 & 9) If the plunger rubber has come off the insert and is stuck inside the hydrant, a special plunger removal tool is available on loan from Woodford.

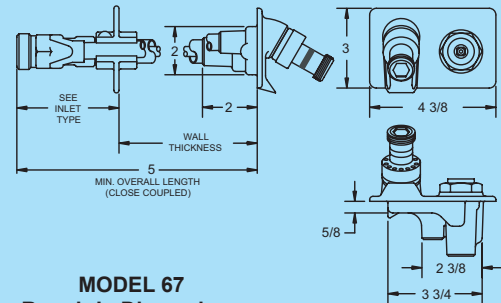


LIMITED WARRANTY

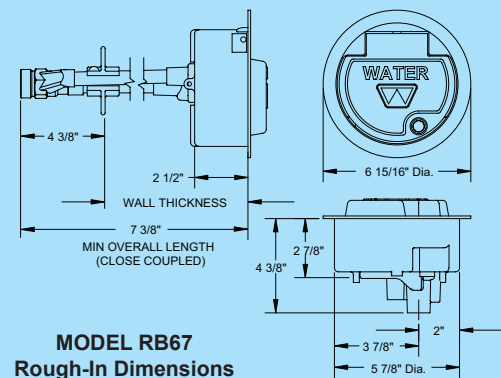
The Model 67 is sold with a limited warranty for five years against defects in material and workmanship. We will replace or issue credit (at our option) for defective goods that are returned for inspection and found to be defective within five years of purchase from Woodford.

MODEL 67/B67/RB67 PARTS LIST

ITEM	PART #	DESCRIPTION
1	50009	Tee Key
	50010	Long Tee Key (Box Models)
2	50264	Head Nut – chrome
	50265	Head Nut – brass
3	50584	I.D. RING
4	50252	Stem Washer
5	55062	Stem Screw
6	50251	"C" washer
7	51014	Yoke Nut
8	Operating Rod (Sold As Item 10 Only)	
9	50250	Plunger
10	554XX	Operating Rod Assembly (Includes Items 7,8,9) (Select required assembled length from table below)
11	50HA-CH	NIDEL® 50HA Backflow Preventer – chrome
	50HA-BR	NIDEL® 50HA Backflow Preventer – brass
12	55063	Wall Clamp Assembly
13	67BX	Box/Door Assembly – Chrome
	67BX-BR	Box/Door Assembly - Brass
	67BX-PB	Box/Door Assembly – Polished Brass
	67BX-AL	Box/Door Assembly – Aluminum
14	RB67BX	Round Box/Door Assembly - Chrome
	RK-65	Chrome Repair Kit (Includes Items 1, 2, 4-7 & 9)
15	51117	Door Lock Screw - Chrome
	51116	Door Lock Screw - Brass
16	51120	E-Ring

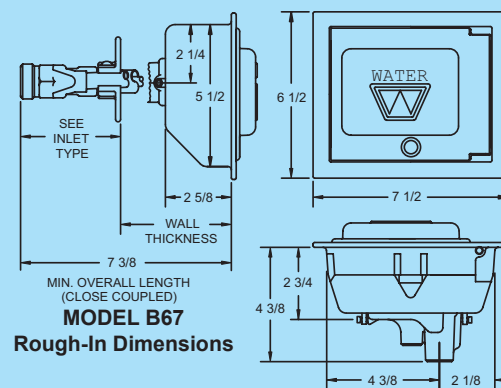


MODEL 67
 Rough-In Dimensions



MODEL RB67
 Rough-In Dimensions

Item 10 - Operating Rod Assy. "A"			
Wall Thickness		Length	Part No.
67	B67/RB67		
	CC	3 1/2"	55401
	N/A	4 1/2"	55402
4	6	6 1/2"	55404
6	8	8 1/2"	55406
8	10	10 1/2"	55408
10	12	12 1/2"	55410
12	14	14 1/2"	55412
14	16	16 1/2"	55414
16	18	18 1/2"	55416
18	20	20 1/2"	55418
20	22	22 1/2"	55420
22	24	24 1/2"	55422
24	N/A	26 1/2"	55424



MODEL B67
 Rough-In Dimensions

Wall Thickness (Inch)	CC	4	6	8	10	12	14	16	18	20	22	24
Overall Length - Hydrant	5	8	10	12	14	16	18	20	22	24	26	28
Overall Length - Box Models	7 3/8	8 3/8	10 3/8	12 3/8	14 3/8	16 3/8	18 3/8	20 3/8	22 3/8	24 3/8	26 3/8	28 3/8
Shipping Wt. (Lbs)**	3.8	4.4	4.8	5.2	5.6	6	6.4	6.8	7.2	7.6	8	8.4

** Add 8.3 Lbs. for brass box models.

** Add 2.5 Lbs. for aluminum box models.

NOTE: Close Coupled Models are not recommended for use in freezing climates and cannot use wall clamp.

For more information contact...

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RPZ

Installation, Operation, and Maintenance Manual

Series 860, LF860

Reduced Pressure Zone Assemblies

1/2" – 2"

⚠ WARNING



Read this Manual **BEFORE** using this equipment. Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment. Keep this Manual for future reference.



⚠ WARNING

Local building or plumbing codes may require modifications to the information provided. You are required to consult the local building and plumbing codes prior to installation. If the information provided here is not consistent with local building or plumbing codes, the local codes should be followed. This product must be installed by a licensed contractor in accordance with local codes and ordinances.

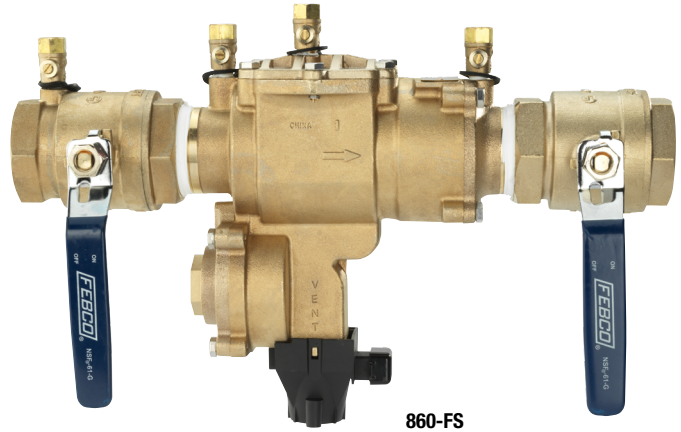
⚠ WARNING

Need for Periodic Inspection/Maintenance: This product must be tested periodically in compliance with local codes, but at least once per year or more as service conditions warrant. All products must be retested once maintenance has been performed. Corrosive water conditions and/or unauthorized adjustments or repair could render the product ineffective for the service intended. Regular checking and cleaning of the product's internal and external components helps assure maximum life and proper product function.

NOTICE

If an assembly is recommended where installation may be problematic, the assembly must be protected and secured. Remove the handles of shutoff valves to discourage tampering, or install a protective enclosure to discourage vandals. When opting for an enclosure, install the protective cover so that adequate clearance is available for maintenance and testing. Consult local codes before installing any type of protective enclosure.

Series 860 is designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications. The Lead Free series are used in potable drinking water systems where code mandates protection from backpressure and backsiphonage conditions. Series 860 Small and LF860 Small each include a flood sensor on the relief valve to detect excessive discharge.



NOTICE

An add-on connection kit is required to activate the flood sensor. Without the connection kit, the flood sensor is a passive component and has no communication with any other device. (A retrofit sensor connection kit is also available for existing installations. See "Add-on and Retrofit Sensor Connection Kits," for ordering details.)

NOTICE

Use of the flood sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide proper drainage in the event of a discharge.

Watts® is not responsible for the failure of alerts due to connectivity or power issues.

Contents

How It Operates	2
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Air Gap Drain	6
Parts	7
Repair Kits	8
Freeze Protection	9
Troubleshooting	10
Add-on and Retrofit Sensor Connection Kits	11



A WATTS Brand

How It Operates

The FEBCO Series 860 Reduced Pressure Zone backflow preventer assembly consists of two independently operating, spring loaded check valves with a pressure differential relief valve located between the two checks. The pressure drop across the first check valve is approximately 7.0 psid with no flow. The relief valve consists of a hydraulically balanced diaphragm with the high pressure side hydraulically connected to the upstream pressure zone. The relief valve remains closed during normal operation. The low pressure side of the diaphragm is spring loaded to force the relief valve to open when the pressure drop across the first check and the diaphragm is reduced to approximately 3.0 psid. A complete assembly includes two shutoff valves and four test cocks.

Service Procedures

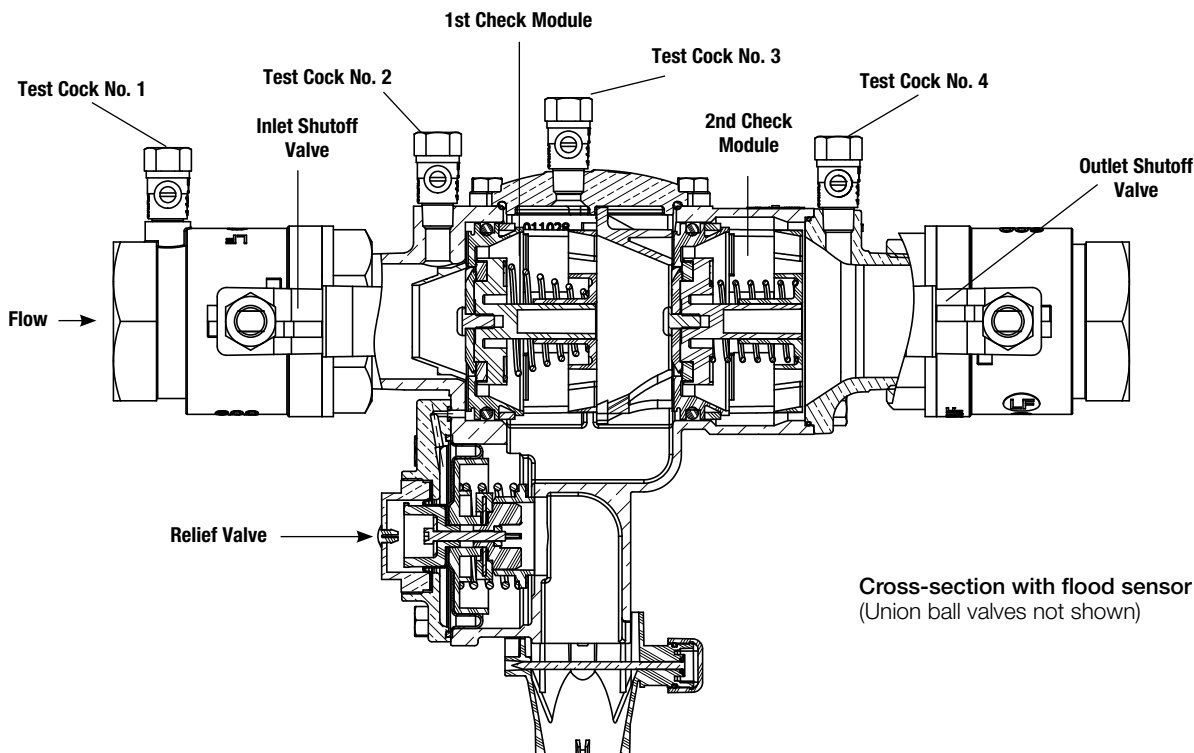
FEBCO backflow prevention assemblies can be serviced with standard tools and are designed for ease of maintenance. The assemblies can be serviced in line, eliminating the need to remove and reinstall a unit.

Suggested Tool Kit

- 1 crescent wrench
- 1 medium standard screwdriver
- Differential pressure test kit
- 1 medium Phillips screwdriver
- Box/open end wrench

1. Flush the line clean of debris before assembly installation. The most common cause of check fouling and relief valve discharge is dirt and debris in the seating areas.
2. To flush the line after installation, slowly close the inlet shutoff valve, remove the cover and spring assemblies of both check valves, and open the inlet shutoff valve to allow sufficient flow of water through the assembly. Clear all sand, debris, and other particles from the line. If debris in the water continues to cause fouling, consider installation of a strainer upstream of the assembly if in compliance with local codes.

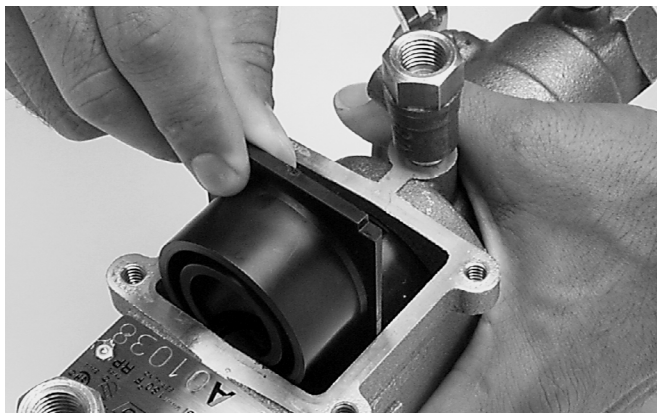
3. Rinse all parts with clean water before reassembly.
4. Carefully inspect diaphragms, seals, and seating surfaces for damage or debris. If the check valve seat disc has been severely cut at the seat ring diameter, the assembly has been subjected to extremely high and repeated backpressure. Either thermal water expansion or water hammer is the most likely cause. If backpressure persists, consider installation of a pressure relief valve downstream of the assembly.
5. Use caution to avoid damaging any guiding surfaces while handling parts. Do not force parts together. The O-ring seals used in FEBCO assemblies require only a small tightening force to ensure a positive seal.
6. Test the unit after servicing in accordance with locally approved test methods to ensure proper operation; see the "Testing" section.
7. Use the exploded drawings and parts list for visual aid information; see the "Parts" section.
8. Apply a thin coating of the lubricant supplied in the repair kit to the O-rings and other seals as directed. Any additional lubricants in use must be FDA Approved food-grade petroleum jelly.



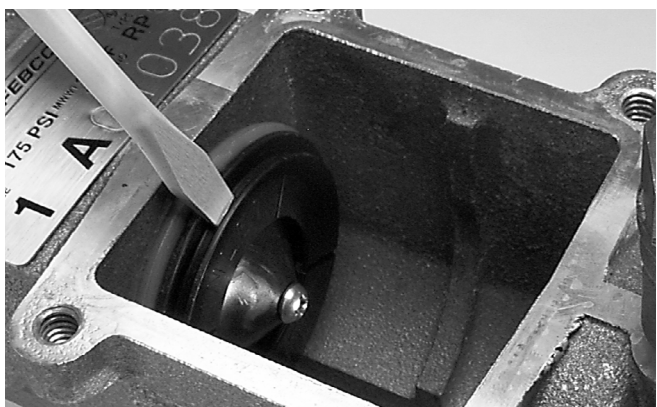
Check Module Disassembly

The complete list of items is included in the "Parts" section.

1. Slowly close the inlet and outlet ball valves. Bleed residual pressure by opening test cocks No. 2, No. 3, and No. 4. Allow the test cocks to remain open until the reassembling is completed. Test cock No. 1 should remain closed.
2. Remove the cover bolts (Item 21) using the appropriate size wrench.
3. Remove the spacer (Item 8) by grasping the flanged end of the spacer and pulling it straight up. pulling straight up.



4. Remove the inlet check assembly by pulling it in the direction of flow from the body bore until it is completely exposed, then lift it out of the body.
5. Remove the outlet check assembly by placing the tip of a medium-sized, flat-nose screwdriver in the slot of the seat (Item 3) and prying the check assembly back until the red O-ring (Item 3.1) is exposed. Then, using fingers, pull it from the body bore until it is completely exposed, then lift it out of the body.



Check Module Seal Replacement

Both check assemblies are disassembled and reassembled in the same manner. To service the checks, replace the check modules with new ones by using check module assembly kits available from FEBCO. Or, replace the rubber components in the check modules by using the replacement rubber parts kits.

1. To disassemble the unit, grasp the seat section (Item 3) in one hand and the guide section (Item 7) in the other hand, then rotate in a counterclockwise direction (approx. 1/8 turn) until the two parts disengage.



2. Remove the retaining screw (Item 5.2) and disc retainer (Item 5.1) so the rubber disc is fully exposed. Carefully pry out the rubber disc from the poppet. Be careful not to damage the poppet when removing the disc. Rinse the poppet in clean water and replace the old rubber disc with a new rubber disc. If the rubber disc is not damaged, it can be reversed and reinstalled when a new disc is unavailable. Rinse all other internal components with clean water. Replace the disc retainer and secure with the retaining screw (Item 5.2).



3. Reassemble the check module by reversing the preceding steps. When reassembling the check module, insert the poppet stem into the guide hole and keep fingers clear of the slots in the module.

Check Module Reassembly

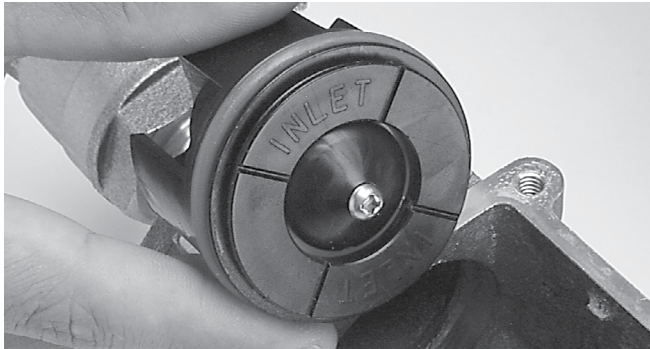
Reverse the disassembly procedure to reassemble the unit along with the following special instructions.

1. Inspect the check module O-ring (Item 3.1) for damage and replace if necessary. To ease assembly, apply a thin coating of the supplied lubricant to the O-ring before installing into the body.

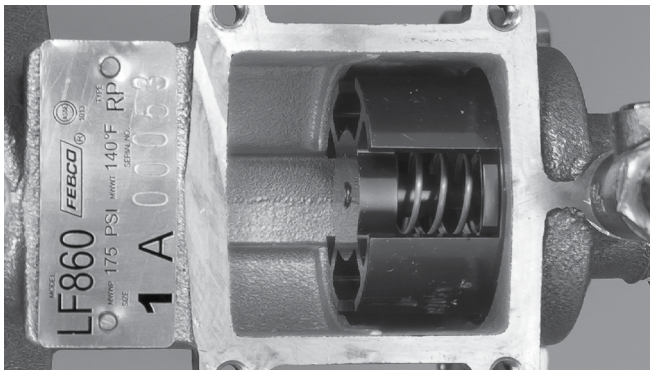
⚠ CAUTION

Excess lubricant may cause foreign debris to collect on internal components, which could foul the check assembly and result in a test failure.

2. Make sure the end of each module inscribed with the word INLET is facing the inlet of the valve.



3. When installing the check modules, make sure the check assembly with the heavy duty spring is inserted in the inlet bore of the body (first check position). Position the first check assembly so that one (1) of the four (4) flow path windows is face-down toward the relief valve. The check assembly with the weaker spring must be installed in the outlet bore of the body (second check position).



4. When replacing the spacer (Item 8) between the two check assemblies, be sure the flanged end of the spacer is touching the back side of the inlet check assembly so that the cover fits properly. Next, replace the cover making sure test cock No. 3 is on the upstream side. Do not over tighten cover bolts. (Approximately 35 inch-pounds is sufficient.)
5. After reassembling, close test cocks No. 2, No. 3, and No. 4 (test cock No. 1 should already be closed), then slowly open the inlet ball valve. Bleed air from the unit by opening and closing test cock No. 2, next No. 3, then No. 4.

NOTICE

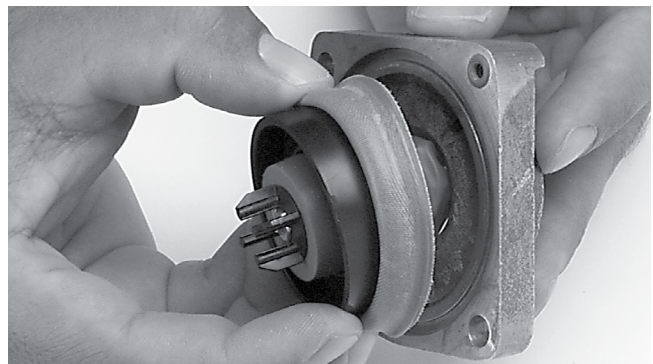
During the bleeding process, the relief valve may discharge a high volume of water until all test cocks have been closed and pressure stabilized.

6. Check for external leaks and repair, if necessary. Slowly open the outlet ball valve.
7. Test the assembly in accordance with locally approved methods.

Relief Valve Repair

Discharge from the relief valve assembly may not indicate a relief valve failure. Water is discharged from the relief valve when the mainline check valves become fouled with foreign debris. (For more information, see "Troubleshooting" before disassembling the relief valve.) Detach the flood sensor and activation module if in use.

1. Slowly close the inlet and outlet ball valves. Bleed off air from the unit by opening and closing test cock No. 2, next No. 3, then No. 4. Test cock No. 1 should remain closed.
2. Loosen the brass cylinder in the center of the relief valve cover (Item 18) by unscrewing $\frac{1}{4}$ turn (counterclockwise). Remove the relief valve cover bolts (Item 21) and the relief valve cover (Item 19).
3. The internal relief valve assembly module is attached to the relief valve cover. Unscrew the brass cylinder and remove from cover. Grasp the outer diameter of the large outer diaphragm (Item 15) and pull it away from the cover until the small outer diaphragm (Item 16) comes out through the relief valve cover hole and is completely separated from the relief valve cover. Discard the old internal relief valve assembly module. Remove the plastic slip rings (Item 18.1) and discard each one. Slide out the seat ring (Item 12) and seat gasket ring (Item 12.1) from the relief valve body and discard.

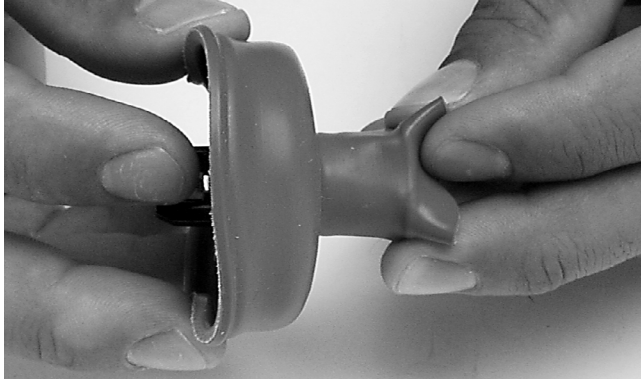


4. Apply a thin coating of the supplied lubricant to both sides of the new seat gasket ring (Item 12.1), and slide it on the short end of the new seat ring (Item 12). Slide the short end of the new seat ring into the hole of the relief valve body. (The adhesion from the lubricant holds the seat ring in place during the rest of the assembly process.)

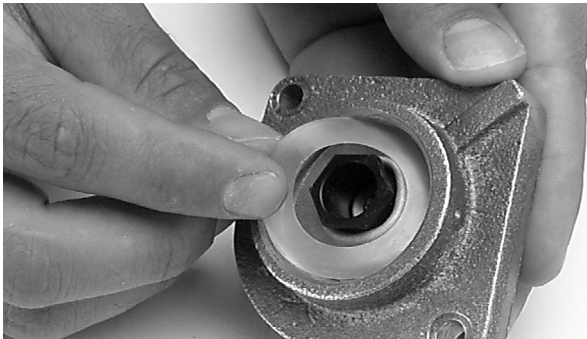
NOTICE

If applying new diaphragms from a rubber kit, ensure the smooth rubber side of each diaphragm is facing outward before assembly.

5. Before installing the new internal relief valve assembly module, apply a thin coating of the supplied lubricant to both sides of one slip ring (Item 18.1) and insert it into the top of the relief valve cover. Install the new internal relief valve assembly module by grasping the outside of the outer diaphragm in one hand and the smaller diaphragm in the other hand. Then pull upward gently on the small outer diaphragm (Item 16) so that it forms the shape of a tulip. Hold the small diaphragm so that it maintains the tulip shape while sliding it through the relief valve cover hole and plastic diaphragm gasket.



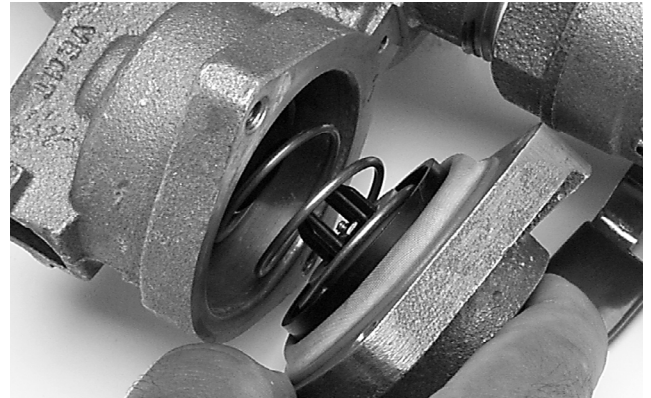
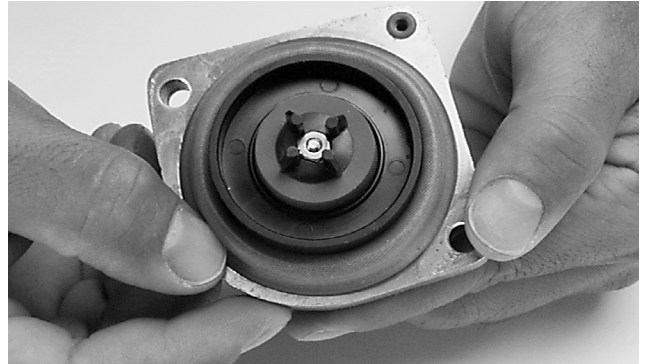
6. Apply a thin coating of the supplied lubricant to both sides of the second slip ring (Item 18.1) and place it over the top of the small diaphragm, making sure the outer diaphragm (Item 16) is not folded or creased under the slip ring. Push the slip ring down flat until the adhesion from the grease holds the small diaphragm in place. This should roll the diaphragm as shown. Thread the brass cylinder (Item 18) into the relief valve cover and hand tighten.



⚠ CAUTION

Do not twist the internal parts when the cylinder is tightened. The small diaphragm may become folded or creased if the internal assembly is restricted while tightening the cylinder.

7. Replace the O-ring (Item 20) in the relief valve cover. Properly seat the round bead on the large diaphragm in the counterbore of the relief valve cover. Position the spring (Item 13) over the seat ring in the relief valve body and hold it in place while inserting the guide end (Item 23) of the relief valve assembly module and relief valve cover. Position the assembly so the O-ring aligns with the sensing hole in the body and the guide slides into the seat ring. Replace the relief valve cover bolts and tighten to approximately 35 inch-pounds. Do not over tighten. Tighten the brass cylinder (Item 18) in the relief valve cover to approximately 30 feet pounds of torque. Do not over tighten.



8. After reassembly, with all test cocks closed, slowly open the inlet ball valve and bleed air from the unit by opening and closing test cock No. 2, No. 3, then No. 4.

NOTICE

During the bleeding process, the relief valve may discharge a high volume of water until all test cocks have been closed and pressure has been stabilized.

9. Check for external leaks and repair, if necessary. Slowly open the outlet ball valve.
10. Test the assembly in accordance with locally approved methods.
11. Upon completion of successful testing, reattach the flood sensor and activation module if in use.

Testing

All mechanical devices should be inspected on a regular basis to ensure proper functioning. The assembly should be tested at the time of initial installation, after servicing or maintenance, and at least annually thereafter. Acceptable test procedures are published by Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (USC), American Water Works Association (AWWA), American Society of Sanitary Engineering (ASSE Series 5000), and Canadian Standards Association (CAN/CSA B64.10). Consult the local regulatory authority for specific information.

Air Gap Drain

- 1. Before installation, check local codes. This type of drain may not be approved for use in some areas.

⚠ CAUTION

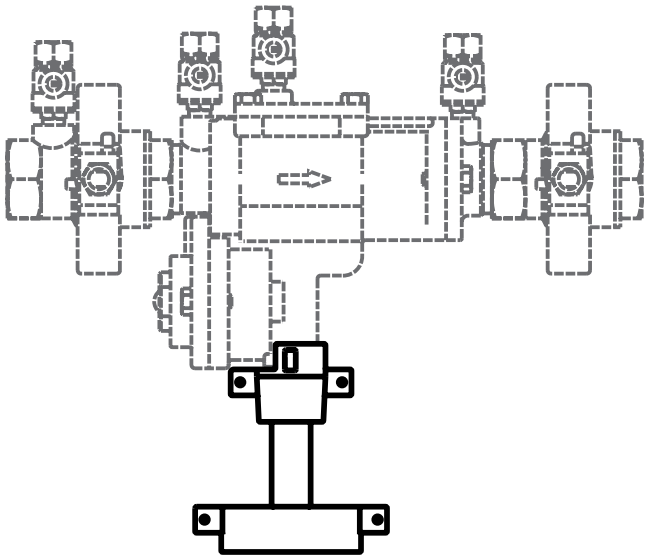
This drain is intended to catch moderate relief valve discharges due to line pressure fluctuations and minor check valve fouling. Under certain conditions relief valves can discharge water at rates greater than the air gap drain capacity.

- 2. For an indoor installation, locate the assembly near a floor drain sized to adequately handle discharge. A strainer before the backflow assembly is strongly suggested.
- 3. After installation of backflow assembly and piping, attach the drain funnel to the relief valve as shown in the illustration by using the self-tapping screws provided in the kit to join the drain funnel halves together, making sure the slots in the drain funnel align with the tabs on the relief valve port.

If the flood sensor is in use, attach the air gap directly to the sensor. For valve sizes 1/2" to 1", use air gap 909AGA (ordering code 0881399). For valve sizes 1 1/4" to 2", use air gap 909AGC (ordering code 0881376).

NOTICE

The discharge of the drain funnel is a slip-fit design. The drain funnel is not designed or able to support drainpipe weight.



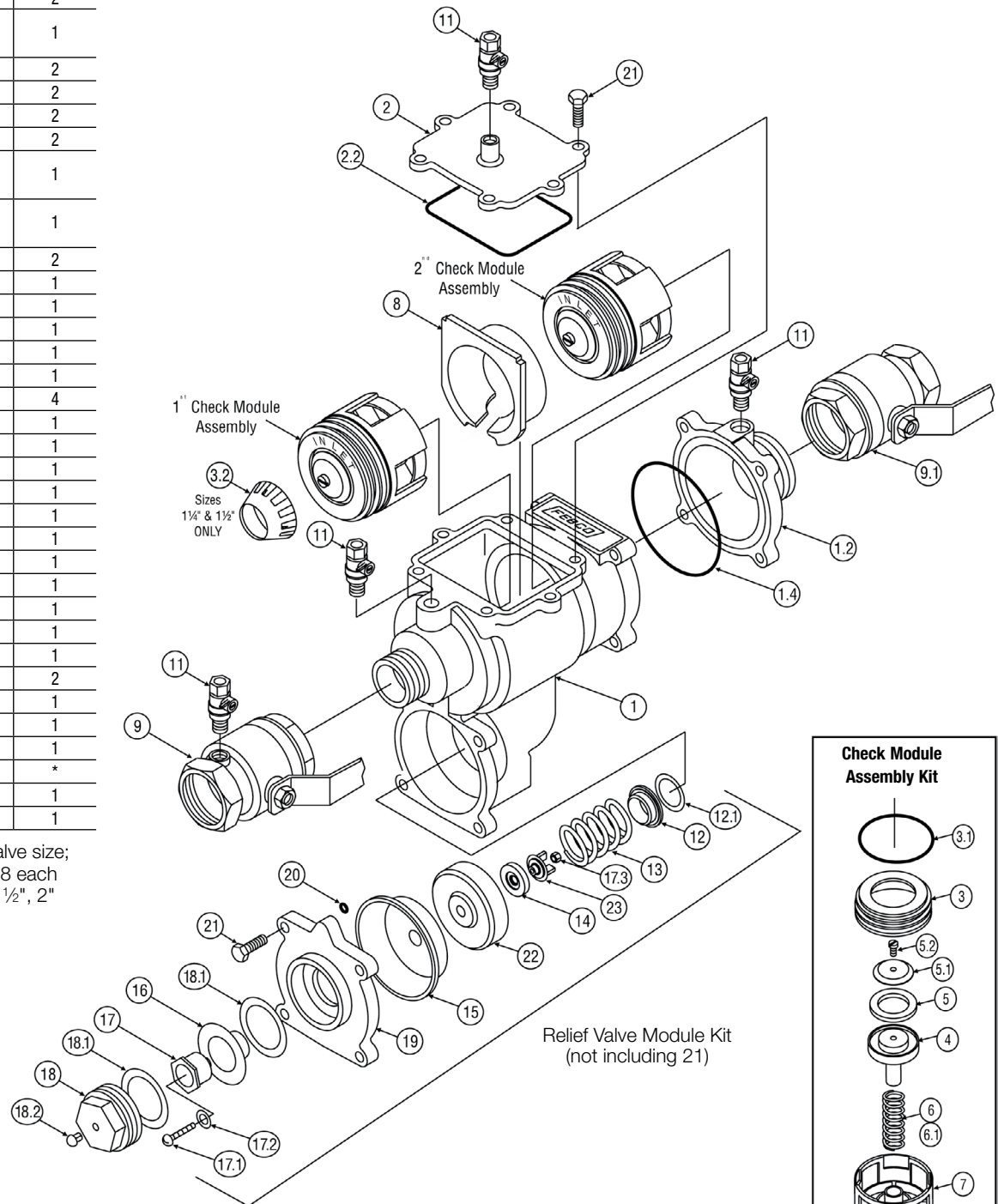
VALVE SIZE	PLASTIC	METAL
	PART NO.	PART NO.
1/2"	905358	905532
3/4"	905358	905532
1"	905358	905532
1 1/4"	905359	905533
1 1/2"	905359	905533
2"	905359	905533

Parts

Call customer service if you need assistance with technical details.

ITEM	DESCRIPTION	QUANTITY
1	Body	1
1.2	Tailpiece	1
1.4	O-Ring	1
2	Cover	1
2.2	O-Ring	1
3	Seat	2
3.1	O-Ring	2
3.2	Inlet Ring (1 1/4" & 1 1/2")	1
4	Poppet	2
5	Seat Disc	2
5.1	Disc Retainer	2
5.2	Round HD Screw	2
6	Spring (1st Check Spring)	1
6.1	Spring (2nd Check Spring)	1
7	Guide	2
8	Retainer Spacer	1
9*	Ball Valve Tapped	1
	Union End BV Tapped	1
9.1*	Ball Valve	1
	Union End Ball Valve	1
11	Test Cock	4
12	Seat Ring - RV	1
12.1	Gasket Ring - RV	1
13	Spring - RV	1
14	Seat Disc - RV	1
15	Diaphragm - RV	1
16	Outer Diaphragm - RV	1
17	Small Piston - RV	1
17.1	Round HD Screw - RV	1
17.2	Washer - RV	1
17.3	Hex Nut - RV	1
18	Cylinder - RV	1
18.1	Slip Ring Cylinder - RV	2
18.2	Slide (Plug) - RV	1
19	Cover - RV	1
20	O-Ring - RV	1
21	Hex HD Capscrew	*
22	Large Piston - RV	1
23	Guide - RV	1

* Quantity varies with valve size;
6 each for 1/2" and 3/4", 8 each
for 1", 14 each 1 1/4", 1 1/2", 2"



View shown for sizes 1 1/2" to 2" only

Repair Kits

Before contacting the local FEBCO parts distributor, write down the following information to have on hand when placing the order. The serial number located on the assembly ID plate can assist in ordering the proper kit.

- Item number and name. Locate the number and name of the item in the "Parts" section.
- Kit number. Use the tables below to find the number of the kit containing the item.
- Valve size. Verify the size of the valve that the item is to be used on.
- Model number. Record the full model number found on the assembly ID plate.

ORDERING CODE	STYLE	SIZE	
		<i>in.</i>	<i>mm</i>

Complete Rubber Kit

LEAD FREE	905355	ALL	1/2 & 3/4	15 & 20
	905356	ALL	1	25
	905357	ALL	1 1/4 - 2	32 - 50

Kit includes all rubber parts.

Check Module Rubber Kit

LEAD FREE	905342	ALL	1/2 & 3/4	15 & 20
	905343	ALL	1	25
	905344	ALL	1 1/4 - 2	32 - 50

Both checks. Kit includes Items 2.2, 3.1 (qty 2), and 5 (qty 2).

Relief Valve Rubber Kit

LEAD FREE	905345	ALL	1/2 & 3/4	15 & 20
	905345	ALL	1	25
	905346	ALL	1 1/4 - 2	32 - 50

Kit includes Items 12, 12.1, 14, 15, 16, 18.1 (qty 2), and 20.

Single Poppet Kit

LEAD FREE	905339	ALL	1/2 & 3/4	15 & 20
	905340	ALL	1	25
	905341	ALL	1 1/4 - 2	32 - 50

Valve has two poppets. Kit includes Items 4 to 5.2.

ORDERING CODE	STYLE	SIZE	
		<i>in.</i>	<i>mm</i>

#1 Check Module Kit (inlet)

LEAD FREE	905348	ALL	1/2 & 3/4	15 & 20
	905350	ALL	1	25
	905352	ALL	1 1/4 - 2	32 - 50

Kit includes Items 3 to 7 for inlet check.

#2 Check Module Kit (outlet)

LEAD FREE	905347	ALL	1/2 & 3/4	15 & 20
	905349	ALL	1	25
	905351	ALL	1 1/4 - 2	32 - 50

Kit includes Items 3 to 7 for outlet check.

Full Relief Valve Module Kit

905353	ALL	1/2 & 3/4	15 & 20
905353	ALL	1	25
905354	ALL	1 1/4 - 2	32 - 50

Kit includes Items 12 to 17.3, 18.1 (qty 2), 20, 22, 23

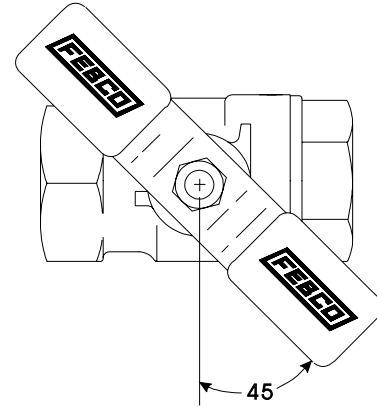
*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Freeze Protection

The freeze protection backflow prevention assembly may be subject to damage if the internal water is allowed to freeze. The unit must be protected from freezing using a heated enclosure, insulation using heat tape, or other suitable means. The unit must always be accessible for testing and maintenance. If the system is shut down during freezing weather, use the following procedures to drain internal passages.

Main Valve Draining

1. Close the main shutoff valve.
2. Open the inlet drain.
3. Open the inlet and outlet ball valves 45 degree (half open/half closed).
4. Open all test cocks then open the outlet drain.
5. Remove the cover and inlet check module until all water inside the valve drains back through the inlet drain.
6. If the piping downstream of the backflow assembly is blown out with compressed air, connect the air supply to the outlet drain and close the outlet ball valve. After clearing the system with air, partially open the outlet ball valve.
7. Leave all drain valves, test cocks, and ball valves in the half open/half closed position for the winter.
8. For reduced pressure units only. Loosen the relief valve cover to drain, then tighten when draining is completed.
9. Reset the ball valve to the close position (handle perpendicular to the valve) before repressurization..



Ball Valve Shutoff Draining

If the assembly has been installed with ball valve shutoff valves, the ball valves must also be properly drained to prevent freeze damage.

1. Ensure the main valve draining is finished and all ball valve shutoffs and test cocks are in a half open/half closed (45 degree) position.
2. Drain the pipeline to allow water between the ball valves and valve body to drain.
3. Leave the ball valves in the half open/half closed position for the winter to prevent freeze damage.
4. Fully close the ball valves before the system is repressurized.

NOTICE

OPEN AND CLOSE BALL VALVES SLOWLY TO PREVENT DAMAGE TO THE SYSTEM CAUSED BY WATER HAMMER.

Troubleshooting

Check Procedure with Differential Pressure Gauge

CHECKLIST	READING	PROBLEM
Check differential across check valve No. 1	2 to 3 psid	Leak in check valve No. 1 or No. 2
	6 to 8 psid and steady	Malfunctioning pressure relief valve
	2 to 7 psid and steady	Inlet pressure fluctuating
Check differential across check valve No. 1	2 to 3 psid	Check valve No. 1 held open
	6 to 8 psid and steady	Malfunctioning pressure relief valve

Check Procedure Without Differential Pressure Gauge

CHECKLIST	READING	PROBLEM
Close gate valve No. 2	If discharge stops	Leak in check valve No. 2
	If discharge does not stop	Try the next remedy
Open test cock No. 4 to produce a flow greater than the differential relief valve discharge	If discharge stops	Leak in check valve No. 1
	If discharge does not stop	Malfunctioning pressure relief valve

PROBLEM	CAUSE	SOLUTION
Continuous discharge from relief valve during NO FLOW conditions (Discharge stops with water flow) With this symptom, the pressure drop across check valve No. 1 would be 2 to 3 psid. If a flow of water (more than discharge) is created through the valve, the pressure drop should increase to approximately 7 psi	Debris fouling check valve No. 1	Inspect and clean
	Outlet pressure higher than inlet pressure and debris fouling check valve No. 2	
	Spring stem not moving freely	Inspect for dirt or other foreign material
	Damaged seat or seat disc	Inspect and replace (If necessary, the seat disc can be reversed in sizes ½" to 2".)
	Leakage at check module O-ring	Inspect and replace seal or O-ring
Intermittent discharge from relief valve during NO FLOW conditions. With the symptom, the pressure drop across the check valve No. 1 would vary from about 2 to 7 psid	Inlet line pressure variations causing relief valve to discharge	Eliminate or reduce pressure variations by installing a soft-seated, spring-loaded check on upstream side of device
	Pressure surges (water hammer) causing relief valve to discharge as pressure wave passes through the zone	Eliminate or reduce pressure surges
Continuous discharge from relief valve during FLOW and NO FLOW conditions With this symptom, the pressure drop across the check valve No. 1 would be 7 psid or more at all time	Seat disc dislodged from cavity in the main stem (This can be caused by pressure surges during initial filling of system lines.)	Reposition disc in main stem cavity Repressurize system slowly
	Debris fouling the relief valve seat	Inspect and clean
	Debris blocking the relief valve sensing passage	
	Dirt or scale jamming main stem	
	Leakage at main stem	Inspect and clean, or replace
Relief valve does not open above 2.0 psid during field testing	Outlet gate valve not closed completely	Inspect and clean
	Plugged low pressure hydraulic passage (from "ZONE" to inner diaphragm)	
	Improper alignment of internal parts during reassembly (causing high resistance to movement)	Reassemble
	Jammed main stem due to debris blocking gate valve	Clean
Check No. 1 pressure drop is low (less than 5 psid) during field testing	Debris fouling first check seat	Inspect and clean
	Debris fouling second seat with backpressure	
	Inlet pressure variations causing inaccurate gauge reading	Eliminate pressure variations by installing a soft-seated, spring-loaded check on upstream side of device
	Damaged seat or seat disc	Inspect and clean as required
	Worn guide, bushing, or stem	Inspect and replace as required
Check No. 2 fails to hold back pressure during field testing	Outlet gate valve not closed completely	Inspect and clean
	Debris fouling second check seat	
	Damaged seat or seat disc	Inspect and replace if required
	Worn guide, bushing, or stem	

Add-on and Retrofit Sensor Connection Kits

For Building Management Systems

ORDERING CODE	ADD-ON/RETROFIT KIT	DESCRIPTION
88009431	 FP-FBF-BMS BMS Flood Sensor Connection Kit Series 860 Small, LF860 Small Sizes ½" to 2"	Includes sensor activation module with cable, power adapter, and ground wire. Use this kit to activate the flood sensor and enable flood detection capabilities on the relief valve of a new installation in a BMS configuration.
88009425	 FP-RFK-FBF-BMS-CFS BMS Flood Sensor Retrofit Connection Kit Series 860 Small, LF860 Small Sizes ½" to 2"	Includes flood sensor (2), sensor activation module with cable, power adapter, and ground wire. Use this kit to add flood detection capabilities to the relief valve of an existing installation in a BMS configuration.

For Cellular Communication

ORDERING CODE	ADD-ON/RETROFIT KIT	DESCRIPTION
88009432	 FP-FBF-CFS Cellular Flood Sensor Connection Kit Series 860 Small, LF860 Small Sizes ½" to 2"	Includes sensor activation module with cable, Cellular Gateway with mounting kit, power adapter, and ground wire. Use this kit to activate the flood sensor and enable flood detection capabilities as well as e-mail, text, and voice notifications.
88009426	 FP-RFK-FBF-CFS Cellular Flood Sensor Retrofit Connection Kit Series 860 Small, LF860 Small Sizes ½" to 2"	Includes flood sensor (2), sensor activation module with cable, Cellular Gateway with mounting kit, power adapter, and ground wire. Use this kit to add flood detection capabilities to the relief valve of an existing installation and enable e-mail, text, and voice notifications.

Limited Warranty: FEBCO (the "Company") warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.

THE WARRANTY SET FORTH HEREIN IS GIVEN EXPRESSLY AND IS THE ONLY WARRANTY GIVEN BY THE COMPANY WITH RESPECT TO THE PRODUCT. THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE COMPANY HEREBY SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The remedy described in the first paragraph of this warranty shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication, improper installation or improper maintenance or alteration of the product.

Some States do not allow limitations on how long an implied warranty lasts, and some States do not allow the exclusion or limitation of incidental or consequential damages. Therefore the above limitations may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights that vary from State to State. You should consult applicable state laws to determine your rights. **SO FAR AS IS CONSISTENT WITH APPLICABLE STATE LAW, ANY IMPLIED WARRANTIES THAT MAY NOT BE DISCLAIMED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL SHIPMENT.**



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TOUTES LES GARANTIES MARCHANDE ET D'ADAPTATION À UN BUT PARTICULIER, SONT LIMITÉES

DANS LA MESURE PERMISE PAR LA LOI APPLICABLE DE L'ÉTAT.

autres droits qui varient d'un État à l'autre. Veuillez vous référer aux lois applicables de l'État pour

appliquer à vous. Cette garantie limitée vous donne des droits spécifiques et il se peut que vous ayez

limitation des dommages accessoires ou indirects. Les limitations susmentionnées peuvent donc ne pas

Certains États n'autorisent pas les limitations de durée d'une garantie tacite ou l'exclusion ou la

d'installation ou d'entretien incorrects ou de modification du produit.

La présente garantie est déclarée nulle et non avenue en cas d'usage abusif ou incorrect, d'application,

eau impropre, des produits chimiques ou par tout autre événement échappant au contrôle de la Société.

de négligence, d'une obstruction causée par des matériaux étrangers, de dommages causés par une

incorrect dudit produit ; d'autres coûts résultant de frais de main-d'œuvre, de retards, de vandalisme,

réparation ou au remplacement d'autres biens qui seraient endommagés par suite du fonctionnement

spécial ou indirect, y compris, de façon non limitative : la perte de profits ou le coût afférent à la

de la présente garantie. La Société ne saurait être tenue responsable de tout dommage accessoire,

Le recours décrit dans le premier paragraphe de cette garantie constitue le seul recours à toute violation

D'ADAPTATION À UN BUT PARTICULIER.

EXPRESSE OU TACITE, NOTAMMENT TOUTE GARANTIE TACITE DE QUALITÉ MARCHANDE OU

TACITE, PAR LA PRÉSENTE, LA SOCIÉTÉ REJETTE SPÉCIFIQUEMENT TOUTE AUTRE GARANTIE.

LA SOCIÉTÉ POUR LE PRODUIT. LA SOCIÉTÉ N'OFFRE AUCUNE AUTRE GARANTIE, EXPRESSE OU

LA PRÉSENTE GARANTIE EST EXPRESSE ET REPRÉSENTE LA SEULE GARANTIE OFFERTE PAR

la période de garantie, la Société, à sa discrétion, remplacera ou reconduira le produit sans frais.

compter de la date d'expédition d'origine. Dans l'éventualité où de tels vices se manifesteraient pendant

vice de matériel et de fabrication dans des conditions normales d'utilisation pour une période de un an à

Garantie limitée : Watts Regulator Co. (la « Société ») garantit que chacun de ses produits est exempt de

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APTUD PARA LA COMERCIALIZACION E IDONEIDAD PARA UN PROPÓSITO EN PARTICULAR, SE LIMITA EN

CUALQUIER GARANTÍA IMPLÍCITA QUE NO SEA RECHAZADA, INCLUYENDO LAS GARANTÍAS IMPLÍCITAS DE

EN LA MEDIDA EN QUE SEA CONSUMENTE CON LAS LEYES ESTABLES APLICABLES,

miser sus derechos. Esta garantía limitada le da derechos legales específicos; usted podrá tener tam-

no sean aplicables en su caso. Esta garantía limitada le da derechos legales específicos; usted podrá tener tam-

la exclusión o limitación de daños accidentales o indirectos. Por lo tanto, es posible que las limitaciones anteriores

Algunos Estados no permiten limitaciones en la duración de una garantía implícita y algunos Estados no permiten

instalación inadecuada, o mantenimiento adecuado o alteración del producto.

control. Esta garantía no tendrá validez en cualquier caso de abuso, uso indebido, aplicación incorrecta,

a condiciones adversas del agua, químicos o cualquier otra circunstancia sobre la cual la Compañía no tenga

de obra, retardos, vandalismo, negligencia, obstrucciones ocasionadas por materiales extraños, daños debidos

propiedad que resulte dada por el mal funcionamiento de este producto, otros costos resultantes por mano

indirectos, incluyendo sin limitación, la pérdida de ganancias o el costo de reparación o reemplazo de otra

incumplimiento de garantía, y la Compañía no se hará responsable por daños accidentales, especiales o

La solución descrita en el primer párrafo de esta garantía constituirá la única y exclusiva solución por

UN PROPÓSITO EN PARTICULAR.

LIMITACION, LAS GARANTÍAS IMPLÍCITAS DE APTUD PARA LA COMERCIALIZACION E IDONEIDAD PARA

ESPECIFICAMENTE A TODAS LAS DEMÁS GARANTÍAS, EXPRESAS O IMPLÍCITAS, INCLUYENDO SIN

OTRA GARANTÍA, YA SEA EXPRESA O IMPLÍCITA, LA COMPAÑÍA POR LA PRESENTE RENUNCIA

OTORGADA POR LA COMPAÑÍA EN RELACION CON EL PRODUCTO. LA COMPAÑÍA NO OTORGA NINGUNA

LA GARANTÍA AQUÍ ESTIPULADA SE OTORGA EN FORMA EXPRESA Y ES LA ÚNICA GARANTÍA

Compañía reemplazará o recondicionará a su elección, el producto sin costo alguno.

de la fecha de embarque original, que sus productos están libres de defectos en materiales y mano de obra

Garantía limitada: Watts Regulator Co. (en adelante, "la Compañía") garantiza, por un período de un año a partir

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SHIPMENT.

PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL

DISCLAIMED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A

AS IS CONSISTENT WITH APPLICABLE STATE LAW, ANY IMPLIED WARRANTIES THAT MAY NOT BE

that vary from State to State. You should consult applicable state laws to determine your rights. SO FAR

the exclusion or limitation of incidental or consequential damages. Therefore the above limitations may

Some States do not allow limitations on how long an implied warranty lasts, and some States do not allow

or alteration of the product.

shall be invalidated by any abuse, misuse, misapplication, improper installation or improper maintenance

conditions, chemical, or any other circumstances over which the Company has no control. This warranty

charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water

other property which is damaged if this product does not work properly, other costs resulting from labor

or consequential damages, including without limitation, lost profits or the cost of repairing or replacing

remedy for breach of warranty, and the Company shall not be responsible for any incidental, special

The remedy described in the first paragraph of this warranty shall constitute the sole and exclusive

OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES

THE WARRANTY SET FORTH HEREIN IS GIVEN EXPRESSLY AND IS THE ONLY WARRANTY

GIVEN BY THE COMPANY WITH RESPECT TO THE PRODUCT. THE COMPANY MAKES NO OTHER

recondition the product without charge.

ment. In the event of such defects within the warranty period, the Company will, at its option, replace or

in material and workmanship under normal usage for a period of one year from the date of original ship-

Limited Warranty: Watts Regulator Co. (the "Company") warrants each product to be free from defects

ENGLISH INSTRUCTIONS

WARNING

Read this Manual BEFORE using this equipment.

Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment.

Keep this Manual for future reference.

WARNING

You are required to consult the local building and plumbing codes prior to installation. If the information in this manual is not consistent with local building or plumbing codes, the local codes should be followed. Inquire with governing authorities for additional local requirements.

Installation Instructions

- The valve should be installed by a licensed contractor in accordance with local codes and ordinances.
- This valve should be installed where it is accessible with sufficient clearance for cleaning, service, or adjustment.
- Before installing the valve, be sure that the pipe ends are reamed and threads are cut to size. For valves with Quick-Connect tailpieces refer to "Quick-Connect Installation" instructions below.
- Flush the lines to remove all loose scale, dirt and other foreign matter that can damage or clog the valve.
- Install the regulator with the arrow on the body pointing in the direction of the flow.
- Regulator may be installed vertically or horizontally (upright or inverted).
- Start Up — Open cold water supply then hot water supply. Inspect for leaks.

NOTICE

To tighten valve, first hand tighten followed by ¼-1 turn, using wrench.

Product is for interior or exterior applications. Product should not be buried directly in the ground. For exterior applications where the valve will be situated in a vault or pit or be in contact with the ground, the valve should be installed in a meter box/vault, accessible for repair and adjustment, per local code.

WARNING

Need for Periodic Inspection/Maintenance: This product must be tested periodically in compliance with local codes, but at least once per year or more as service conditions warrant. Corrosive water conditions, and/or unauthorized adjustments or repair could render the product ineffective for the service intended. Regular checking and cleaning of the product's internal components helps assure maximum life and proper product function.

Maintenance may be required when the water downstream of the product exhibits one or more of the following: excessive water pressure, insufficient water pressure or flow, or inconsistent water pressure.

Maintenance Instructions

WARNING

Depressurize valve before servicing.

- To clean strainer; shut off inlet water pressure, remove strainer plug (2), remove and clean strainer.
- To replace seat disc; shut off supply, loosen nut (51) and back off adjusting screw (53) remove spring cage (3), spring (52) and washer (62). Remove bottom plug (12) and gasket (101). Insert and hold screw driver in slot on top of stem while loosening seat disc holder (47) from bottom of stem (27).
- To replace diaphragm; loosen lock nut (48) and remove lock washer (46), diaphragm plate (60) and diaphragm (20).
- When reassembling apply a drop of low strength thread lock to disc holder.
- Open inlet water supply slowly.

LF25AUB-Z3

Regulator de presión de agua

Valvula reductora de la presión

Water Pressure Reducing Valve

LF25AUB-Z3 Series

Installation Instructions • Instrucciones de instalación • Instructions d'installation

IS-25AUB

Adjustment

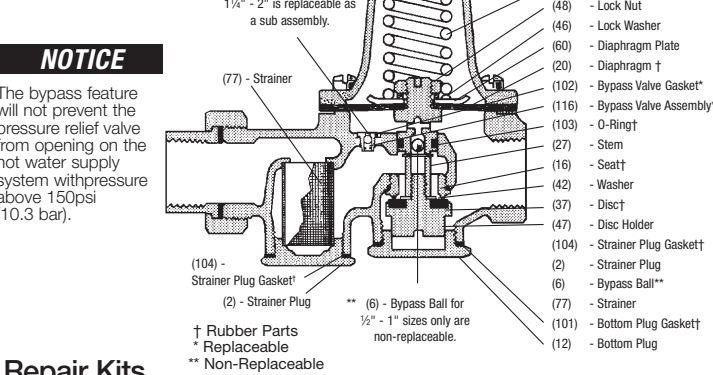
Regulator is factory preset to 50psi (344 kPa) in a static condition. To adjust pressure setting, loosen the lock nut and turn the adjusting bolt clockwise to increase pressure, counterclockwise to decrease pressure.

CAUTION

Any time a reducing valve is adjusted, use a pressure gauge to verify correct pressure setting. Do not bottom out adjusting screw on spring cage.

Bypass Feature*

This regulator has a built-in thermal expansion bypass feature. This feature prevents downstream pressure from rising to more than 10psi above the supply pressure.



Repair Kits

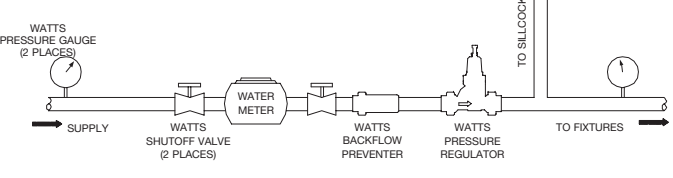
† Kit for Series LF25AUB-Z3 includes all items shown above

ORDERING CODE	KIT NO.	SIZE
0864941	½" LF25AUB-RK	½ in
0864943	¾" LF25AUB-RK	¾ in
0864942	1" LF25AUB-RK	1
0864944	1¼" LF25AUB-RK	1¼
0864945	1½" LF25AUB-RK	1½
0864946	2" LF25AUB-RK	2

When Ordering, Specify:

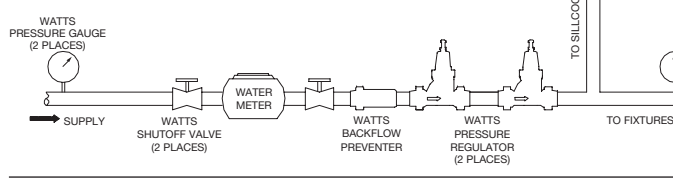
- Ordering Code
- Size of Valve
- Type Number
- Model shown on Nameplate

Typical Installation



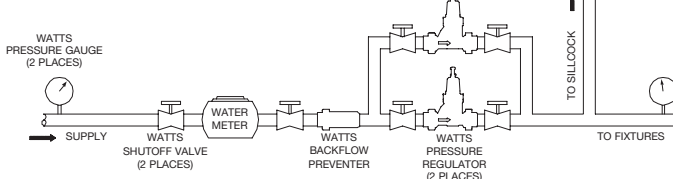
Series Installation

Series installations are recommended where very high supply pressure must be reduced to a very low downstream pressure. Reducing the pressure in stages eliminates whistling and noise.



Parallel Installation

Parallel installations are recommended where high flow or low flow demand is intermittent/occasional. They are also used for installations where service cannot be interrupted.

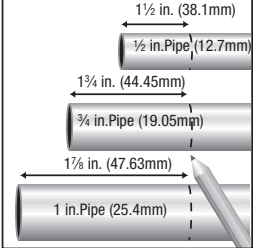


WARNING

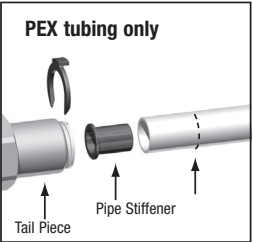
For valves with CPVC or PEX end connections, do not exceed the tubing manufacturers pressure and temperature ratings. Refer to the tubing manufacturers product specifications for that information.

Quick-Connect Installation

To Connect:



- Mark pipe as shown. This is pipe insertion depth.
- Clean pipe end.



- If using PEX tubing, insert pipe stiffener (provided) into end of pipe.
- Push tubing into tailpiece up to mark.
- Insert collet clip.

To Disconnect:

- Remove collet clip.
- Depress collet.
- Pull tubing from tailpiece.

WARNING

Troubleshooting

High System Pressure

If the downstream system pressure is higher than the set pressure under no flow conditions, the cause could be thermal expansion, pressure creep or dirt/debris on the seat.

Thermal expansion occurs whenever water is heated in a closed system. The system is closed when supply pressure exceeds 150psi, or a check valve or backflow preventer is installed in the supply piping.

You must make provisions for pressure relief protection of your plumbing system and components. The use of a relief valve such as the Watts 530C, BRV, Governor 80, or 3L or potable water expansion tank such as the Watts DET, PLT or DETA may be required.

To determine if this is the result of thermal expansion, try briefly opening the cold water tap. If the increased pressure is caused by thermal expansion, the pressure will immediately be relieved and the system will return to the set pressure. Watts offers a pressure test gauge, model 276H300 to assist you in determining if you have high water pressure.

The 276H300 when attached to a hose bibb registers the highest pressure reading over the period of time it is left on the system.



⚠ ADVERTENCIA

 Lea este manual ANTES de usar el equipo. El hecho de no leer y seguir toda la información de seguridad y de uso, puede provocar la muerte, lesiones serias, daños materiales o daños en el equipo. Conserve este manual como referencia en el futuro.

⚠ ADVERTENCIA

Es obligatorio que consulte las normas locales de construcción y plomería antes de realizar la instalación. Si la información de este manual no es congruente con las normas locales de construcción o plomería, se deben seguir las normas locales. Averigüe los requisitos locales adicionales con las autoridades gubernamentales.

Instrucciones de instalación

1. Un contratista licenciado debe instalar la válvula conforme a los códigos y ordenanzas locales.

2. Esta válvula debe instalarse en un lugar accesible con suficiente espacio para la limpieza, la reparación o el ajuste.

3. Antes de instalar la válvula, asegúrese de que los extremos de la tubería estén escariados y las rosas estén cortadas al tamaño adecuado. Para las válvulas con alcachofas de aspiración de conexión rápida, consulte las instrucciones a continuación para ver la "Instalación de conexión rápida".

4. Enjuague las líneas para eliminar todo el sarro, la suciedad y otros materiales extraños sueltos que puedan dañar u obstruir la válvula.

5. Instale el regulador con la flecha del cuerpo apuntando hacia la dirección del flujo.
6. El regulador puede instalarse vertical u horizontalmente (vertical o invertido).

7. Arranque — abra el suministro de agua fría, luego el de agua caliente. Verifique que no haya fugas.

AVISO

Para apretar la válvula, apriétela primero a mano y aplique después 1/4-1 de vuelta, utilizando una llave. La válvula debe inspeccionarse anualmente para asegurar una vida útil y rendimiento máximos. El producto es para aplicaciones en interiores o exteriores. No se debe enterrar el producto directamente en el suelo. Para aplicaciones exteriores en las que la válvula se ubicará en pozos o bóvedas o en contacto con el suelo, la válvula debe instalarse en una casilla/bóveda de medidor, accesible para su reparación y ajuste, según el código local.

⚠ ADVERTENCIA

Se requiere inspección y mantenimiento periódicos: Este producto se debe probar periódicamente de conformidad con las normativas locales, pero por lo menos una vez al año o con más frecuencia según lo requieran las condiciones de servicio. Condiciones de agua corrosiva, o ajustes o reparaciones no autorizados pueden provocar que el producto no sea efectivo para el uso previsto. La verificación y limpieza periódicas de los componentes internos del producto ayudan a garantizar la máxima vida útil y el funcionamiento adecuado del producto. Es posible que se requiera mantenimiento cuando el agua en dirección descendente del producto muestre una o más de las siguientes condiciones: presión excesiva del agua, presión o flujo del agua insuficientes o presión de agua inconsistente.

Instrucciones de mantenimiento

⚠ ADVERTENCIA

Despresurice la válvula antes de realizar el mantenimiento o la reparación.

- Para limpiar el filtro; cierre la presión de entrada del agua, quite el tapón del filtro (2), retire y limpie el filtro.
- Para reemplazar el disco de asiento; cierre el suministro, afloje la tuerca (51) y retire el tornillo de ajuste (53), quite el compartimiento del resorte (3), el resorte (52) y la arandela (62). Quite el tapón de la parte inferior (12) y la junta (101). Introduzca y mantenga el destornillador en la ranura de la parte superior del vástago mientras afloja el soporte del disco de asiento (47) de la parte inferior del vástago (27).
- Para reemplazar el diafragma; afloje la contratuercas (48) y quite la arandela de traba (46), la placa del diafragma (60) y el diafragma (20).
- Cuando vuelva a ensamblar, aplique una gota de sellador de rosca de baja potencia al soporte del disco.
- Abra el suministro de entrada del agua lentamente.

Ajuste

El regulador es configurado a 344 kPa (50 psi) en la fábrica. Para ajustar la configuración de presión, afloje la contratuercas y gire el perno de ajuste hacia la derecha para aumentar la presión o en el sentido contrario para disminuirla.

⚠ PRECAUCIÓN

Siempre que se ajuste una válvula reductora, utilice un manómetro para verificar que la presión sea la correcta. No atornille el tornillo de ajuste hasta el fondo en el terminal de resorte.

Función de derivación*

Este regulador tiene una función de derivación de expansión térmica incorporada. Esta función evita que aumente la presión de la tubería descendente a más de 0,69 bares (10 psi) de la presión del suministro.

AVISO

La función de derivación no evitará que la válvula de liberación de presión se abra en el sistema de suministro de agua caliente con una presión por encima de los 1034 kPa (150 psi).

† Piezas de goma
* Se puede reemplazar
** No se puede reemplazar

*El montaje de la válvula de derivación para 31,75 a 50,8 mm (1 ¼ a 2 pulg.) se puede reemplazar como un submontaje.

** (6) – Las bolas de derivación para los tamaños de 12,7 a 25,4 mm (½ a 1 pulg.) solamente no se pueden reemplazar.

Juegos para reparación

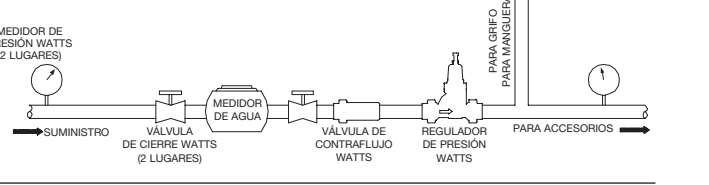
† El juego para la serie LF25AUB-Z3 incluye todo lo que se muestra arriba.

CÓDIGO DE PEDIDO	N.º DE JUEGO	TAMAÑO
		<i>pulg.</i>
0864941	½" LF25AUB-RK	½
0864943	¾" LF25AUB-RK	¾
0864942	1" LF25AUB-RK	1
0864944	1¼" LF25AUB-RK	1¼
0864945	1½" LF25AUB-RK	1½
0864946	2" LF25AUB-RK	2

Cuando haga el pedido, especifique:

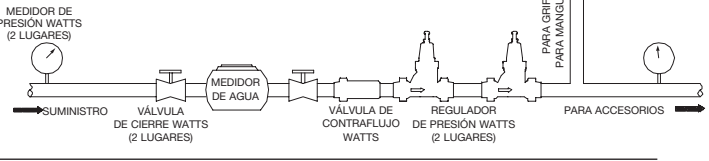
1. Código de pedido
2. Tamaño de la válvula
3. Número de tipo
4. Modelo indicado en la placa de identificación

Instalación típica



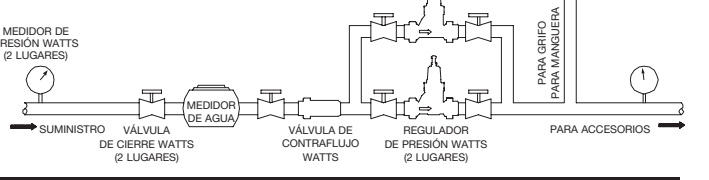
Instalación en serie

Se recomiendan las instalaciones en serie cuando una presión de suministro muy alta deba reducirse a una presión muy baja de tubería descendente. La reducción de la presión en etapas elimina silbidos y ruidos.



Instalación paralela

Se recomiendan las instalaciones paralelas cuando la demanda de flujo alto o bajo es intermitente/ocasional. También se usan para instalaciones en que el servicio no puede ser interrumpido.

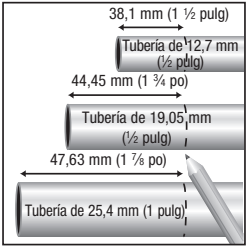


⚠ ADVERTENCIA

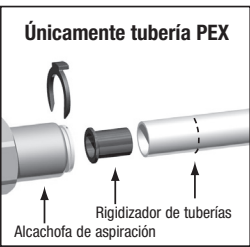
Para válvulas que tengan conexiones finales de policloruro de vinilo clorado (CPVC) o de polietileno ligado cruzado (PEX), no exceda los valores nominales de presión y temperatura que especifica el fabricante para la tubería. Para obtener esa información, consulte las especificaciones del producto que indica el fabricante para la tubería.

Instalación de conexión rápida

Para conectar:



1. Marque la tubería como se muestra. Esta es la profundidad de colocación de la tubería.
2. Limpie el extremo de la tubería.



3. Si usa tubería PEX, introduzca el rigidizador de tuberías (incluido) en el extremo de la tubería.
4. Coloque la tubería en la alcachofa de aspiración hasta la marca.
5. Introduzca el sujetador de boquilla.

Para desconectar:

⚠ ADVERTENCIA

Resolución de problemas

Alta presión en el sistema

Si la presión descendente del sistema es más alta que la presión establecida en condiciones sin flujo, la causa podría ser la expansión térmica, un aumento de la presión o suciedad/residuos en el asiento. La expansión térmica tiene lugar cuando el agua se calienta en un sistema cerrado. El sistema está cerrado cuando la presión de suministro excede los 381 kPa (150 psi) o si se instala una válvula de retención o válvula de contraflujo en la tubería de suministro. Debe estar preparado para proteger su sistema de tubería y los componentes de la liberación de la presión. Puede ser necesario el uso de una válvula de liberación como la Watts 530C, BRV, Governor 80, o 3L o un tanque de expansión de agua potable como el Watts DET, PLT o DETA.

Para determinar si esto es resultado de la expansión térmica, pruebe abrir brevemente el grifo de agua fría. Si el aumento de presión es causado por la expansión térmica, la presión se liberará inmediatamente y el sistema volverá a la presión configurada. Watts ofrece un medidor de presión de prueba, modelo 276H300 para ayudarle a determinar si tiene presión alta de agua. El 276H300, cuando se conecta a un grifo para manguera, registra la lectura de presión más alta en el periodo de tiempo que queda en el sistema.



276H300

⚠ AVERTISSEMENT

 Lire ce manuel AVANT d'utiliser cet équipement. Le non-respect de toutes les instructions de sécurité et d'utilisation peut entraîner des dommages matériels, des blessures graves ou la mort. Conserver ce manuel pour référence ultérieure.

⚠ AVERTISSEMENT

Vous êtes tenu de consulter les codes du bâtiment et de plomberie locaux avant l'installation. Si l'information n'est pas compatible avec les codes du bâtiment ou de plomberie locaux, les codes locaux doivent être suivis. Renseignez-vous auprès des autorités de réglementation pour les exigences locales supplémentaires.

Instructions d'installation

1. Ce régulateur doit être installé par un entrepreneur agréé, en conformité avec les codes et règlements locaux.

2. Il doit être installé dans un endroit aisément accessible, avec un dégagement suffisant pour le nettoyage, l'entretien et les réglages.

3. Avant l'installation, les extrémités des tuyaux doivent être alésées et les filetages coupés à dimension. Pour les régulateurs dotés d'aboutis à raccord rapide, se reporter à la rubrique « Pose du raccord rapide ».

4. Purger les conduites pour éliminer les saletés, le tartre et autres corps étrangers qui risqueraient d'endommager ou d'obstruer le régulateur.

5. Installer le régulateur de manière à ce que la flèche gravée sur son corps soit orientée dans la direction du débit.
6. Le régulateur peut être installé à la verticale ou à l'horizontale (droit ou inversé).

7. Procédure – ouvrir l'arrivée d'eau froide, puis d'eau chaude. Vérifier qu'il n'y a pas de fuites.

AVIS

Pour serrer le robinet, commencez par serrer à la main suivi d'un 1/4-1 tour à l'aide d'une clé. Un contrôle annuel du régulateur garantit une durée de service et une performance optimales. Ce produit a été conçu pour des applications intérieures ou extérieures. Ce produit ne doit pas être enfoui directement dans le sol. Pour des applications extérieures où la valve serait située dans une cave ou une fosse, ou pour des applications extérieures où la valve serait en contact avec le sol, la valve devrait être installée dans une enceinte ou une boîte de compteur afin d'être accessible à des fins de réparations ou d'ajustements, conformément au code local.

⚠ AVERTISSEMENT

Inspection/entretien périodique nécessaire : La conformité avec les codes locaux de ce produit doit être testée périodiquement, au moins une fois par an, ou plus selon les conditions de service. Un environnement humide corrosif et/ou des réglages ou réparations non autorisés peuvent avoir un impact négatif sur l'efficacité du produit dans le cadre de ses fonctions. Une vérification et un nettoyage réguliers des composants internes du produit peuvent prolonger la durée de vie maximale du produit et son bon fonctionnement. Un entretien peut être nécessaire lorsque l'eau en aval du produit présente une ou plusieurs des caractéristiques suivantes : pression d'eau excessive, pression ou débit d'eau insuffisant ou pression d'eau inégale.

Instructions d'entretien

⚠ AVERTISSEMENT

Dépressurisez la vanne avant tout entretien ou réparation.

- Pour nettoyer la crépine; couper la pression de l'alimentation en eau, enlever le bouchon de la crépine (2), puis enlever et nettoyer la crépine.
- Pour remplacer le siège du disque; couper l'alimentation en eau, desserrer l'écrou (51), dégager la vis de réglage (53) et enlever la cage à ressort (3), le ressort (52) et la rondelle (62). Enlever le bouchon inférieur (12) et le joint (101). Insérer un tournevis dans le haut de la tige et le maintenir en place pendant que le porte-disque du siège (47) est desserré de la base de la tige (27).
- Pour remplacer la membrane; desserrer le contre-écrou (48) et enlever la rondelle d'obturation (46), la plaque de la membrane (60) et la membrane (20).
- Pour réassembler, appliquer une goutte d'enduit frein pour fillet à faible résistance au support de disque.
- Ouvrir lentement l'entrée d'alimentation en eau.

Réglage

Le régulateur est réglé en usine à 344 kPa (50 lb/po²). Pour régler la pression, desserrer le contre-écrou et tourner la vis de réglage dans le sens horaire pour augmenter la pression, ou dans le sens antihoraire pour la diminuer.

⚠ MISE EN GARDE

Chaque fois qu'un robinet réducteur de pression est ajusté, utilisez un manomètre pour vérifier le bon réglage de la pression. N'allez pas jusqu'au fond en ajustant la vis sur le bloc à ressort.

Dispositif de dérivation*

Ce régulateur comprend un dispositif intégré de dérivation de la dilatation thermique. Ce dispositif empêche la pression en aval de s'élever de plus de 68,9 kPa (10 lb/po²) au-delà de la pression d'alimentation.

AVIS

*Dans un circuit d'alimentation en eau chaude, le dispositif de dérivation n'empêchera pas le régulateur de s'ouvrir à des pressions supérieures à 1034 kPa (150 lb/po²).

† Pièces en caoutchouc
* Remplaçable
** Non remplaçable

* La soupape de dérivation pour tuyau de 31 mm à 50 mm (1,25 po à 2 po) est remplaçable comme sous ensemble.

** (6) – La bille de dérivation, uniquement pour soupapes de 13 mm à 25 mm (0,5 po à 1 po), n'est pas remplaçable.

Trousses de réparation

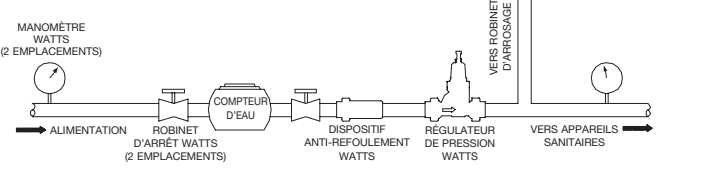
† La trousse pour la série LF25AUB-Z3 contient tous les articles indiqués ci-dessus.

CODE DE COMMANDE	TROUSSE N°	TAILLE
		<i>po</i>
0864941	½" LF25AUB-RK	½
0864943	¾" LF25AUB-RK	¾
0864942	1" LF25AUB-RK	1
0864944	1¼" LF25AUB-RK	1¼
0864945	1½" LF25AUB-RK	1½
0864946	2" LF25AUB-RK	2

Pour commander, indiquer ce qui suit :

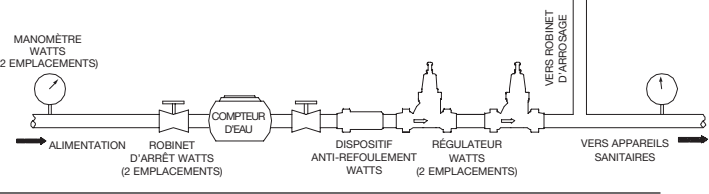
1. Code de commande
2. Taille de la soupape
3. Numéro de type
4. Modèle indiqué sur la plaque signalétique

Installation type



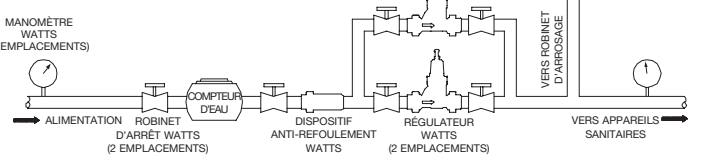
Installation en série

Le montage en série est recommandé lorsqu'une pression d'alimentation très élevée doit être réduite à une pression très basse en aval. La baisse de pression par étapes favorise l'élimination du sifflement et des bruits de tuyauterie.



Installation en parallèle

Le montage en parallèle est recommandé lorsqu'une demande à haut ou bas débit est intermittente ou occasionnelle. Il convient aussi aux installations où le service ne peut être interrompu.

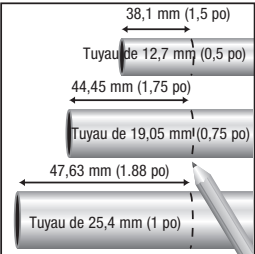


⚠ AVERTISSEMENT

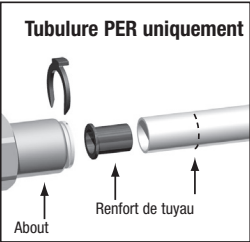
Pour les robinets munis de raccords d'extrémité CPVC ou PEX, ne pas excéder les tolérances de pression et de température du fabricant de tubulure. Consulter les fiches de spécification de produit du fabricant de tubulure pour ces données.

Installation du raccord rapide

Raccordement :



1. Marquer un repère sur le tuyau, comme il est illustré. Ceci correspond à la profondeur d'insertion du tuyau.
2. Nettoyer l'extrémité du tuyau.



3. Si une tubulure PER est utilisée, insérer le renfort de tuyau (fourmi) dans l'extrémité du tuyau.
4. Enfoncer le tuyau dans l'about jusqu'au repère.
5. Insérer la pince de serrage.

Déconnexion :

⚠ AVERTISSEMENT

Dépannage

Surpression dans le circuit

En cas de débit nul, une pression du circuit en aval supérieure à la pression de consigne peut être causée par une dilatation thermique, une déformation due à la pression, des saletés ou des débris sur le siège.

Une dilatation thermique se produit chaque fois que de l'eau est chauffée dans un circuit fermé. Le circuit est fermé lorsque la pression d'alimentation dépasse 1034 kPa (150 lb/po²), ou lorsqu'un clapet antiretour ou un dispositif anti-refoulement est monté dans la tuyauterie d'alimentation.

Il est impératif de protéger la tuyauterie et ses composants contre la surpression. La pose d'une soupape de décharge, comme une soupape 530C, BRV, Governor 80 ou 3L de Watts, ou d'un réservoir de dilatation d'eau potable, comme un réservoir DET, PLT ou DETA de Watts, peut s'avérer nécessaire.

Pour déterminer s'il s'agit du résultat d'une dilatation thermique, ouvrir brièvement le robinet d'eau froide. Si la surpression a pour cause une dilatation thermique, la pression dans le circuit baissera immédiatement à la pression de consigne. Watts propose un manomètre, modèle 276H300, pour aider à déterminer la présence ou non d'une surpression dans le circuit.

Le manomètre 276H300 se connecte à un robinet d'arrosage; il consigne la pression la plus élevée atteinte pendant la période où il est resté branché.



276H300



TO: Hight Jackson Associates
jandrade@hjarch.com

ATTN: Jorge Andrade

RE: Farm Credit - Russellville, AR
Plumbing

DATE: 07/05/2023 JOB NO. 22-166

ELECTRONIC SUBMITTAL WAS REVIEWED AS FOLLOWS:

☒ CUT SHEETS	☐ NO EXCEPTIONS TAKEN	☒ APPROVED
☐ DRAWINGS	☒ NOTE MARKINGS	☐ REJECTED
☐ OTHER	☐ COMMENTS ATTACHED	☐ RESUBMIT
		☐ RESUBMIT only items marked

REMARKS:

Submittal - 22 10 06-01 Plumbing Specialties 1

☐ APPROVED
☐ APPROVED AS CORRECTED
☒ REVIEWED BY CONSULTANT

☐ REVISE AND RESUBMIT
☐ NOT APPROVED
☐ SUPPLEMENTAL HJ COMMENTS

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

BY: Jorge Andrade
DATE: 7/6/2023

Hight Jackson
ASSOCIATES

ENGINEER'S REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENT. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, NOR DEPARTURE THEREFROM. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY AND PERFORMING HIS WORK IN A SAFE MANNER.

Copies To:

<u>X</u>	File	
	Owner	
<u>X</u>	Architect	
	Other	BY: <u>Nathan Wilson, PE</u>

HSA Engineering Consulting Services, Inc.

7405 Ellis Street
Fort Smith, AR 72916

479.452.8922
www.hsaconsultants.com

SUBMITTAL



Project Name: Farm Credit, Russellville, AR
Project Number: 02-23-2720
Transmitted To: Hight Jackson Associates
Specification: 22 10 06-01 Plumbing Specialties

Construction Manager:

NABHOLZ CONSTRUCTION SERVICES	
☐	Revise & Resubmit
☐	Reviewed & Amend As Noted
☒	Reviewed
By: <u>Ann Miller</u> Date: <u>06.22.2023</u>	

☐ APPROVED
☐ APPROVED AS CORRECTED
☒ REVIEWED BY CONSULTANT

☐ REVISE AND RESUBMIT
☐ NOT APPROVED
☐ SUPPLEMENTAL HJ COMMENTS

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

BY: Jorge Andrade
DATE: 7/6/2023

Hight Jackson
ASSOCIATES

Design Review Comments:

P-13

X	SMITH® JAY R. SMITH MFG. CO.® MEMBER OF MORRIS GROUP INTERNATIONAL POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) TEL: 334-277-8520 FAX: 888-377-7818 www.jrsmith.com MEMBER OF: MEMBER OF: MEMBER OF: LOCATION																																																																		
	FLOOR OR SHOWER DRAINS WITH ADJUSTABLE STRAINER HEADS																																																																		
	DRAWING NUMBER	General service floor drain for use in showers, toilets, kitchens and other finished areas where foot traffic is expected. Load Rating: Light Duty having a Safe Live (Static) Load less than 2,000 lbs. (900 kg) per ASME A112.6.3 Floor Drain Standard. For the specific Safe Live Load rating of any grate, contact the Smith representative or factory direct.																																																																	
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SCALE:	NO-HUB OUTLET ☐ Fig. 2005Y.....(A) ROUND TOP ☐ Fig. 2005Y.....(B) SQUARE TOP SPEEDI-SET® OUTLET ☐ Fig. 2005L.....(A) ROUND TOP ☐ Fig. 2005L.....(B) SQUARE TOP																																																																		
DATE:	Outlet Size Nickel Bronze Strainer Head <table border="1" style="font-size: 8px;"> <tr><td>▲ 02(50)</td><td>05(125) DIA or SQ</td></tr> <tr><td>▲ 03(75)</td><td>06(150) DIA or SQ</td></tr> <tr><td>▲ 04(100)</td><td>08(205) DIA or SQ</td></tr> </table> <table border="1" style="font-size: 8px;"> <tr> <th>Strainer Size B</th> <th colspan="2">*Collar In High Position X</th> <th colspan="2">*Collar In Low Position XX</th> <th colspan="2">Free Area SQ IN (SQ CM)</th> </tr> <tr> <th>DIA or SQ</th> <th>MIN</th> <th>MAX</th> <th>MIN</th> <th>MAX</th> <th>ROUND</th> <th>SQUARE</th> </tr> <tr><td>05 (125)</td><td>1 1/4(32)</td><td>2 1/4(57)</td><td>3/4(19)</td><td>1 5/8(41)</td><td>7(45)</td><td>6.5(42)</td></tr> <tr><td>06 (150)</td><td>1 1/4(32)</td><td>2 1/4(57)</td><td>3/4(19)</td><td>1 5/8(41)</td><td>9(58)</td><td>12.5(81)</td></tr> <tr><td>07 (180)</td><td>1 1/4(32)</td><td>2 1/4(57)</td><td>7/8(22)</td><td>1 7/8(48)</td><td>14(90)</td><td>11(71)</td></tr> <tr><td>08 (205)</td><td>1 1/2(38)</td><td>2 1/2(64)</td><td>1(25)</td><td>1 7/8(48)</td><td>17(110)</td><td>14(90)</td></tr> <tr><td>*09 (230)</td><td>1 1/2(38)</td><td>2 3/8(60)</td><td>1(25)</td><td>1 7/8(48)</td><td>18(116)</td><td>16(103)</td></tr> <tr><td>*10 (255)</td><td>1 1/2(38)</td><td>2 3/8(60)</td><td>1(25)</td><td>1 7/8(48)</td><td>23(48)</td><td>16(103)</td></tr> </table>					▲ 02(50)	05(125) DIA or SQ	▲ 03(75)	06(150) DIA or SQ	▲ 04(100)	08(205) DIA or SQ	Strainer Size B	*Collar In High Position X		*Collar In Low Position XX		Free Area SQ IN (SQ CM)		DIA or SQ	MIN	MAX	MIN	MAX	ROUND	SQUARE	05 (125)	1 1/4(32)	2 1/4(57)	3/4(19)	1 5/8(41)	7(45)	6.5(42)	06 (150)	1 1/4(32)	2 1/4(57)	3/4(19)	1 5/8(41)	9(58)	12.5(81)	07 (180)	1 1/4(32)	2 1/4(57)	7/8(22)	1 7/8(48)	14(90)	11(71)	08 (205)	1 1/2(38)	2 1/2(64)	1(25)	1 7/8(48)	17(110)	14(90)	*09 (230)	1 1/2(38)	2 3/8(60)	1(25)	1 7/8(48)	18(116)	16(103)	*10 (255)	1 1/2(38)	2 3/8(60)	1(25)	1 7/8(48)	23(48)	16(103)
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APPROVED BY:	REGULARLY FURNISHED: Duco Cast Iron Body with Flashing Collar and Adjustable Strainer Head as Indicated by Suffix Letter Selected. VARIATIONS: ☐ Flapper Type Backwater Valve -V (NOTE 2) ☐ Hinged Grate -H (NOTE 1) ☐ L Speedi-Set® Service Weight 2(50), 3(75) & 4"(100) only ☐ LXH Speedi-Set® Extra Heavy 2(50), 3(75) & 4"(100) only ☐ Sediment Bucket -B ☐ Trap Primer Connection -P050 1/2" (13) & -P075 3/4" (19) ☐ Vandal Proof Screws -U ☐ Wide Flanged Strainer (Specify Fig. DX2005) ☐ T Threaded Outlet (Specify 2010T) ☐ Heelproof Grate -HP -AHP (Round) or -BHP (Square) ☐ Quad Close Trap Seal (Specify Fig. 2692) OPTIONAL MATERIALS: ☐ Bronze Body -BB ☐ Chrome Plated Strainer -CP ☐ Galvanized Cast Iron Body -G ☐ Nickel Bronze Strainer -NB ☐ Polished Bronze Strainer -PB ☐ All Stainless Steel (Specify Fig. 9700) ☐ Stainless Steel Strainers -SS [Available in 05(125) & 06(150) sizes only]																																																																		
CHECKED BY:	▼ This dimension to internal stop of speedi-set® gasket. • Add 3/8"(10) to all min/max dimensions for round strainers. * Collar is reversible to obtain extreme high and low strainer positions. ** Not available for 5"(125) size strainer. ** MIN 6 3/4"(170) hole required for core drilled application.																																																																		
DRAWN BY:	NOTE: Dimensions shown in parentheses are in millimeters. ▲ Meets ASME Standard A112.6.3-2001 02(50), 03(75) or 04"(100) sizes only.																																																																		
FIGURE NUMBER	2005 SEE PM 0457 FOR OPTIONAL STRAINER HEADS.																																																																		
REV.	DATE	DESCRIPTION	BY	CKD. BY	W 3-10-23 V 10-8-21 U 8-27-21 U 7-23-19 Added ® to "Speedi-Set" Added NOTE 1 & 2 Edited Variations Added Load Rating KK KK KK MW CL JM JM JM																																																														
WEIGHT POUNDS		VOLUME CUBIC FEET		FIGURE NUMBER 2005																																																															



WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

P-14

N					LOCATION																																																	
	SANI-CEPTOR® ACID RESISTANT COATED FLOOR & INDIRECT WASTE DRAINS																																																					
	SQUARE NICKEL BRONZE TOP 8 1/2" (215) TOP - MEDIUM RECEPTORS																																																					
	FUNCTION: Used in kitchens, hospitals, food markets, restaurants, schools and all types of food handling areas where the ultimate in sanitation is desirable and a medium capacity receptor is required.																																																					
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☐ Fig. 3100C CAULK OUTLET ☐ Fig. 3100Y NO-HUB OUTLET ☐ Fig. 3101C ☐ Fig. 3101Y																																																						
FEATURES, OPTIONS & ORDERING INFORMATION																																																						
REGULARLY FURNISHED: Cast Iron Flanged Receptor with Seepage Holes, Acid Resistant Coated Interior, Nickel Bronze Rim and Secured ADA Grate. Aluminum Dome Bottom Strainer or White ABS Sediment Bucket as Indicated by Figure Number.																																																						
OPTIONAL MATERIALS: ☐ All Duco Cast Iron Receptor -CI ☐ All Galvanized Receptor -G VARIATIONS: ☐ Aluminum Flat Bottom Strainer -FBS ☐ Flashing Clamp -C ☐ Polished Aluminum Dome Bottom Strainer -PDBS ☐ Vandal Proof Screws -U ☐ L Speedi-Set® Service Weight 02(50), 03(75) & 04"(100) sizes only ☐ LXH Speedi-Set® Extra Heavy 02(50), 03(75) & 04"(100) sizes only ☐ S.S. Mesh Lined Bucket -BS																																																						
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TG

Location: _____

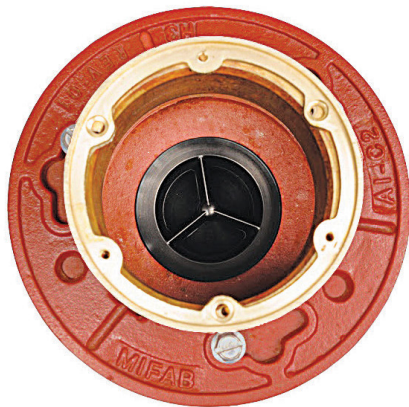
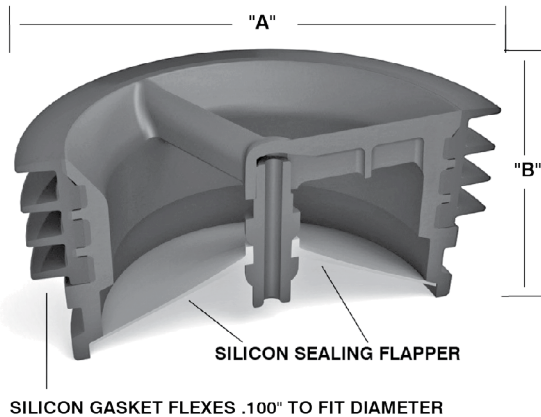


MI-GARD®

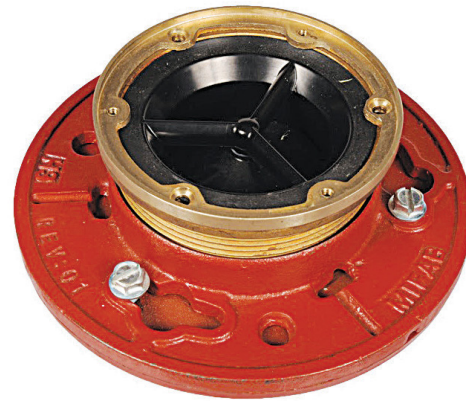
FLOOR DRAIN TRAP SEAL

Specification: MIFAB® MI-GARD® Series inline floor drain trap seal with UV resistant ABS plastic frame, silicon rubber sealing flapper and four flexible sealing ribs. Tested and certified to the ASSE 1072 Standard and listed with IAPMO and I.P.C. Specify connection size (1 1/2", 2", 3", 3 1/2", 4" or 6").

Function: Used in the outlet connections of floor drain bodies, or the inside of floor drain strainers to seal the opening to prevent odors, sewer gases, and insects from entering up through the floor drain grate. The MI-GARD®'s four flexible silicone sealing ribs ensure easy installation into openings that have variations in size. The MI-GARD® will open to allow drainage and close when there is no water flow.



BOTTOM OF BODY



TOP OF STRAINER

MODEL NO.	"A" (PIPE SIZE)	"B" (HEIGHT)
MI-GARD-1.5	1-1/2" (38)	2" (51)
MI-GARD-2	2" (51)	2" (51)
MI-GARD-3	3" (76)	2" (51)
MI-GARD-3.5	3 1/2" (89)	2" (51)
MI-GARD-4	4" (102)	2" (51)
MI-GARD-6	6" (152)	2" (51)

MI-GARD® prevents the following from entering through the top of floor drains:

- Odors and sewer gases
- Insects

Note: The MI-GARD-6 is designed in accordance with industry standards but is not listed.

MI-GARD Floor Drain Trap Seals are in compliance with International Plumbing Code (I.P.C.)



MI-GARD-1.5

CALIFORNIA PROPOSITION 65 WARNING. This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Job Name: _____

Page No: _____

Section No: _____

Contractor: _____

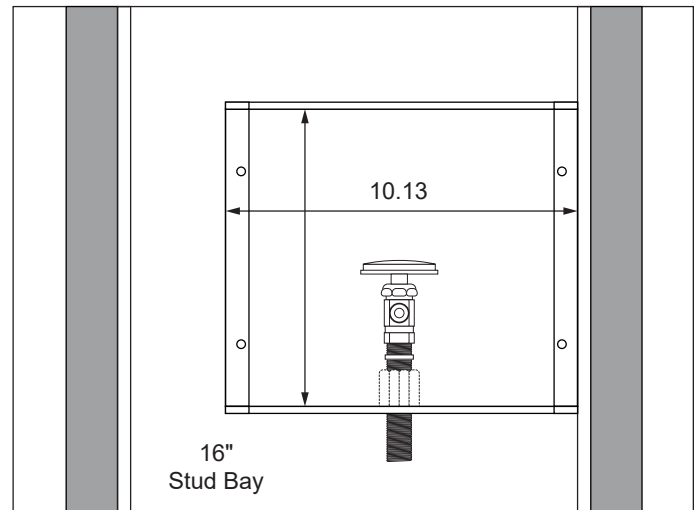
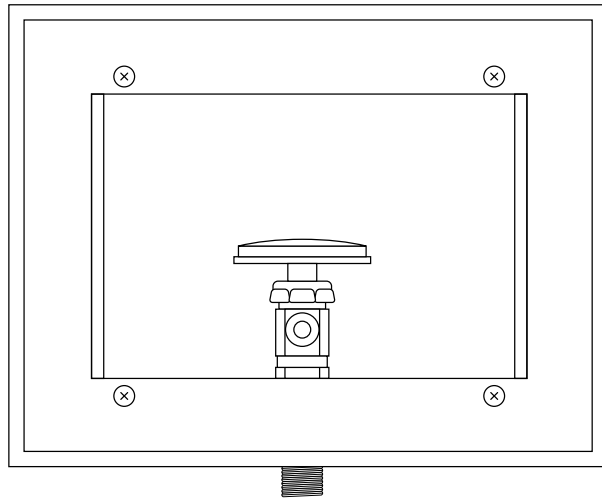
Schedule No: _____

Purchase Order No: _____

P-15



Galvanized Ice Maker Box with Lead Free Domestic Valve



SPECIFICATIONS

Furnish and install Guy Gray recessed ice maker outlet box. Ice maker outlet box shall have an AB1953 compliant valve with a 1/2" copper sweat inlet and a 1/4" compression outlet. Unit shall be Guy Gray product code 88158 as manufactured by IPS Corporation in Collierville, TN.

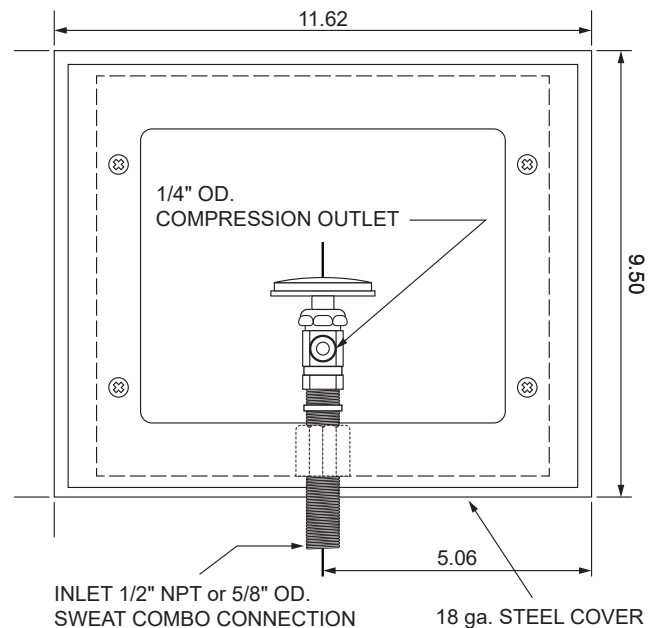
BOX MATERIAL:

G90 Hot Dipped Galvanized Steel (unpainted)
20 gauge box with 20 gauge faceplate

VALVE & DRAIN OPTIONS:

Lead free Domestic Valve with 1/2" MIP/Sweat, CPVC or PEX connection. Valves comply with ASME A112.18.1.

Valves comply with the requirements of NSF 61-G and the "Reduction of Lead in Drinking Water Act" (Federal Public Law 111-380)



Item #	Model #	Product Description	Quantity
88510	BIM875QTSAB	Qtr-turn Valve, 1/2" Sweat Connection	6
X 88158	BIM875AB	Domestic Valve, 1/2" Sweat Connection	6
88512	BIM876QTCAB	Qtr-turn Valve, 1/2" CPVC Connection	6
88514	BIM877QTPAB	Qtr-turn Valve, 1/2" F1807 Connection	6
88517	BIM878QTWAB	Qtr-turn Hammer Arrestor Valve, 1/2" Wirsbo® Connection	6
96997	BTRC	Tamper resistant cover for Models B, BB, WB, FB, & BIM	6

*Frames packed separately from boxes and mounting flanges for protection and safe keeping until finishing stage.



500 Distribution Parkway, Collierville, TN 38017 • Phone: 800-888-8312 • Fax: 901-853-5008 • www.ipscorp.com

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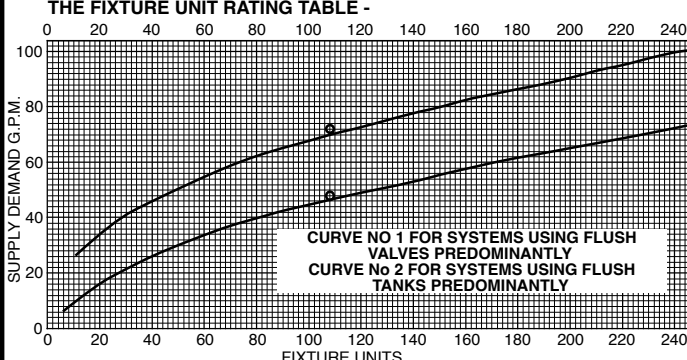
H	JAY R. SMITH MFG. CO.® MEMBER OF MORRIS GROUP INTERNATIONAL POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com LOCATION 																																												
	CAULK FERRULE CLEANOUTS WITH ACCESS COVERS																																												
DRAWING NUMBER S4420	SIZE A	SCALE: NONE	DATE: 2-16-70	APPROVED BY: BH	TAPER THREAD PLUG WITH ROUND COVER																																								
WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA					FUNCTION: Used in hub openings in drainage piping where a cleanout is required. Ribbing on outside of ferrule prevents turning of ferrule in the caulking lead. Face-of-wall cover is desirable on finished walls. Stainless Steel Shallow Cover 1/4(6) - 20 x 2 1/2(64) Long Flat Head Machine Screw Chrome Plated Deep Cover 1 1/4(32) - 20 x 1 1/2(38) Long Flat Head Machine Screw WITH COUNTERSUNK PLUG ☐ FIG. 4420C . . . LESS COVER AND SCREW ☐ FIG. 4421C . . . WITH DEEP COVER AND SCREW ☐ FIG. 4422C . . . WITH SHALLOW COVER AND SCREW <table border="1" style="width: 100%; text-align: center; margin-top: 10px;"> <thead> <tr> <th></th> <th>A SIZE</th> <th>B DIA</th> <th>C SIZE</th> <th>D</th> <th>E DIA</th> </tr> </thead> <tbody> <tr> <td>▲ 02 (50)</td> <td>4 1/4 (110)</td> <td>1 1/2 (38)</td> <td>3 1/2 (89)</td> <td>*7 1/4 (185)</td> </tr> <tr> <td>▲ 03 (80)</td> <td>5 1/2 (140)</td> <td>2 1/2 (64)</td> <td>3 3/4 (95)</td> <td>*7 1/4 (185)</td> </tr> <tr> <td>▲ 04 (100)</td> <td>5 1/2 (140)</td> <td>3 1/2 (89)</td> <td>4 1/4 (110)</td> <td>*7 1/4 (185)</td> </tr> <tr> <td>05 (125)</td> <td>7 (180)</td> <td>4 (100)</td> <td>4 1/4 (110)</td> <td>*7 1/4 (185)</td> </tr> <tr> <td>06 (150)</td> <td>9 1/4 (235)</td> <td>5 (125)</td> <td>4 1/4 (110)</td> <td>9 1/4 (235)</td> </tr> <tr> <td>08 (200)</td> <td>11 1/4 (285)</td> <td>6 (150)</td> <td>4 1/2 (115)</td> <td>11 1/4 (285)</td> </tr> </tbody> </table> * = Die Formed SS Cover Only. REGULARLY FURNISHED: Duco Cast Iron Caulk Ferrule with Cast Bronze Taper Thread Plug. Type of Cover as Indicated by Figure Number Selected. VARIATIONS: ☐ Longer Screw 6"(150) Lg. -LS ☐ "T" Handle Plug -TH ☐ Vandal Proof Screw-U NOTE: Dimensions shown in parentheses are in millimeters. OPTIONAL MATERIALS: (4420 & 4422) ☐ Cast Bronze Ferrule -CB ☐ Prime Coated Steel Shallow Cover -PC OPTIONAL MATERIALS: (4421) ☐ Cast Bronze Body -BB ☐ Nickel Bronze Deep Cover -NB ☐ Polished Bronze Deep Cover -PB						A SIZE	B DIA	C SIZE	D	E DIA	▲ 02 (50)	4 1/4 (110)	1 1/2 (38)	3 1/2 (89)	*7 1/4 (185)	▲ 03 (80)	5 1/2 (140)	2 1/2 (64)	3 3/4 (95)	*7 1/4 (185)	▲ 04 (100)	5 1/2 (140)	3 1/2 (89)	4 1/4 (110)	*7 1/4 (185)	05 (125)	7 (180)	4 (100)	4 1/4 (110)	*7 1/4 (185)	06 (150)	9 1/4 (235)	5 (125)	4 1/4 (110)	9 1/4 (235)	08 (200)	11 1/4 (285)	6 (150)	4 1/2 (115)	11 1/4 (285)
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4420 SERIES	DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE					DRAWN BY: RK					CHECKED BY: BH					APPROVED BY: BH					DATE: 2-16-70					SCALE: NONE					SIZE: A					DRAWING NUMBER: S4420									
	FIGURE NUMBER					H G F					10-7-14 10-20-98 8-11-97					Revised Variations Revised S.W. and/or N.H Chg'd Var. & Opt. Mat.					TBW TBW EMB					BW JCS BS					WEIGHT POUNDS					VOLUME CUBIC FEET					FIGURE NUMBER 4420 SERIES				
REV.					DATE					DESCRIPTION					BY					CKD. BY																									

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P	JAY R. SMITH MFG. CO.® MEMBER OF MORRIS GROUP INTERNATIONAL POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com MEMBER OF: PLUMBING AND DRAINAGE INSTITUTE				LOCATION 																																																	
	HYDROTROLS ENGINEERED WATER HAMMER ARRESTERS																																																					
	FUNCTION: Engineered water hammer arresters ("Hydrotrols") employ a permanently sealed cushion of air which absorbs the energy of water hammer and reduces pressure rise in the piping system to a safe level. Hydrotrol units correctly sized and placed at specific locations in the water piping system, will control the destructive shock of water hammer.																																																					
	 Units: A, B, C, & D Units: E & F																																																					
Hydrotrols are pre-charged and permanently sealed at the factory. All hydrotrols are constructed entirely of stainless steel.																																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PCN/ Fig. No.</th> <th>P.D.I. Symbol</th> <th>Fixture Unit Rating</th> <th>A SIZE</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>5005</td> <td>A</td> <td>1-11</td> <td>3/4 (19)</td> <td>3.18 (81)</td> <td>3.25 (83)</td> <td>1.80 (46)</td> </tr> <tr> <td>5010</td> <td>B</td> <td>12-32</td> <td>1 (25)</td> <td>3.93 (100)</td> <td>3.25 (83)</td> <td>2.13 (54)</td> </tr> <tr> <td>5020</td> <td>C</td> <td>33-60</td> <td>1 (25)</td> <td>4.30 (109)</td> <td>3.25 (83)</td> <td>2.42 (61)</td> </tr> <tr> <td>5030</td> <td>D</td> <td>61-113</td> <td>1 (25)</td> <td>5.25 (133)</td> <td>3.25 (83)</td> <td>3.38 (86)</td> </tr> <tr> <td>5040</td> <td>E</td> <td>114-154</td> <td>1 (25)</td> <td>5.57 (141)</td> <td>3.25 (83)</td> <td>3.57 (91)</td> </tr> <tr> <td>5050</td> <td>F</td> <td>155-330</td> <td>1 (25)</td> <td>6.53 (166)</td> <td>3.25 (83)</td> <td>4.50 (114)</td> </tr> </tbody> </table>						PCN/ Fig. No.	P.D.I. Symbol	Fixture Unit Rating	A SIZE	B	C	D	5005	A	1-11	3/4 (19)	3.18 (81)	3.25 (83)	1.80 (46)	5010	B	12-32	1 (25)	3.93 (100)	3.25 (83)	2.13 (54)	5020	C	33-60	1 (25)	4.30 (109)	3.25 (83)	2.42 (61)	5030	D	61-113	1 (25)	5.25 (133)	3.25 (83)	3.38 (86)	5040	E	114-154	1 (25)	5.57 (141)	3.25 (83)	3.57 (91)	5050	F	155-330	1 (25)	6.53 (166)	3.25 (83)	4.50 (114)
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RECOMMENDED SPECIFICATION FOR HYDROSTATIC SHOCK CONTROL Smith series 5000 "Hydrotrol" all stainless steel shock absorbers shall be installed at all solenoid, remote operated or quick closing valves and at each plumbing fixture or battery of plumbing fixtures. Install on both hot and cold water branch lines in an upright position as close as possible to the valve or valves being served. Sizes and locations as indicated on drawings. NOTE: Sizing information on reverse side. NOTE: Stainless steel units are lead-free. Hydrotrols Fig. 5005 to 5050 inclusive have been tested and certified in accordance with the Plumbing and Drainage Institute "Standard P.D.I. WH-201" Refer to www.pdionline.org																																																						
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">P N M L</td> <td style="width: 10%;">3-2-15 10-15-13 11-2-11 01/20/11</td> <td style="width: 40%;">Revised Function, Added Note Revised Function Rev. "B" & "D" Dim., Drawing Updated Logo</td> <td style="width: 10%;">TBW TBW TBW JJ</td> <td style="width: 10%;">TK CL JM TW</td> </tr> <tr> <td>REV.</td> <td>DATE</td> <td>DESCRIPTION</td> <td>BY</td> <td>CKD. BY</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">WEIGHT POUNDS</td> <td style="width: 50%;">VOLUME CUBIC FEET</td> </tr> </table> FIGURE NUMBER 5005 To 5050						P N M L	3-2-15 10-15-13 11-2-11 01/20/11	Revised Function, Added Note Revised Function Rev. "B" & "D" Dim., Drawing Updated Logo	TBW TBW TBW JJ	TK CL JM TW	REV.	DATE	DESCRIPTION	BY	CKD. BY	WEIGHT POUNDS	VOLUME CUBIC FEET																																					
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WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

E	DRAWING NUMBER S5005BS	SIZE A	SCALE: NONE	DATE: 2-12-86	APPROVED BY: TD	CHECKED BY: KG	DRAWN BY: CM	5005BS	FIGURE NUMBER	SMITH® JAY R. SMITH MFG. CO.® MEMBER OF MORRIS GROUP INTERNATIONAL POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) TEL: 334-277-8520 FAX: 888-377-7818 www.jrsmith.com  MEMBER OF: 	NOTE: This Fixture Unit Rating Table is established in accordance with the Plumbing & Drainage Institute WH-201 Standard titled Water Hammer Arresters. The local code authority takes precedence over this Fixture Unit Rating Table which shall be appraised for exactness prior to using Water Closet and Urinal fixture unit values are based on 1.6 GPF for water closets and 1.06 GPF for pedestal/stall/wall urinals.																																																																																																		
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										The selection and specification for the correct size Hydrotrol for each piping run may be easily accomplished by the following procedure which incorporates length of piping run, water pressure and other pertinent data into the Sizing Chart. The Hydrotrol Sizing Chart shows the number of fixture units that may be accommodated by each size Hydrotrol. The U.S. Bureau of Standards "Fixture Unit Rating Table" designates the fixture unit rating for each plumbing fixture when installed in public or private buildings. Referring to the "Fixture Unit Rating Table", determine the fixture unit rating of each plumbing fixture on the line. Add the total number of fixture units on the line, and use this figure to select and specify the size Hydrotrol required as indicated on the Hydrotrol Sizing Chart. EXAMPLE: The drawing shows plumbing fixtures installed on a typical piping layout. The figures to the right of each fixture run are the total fixture units for the run based on the fixture unit rating table. The total number of fixture units for each plumbing fixture on the line has been added and is shown for both hot and cold water lines. The total number of fixture units for each run determines the size of Hydrotrol required. If the fixture unit total ends up in a 1/2 number, round up to the next larger whole number. The additional Hydrotrols shown on batteries of over 20'(6.096M) in length are the same size as those specified in the chart ... shown for each floor. The following general rules are applicable to proper placement of "Hydrotrols". The locations shown in the installation layout are recommended to give the maximum in water hammer arresting effectiveness: 1. Single fixtures or appliances -- Locate Hydrotrol just before fixture of valve. 2. Battery of fixtures -- Length of battery 20'(6.096M) or less. Locate Hydrotrol between the last and next to last fixtures. (See 5th Floor Examples.) 3. For a battery of fixtures having a branch line over 20' (6.096M) ft. in length, two Hydrotrols should be installed. The two Hydrotrols selected should have combined fixture unit rating equal to or greater than the total fixture unit demand of the plumbing fixtures on the entire branch line. Locate one Hydrotrol between the last and next-to-the-last fixture on the branch line. The other Hydrotrol to be located at a point equal to half the length of the branch line. (See first floor example.) 4. On hot water branch lines over 20' (6.096M) ft. in length, where plumbing fixtures are installed on a portion of the line, the second Hydrotrol should be located at a point half the distance of the plumbing fixtures installed. (See second and third floor examples.) 5. For special or unique battery arrangements or piping layouts, please consult the Smith Engineering Dept. for the proper specification on sizing and placement.																																																																																																			
FIXTURE UNIT RATING TABLE GENERAL BUILDING AREAS <table><thead><tr><th rowspan="2">FIXTURE</th><th rowspan="2">TYPE OF SUPPLY CONTROL</th><th colspan="4">WEIGHT IN FIXTURE - UNITS</th></tr><tr><th colspan="2">PUBLIC</th><th colspan="2">PRIVATE</th></tr><tr><th></th><th></th><th>C.W.</th><th>H.W.</th><th>C.W.</th><th>H.W.</th></tr></thead><tbody><tr><td>Water Closet</td><td>Flush Valve - 1.6 GPF</td><td>8</td><td>-</td><td>5</td><td>-</td></tr><tr><td>Water Closet</td><td>Flush Tank - 1.6 GPF</td><td>5</td><td>-</td><td>3</td><td>-</td></tr><tr><td>Pedestal Urinal</td><td>Flush Valve - 1.06 GPF</td><td>4</td><td>-</td><td>-</td><td>-</td></tr><tr><td>Stall or Wall Urinal</td><td>Flush Valve - 1.06 GPF</td><td>4</td><td>-</td><td>-</td><td>-</td></tr><tr><td>Stall or Wall Urinal</td><td>Flush Tank</td><td>2</td><td>-</td><td>-</td><td>-</td></tr><tr><td>Lavatory</td><td>Faucet</td><td>1 1/2</td><td>1 1/2</td><td>1</td><td>1</td></tr><tr><td>Bathtub</td><td>Faucet</td><td>2</td><td>3</td><td>1 1/2</td><td>1 1/2</td></tr><tr><td>Shower head</td><td>Mixing Valve</td><td>2</td><td>3</td><td>1</td><td>2</td></tr><tr><td>Bathroom Group</td><td>Flush Valve Closet</td><td>-</td><td>-</td><td>8</td><td>3</td></tr><tr><td>Bathroom Group</td><td>Flush Tank Closet</td><td>-</td><td>-</td><td>6</td><td>3</td></tr><tr><td>Separate Shower</td><td>Mixing Valve</td><td>-</td><td>-</td><td>1</td><td>2</td></tr><tr><td>Service Sink</td><td>Faucet</td><td>3</td><td>3</td><td>-</td><td>-</td></tr><tr><td>Laundry Tubs (1-3)</td><td>Faucet</td><td>-</td><td>-</td><td>3</td><td>3</td></tr><tr><td>Combination Fixture</td><td>Faucet</td><td>-</td><td>-</td><td>3</td><td>3</td></tr></tbody></table>										FIXTURE	TYPE OF SUPPLY CONTROL	WEIGHT IN FIXTURE - UNITS				PUBLIC		PRIVATE				C.W.	H.W.	C.W.	H.W.	Water Closet	Flush Valve - 1.6 GPF	8	-	5	-	Water Closet	Flush Tank - 1.6 GPF	5	-	3	-	Pedestal Urinal	Flush Valve - 1.06 GPF	4	-	-	-	Stall or Wall Urinal	Flush Valve - 1.06 GPF	4	-	-	-	Stall or Wall Urinal	Flush Tank	2	-	-	-	Lavatory	Faucet	1 1/2	1 1/2	1	1	Bathtub	Faucet	2	3	1 1/2	1 1/2	Shower head	Mixing Valve	2	3	1	2	Bathroom Group	Flush Valve Closet	-	-	8	3	Bathroom Group	Flush Tank Closet	-	-	6	3	Separate Shower	Mixing Valve	-	-	1	2	Service Sink	Faucet	3	3	-	-	Laundry Tubs (1-3)	Faucet	-	-	3	3	Combination Fixture	Faucet	-	-	3	3
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FOR APPLICATIONS NOT COVERED BY THE FIXTURE UNIT RATING TABLE -  The Graph Chart is based on the U.S. Bureau of Standards Sizing Table and may be used to determine the fixture unit rating based on GPM supplied to the fixture in question. HYDROTROL SIZING CHART <table><thead><tr><th>P.D.I. SYMBOLS</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th></tr></thead><tbody><tr><td>HYDROTROL</td><td>5005</td><td>5010</td><td>5020</td><td>5030</td><td>5040</td><td>5050</td></tr><tr><td>Fixture Unit Rating</td><td>1-11</td><td>12-32</td><td>33-60</td><td>61-113</td><td>114-154</td><td>155-330</td></tr></tbody></table> NOTE: Systems exceeding 60 PSI(414 kPa) shall be installed with a pressure reducing valve upstream of the unit per ASSE Standard #1010.										P.D.I. SYMBOLS	A	B	C	D	E	F	HYDROTROL	5005	5010	5020	5030	5040	5050	Fixture Unit Rating	1-11	12-32	33-60	61-113	114-154	155-330																																																																															
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ALTERNATE SIZING METHOD The simplified sizing method covers 90% of most applications encountered. Where fixture unit ratings are not available or where water is piped to remote items of equipment, the following method of Hydrotrol selection should be used: INFORMATION REQUIRED TO USE CHART: Length of pipe run should be determined from the point of valve closure to a point of relief, such as a large pipe riser twice the size of the branch line, main line or water tank. 1. LENGTH OF PIPE RUN. 2. PIPE SIZE. 3. WATER PRESSURE. HYDROTROL SELECTION CHART <table><thead><tr><th rowspan="2">LENGTH OF PIPE</th><th colspan="6">NOMINAL PIPE SIZE</th></tr><tr><th>1/2"(13)</th><th>3/4"(19)</th><th>1"(25)</th><th>1 1/4"(32)</th><th>1 1/2"(38)</th><th>2"(51)</th></tr></thead><tbody><tr><td>25</td><td>5005</td><td>5005</td><td>5010</td><td>5020</td><td>5030</td><td>5040</td></tr><tr><td>50</td><td>5005</td><td>5010</td><td>5020</td><td>5030</td><td>5040</td><td>5050</td></tr><tr><td>75</td><td>5010</td><td>5020</td><td>5030</td><td>1-5005 1-5040</td><td>5050</td><td>1-5040 1-5050</td></tr><tr><td>100</td><td>5020</td><td>5030</td><td>5040</td><td>5050</td><td>1-5020 1-5050</td><td>2-5050</td></tr><tr><td>125</td><td>5020</td><td>5030</td><td>5050</td><td>1-5005 1-5050</td><td>1-5040 1-5050</td><td>1-5040 2-5050</td></tr><tr><td>150</td><td>5030</td><td>5040</td><td>5050</td><td>1-5030 1-5050</td><td>2-5050</td><td>3-5050</td></tr></tbody></table>										LENGTH OF PIPE	NOMINAL PIPE SIZE						1/2"(13)	3/4"(19)	1"(25)	1 1/4"(32)	1 1/2"(38)	2"(51)	25	5005	5005	5010	5020	5030	5040	50	5005	5010	5020	5030	5040	5050	75	5010	5020	5030	1-5005 1-5040	5050	1-5040 1-5050	100	5020	5030	5040	5050	1-5020 1-5050	2-5050	125	5020	5030	5050	1-5005 1-5050	1-5040 1-5050	1-5040 2-5050	150	5030	5040	5050	1-5030 1-5050	2-5050	3-5050																																													
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<table><tr><td>WEIGHT POUNDS</td><td>VOLUME CUBIC FEET</td><td>FIGURE NUMBER</td></tr><tr><td></td><td></td><td>5005BS</td></tr></table>										WEIGHT POUNDS	VOLUME CUBIC FEET	FIGURE NUMBER			5005BS																																																																																														
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<table><tr><td>REV.</td><td>DATE</td><td>DESCRIPTION</td><td>BY</td><td>CKD. BY</td></tr><tr><td>8-5-22 3-2-15 01/20/11</td><td>Rev. Note Rev. Note, Tables, Example Updated Logo</td><td>KK TBW JJ</td><td>CL TK TW</td><td></td></tr></table>										REV.	DATE	DESCRIPTION	BY	CKD. BY	8-5-22 3-2-15 01/20/11	Rev. Note Rev. Note, Tables, Example Updated Logo	KK TBW JJ	CL TK TW																																																																																											
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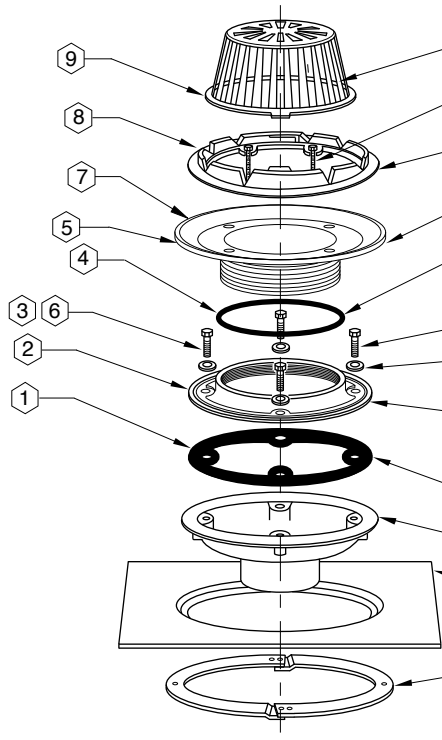
WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

P-18,19

P	SMITH® JAY R. SMITH MFG. CO.® MEMBER OF MORRIS GROUP INTERNATIONAL POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) TEL: 334-277-8520 FAX: 888-377-7818 www.jrsmith.com MEMBER OF: MEMBER OF: MEMBER OF:				LOCATION 								
	GENERAL PURPOSE ROOF DRAINS												
DRAWING NUMBER S1015	SIZE A	SCALE: NONE	DATE: 12-19-84	APPROVED BY: JD	CHECKED BY: VGD	DRAWN BY: CMB	1015	DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE		WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA			
ROOF DRAIN WITH ADJUSTABLE EXTENSION FUNCTION: Used in flat roofs of any construction. The adjustable extension sleeve permits adjustment from a minimum of 1 1/4" (32) to a maximum of 4" (100), easily accommodating up to 2 3/4"(70) of varying insulation thicknesses. The positive threading allows smooth perimeter movement and circumferential support of the top at any adjusted elevation. Large low profile dome provides sufficient free area for quick drainage of rainwater and protection against debris. Free Area 102.5 SQ IN (661) SQ CM recommended deck opening <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">with suffix -R</td> <td style="padding: 2px 5px;">17 (430) DIA</td> </tr> <tr> <td style="padding: 2px 5px;">less Suffix -R</td> <td style="padding: 2px 5px;">14 (355) DIA</td> </tr> </table> *This dimension to internal stop of Speedi-Set® Gasket **Same for Caulk, NO-HUB and Speedi-Set®, 3 3/4 (95) for Threaded A (Pipe Size) = 02(50), 03(75), 04(100), 05(125) or 06(150) Fig. 1015C CAULK OUTLET Fig. 1015Y NO-HUB OUTLET								with suffix -R	17 (430) DIA	less Suffix -R	14 (355) DIA		
with suffix -R	17 (430) DIA												
less Suffix -R	14 (355) DIA												
REGULARLY FURNISHED: Duco Cast Iron Body with Adjustable Extension Sleeve, Reversible Collar, Combined Flashing Clamp and Gravel Stop with Polyethylene Dome. Note: See reverse side for assembly instructions. NOTE: Dimensions shown in parentheses are in millimeters. VARIATIONS: ☐ Expansion Joint (Specify Fig. 1710) ☐ "L" Shaped Underdeck Clamp -CL ☐ L Speedi-Set® Service Weight 02(50), 03(75) & 04(100)" sizes only ☐ LXH Speedi-Set® Extra Heavy 02(50), 03(75) & 04(100)" sizes only ☐ Secondary Flashing Clamp -C2 ☐ Sump Receiver -R ☐ Underdeck Clamp -C ☐ Vandal Proof Dome -U ☐ Side Outlet Drain (Specify Fig. 1025) ☐ T Threaded Outlet OPTIONAL MATERIALS: ☒ Aluminum Dome -AD ☒ Cast Iron Dome -CID ☐ Galvanized Cast Iron -G ☒ Rough Bronze Dome -RBD ▲ Optional domes' free area are as follows: <table style="width: 100%;"> <tr> <td>Aluminum</td> <td>98 (632)</td> </tr> <tr> <td>Cast Iron</td> <td>80 (516)</td> </tr> <tr> <td>Bronze</td> <td>95 (613)</td> </tr> </table>								Aluminum	98 (632)	Cast Iron	80 (516)	Bronze	95 (613)
Aluminum	98 (632)												
Cast Iron	80 (516)												
Bronze	95 (613)												
P N M L	2-23-23 7-30-19 8-18-15 06/01/09	Added ® to "Speedi-Set" Removed NOTE Added Flow Rate Note Added Optional Dome Notes		KK MW TBW JJ	CL CL BW CL	WEIGHT POUNDS	VOLUME CUBIC FEET	FIGURE NUMBER 1015					
REV.	DATE	DESCRIPTION		BY	CKD. BY								



WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

J	DRAWING NUMBER S1015BS	SIZE A	SCALE: NONE	DATE: 6-29-88	APPROVED BY: TD	CHECKED BY: MCD	DRAWN BY: EMB	FIGURE NUMBER 1015BS	SMITH® JAY R. SMITH MFG. CO.® MEMBER OF MORRIS GROUP INTERNATIONAL POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com				  		LOCATION			
									ADJUSTABLE ROOF DRAIN									
																		
									1 Position flat gasket on drain body, align holes in gasket with holes in body. 2 Determine if reversible collar is to be installed in the low (1 1/4" to 2 1/2") or high (2 1/4" to 4") position. 2a Place reversible collar on body and align holes in collar with holes in gasket and body. 3 Secure collar to body with 1 1/2" long bolts insuring neoprene backed washers are installed with neoprene side facing down at proper locations between top of reversible collar and bolt head. Tighten bolts in the following manner: 1, 3, 2 & 4. Tighten No. 1 bolt approximately one full turn then No. 3, No. 2 and No. 4 (same manner as for No. 1). Continue this method until reversible ring has been secured evenly all around. 4 Wipe "O" Ring recess in reversible collar clean. Insert dry "O" Ring in groove of threads at inside diameter of reversible collar. Lubricate the face of "O" Ring in it's entirety with (1) tube of the lubricant provided and remaining threads. 5 Lubricate liberally the entire lead-in chamfer and first 2 threads of the adjustable sleeve. Thread adjustable sleeve into reversible collar and adjust to required height. Do not exceed minimum/maximum adjustment dimensions. 6 Check bolts a final time to insure tightness. 7 Run waterproofing membrane over top of adjustable sleeve to inside of bolt circle. 8 Install flashing clamp and secure with (4) bolts, use pipe sealant on threads. Again tighten bolts in the 1, 3, 2, 4 manner. (See 3) 9 Install Dome									
									NOTE: Dimensions shown in parentheses are in millimeters.									
J H G F	7-30-19 8-18-15 1-13-15 12-15-06	Removed NOTE Added Flow Rate Note Rev. Callouts, Text Rev. Dwg.	MW TBW TBW RN	CL BW CL CL	WEIGHT POUNDS	VOLUME CUBIC FEET	FIGURE NUMBER 1015BS											
REV.	DATE	DESCRIPTION	BY	CKD. BY														



WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

P-20

L	JAY R. SMITH MFG. CO.® MEMBER OF MORRIS GROUP INTERNATIONAL POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) TEL: 334-277-8520 FAX: 888-377-7818 www.jrsmith.com MEMBER OF: LOCATION																																																																									
	ROOF ACCESSORY DOWNSPOUT NOZZLE																																																																									
DRAWING NUMBER	S1770																																																																									
SIZE	A																																																																									
SCALE:	NONE																																																																									
DATE:	2-25-85																																																																									
APPROVED BY:	JD																																																																									
CHECKED BY:	JD																																																																									
DRAWN BY:	CR																																																																									
FIGURE NUMBER	1770																																																																									
WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA																																																																										
NOTE: For ADA Compliant See Fig. 1770-ADA Fig. 1770T.....Threaded Outlet Fig. 1770Y.....NO-HUB Outlet 02(50), 03(75), 04(100) and 06(150) ★★ When -NB is specified with NO-HUB outlet, ALL SIZES will be supplied with a 2646Y NO-HUB adaptor. <table border="1" style="width: 100%; border-collapse: collapse; text-align: center; font-size: 10px;"> <tr> <th></th> <th></th> <th colspan="3">★</th> <th colspan="3">★</th> <th>★</th> <th>★</th> </tr> <tr> <th>A=PIPE</th> <th>02(50)</th> <th>03(75)</th> <th>04(100)</th> <th>05(125)</th> <th>06T(150)</th> <th>06Y(150)</th> <th>08(200)</th> <th>10(255)</th> <th>12(305)</th> </tr> <tr> <th>B=DIA</th> <td>2 3/4 (70)</td> <td>4 (100)</td> <td>5 (125)</td> <td>6 (150)</td> <td>7 1/4 (185)</td> <td>7 1/4 (185)</td> <td>9 1/4 (235)</td> <td>11 1/8 (283)</td> <td>13 1/4 (335)</td> </tr> <tr> <th>C=RAD</th> <td>2 3/4 (70)</td> <td>3 1/2 (89)</td> <td>3 7/8 (98)</td> <td>4 3/8 (111)</td> <td>5 (125)</td> <td>5 (125)</td> <td>5 7/8 (149)</td> <td>7 1/4 (185)</td> <td>8 (205)</td> </tr> <tr> <th>D</th> <td>1 3/8 (35)</td> <td>1 3/8 (35)</td> <td>1 3/8 (35)</td> <td>1 3/8 (35)</td> <td>1 3/8 (35)</td> <td>1 13/16 (46)</td> <td>1 5/8 (41)</td> <td>1 3/4 (44)</td> <td>2 (51)</td> </tr> <tr> <th>E</th> <td>2 1/16 (52)</td> <td>2 1/16 (52)</td> <td>2 1/16 (52)</td> <td>2 1/16 (52)</td> <td>2 1/16 (52)</td> <td>2 1/2 (64)</td> <td>2 3/8 (60)</td> <td>2 3/4 (70)</td> <td>2 15/16 (75)</td> </tr> <tr> <th>F</th> <td>5 5/8 (143)</td> <td>5 5/8 (143)</td> <td>5 5/8 (143)</td> <td>5 5/8 (143)</td> <td>5 5/8 (143)</td> <td>6 1/4 (160)</td> <td>5 15/16 (149)</td> <td>5 3/8 (138)</td> <td>7 9/16 (192)</td> </tr> </table> REGULARLY FURNISHED: Cast Bronze Nozzle and Flange. VARIATIONS: Bird Screen -BS NO-HUB Adaptor (specify Fig. 2646Y) [5"(125), 8"(200), 10"(255) and 12"(305) only] OPTIONAL MATERIALS: Nickel Bronze -NB Polished Bronze -PB Chrome Plated -CP NOTE: Dimensions shown in parentheses are in millimeters.							★			★			★	★	A=PIPE	02(50)	03(75)	04(100)	05(125)	06T(150)	06Y(150)	08(200)	10(255)	12(305)	B=DIA	2 3/4 (70)	4 (100)	5 (125)	6 (150)	7 1/4 (185)	7 1/4 (185)	9 1/4 (235)	11 1/8 (283)	13 1/4 (335)	C=RAD	2 3/4 (70)	3 1/2 (89)	3 7/8 (98)	4 3/8 (111)	5 (125)	5 (125)	5 7/8 (149)	7 1/4 (185)	8 (205)	D	1 3/8 (35)	1 3/8 (35)	1 3/8 (35)	1 3/8 (35)	1 3/8 (35)	1 13/16 (46)	1 5/8 (41)	1 3/4 (44)	2 (51)	E	2 1/16 (52)	2 1/16 (52)	2 1/16 (52)	2 1/16 (52)	2 1/16 (52)	2 1/2 (64)	2 3/8 (60)	2 3/4 (70)	2 15/16 (75)	F	5 5/8 (143)	5 5/8 (143)	5 5/8 (143)	5 5/8 (143)	5 5/8 (143)	6 1/4 (160)	5 15/16 (149)	5 3/8 (138)	7 9/16 (192)
		★			★			★	★																																																																	
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REV.	DATE	DESCRIPTION	BY	CKD. BY	WEIGHT POUNDS	VOLUME CUBIC FEET	FIGURE NUMBER 1770																																																																			



WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

P-21

The Woodford, ASSE 1057 listed, SRH Sanitary Roof Hydrant is intended for irrigation purposes and to provide water, in any weather condition, on commercial building roofs. Applications include window washing, cleaning of condenser coils, cooling towers, green roofs and other types of roof top equipment. The SRH is backflow protected with a field testable ASSE 1052 double check backflow preventer.

The SRH does not require 1) a drain line from the valve body located inside the building or 2) the removal of vacuum breaker or use of a diverter to protect from freezing.

The SRH-MS with Mounting System allows for installation flexibility. It is not necessary to install hydrant when hydrant support is mounted to the roof. The hydrant support utilizes a 3" diameter opening that allows the hydrant to be installed or easily removed at a later time. All necessary mounting hardware for proper installation on a commercial roof is supplied, including a 2 degree shim for pitch adjustment.

Hydrant Features:

- ASSE 1057 Listed 
- No Drain Line Required - *With the hose removed*, a venturi action draws water out of the internal reservoir and discharges out the backflow preventer.
- Superior reservoir evacuation times without removing the backflow preventer.
- Variable flow plunger for longer life is not easily damaged and assures proper shut-off.
- Large easy to open lift handle.
- Adjustable link for easy adjustment and positive lever lock tension.
- All hydrant repairs can be made from top without removing hydrant.

Specifications:

- Hose Connection Backflow Preventer:
 - Model 50H with 3/4" hose connection
 - ASSE 1052 Listed 
 - Field Testable Dual Check holds against 125 psi backflow pressure
- 3/4" NPT female inlet connection.
- 1 1/2" U.S. made galvanized pipe.
- **Maximum Working Pressure:** 100 p.s.i.
- **Maximum Temperature:** 120° F

SRH WARNING	Supply PSI	Run Time
After each use, run hydrant without a hose to ensure proper evacuation.	60	5 seconds
	25	15 seconds

Mounting System: *(Can be ordered Separately)*

- Cast iron Hydrant Support
- Cast iron Under Deck Flange
 - 4 bolts draw tight against the roof decking and the hydrant support.
 - 3 clamp screws tighten against the hydrant pipe to secure the hydrant's vertical position through the roof.
- Well Seal seals tight between the hydrant support and hydrant pipe.
- EPDM Boot covers well seal and top of hydrant support.
- 2° Shim is supplied, if needed, for installation on pitched roofs.

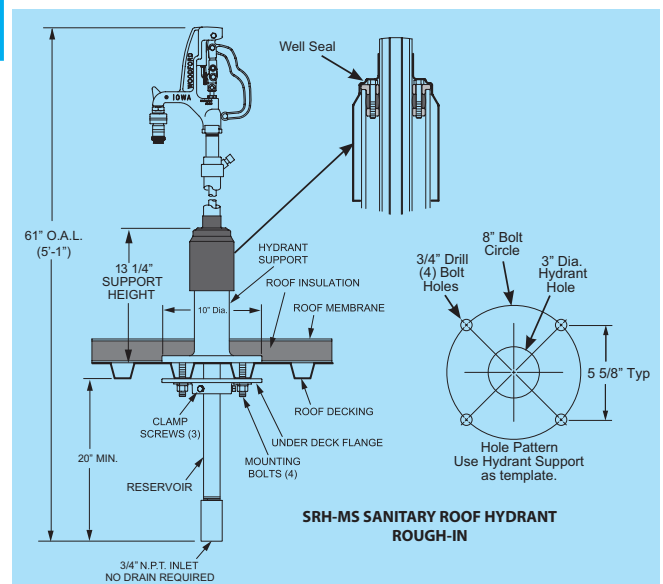
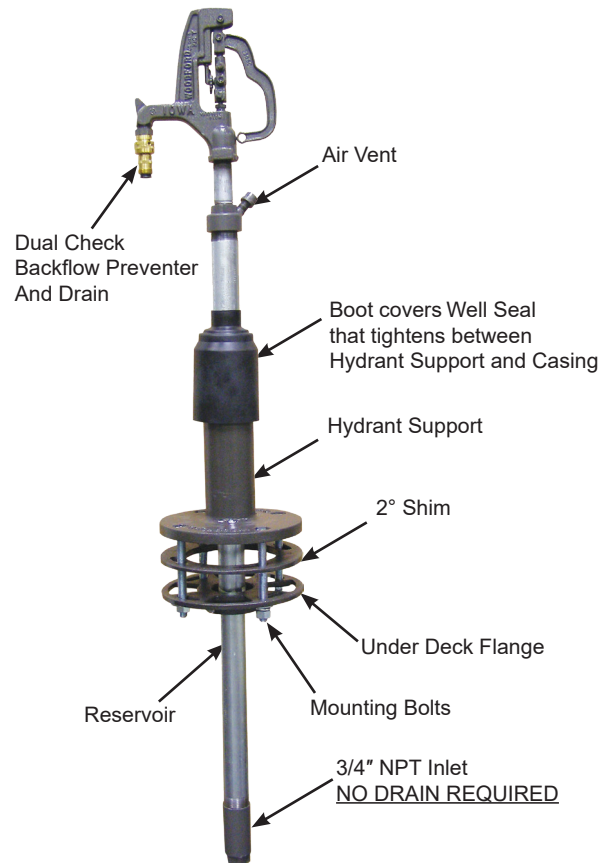
Patent Information: <https://www.woodfordmfg.com/patents/>

For Installation / Troubleshooting Instructions go to www.woodfordmfg.com or call 1-800-621-6032



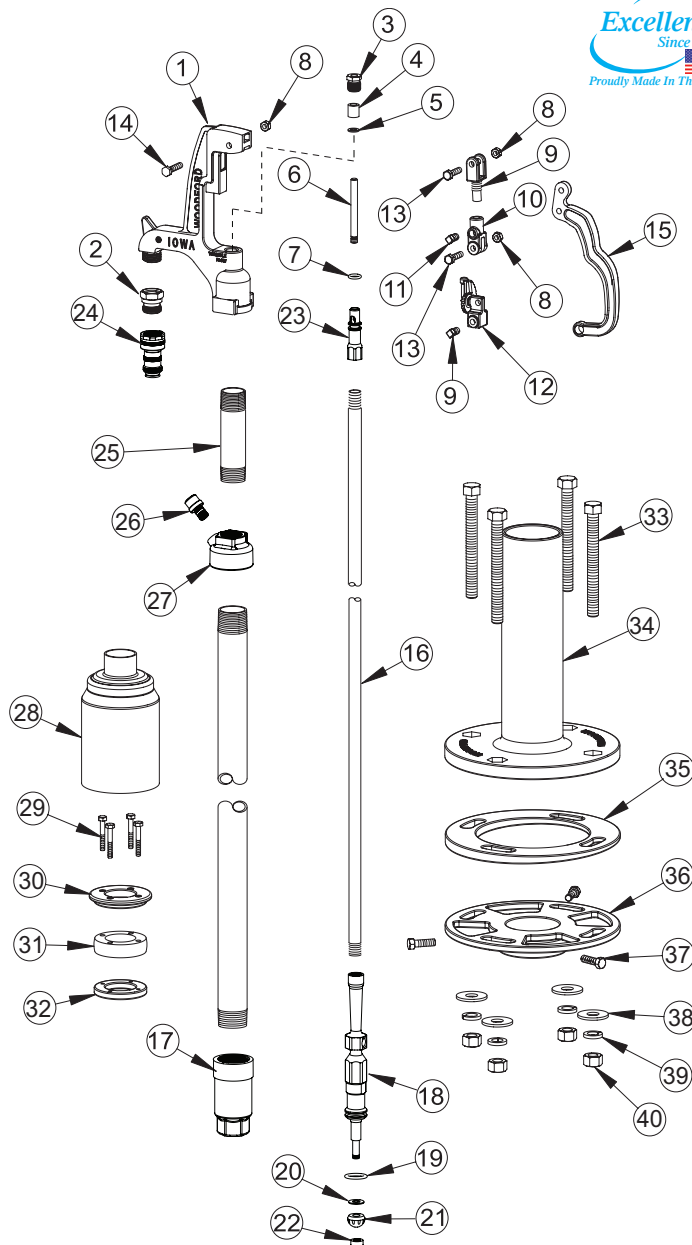
Freezeless Sanitary Roof Hydrant No Drain Line Required! Model SRH-MS

Can be ordered with or without Mounting System (MS).



MODEL SRH-MS PARTS LIST

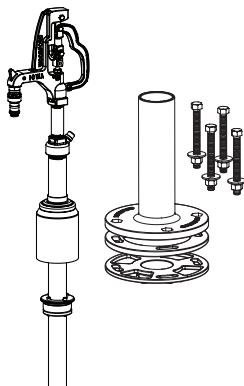
ITEM	PART#	DESCRIPTION
	15126	SRH Head Assembly (Includes Items 1-15, 23 & 24)
1	10632	SRH Head
2	10004	3/4" Brass Hose Nozzle
3	10100	Packing Nut
4	10101	Packing
5	10102	Packing Support Washer
6	15121	Brass Rod Stem
7	10117	O-Ring - 206
8	10206	Hex Nut (3)
9	10614	RH Upper Link
10	15242	RH Lower Link (Includes Item 11)
11	10019	Set Screw (2)
12	15243	RH Cam & Clevis Assembly
13	10020	Link Bolt (2)
14	10021	Lever Bolt
15	10613	RH Lever
16	10024	Operating Pipe
17	15122	Valve Body (3/4" NPT Inlet)
18	15123	Venturi Assembly
19	10118	Valve Body O-Ring
20	50027	Support Washer
21	51013	Ball Valve Rubber
22	50028	Round Brass Nut
23	10116	Sealing Head Coupling
24	50H-BR	50H Backflow Preventer
25	15120	Upper Pipe Assembly
26	15124	SRH Vent Assembly
27	15125	SRH Casing Cover
28	10608	RH Boot, EPDM
29	10625	Bolt, Allen Head 1/4-20 X 1 3/4" (4)
30	10626	Well Seal-1 1/2", Top
31	10119	Well Seal-1 1/2", EPDM
32	10627	Well Seal-1 1/2", Bottom
33	10584	Bolt, Hex Head 5/8-11 X 6" (4)
34	10579	Hydrant Support, Casting
35	10581	2" Shim, Casting
36	10580	Under Deck Flange
37	10607	Screw, Clamp 3/8-16 Hex Head X 1 3/4" (3)
38	10604	Washer, Plain 5/8 (4)
39	10605	Washer, Lock 5/8 (4)
40	10585	Nut, Hex 5/8-11 UNC (4)
	RK-SRH	Repair Kit (Includes items 3-7, 19-22)
	RK-RHL	Repair Kit (Includes items 8-15)



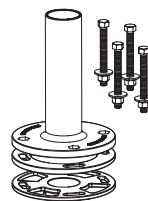
When ordering, specify SRH part number option listed below.

Part# SRH-MS Consists of the complete Roof Hydrant system:
Qty. 1 SRH Hydrant shipped in 1 carton.
Qty. 1 RH-MS Mounting System shipped in 1 carton.

Total Shipping Wt.
 2 cartons: 50 lbs

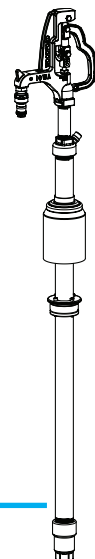


Part# RH-MS Carton contents consists of:
 Mounting System/
 Rough-In Components (Parts 33-40 above)
 • Hydrant Support
 • 2" Shim,
 • Under Deck Flange
 • Mounting Bolts, Nuts, Washers.
 Shipped in 1 Carton.
 Shipping Wt. - 30 lbs



Part# SRH Carton contents consists of:
 • Hydrant Assembly (Parts 1-32 above)
 • Well Seal (Parts 28-32 above)
 • Boot (Part 28 above)

Shipped in 1 Carton.
 Shipping Wt. - 20 lbs



For more information contact...

WOODFORD MANUFACTURING COMPANY, LLC

2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (800) 621-6032
 To view our complete product line visit: www.woodfordmfg.com or email: sales@woodfordmfg.com

P-22

For Commercial Applications

Job Name _____ Item Designation _____
Job Location _____ Contractor _____
Engineer _____ Representative _____

Wall Thickness: _____ Inlet: P__ C__ (P1__ EP__ **MADE TO ORDER, NO RETURN**) Finish: CH__ BR__ PB__ AL__

Woodford

Model B67 Box Type

Backflow Protected

Freezeless Wall Hydrant

The Model B67 is an automatic draining, freezeless wall hydrant with hose connection Backflow Protection and housed in a tamper resistant brass box. The hydrant drains as handle is shut off, *even if hose is attached*. The Model B67 is intended for irrigation purposes and is designed to blend in with modern architecture for installation on restaurants, schools, office buildings, churches, apartments, motels, stores, shopping centers and industrial buildings.

Sizes: 4" - 24" (in 2" increments)
CC (Close Coupled) for non-freezing climates

Features:

- Red Brass head, box and door
 - Optional: Anodized Aluminum (AL) box and door
- One piece box construction
- 3/8" solid brass operating rod
- Copper casing tubes
- Hardened stainless steel operating stem
- One piece valve plunger
- 4 inlet options
- Loose tee key operation
- No Lead Solder - All joints
- Supplied with adjustable wall clamp

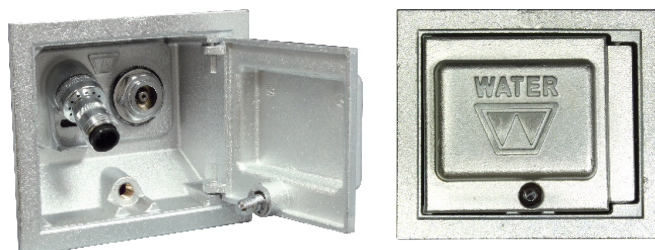
Specifications:

PATENTED HIGH FLOW DOUBLE CHECK BACKFLOW PREVENTER

- NIDEL® Model 50HA with 3/4 inch male hose thread
- ASSE Standard 1052 approved
- Field Testable
- Two Independent Check Valves
- Drains automatically when hose is removed
- No spray back
- **Maximum Working Pressure:** 125 p.s.i.
- **Maximum Temperature:** 120° F

Specify as follows:

Wall hydrant shall be a box type Woodford Model B67, automatic draining with ASSE 1052 approved NIDEL® Model 50HA high flow double check backflow preventer. 3/4" inlet and outlet (specify type of inlet). Hardened stainless steel operating stem and one-piece valve plunger to control both flow and drain functions. Exterior finish to be Chrome Plated (options: Rough Brass, Polished Brass or Anodized Aluminum). Loose tee key to be furnished with each hydrant. Intended for irrigation purposes. Wall thickness to be _____ inches.



Exterior Finish:

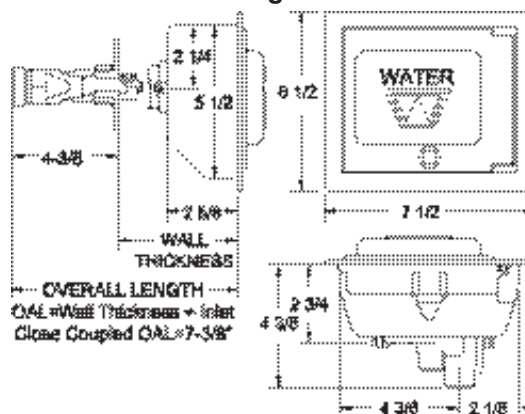
Standard - Chrome (CH)

Optional - Brass (BR) Polished Brass (PB)

Anodized Aluminum (AL)

Fits two standard modular brick course or one course of facing tile.

Rough-In



Inlet Options

P - 3/4" Female Pipe Thread

P1 - 1" Male Pipe Thread

C - 3/4" Copper Water Tube

EP - Union Elbow with 3/4" Male Pipe Thread



WOODFORD MANUFACTURING COMPANY, LLC

2121 WAYNOKA ROAD

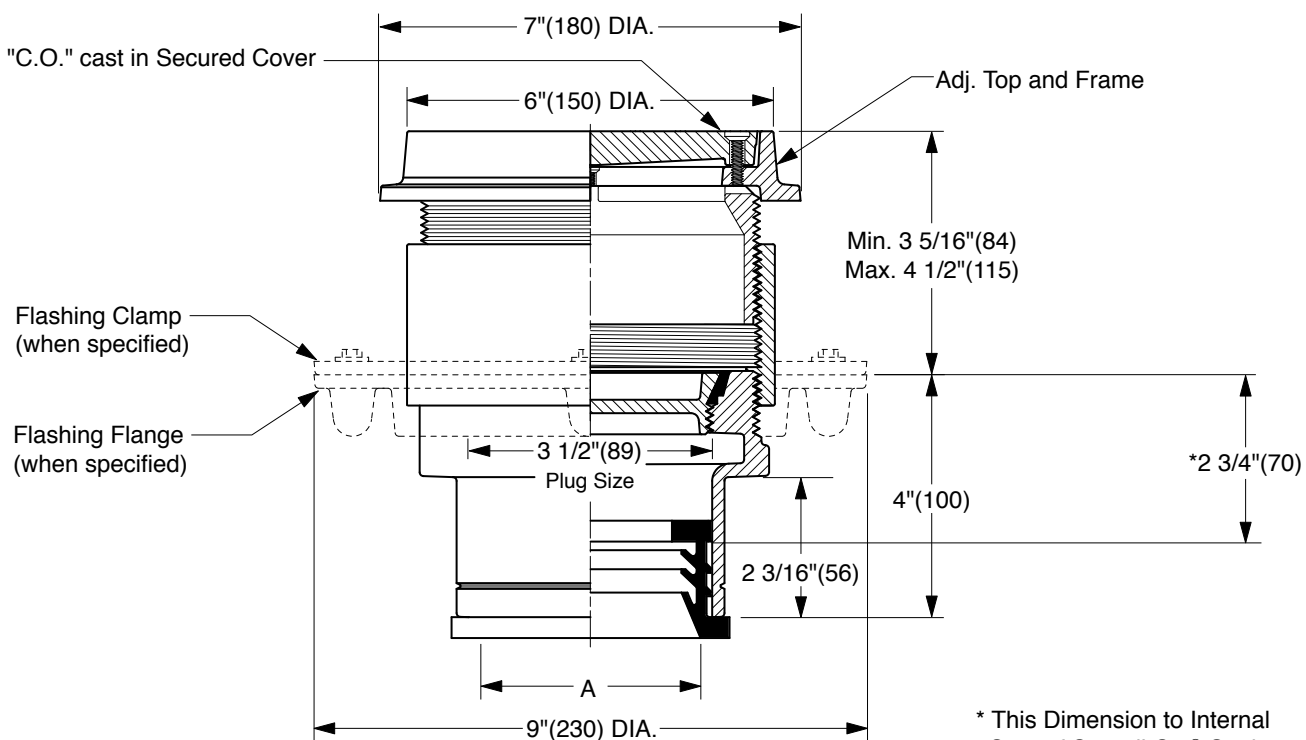
COLORADO SPRINGS, CO 80915

Phone (800) 621-6032

Website: www.woodfordmfg.com

Email: sales@woodfordmfg.com

P-23

P	   				LOCATION 																																												
	FLOOR CLEANOUTS WITH "TWIS-TO-FLOOR"® ADJUSTABLE TOPS FOR UNFINISHED AREAS																																																
	ROUND EXTRA HEAVY DUTY CAST IRON TOP																																																
	FUNCTION: Used in hospitals, schools, institutional and industrial buildings where floors are subject to heavy load traffic.																																																
DRAWING NUMBER S4231	SIZE A	SCALE: NONE	DATE: 2-16-70	APPROVED BY: JM	CHECKED BY: BH	DRAWN BY: RK																																											
DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE																																																	
																																																	
"A" (Pipe Size) = 02(50), 03(75) or 04(100) * This Dimension to Internal Stop of Speedi-Set® Gasket.																																																	
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> Fig. 4231L.....Gasket Seal - ABS Plug Fig. 4232L.....Gasket Seal - Bronze Plug Fig. 4233L.....Taper Thread - Bronze Plug Fig. 4234L.....Taper Thread - ABS Plug </td> <td style="width: 33%; vertical-align: top;"> (Twis-to-Floor® design shown with gasketed plug.) NOTE: Dimensions shown in parentheses are in millimeters. </td> <td style="width: 33%; vertical-align: top;"> OPTIONAL MATERIALS: Galvanized Cast Iron -G Ductile Iron Cover -M </td> </tr> </table>							Fig. 4231L.....Gasket Seal - ABS Plug Fig. 4232L.....Gasket Seal - Bronze Plug Fig. 4233L.....Taper Thread - Bronze Plug Fig. 4234L.....Taper Thread - ABS Plug	(Twis-to-Floor® design shown with gasketed plug.) NOTE: Dimensions shown in parentheses are in millimeters.	OPTIONAL MATERIALS: Galvanized Cast Iron -G Ductile Iron Cover -M																																								
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WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

P-24

SUBMITTAL SHEET

JOB NAME		ITEM TAG
JOB LOCATION		PART NUMBER
CONTRACTOR	DATE	
ENGINEER APPROVAL	DATE	

QUARTER-TURN BALL-TYPE LOG LIGHTER VALVES

T-3500, T-3500PB, T-3501 and T-3501PB

Durable, compact design is ideal for natural fireplace log lighting, or continuous-burn artificial gas log sets.

Complete with highly-polished, decorative escutcheons in chrome or brass finishes, with matching keys.

No escutcheon extension kit needed: Escutcheons and valve body are threaded 1/2" NPSM, permitting infinite extension lengths with the use of a bronze coupling and red brass nipple of desired length.

Additional key lengths available separately, in 8", 10" and 12" lengths.

Positive quarter-turn, bubble-tight shutoff is safer than globe-type valves.

Certified for use on natural gas or LP gas systems.

Available in angle or straight pattern configurations, with 1/2" FNPT end connections.

Working Pressure, Non-Shock (psi):

Cold Working Pressure (CWP): 125 psi

Saturated Steam (WSP): Not suitable for steam applications.

Maximum Service Temperature: 180°F

BTU Rating at 7 in. WC

T-3500 Straight-pattern

98,000 BTU/hr.

T-3501 Angle-pattern

158,000 BTU/hr.

MATERIAL SPECIFICATION

PART	MATERIAL	SPECIFICATION
1 Body	Forged brass	ASTM B124 UNS alloy C37700
2 Ball-stem	Forged brass	ASTM B124 UNS alloy C37700
3 Seat (2)	Nitrile (NBR) rubber	Type 7PB496 ASTM D2000
4 Anti-friction washer	Synthetic fiber	Commercial grade
5 Stem O-ring	Nitrile (NBR) rubber	Type 7PB496 ASTM D2000
6 Stem shield	Forged brass	ASTM B124 UNS alloy C37700
7 Escutcheon	Forged brass	ASTM B124 UNS alloy C37700
8 Stem extension	Aluminum	Commercial grade
9 Key, 1/4-inch square stem receiver	Aluminum	Commercial grade

DIMENSIONS

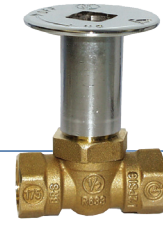
Nominal pipe size	A	B	C
1/2" FNPT x FNPT		min/max	
T-3500 Straight-pattern	2.36	2.80/3.60	6.38
T-3501 Angle-pattern	1.18	2.80/3.60	7.00
Escutcheon length: 1-7/8"			
Key length: 4"			

Certifications/Listings:

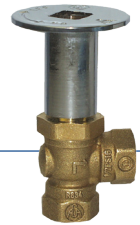
ANSI Z21.15: Gas appliance connector valve for 1/2 lb. systems.

Standards:

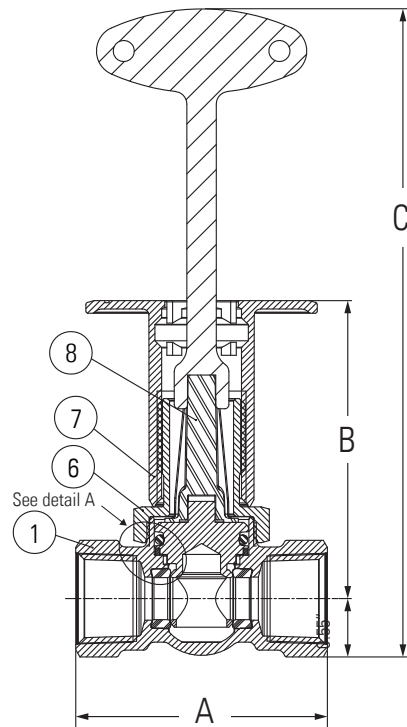
ANSI/ASME B1.20.1: Pipe threads, general purpose, Inch



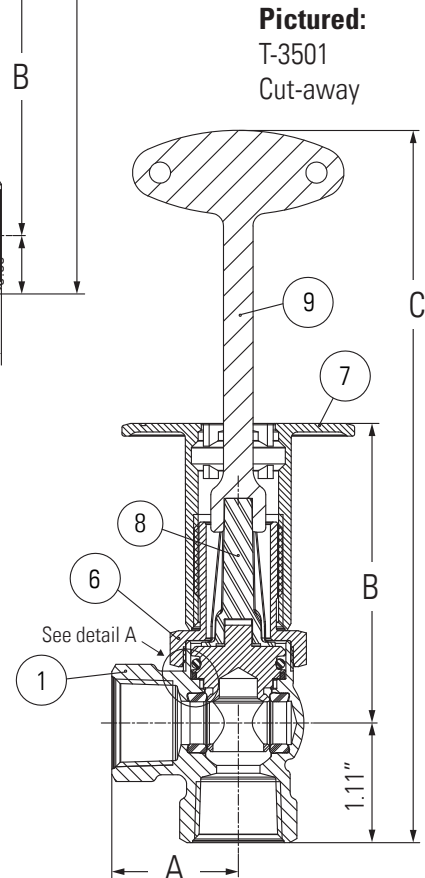
Pictured:
T-3500



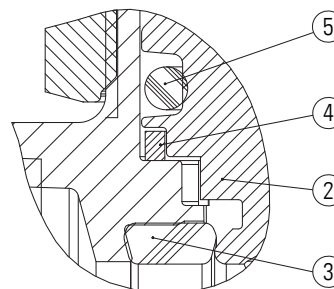
Pictured:
T-3501



Pictured:
T-3500
Cut-away



Pictured:
T-3501
Cut-away



Detail A

P-28



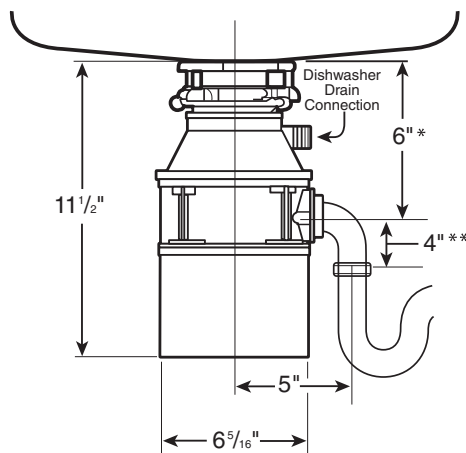
Food Waste Disposers

STANDARD SERIES

Badger® 5



Dimensions



* Distance from bottom of sink to center line of disposer outlet. Add 1/2" when stainless steel sinks are used.

** Length of tailpipe from center line of disposer outlet to end of tailpipe. NOTE: Plumb waste line to prevent standing water in disposer motor housing.

Job Specifications

Submittal Sheet

This popular model offers the following features and benefits:

- 1/2 Horsepower Heavy Duty Motor (Quiet Dura-Drive® Induction Motor)
- *We Come To You*® 3-Year In-Home Limited Warranty
- Rugged Galvanized Steel Construction (For Disposer Durability)
- Space-Saving Compact Design
- Available with or without a factory installed power cord.

Sample Specification

Food Waste Disposer(s) shall be InSinkErator Badger® 5, continuous feed, with 1/2 H.P. motor, galvanized steel grinding elements with two stainless steel 360° swivel lugs. Self-service wrench.

Available with or without a factory installed power cord.

Warranty:

3-Year parts and in-home service.

* The complete InSinkErator warranty is included in the Care & Use Booklet packed with each unit.

Specifications

Type of Feed	Continuous
On/Off Control	Wall Switch
Motor	Single Phase
HP	1/2
Volts	120
HZ	60
RPM	1725
Amp. (Avg. Load)	6.3
Time Rating	Intermittent
Lubrication	Permanently Lubricated Upper & Lower Bearings
Shipping Weight (Approx.)	13 lbs. 10 oz. (without cord) 13 lbs. 14 oz. (with cord)
Unit Finish	Condor Grey
Overall Height	11-1/2"
Grind Chamber Capacity	26 oz.
Motor Protection	Manual Reset Overload
Average Water Usage	Approx. 1 Gallon per Person Per Day
Average Electrical Usage	3-4 KWh per Year
Drain Connection	1-1/2" Cushioned Slip Joint
Dishwasher Drain Connection	Yes
Factory Installed Power Cord	Available with or without



Food waste is roughly 80% water. By using your disposal regularly, you can help divert food waste from landfills and reduce greenhouse gas emissions. Make sustainability a family affair by using your disposal. After all, the smallest changes can make the biggest impact.



The Emerson logo is a trademark and service mark of Emerson Electric Co. The mounting collar configuration is a trademark of Emerson Electric Co.

InSinkErator may make improvements and/or changes in the specifications at any time, in its sole discretion, without notice or obligation and further reserves the right to change or discontinue models.

1-800-558-5700
www.insinkerator.com

P-29

For Residential and Commercial Applications

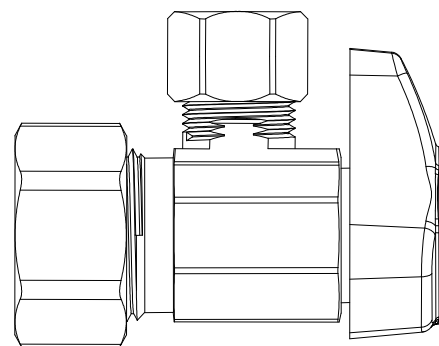
Job Name		Engineer / Architect	
Job Location		Wholesaler	
Submittal Date		Contractor	

G2CR09/ G2CR19/ G2CR39 1/4 Turn Angle Stop – Compression x Compression

Use: For use in potable water distribution systems. Not intended for recirculating water systems that produce continuous use temperatures above 115° F. For those applications, use our KT™ series ball stops.

Design Features:

- **One-piece shut-off mechanism** provides smooth on-off operation without freeze ups even after long periods of non-use
- **Positive 1/4 turn** shut off
- **Full-flow operation** with no waterway obstructions
- **Corrosion-resistant handle** is plated in an attractive chrome finish
- **Machined one-piece brass body** provides strength, durability, and long-lasting performance
- **Easy-to-remove handle** with screw attachment helps protect against accidental operation during rough-ins
- **100% Leak** tested
-  **No Lead**
- **For use with** ASTM F876 PEX tubing, in ASTM F877 water distribution systems (parts containing PX and PXX only)
- **For use in** ASTM F877 water distribution systems as noted in Appendixes (parts containing PX and PXX only)



Operating Specifications:

Temperature: 40°- 140° F

Pressure: 125 PSI maximum

Standard

STOP MATERIAL SPECIFICATIONS	
Body	Brass
Stem Barrel	Santoprene
Stem Shaft	Glass-filled Polypropylene
O-ring	Rubber
Handle	Zinc die cast, chrome plated
Handle Screw	Zinc-plated steel
Compression Nut	Brass, chrome plated
Compression Sleeve	Brass
PEX Insert*	Stainless steel

*Where specified

No Lead

STOP MATERIAL SPECIFICATIONS	
Body	No-Lead brass
Stem Barrel	Santoprene
Stem Shaft	Glass-filled Polypropylene
O-ring	Rubber
Handle	Zinc die cast, chrome plated
Handle Screw	Zinc-plated steel
Compression Nut	Brass, chrome plated
Compression Sleeve	Brass
PEX Insert*	Stainless steel

This specification and all information contained herein is the confidential and exclusive property of BrassCraft Manufacturing, and shall not be disclosed to others without the written consent of BrassCraft. This specification must be returned to BrassCraft if requested.

BrassCraft®

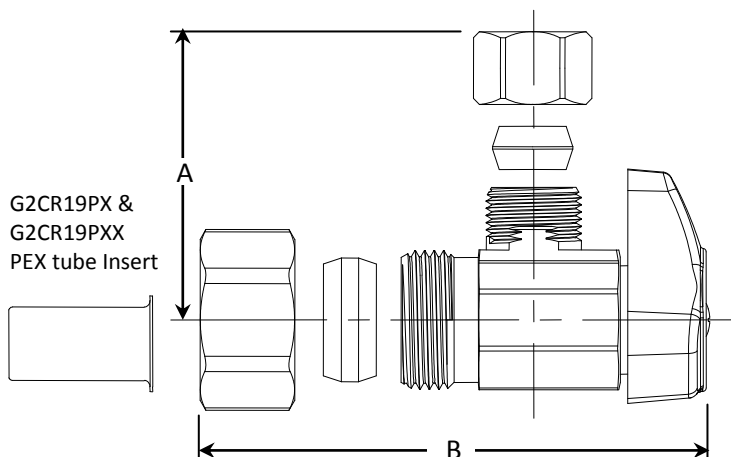
G2CR09/ G2CR19/ G2CR39 1/4 Turn Angle Stop – Compression x Compression

Standard Part Listing:

☐	G2CR09 C	1/2" nom compression x 1/4" OD compression, chrome plated
☐	G2CR09 C1	1/2" nom compression x 1/4" OD compression, chrome plated, window tray
☐	G2CR09 CD	1/2" nom compression x 1/4" OD compression, chrome plated, blister card
☐	G2CR09 R	1/2" nom compression x 1/4" OD compression, rough brass
☐	G2CR19 C	1/2" nom compression x 3/8" OD compression, chrome plated
☐	G2CR19 C1	1/2" nom compression x 3/8" OD compression, chrome plated, window tray
☐	G2CR19 CD	1/2" nom compression x 3/8" OD compression, chrome plated, blister card
☐	G2CR19 R	1/2" nom compression x 3/8" OD compression, rough brass
☐	G2CR19L1 CB	1/2" nom compression x 3/8" OD compression, less outlet nut, chrome plated, bulk
☐	G2CR19PX C	1/2" nom compression w/ PEX stainless steel insert x 3/8" OD compression, chrome plated
☐	G2CR39 C	1/2" nom compression x 1/2" OD compression, chrome plated
☐	G2CR39 C1	1/2" nom compression x 1/2" OD compression, chrome plated, window tray
☐	G2CR39 CD	1/2" nom compression x 1/2" OD compression, chrome plated, blister card
☐	G2CR39 R	1/2" nom compression x 1/2" OD compression, rough brass

No-Lead Part Listing:

☐	G2CR09X C	1/2" nom compression x 1/4" OD compression, chrome plated
☐	G2CR09X C1	1/2" nom compression x 1/4" OD compression, chrome plated, window tray
☐	G2CR09X CD	1/2" nom compression x 1/4" OD compression, chrome plated, blister card
☐	G2CR09X R	1/2" nom compression x 1/4" OD compression, rough brass
☒	G2CR19X C	1/2" nom compression x 3/8" OD compression, chrome plated
☐	G2CR19X C1	1/2" nom compression x 3/8" OD compression, chrome plated, window tray
☐	G2CR19X CD	1/2" nom compression x 3/8" OD compression, chrome plated, blister card
☐	G2CR19X R	1/2" nom compression x 3/8" OD compression, rough brass
☐	G2CR19PXX C	1/2" nom compression w/ PEX stainless steel insert x 3/8" OD compression, chrome plated
☐	G2CR19L1X CB	1/2" nom compression x 3/8" OD compression, less outlet nut, chrome plated, bulk
☐	G2CR39X CD	1/2" nom compression x 1/2" OD compression, chrome plated, blister card



PART DIMENSIONS (Inches)		
Model	DIM A	DIM B
G2CR09	1.02	2.16
G2CR19	1.02	2.16
G2CR19L1	.74	2.16
G2CR19PX	1.02	2.16
G2CR39	1.11	2.16

Listings & Certifications:

- IAPMO listed to ASME A112.18.1 / CSA B125.1 (File # 0645)
- CSA listed to ASME A112.18.1 / CSA B125.1 (File # 204593)
- No-Lead product CSA listed to Low Lead Content Certification Program – Plumbing Products Class 6853-01



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BrassCraft

For Residential and Commercial Applications

Job Name		Engineer / Architect	
Job Location		Wholesaler	
Submittal Date		Contractor	

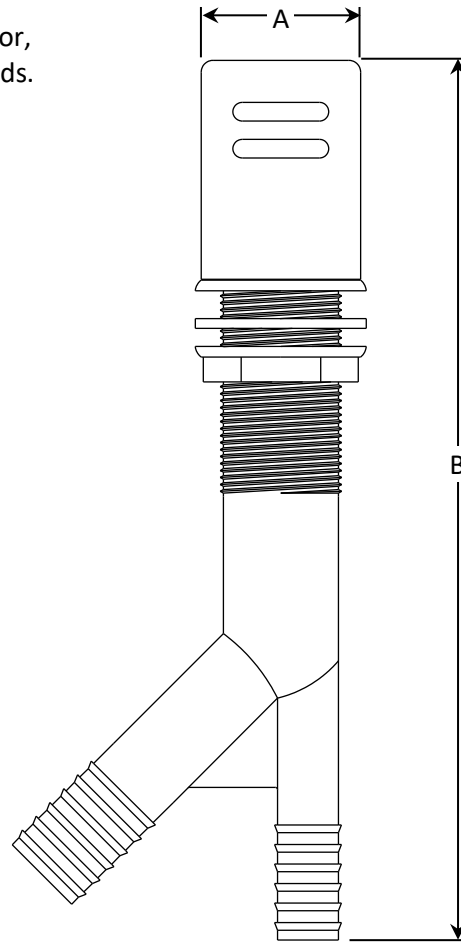
BC9441 Dishwasher Air Gap

Design Features:

- Easy to install
- Available in several special finishes for In-Sink-Erator, KitchenAid, Emerson, Kenmore, and Grainger brands.

MATERIAL SPECIFICATIONS	
Body	Plastic
Cap	Brass, brass plated
Washer	Rubber
Retaining Nut	Plastic

PART DIMENSIONS (Inches)		
Model	DIA. A	DIM. B
BC9441	1.63	9.00



Part Listing:

☒	BC9441	5/8" OD inlet x 7/8" OD outlet dishwasher air gap w/brass cap
☐	BC9441 NS	5/8" OD inlet x 7/8" OD outlet dishwasher air gap w/brass cap, satin nickel
☐	BC9441 BZ	5/8" OD inlet x 7/8" OD outlet dishwasher air gap w/brass cap, oil rubbed bronze
☐	BC9441 SS	5/8" OD inlet x 7/8" OD outlet dishwasher air gap w/brass cap, stainless steel PVD
☐	BC9441 W	5/8" OD inlet x 7/8" OD outlet dishwasher air gap w/brass cap, white

Listings & Certifications:

- IAPMO certified to PS 23



This specification and all information contained herein is the confidential and exclusive property of Brasscraft Manufacturing Company, and shall not be disclosed to others without the written consent of Brasscraft Mfg. Co. This specification must be returned to Brasscraft Mfg. Co. if requested.

400.323 BC9441_Dishwasher_Air_Gap_REV 9.19

BrassCraft®

©2019 Brasscraft Manufacturing Company

P-33,34

This unit offers anti-siphon protection.

The Woodford Model 25 drains as handle is shut off even if hose is attached. This faucet is designed for outside residential water service applications and intended for irrigation purposes.

SPECIFICATIONS:

MODEL 25 - Approved under ASSE Standard 1019-B and listed by IAPMO®. Meets Government Specification WW-541b Type 205.

Vacuum Breaker - Anti-Siphon

NIDEL® model 34HA with 3/4" male hose thread. Approved under ASSE Standard 1011. Canadian Standards Association and listed by IAPMO®.

FEATURES:

EXTERIOR FINISH - Brass

VALVE - Molded nitrile suitable for hot water.

NOZZLE - 3/4" male hose thread.

NO LEAD SOLDER - All solder joints.

PLUNGER - Hemispherical cushion type.

STEM SCREW - DELRIN®

HEAD NUT - Brass

HANDLE - Metal. (Optional Tee Key)

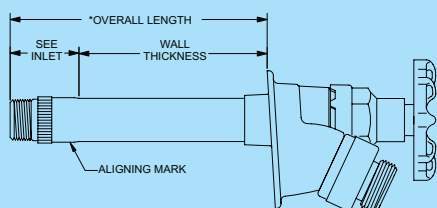
INLETS - As shown.

MAX PRESSURE - 125 p.s.i.

MAX TEMPERATURE - 120° F

NOTICE - To close and drain, turn handle clockwise until seated and water drains out of the drain hole or faucet may freeze and burst. Vacuum Breaker replacement is recommended every 3-5 years.

Rough-In Dimensions



Wall Thickness (inches)

4	6	8	10	12	14	16	18	20	22	24
2.0	2.1	2.2	2.3	2.4	2.5	2.7	2.9	3.1	3.3	3.5

Shipping Wt. (lbs)

Approx. Shipping Weight Each

*Overall Length Dimension: Add wall thickness and inlet option length shown in chart at right.

Patent informaion available at :

<http://www.woodfordmfg.com/Woodford/patents/>

For Installation / Troubleshooting Instructions go to:

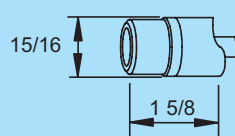
www.woodfordmfg.com or call 1-800-621-6032



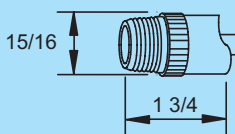
Anti-Siphon Automatic Draining Freezeless Wall Faucet Model 25



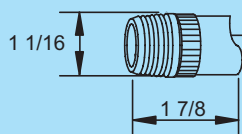
Inlet Descriptions



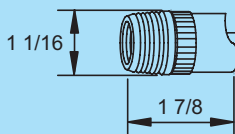
C Inlet
COMBINATION
Copper Sweat Fitting
1/2" K, L or M Inside
3/4" M Only Outside



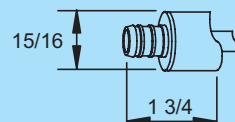
CP Inlet
COMBINATION
1/2" Male Pipe Thread
1/2" Female Sweat



CP3 Inlet
COMBINATION
3/4" Male Pipe Thread
3/4" Female Sweat

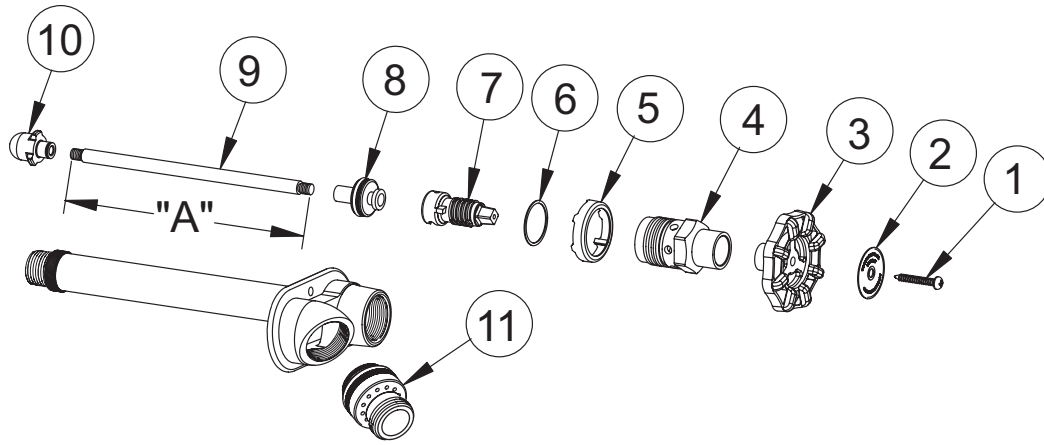


P Inlet
COMBINATION
1/2" Female Pipe Thread
3/4" Male Pipe Thread



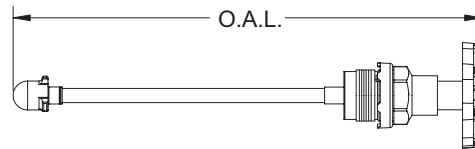
PX Inlet
1/2" PEX Tube Fitting
PX3 INLET
3/4" PEX Tube Fitting

When ordering, specify model , inlet and wall thickness.



MODEL 25 PARTS LIST

ITEM	PART#	DESCRIPTION
1	30234	Handle Screw
2	30438	I.D. Ring - Model 25
3	30239	Wheel Handle - Metal
4	30241	Head Nut - Brass
5	30236	Drain Guard
6	30245	Head Nut Gasket
7	30238	Stem Screw
8	35280	Drain Valve Assembly
9	303XX	Operating Rod (See Chart)
10	30230	Plunger Assembly
11	34HA-BR	34HA Vacuum Breaker - brass
	RK-25	Repair Kit (Includes items 1, 3-8 & 10)



OPERATING ROD ASSEMBLY INCLUDES ITEMS 1 THRU 10

Wall Thickness	Overall Length	Part No.
CC	5"	35501
4	8"	35504
6	10"	35506
8	12"	35508
10	14"	35510
12	16"	35512
14	18"	35514
16	20"	35516
18	22"	35518
20	24"	35520
22	26"	35522
24	28"	35524

OPERATING ROD DIM "A"

Wall Thickness	Length	Part No.
4	4-7/16"	30304
6	6-7/16"	30306
8	8-7/16"	30308
10	10-7/16"	30310
12	12-7/16"	30312
14	14-7/16"	30314
16	16-7/16"	30316
18	18-7/16"	30318
20	20-7/16"	30320
22	22-7/16"	30322
24	24-7/16"	30324



For more information contact...

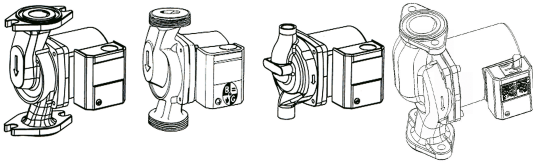
WOODFORD MANUFACTURING COMPANY, LLC.

2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (800) 621-6032 • Fax: (800) 765-4115

To view our complete product line visit: www.woodfordmfg.com or email: sales@woodfordmfg.com

CP-1

JOB: UNIT TAG: ENGINEER: CONTRACTOR:		REPRESENTATIVE: ORDER NO. SUBMITTED BY: APPROVED BY:		DATE: DATE: DATE:
---	--	---	--	--



Lead-Free** Bronze and Stainless Steel Bodied System Lubricated Circulators



DESCRIPTION

A series of in-line wet rotor circulation pumps designed specifically for quiet operation in open (potable) water systems. These pumps have lead-free** bronze or stainless steel bodies.

Automatic Timer and Aquastat accessories are available. (See Submittal A-128A for details).

CONSTRUCTION MATERIALS

Pump Body: NBF: Bronze
SSF: Stainless Steel
Bearings: Carbon
Impeller: Noryl
Shaft: Ceramic

OPERATING DATA

Maximum Working Pressure: 150 psi (10.3 Bar)
Minimum Operating Temperature: 40°F (5°C)
Maximum Operating Temperature
NBF-25, NBF-33, NBF-36, NBF-45: 225°F (107°C)
All Others: 230°F (110°C)

MODEL NUMBER	PART NUMBER	CONNECTION	APPROX. SHPG. WT. Lbs. (Kg)	STANDART 60 CYCLE 115 VOLT SINGLE PHASE			TAGGING INFORMATION	QUANTITY
				WATTS	F.L. AMPS	RPM		
NBF-8S/LW	103257LF	1/2" Sweat	9.0 (4.1)	39	0.38	2800		
NBF-9U/LW	103258LF	Union (See Following Page)	9.3 (4.2)	41	0.40	2800		
SSF-9U/LW	103360LF	Union (See Following Page)	9.3 (4.2)	41	0.40	2800		
NBF-10S/LW	103259LF	1/2" Sweat	9.0 (4.1)	52	0.46	2800		
NBF-12U/LW	103261LF	Union (See Following Page)	9.3 (4.2)	55	0.48	2800		
SSF-12U/LW	103361LF	Union (See Following Page)	9.3 (4.2)	55	0.48	2800		
NBF-12F/LW	103260LF	Flange 3/4, 1, 1-1/4, 1-1/2	9.5 (4.3)	55	0.48	2800		
SSF-12F/LW	103358LF	Flange 3/4, 1, 1-1/4, 1-1/2	9.5 (4.3)	55	0.48	2800		
NBF-18S	103316LF	1/2" Sweat	9.0 (4.1)	90	0.74	3000		
NBF-22U	103255LF	Union (See Following Page)	9.3 (4.2)	92	0.80	2940		
SSF-22U	103362LF	Union (See Following Page)	9.3 (4.2)	92	0.80	2940		
NBF-22	103252LF	Flange 3/4, 1, 1-1/4, 1-1/2	9.5 (4.3)	92	0.80	2940		
SSF-22	103357LF	Flange 3/4, 1, 1-1/4, 1-1/2	9.5 (4.3)	92	0.80	2940		
NBF-25*	103418LF	Flange 3/4, 1, 1-1/4, 1-1/2	10.4 (4.7)	125	1.10	2950		
NBF-33	103351LF	Flange 3/4, 1, 1-1/4, 1-1/2	10.4 (4.7)	125	1.10	2950		
NBF-36*	103401LF	Flange 3/4, 1, 1-1/4, 1-1/2	13.1 (6.0)	270	2.30	3300		
NBF-45*	103405LF	Flange 1, 1-1/4, 1-1/2	14.5 (6.6)	270	2.30	3300		

*3-speed circulators

**Contains less than 0.25% lead content on wetted surface

TYPICAL SPECIFICATIONS

The contractor shall furnish and install in-line circulating pumps as illustrated on the plans and in accordance with the following specifications:

- The pumps shall be of the horizontal system lubricated type specifically designed and guaranteed for quiet operation.
- Pump to be suitable for ____ °F (____ °C) [choose one: 225°F (107°C) for NBF-25, NBF-33, NBF-36, NBF-45 or 230°F (110°C) for all other circulators] operation at 150 psig (10.3 Bar) working pressure.
- The pumps shall have a ceramic shaft supported by carbon bearings. Bearings are to be lubricated by the circulating fluid.

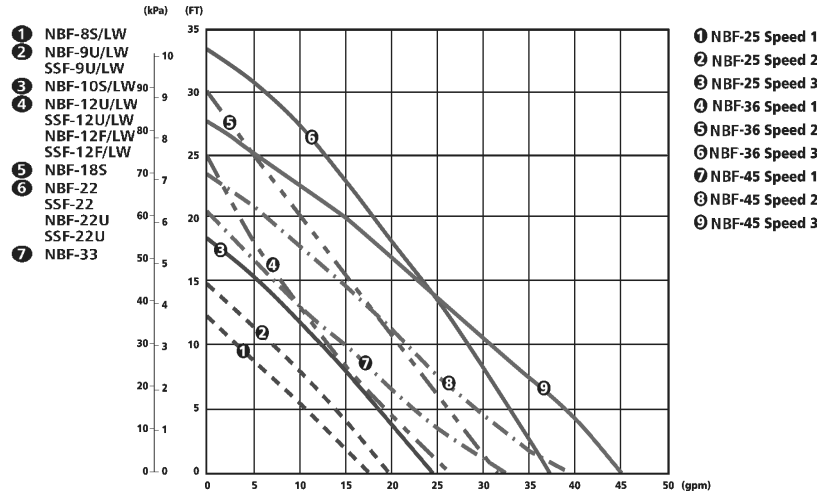
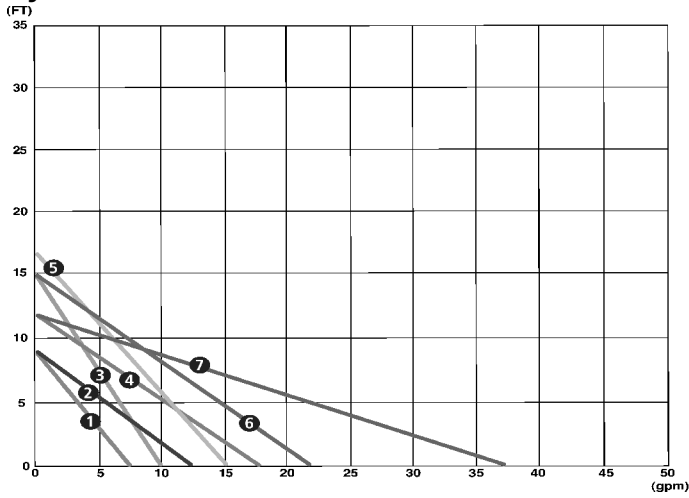
- Pump body shall be lead-free bronze for NBF circulators or stainless steel for SSF circulators.
- Motor stator to be isolated from circulating fluid through use of stainless steel can. Rotor to be sheathed in stainless steel.
- Motors shall be non-overloading at any point on the pump curve. NBF-36 & NBF-45 to have built-in thermal protection. All other motors to have built-in impedance protection.
- NBF-25 has an optional check valve.

Pumps to have a capacity of ____ GPM at ____ foot head when powered by 115 volt, 60 cycle single phase electrical supply.

All pumps are to be ITT Industries - Bell & Gossett Model _____.

System Lubricated Circulators

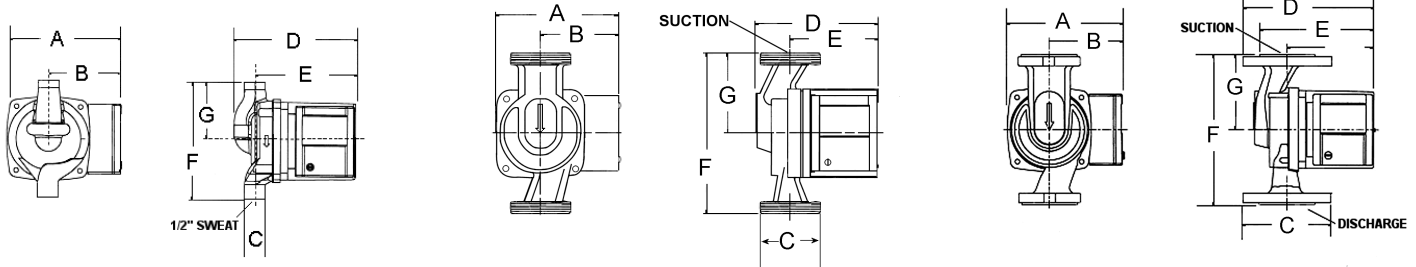
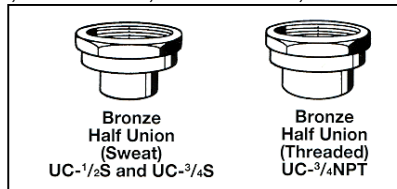
A-127K



HALF UNION CONNECTIONS

For NBF-9U/LW, NBF-12U/LW, NBF-22U, SSF-9U/LW, SSF-12U/LW, SSF-22U

MODEL NUMBER	PART NUMBER	DESCRIPTION (SETS OF 2)
UC-1/2S	113203LF	1/2" Bronze Union Sweat
UC-3/4S	113201LF	3/4" Bronze Union Sweat
UC-3/4NPT	113202LF	3/4" Bronze Union NPT Female



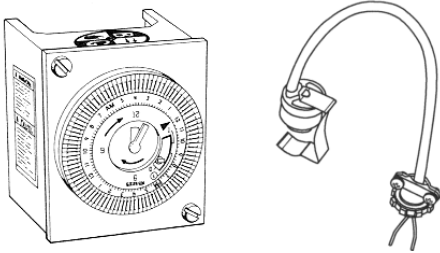
MODEL	PART NUMBER	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)
NBF-8S/LW	103257LF	4-7/8 (124)	3-3/16 (81)	1/2 (13)	5-7/32 (132)	4-9/32 (109)	5 (127)	2-1/2 (63)
NBF-9U/LW	103258LF	4-7/8 (124)	3-3/16 (81)	1-1/4 (32)	5-1/16 (129)	3-11/16 (93)	6-1/8 (156)	3-1/16 (78)
SSF-9U/LW	103360LF	4-7/8 (124)	3-3/16 (81)	1-1/4 (32)	5-1/16 (129)	3-11/16 (93)	6-1/8 (156)	3-1/16 (78)
NBF-10S/LW	103259LF	4-7/8 (124)	3-3/16 (81)	1/2 (13)	5-7/32 (132)	4-9/32 (109)	5 (127)	2-1/2 (63)
NBF-12U/LW	103261LF	4-7/8 (124)	3-3/16 (81)	1-1/4 (32)	5-1/16 (129)	3-11/16 (93)	6-1/8 (156)	3-1/16 (81)
SSF-12U/LW	103361LF	4-7/8 (124)	3-3/16 (81)	1-1/4 (32)	5-1/16 (129)	3-11/16 (93)	6-1/8 (156)	3-1/16 (78)
NBF-12F/LW	103260LF	4-7/8 (124)	3-3/16 (81)	3-3/16 (81)	5-9/16 (141)	3-11/16 (93)	6-3/8 (162)	3-3/16 (82)
SSF-12F/LW	103358LF	4-7/8 (124)	3-3/16 (81)	3-3/16 (81)	5-9/16 (141)	3-11/16 (93)	6-3/8 (162)	3-3/16 (82)
NBF-18S	103316LF	4-7/8 (124)	3-3/16 (81)	1/2 (13)	5-7/32 (132)	4-9/32 (109)	5 (127)	2-1/2 (63)
NBF-22U	103255LF	4-7/8 (124)	3-3/16 (81)	1-1/4 (32)	5-1/16 (129)	3-11/16 (93)	6-1/8 (156)	3-1/16 (78)
SSF-22U	103362LF	4-7/8 (124)	3-3/16 (81)	1-1/4 (32)	5-1/16 (129)	3-11/16 (93)	6-1/8 (156)	3-1/16 (78)
NBF-22	103252LF	4-7/8 (124)	3-3/16 (81)	3-3/16 (81)	5-9/16 (141)	3-11/16 (93)	6-3/8 (162)	3-3/16 (82)
NBF-25*	103418LF	5-1/8 (130)	3-3/16 (81)	3-3/16 (81)	6-3/16 (157)	4-7/8 (124)	6-3/8 (162)	2-1/2 (63)
NBF-33	103351LF	4-7/8 (124)	3-3/16 (81)	3-3/16 (81)	6-3/16 (157)	3-11/16 (94)	6-3/8 (162)	3-3/16 (82)
NBF-36*	103401LF	5-3/4 (146)	3-9/16 (91)	3-3/16 (81)	6-3/16 (157)	5-3/8 (137)	6-3/8 (162)	3-3/16 (82)
NBF-45*	103405LF	5-3/4 (146)	3-9/16 (91)	3-7/16 (87)	7-3/8 (187)	5-1/2 (140)	8-1/2 (216)	4-1/4 (108)

Dimensions are subject to change. Not to be used for construction purposes unless certified.

Companion Flanges Available in Sizes: 3/4", 1", 1-1/4", and 1-1/2"

* 3-speed circulators

JOB:		REPRESENTATIVE:	
UNIT TAG:	ORDER NO.	DATE:	
ENGINEER:	SUBMITTED BY:	DATE:	
CONTRACTOR:	APPROVED BY:	DATE:	



Automatic Timer Kit

Model TC-1

Aquastat

Models: AQS-1/2, AQS-3/4

DESCRIPTION

TC-1 AUTOMATIC TIMER KIT - To increase the overall efficiency of a hot water recirculation system, the TC-1 timer control kit can be installed for use on any B&G NBF/NRF/SSF circulator. The TC-1 timer control is programmable to turn the circulator ON and OFF automatically at preset times. This permits the user to have the pump circulate hot water only during those times when high usage can be expected throughout the day.

AQS-1/2 and AQS-3/4 AQUASTAT - are designed to thermostatically turn any B&G NBF/NRF/SSF circulator ON and OFF. The AQS-1/2 or AQS-3/4 will switch the pump OFF at 120°F (48.9°C) and ON at 100°F (37.8°C). The aquastats are available in separate models that will sense the temperature for either 1/2" or 3/4" copper pipe.

AUTOMATIC TIMER KIT and AQUASTAT COMBINATION - The automatic timer and aquastat kits can be used in combination. When they are used together, the pump will only circulate water when the ON time conditions are met and when water temperature is low enough to cause the aquastat to switch ON.

OPERATIONAL LIMITS

TC-1 AUTOMATIC TIMER KIT:

Power Supply: 115/120 VAC, 60 HZ, 1Ø

Minimum Switch Interval: 15 minutes

Run Modes: ON (continuous run), OFF (at all times),
TIMER (run at programmed intervals)

Maximum Switch Current: 16 amps

AQS-1/2, AQS-3/4 AQUASTATS

Thermostatic Switch Modes: OFF (open) at 120°F (48.9°C) water temperature and ON (closed) at 100°F (37.8°C) water temperature.

Thermostatic Element: Bimetal, senses surface temperature of outside diameter of pipe.

Pipe Size: AQS-1/2 clips onto 1/2" copper pipe or 3/8" steel pipe (OD of pipe 5/8"). AQS-3/4 clips onto 3/4" copper pipe or 1/2" steel pipe (OD of pipe 7/8").

Mounting: May be installed to sense temperature at the suction or discharge pipe of the pump.

CONSTRUCTION MATERIALS

TC-1 AUTOMATIC TIMER KIT:

Timer Body: Noryl Plastic

AQS-1/2, AQS-3/4 AQUASTATS:

Thermostat Covering: Epoxy (Environmentally Sealed)

Pipe Clip: Stainless Steel

Sensing Element: Bimetal

Wire Leads: Insulated 18" (457mm) #18 AWG

APPROX. SHIPPING WEIGHT

TC-1: 11oz. (.31Kg)

AQS-1/2: 5oz. (.14Kg)

AQS-3/4: 5oz. (.14Kg)

SCHEDULE

MODEL NUMBER	PART NUMBER	SIZE INCHES	VOLTAGE RATING 60 HZ 1Ø	TAGGING INFORMATION	QUANTITY
X TC-1	113210	-	115-120		
AQS-1/2	113223	1/2	115-120		
X AQS-3/4	113224	3/4	115-120		

Bell & Gossett

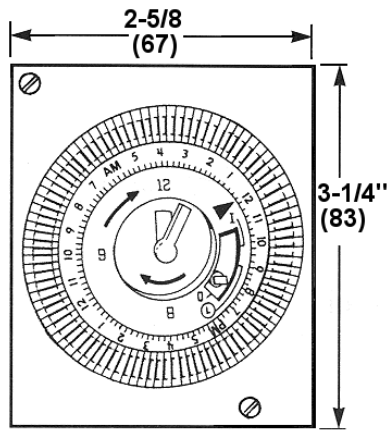


ITT Industries
Engineered for life

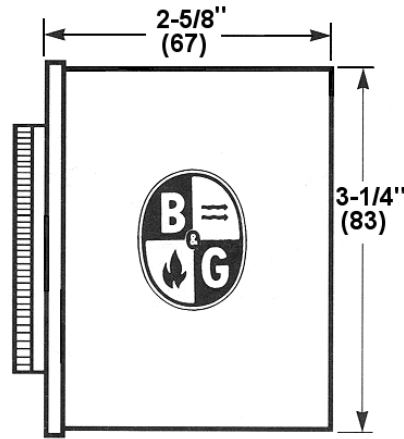
AUTOMATIC TIMER KIT AQUASTATS

A-128C

TIMER KIT DIMENSION IN INCHES (MM)



FRONT VIEW



SIDE VIEW

TYPICAL SPECIFICATIONS

Furnish and install as shown on the circulator plans and in accordance with the following specifications:

AUTOMATIC TIMER KIT:

1. The timer kit shall be UL approved.
2. The timer kit shall be installed on the connection box of any Bell & Gossett NBF/NRF/SSF system lubricated circulator.
3. The timer kit will be suitable for 115/120V, 60 HZ operation.
4. The timer shall provide automatic ON-OFF control at minimum interval of every 15 minutes. It shall also have the option of providing manual ON-OFF control.

All units shall be Bell & Gossett Model No.: TC-1

AQUASTATS:

1. The aquastat shall be UL approved.
2. The aquastat shall be connected to the lead wires in the connection box of any Bell & Gossett NBF/NRF/SSF system lubricated circulator.
3. The aquastat will be suitable for 115/120V, 60 HZ operation.
4. The aquastat shall provide thermostat control to the circulator. It will turn OFF (open) at 120°F (48.9°C) water temperature and ON (closed) at 100°F (37.8°C) water temperature.

All units shall be Bell & Gossett Model No.:
(Choose: AQS-1/2 or AQS-3/4).

AUTOMATIC TIMER KIT AND AQUASTAT COMBINATION:

1. The automatic timer kit and either aquastat model can be combined to provide automatic time and temperature control to any Bell & Gossett NBF/NRF/SSF circulator.
2. When the automatic timer and the aquastat are used together, the pump will only circulate water when the ON time conditions are met and when the water temperature is low enough to cause the aquastat to switch ON.

All units shall be Bell & Gossett Model No.: TC-1 and Bell & Gossett Model No.: (Choose: AQS-1/2 or AQS-3/4).



Bell & Gossett

Bell & Gossett
8200 N. Austin Avenue, Morton Grove, IL 60053
Phone (847)966-3700
Facsimile (847)966-9052
www.bellgossett.com



RPZ

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE*

Series LF860

Reduced Pressure Zone Assemblies

Size: 1/2" - 2"

The FEBCO Series LF860 Reduced Pressure Zone Assemblies are designed for use in health-hazard applications. The LF860S features Lead Free* construction to comply with Lead Free* installation requirements. End Connections – NPT ANSI / ASME B1.20.1. The Lead Free* Reduced Pressure Zone Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

Pressure – Temperature

Max. Working Pressure: 175psi (12.1 bar)
 Hydrostatic Test Pressure: 350psi (24.1 bar)
 Temperature Range: 32°F to 140°F (0°C to 60°C)

Materials

Valve Body: Lead Free* Cast Copper Silicon Alloy
 Elastomers: Silicone
 Springs: Stainless Steel

Models

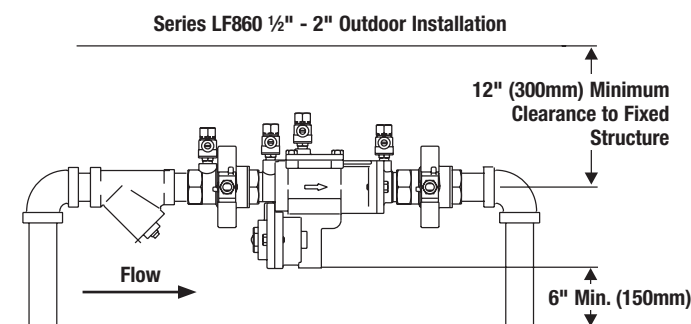
- LF860 - Standard Assembly with Ball Valves
- LF860U - Standard Assembly with Union Ball Valves
- Also available painted black for theft deterrence

Approvals – Standards

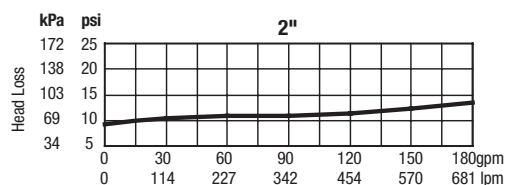
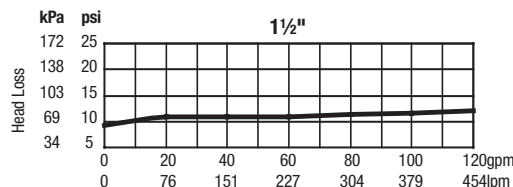
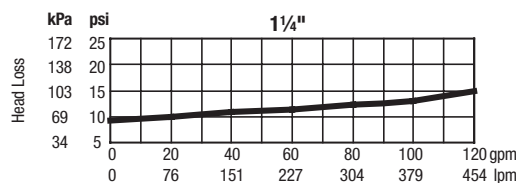
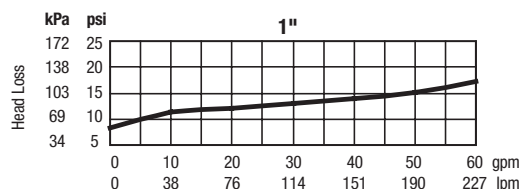
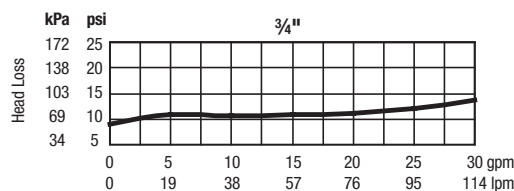
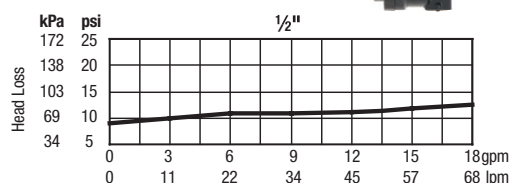
- ANSI/AWWA Conformance (C511)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



Typical Installation



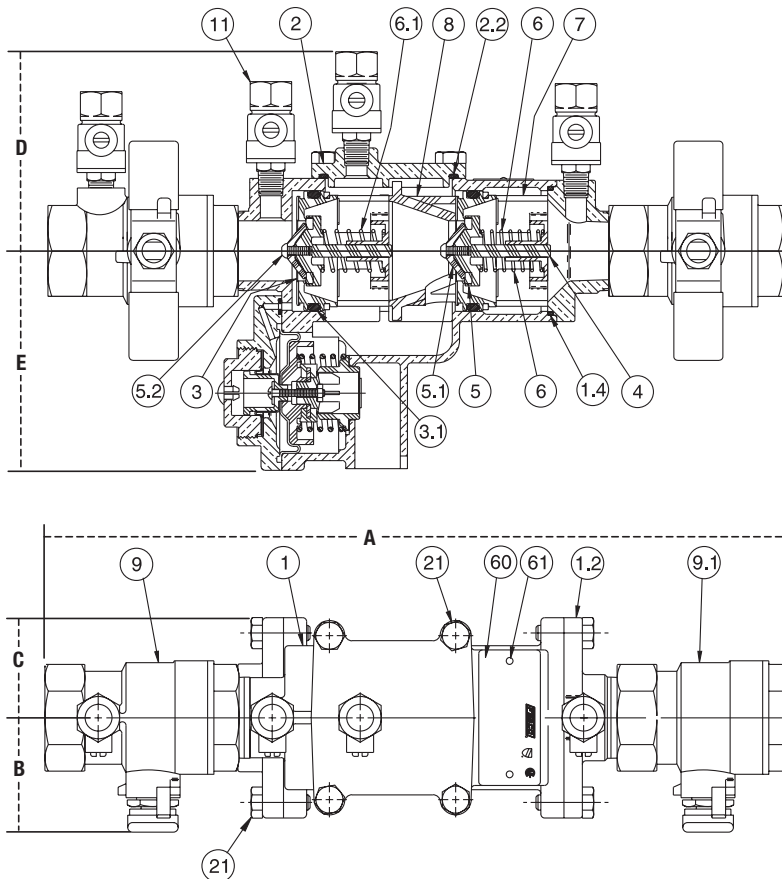
Capacity



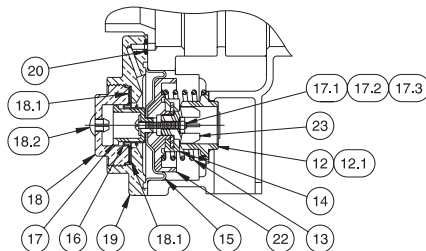
FEBCO product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact FEBCO Technical Service. FEBCO reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on FEBCO products previously or subsequently sold.

A WATTS Brand

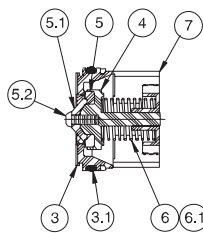
Series LF860 / Size: ½" - 2"



Relief Valve Assembly



Check Assembly



Dimensions – Weights

Size: ½" - 2"

SIZE		DIMENSIONS										WEIGHT	
	A			B		C		D		E			
<i>in.</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>	
½	10	254	1½	38	1½	38	3⅞	79	3½	89	5.6	2.5	
¾	10¾	273	1½	38	1½	38	3⅞	79	3½	89	5.8	2.6	
1	12½	318	1⅞	48	1⅞	41	3⅞	86	3⅞	92	9.2	4.2	
1¼	15⅞	403	3	76	2½	64	4¼	108	5⅞	143	20.2	9.2	
1½	16⅞	416	3	76	2½	64	4¼	108	5⅞	143	20.6	9.4	
2	17⅞	450	3½	89	2½	64	4¼	108	5⅞	143	24.8	11.3	

Note: Dimensions are nominal. Allowances must be made for normal manufacturing tolerances.



A WATTS Brand

ITEM	DESCRIPTION	MATERIALS
1	Body	Lead Free* Cast Copper Silicon Alloy
1.2	Tailpiece	Lead Free* Cast Copper Silicon Alloy
1.4	O-Ring	Silicone
2	Cover	Lead Free* Cast Copper Silicon Alloy
2.2	O-Ring	Silicone
3	Seat	Noryl®
3.1	O-Ring	Silicone
4	Poppet	Noryl®
5	Seat Disc	Silicone Rubber
5.1	Disc Retainer	Noryl®
5.2	Rnd HD Screw	Phillips, 18-8 SS
6	Spring	SS
6.1	Spring	SS
7	Guide	Noryl®
8	Retainer Spacer	Noryl®
9	Ball Valve (w/tap)	Lead Free* Cast Copper Silicon Alloy
9.1	Ball Valve	Lead Free* Cast Copper Silicon Alloy
11	Test Cock	Lead Free* Cast Copper Silicon Alloy
12	Seat Ring-RV	Noryl®
12.1	Gasket Ring-RV	Silicone Rubber
13	Spring-RV	SS
14	Seat Disc-RV	Silicone Rubber/SS
15	Diaphragm-RV	Rubber/Fabric
16	Outer Diaphragm-RV	Rubber/Fabric
17	Small Piston-RV	Noryl®
17.1	Rnd HD Screw	Phillips, 18-8 SS
17.2	Washer	18-8 SS
17.3	Hex Nut	18-8 SS
18	Cylinder-RV	Lead Free* Cast Copper Silicon Alloy
18.1	Slip Ring-Cylinder	Acetal
18.2	Slide (Plug)	Nylon
19	Cover-RV	Lead Free* Cast Copper Silicon Alloy
20	O-Ring	Silicone
21	Hex HD Capscrew	18-8 SS
22	Large Piston-RV	Noryl®
23	Guide-RV	Noryl®
60	Identification Plate	Brass
61	Drive Screw Stick	SS

* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Noryl® is a registered trademark of SABIC Innovative Plastics™.

NOTICE

The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

NOTICE

Inquire with governing authorities for local installation requirements.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

For Liquid and Steam Service

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE*

Series LF777SI, LFS777SI Wye-Pattern, Lead Free Cast Strainers

Sizes: 3/8" – 3"

Series LF777SI, LFS777SI Wye-Pattern, Lead Free* cast strainers are designed to protect plumbing system components from dirt, rust and other damaging debris. The Series LF777SI and LFS777SI feature Lead Free* construction to comply with Lead Free* installation requirements.

Features

- Lead Free* cast copper silicon alloy body and cap
- Wye-pattern
- Tapped retainer cap
- Closure plug
- Special flared screen opening on upstream end to provide unrestricted flow through the strainer

Models

LF777SI – 3/8" – 3" threaded connections

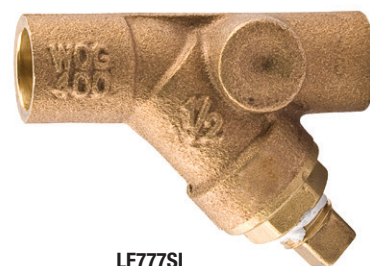
LFS777SI – 1/2" – 2" solder connections†

Specifications

A wye-pattern, Lead Free* cast strainer to be installed as indicated on the plans. The strainer must have a tapped retainer cap and closure plug. Strainer shall be rated to 400psi (27.6 bar) WOG; 125psi (8.6 bar) WSP for sizes 3/8"-2" and 300psi (20.7 bar) @ 210°F (99°C); 125psi (8.6 bar) WSP @ 353°F (178°C) for sizes 2 1/2"-3". The strainer shall be constructed using Lead Free* cast copper silicon alloy. Lead Free* strainers shall comply with state codes and standards, where applicable, requiring reduced lead content. Strainer shall be a Watts Series LF777SI (threaded ends) or LFS777SI (solder ends).

Materials

Body:	Lead Free* cast copper silicon alloy
Retainer Cap:	Lead Free* cast copper silicon alloy
Plug	Lead Free* brass
Gasket:	EPDM
Standard Screen:	#20 mesh, 304 stainless steel



LF777SI

Pressure – Temperature

Maximum Working Pressure:

3/8"–2"

400psi (27.6 bar) WOG @ 210°F (99°C)

125psi (8.6 bar) WSP @ 353°F (178°C)

2 1/2"–3"

300psi (20.7 bar) WOG @ 210°F (99°C)

125psi (8.6 bar) WSP @ 353°F (178°C)

Approvals

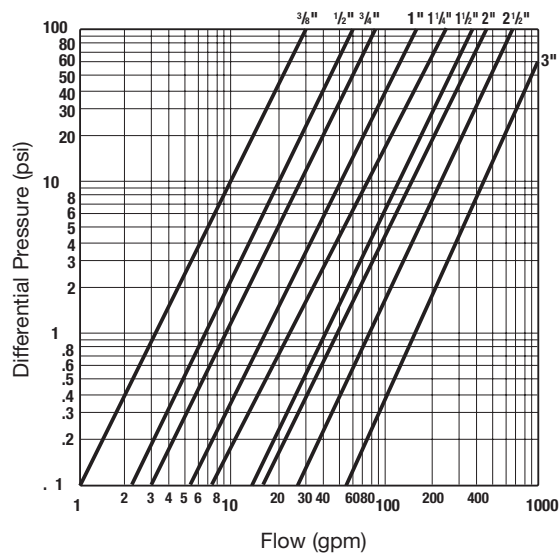


NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Performance Data

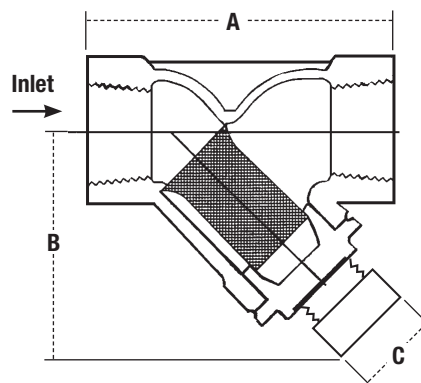


Flow curves show flows (gpm) and pressure drop (psig) through Watts Series 777SI, S777SI using standard 20 mesh screen.

Dimensions — Weights

LF777SI

SIZE		DIMENSIONS				WEIGHT		
	A	B	C					
in.	in.	mm	in.	mm	in.	mm	lbs.	kgs.
3/8	2 3/8	60	1 5/16	33	1/4	6	0.4	0.18
1/2	2 3/4	70	1 3/8	35	1/4	6	0.5	0.23
3/4	3 3/16	81	1 5/8	42	1/4	6	0.6	0.27
1	3 3/4	95	2 1/8	54	1/2	13	1.1	0.50
1 1/4	4 7/16	113	2 1/2	64	1/2	13	1.9	0.86
1 1/2	4 7/8	124	3	76	3/4	19	2.4	1.09
2	5 15/16	151	3 9/16	91	1	25	4.4	2.00
2 1/2	9 1/16	230	5 7/8	149	1/2	13	9.8	4.44
3	10 3/16	259	6 1/4	159	1/2	13	13.2	5.99



LFS777SI

SIZE		DIMENSIONS				WEIGHT		
	A	B	C					
in.	in.	mm	in.	mm	in.	mm	lbs.	kgs.
1/2	2 3/4	70	1 3/8	35	1/4	6	0.4	0.18
3/4	3 3/8	86	1 5/8	42	1/4	6	0.6	0.27
1	3 3/4	95	2 1/8	54	1/2	13	0.9	0.41
1 1/4	4 9/16	116	2 1/2	64	1/2	13	1.5	0.68
1 1/2	5 1/16	135	3	76	3/4	19	1.9	0.86
2	6 1/8	156	3 9/16	91	1	25	3.3	1.50



For Non-Health Hazard Applications

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE*

Series 601-P

**Air Gap Drain for use with
860/860U/LF860/LF860U
Reduced Pressure Assemblies**

Size: ½" - 2"

The air gap drain is designed to be installed under the 860/LF860, 860U/LF860U ½" - 2" reduced pressure assemblies to catch moderate relief valve discharge due to pressure fluctuations and/or minor check valve fouling.

Features

- Reduces amount of water splashing in area around reduced pressure assemblies.
- Funnels moderate relief valve discharge into drain.
- Designed to fit standard 2" pipe.

Materials

Funnel: Corrosion resistant ABS

Mounting fasteners: Stainless Steel.

Specifications

The air gap drain shall be corrosion resistant material with stainless steel mounting fasteners. The drain must be of a design that allows mounting by attachment of the drain to the relief valve of a reduced pressure assembly.

The air gap shall provide connection for a minimum drain size of 2" (50mm) drain pipe. Smaller diameter drain pipe shall not be allowed in order to minimize potential overflow water damage. Larger diameter drains are acceptable by use of standard pipe connectors.

The air gap drain shall be FEBCO Series 601 (½" - 2").



601

Typical Installation

1. Before installation check local codes. This type of drain may not be approved for use in some areas.

⚠ CAUTION

This drain is intended to catch moderate relief valve discharges due to line pressure fluctuations and minor check valve fouling. Under certain conditions relief valves can discharge water at rates greater than the drain capacity.

2. If installed indoors, the assembly should be installed near a floor drain sized to adequately handle discharge.
3. After installation of backflow assembly and piping, attach drain funnel to relief as shown, using self tapping screws provided in kit to join drain funnel halves together, making sure that the slots in the drain funnel are located over tabs on relief valve port.

NOTICE

The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

NOTICE

Discharge of drain funnel is a slip fit design. Drain funnel was not designed to, nor is it able to support drainpipe weight.

NOTICE

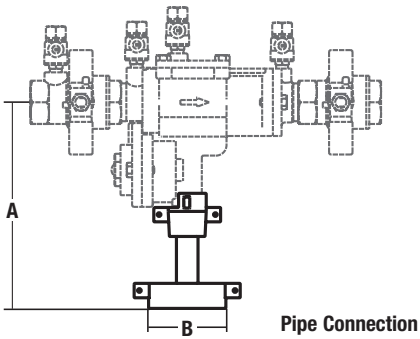
Consult local codes to insure drain installation meets all local requirements.

Dimensions

Size: 1/2" - 2"

SIZE		DIMENSIONS		
		A		B
<i>in.</i>	<i>in.</i>		<i>mm</i>	<i>in.</i>
1/2	71/8		181	2" Pipe
3/4	71/8		181	2" Pipe
1	71/4		184	2" Pipe
11/4	13		330	2" Pipe
11/2	13		330	2" Pipe
2	13		330	2" Pipe

Dimensions are nominal. Allowances must be made for normal manufacturing tolerances.



A WATTS Brand