



**Limited One Year Warranty**  
T&S warrants to the original purchaser (other than for purposes of resale) that such product is free from defects in material and workmanship for a period of one (1) year from the date of purchase. During this one-year warranty period, if the product is found to be defective, T&S shall, at its options, repair and/or replace it. To obtain warranty service, products must be returned to...

T&S Brass and Bronze Works, Inc.  
Attn: Warranty Repair Department  
2 Saddleback Cove  
Travelers Rest, SC 29690

Shipping, freight, insurance, and other transportation charges of the product to T&S and the return of repaired or replaced product to the purchaser are the responsibility of the purchaser. Repair and/or replacement shall be made within a reasonable time after receipt by T&S of the returned product. This warranty does not cover items which have received secondary finishing or have been altered or modified after purchase, or for defects caused by physical abuse to or misuse of the product, or shipment of the products.

Any express warranty not provided herein, and any remedy for Breach of Contract which might arise, is hereby excluded and disclaimed. Any implied warranties of merchantability or fitness for a particular purpose are limited to one year in duration. Under no circumstances shall T&S be liable for loss of use or any special consequential costs, expenses or damages.

Some states do not allow limitations on how long and implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. Specific rights under this warranty and other rights vary from state to state.

P/N: 098-006183-45 Rev.1  
Date: 980805  
Drawn: CW  
Checked: MAB 10-16-98  
Approved: MW 10-15-98

# Installation and Maintenance Instructions



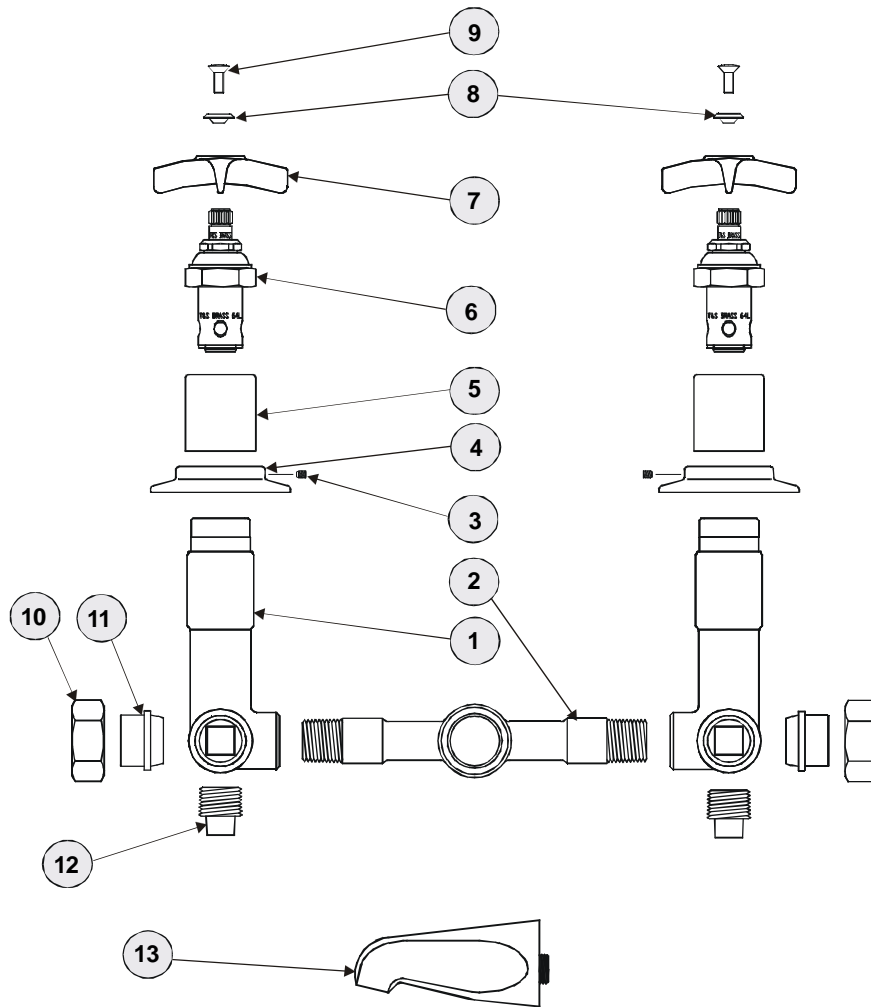
## B-1070 Concealed By-Pass Mixing Valve

**Deutsch: Installations- und  
Wartungsanleitungen**

**Español: la Instalación y las  
Instrucciones de  
Mantenimiento**

**Français: les Instructions  
d'Installation et  
d'Entretien**

# Exploded View



\* Some items are listed for instructional purposes and may not be sold as separate parts.

## Part Number Guide

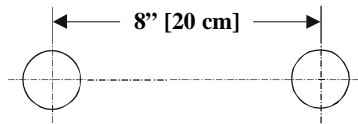
### ***Mixing Valve Assembly***

1	Asm, Concealed By-Pass Mixing Valve	B-1030
	Body, Valve	*
2	Chamber Mix, 8"	*
3	Set Screw, Escutcheon Flange	*
4	Escutcheon	*
5	Escutcheon Tube	*
6	Asm, Spindle Eterna - Hot	005960-40
7	Handle, 4-Arm Kitchen	002521-45
8	Index Button, Blue - Cold	001660-45
	Index Button, Red - Hot	001661-45
9	Screw, Lever Handle	000922-45
10	Nut, Flange Coupling	*
11	Union, 1/2 Female	*
12	Plug, Solid 1/2" Square Head	*
13	Spout, 1/2 NLT Bathtub	*

# General Instructions

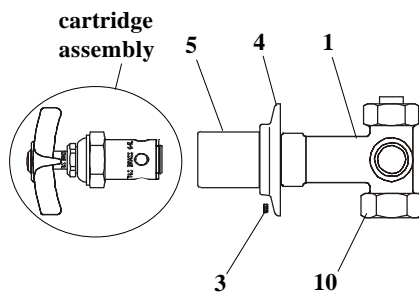
## Installation:

1. Shut off water supply and drain lines. Drill (2) two holes, approximately 1-3/8" [34 cm] diameter in wall with 8" [20 cm] center to center.

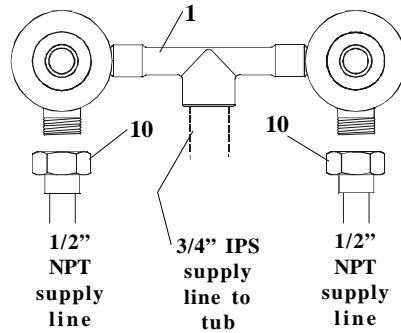


**Note:** The unit is also available with 6" [15 cm] center to center inlets.

2. After unpacking unit, remove **cartridge assembly** from no. 1. (Loosen and remove no. 3 at base of no. 4, slide no. 4 off no. 1.)



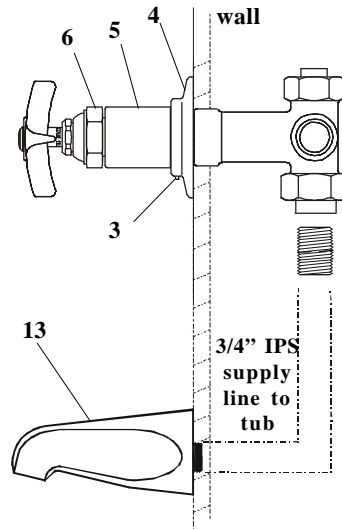
3. Remove no. 10 from no. 1 and attach to roughed-in piping (1/2" Iron Pipe Size female inlets) using Teflon Tape or pipe joint compound.



4. Attach no. 1 onto no. 10 and supply pipes; tighten with a wrench.

5. Replace no. 5, then no. 4 and make sure no. 4 is flush against wall.

6. Replace no. 6, attach no. 7, no. 8 and no. 9.



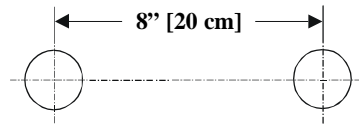
7. Attach no. 13 to outlet pipe using Teflon Tape or pipe joint compound. Make sure no. 13 is flush against wall.

8. Turn on water and check for leaks.

# Instrucciones Generales

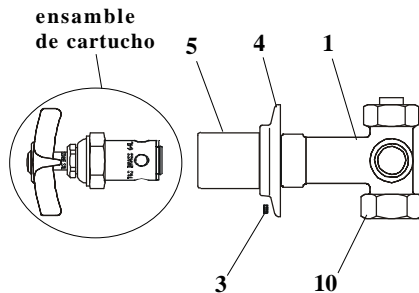
## Instalación:

1. Cierre la fuente de agua y desagüe las tuberías. Perfore (2) dos huecos, aproximadamente de 1-3/8" [34 cm] de diámetro en la pared con distancia de 8" [20 cm] de centro a centro.

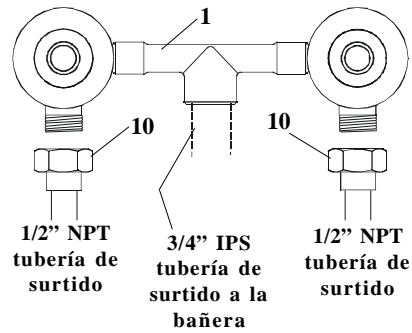


**Nota:** Esta unidad también está disponible con entradas de 6" [15 cm] de centro a centro.

2. Después de desempacar la unidad, remuévala el ensamble de cartucho de la parte No.1. (Afloje y remuévala la parte No.3 a la base de la parte No.4, deslice la parte No.4 de la parte No.1.



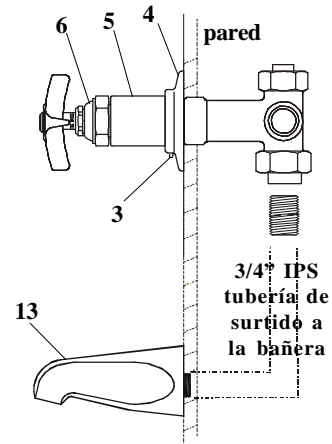
3. Remuévala la parte No.10 de la parte No.1 y júntelo a la tubería aproximada (1/2" Tamaño De Tubería De Hierro entradas femeninas) usando cintas de Teflon ó compuesto de coyuntura.



4. Junte la parte No.1 a la parte No.10 y a la tubería de surtido; aprete con una llave.

5. Coloque de nuevo la parte No.5, luego la parte No.4 y asegúrese que la parte No.4 este a rás con la pared.

6. Coloque de nuevo la parte No.6, junte la partes No.7, No.8 y No.9.



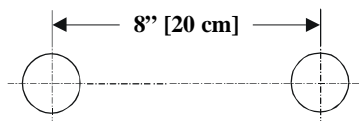
7. Junte la parte No.13 al tubo de desagüe usando cinta de Teflon ó compuesto de coyuntura. Asegúrese que la parte No.13 este a rás con la pared.

8. Abra el agua e inspeccione por filtraciones.

# Instructions Générales

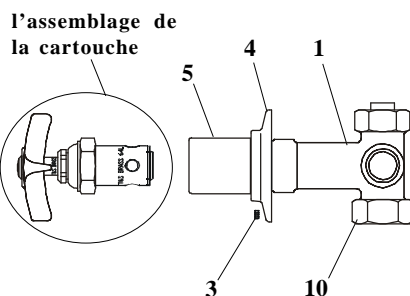
## Installation:

1. Fermer la réserve de l'eau et égoutter la tuyauterie. Percer deux (2) trous avec un diamètre environ 34 cm. avec 20cm. de centre à centre.

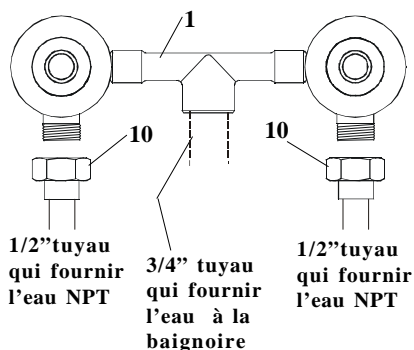


Noter: L'élément être disponible aussi avec les arrivées 15cm. centre à centre.

2. Après vous vider l'élément de la boîte, enlever l'assemblage de la cartouche de N°.1. (Desserrer et enlever N°.3 à la base de N°.4, faire glisser N°.4 de N°.1).



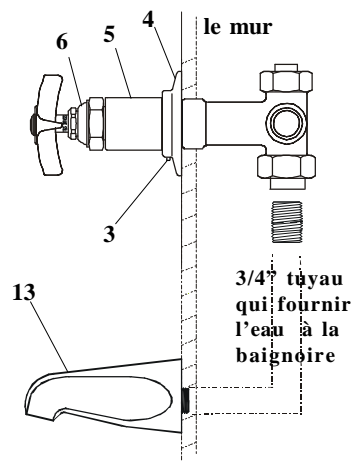
3. Enlever N°.10 de N°.1 et attacher à la tuyauterie (des arrivées féminines des tuyaux en fer 1/2") en utilisant le ruban en Téflon ou le composé pour les tuyaux.



4. Attacher N°. 1 sur N°.10 et les tuyaux qui fournir l'eau, resserrer avec une clef.

5. Remplacer N°.5 puis N°.4 et soyez certain que N°.4 être au même niveau que le mur.

6. Remplacer N°.6, attacher N°.7, N°.8 et N°.9.



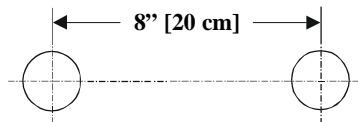
7. Attacher N°.13 à la sortie en utilisant le ruban en Téflon ou le composé pour les tuyaux. Soyez certain que N°.13 être au même niveau que le mur.

8. Recommencer l'eau et vérifier s'il y a des fuites.

# Allgemeine Anleitungen

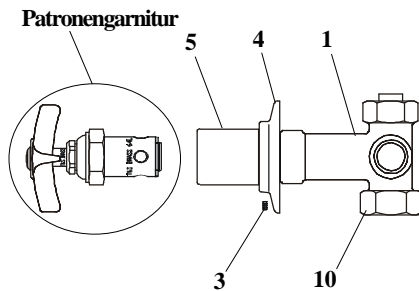
## Installation:

1. Wasserzulauf absperrten und Leitungen entleeren. Zwei ungefähr 3,4 cm große Löcher mit einem Mittenabstand von 20cm in die Wand bohren.

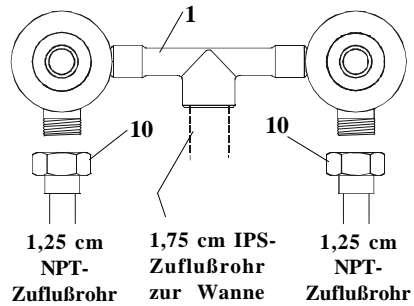


**Anmerkung: Die Einheit ist auch mit einem Mittenabstand der Zuleitungen von 15 cm erhältlich.**

2. Nach Auspacken der Einheit Patronengarnitur Nr. 1 entfernen. (Nr. 3 von Nr. 4 unten lösen und entfernen, Nr. 4 von Nr. 1 herunterschieben).



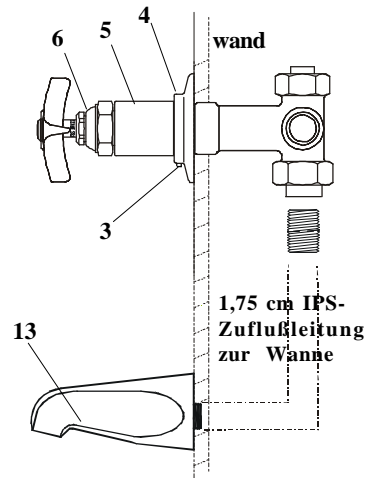
3. Nr. 10 von Nr. 1 entfernen und mit innen aufgerauhtem Rohr (1,25 cm Eisenrohr mit Innengewinde) unter Verwendung von Teflonband oder Rohrdichtungsmasse verbinden.



4. Nr. 1 mit Nr. 10 und den Zuflußrohren verbinden; mit Schraubenschlüssel festziehen.

5. Nr. 5 ersetzen und Nr. 4 ersetzen und dann sicherstellen, daß Nr. 4 glatt an der Wand anliegt.

6. Nr. 6 ersetzen, Nr. 7, Nr. 8 und Nr. 9 befestigen.



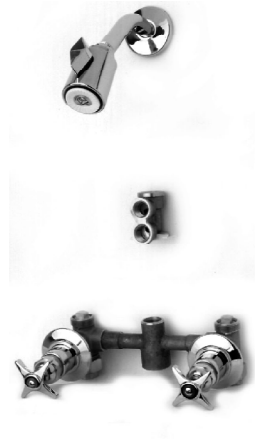
7. Nr. 13 mit dem Ausflußrohr unter Verwendung von Teflonband und Rohrdichtungsmasse verbinden. Sicherstellen, daß Nr. 13 glatt an der Wand anliegt.

8. Wasserzulauf andrehen und auf Dichtigkeit prüfen.

## RELATED T&S BRASS PRODUCT LINE



**B-1030  
Concealed By-  
Pass Mixing  
Valve**



**B-1065  
Combination  
Bath and  
Shower Fitting**



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## T&S BRASS AND BRONZE WORKS, INC.

A firm commitment to application-engineered plumbing products

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Travelers Rest, SC 29690

Phone: (864) 834-4102  
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E-mail: [tsbrass@tsbrass.com](mailto:tsbrass@tsbrass.com)

T & S Brass-Europe  
'De Veenhoeve'  
Oude Nieuwveenseweg 84  
2441 CW Nieuwveen  
The Netherlands







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*T&S Brass and Bronze Works, Inc.  
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Some states do not allow limitations on how long and implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. Specific rights under this warranty and other rights vary from state to state.

P/N: 098-009549-45 Rev.6  
Date: 01-08-08  
Drawn: TEH  
Checked: GEF 01-08-08  
Approved: JHB 01-08-08

# Installation and Maintenance Instructions



## ATMOSPHERIC VACUUM BREAKERS

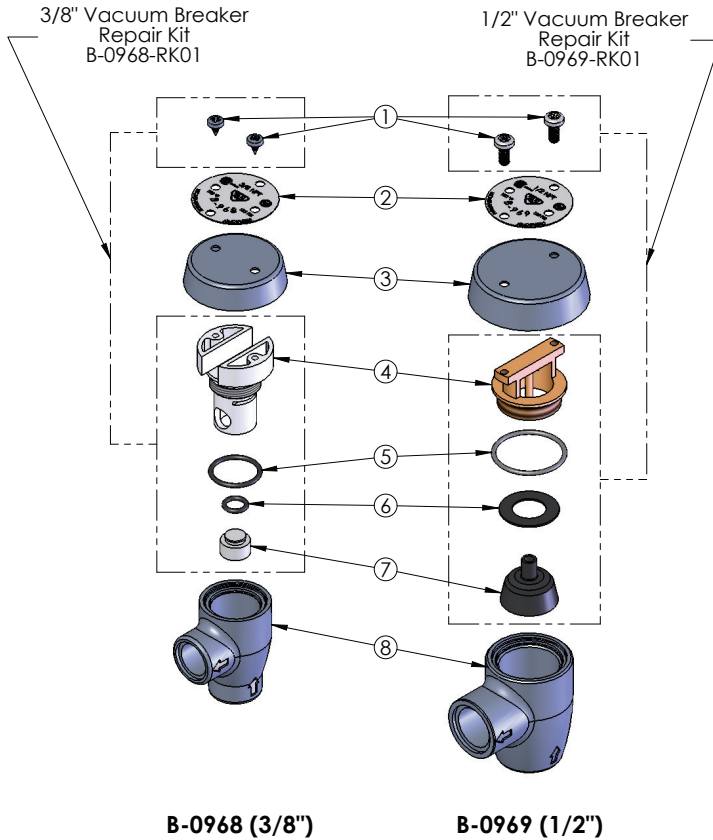
**B-0968 & B-0968-RK01 (3/8")**  
**B-0969 & B-0969-RK01 (1/2")**

**Deutsch: Installations- und  
Wartungsanleitungen**

**Español: la Instalación y las In-  
strucciones de Man-  
tenimiento**

**Français: les Instructions  
d'Installation et  
d'Entretien**

# Exploded View



\* Some items are listed for instructional purposes and may not be sold as separate parts.

# Part Number Guide

## ***B-0968 Vacuum Breaker Assemblies & Kit***

1	(*) Screws	*
2	Nameplate	*
3	Coverplate	*
4	(*) Insert	*
5	(*) Large O-Ring	*
6	(*) Small O-Ring	*
7	(*) Piston	*
8	Body, Vacuum Breaker 3/8"	*

(\*) Indicates those items that are included in the **B-0968-RK01** Vacuum Breaker Repair Kit

## ***B-0969 Vacuum Breaker Assemblies & Kit***

1	(*) Screws	*
2	Nameplate	*
3	Coverplate	*
4	(*) Insert	*
5	(*) O-Ring	*
6	(*) Sealing Disk	*
7	(*) Piston	*
8	Body, Vacuum Breaker 1/2"	*

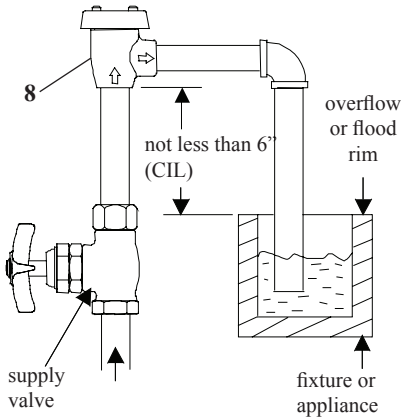
(\*) Indicates those items that are included in the **B-0969-RK01** Vacuum Breaker Repair Kit

# General Instructions

## Typical Installation:

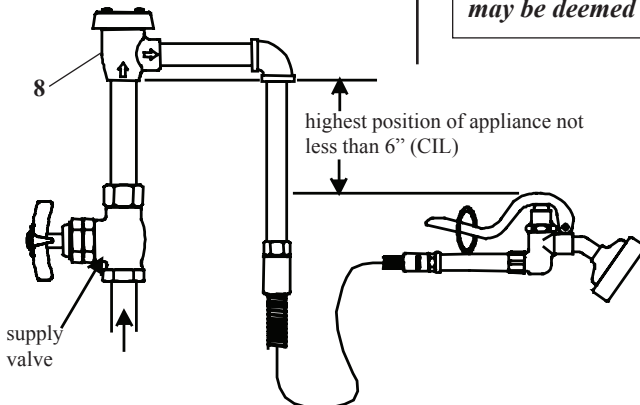
### Single Vacuum Breaker

1. Vacuum breaker must be installed with the supply connected to the bottom and the outlet connected to the appliance, as shown below:



2. The bottom of the no.8 should be at least 6" above the flood rim of the fixture or appliance.

3. When using a portable appliance, no.8 should be installed at least 6" above the highest point to which the outlet can be raised, as shown:



*Note: Where the device is a separate unit, in the absence of a Critical Installation Level (CIL) mark, the extreme bottom of the no.8 casting should be used to determine its installed position. Where the device is incorporated in an outlet tube furnished by the manufacturer, the extreme bottom of the internal unit should be noted on the outside of the tube by a CIL line, for use in determining its installed position.*

4. The water supply valve must be installed on the supply side (ahead) of the vacuum breaker, and no shut-off valve should be installed on the outlet side (downstream).

5. The vacuum breaker should not be subjected to continuous pressure for more than twelve (12) hours.

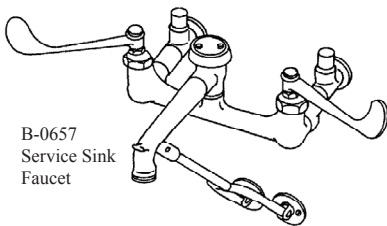
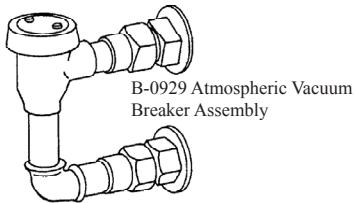
*Note: This device should not be installed in a concealed or inaccessible location, nor where the venting water from the device during its normal functioning may be deemed objectionable.*

# General Instructions

## Typical Installation:

Follow the instructions in the Single Vacuum Breaker section, step 1 thru step 5.

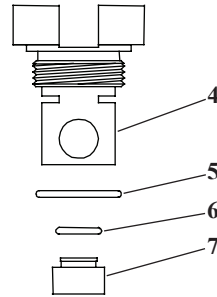
Two typical T&S unit installations will look as follows:



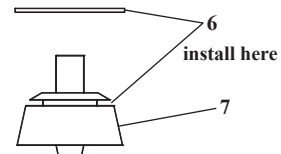
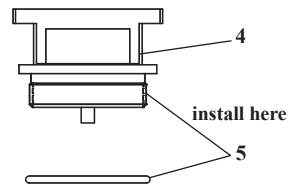
## Repair Kit:

1. For replacement parts, reorder complete unit, or replace internal parts with a Vacuum Breaker repair kit.
2. (See exploded view on sheet 2) Remove the two no.1 from top of no.2, and lift off no.2 and no.3.
3. Unscrew and remove no.4, no.5, no.6 and no.7 from inside no.8.
4. Replace parts with new parts from kit.

B-0968-RK01 (Kit)  
3/8" Vacuum Breaker



B-0969-RK01 (Kit)  
1/2" Vacuum Breaker



5. Reassemble in reverse order.

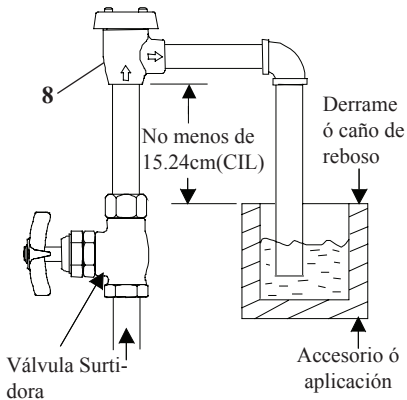
**Note: Make sure surface inside the body is clean, and then tighten no.4 until it is firmly seated against the inside shoulder of no.8.**

# Instruccione Generales

## Instalación Típica:

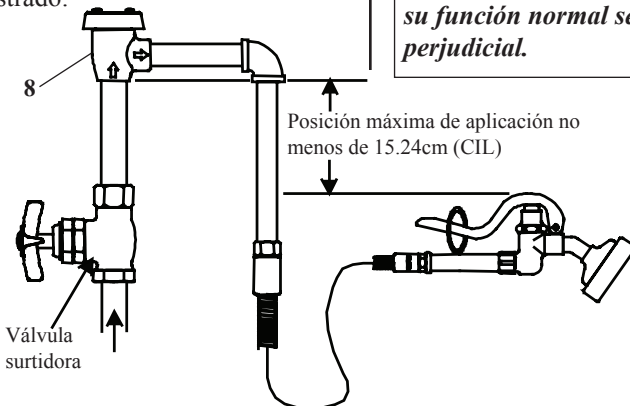
### Anti-sifón singular

1. La válvula anti-sifón tiene que ser instalada, con la fuente surtidora en la parte posterior y la salida conectada a la aplicación, como se muestra abajo:



2. El lado posterior de la parte No.8 debe ser por lo mínimo 15.24cm sobre el caño de reboso del accesorio ó aplicación.

3. Cuando esta utilizando una aplicación portable, No.8 debe ser instalada por lo mínimo 15.24cm sobre el punto más alto en que se pueda levantar la salida, como esta demostrado:



*Nota: Donde el aparato sea una unidad separada, en la ausencia de la marca (CIL) que significa nivel crítico de instalación, el lado extremo posterior de la parte No.8 debe ser utilizado para determinar la posición de instalación. Donde el aparato sea incorporado en un tubo de salida surtido por la factoría, el lado extremo posterior de la unidad interna debe ser señalada en la parte de afuera del tubo por una línea de CIL, para uso en determinar su posición de instalación.*

4. La válvula de surtido tiene que estar instalada en el lado del surtido (adelante) de la válvula anti-sifón y ninguna válvula de detención debe ser instalada en el lado de salida (abajo de la corriente).

5. La válvula anti-sifón no debe ser sometida a presión continua por más de doce (12) horas.

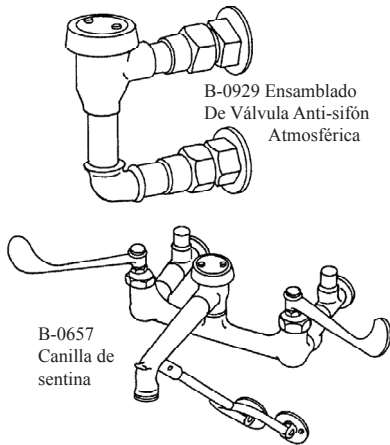
*Nota: Este aparato no debe ser instalado en un sitio escondido o inaccesible, tampoco donde la salida de agua del aparato durante su función normal sea juzgado perjudicial.*

# Instruccione Generales

## Instalación Típica:

Siga las instrucciones en la sección de anti-sifón singular, los pasos del 1 al 5.

Dos instalaciones de unidades típicas de T&S se verán como lo siguiente:



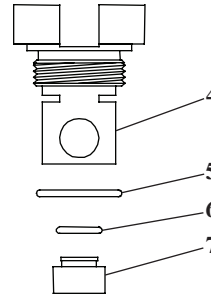
## Instrucciones Para Estuches De Reparación:

1. Para reposito, ordene una unidad completa ó reemplace partes internas con un estuche de reparos anti-sifón.
2. (Mire el dibujo amplificado). Remueva las dos partes, No.1 de la parte de encima de la parte No.2, y alze las partes No.2 y No.3.

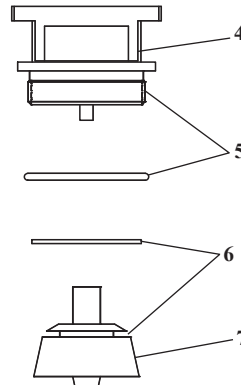
3. Destornille y remueva las partes No.4, No.5, No.6 y No.7 del interior de la parte No.8.

4. Reemplace con partes nuevas del estuche de reparo.

B-0968-RK01 3/8"



B-0969-RK01 1/2"



5. Arme de nuevo en orden reversa.

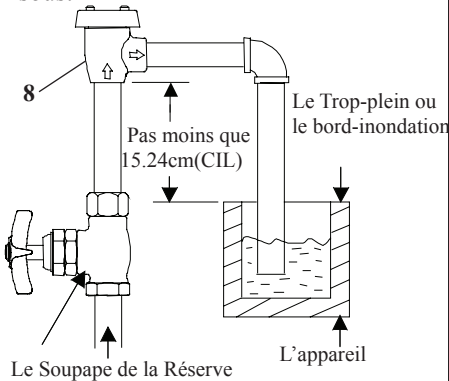
**Nota: Asegúrese que la superficie dentro del cuerpo esté limpia y aprete la parte No.4 hasta que aciente firmemente contra el sostén interno de la parte No.8.**

# Instructions Générales

## L'Installation Typique:

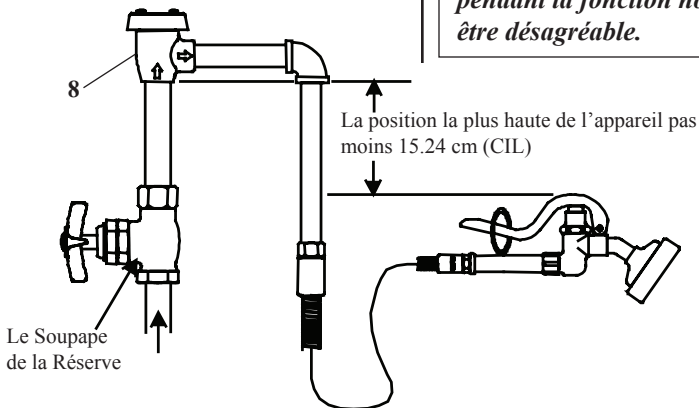
### La Vanne-Caisse-Vide

1. La vanne-caisse-vide doit être installée avec l'alimentation branchée au fond et la sortie branchée à l'appareil comme indiqué au-dessous:



2. Le fond de N° 8 doit être au moins 15,24 cm au-dessus du bord d'inondation de l'appareil.

3. Quand on utilise un appareil portatif, N° 8 doit être installé au moins 15,24 cm au-dessus du point le plus haut qu'on peut lever la sortie, comme indiqué.



*Noter: Si le dispositif est un élément séparé, avec l'absence d'une ligne du Niveau de L'Installation Critique (CIL), le fond extrême de la coulée de N°8 doit être utilisé pour déterminer sa position installée. Si le dispositif est incorporé dans un tube de sortie fourni par le fabricant, le fond extrême de l'élément interne doit être noté à l'extérieur du tube par une ligne CIL, pour déterminer sa position installée.*

4. Le soupape de la réserve de l'eau doit être installé au côté d'alimentation (juste devant) la vanne-caisse-vide, et aucun soupape de sûreté doit être installé au côté de la sortie (en aval).

5. La vanne-caisse-vide ne doit pas être soumise à la pression continue plus de douze (12) heures.

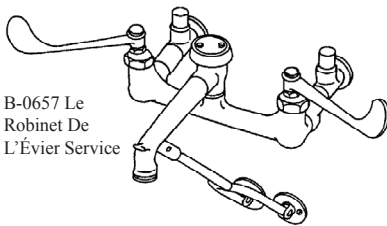
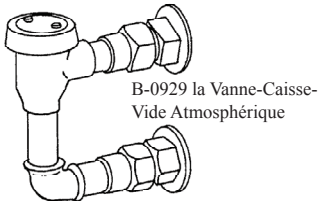
*Noter: Le dispositif ne doit pas être installé ni dans un emplacement caché ou inaccessible, ni où le déchargement de l'eau du dispositif pendant la fonction normale aller être désagréable.*



# Instructions Générales

## L'Installation Typique:

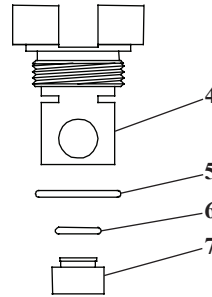
Suivre les instructions dans la section de la vanne-caisse-vide, de l'étape 1 jusqu'à l'étape 5. Deux installations typiques des éléments de T&S aller avoir l'aspect comme indiqué au-dessous:



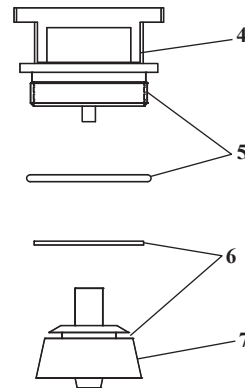
## La Trousse À Outils:

1. Pour des pièces de remplacement, commander à nouveau l'unité complète ou remplacez les pièces internes par le kit de réparation de briseur de vide.
2. (Voir la vue-explosé indiqué au-dessous.) Enlever les deux N°.1 du haut de N°.2, et lever N°.2 et N°.3.
3. Dévisser et enlever N°.4 N°.5, N°.6 et N°.7 de l'intérieur de N°.8.
4. Remplacer les parties avec les parties nouvelles de la trousses.

B-0968-RK01  
(Trousse) 0,96 cm



B-0969-RK01 1/2"



5. Réassembler a l'inverse.

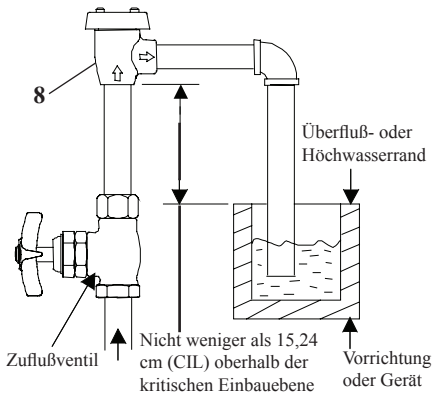
*Noter: Soyez certain que la surface de l'intérieur être propre, et puis resserrer N°.4 jusqu' il est fermement contre l'épaule de l'intérieur de N°.8.*

# Allgemeine Anleitungen

## Normale Installation:

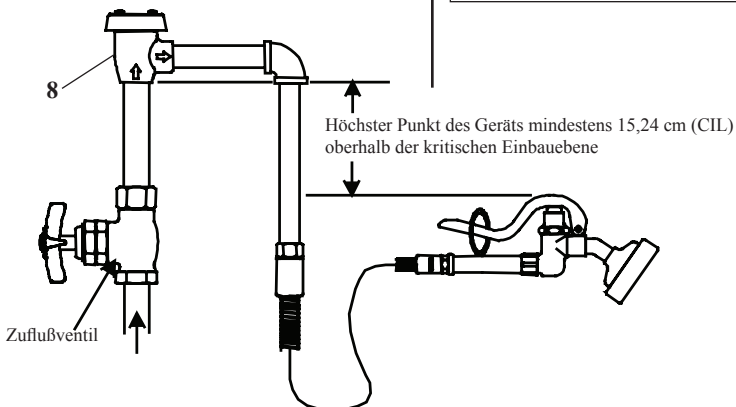
### Einfacher Vakuumschalter

1. Bei der Installation des Vakuumschalters muß die Zuführung wie gezeigt mit dem unteren Ende, und das Ausflußrohr wie gezeigt mit dem Gerät verbunden werden:



2. Das untere Ende von Nr.8 sollte mindestens 15,24 cm über dem Überflußrand der Vorrichtung oder des Geräts liegen.

3. Wenn ein tragbares Gerät verwendet wird, sollte Nr.8 wie gezeigt mindestens 15,24 cm über dem höchsten Punkt, auf den das Ausflußrohr angehoben werden kann, installiert werden.



*Anmerkung: Falls das Gerät eine separate Einheit ist, ist, falls eine kritische Einbauebene fehlt (CIL), nach der Installation der äußerste untere Rand des Gußstückens Nr.8 zur Festlegung seiner Lage zu verwenden. Falls das Gerät Teil eines Ausflußrohrs, das vom Hersteller geliefert wird, ist, ist der äußerste untere Teil der internen Einheit auf der Außenseite des Rohrs durch eine Linie für die kritische Einbauebene zur Bestimmung seiner Lage nach der Installation anzugeben.*

4. Das Wasserzulaufventil muß an der Zulaufseite vor dem Vakuumschalter installiert werden und auf der Ausflußseite (abwärts) sollte kein Absperrventil installiert werden.

5. Der Vakuumschalter darf keinem Dauerdruck von mehr als zwölf (12) Stunden ausgesetzt werden.

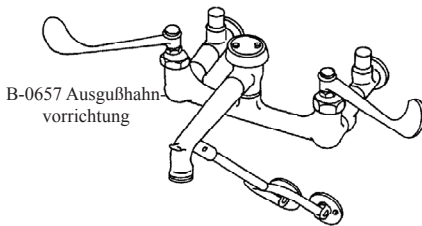
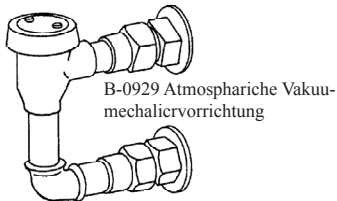
*Anmerkung: Dieses Gerät darf nicht an einer versteckten oder unzugänglichen Stelle oder an einer Stelle, wo das Abfließen von Wasser aus dem Gerät während des normalen Betriebs beanstandet werden könnte, installiert werden.*

# Allgemeine Anleitungen

## Normale Installation:

Die Anleitungen für den einfachen Vakuumschalter, Schritt 1 bis 5, befolgen.

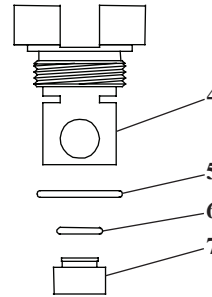
Die Installation von zwei typischen T&S Einheiten sieht wie folgt aus:



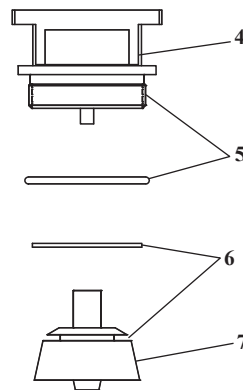
## Instandsetzungssatz:

1. Wenn Ersatzteile benötigt werden, muss die ganze Einheit nachbestellt werden. Alternativ kann auch ein Vakuumschalter Ersatzset bestellt werden, um interne Teile zu ersetzen.
2. (Siehe Darstellung in auseinandergezogener Anordnung oben.) Die beiden Teile Nr.1 von der Oberseite von Nr.2 entfernen und Nr.2 und 3 abheben.
3. Nr.4, 5, 6 und 7 von der Innenseite von Nr.8 losschrauben und entfernen.
4. Teile durch neue Teile des Instandsetzungssatzes ersetzen.

B-0968-RK01 0,96 cm  
(Instandsetzungssatz)



B-0969-RK01 1/2"



5. In umgekehrter Anordnung wieder zusammensetzen.

**Anmerkung:** Sicherstellen, daß die Oberfläche innerhalb des Gehäuses sauber ist, und dann Nr.4 festdrehen, bis der Teil fest gegen die innere Schulter von Nr.8 ansitzt.

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