

The Most Trusted name in Pumps & Meters

**FILL-RITE.**

**Series 700B AC Powered Pumps**



Model FR700B Pump Shown

**Description of Included Models**

Model Number	Description	Shipping Weight
FR700	Heavy Duty AC Utility Pump with manual nozzle and 3/4" X 12' hose.	48lbs 21.3kgs
FR701	Heavy Duty AC Utility Pump with manual nozzle, 3/4" X 12' hose and Model 807C meter installed.	52lbs 23.6kgs

**Safety Listings**

Approval Organization Mark	Organization Description	File Number	Guide Number
	<b>Underwriters Laboratories Inc.</b> , a nationally recognized independent organization for testing of products to ensure public safety. Recognized and accepted in USA, Canada and other countries.	MH7817	RCRX
	Indicates compliance with applicable European standards and the motor is rated as explosion proof under those standards.	N/A	N/A
	<b>Australian Certification Program</b> , Certified under the Australian Certification Program under Aus EX 3620 as Series 700 (230 V, 76 LPM, heavy duty)	N/A	N/A

## Available Options

Option	Description	Adjustment to Shipping Weight (lbs.)	Adjustment to Shipping Weight (kgs.)
A	Upgrade to automatic nozzle from standard manual nozzle.	2.0	0.9
E	Unit supplied with 220 VAC - 50 Hz motor	-	-
G	Unit supplied with 220 VAC - 50/60 Hz motor	-	-
L	Unit equipped with meter registering liters in place of standard gallon meter.	-	-

## Accessories

Part Number	Description
4200F9111	Nozzle Spout Hook (for automatic nozzles)
FRH07512	Buna-N hose 3/4" X 12' with static wire, 3/4" ferrules
1210KTF7019	Hydrosorb filter kit - 1200KTG9075 cast Iron 3/4" adaptor with F810HM0 filter
6U075	Manual unleaded nozzle with 3/4" inlet
NO75UAV10	Automatic unleaded nozzle with 3/4" inlet
700F2170	2" O.D. X 1" I.D. tank adapter
700KTF8598	Automatic nozzle retainer kit
712KTF9114	Universal nozzle boot & nozzle retainer, mounting plate to be attached to FR700B or FR701B pump, LESS vapor hose, vapor nozzle, valve & fittings
TH13	Pedestal Kit - Base, pedestal column & coupler for 1" pipe, less suction pipe and union
1200KTF7018	Particulate Filter Kit - 1200KTG9075 cast iron 3/4" adapter with F180PM0 filter
700KTF7024	Hydrosorb Filter Kit - 1200KTG9075 cast iron 3/4" adapter with F180PM0 filter for Model FR700
F180PC1	Clear Bowl, 10 micron particulate filter w/ drain valve
F1810PM1	Metal canister 10 Micron particulate filter w/ drain valve. Fits 1200KTG9075 filter head

## Performance

Maximum outlet pressure	20 PSI (1.52 BAR)
Maximum flow rate (1)	20 GPM (75.7 LPM)
Maximum Recommended Viscosity of Pumped Fluid	Diesel Fuel

<b>Maximum ambient operating temperature</b>	150 °F (66 °C)*
<b>Minimum ambient operating temperature</b>	-15 °F (-26 °C)*
<b>Minimum Dry Vacuum</b>	12 Inches of mercury
<b>Minimum Suction Lift**</b>	15 Feet for Diesel. For gasoline see below.***

1 Nominal flow rate at nominal voltage using a standard hose and manual nozzle with low viscosity fluid.

\* Consult factory for extreme temperature applications outside this range.

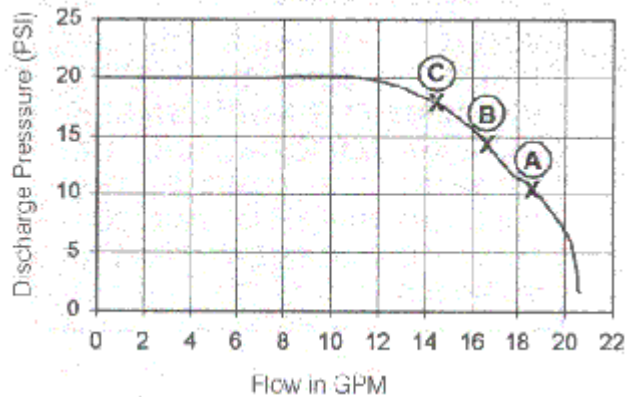
\*\* The lift in feet is equivalent to the vertical distance from the surface of the fluid in the tank to the inlet of the pump, PLUS the friction losses through the vertical and horizontal runs of pipe, all elbows and other fittings. The system should be designed to require a minimum amount of suction lift.

## Flow Curve

A. FR700 with 3/4" X 12' hose and manual nozzle.

B. FR701 with 3/4" X 12' hose, manual nozzle and 900 meter.

C. FR701 with 12' of 3/4" hose and automatic nozzle.



Nominal flow curve based on 3 feet suction lift. Actual flow rates obtained may vary.

## Fluid Compatibility

**The 700B Series pumps are compatible with the following fluids:**

Diesel, Gasoline, Kerosene, Mineral Spirits, Heptane, and Hexane.

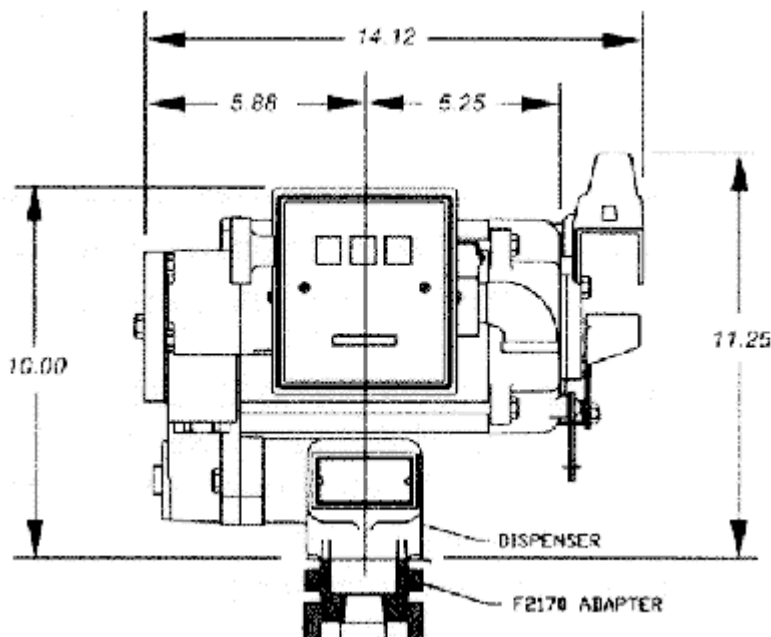
**The 700B Series pumps are NOT compatible with the following fluids:**

Acetone, Ammonia, Benzene, Bleach, Hydrochloric Acid, Water, Ink, Tolulene, Aviation Gas, Jet Fuel

If in doubt about the compatibility of a specific fluid, contact the supplier of the fluid to check for any adverse reaction to the following wetted materials.

Cast Iron	Steel	Stainless Steel
Bronze/Iron	Carbon	Polyester
Spauldite	Fluorocarbon	Buna N
Zinc Plated Steel	Ceramic	Aluminum
PPS (FR701B only)		

## Dimensions



## Repair

Refer to Owner's Operation & Safety Manual shipped with the pump and/or available for reference and printing in the eLibrary

Motors that need repair should be taken to an authorized repair shop for service. Pumps must be thoroughly flushed and drained before being taken in for service.

## Maintenance

To keep the pump running at its best, periodically perform the following procedures:

1. Check strainer for dirt accumulation. To clean strainer, remove strainer cover (800F4360) and pull out screen (700F2665).
2. Remove rotor cover (700G7063) and inspect vanes (700F2716). Vanes should be replaced after extensive wear to prevent damage to pump.
3. Check hose (700F3135) and nozzle (6U075) for wear or damage. Bad hoses or nozzles are potential safety hazards.

**For FR701 see meter's Owner's Operation & Safety Manual for additional recommended maintenance procedures.**

## Frequently Asked Questions

### 1. My pump only pumps for a few minutes and then stops. What is happening?

Generally "short cycling" indicates the motor is drawing too much current from the power source for some reason, and the thermal relay is opening to protect the insulation from the resulting heat build up. If this is what is happening, the thermal relay will reset after 10 to 20 minutes and the motor will again operate. The causes of high current are many. The pump is designed for low viscosity fluid, like diesel or gasoline, and will overheat if used to pump oil or other higher viscosity fluids. The inlet filter screen could be clogged. Bearings could be defective resulting in a drag on the armature shaft rotation.

See the Troubleshooting Guide in your Owner's Manual packed with your unit or the copy available in the eLibrary for things to check.

### 2. There is fluid leaking out of the small hole in the bottom of the pump body. How do I stop it?

This small hole is described as the "weep hole" and is positioned to drain fluid that has leaked passed the dynamic seal between the pump and the motor. It is important that the leak be corrected as soon as possible to avoid damage to the front motor bearing. A new shaft seal will be needed to stop the leak.

See the Troubleshooting Guide in your Owner's Manual packed with your unit or the copy available in the eLibrary for things to check.

### 3. What can I do to avoid my pump losing prime when it sets for a time?

Maintaining "prime" or keeping fluid in the inlet piping of your pumping system requires that no air leak into that piping. You can depend on there being a check valve in your pump preventing air from entering your system through the nozzle, should it be opened while the pump is off. If your pump is consistently losing prime, check all joints and fittings paying particular attention to the suction tube to pump connection, and the various covers and plugs in the pump itself. Teflon® type sealing tape or a sealing compound noted as resistant to fuels is recommended at all threaded pipe connections.

### 4. When it gets hot outside my pump will not pump gasoline but my diesel pump works great, what is going on?

A suction pump works by developing a vacuum above the fluid being pumped and depends on atmospheric pressure to force the fluid into that vacuum. The higher the fluid is being raised, the more vacuum is required. If the fluid turns to a gas at a lower vacuum than that required to raise the fluid out of the container, the system is said to be vapor locked. In other words, rather than enough vacuum being developed by the pump to raise the fluid, the pump is instead vaporizing the gasoline and only gas vapor is being pumped. Diesel has a very low vapor pressure at even relatively high temperatures so there is no danger of vapor locking at practical temperatures. Gasoline is blended to have different vapor pressures to aid in winter starting (high vapor pressure) or avoid vapor locking in the summer (lower vapor pressure). The unit of measure used in the industry for this characteristic is Reid's Vapor Pressure. Having winter gas (high Reid's Vapor Pressure), still available in your tank in a hot spring, is a common cause of vapor locking pumps.

Once the situation exists, there are a limited number of options. Decrease the "lift" needed to raise the gasoline by filling the tank to the top is the easiest and quickest. This has the added benefit of mixing in a new blend of gasoline with a lower vapor pressure which will average the blended Reid's Vapor Pressure down. Another option is to decrease the temperature by shading and/or cooling the piping and pump in some fashion. In an emergency spraying water on the piping could drop the system temperature sufficiently to allow gasoline to be pumped. **Use extreme caution when spraying water around electrical connections and components to avoid the shock hazard.**

In new systems make sure the suction pump is installed at the lowest position possible as that decreases the lift, and always install the pump and piping out of the hot sun if at all possible. Know what the Reid's Vapor pressure is of the gasoline you buy. Your supplier has, or can get, that characteristic of the gasoline for you. The Reid's vapor pressure should be 9 to 8, or lower, in the summer and 11 to 12 in the winter.

# FILL-RITE®

## SERIES 700V 115 and 230 VOLT AC FUEL TRANSFER PUMP Owner's Operation & Safety Manual Models FR700V, FR701V

### SAFETY INSTRUCTIONS

To ensure safe and efficient operation, it is essential to read and follow each of these warnings and precautions.

1. Improper use or installation of this product can cause serious bodily injury or death.
2. Do NOT smoke near pump or use pump near an open flame when pumping flammable fluids. Fire could result.
3. A Fill-Rite filter should be used on pump outlet to ensure that no foreign material is transferred to fuel tank.
4. Use gasoline and oil resistant thread sealant or sealant tape on all threaded joints to protect against leakage.
5. Storage tank should be anchored to prevent tipping in both the full and empty conditions.
6. To minimize static electricity buildup, only use static wire, conductive hose when pumping flammable fluids and keep nozzle in contact with container being filled.
7. The pump motor is equipped with thermal overload protection. If overheated, it will shut off without any damage to the windings. Be sure to turn off the pump power if this occurs. When the motor cools, it will restart without warning if power is on.
8. Take motors needing service to an authorized repair shop to maintain "explosion proof" and "rain proof" integrity.

### DANGER

Electrical wiring should be done by a licensed electrician in compliance with local, state and national electric code NEC/ANSI/NFPA 70, NFPA 30, NFPA 30A, as appropriate to the intended use of the pump. Threaded rigid conduit, seal fittings and conductor seal should be used. Pump should be properly grounded. Improper use or installation of this product can cause serious bodily injury or death.

### WARNING

This product should not be used for fluid transfer into aircraft. This product is not suited for use with fluids for human consumption or fluids containing water.

### INSTALLATION

#### GENERAL

Pumps are furnished with a tank adapter for skid tank mounting; pedestals are available for island installations. All tanks must be properly vented. A pressure retaining vent/fill cap can be used to reduce fuel loss due to evaporation but will reduce flow rate. Fill-Rite filters are recommended when pumping fuels. Pump has a built-in check valve with pressure relief to prevent fluid thermal expansion from causing unsafe system pressures. **Do not use additional check valves or foot valves unless they have a proper pressure relief valve built into them.** Additional check valves will reduce flow rate. Use a gasoline and oil resistant pipe sealant on all pipe threads to protect against leaks.

#### SKID TANK MOUNTING

1. Cut a 1 1/4" pipe that will extend to at least 3" above bottom of tank when screwed into tank adapter and tank adapter is screwed into tank flange.

2. Screw pipe into tank adapter, then screw tank adapter into tank flange.
3. Mount pump on tank adapter.

#### DIRECT MOUNTING TO UNDERGROUND TANK

1. Cut and thread both ends of a 2" pipe that will extend about 31" above the ground when installed in tank flange.
2. Install this pipe in tank flange. Screw 2" standard pipe coupling onto top of pipe.
3. Cut a 1 1/4" pipe that will extend to at least 3" above bottom of tank when screwed into tank adapter and tank adapter is screwed into 2" coupling.
4. Screw this pipe into tank adapter, then screw tank adapter into 2" coupling.
5. Mount pump on tank adapter.

#### ISLAND INSTALLATION

1. Install tank and piping per illustration.
2. The threaded 1 1/4" suction pipe is to extend 32-1/2" above island.
3. Remove coupler from pedestal pipe by loosening set screws.
4. Slip pedestal pipe/pump base assembly over suction pipe.
5. Loosen screws in pump base to allow pedestal pipe to slide down exposing end of suction pipe.
6. Screw coupler onto suction pipe.
7. Slide pedestal pipe into coupler, tighten set screws. Tighten screws in pump base.
8. Mount pump on coupler.

#### ELECTRICAL

1. Install pump. Read and understand all the electrical wiring instructions before proceeding.
  2. Remove pump's electrical junction box cover and straighten the wires to make the stripped wire ends accessible outside of the junction box.
- WARNING: AUX. WIRE IS LIVE WIRE!** The AUX. lead wire is insulated and enclosed when shipped. **Do not** connect this wire without first verifying the 'ON' line voltage of the wire for compatibility to the equipment to be installed. Maximum amperage on wire is 1 ampere. The wire must be insulated and enclosed in the junction box if not used.
3. Power to the unit should be supplied from a dedicated 20 amp circuit breaker. No other equipment should be powered from this breaker. Threaded rigid conduit, seal fittings and conductor seal should be used. Provisions must be made to break both legs of any AC circuit. Connect like colored pump wires to supply wires. Ground wire must be connected.
  4. Fold wires into junction box and replace cover making sure that gasket is in place. Make sure screws are seated so there is no space between the cover and the junction box.

### OPERATING INSTRUCTIONS

1. Reset meter to 0 (if applicable).
2. Remove nozzle from nozzle boot and move switch lever up. This will turn the pump on.
3. Insert nozzle into container to be filled. To minimize static electricity buildup, keep nozzle in contact with container.
4. Operate nozzle lever to dispense fluid.
5. When desired amount of fluid has been dispensed, release nozzle lever, remove nozzle from container, move switch lever to down position to turn off pump, replace nozzle in boot.

### TROUBLESHOOTING

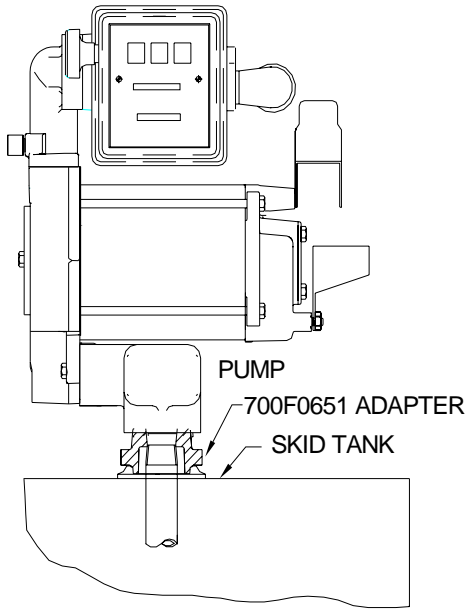
**IF PUMP FAILS TO PRIME:** Check suction line for leaks or obstructions.

Check bypass valve for dirt. The bypass poppet should slide freely.

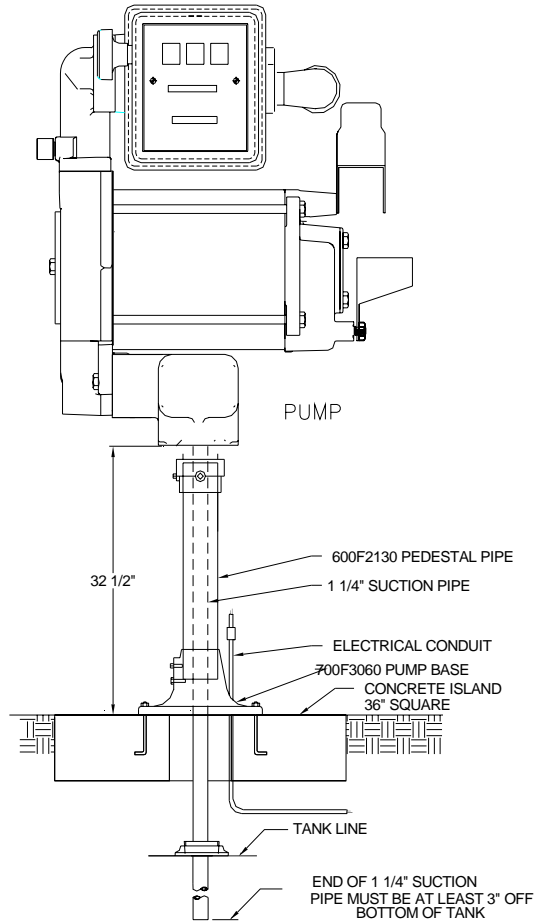
**PUMP WILL NOT START:** If motor hums but will not start, a probable cause is a stuck rotor. Remove rotor cover; check rotor and vanes for dirt. Also have an electrician check the electrical power to the pump.

**LOW PUMPING CAPACITY:** Strainer screen clogged; bypass valve not seated properly; obstruction in suction lines. Make sure all 8 vanes slide easily in the rotor slots.

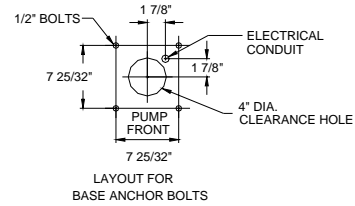
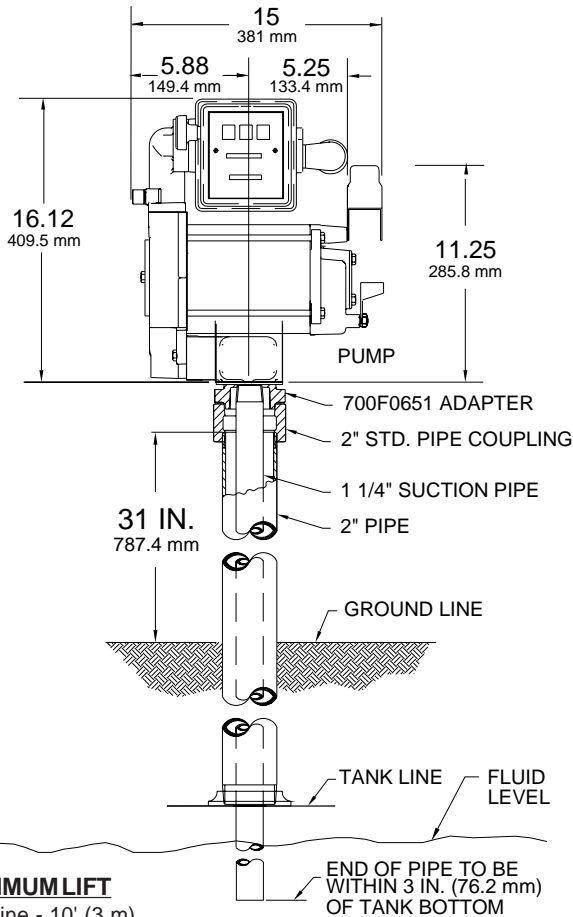
## SKID TANK INSTALLATION



## RECOMMENDED ISLAND INSTALLATION



## DIRECT MOUNTING INSTALLATION



### MAXIMUM LIFT

Gasoline - 10' (3 m)  
Diesel - 15' (4.5 m)

-Models FR700V: 12" (305 mm) Front to back (side)  
-Models FR701V: 14" (356 mm) Front to back (side)

## 700V SERIES PUMP PARTS LIST

ITM. NO.	PART NO.	DESCRIPTION	QTY.
1	700F2683	Motor - 115V, 60 Hz	1
2	700F2697	Motor - 220V, 50/60 Hz	Opt.
	1200F3170	Line Switch	1
		(Included w/items 1 & 2)	
	700F3149	Switch Shaft Assy.	1
		(Included w/items 1 & 2)	
3	700H0126	Pump Housing	1
		(Included w/items 1 & 2)	
4	704F3700	3/8-16 x 1.00 HHCS	4
5	700F2754	Fiber Seal Slinger	1
6	300KTH0034	Seal Assembly	1
7	700H0640	1/4-20 0.625 HWHMS Zinc Thread	4
8	702F3400	Street Elbow	1
9	700G8380	Rotor	1
10	700F3131	Rotor Key	1
11	700H0534	Vane 700 Molded Carbon Epoxy	8
12	700H0928	Anti-Siphon Valve Assembly	1
14	700F2661	Check Valve Assy.	1
15	1200F6576	O-Ring (included with item 12)	1
16	1200F6455	O-Ring Gasket (Buna -121)	1
17	300F7743	O-Ring Gasket (Buna -236)	1
18	700G7063	Rotor Cover	1
19	300G7296	3/8-16 x .75 HHCS	2
20	700F2762	Poppet	1

ITM. NO.	PART NO.	DESCRIPTION	QTY.
21	700F2775	Bypass Spring	1
22	1200F6464	Bypass Cap	1
23	800F4360	Strainer Cover	1
24	800F4380	O-Ring Gasket (Buna -131)	1
25	700F2665	Strainer	1
26	700H0676	O-Ring Fluorocarbon (-030)	1
27	300F7744	O-Ring Gasket (Buna -224)	1
28	700F2652	Inlet Housing	1
29	807CMK	Meter Gallon	1
31	600F2220	5/16-18 x .625 HHCS	2
32	700G9000	Junction Box Cover	1
32a	700G9066	Junction Box Gasket	1
33	700H0131	Meter Flange	1
34	700F2950	5/16-18 Lock Nut	1
35	700F6680	Switch Lever	1
36	700F1950	#14 x 5/8 Drive Screw	1
37	700F6814	Locking Link	1
38	5200F1440	1/4 Spring Washer	1
39	700F6673	Nozzle Cover	1
40	700F2800	O-Ring Gasket (Buna -218)	1
42	704F3640	Screw 0.313 18 1.250 HHCS	2
43	700F3135	12' UL Listed Hose	1
44a	6U075	Nozzle Manual .75 Inlet	1
44b	N075UAU10	3/4" Automatic Nozzle	Opt.
45	700F0651	Tank Adapter	1
46	700H0128	Outlet Flange	1
	700KTF2659	700V Repair Kit (Includes items 6, 9, 10, 11, 16, 17, 20, 24, 27, & 40)	

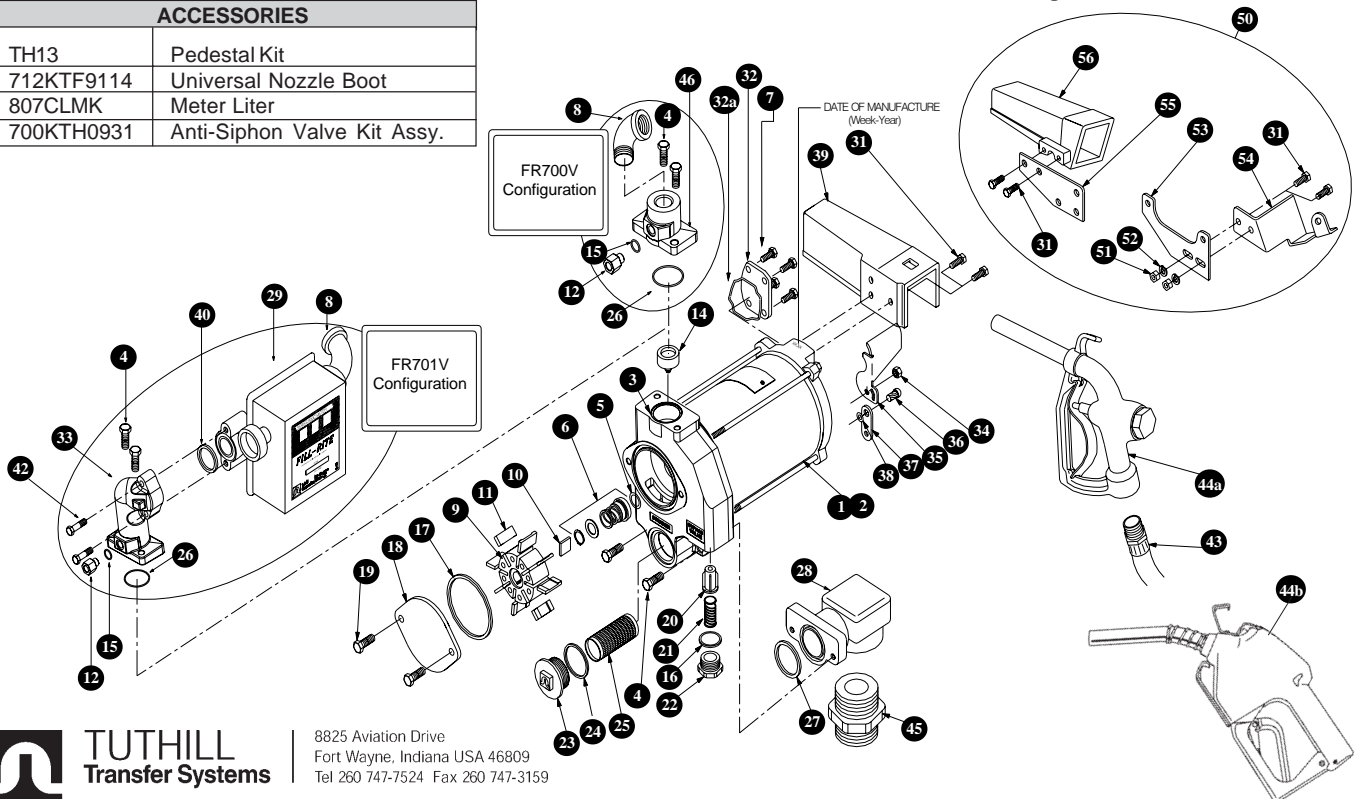
### MODELS WITH AUTOMATIC NOZZLE RETAINER

50	700KTF8598	Auto-Nozzle Retainer Kit (includes items 31, 51, 52, 53, 54, 55, 56)	Opt.
51	704F3680	5/16-18 Hex Nut	2
52	704F3690	5/16 Lockwasher	2
53	700F8518	Retainer Bracket	1
54	300F7759	Nozzle Retainer	1
55	300F8520	Cover Bracket	1
56	300F7764	Nozzle Cover	1

### ACCESSORIES

TH13	Pedestal Kit
712KTF9114	Universal Nozzle Boot
807CLMK	Meter Liter
700KTH0931	Anti-Siphon Valve Kit Assy.

\*\*For more information go to [www.fillrite.com](http://www.fillrite.com)

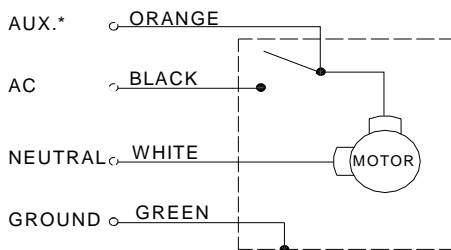


8825 Aviation Drive  
Fort Wayne, Indiana USA 46809  
Tel 260 747-7524 Fax 260 747-3159

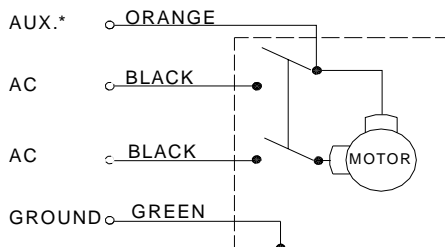
[www.tuthill.com](http://www.tuthill.com)

TROUBLESHOOTING		
PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump w on't prime	1. Suction line problem 2. Bypass valve open 3. Vanes sticking 4. Gasket leakage 5. Excessive rotor or vane wear 6. Outlet blocked 7. Vapor Lock	Check for leaks in suction line Remove and inspect valve; must move freely & be free of debris Check vanes and slots for nicks, burrs and wear Tighten covers and joints Check rotor & vanes for excessive wear or damage Check pump outlet, hose, nozzle & filter for blockage Reduce vertical and horizontal distance from pump to liquid; Remove automatic nozzle
Pump hums but will not operate	1. Dirt in pump cavity 2. Motor failure 3. Broken key	Clean out pump cavity Return to place of purchase Remove all debris & replace key
Low capacity	1. Excessive dirt in screen 2. Suction line problem 3. Bypass valve sticking 4. Vanes sticking 5. Excessive rotor or vane wear 6. Hose or nozzle damage 7. Plugged filter 8. Low fluid level	Remove and clean screen Check suction line for leaks or restrictions; it may be too small, too long or not airtight Remove and inspect valve; must move freely & be free of debris Check vanes and slots for wear Check rotor & vanes for excessive wear or damage Replace hose or nozzle Replace filter Fill tank
Pump runs slowly	1. Incorrect voltage 2. Vanes sticking 3. Wiring problem 4. Motor problem	Check incoming line voltage while pump is running Check vanes and slots for nicks, burrs and wear Check for loose connections Return to place of purchase
Motor stalls	1. Bypass valve sticking 2. Low voltage 3. Excessive rotor or vane wear 4. Debris in pump cavity	Remove and inspect valve; must move freely & be free of debris Check incoming line voltage while pump is running Check rotor & vanes for excessive wear or damage Clean pump cavity
Motor overheats	1. Pumping high viscosity fluids 2. Clogged screen 3. Restricted suction pipe 4. Motor failure 5. Pump rotor lock-up	These fluids can only be pumped for short periods of time (less than 30 minutes duty cycle) Remove and clean screen Remove and clean pipe Return to place of purchase Clean and check pump rotor and vanes
Motor will not turn on	1. No power 2. Switch failure 3. Motor failure 4. Thermal protector failure 5. Incorrect/loose wiring	Check incoming power Return to place of purchase Return to place of purchase Return to place of purchase Check wiring
Fluid leakage	1. Bad o-ring gasket 2. Dirty shaft seal 3. Bad shaft seal 4. Incompatible fluid 5. Loose fasteners	Check all o-ring gaskets Clean seal & seal cavity Replace seal Refer wetted parts list to fluid manufacturer Tighten fasteners

**115 VOLT WIRE DIAGRAM**



**230 VOLT WIRE DIAGRAM**



**WIRE DIAGRAM**

**Series FR700V/FR701V**

**\*WARNING: AUX. WIRE (orange) IS A LIVE WIRE!**  
The AUX. lead wire is insulated and enclosed when shipped. **Do not** connect this wire without first verifying the 'ON' line voltage of the wire for compatibility to the equipment to be installed. Maximum amperage on wire is 1 ampere. The wire must be insulated and enclosed in the junction box if not used.

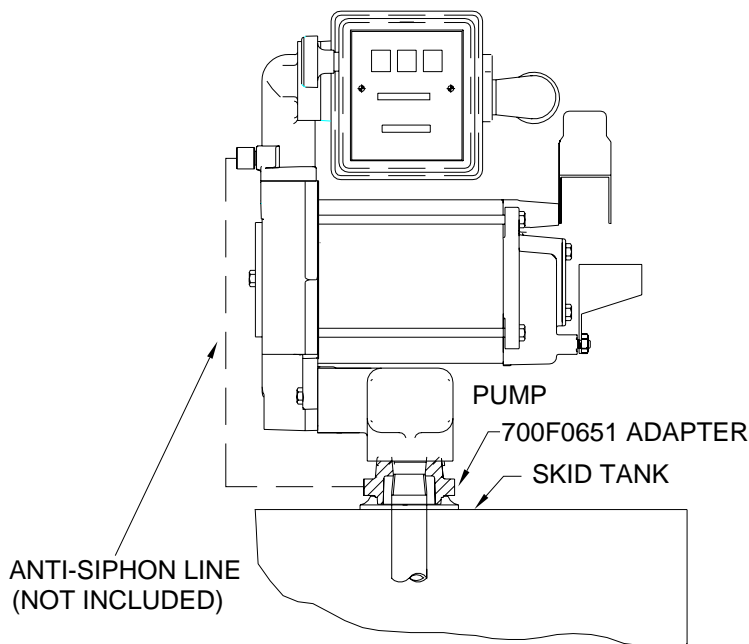
## VACUUM BREAKER

The pumps are shipped with a threaded vacuum breaker installed. Fill-Rite recommends that the vacuum breaker be tubed back to the tank. The vacuum breaker is used to break a siphon should an open nozzle or a leaking hose be below the fluid level in the tank with the pump turned off.

## VACUUM BREAKER TUBING INSTALLATION

The following illustration shows methods of installing tubing for the vacuum breaker that terminates in the vapor space at the top of the tank. The tubing must terminate in the vapor space; if the tubing terminates below the liquid level of the tank, the vacuum breaker will not prevent siphoning. It is also very important that there are no liquid traps in the tubing. The tubing must have a continuous slope from the pump down to the tank. If the pump is installed below the top of the tank, the tubing may slope both ways from a single high point above the tank. Alternately, tubing can be piped to any available opening on top of tank if the tank adapter is not used. Use reducer bushings as required.

Fill-Rite recommends using the vacuum breaker tank adapter with a 1/4 npt opening in the side of the hex portion that terminates in the vapor space of the tank. Install tank adapter per instructions found in this manual. Make liquid tight connection from the adapter to the vacuum breaker using a minimum of 1/4 metal tubing compatible with the liquid being pumped. If a vacuum breaker tank adapter is used and the 1/4 npt opening is not used for the tubing, plug the opening liquid tight.



## PRODUCT WARRANTY

Tuthill Transfer Systems ("Manufacturer") warrants to each consumer buyer of its Fill-Rite products (the "Buyer"), from the date of invoice or sales receipt, that goods of its manufacture ("Goods") will be free from defects of material and workmanship. Duration of this warranty is as follows:

- Heavy Duty Products - Two years
- Standard Duty Products – One year
- Economy Duty Products – One year
- Cabinet pumps, Parts, and Accessories - One year

Manufacturer's sole obligation under the foregoing warranties will be limited to either, at Manufacturers' option, replacing or repairing defective Goods (subject to limitations hereinafter provided) or refunding the purchase price for such Goods theretofore paid by the Buyer, and Buyer's exclusive remedy for breach of any such warranties will be enforcement of such obligations of Manufacturer. If Manufacturer so requests the return of the Goods, the Goods will be redelivered to Manufacturer in accordance with Manufacturer's instructions F.O.B. Factory. The remedies contained herein shall

constitute the sole recourse of the Buyer against Manufacturer for breach of warranty. IN NO EVENT SHALL MANUFACTURER'S LIABILITY ON ANY CLAIM FOR DAMAGES ARISING OUT OF THE MANUFACTURE, SALE, DELIVERY, OR USE OF THE GOODS EXCEED THE PURCHASE PRICE OF THE GOODS. The foregoing warranties will not extend to Goods subjected to misuse, neglect, accident or improper installation or maintenance, or which have been altered or repaired by anyone other than Manufacturer or its authorized representative. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED. No person may vary the foregoing warranties and remedies except in writing signed by a duly authorized officer of Manufacturer. Warranties or remedies that differ from the foregoing shall not otherwise be binding on Manufacturer. The Buyer's acceptance of delivery of the Goods constitutes acceptance of the foregoing warranties and remedies, and all conditions and limitations thereof.

# FILL-RITE®

## SERIES 700V 115 y 230 VOLT AC Bomba para transferencia de combustible

Manual de operación y seguridad  
Los Modelos FR700V, FR701V

### INSTRUCCIONES DE SEGURIDAD

Para asegurar un funcionamiento seguro y eficiente, es esencial leer y seguir cada una de esas advertencias y precauciones:

1. El uso o instalación inadecuado de este producto puede causar lesiones serias o fatales.
2. **NO** fume cerca de la bomba ni use la bomba cerca de una llama. Podría ocurrir un incendio.
3. Se deberá usar un Fill-Rite filtro en la salida de la bomba para asegurarse de que no se transfieren materiales extraños al tanque de combustible.
4. Para protegerlas contra las fugas, use gasolina y un sellador de roscas resistente al aceite, o cinta selladora, en todas las uniones roscadas.
5. El tanque de almacenamiento debe estar bien afirmado para impedir su vuelco en cualquier condición, tanto lleno como vacío.
6. Para aminorar el aumento constante de electricidad, mantenga boquilla en contacto con el contenedor que se está llenando.
7. El motor de la bomba está equipado con una protección contra la sobrecarga térmica. Si se sobrecalienta, se apagará sola sin ningún daño a los bobinados. Asegúrese de cortar la corriente a la bomba si esto ocurriera. A medida que el motor se enfría, arrancará sin advertencia alguna si la corriente está conectada.
8. Lleve los motores que necesiten atención a un taller de reparaciones autorizado o devuélvalo a la fábrica para mantener la integridad "a prueba de explosiones".

### PELIGRO

Provisiones deben de ser hechas para poder interrumpir o apagar cada uno de los circuitos, individualmente todo el alambrado eléctrico debe de ser instalado por un electricista profesional, que este familiarizado con todos los códigos que la ley permita de acuerdo con NEC/ANSI/NFPA 70, NFPA 30, NFPA 30A de acuerdo a las medidas en que la bomba va a ser usada. Todos los accesorios que son empacados con la bomba como, bujes, sellos y conductores deben de ser usados propiamente. El uso o instalación inadecuado de este producto puede causar lesiones serias o fatales.

### ADVERTENCIA

Este producto no debe usarse para transferir líquidos a aeronaves. Este producto no es apto para ser usados con líquidos para consumo humano o líquidos que contengan agua.

### INSTALACIÓN

Las bombas cuentan con un adaptador de depósito para montar sobre depósito móvil; también hay pedestales para instalaciones "Islothe". En todos los depósitos se debe utilizar una cápsulas ventilación. Para reducir la pérdida de combustible, como consecuencia de la evaporación, se puede utilizar una cápsula de ventilación que retenga la presión. La bomba tiene una válvula de retención incorporada con un alivio de presión para prevenir que la expansión térmica del líquido cause presiones peligrosas en el sistema. NO use válvulas de retención adicionales o válvulas de pedalmenos que tengan válvulas de presión adecuadas. Para protegerlas contra las fugas, use gasolina y un sellador de roscas resistente al aceite, o cinta selladora, en todas las uniones roscadas.

#### Montaje patín del depósito.

1. Atornille la porción adecuada del tubo de succión al adaptador para depósito. El tubo de succión puede llegar hasta 51 mm por encima del fondo del depósito.
2. Atornille el adaptador para depósito al depósito.
3. Monte la bomba en el adaptador.

#### Montaje directo para depósito subterráneo.

1. Cortar un tubo de 2" que quede a unos 0,8 m por encima del nivel del suelo después de la instalación. Rosque los dos extremos del tubo.
2. Instale el tubo en la brida del depósito. Atornille el acoplamiento de 2" a la parte superior del tubo. Instale la porción adecuada del tubo de succión en el adaptador.
3. El tubo de succión puede llegar a 76 mm. por encima del fondo del depósito.
4. Atornille el adaptador para depósito en el acoplamiento del tubo de 2".
5. Monte la bomba en el adaptador del depósito.

#### Instalación Islothe

1. Instale el depósito y la tubería según el dibujo.
2. El tubo de aspiración roscado de 3,2 cm (1 1/4") debe extenderse 82,5 cm (32-1/2") por encima de la isla.
3. Quite el acoplador del pedestal tubular, aflojando los tornillos de retención.
4. Deslice el conjunto del pedestal tubular y la base de la bomba, sobre el tubo de aspiración.
5. Afloje los tornillos de la base de la bomba para permitir que el pedestal se deslice hacia abajo, dejando expuesto el extremo del tubo de aspiración.
6. Atornille el acoplador en el tubo de aspiración.
7. Deslice el pedestal en el acoplador, y apriete los tornillos de retención. Apriete los tornillos de la base de la bomba.
8. Monte la bomba en el estándar el tubo emparijar.

#### Eléctrica

1. Instale la bomba. Antes de continuar, lea y comprenda todas las instrucciones de conexión eléctrica.
2. Retire la cubierta de la caja de conexiones eléctricas de la bomba, y enderece los cables para que los extremos pelados de los mismos sean accesibles desde el exterior de la caja de conexiones.  
**¡EL CABLE AUXILIAR ES UN CABLE CON TENSION! El equipo sale de la fábrica con el cable AUX. aislado y encerrado. NO conecte este cable sin verificar primero la tensión de línea del cable en estado ENCENDIDO ('ON'), para asegurar la compatibilidad con el equipo a instalar. La máxima corriente circulante por el cable es 1 ampere. Este cable, si no se utiliza, debe quedar aislado y encerrado en la caja de conexiones.**
3. La alimentación eléctrica para la unidad debe suministrarse a través de un interruptor automático exclusivo de 30 A. No debe alimentarse ningún otro equipo desde ese interruptor. Debe utilizarse un conducto rígido roscado, acopladores sellados y sellador para el conductor. En todos los circuitos de CA debe asegurarse la apertura de sus dos polos. Conecte los cables de la bomba a los cables de alimentación eléctrica, uniendo entre sí los de colores iguales. Debe conectarse el cable de tierra.
4. Doble los cables dentro de la caja de conexiones y vuelva a colocar la cubierta, asegurándose de que la junta esté colocada. Asegúrese de que los tornillos estén asentados, de modo que no haya espacio entre la cubierta y la caja de conexiones.

### INSTRUCCIONES DE FUNCIONAMIENTO

1. Poner el contador a 0 (si es necesario).
2. Retire la boquilla de su envuelta, y mueva la palanca del interruptor hacia arriba. Esto hará funcionar la bomba.
3. Inserte la boquilla en el recipiente a llenar.
4. Haga funcionar la palanca de la boquilla para dispensar el fluido.
5. Cuando haya dispensado la cantidad de fluido deseada, suelte la palanca de la boquilla, retire la boquilla del recipiente, lleve la palanca del interruptor a su posición inferior para desactivar la bomba, y vuelva a colocar la boquilla en su envuelta.

### GUÍA DE DESPERFECTOS

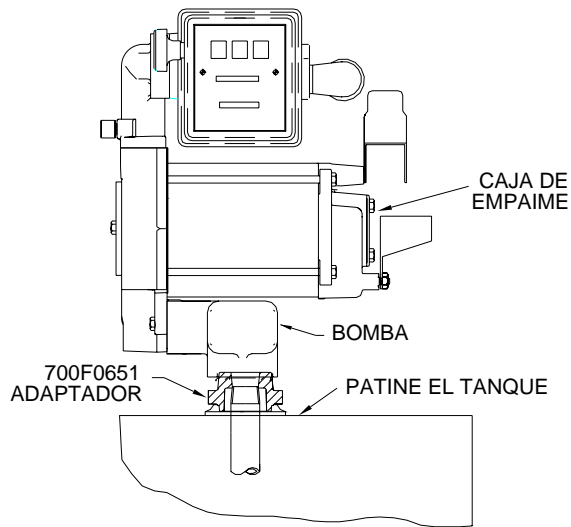
**No se puede cebar la bomba:** Problema en la línea de succión.

Verifique si hay pérdidas en la línea de aspiración. Válvula de desvío abierta. Saque y inspeccione la válvula.

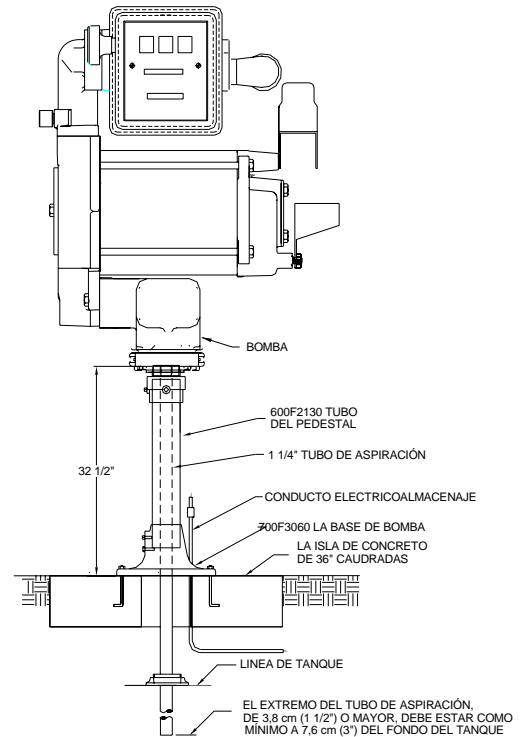
**La bomba suena pero no funciona:** Suciedad en la cavidad de la bomba. Limpie la cavidad de la bomba.

**Baja capacidad:** Excesivo tierra en la rejilla. Saque y limpie la rejilla. Problema en la línea de succión. Inspeccione la línea de aspiración para determinar si hay pérdidas o restricciones. Se pega la válvula de desvío. Saque e inspeccione la válvula.

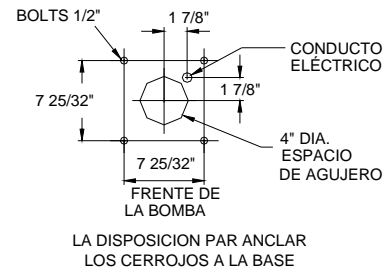
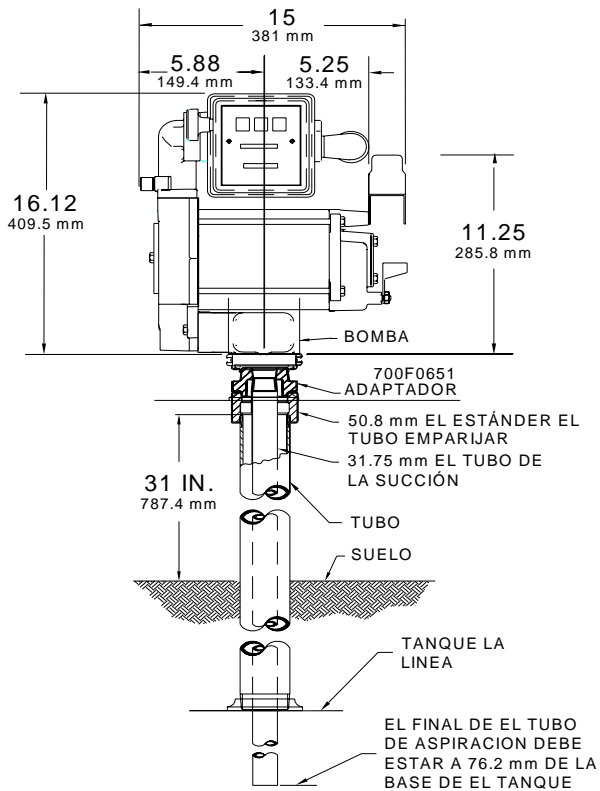
## PATINE la INSTALACION del TANQUE



## MANERA RECOMENDADA DE INSTALACION



## INSTALACIÓN DIRECTA que MONTA



### Ascensor máximo

Gasolina - 10' (3 m)  
Diesel - 15' (4.5 m)

- Los Modelos FR700V: 12" (305 mm) De frente para apoyar (Hacia atrás)
- Los Modelos FR701V: 14" (356 mm) De frente para apoyar (Hacia atrás)

## LISTA DE PIEZAS BOMBA DE SERIE FR700V

ART. NO.	PIEZA NO.	DESCRIPCIÓN	QTY.
1	700F2683	Motor - 115V, 60 Hz	1
2	700F2697	Motor - 220V, 50/60 Hz	Opt.
	1200F3170	Interruptor de línea (Después 7/99)	
		(Incluye con art. 1 & 2)	
	700F3149	Equipo del interruptor del eje	1
		(Incluye con art. 1 & 2)	
3	700H0126	Armazón de la bomba	1
		(Incluye con art. 1 & 2)	
4	704F3700	HHCS 3/8-16 x 1.00"	4
5	700F2754	Slinger junta fibra	1
6	300KTH0034	Equipo de junta	1
7	700H0640	HWHMS 1/4-20 x .625 Zinc	4
8	702F3400	Codo de la calle	1
9	700G8380	Rotor	1
10	700F3131	Cuña Rotor	1
11	700H0534	Paleta - Carbono	8
12	700H0928	Válvula del contra-sifo'n	1
14	700F2661	Equipo de la válvula de sobrepaso	1
15	1200F6576	O-Anillo Incluido con el artículo 12	1
16	1200F6455	O-Anillo+C137 Junta (-121)	1
17	300F7743	O-Anillo Junta (-236)	1
18	700G7063	Tapa del Cover	1
19	300G7296	HHCS 3/8-16 x .75"	2
20	700F2762	Poppet	1

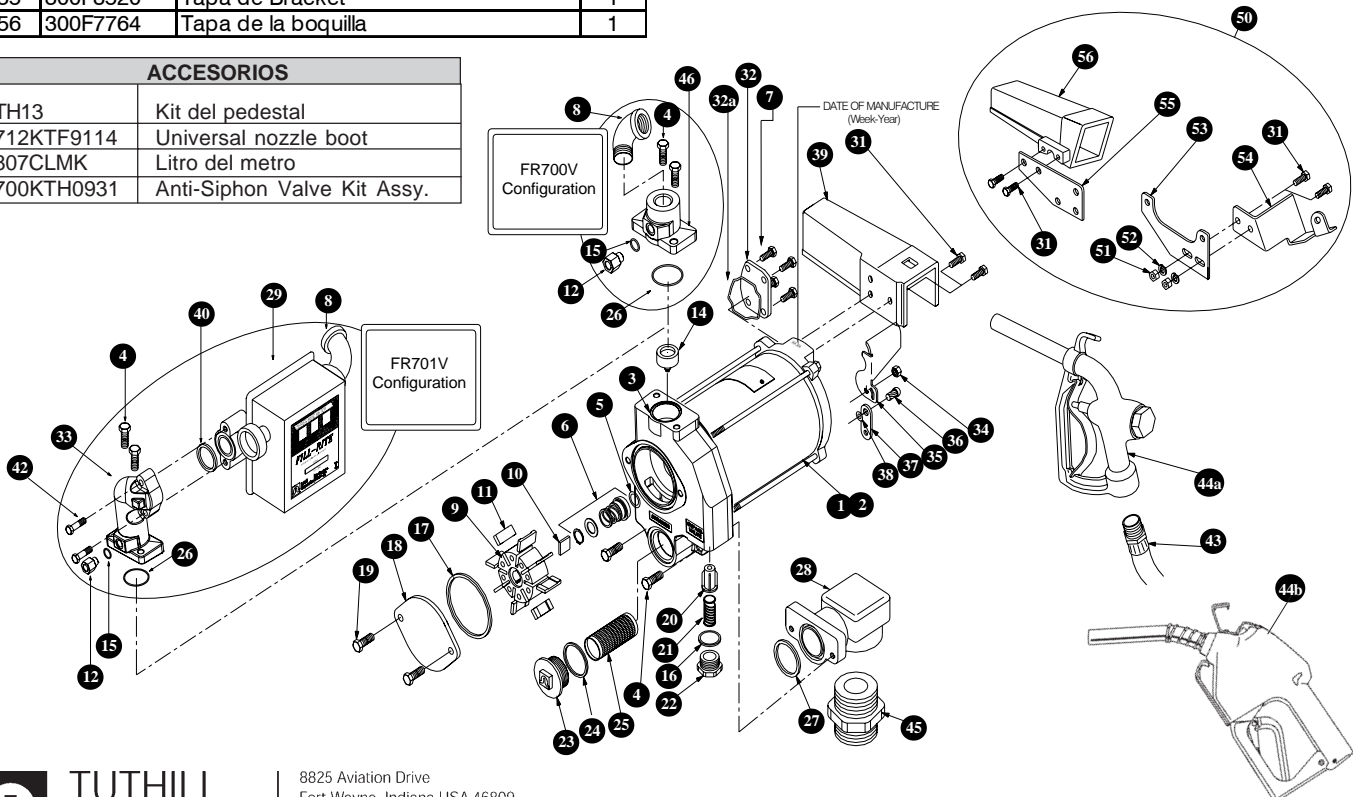
ART. NO.	PIEZA NO.	DESCRIPCIÓN	QTY.
21	700F2775	Resorte de desvío	1
22	1200F6464	Tapa de desvío	1
23	800F4360	Tapa de rejilla	1
24	800F4380	O-Anillo Junta (-131)	1
25	700F2665	Cedazo	1
26	700H0676	O-Anillo fluorocarbon	1
27	300F7744	O-Anillo Junta (-224)	1
28	700F2652	Armazón de entrada	1
29	807CMK	Medidor galon	1
31	600F2220	HHCS 5/16-18 x .625	6
32	700G9000	Tapa de la caja de uniones	1
32a	700G9066	Junta de culata	1
33	700H0131	Medidor reborde	1
34	700F2950	Cerrar tuerca 5/16-18	1
35	700F6680	Palanca del interruptor	1
36	700F1950	Clavar Tornillo #14 x 5/8"	1
37	700F6814	Anillo de traba	1
38	5200F1440	Arandela de resorte 1/4"	1
39	700F6673	Tapa de la boquilla	1
40	700F2800	O-Anillo Junta (-218)	1
42	704F3640	5/16-18 x 1.250 HHCS	2
43	700F3135	Manguera listada por UL de 12 pies	1
44a	6U075	Pistola Manual 3/4"	1
44b	N075UAU10	Pistola automática 3/4"	Opt.
45	700F6651	Tanque Adaptador	1
46	700H0128	Reborde del enchufe	1
	700KTF2659	700V Reparación Piezas Conjunto (Incluye art. 9, 10, 11, 16, 17, 20, 24, 27, 40 & 300KTH0034 Junta Conjunto)	

### MODELOS CON PISTOLA AUTOMÁTICA RETENCIÓN

50	700KTF8598	Pistola automática Iguala Kit (incluye artículo 31, 51, 52, 53, 54, 55, 56)	Opt.
51	704F3680	5/16-18 Hex Nut	2
52	704F3690	Arandela de seguridad de 5/16	2
53	700F8518	Retención el paréntesis	1
54	300F7759	Pistola Retención	1
55	300F8520	Tapa de Bracket	1
56	300F7764	Tapa de la boquilla	1

\*\* Para más información va al [www.fillrite.com](http://www.fillrite.com)

ACCESORIOS	
TH13	Kit del pedestal
712KTF9114	Universal nozzle boot
807CLMK	Litro del metro
700KTH0931	Anti-Siphon Valve Kit Assy.



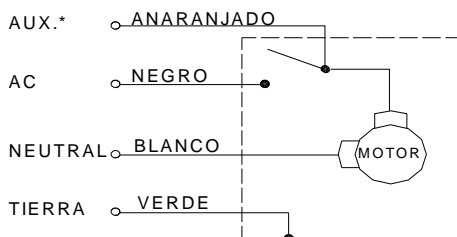
8825 Aviation Drive  
Fort Wayne, Indiana USA 46809  
Tel 260 747-7524 Fax 260 747-3159

[www.tuthill.com](http://www.tuthill.com)

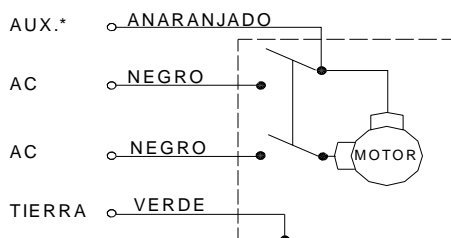
## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump w on't prime	<ol style="list-style-type: none"> <li>1. Suction line problem</li> <li>2. Bypass valve open</li> <li>3. Vanes sticking</li> <li>4. Gasket leakage</li> <li>5. Excessive rotor or vane wear</li> <li>6. Outlet blocked</li> <li>7. Vapor Lock</li> </ol>	Check for leaks in suction line Remove and inspect valve; must move freely & be free of debris Check vanes and slots for nicks, burrs and wear Tighten covers and joints Check rotor & vanes for excessive wear or damage Check pump outlet, hose, nozzle & filter for blockage Reduce vertical and horizontal distance from pump to liquid; Remove automatic nozzle
Pump hums but will not operate	<ol style="list-style-type: none"> <li>1. Dirt in pump cavity</li> <li>2. Motor failure</li> <li>3. Broken key</li> </ol>	Clean out pump cavity Return to place of purchase Remove all debris & replace key
Low capacity	<ol style="list-style-type: none"> <li>1. Excessive dirt in screen</li> <li>2. Suction line problem</li> <li>3. Bypass valve sticking</li> <li>4. Vanes sticking</li> <li>5. Excessive rotor or vane wear</li> <li>6. Hose or nozzle damage</li> <li>7. Plugged filter</li> <li>8. Low fluid level</li> </ol>	Remove and clean screen Check suction line for leaks or restrictions; it may be too small, too long or not airtight Remove and inspect valve; must move freely & be free of debris Check vanes and slots for wear Check rotor & vanes for excessive wear or damage Replace hose or nozzle Replace filter Fill tank
Pump runs slowly	<ol style="list-style-type: none"> <li>1. Incorrect voltage</li> <li>2. Vanes sticking</li> <li>3. Wiring problem</li> <li>4. Motor problem</li> </ol>	Check incoming line voltage while pump is running Check vanes and slots for nicks, burrs and wear Check for loose connections Return to place of purchase
Motor stalls	<ol style="list-style-type: none"> <li>1. Bypass valve sticking</li> <li>2. Low voltage</li> <li>3. Excessive rotor or vane wear</li> <li>4. Debris in pump cavity</li> </ol>	Remove and inspect valve; must move freely & be free of debris Check incoming line voltage while pump is running Check rotor & vanes for excessive wear or damage Clean pump cavity
Motor overheats	<ol style="list-style-type: none"> <li>1. Pumping high viscosity fluids</li> <li>2. Clogged screen</li> <li>3. Restricted suction pipe</li> <li>4. Motor failure</li> <li>5. Pump rotor lock-up</li> </ol>	These fluids can only be pumped for short periods of time (less than 30 minutes duty cycle) Remove and clean screen Remove and clean pipe Return to place of purchase Clean and check pump rotor and vanes
Motor will not turn on	<ol style="list-style-type: none"> <li>1. No power</li> <li>2. Switch failure</li> <li>3. Motor failure</li> <li>4. Thermal protector failure</li> <li>5. Incorrect/loose wiring</li> </ol>	Check incoming power Return to place of purchase Return to place of purchase Return to place of purchase Check wiring
Fluid leakage	<ol style="list-style-type: none"> <li>1. Bad o-ring gasket</li> <li>2. Dirty shaft seal</li> <li>3. Bad shaft seal</li> <li>4. Incompatible fluid</li> <li>5. Loose fasteners</li> </ol>	Check all o-ring gaskets Clean seal & seal cavity Replace seal Refer wetted parts list to fluid manufacturer Tighten fasteners

### 115 VOLTIO CABLE DIAGRAMA



### 230 VOLTIO CABLE DIAGRAMA



### WIRE DIAGRAMA

#### Series FR700V/FR701V

**ADVERTENCIA: ¡EL CABLE AUXILIAR ('AUX') ES UN CABLE CON TENSION!** El equipo sale de la fábrica con el cable AUX. aislado y encerrado. NO conecte este cable sin verificar primero la tensión de línea del cable en estado ENCENDIDO ('ON'), para asegurar la compatibilidad con el equipo a instalar. La máxima corriente circulante por el cable es 1 ampere. Este cable, si no se utiliza, debe quedar aislado y encerrado en la caja de conexiones.

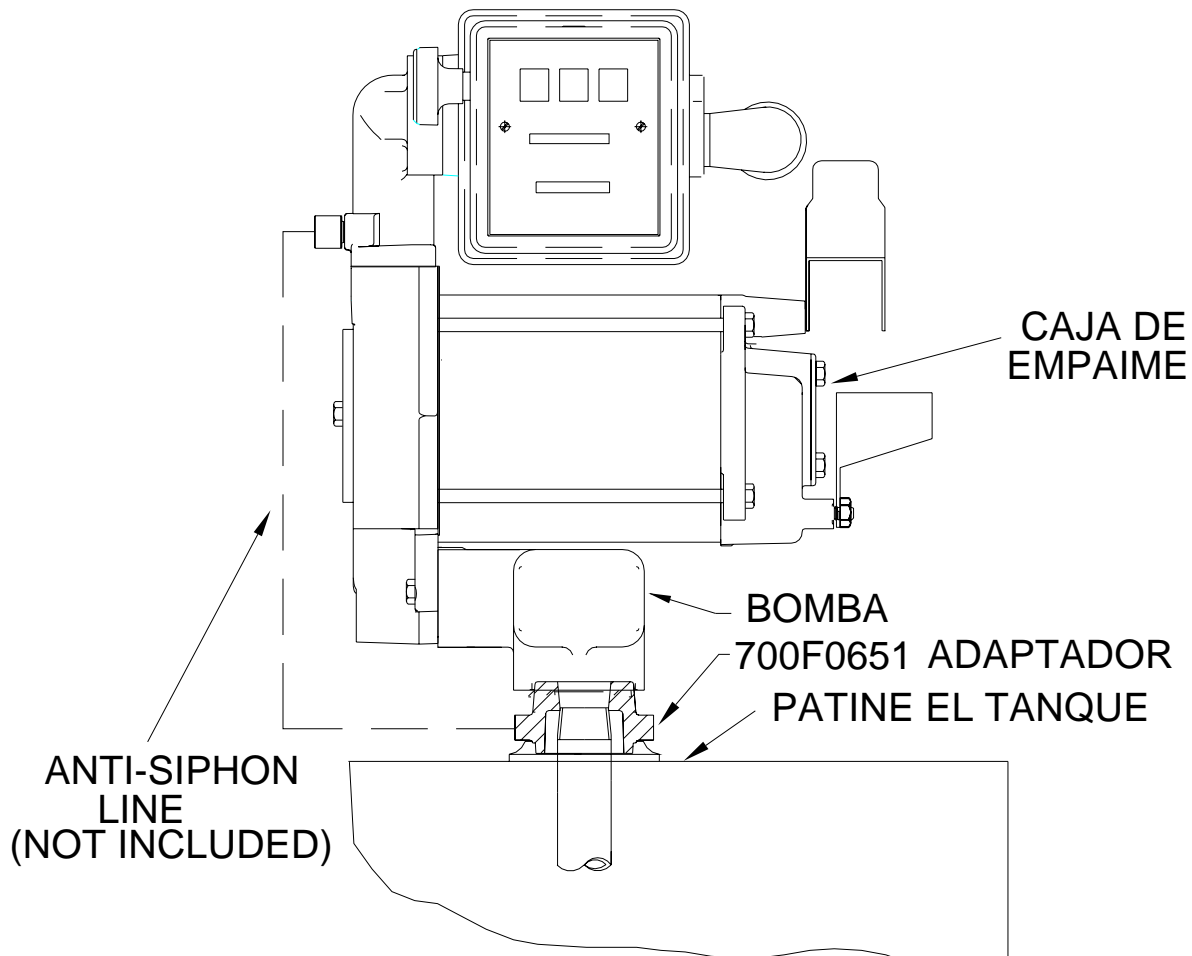
## VACUUM BREAKER

The pumps are shipped with a threaded vacuum breaker installed. Fill-Rite recommends that the vacuum breaker be tubed back to the tank. The vacuum breaker is used to break a siphon should an open nozzle or a leaking hose be below the fluid level in the tank with the pump turned off.

## VACUUM BREAKER TUBING INSTALLATION

The following illustration shows methods of installing tubing for the vacuum breaker that terminates in the vapor space at the top of the tank. The tubing must terminate in the vapor space; if the tubing terminates below the liquid level of the tank, the vacuum breaker will not prevent siphoning. It is also very important that there are no liquid traps in the tubing. The tubing must have a continuous slope from the pump down to the tank. If the pump is installed below the top of the tank, the tubing may slope both ways from a single high point above the tank. Alternately, tubing can be piped to any available opening on top of tank if the tank adapter is not used. Use reducer bushings as required.

Fill-Rite recommends using the vacuum breaker tank adapter with a 1/4 npt opening in the side of the hex portion that terminates in the vapor space of the tank. Install tank adapter per instructions found in this manual. Make liquid tight connection from the adapter to the vacuum breaker using a minimum of 1/4 metal tubing compatible with the liquid being pumped. If a vacuum breaker tank adapter is used and the 1/4 npt opening is not used for the tubing, plug the opening liquid tight.



# FILL-RITE®

## SERIES 700V 115 et 230 VOLT CA Pompe de transfert de carburant Manual d'utilisation et de sécurité Modèles FR700V, FR701V

### INSTRUCTIONS DE SECURITE

Pour assurer une opération efficace et sûre, il est essentiel de lire et de suivre toutes les instructions et toutes les précautions ci-dessous.

1. Une utilisation ou une installation incorrecte peuvent causer de sérieux accidents et même la mort.
2. Ne PAS fumer près d'une pompe ou utiliser une pompe près d'une flamme. Danger d'incendie.
3. Un Fill-Rite filtre doit être utilisé à la sortie de la pompe pour éviter le transfert de corps étrangers dans le réservoir de combustible.
4. Utilisez un produit d'étanchéité ou un ruban pour joints filetés résistant à l'essence et à l'huile pour protéger contre les fuites.
5. Le réservoir de stockage doit être arrimé pour l'empêcher de basculer qu'il soit vide ou qu'il soit plein.
6. Pour éviter les charges d'électricité statique, veuillez maintenir, lors de la transaction, le bec du pistolet en contact avec le réservoir.
7. Le moteur de la pompe est équipé d'une protection contre la surchauffe. En cas de surchauffe, le moteur s'éteint automatiquement sans endommager le bobinage. Prenez le soin de débrancher la pompe sinon le moteur va redémarrer une fois refroidi.
8. Pour toutes réparations adressez-vous à un réparateur agréé ou retournez le produit au fabricant pour maintenir la qualité anti-déflagrante.

### DANGER

Le branchement électrique doit être fait par un professionnel selon les normes électriques en vigueur. La pompe doit être pourvue d'une mise à la terre et un conduit rigide doit être utilisé lors du branchement électrique. Une utilisation ou une installation incorrecte peuvent causer de sérieux accidents et même la mort.

### AVERTISSEMENT

Ce produit ne doit pas être utilisé pour transférer des carburants dans des avions. Ce produit n'est pas adapté pour l'utilisation avec des fluides alimentaires ou des fluides contenant de l'eau.

### INSTALLATION

#### Générale

La pompe est fournie avec un adaptateur pour réservoir transportable et un piédestal pour montage sur îlot est disponible. Utilisez un orifice de remplissage du réservoir servant également à le ventiler. Un tel orifice pressurisé peut être monté afin de réduire les pertes de carburant par évaporation. Un Fill-Rite séparateur d'eau doit être utilisé lors de pompage de diesel.

La pompe est munie d'une soupape anti-retour avec limiteur de pression pour éviter les surpressions dues à une expansion thermique du fluide. Ne pas utiliser de clapets de retenue ou clapets de pied additionnels à moins qu'ils n'aient des soupapes de pression incorporées. Une utilisation ou une installation incorrecte peuvent causer de sérieux accidents et même la mort.

#### Montage sur réservoir transportable

1. Vissez le tuyau d'aspiration dans l'adaptateur pour réservoir. La longueur du tuyau d'aspiration doit être telle que son extrémité se situe environ 51 mm au dessus du fond du réservoir.
2. Vissez l'adaptateur sur le réservoir.
3. Monter la pompe sur l'adaptateur.

#### Montage direct sur un réservoir souterrain

1. Préparez un tuyau de 2" partant du dessus du réservoir et dépassant 0.8 m au dessus du niveau du so. Filetez-en les deux extrémités.
2. Installez ce tuyau dans le flasque du réservoir. Vissez l'accouplement de 2" à l'autre extrémité.
3. Vissez une longueur correcte de tuyau d'aspiration sur l'adaptateur. Son extrémité devra se situer environ 76 mm au dessus du fond du réservoir.
4. Vissez l'adaptateur pour réservoir sur l'accouplement du tuyau de 2".
5. Monter la pompe sur l'adaptateur.

#### Montage sur îlot

1. Installez le réservoir et la tuyauterie comme indiqué à la figure.
2. La conduite d'aspiration filetée de 1 1/4" doit dépasser de 32-1/2" au dessus de l'îlot.
3. Enlevez le coupleur du tuyau de socle en desserrant les vis de fixation.
4. Glissez l'ensemble tuyau de socle/pied de pompe sur la conduite d'aspiration.
5. Desserrez les vis du pied de pompe pour permettre au tuyau de socle de glisser vers le bas en exposant l'extrémité de la conduite d'aspiration.
6. Vissez le coupleur sur la conduite d'aspiration.
7. Faites glisser le tuyau de socle sur le coupleur, Serrez les vis de fixation. Serrez les vis du pied de pompe.
8. Montez la pompe sur l'adaptateur.

#### Electrique

1. Installez la pompe. Lisez et assimilez toutes les instructions sur le câblage électrique avant de l'effectuer.
2. Enlevez le couvercle de la boîte de raccordement électrique de la pompe et redressez les fils pour rendre leurs extrémités dénudées accessibles à l'extérieur du boîtier de raccordement.

#### AVERTISSEMENT: LE FIL AUXILIAIRE EST SOUS TENSION !

- Le fil conducteur auxiliaire est isolé et enfermé à la livraison. **Ne branchez pas** ce fil sans vérifier auparavant la tension secteur en marche du fil pour la compatibilité avec l'équipement à installer. Le courant maximum sur ce fil est de 1 ampère. Le fil doit rester isolé et enfermé dans le boîtier de raccordement s'il n'est pas utilisé.
3. L'alimentation secteur de l'unité doit être fournie derrière un circuit spécifique protégé par un disjoncteur de 30 ampères. Il ne faut pas alimenter d'autres équipements depuis ce disjoncteur. Il faut utiliser une conduite rigide avec des raccords étanchéifiés. Des dispositions doivent être prises pour couper les deux branches de tout circuit CA. Raccordez les fils de pompe aux arrivées d'alimentation en appariant les mêmes couleurs. Le fil de terre doit être connecté.
  4. Repliez les fils dans le boîtier de raccordement et replacez son couvercle en vérifiant que le joint est bien en place. Assurez-vous que les vis sont bien placées pour qu'il ne reste aucun intervalle entre le boîtier et son couvercle.

#### MISE EN MARCHÉ

1. Reinitialisez le compteur à '0' (si nécessaire).
2. Enlevez le pistolet de son fourreau et relevez l'interrupteur à levier. Cela va mettre la pompe en marche.
3. Insérez le pistolet dans le récipient à remplir.
4. Actionnez la détente du pistolet pour envoyer le fluide.
5. Quand la quantité voulue de fluide a été distribuée, relâchez la détente du pistolet, ressortez le pistolet du récipient, ramenez l'interrupteur à levier en position abaissée pour couper la pompe, et remettez le pistolet dans son fourreau.

#### DIAGNOSTIQUES

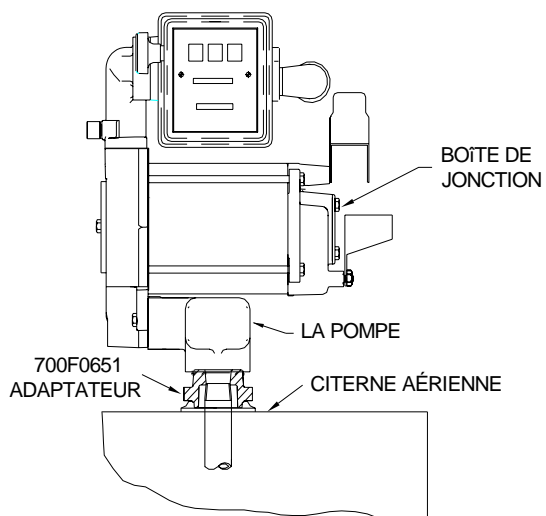
**Pompe ne s'amorce pas:** Problème dans la ligne d'aspiration. Vérifier s'il n'y a pas d'obstructions dans la ligne d'aspiration. By-pass ouvert. Enlever et inspecter la soupape.

**La pompe ronfle mais ne fonctionne pas:** Saleté dans la cavité de pomp. Nettoyer la cavité de la pompe.

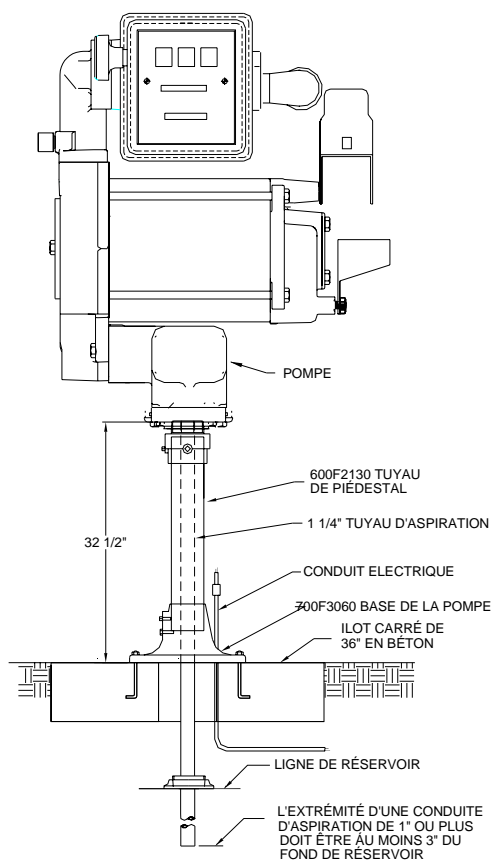
**Faible capacité:** Excès de saleté dans la crépine. Enlever et nettoyer la crépine.

Problème dans la ligne d'aspiration. Vérifier la ligne d'aspiration pour pertes ou étranglements, elle peut être de diamètre insuffisant, trop longue ou non hermétique. By-pass collé.

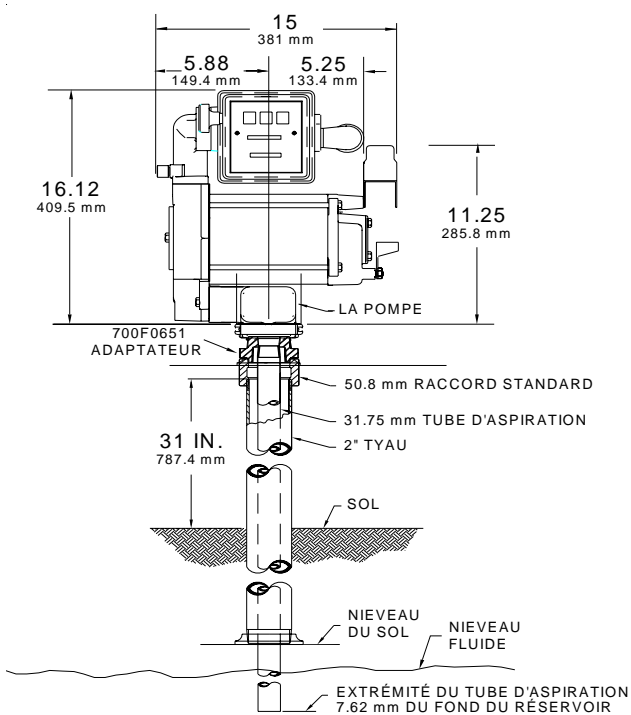
## INSTALLATION SUR CITERNE AÉRIENNE



## INSTALLATION SUR ÎLOT



## INSTALLATION SUR RÉSERVOIR SOUTERRAIN



### Ascenseur maximum

Essence - 10' (3 m)

Diesel - 15' (4.5 m)

-Modèles FR700V: 12" (305 mm) dimension avant-arrière (profondeur)

-Modèles FR701V: 14" (356 mm) dimension avant-arrière (profondeur)

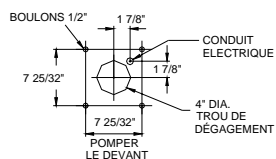


SCHÉMA D'IMPLANTATION DE LA BASE

## SERIES 700V - LISTE DES PIÈCES DÉTACHÉES

ART NO.	RÉFÉRENCE	DESCRIPTION	QTÉ
1	700F2683	Moteur - 115V, 60 Hz	1
2	700F2697	Moteur - 220V, 50/60 Hz	Opt.
	1200F3170	Commutateur d'alimentation	1
		(Après 7/99) (fourni avec article 1 & 2)	
	700F3149	Axe de commutateur	1
		(fourni avec article 1 & 2)	
3	700H0126	Corps de pompe	1
		(fourni avec article 1 & 2)	
4	704F3700	HHCS 3/8-16 x 1.00	4
5	700F2754	Joint en fibre	1
6	300KTH0034	Joint	1
7	700H0640	HWHMS 1/4-20 x .625 Zinc	4
8	702F3400	Coude de rue	1
9	700G8380	Rotor	1
10	700F3131	Clavette de Rotor	1
11	700H0534	Palette - en carbone usiné	8
12	700H0928	Anti-Siphon Valve Assembly	1
14	700F2661	Clapet anti-retour	1
15	1200F6576	Joint O-ring inclus avec le point 12	1
16	1200F6455	Joint O-ring (-121)	1
17	300F7743	Joint O-ring (-236)	1
18	700G7063	Couvercle de rotor	1
19	300G7296	HHCS 3/8-16 x .75	2
20	700F2762	Soupape	1

ART NO.	RÉFÉRENCE	DESCRIPTION	QTÉ
22	1200F6464	Bouchon du filtre	1
23	800F4360	Clavette Filtre	1
24	800F4380	Joint O-ring (-131)	1
25	700F2665	Filtre - Grille	1
26	700H0676	Joint O-ring Fluorocarbon (-131)	1
27	300F7744	Joint Ressort (-224)	1
28	700F2652	Corps de d'entrée	1
29	807CMK	Gallon de metre	1
31	600F2220	HHCS 5/16-18 x .625"	6
32	700G9000	Couvercle de boîtier de jonction	1
32a	700G9066	Joint	1
33	700H0131	Bride de metre	1
34	700F2950	Écrou frein 5/16-18	1
35	700F6680	Levier de commutateur	1
36	700F1950	Rivet fileté #14 x 5/8	1
37	700F6814	Biellette de verrouillage	1
38	5200F1440	Rondelle ressort 1/4"	1
39	700F6673	Support de pistolet	1
40	700F2800	Joint O-ring (-218)	1
42	704F3640	HHCS 5/16-18 x 1.250"	2
43	700F3135	Tuyau agréé par UL de 12'	1
44a	6U075	Pistolet manuelle 3/4"	1
44b	N075JAU10	Pistolet automatique 3/4"	Opt.
45	700F0651	Adaptateur	1
46	700H0128	Bride de sortie	1
	700KTF2659	700B Nécessaire de Réparation (Inclus article 9, 10, 11, 16, 17, 20, 24, 27, 40 & 300KTH0034 Nécessaire de joint)	

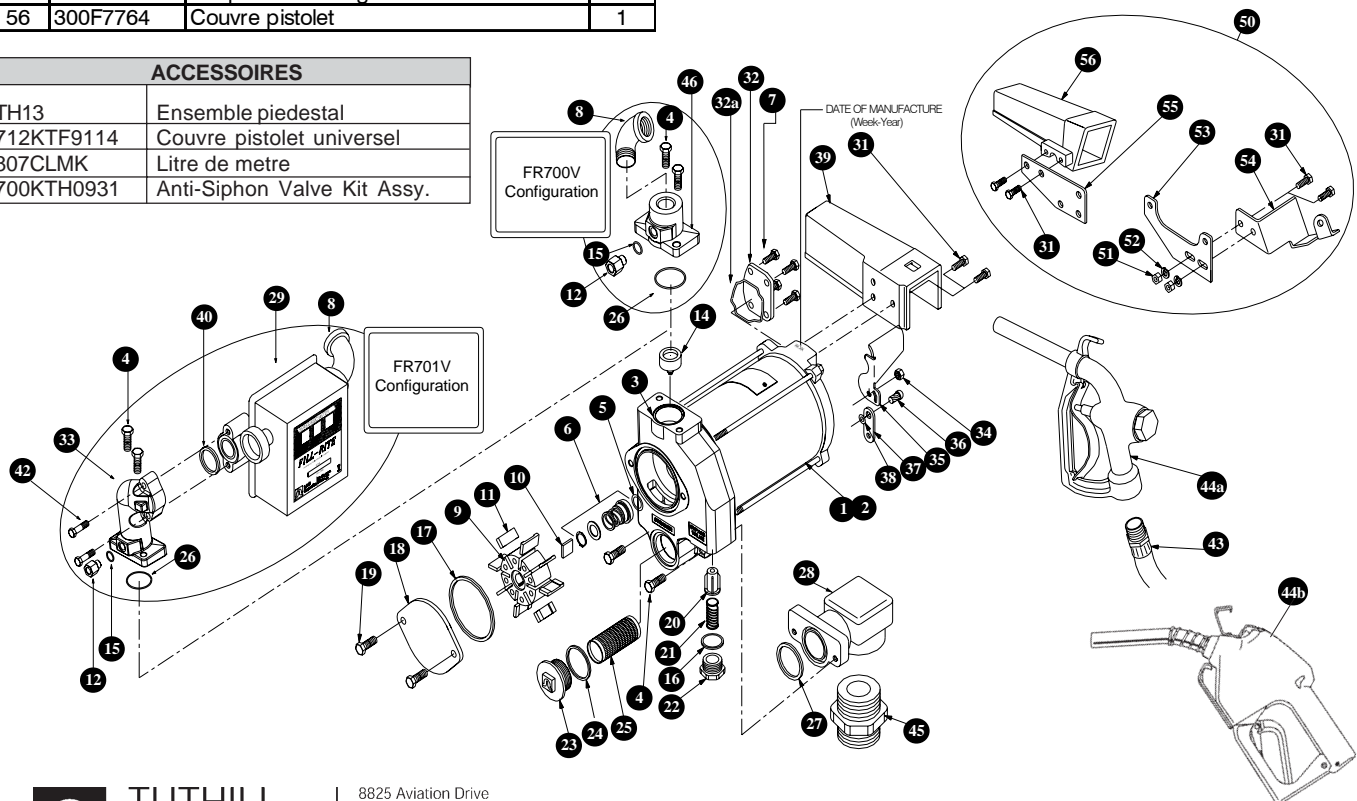
### LES MODÈLES AVEC PISTOLET AUTOMATIQUE

50	700KTF8598	Ensemble support pour pistolet (inclus articles 31, 51, 52, 53, 54, 55, 56)	Opt.
51	704F3680	Écrou frein t 5/16-18	2
52	704F3690	5/16 Rondelle ressort	2
53	700F8518	Plaque de montage	1
54	300F7759	Support de pistolet	1
55	300F8520	Plaque de montage	1
56	300F7764	Couvre pistolet	1

\*\* Pour de plus amples renseignements, visiter [www.fillrite.com](http://www.fillrite.com)

### ACCESSOIRES

TH13	Ensemble piedestal
712KTF9114	Couvre pistolet universel
807CLMK	Litre de metre
700KTH0931	Anti-Siphon Valve Kit Assy.



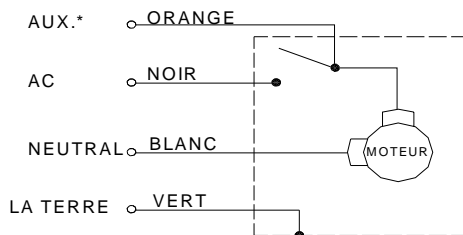
[www.tuthill.com](http://www.tuthill.com)

8825 Aviation Drive  
Fort Wayne, Indiana USA 46809  
Tel 260 747-7524 Fax 260 747-3159

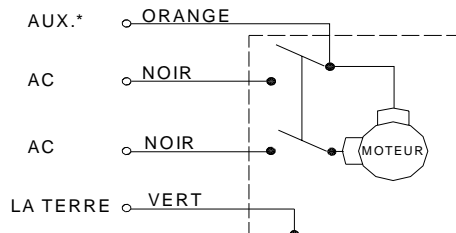
## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump w on't prime	<ol style="list-style-type: none"> <li>1. Suction line problem</li> <li>2. Bypass valve open</li> <li>3. Vanes sticking</li> <li>4. Gasket leakage</li> <li>5. Excessive rotor or vane wear</li> <li>6. Outlet blocked</li> <li>7. Vapor Lock</li> </ol>	<p>Check for leaks in suction line</p> <p>Remove and inspect valve; must move freely &amp; be free of debris</p> <p>Check vanes and slots for nicks, burrs and wear</p> <p>Tighten covers and joints</p> <p>Check rotor &amp; vanes for excessive wear or damage</p> <p>Check pump outlet, hose, nozzle &amp; filter for blockage</p> <p>Reduce vertical and horizontal distance from pump to liquid;</p> <p>Remove automatic nozzle</p>
Pump hums but will not operate	<ol style="list-style-type: none"> <li>1. Dirt in pump cavity</li> <li>2. Motor failure</li> <li>3. Broken key</li> </ol>	<p>Clean out pump cavity</p> <p>Return to place of purchase</p> <p>Remove all debris &amp; replace key</p>
Low capacity	<ol style="list-style-type: none"> <li>1. Excessive dirt in screen</li> <li>2. Suction line problem</li> <li>3. Bypass valve sticking</li> <li>4. Vanes sticking</li> <li>5. Excessive rotor or vane wear</li> <li>6. Hose or nozzle damage</li> <li>7. Plugged filter</li> <li>8. Low fluid level</li> </ol>	<p>Remove and clean screen</p> <p>Check suction line for leaks or restrictions; it may be too small, too long or not airtight</p> <p>Remove and inspect valve; must move freely &amp; be free of debris</p> <p>Check vanes and slots for wear</p> <p>Check rotor &amp; vanes for excessive wear or damage</p> <p>Replace hose or nozzle</p> <p>Replace filter</p> <p>Fill tank</p>
Pump runs slowly	<ol style="list-style-type: none"> <li>1. Incorrect voltage</li> <li>2. Vanes sticking</li> <li>3. Wiring problem</li> <li>4. Motor problem</li> </ol>	<p>Check incoming line voltage while pump is running</p> <p>Check vanes and slots for nicks, burrs and wear</p> <p>Check for loose connections</p> <p>Return to place of purchase</p>
Motor stalls	<ol style="list-style-type: none"> <li>1. Bypass valve sticking</li> <li>2. Low voltage</li> <li>3. Excessive rotor or vane wear</li> <li>4. Debris in pump cavity</li> </ol>	<p>Remove and inspect valve; must move freely &amp; be free of debris</p> <p>Check incoming line voltage while pump is running</p> <p>Check rotor &amp; vanes for excessive wear or damage</p> <p>Clean pump cavity</p>
Motor overheats	<ol style="list-style-type: none"> <li>1. Pumping high viscosity fluids</li> <li>2. Clogged screen</li> <li>3. Restricted suction pipe</li> <li>4. Motor failure</li> <li>5. Pump rotor lock-up</li> </ol>	<p>These fluids can only be pumped for short periods of time (less than 30 minutes duty cycle)</p> <p>Remove and clean screen</p> <p>Remove and clean pipe</p> <p>Return to place of purchase</p> <p>Clean and check pump rotor and vanes</p>
Motor will not turn on	<ol style="list-style-type: none"> <li>1. No power</li> <li>2. Switch failure</li> <li>3. Motor failure</li> <li>4. Thermal protector failure</li> <li>5. Incorrect/loose wiring</li> </ol>	<p>Check incoming power</p> <p>Return to place of purchase</p> <p>Return to place of purchase</p> <p>Return to place of purchase</p> <p>Check wiring</p>
Fluid leakage	<ol style="list-style-type: none"> <li>1. Bad o-ring gasket</li> <li>2. Dirty shaft seal</li> <li>3. Bad shaft seal</li> <li>4. Incompatible fluid</li> <li>5. Loose fasteners</li> </ol>	<p>Check all o-ring gaskets</p> <p>Clean seal &amp; seal cavity</p> <p>Replace seal</p> <p>Refer wetted parts list to fluid manufacturer</p> <p>Tighten fasteners</p>

### 115 VOLTS



### 230 VOLTS



### DIAGRAMME DE FIL

#### Series FR700V/FR701V

**AVERTISSEMENT: LE FIL AUXILIAIRE EST SOUS TENSION !** Le fil conducteur auxiliaire est isolé et enfermé à la livraison. Ne branchez pas ce fil sans vérifier auparavant la tension secteur en marche du fil pour la compatibilité avec l'équipement à installer. Le courant maximum sur ce fil est de 1 ampère. Le fil doit rester isolé et enfermé dans le boîtier de raccordement s'il n'est pas utilisé.

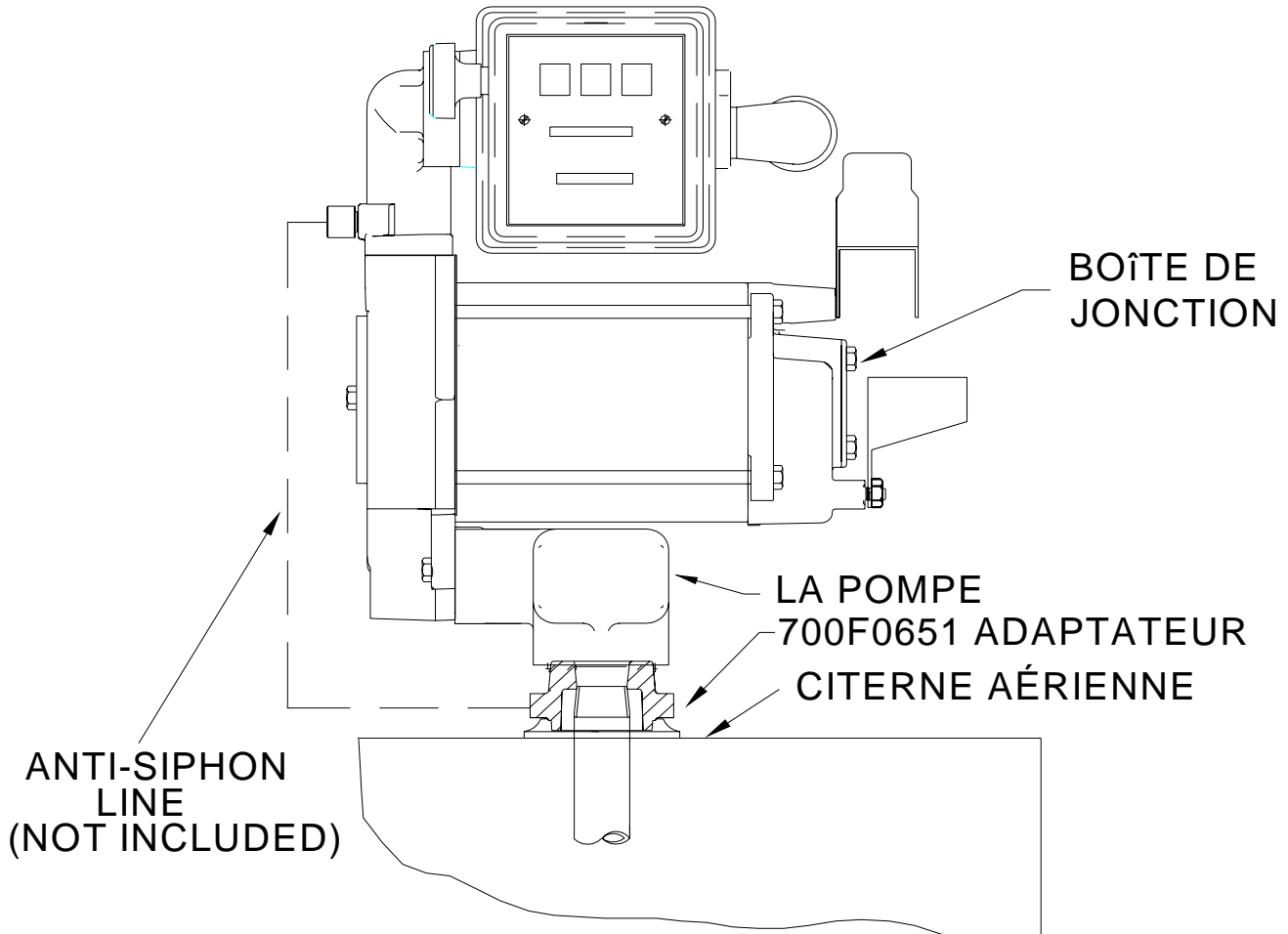
## VACUUM BREAKER

The pumps are shipped with a threaded vacuum breaker installed. Fill-Rite recommends that the vacuum breaker be tubed back to the tank. The vacuum breaker is used to break a siphon should an open nozzle or a leaking hose be below the fluid level in the tank with the pump turned off.

## VACUUM BREAKER TUBING INSTALLATION

The following illustration shows methods of installing tubing for the vacuum breaker that terminates in the vapor space at the top of the tank. The tubing must terminate in the vapor space; if the tubing terminates below the liquid level of the tank, the vacuum breaker will not prevent siphoning. It is also very important that there are no liquid traps in the tubing. The tubing must have a continuous slope from the pump down to the tank. If the pump is installed below the top of the tank, the tubing may slope both ways from a single high point above the tank. Alternately, tubing can be piped to any available opening on top of tank if the tank adapter is not used. Use reducer bushings as required.

Fill-Rite recommends using the vacuum breaker tank adapter with a 1/4 npt opening in the side of the hex portion that terminates in the vapor space of the tank. Install tank adapter per instructions found in this manual. Make liquid tight connection from the adapter to the vacuum breaker using a minimum of 1/4 metal tubing compatible with the liquid being pumped. If a vacuum breaker tank adapter is used and the 1/4 npt opening is not used for the tubing, plug the opening liquid tight.



# FILL-RITE®

## SERIES 700V

### 115 und 230 VOLT AC

#### Gebrauchsaneisung und Sicherheitsvorschriften

#### Modells FR700V,FR701V

#### SICHERHEITSANLEITUNGEN

Um einen leistungsfähigen und sicheren Betrieb der Pumpe zu gewährleisten, lesen und befolgen Sie die folgenden Vorsichtsmaßnahmen.

1. Unsachgemäßer Gebrauch oder unvorschriftsmäßige Installation dieses Produktes kann zu lebensgefährlichen Verletzungen führen.
2. In der Nähe der Pumpe nicht rauchen und Pumpe nicht in Nähe einer offenen Flamme benutzen. Ein Brand könnte die Folge sein.
3. Am Pumpenauslab ist ein Fill-Rite Filter zu benutzen, um zu gewährleisten, daß kein Fremdkörper in den Kraftstoffbehälter gelangt.
4. Benzin- und ölbeständiges Gewindedichtmittel oder Dichtband an allen Gewindeverbindungen einsetzen, um Lecks vorzubeugen.
5. Der Lagertank muss verankert werden, damit er weder im vollen noch im leeren Zustand umkippen kann.
6. Um eine statische Aufladung zu vermeiden, muss das Zapfventil mit dem zu befüllenden Tank in direktem Kontakt sein.
7. Der Motor ist mit einem thermischen Überlastschutz ausgerüstet. Wenn Überhitzung eintritt, schaltet er sich ohne Beschädigung der Windungen selbst aus. In dieser Situation muß die Stromzufuhr der Pumpe abgeschaltet werden. Bleibt der Strom eingeschaltet, startet der Motor ohne Warnung, wenn er sich genügend abgekühlt hat.
8. Motoren, die Wartung benötigen, sind zu einer zugelassenen Reparatur-Werkstatt zu bringen, oder an die Fabrik zurückzusenden, um die "explosionsichere" Integrität zu wahren.

#### GAFahr

Die elektrische Beschaltung sollte von einem lizenzierten Elektriker den entsprechenden elektrischen Vorschriften gemäß vorgenommen werden. Die Pumpemeß vorschriftsmäßig geerdet werden und für die Installation der elektrischen Leitungen sollte ein steifes Kabelrohr benutzt werden. Unsachgemäßer Gebrauch oder unvorschriftsmäßige Installation dieses Produktes kann zu lebensgefährlichen Verletzungen führen.

#### WARNUNG

Dieses Produkt nicht zur Überführung von Kraftstoff in Flugzeuge benutzen. Dieses Produkt ist nicht zum Gebrauch mit Flüssigkeiten für menschlichen Verzehr oder Flüssigkeiten, die Wasser enthalten, geeignet.

#### INSTALLATION

Die Pumpen werden mit einem Tankpasstück für die Montage von fahrbaren Tanks geliefert. Es sind auch Gestelle für die Installation auf Inseln verfügbar. Für die Füllung des Tanks soll man eine Öffnung benutzen, die auch für die Lüftung dient. Die druckfeste Öffnung kann auch zur Verminderung der Kraftstoffverluste wegen Ausdunstung verwendet werden. Um Diesel zu pumpen, sollte man einen Wasserabscheider benutzen. Keinezusätzlichen boden-oder rückschlagventile bei installation ohne sicherheitsventil montieren. Benzin- und ölbeständiges Gewindedichtmittel oder Dichtband an allen Gewindeverbindungen einsetzen, um Lecks vorzubeugen.

#### Schlittentank

1. Das Saugrohr in das Tankpasstück schrauben. Das Saugrohr sollte so lang sein, daß sein Ende 51 mm höher als der Tankboden liegt.
2. Das Tankpasstück an den Tank festschrauben.
3. Die Pumpe an das Passtück montieren.

#### Direktaufbau an Untergrundtanks

1. Ein 2"-Rohr vorbereiten, das vom oberen Ende,ber den Tank bis ungefähr 0,8 m von Boden geht. An beiden Rohrenden Gewinde schneiden.

2. Das Rohr in die Tankflansche installieren. Ein 2" Verbindungsstück an das obere Rohrende anschrauben.
3. Das nun in der Länge passende Saugrohr an das Passtück installieren. Das Saugrohr sollte sich 76 mm über dem Tankboden befinden.
4. Das Tankpasstück in das Verbindungsstück an ein 2"-Rohr verschrauben.
5. Die Pumpe an das Tankpasstück montieren.

#### Installation der Insel

1. Den Tank und das Röh wie abgebildet installieren.
2. Das Ansaugrohr mit 1-Zoll-Gewinde muss 82,5 cm über der Insel vorstehen.
3. Kupplungsstück vom Sockelrohr durch Lösen der Feststellschrauben entfernen.
4. Die Baugruppe Sockelrohr/Pumpengestell über das Ansaugrohr schieben.
5. Schrauben im Pumpengestell lösen, damit das Sockelrohr herunter geschoben werden kann und so das Ende des Ansaugrohrs freigelegt wird.
6. Kupplungsstück auf Ansaugrohr schieben.
7. Sockelleitung auf Kupplungsstück schieben und Feststellschrauben festziehen. Schrauben in Pumpengestell festziehen.
8. Die Pumpe an das Tankpasstück montieren.

#### Elektrische

1. Pumpe montieren. Vor dem Weiterarbeiten alle Anweisungen zur elektrischen Verdrahtung sorgfältig lesen und verstehen.
2. Den Deckel des Elektroverteilerkastens der Pumpe entfernen und die Kabel gerade ausrichten, damit die abisolierten Leitungsenden außerhalb des Verteilerkastens zugänglich sind.

#### WARNUNG: DER ZUSATZDRAHT IST STROMFÜHREND! Im

- Auslieferungszustand ist die Zusatzleitung (AUX) isoliert und gekapselt. Diese Leitung erst dann anschließen, wenn vorher die „EIN“-Spannung der Leitung überprüft wurde und zur montierten Ausrüstung passt. Die maximale Strombelastung der Leitung beträgt
- 1 A. Wenn die Leitung nicht verwendet wird, muss sie im Verteilerkasten isoliert und gekapselt untergebracht werden.
  3. Das Gerät muss über einen eigenen 30-A-Schutzschalter versorgt werden. An die Leitung mit diesem Schutzschalter darf kein anderes Gerät angeschlossen werden. Eine starre Kabeldurchführung, dichte Verschraubungen und Leitungsdichtungen müssen verwendet werden. Es muss dafür gesorgt werden, dass beide Seiten des Wechselstromkreises unterbrochen werden können. Die Pumpenleitungen mit den gleichfarbigen Versorgungsstromleitungen verbinden. Die Erdungsleitungen müssen angeschlossen werden.
  4. Die Leitungen in den Verteilerkasten biegen und den Deckel wieder aufsetzen, dabei sicherstellen, dass die Dichtung richtig sitzt. Darauf achten, dass die Schrauben so angezogen werden, dass zwischen Deckel und Verteilerkasten kein Spalt mehr zu sehen ist.

#### BEDIENUNGSANLEITUNG

1. Durchflußmesser auf "0" zurücksetzen (wenn anwendbar).
2. Den Zapfhahn aus der Zapfhahnmanschette entfernen und Schalthebel nach oben bewegen. Damit wird die Pumpe eingeschaltet.
3. Den Zapfhahn zum Füllen in den Behälter einschieben.
4. Den Zapfhahnhebel betätigen, um die Flüssigkeit abzugeben.
5. Sobald die gewünschte Menge Flüssigkeit abgegeben wurde, den Zapfhahnhebel wieder loslassen, den Zapfhahn aus dem Behälter ziehen, den Schalthebel nach unten legen und, um die Pumpe abzustellen. Den Zapfhahn wieder in die Manschette setzen.

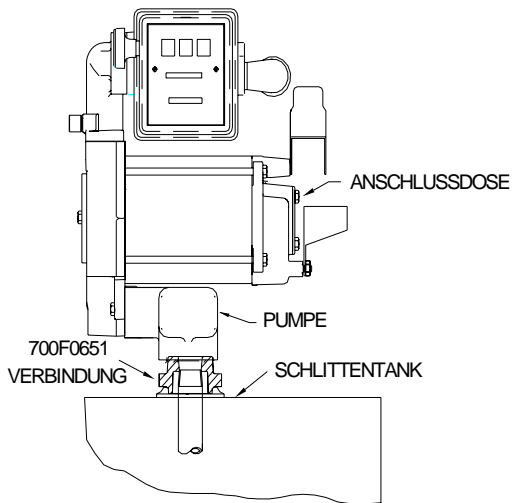
#### BEHEBUNG VON STÖRUNGEN

**Pumpe saugt nicht an:** Störung in der Ansaugleitung. Ansaugleitung auf Lecks überprüfen. Sicherheitsventil geöffnet Ventil herausnehmen und überprüfen.

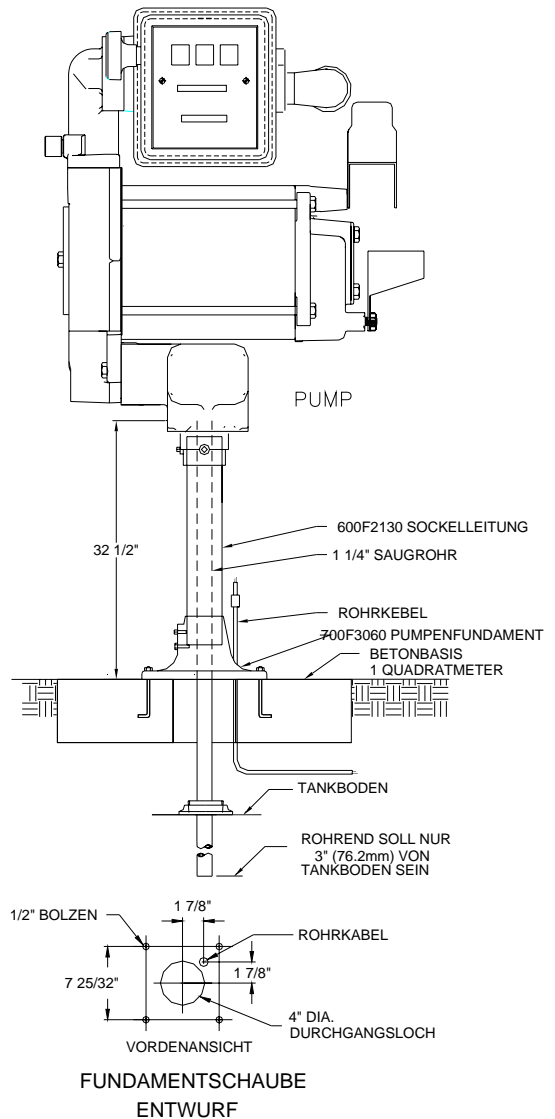
**Motor brummt, läuft aber nicht:** Verschmutzung des Pumpenhohlram säubern Pumpenhohlrams.

**Niedrages Fördervolumen:** Starke Verschmutzung des Filtersieb herausnehmen Filtersiebes und säubern. Störung im Ansaugrohr. Ansaugrohr auf undichte Stellen und Blockierungen. Sicherheitsventil bleibt stecken. Ventil herausnehmen un überprüfen.

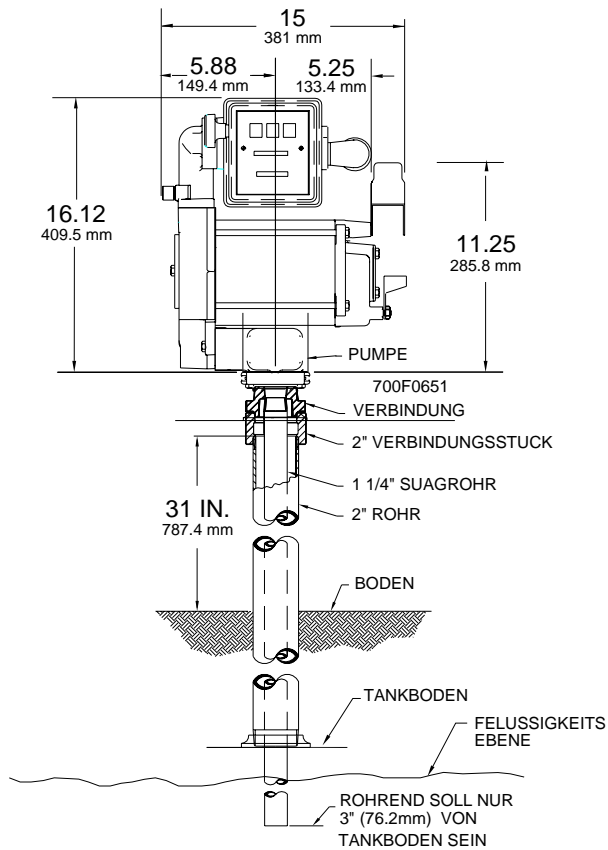
## SCHLITTENTANK INSTALLATION



## INSTALLATION der INSEL



## DIREKTAUFBAU INSTALLATION



### Maximaler Aufzug

Benzin - 10' (3 m)  
Diesel - 15' (4.5 m)

-Models FR700V: 12" (305 mm) Vorne bis Ruckenseite  
-Models FR701V: 14" (356 mm) Vorne bis Ruckenseite

## 700V SERIE PUMPE ERSATZTELLISTE

ITM. NO.	PART NO.	BESCHREIBUNG	QTY.
1	700F2683	Motor - 115V, 60 Hz	1
2	700F2697	Motor - 220V, 50/60 Hz	Opt.
	1200F3170	Leitungsschalter (Nach 7/99)	1
		(einschließlich Artikel 1 & 2)	
	700F3149	Schaltachse	1
		(einschließlich Artikel 1 & 2)	
3	700H0126	Pumpengehäuse	1
		(einschließlich Artikel 1 & 2)	
4	704F3700	3/8-16 x 1.00 HHCS	4
5	700F2754	Fiber Seal Slinger	1
6	300KTH0034	Dichtung	1
7	700H0640	1/4-20 x .625 HW-HMS Zinc	4
8	702F3400	Strasse winkelstück	1
9	700G8380	Rotor	1
10	700F3131	Rotorschlüssel	1
11	700H0534	Schieber, Kohlenstoff	8
12	700H0928	Anti-siphon valve assembly	1
14	700F2661	Rückschlagventil, Rückflußsperre	1
15	1200F6576	Rollring (eingeschlossen mit Einzelteil 12)	1
16	1200F6455	Rollringdichtung (-121)	1
17	300F7743	Rollringdichtung (-236)	1
18	700G7063	Rotorabdeckplatte	1
19	300G7296	3/8-16 x .75 HHCS	2
20	700F2762	Tellerventil	1

ITM. NO.	PART NO.	BESCHREIBUNG	QTY.
21	700F2775	Sicherheitsventilfeder	1
22	1200F6464	Sicherheitsventilkappe	1
23	800F4360	Filter Lagerdeckel	1
24	800F4380	Rollringdichtung (-131)	1
25	700F2665	Filter - Masche	1
26	700H0676	Rollring fluorocarbon	1
27	300F7744	Rollringdichtung (-224)	1
28	700F2652	Eintrittsgehäuse	1
29	807CMK	Meßinstrumentgallone	1
31	600F2220	5/16-18 x .625 HHCS	6
32	700G9000	Anschlußdosenabdeckung	1
32a	700G9066	Dichtungsplatte	1
33	700H0131	Meßinstrumentflansch	1
34	700F2950	5/16-18 Sicherungsmutter	1
35	700F6680	Schalthebel	1
36	700F1950	#14 x 5/8 Nagelschraube	1
37	700F6814	Riegelverbindungsstück	1
38	5200F1440	1/4 Federring	1
39	700F6673	Düsenabdeckung	1
40	700F2800	Rollringdichtung (-218)	1
42	704F3640	5/16-18 x 1.250 HHCS	2
43	700F3135	12' UL-eingetragener Schlauch	1
44a	6U075	3/4-Zoll Düse	1
44b	N075UAU10	Automatikdüse, 3/4-Zoll	Opt.
45	700F2170	Tankpasstück	1
46	700H0128	Anschlußflansch	1
	700KTF2659	700V Reparatursatz (einschließlich Artikels 9, 10, 11, 16, 17, 20, 24, 27, 40 & 300KTH0034 Dichtungssatz)	

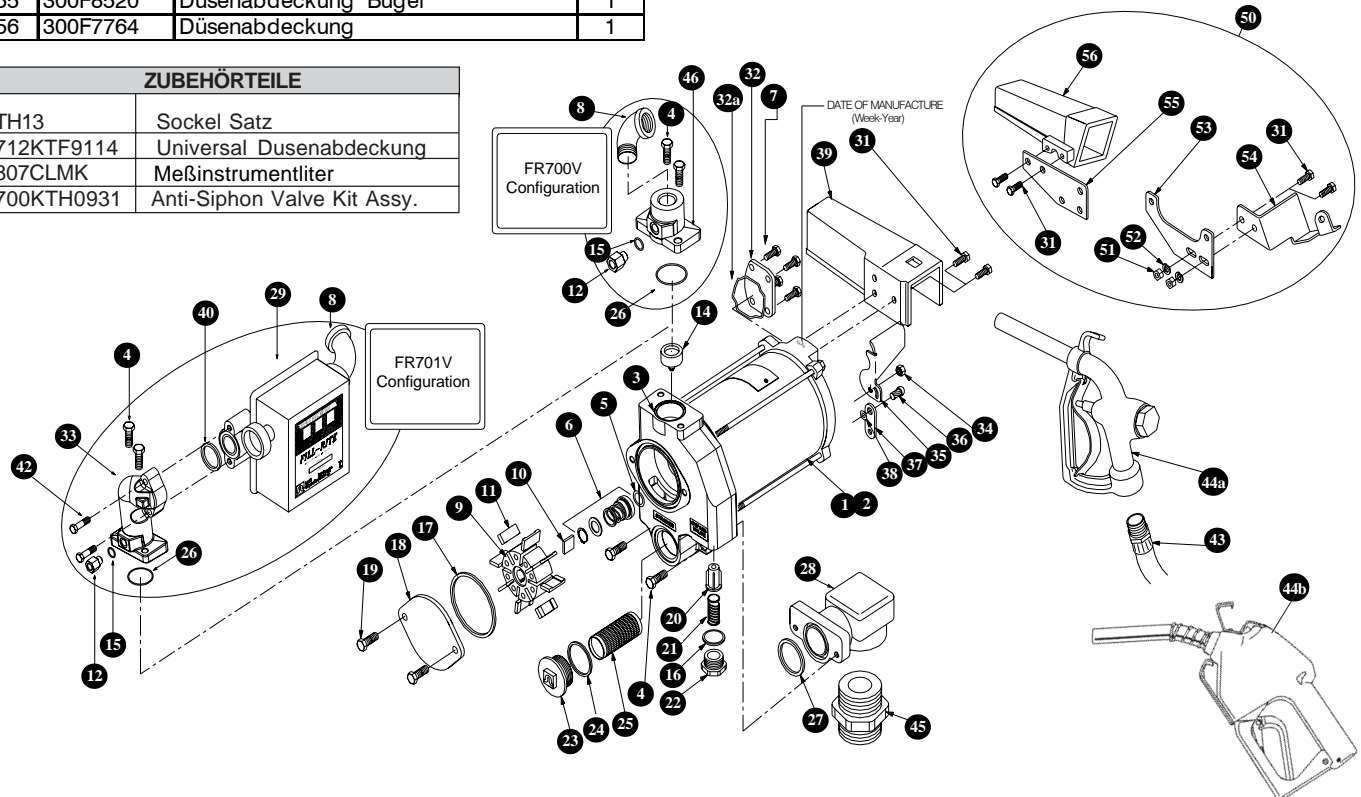
### MIT AUTOMATKDÜSE HALTERUNG

50	700KTF8598	Automatikdüse Halterung Satz (einschließlich Artikel 31, 51, 52, 53, 54, 55, 56)	Opt.
51	704F3680	5/16-18 Sechskantmutter	2
52	704F3690	5/16 Außere Sicherungsscheibe	2
53	700F8518	Halterung Bügel	1
54	300F7759	Düse Halterung	1
55	300F8520	Düsenabdeckung Bügel	1
56	300F7764	Düsenabdeckung	1

\*\*Für mehr Informationen gehen Sie zu [www.fillrite.com](http://www.fillrite.com)

### ZUBEHÖRTEILE

TH13	Sockel Satz
712KTF9114	Universal Düsenabdeckung
807CLMK	Meßinstrumentliter
700KTH0931	Anti-Siphon Valve Kit Assy.



8825 Aviation Drive  
Fort Wayne, Indiana USA 46809  
Tel 260 747-7524 Fax 260 747-3159

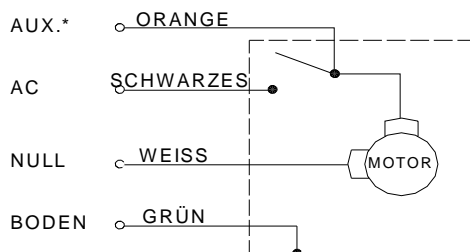
[www.tuthill.com](http://www.tuthill.com)

Teflon® is a registered trademark of DuPont.

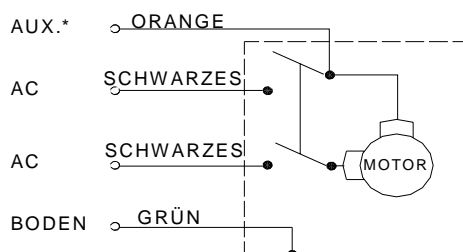
## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump w on't prime	<ol style="list-style-type: none"> <li>1. Suction line problem</li> <li>2. Bypass valve open</li> <li>3. Vanes sticking</li> <li>4. Gasket leakage</li> <li>5. Excessive rotor or vane wear</li> <li>6. Outlet blocked</li> <li>7. Vapor Lock</li> </ol>	<p>Check for leaks in suction line</p> <p>Remove and inspect valve; must move freely &amp; be free of debris</p> <p>Check vanes and slots for nicks, burrs and wear</p> <p>Tighten covers and joints</p> <p>Check rotor &amp; vanes for excessive wear or damage</p> <p>Check pump outlet, hose, nozzle &amp; filter for blockage</p> <p>Reduce vertical and horizontal distance from pump to liquid;</p> <p>Remove automatic nozzle</p>
Pump hums but will not operate	<ol style="list-style-type: none"> <li>1. Dirt in pump cavity</li> <li>2. Motor failure</li> <li>3. Broken key</li> </ol>	<p>Clean out pump cavity</p> <p>Return to place of purchase</p> <p>Remove all debris &amp; replace key</p>
Low capacity	<ol style="list-style-type: none"> <li>1. Excessive dirt in screen</li> <li>2. Suction line problem</li> <li>3. Bypass valve sticking</li> <li>4. Vanes sticking</li> <li>5. Excessive rotor or vane wear</li> <li>6. Hose or nozzle damage</li> <li>7. Plugged filter</li> <li>8. Low fluid level</li> </ol>	<p>Remove and clean screen</p> <p>Check suction line for leaks or restrictions; it may be too small, too long or not airtight</p> <p>Remove and inspect valve; must move freely &amp; be free of debris</p> <p>Check vanes and slots for wear</p> <p>Check rotor &amp; vanes for excessive wear or damage</p> <p>Replace hose or nozzle</p> <p>Replace filter</p> <p>Fill tank</p>
Pump runs slowly	<ol style="list-style-type: none"> <li>1. Incorrect voltage</li> <li>2. Vanes sticking</li> <li>3. Wiring problem</li> <li>4. Motor problem</li> </ol>	<p>Check incoming line voltage while pump is running</p> <p>Check vanes and slots for nicks, burrs and wear</p> <p>Check for loose connections</p> <p>Return to place of purchase</p>
Motor stalls	<ol style="list-style-type: none"> <li>1. Bypass valve sticking</li> <li>2. Low voltage</li> <li>3. Excessive rotor or vane wear</li> <li>4. Debris in pump cavity</li> </ol>	<p>Remove and inspect valve; must move freely &amp; be free of debris</p> <p>Check incoming line voltage while pump is running</p> <p>Check rotor &amp; vanes for excessive wear or damage</p> <p>Clean pump cavity</p>
Motor overheats	<ol style="list-style-type: none"> <li>1. Pumping high viscosity fluids</li> <li>2. Clogged screen</li> <li>3. Restricted suction pipe</li> <li>4. Motor failure</li> <li>5. Pump rotor lock-up</li> </ol>	<p>These fluids can only be pumped for short periods of time (less than 30 minutes duty cycle)</p> <p>Remove and clean screen</p> <p>Remove and clean pipe</p> <p>Return to place of purchase</p> <p>Clean and check pump rotor and vanes</p>
Motor will not turn on	<ol style="list-style-type: none"> <li>1. No power</li> <li>2. Switch failure</li> <li>3. Motor failure</li> <li>4. Thermal protector failure</li> <li>5. Incorrect/loose wiring</li> </ol>	<p>Check incoming power</p> <p>Return to place of purchase</p> <p>Return to place of purchase</p> <p>Return to place of purchase</p> <p>Check wiring</p>
Fluid leakage	<ol style="list-style-type: none"> <li>1. Bad o-ring gasket</li> <li>2. Dirty shaft seal</li> <li>3. Bad shaft seal</li> <li>4. Incompatible fluid</li> <li>5. Loose fasteners</li> </ol>	<p>Check all o-ring gaskets</p> <p>Clean seal &amp; seal cavity</p> <p>Replace seal</p> <p>Refer wetted parts list to fluid manufacturer</p> <p>Tighten fasteners</p>

### 115 VOLT



### 230 VOLT



### DRAHTDIAGRAMM

#### Series FR700V/FR701V

**WARNUNG: DER ZUSATZDRAHT IST STROMFÜHREND!** Im Auslieferungszustand ist die Zusatzleitung (AUX) isoliert und gekapselt. Diese Leitung erst dann anschließen, wenn vorher die „EIN“-Spannung der Leitung überprüft wurde und zur montierten Ausrüstung passt. Die maximale Strombelastung der Leitung beträgt 1 A. Wenn die Leitung nicht verwendet wird, muss sie im Verteilerkasten isoliert und gekapselt untergebracht werden.

## VACUUM BREAKER

The pumps are shipped with a threaded vacuum breaker installed. Fill-Rite recommends that the vacuum breaker be tubed back to the tank. The vacuum breaker is used to break a siphon should an open nozzle or a leaking hose be below the fluid level in the tank with the pump turned off.

## VACUUM BREAKER TUBING INSTALLATION

The following illustration shows methods of installing tubing for the vacuum breaker that terminates in the vapor space at the top of the tank. The tubing must terminate in the vapor space; if the tubing terminates below the liquid level of the tank, the vacuum breaker will not prevent siphoning. It is also very important that there are no liquid traps in the tubing. The tubing must have a continuous slope from the pump down to the tank. If the pump is installed below the top of the tank, the tubing may slope both ways from a single high point above the tank. Alternately, tubing can be piped to any available opening on top of tank if the tank adapter is not used. Use reducer bushings as required.

Fill-Rite recommends using the vacuum breaker tank adapter with a 1/4 npt opening in the side of the hex portion that terminates in the vapor space of the tank. Install tank adapter per instructions found in this manual. Make liquid tight connection from the adapter to the vacuum breaker using a minimum of 1/4 metal tubing compatible with the liquid being pumped. If a vacuum breaker tank adapter is used and the 1/4 npt opening is not used for the tubing, plug the opening liquid tight.

