

The Most Trusted name in Pumps & Meters

FILL-RITE.

Model FR702 Cabinet Pump




Model FR702RU

FILL-RITE

Description of Included Models

Model Number	Description	Shipping Weight
FR702R	Futura cabinet pump, manual nozzle, standard nozzle boot, 3/4" X 12' static wire hose. Rear discharge.	72 LBS. 32.7 KGS.
FR702F	Futura cabinet pump, manual nozzle, standard nozzle boot, 3/4" X 12' static wire hose. Front discharge.	72 LBS. 32.7 KGS.

Safety Listings

Approval Mark	Organization Description	File Number	Classification No.
	Underwriters Laboratories Inc. , a nationally recognized independent organization for testing of products to ensure public safety. Recognized and accepted in USA, Canada and other countries	MH5329	EWTV

Available Options

Option	Description	Change in Shipping Weight (lbs.)	Change in Shipping Weight (kgs.)
A	Upgrade to automatic nozzle from standard manual nozzle.	4.0	1.8
E	Unit supplied with 220 VAC - 50 Hz motor	-	-
G	Unit supplied with 220VAC - 60 Hz motor	-	-
L	Unit supplied with meter calibrated in liters.	-	-
U	Universal nozzle boot and nozzle retainer for automatic nozzle or vapor recovery nozzle (nozzle not included)	4.0	1.8
V	Includes a vapor recovery nozzle, universal nozzle boot, 1 1/4" X 15' coaxial vapor recovery hose, vapor valve, discharge hose, tee, fittings and piping. Hose	38.0	17.2

retractor not included.

-X001	Unit supplied less hose.	(4.0)	(1.8)
-X003	Unit supplied less nozzle.	(2.0)	(0.9)
-X005	Unit supplied less hose and nozzle.	(6.0)	(2.7)

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Accessories

Part Number	Description
TH13	Pedestal kit - base, pedestal column and coupler for 1" pipe and union.
702KTF0065	Anti-siphon kit
700F3135	Hose 3/4" X 12' with static wire and ferrules.
6U075	Manual nozzle (unleaded).
N075UAU10	Automatic nozzle (unleaded) 3/4" NPT threaded inlet.
4200F9111	Nozzle spout hook to adapt automatic nozzles without hanging hooks.
702F3626	Side mounting bracket - Red
702F3589	Vapor recovery nozzle (short)
712F3584	Coaxial vapor recovery hose 1 1/4" X 15' with fittings.
700KTF3609	Vapor recovery kit.

Performance

Maximum outlet pressure	22 PSI (1.52 BAR)
Maximum flow rate ¹	18 GPM (68 LPM)
Maximum viscosity of fluid pumped	Diesel Fuel
Maximum ambient operating temperature	150 °F (66 °C)*
Minimum ambient operating temperature	-15 °F (-26 °C)*
Minimum dry vacuum	12 Inches of mercury
Minimum suction lift**	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 must be included when calculating the losses. The system should be designed to require a minimum amount of suction lift.

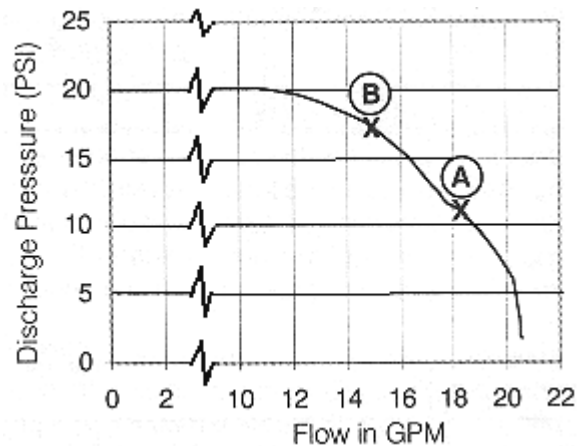
*** The lift of gasoline is dependent on Reid's vapor pressure of the gasoline and its temperature. The lower the vapor pressure and temperature, the higher the possible lift. See the more detailed discussion titled, "Practical Gasoline Suction Lift Considerations" that is attached.

Flow Curve

A) FR702 with 12' of 3/4" hose and manual nozzle

B) FR702 with 12' of 3/4" hose and automatic nozzle.

Nominal flow curve for reference only. Based on 3 feet suction lift. Actual flow rates obtained may vary.



Fluid Compatibility

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

Cast Iron

Bronze/Iron

Aluminum

300S Stainless Steel

400S Stainless Steel

Steel

Carbon

Fluorocarbon (Viton®)

PPS

Zinc Plated Steel

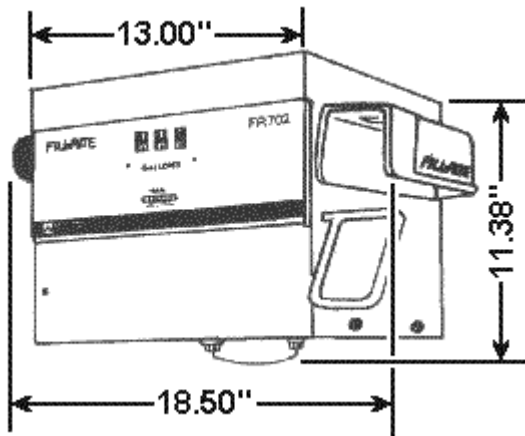
Fiber

Polyester

Buna N (Nitrile)

Ceramic

Dimensions



Repair

To ensure the ultimate performance, pumps must be set up according to the installation section of the Owner's Manual packed with the pump and available in the **eLibrary**.

To maintain UL Listing of this Explosion Proof pump, motor service can be performed only by a Recognized Service Center. The pump must be thoroughly flushed and drained before packing for shipment, or 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 (F4360) and pull out screen (F2665).
2. Remove rotor cover (F8653) and inspect vanes (F22704 - molded). Vanes should be replaced after excessive wear to prevent damage to pump. If more than 1/2 the total blade length extends out of the rotor slot at the extreme of travel the wear is excessive.
3. Check hose (F3135) and nozzle (F3136) for wear or damage. Bad hoses or nozzles are potential safety hazards.

For detailed motor, meter and cabinet assembly servicing see the Parts and Technical Service Guide.

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 too high a 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. Motor bearings could be defective resulting in a drag on the motor shaft rotation.

See the Troubleshooting Guide in your Owner's Manual packed with your unit or the copy available "on-line" in the eLibrary.

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. The problem could be as simple as foreign materials preventing the ceramic and carbon seal components from being in intimate contact, to as complex as a defective casting.

See the Troubleshooting Guide in your Owner's Manual packed with your unit or the copy available "on-line" in the eLibrary.

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. 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, remove and inspect the check valve (700F2661) to insure it is sealing properly. Also check all inlet piping joints and fittings 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 piping 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 depending on atmospheric pressure to force that 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 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 hopefully 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 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.