

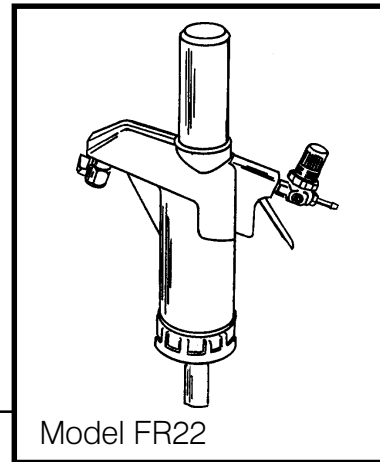
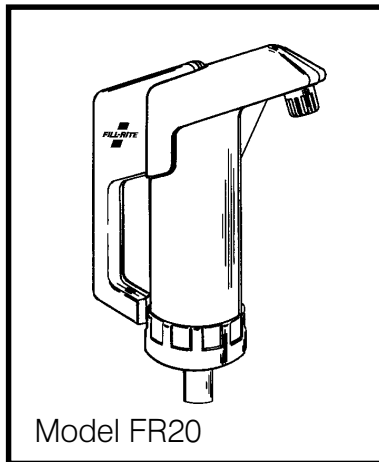
Pump System Technology

FILL-RITE

Parts and Technical Service Guide

SERIES 20 PISTON PUMPS

For models FR20V, FR20, FR22V, FR22



OUTSTANDING FEATURES

- **Adaptable for barrels, storage tanks and drums**
- **Self-priming**
- **Locking ring for 360° alignment versatility**
- **Telescopic suction pipe**



TUTHILL CORPORATION

Fill-Rite Division

8825 Avalon Drive
Fort Wayne, Indiana USA 46809
Tel 219 747-7524 Fax 219 747-3159

Dear Fill-Rite Customer,

Thank you for buying a Fill-Rite product. We believe that you have bought the best. This piece of literature contains information about your new equipment and its operating and service requirements. Please take a few minutes to read it carefully.

Fill-Rite's products are distributed around the world and are the result of people at Fill-Rite working together to design, manufacture, sell, ship and service products which meet the needs of each and every customer.

If, for any reason, any of our products do not meet your performance expectations, we would like to hear from you. Our best sales force is you, our customer, and we want you to be satisfied. We appreciate your purchase of a Fill-Rite product and look forward to providing your future equipment needs.

Sincerely,

George P. Jenkins
President

GENERAL DESCRIPTION

The Fill-Rite Series FR22 air operated transfer pump is manufactured from top quality, durable polypropylene and tested to over 1 million cycles. The air changeover valve is maintenance free and the air cylinder is manufactured from aluminum for maximum corrosion resistance. An integral air pressure regulator valve is fitted for safe control of flow rate while a trickle feed nozzle allows precise dispensing.

The Series 20 hand lever piston pump is also manufactured from top quality, durable polypropylene, and pumps approximately 11 fluid ounces (33 ml.) with every stroke.

TECHNICAL INFORMATION

Design Features:

- Standard outlet on lever pump is a dripless spout
- Standard outlet on air pump is a ball valve
- 1" NPT inlet
- 2" NPS bung mounting threads on inlet
- Adaptable for barrels, storage tanks and drums
- Self-priming
- Locking ring for 360° alignment versatility
- Telescopic suction pipe for drums up to 36"
- Buna-N seals

OPTIONS

- 3/4" Threaded and hose adapters for pump outlet (see exploded view, page 4)
- Fluorocarbon seals (models with "V")
- Telescoping suction pipe extension to 51" (F0481)
- Buttress bung adapter (F0615)
- Outlet hose kit

Applications:

DANGER: Never use with low flash point fluids like gasoline or alcohol, as static buildup and discharge could result in an arc and explosion.

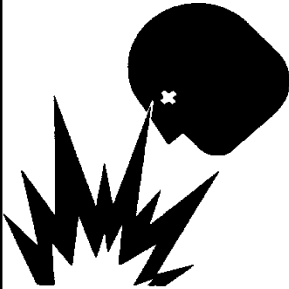
Engine oils	Diesel	Antifreeze
Paraffin	Gear oils	Degreasers
Hydraulic oils	Mild acids*	

*Before using with acids or aggressive chemicals, check compatibility or consult the manufacturer.



DANGER

Not for use with fluids that have a flash point below 100°F (37.8°C, ie: gasoline, alcohol). Refer to NFPA 325M (Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids) for flash points of common liquids. Static electricity buildup and discharge could result in arc and explosion.



SAFETY INSTRUCTIONS

1. Use Teflon tape or thread sealant on all threaded joints to avoid leakage of fluid. The 2" threaded bung on the pump inlet does not require a sealant.
2. Leave handle all the way down when pump is not in use to prevent accidental fluid dispensing.

Fluid Compatibility

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

Polypropylene	(body and valves)
Satinless Steel	(outlet screen)
Buna or Flouorocarbon	(O-rings)

INSTALLATION

1. Apply thread sealant tape or compound to suction tube threads and screw suction pipe into pump inlet.
2. Slide suction pipe into tank or barrel.
3. Screw pump into tank or barrel until spout faces approximate desired direction.
4. Tighten lock ring onto tank or barrel.

TANK VENTING

In most cases, it is desirable to vent the tank being pumped from to prevent the container from collapsing. The Series FR20 pumps are self venting when screwed into a typical barrel.

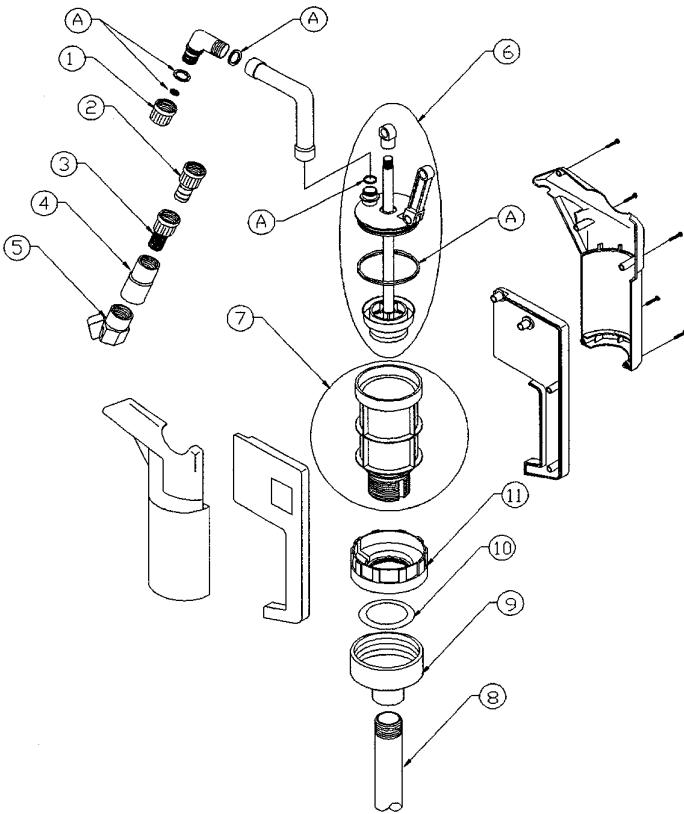
In some cases, special vents are required that do not allow fluid to escape should the tank tip over. The Fill-Guard one-way valve can be used to seal the pump to a tank. The F0427 gasket is required to seal the pump to the Fill-Guard. See exploded drawing.

MAINTENANCE

Flush pump regularly when pumping corrosive fluids or fluids that will harden. Do not allow fluid to freeze in pump.

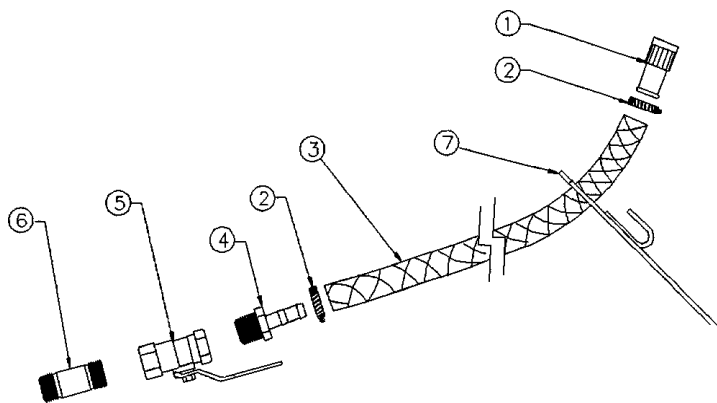
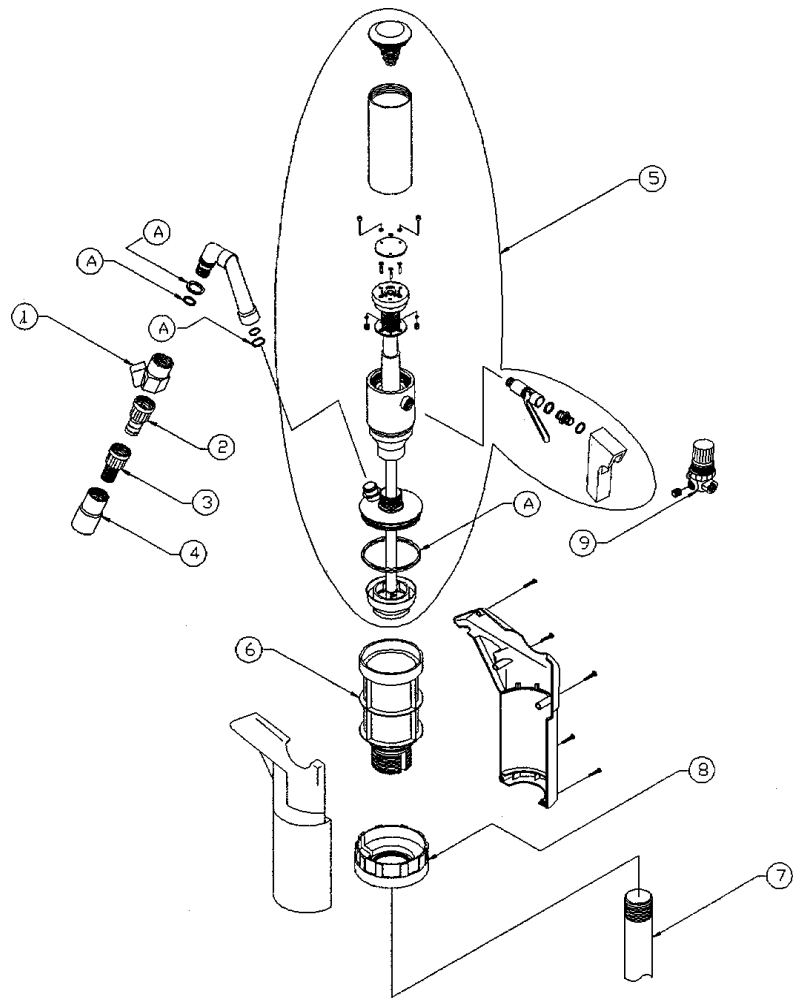
TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump will not prime	<ul style="list-style-type: none"> •Suction line problem •Jammed check valves •Worn piston •Fluid incompatibility 	<ul style="list-style-type: none"> •Check for leaks in suction line. •Inspect inlet & piston valves. •Replace piston assm. •Consult fluid Mfg. for compatability with wetted mat'l
Low pump capacity	<ul style="list-style-type: none"> •Excessive dirt in screen •Suction line problem •Worn Components 	<ul style="list-style-type: none"> •Remove and clean screen. •Check for leaks in suction line. •Inspect valves and piston.
Pump fluid leakage	<ul style="list-style-type: none"> •Dirty seal •Bad seal •Gasket leakage •Fluid incompatibility 	<ul style="list-style-type: none"> •Clean O-ring seal and seat area. •Replace seal. •Tighten covers and joints. •Consult fluid Mfg. for compatability with wetted mat'l



MODEL FR20 PUMP PARTS LIST			
ITM. NO.	PART NO.	DESCRIPTION	QTY.
1	F0544	Dripless spout, Polypro w/ SS screen	1
2	F0663	Hose barb adapter, 3/4"	1
3	F0408	Male threaded adapter, 3/4" NPT	Opt.
4	F1118	Female threaded adapter, 3/4" NPT	Opt.
5	F0674	Ball valve, Viton seals	Opt.
6a	F0474	Piston asm., Buna -N	1
6b	F0476	Piston asm., Fluorocarbon	1
7	F0494	Pump body, Polypropylene	1
8	F0035	Suction tube	1
9a	F0414	Fill-Guard 2" NPT	Opt.
9b	F0402	Fill-Guard 2" Butress	Opt.
10	F0427	Fill-Guard gasket	1
11	F0583	Locking ring	1
A1	F0518	Seal kit, Fluorocarbon	Opt.
A2	F0500	Seal kit, Buna-N	Opt.
A3	F0524	Seal kit, EPDM	Opt.

MODEL FR22 PUMP PARTS LIST			
ITM. NO.	PART NO.	DESCRIPTION	QTY.
1	F0674	Ball valve, Brass w/ Viton seals	1
2	F0663	Hose barb adapter, 3/4", Polypro.	1
3	F0408	Male threaded adapter, 3/4" NPT, Poly	Opt.
4	F1118	Female threaded adapter, 3/4" NPT, Poly	Opt.
5a	F0584	Air motor asm., Buna N, silver cap	1
5b	F1433	Air motor asm., Fluorocarbon, red cap	1
6	F0494	Pump body, Poly	1
7	F0045	Suction tube, Fluorocarbon w/ SS valve	1
8	F0583	Locking ring	1
9	F0853	Air pressure regulator	1
----	F0479	Air pressure guage, 1/8" NPT	Opt.
A1	F0565	Seal kit, Fluorocarbon	Opt.
A2	F1432	Seal kit, Buna -N	Opt.
A3	F0847	Seal kit, EPDM	Opt.



HOSE KIT PARTS LIST FOR AIR PUMP			
ITM. NO.	PART NO.	Part # F0516 DESCRIPTION	QTY.
1	F0663	Hose barb adapter 3/4", Polypropylene	1
2	F3498	Hose clamp	2
3	F0731	PVC Hose per ft.	6'
4	F0007	Hose barb 1/2" NPT x 3/4" barb, Poly	1
5	F0004	Ball valve, 1/2", Brass	1
6	F0008	1/2" Close nipple, Polypropylene	1
7	F0026	Bracket, Hose support	1

Fill-Rite: A Worldwide Reputation for Reliability.

For over 40 years, people all over the world who have needed tough, dependable pumps have insisted on Fill-Rite products. For them, Fill-Rite has been "the reliable red pump" that keeps on working even under the toughest of conditions. We're proud of the reputation our hand pumps, DC and AC pumps and meters have earned. Today they're only a part of the rapidly expanding Fill-Rite line.

Applying the Science of Fluid Transfer.

An active research and development program is the centerpiece of our ongoing commitment to respond to new fluid transfer opportunities. This has led to new products, new technologies and new facilities to produce these products.

To bring this advanced technology to market, we have invested in precision engineering and testing equipment. This improves our ability to produce fluid handling equipment that meets market demands for quality, performance and price.

A Hard Working Support Network.

Just as important as these capabilities are the people behind them - our design and production personnel. They give you the ability to specify systems that meet the most challenging of applications. With them, you can be assured of prompt, intelligent answers to your fluid transfer questions.

To service customers in the field, we've put together a select, well-monitored team of distributors. Throughout the world, they are ready to help you with technical advice, ordering and delivery.

Fill-Rite will always stand for reliable red pumps and fluid handling equipment. We'll continue to develop new products and production techniques to keep pace with ever changing technologies. Each of our products will always be made with the same care and quality that made our pumps famous.

Fill-Rite Division of Tuthill Corporation (Manufacturer) warrants to each buyer of its products (the Buyer) for a period of 12 months from date of installation **but in no event more than 18 months from date of manufacture** that goods of its manufacture (Goods) will be free from defects of material and workmanship. Manufacturer's sole obligation under the foregoing warranties will be limited to either, at Manufacturer's 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 BE LIABLE FOR CONSEQUENTIAL DAMAGES NOR SHALL MANUFACTURER'S LIABILITY ON ANY CLAIM FOR DAM-**

AGES 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 AND 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.

PRODUCT WARRANTY

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