

Model TF-04
CES-TF-04

Caddy Triplex-B

12-VOLT TRI-FLEX PUMPING SYSTEM

Description

The TF-04 TRI-FLEX pump is a 12-volt D.C. diaphragm chemical transfer pump. It is intended to transfer concentrated, non-flammable agricultural chemicals from shipping containers to a secondary container. The three chamber, positive displacement design allows the TRI-FLEX pump to transfer thin, low viscosity liquids, as well as thick, high viscosity liquids.

The CES-TF-04 Pumping System is a transfer system consisting of the 12-volt TF-04 pump, SEM-25 meter, hose assembly and mounting hardware.

California Requirements

The state of California requires a closed transfer system be used when removing pesticides from any agricultural container. This requires a Dry Coupling (such as Scienco Product's Clean-Lock) be attached to both the suction side and discharge side of the system. Contact Scienco Products or your local dealer to obtain this additional equipment to ensure the system complies with California standards before it is used. See section Closed Transfer System for additional information.

System Specifications

Inlet: 1-inch Female NPT
 Outlet: 1/2-inch Female NPT
 Flow Rate: 3-4 GPM typical
 By Pass Pressure: 20 PSI
 Power Cord: 20-ft. 14 gauge/15 amp fuse
 Current Draw: 7-10 amps

TF-04

- 12-volt D.C. pump
- 12-ft EPDM 1/2-inch hose typical (optional)
- 2-inch Bung Adapter
- 1-inch Dip Tube Assembly

CES-TF-04

- TF-04 pump
- SEM-25 Digital Flow Meter (optional)
- 12-ft. EPDM 1/2-inch hose typical
- Suction side coupling device
- Male Clean-Lock (optional)

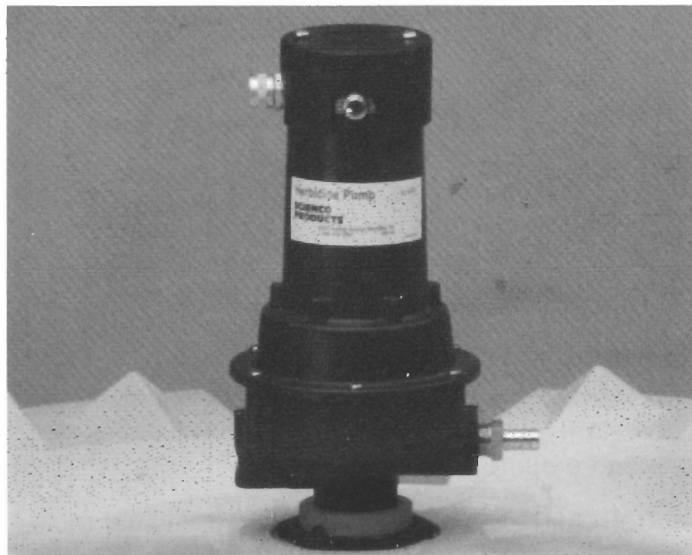


Figure 1. TF-04 Tri-Flex Pump

WARNINGS



Operate in well ventilated area only. Failure could result in an explosive situation and possible bodily harm.



During pumping or maintenance protective hardware should be worn to prevent possible fluid contact. Always wear gloves, eye protection, and long sleeves.



If any sign of chemical leakage is evident, DO NOT operate unit. Pump should obtain immediate maintenance.



Do not pump flammable liquids. Possible source of ignition, can cause material or bodily harm.

NOTE: 12-volt D.C. wet cell batteries are a possible source of explosion. DO NOT make electrical connections directly to battery terminals.

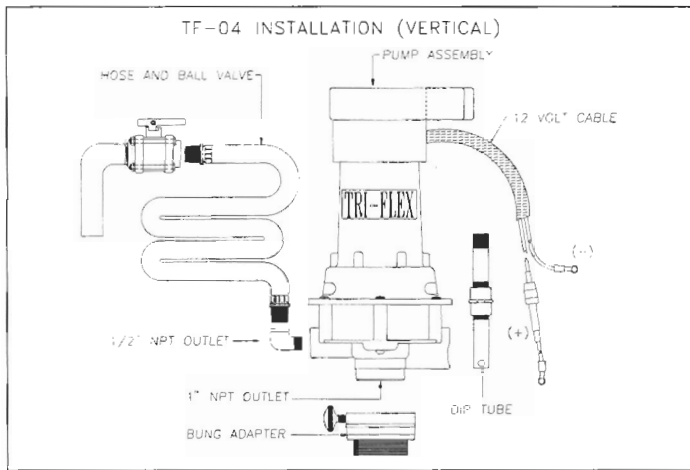


Figure 2. Mounting the TF-04

Wetted Components

Glass filled polypropylene, nylon, stainless steel, EPDM, viton, polyphenal sulfide, polyethylene, carbon steel.

Mounting the TF-04 Pump (Figure 2)

Important: If possible, clean out all shavings and debris from empty containers. Debris will cause premature pump failure.

IMPORTANT: To prevent collapsing, container must be adequately vented before pumping.

The pump can be mounted to any container with a standard 2-inch bung port, or one that can be adapted to a 2-inch bung.

1. Using the 1-inch NPT coupling, connect the two piece dip tube assembly together.
2. Remove the 2-inch bung adapter from bottom of pump, and install into container.
3. Connect threaded end of dip tube to bottom of pump, being careful not to cross thread.
4. Lift pump up above container and slide dip tube down through bung adapter installed on container. Tighten thumb screws on bung to secure pump on container.
5. Connect the 1/2-inch discharge hose assembly to pump. Verify valve is in the "off" position.
6. Verify motor's on-off switch is "off." Connect battery connections, red to positive (+) 12-volt D.C. and black to negative (-).

Mounting CES-TF-04 Pumping System

(Figure 3)

The CES-TF-04 Pumping System is supplied with a SEM-25 electronic flow meter attached along with a suction side mounting device such as Scienco Product's Male Clean-Lock (CLM-01), a Cam-Lock Quick Coupler or specified coupler at time of purchase.

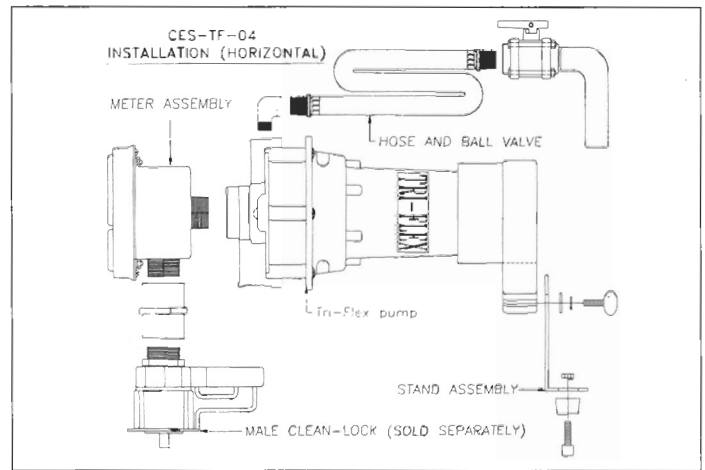


Figure 3. Mounting the CES-TF-04

1. Connect hose assembly to pump.
2. Loosen back support's thumb screw.
3. Connect pump to container.
4. Adjust back support, and tighten thumb screw.
5. Verify motor's on-off switch is "off." Connect battery connections, red to positive (+) 12-volt D.C. and black to negative (-).

Closed Transfer System Requirements

CAUTION: Under no circumstances should potable water be used during rinsing of pumping system. Contamination of water source could happen.

1. Suction and discharge ports must have Dry Coupler devices. The Male Clean-Lock (CLM-01) should be installed on suction side of pump and a second CLM-01 installed on the discharge side of a ball valve. A red female Clean-Lock (CLF-01-A) should be installed on mix tank to allow connection of CLM-01. The Clean-Aid is available for rinsing complete system.
2. When using the system with a meter, the meter should be assembled as shown on the CES-TF-04 (Figure 3) between the Clean-Lock and pump inlet. At start up, pump should be operated until system is filled with fluid, then shut off. Meter can then be reset to zero, to accurately show amount dispensed.
3. When system is empty, a meter reading should be obtained at the first sign of pumping air from end of hose. The amount of fluid required to completely fill the pump, meter and hose assembly is 32 ounces. This amount should be added to the meter reading after the first sign of air to obtain an accurate dispensed total. After meter reading is recorded, the pump can be allowed to pump air to expel chemical left in hose.
4. Pumping system can be connected to a non-potable water source for rinsing residue chemical. Dispose of all rinse water per proper regulations.

SCIENCO® PRODUCTS

OPERATING INSTRUCTIONS

Model SEM-30B Electronic Flow/Batch Meter



Description

The Scienco Electronic Flow Meter/ Batch Model SEM-30B is a multiple use, non-commercial, nutating disc flow meter with Electronic (LCD) readout. This meter has the capability to shut a 12 volt pump off once the desired amount has been achieved. Also an air sensor has been designed in the system to shut down the pump if air is detected in the system/suction line. Stainless steel and plastic construction makes the SEM-30B an extremely versatile meter, suitable for use with many chemicals and petroleum products.

Display Information

The SEM-30B display prompts the user with information concerning the mode in which the meter is currently active. Small characters located at the top or bottom of the display identifies which mode the unit is presently active. The display also has a series of XXX.XXX's located in the lower right corner when the displayed amount is greater than 999.9 units. This allows the meter to display amounts up to 999,999.9. As an example, if 1,250 gallons have been pumped, the display will show **1**, along with the lower left three (3) blinking **XXX'S** indicating the meter is displaying thousands. After 3 seconds the display will show **250** with the right three (3) **XXX's** to indicate the meter is displaying hundreds.

Note: Ensure chemical compatibility between the liquid to be metered and the meter's wetted parts before using.

Materials of Construction:

Wetted materials: 316 SS, Ryton, Polypropylene

Seals: Viton Elastomer

Operating of Specification:

Flow: Either port can be used as the inlet.

Flow rate: 1-20 GPM

Max Operating Pressure: 100 psi

Operating Temperature: -15° to 185° F.

Calibration Units: User determined

Calibration: Accuracy $\pm 1/2\%$ when calibrated on product under operating conditions.

On/off: Manual or Automatic. Battery saving automatic shutoff after 30 seconds.

Memory: All total and calibration information is retained even if batteries are removed.