

Counter Balanced Chemical Transfer System

For Gallon Bottles

CFF Series

The **Counter Balanced Chemical Transfer System (CFF)** is designed as a **cost effective** way to **safely transfer the contents of one-gallon chemical containers** (chemical or other effluence) into an internal 11 gallon storage tank. Once the contents are in the storage tank, the CFF can transfer and supply these chemicals to a point of use (POU). The system is **simple to operate**, yet ideal to meet the needs of a low volume chemical use operation. **It greatly reduces the safety risks associated with day-to-day handling and pouring of chemicals** that operators or technicians are exposed to. **It reduces repeated exposure to chemicals (TLV and PEL) and eliminates the number of times that an operator or technician needs to fill a sink or to supply processing tools.** This system **eliminates procedures that require manual pouring.** The system could be set up for use as a means of transfer and disposal of chemical waste. The system is designed for maximum up time and minimal maintenance. **Pouring occurs in a closed vented system** with no exposure to the operator.

The system is designed to fill an internal storage tank with **one type** of chemical. The storage tank has greater than an eight-gallon capacity. The internal tank is designed with a lid that is closed when not in use. This feature adds additional safety to prevent chemical loss due to evaporation and to lock the pouring operation. Once the tank is filled, or at a level above the “Tank Low” set point, the contents can be transferred, on demand, to a point of use. No pumps or vacuums are used. This system operates on gravity and pressure to supply chemicals to the point of use. The Programmable Logic Controller (PLC) controls the fill levels for the storage tank, the safety interlocks, and transferring of chemicals. It will also indicate system errors (alarms) by a flashing tower light, and a buzzer. It can be controlled by an operator at the POU on demand or controlled at the POU by a tank level sensor. The installation of a remote control or tank level sensor at the point of use is necessary for the chemical transfer process. These are specified by the user and may require addition installation.

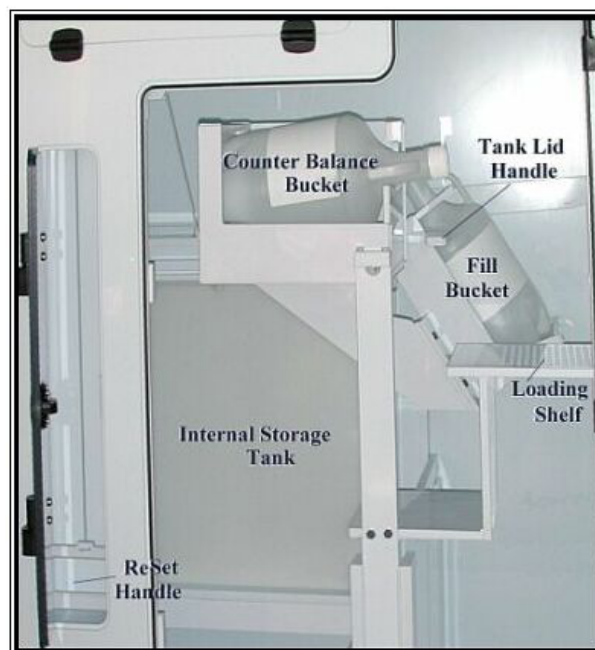


Figure 1

Loading Bottles for Transfer: During normal operation, the operator opens the Fill Door and first checks the position of a Tank Lid Safety Handle. The lid is a Safety Feature to block placing a bottle in the Fill Bucket and to stop (or lock) the pouring cycle if the tank lid is not completely open and the Fill Door is closed.

Chemical Transfer Operation:

Chemicals are gravity transferred to a vessel and then by means of pressure, the contents are transferred to one or more points of use (POU) through a direct, or looped, plumbing network. The system is controlled by an electrical on/off link (Fill Command) between the POU and the Chemical Transfer System (CFF). This will allow an operator to send a signal to a Programmable Logic Controller at the system. The system is capable of sensing high and low levels in the storage tank and will alarm the operator when the tank is at capacity or needs filling. These alarms are installed at the system or at the POU depending on the requirements of the user.

System Dimensions and Features: 21"D X 39"W X 64"H. At least 36" clearance is necessary in front of the system for filling and service. The system's width can be reduced to 36"W if the seismic flares are removed. The system meets all requirements for second containment. Both the service and fill doors are o-ring sealed. The system is designed to SEMI S2-93 compliance.

Facility Requirements:

Items	Connection	Pressure	Flow	Voltage	Amperage
Nitrogen (CDA)	¼"-½" VCR male	80-125 psig	5 scfm	N/A	N/A
Drain	¾" NPT	N/A	Free flowing to industrial waste	N/A	N/A
Exhaust	2" SCH 40 Natural Poly pipe – 2" stub	0.5" WC	50 scfm	N/A	N/A
Secondary Containment Pipes	1" - 2" SCH 40 Natural Poly pipe – 2" stub	N/A	N/A	N/A	N/A
Primary Distribution Loop Supply	Teflon PFA ¼" – ½" Flare fitting	0 – 60 psig	TBD	N/A	N/A
Electrical	¾" Sealtight	N/A	N/A	120VAC	10 amps

Note: Design, Materials, Installation and Hook-ups are determined per users requests.

Contact:

ChemFlow Systems, Inc.
1725 Rogers Ave., Suite O
San Jose, CA 95112 USA

Phone: 408-441-6575
On the Web at: www.chemflowsys.com
Email: CustomerService@chemflowsys.com